





THE
STANDARD
DIARY

1878

PUBLISHED
FOR
THE TRADE.

Calendar.

1878.

	S	M	T	W	T	F	S		S	M	T	W	T	F	S
JAN.	..	..	1	2	3	4	5	JULY.	..	1	2	3	4	5	6
	6	7	8	9	10	11	12		7	8	9	10	11	12	13
	13	14	15	16	17	18	19		14	15	16	17	18	19	20
	20	21	22	23	24	25	26		21	22	23	24	25	26	27
	27	28	29	30	31	..	..		28	29	30	31	..	..	..
FEB.	..	..	..	..	..	1	2	AUG.	..	..	..	..	1	2	3
	3	4	5	6	7	8	9		4	5	6	7	8	9	10
	10	11	12	13	14	15	16		11	12	13	14	15	16	17
	17	18	19	20	21	22	23		18	19	20	21	22	23	24
	24	25	26	27	28	..	..		25	26	27	28	29	30	31
MAR.	..	..	..	..	..	1	2	SEPT.	1	2	3	4	5	6	7
	3	4	5	6	7	8	9		8	9	10	11	12	13	14
	10	11	12	13	14	15	16		15	16	17	18	19	20	21
	17	18	19	20	21	22	23		22	23	24	25	26	27	28
	24	25	26	27	28	29	30		29	30	..	..	..	..	..
	31	..	..	..	..	..	..	OCT.	..	..	1	2	3	4	5
APRIL.	..	1	2	3	4	5	6		6	7	8	9	10	11	12
	7	8	9	10	11	12	13		13	14	15	16	17	18	19
	14	15	16	17	18	19	20		20	21	22	23	24	25	26
	21	22	23	24	25	26	27		27	28	29	30	31	..	..
	28	29	30	..	..	..	..	NOV.	..	..	..	..	..	1	2
MAY.	..	..	..	1	2	3	4		3	4	5	6	7	8	9
	5	6	7	8	9	10	11		10	11	12	13	14	15	16
	12	13	14	15	16	17	18		17	18	19	20	21	22	23
	19	20	21	22	23	24	25		24	25	26	27	28	29	30
	26	27	28	29	30	31	..	DEC.	..	..	..	..	..	..	..
JUNE.	..	..	..	..	..	1	..		1	2	3	4	5	6	7
	2	3	4	5	6	7	8		8	9	10	11	12	13	14
	9	10	11	12	13	14	15		15	16	17	18	19	20	21
	16	17	18	19	20	21	22		22	23	24	25	26	27	28
	23	24	25	26	27	28	29		29	30	31	..	..	..	..
	30	..	..	..	..	..	..								

DISTANCE, TIME, AND DIFFERENCE OF TIME,

BETWEEN NEW YORK CITY, AND
OTHER CITIES IN THE UNITED STATES AND CANADA.

FROM N. YORK CITY TO	DIST.	R.R. TIME.	DIF. IN TIME*
	<i>Miles.</i>	<i>Hours.</i>	<i>h. m. s.</i>
Albany, N. Y.	144	4 30	0 1 6
Baltimore, Md.	188	8 00	0 10 22
Bangor, Me.	484	....	0 20 56
Boston, Mass.	236	9 00	0 11 50
Buffalo, N. Y.	417	15 00	0 19 36
Burlington, Vt.	296	13 30	.....
Cairo, Ill.	1,143	54 30	0 58 10
Charleston, S. C.	829	.....	0 23 38
Chicago, Ill.	955	36 00	0 53 58
Cincinnati, Ohio.	859	33 00	0 41 44
Cleveland, "	604	23 00	0 30 10
Columbus, "	637	24 30	0 36 8
Concord, N. H.	270	11 35	.....
Detroit, Mich.	646	25 30	0 36 6
Indianapolis, Ind.	969	38 00	0 48 16
Memphis, Tenn.	1,376	60 00	1 5 10
Milwaukee, Wis.	1,000	39 00	0 55 44
Mobile, Ala.	1,591	86 00	0 59 58
Montreal, Can.	400	20 30	0 1 44
Nashville, Tenn.	1,089	48 10	0 51 12
New Orleans, La.	1,495	72 00	1 3 56
Newport, R. I.	218	9 00	0 10 50
Omaha, Neb.	1,413	66 45	.....
Portland, Me.	347	14 00	0 15 10
Philadelphia, Penn.	90	4 00	0 4 35
Pittsburg, Penn.	443	16 30	0 24 4
Richmond, Va.	356	18 30	0 13 45
Sacramento, Cal.	3,082	168 00	3 3 56
Salt Lake City, Utah.	2,464	120 00	2 8 0
San Francisco, Cal.	3,310	192 00	3 14 41
Savannah, Ga.	933	42 00	0 28 28
St. Louis, Mo.	1,084	47 00	1 4 53
St. Paul, Minn.	1,388	56 40	1 16 7
Vicksburg, Miss.	1,511	85 00	.....
Washington, D. C.	226	10 00	0 12 7

* The difference in time, indicated by the above table,
East of New York, FAST — West, SLOW.

INTEREST TABLE.

SIX PER CENT.

TIME	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
1 DAY.	0	0	0	0	0	0	0	0	0	0	2	17
2 "	0	0	0	0	0	0	0	0	0	0	3	33
3 "	0	0	0	0	0	0	0	0	0	1	5	50
4 "	0	0	0	0	0	0	0	1	1	1	7	67
5 "	0	0	0	0	0	1	1	1	1	1	8	83
6 "	0	0	0	0	1	1	1	1	1	1	10	1 00
7 "	0	0	0	0	1	1	1	1	1	1	12	1 17
8 "	0	0	0	1	1	1	1	1	1	1	13	1 33
9 "	0	0	0	1	1	1	1	1	1	2	15	1 50
10 "	0	0	1	1	1	1	1	1	2	2	17	1 67
11 "	0	0	1	1	1	1	1	1	2	2	18	1 83
12 "	0	0	1	1	1	1	1	2	2	2	20	2 00
13 "	0	0	1	1	1	1	2	2	2	2	22	2 17
14 "	0	0	1	1	1	1	2	2	2	2	23	2 33
15 "	0	1	1	1	1	2	2	2	2	3	25	2 50
16 "	0	1	1	1	1	2	2	2	2	3	27	2 67
17 "	0	1	1	1	1	2	2	2	3	3	28	2 83
18 "	0	1	1	1	2	2	2	2	3	3	30	3 00
19 "	0	1	1	1	2	2	2	3	3	3	32	3 17
20 "	0	1	1	1	2	2	2	3	3	3	33	3 33
21 "	0	1	1	1	2	2	2	3	3	4	35	3 50
22 "	0	1	1	1	2	2	3	3	3	4	37	3 67
23 "	0	1	1	2	2	2	3	3	3	4	38	3 83
24 "	0	1	1	2	2	2	3	3	4	4	40	4 00
25 "	0	1	1	2	2	3	3	3	4	4	42	4 17
26 "	0	1	1	2	2	3	3	3	4	4	43	4 33
27 "	0	1	1	2	2	3	3	4	4	5	45	4 50
28 "	0	1	1	2	2	3	3	4	4	5	47	4 67
29 "	0	1	1	2	2	3	3	4	4	5	48	4 83
1 MON.	1	1	2	2	3	3	4	4	5	5	50	5 00
2 "	1	2	3	4	5	6	7	8	9	10	1 00	10 00
3 "	2	3	5	6	8	9	11	12	14	15	1 50	15 00
4 "	2	4	6	8	10	12	14	16	18	20	2 00	20 00
5 "	3	5	8	10	13	15	18	20	23	25	2 50	25 00
6 "	3	6	9	12	15	18	21	24	27	30	3 00	30 00
7 "	4	7	11	14	18	21	25	28	32	35	3 50	35 00
8 "	4	8	12	16	20	24	28	32	36	40	4 00	40 00
9 "	5	9	14	18	23	27	32	36	41	45	4 50	45 00
10 "	5	10	15	20	25	30	35	40	45	50	5 00	50 00
11 "	6	11	17	22	28	33	39	44	50	55	5 50	55 00
1 YEAR.	6	12	18	24	30	36	42	48	54	60	6 00	60 00

INTEREST TABLE.

SEVEN PER CENT.

TIME.	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
1 DAY.	0	0	0	0	0	0	0	0	0	0	2	19
2 "	0	0	0	0	0	0	0	0	0	0	4	39
3 "	0	0	0	0	0	0	0	0	1	1	6	58
4 "	0	0	0	0	0	0	1	1	1	1	8	78
5 "	0	0	0	0	0	1	1	1	1	1	10	97
6 "	0	0	0	0	1	1	1	1	1	1	12	1 17
7 "	0	0	0	1	1	1	1	1	1	1	14	1 36
8 "	0	0	0	1	1	1	1	1	1	2	16	1 56
9 "	0	0	1	1	1	1	1	1	2	2	18	1 75
10 "	0	0	1	1	1	1	1	2	2	2	19	1 94
11 "	0	0	1	1	1	1	1	2	2	2	21	2 14
12 "	0	0	1	1	1	1	2	2	2	2	23	2 33
13 "	0	1	1	1	1	2	2	2	2	3	25	2 53
14 "	0	1	1	1	1	2	2	2	2	3	27	2 72
15 "	0	1	1	1	1	2	2	2	3	3	29	2 92
16 "	0	1	1	1	2	2	2	2	3	3	31	3 11
17 "	0	1	1	1	2	2	2	3	3	3	33	3 31
18 "	0	1	1	1	2	2	2	3	3	4	35	3 50
19 "	0	1	1	1	2	2	3	3	3	4	37	3 69
20 "	0	1	1	2	2	2	3	3	4	4	39	3 89
21 "	0	1	1	2	2	2	3	3	4	4	41	4 08
22 "	0	1	1	2	2	3	3	3	4	4	43	4 28
23 "	0	1	1	2	2	3	3	4	4	4	45	4 47
24 "	0	1	1	2	2	3	3	4	4	5	47	4 67
25 "	0	1	1	2	2	3	3	4	4	5	49	4 86
26 "	1	1	2	2	3	3	4	4	5	5	51	5 06
27 "	1	1	2	2	3	3	4	4	5	5	53	5 25
28 "	1	1	2	2	3	3	4	4	5	5	54	5 44
29 "	1	1	2	2	3	3	4	5	5	6	56	5 64
1 MON.	1	1	2	2	3	4	4	5	5	6	58	5 83
2 "	1	2	4	5	6	7	8	9	11	12	1 17	11 67
3 "	2	4	5	7	9	11	12	14	16	18	1 75	17 50
4 "	2	5	7	9	12	14	16	19	21	23	2 33	23 33
5 "	3	6	9	12	15	18	20	23	26	29	2 92	29 17
6 "	4	7	11	14	18	21	25	28	32	35	3 50	35 00
7 "	4	8	12	16	20	25	29	33	37	41	4 08	40 83
8 "	5	9	14	19	23	28	33	37	42	47	4 67	46 67
9 "	5	11	16	21	26	32	37	42	47	53	5 25	52 50
10 "	6	12	18	23	29	35	41	47	53	58	5 83	58 33
11 "	6	13	19	26	32	39	45	51	58	64	6 42	64 17
1 YEAR.	7	14	21	28	35	42	49	56	63	70	7 00	70 00

INTEREST LAWS OF ALL THE STATES.

STATES & TERRITORIES.	PENALTY OF USURY.	Legal.	Special.
Alabama,	Loss of interest.	8	.....
Arizona,	No Penalty.	10	No limit.
Arkansas,	" "	6	" "
California,	" "	10	" "
Colorado,	" "	10	" "
Connecticut,	Forfeiture of all interest.	7	" "
Dacotah,	" of Contract.	7	18 per ct.
Delaware,	" " "	6	6 per ct.
Dist. of Col.	" of all Interest.	6	10 per ct.
Florida,	No penalty.	8	No limit.
Georgia,	Forfeiture of Excess.	7	12 per ct.
Idaho,	\$300 fine or imp't. 6 ms. or both.*	10	24 per ct.
Illinois,	Forfeiture of all interest.	6	10 per ct.
Indiana,	" of Interest and Costs.	6	10 per ct.
Iowa,	" of Excess.	6	10 per ct.
Kansas,	" " over 12 per ct.	7	12 per ct.
Kentucky,	" of all Interest.	6	10 per ct.
Louisiana,	" of Interest.	5	8 per ct.
Maine,	No penalty.	6	No limit.
Maryland,	Forfeiture of Excess.	6	6 per ct.
Massachusetts,	No penalty—6 per ct. on Judg'ts.	6	No limit.
Michigan,	Forfeiture of Excess.	7	10 per ct.
Minnesota,	" of " over 7 per ct.	7	12 per ct.
Mississippi,	No penalty.	6	No limit.
Missouri,	Forfeiture of all interest.	6	10 per. ct.
Montana,	No penalty.	10	.....
Nebraska,	Forfeiture of all Interest & costs.	10	12 per ct.
Nevada,	No penalty.	10	No limit.
N. Hampshire,	Forfeit of three times int. rec'd.	6	6 per ct.
New Jersey,	Forfeit of all Interest.	7	7 per ct.
New Mexico,	No penalty.	6	12 per ct.
New York,	Forfeiture of Contract.†	7	7 per ct.
North Carolina	Forfeiture of Interest.	6	8 per ct.
Ohio,	" of Excess.	6	8 per ct.
Oregon,	" of prin., int. & costs.	10	12 per ct.
Pennsylvania,	" of excess, Act of 1858.	6	6 per ct.
Rhode Island,	" unless by Contract. ‡	6	No limit.
South Carolina	No penalty.	7	" "
Tennessee,	Forfeit of over 6 p. c. & \$100 fine.	6	10 per ct.
Texas,	No penalty.	8	No limit.
Utah,	" " "	10	" "
Vermont,	Forfeit of excess on R. R. bonds.	6	7 per ct.
Virginia,	" of Contract.	6	12 per ct.
Washington,	No penalty.	10	No limit.
West Virginia,	Forfeit of Excess.	6	6 per ct.
Wisconsin,	" of all interest.	7	10 per ct.
Wyoming,	No penalty.	10	No limit.

* Liable to arrest for misdemeanor. † Also punishable as a misdemeanor. Banks forfeit interest only, or double the interest if charged in advance. ‡ Also 6 per cent. on judgments.

RATE OF INCOME ON INVESTMENTS,

Par value being \$100, bearing interest at

Price Paid.	5%	6%	7%	8%	10%
\$50	10.00	12.00	14.00	16.00	20.00
55	9.09	10.90	12.72	14.55	18.18
60	8.33	10.00	11.66	13.33	16.66
65	7.69	9.23	10.76	12.30	15.38
70	7.14	8.57	10.00	11.42	14.28
75	6.66	8.00	9.33	10.66	13.35
80	6.25	7.50	8.75	10.00	12.50
82½	6.06	7.27	8.48	9.69	12.12
85	5.88	7.05	8.23	9.41	11.76
87½	5.71	6.85	8.00	9.14	11.42
90	5.55	6.66	7.77	8.88	11.11
92½	5.40	6.48	7.56	8.64	10.80
95	5.26	6.31	7.36	8.42	10.52
96	5.20	6.25	7.29	8.33	10.41
97	5.15	6.18	7.21	8.24	10.30
97½	5.12	6.15	7.17	8.20	10.25
98	5.10	6.12	7.14	8.16	10.20
99	5.05	6.06	7.07	8.08	10.10
100	5.00	6.00	7.00	8.00	10.00
101	4.95	5.94	6.93	7.92	9.90
102	4.90	5.88	6.86	7.84	9.80
103	4.85	5.82	6.79	7.76	9.70
104	4.80	5.76	6.73	7.69	9.61
105	4.76	5.71	6.66	7.61	9.52
110	4.54	5.45	6.36	7.27	9.09
115	4.34	5.21	6.08	6.95	8.69
120	4.16	5.00	5.83	6.66	8.33
125	4.00	4.80	5.60	6.40	8.00
130	3.84	4.61	5.38	6.15	7.69
135	3.70	4.44	5.18	5.92	7.40
140	3.57	4.28	5.00	5.71	7.14
145	3.44	4.13	4.82	5.51	6.89
150	3.33	4.00	4.66	5.33	6.66

POPULATION OF PRINCIPAL NATIONS.

United States...	38,925,598	Sweden&Norway,	6,137,559
China.....	425,000,000	Belgium.....	5,253,821
British India...	192,847,900	Arabia.....	4,600,000
Russia.....	85,685,945	Portugal.....	4,390,589
Turkey*.....	47,627,000	Holland.....	3,767,263
German Empire,	41,060,846	Canada.....	3,718,745
France.....	36,102,921	Switzerland.....	2,669,147
Austria&H'ngary,	35,904,435	Central America..	2,580,700
Japan.....	33,110,825	Chili....	2,068,447
Great Britain †..	33,098,400	Bolivia.....	2,000,000
Italy.....	26,801,154	Persia.....	2,000,000
Spain.....	16,835,506	Argentine Repub.	1,877,490
Brazil.....	9,700,187	Greece&Ionian Isl.	1,457,894
Mexico.....	9,276,079	Cuba.....	1,400,000
Siam.....	6,300,000	Equador.....	1,308,082

* Ottoman Empire, (Including Asiatic possessions.)

† Including Ireland.

PRINCIPAL CITIES OF UNITED STATES.

Stars indicate Population census of 1875; other cities, 1870.

*Albany, N. Y.....	86,013	*Minneapolis, Minn.	32,720
Allegheny City, Pa..	53,180	Mobile, Ala.....	32,034
Baltimore, Md.....	267,354	Newark, N. J.....	105,059
*Boston, Mass.....	341,919	New Haven, Conn..	50,840
*Brooklyn, N. Y....	484,616	New Orleans, La...191,418	
*Buffalo, N. Y.....	134,573	*New York, N. Y..1,046,037	
*Cambridge, Mass..	47,838	Philadelphia, Pa....	674,022
Charleston, S. C....	48,956	Pittsburgh, Pa.....	86,076
*Chicago, Ill.....	407,667	*Portland, Me.....	37,000
Cincinnati, Ohio....	216,239	*Providence, R. I...100,675	
Cleveland, Ohio....	92,829	Reading, Pa.....	33,930
Columbus, Ohio....	31,274	Richmond, Va.....	51,038
Detroit, Mich.....	79,577	*Rochester, N. Y...81,673	
Hartford, Conn.....	37,180	*San Francisco, Cal.	250,000
Indianapolis, Ind...48,244		*St. Louis, Mo.....	400,000
Jersey City, N. J...82,546		*Springfield, Mass..	31,053
Louisville, Ky.....	100,753	*Syracuse, N. Y....	48,315
*Lowell, Mass.....	49,688	*Troy, N. Y.....	48,821
Manchester, N. H...23,536		Washington, D. C..109,200	
Memphis, Tenn....40,226		Wilmington, Del....	30,841
*Milwaukee, Wis...100,775		*Worcester, Mass...49,317	

VALUE OF

FOREIGN COINS

AS DETERMINED BY

U. S. MINT ASSAYS.

			D. C. M.
AUSTRIA	Gold,	Quadruple Ducat.	9 13 2
	"	Ducat.	2 28 3
	"	Sovereign (no lon'r coin'd)	6 75 4
	Silver,	Rix Dollar.	1 0 2
BELGIUM	Gold,	Twenty-five Franc piece.	4 82 5
	Silver,	Five Francs.	0 96 5
	"	Two Francs.	0 38 6
BOLIVIA	Gold,	Doubloon.	15 50 3
BRAZIL	Silver,	Double Milreis.	1 0 4
CEN. AMERICA	Gold,	Escudo.	1 84 4
	"	Dollar.	0 98 1
	"	Four Reals.	0 48 8
CHILI	Gold,	Doubloon (before 1835)	15 50 3
	Silver,	Dollar.	0 96 2
DENMARK	Gold,	Dble. Fred. or 10-Thaler.	7 90 0
	Silver,	Rigsbank Daler.	0 54 2
EGYPT	Silver,	Twenty Piasters.	0 96 5
	"	Piaster (new).	0 4 0
FRANCE	Gold,	Twenty Francs.	3 84 7
	Silver,	Five Francs.	0 96 5
GERMAN EMPIRE	Silver,	Five Marks (new).	0 96 5
	"	Thaler (no longer coined)	0 71 5
GREAT BRITAIN	Gold,	Sovereign	4 86 6
	Silver,	Half Crown.	0 56 3
	"	Shilling.	0 22 5
	"	Sixpence.	0 11 3
GREECE	Gold,	Twenty Drachmas.	3 44 2
HINDOSTAN	Silver,	Rupée.	0 45 7
ITALY	Gold,	Twenty Lire.	3 84 7
	Silver,	Five Lire.	0 96 0
JAPAN	Gold,	Twenty Yen (new).	19 94 4
	"	Chobang (obsolete).	3 57 6
	Silver,	Fifty Sen.	0 42 8
MEXICO	Gold,	Doubloon (average).	15 59 3

VALUE OF FOREIGN COINS.

			D. C. M.
NETHERLANDS..	Gold, Ducat.....	2 26 5	
	" Ten Guilders	3 99 7	
	Silver, Two-and-a-half Guilders.	1 1 2	
	" Guilder.....	0 40 5	
NEW GRANADA..	Silver, Dollar, usual weight	0 96 0	
NORWAY	Silver, Specie Daler.....	1 8 4	
PERU.....	Silver, Old Dollar.....	1 4 3	
	" Dollar (1858).....	0 92 8	
	" Half Dollar (1838).....	0 37 5	
	" Sol.....	0 96 0	
PORTUGAL.....	Gold, Crown	5 80 7	
	Silver, Crown of 1000 Reis.....	0 97 2	
	" Half Crown (500 Reis)....	0 48 6	
RUSSIA.....	Gold, Five Roubles.....	3 97 6	
	Silver, Rouble.....	0 77 8	
SPAIN.....	Gold, Ten Escudos.....	5 1 5	
	" One Hundred Reals.....	4 96 4	
	Silver, One Peseta.....	0 19 3	
	" Pistareen (4 Reals Vellon)	0 17 8	
SWEDEN.....	Gold, Five Pesetas (Dollar)....	0 96 0	
	Silver, Half Daler.....	0 52 0	
	" Rixdaler	0 27 3	
TURKEY.....	Gold, Hundred Piasters.....	4 37 0	
	" Twenty Piasters (new)....	0 85 2	

VALUES IN UNITED STATES MONEY OF THE

PURE GOLD OR SILVER,

REPRESENTING RESPECTIVELY THE MONETARY UNITS
AND STANDARD COINS OF FOREIGN COUNTRIES.

The first section of the Act of March 3, 1873, provides "that the value of foreign coin, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the values of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the first day of January by the Secretary of the Treasury."

VALUE OF FOREIGN COINS.

The estimates of values contained in the following table are those made by the Director of the Mint, January 1st, 1877, in compliance with the above stated provisions of law.

COUNTRY.	MONETARY UNIT.	STANDARD.	VALUE.
			D. C. M.
Argentine Repub.	Peso fuerte.....	Gold	1 0 0
Austria.....	Florin.....	Silver	0 45 3
Belgium.....	Franc.....	Gold & silv. 0 19 3	
Bolivia.....	Dollar.....	Gold & silv. 0 96 5	
Brazil.....	Milreis of 1000 reis.	Gold.....	0 54 5
British America..	Dollar.....	Gold.....	1 0 0
Bogota.....	Peso.....	Gold.....	0 96 5
Central America.	Dollar.....	Silver	0 91 8
Chili.....	Peso.....	Gold.....	0 91 2
Cuba.....	Peso.....	Gold.....	0 92 5
Denmark.....	Crown.....	Gold.....	0 26 8
Ecuador.....	Dollar.....	Silver	0 91 8
Egypt.....	Pound of 100 piast's.	Gold.....	4 97 4
France.....	Franc.....	Gold & silv. 0 19 3	
Great Britain....	Pound sterling.....	Gold.....	4 86 6½
Greece.....	Drachma.....	Gold & silv. 0 19 3	
German Empire..	Mark.....	Gold.....	0 23 8
Hayti.....	Dollar.....	Silver.....	0 95 2
India.....	Rupee of 16 annas..	Silver.....	0 43 6
Italy.....	Lira.....	Gold & silv. 0 19 3	
Japan.....	Yen.....	Gold.....	0 99 7
Liberia.....	Dollar.....	Gold.....	1 0 0
Mexico.....	Dollar.....	Silver.....	0 99 8
Netherlands.....	Florin.....	Silver.....	0 38 5
Norway.....	Crown.....	Gold.....	0 26 8
Paraguay.....	Peso.....	Gold.....	1 0 0
Peru.....	Dollar.....	Silver.....	0 91 8
Porto Rico.....	Peso.....	Gold.....	0 92 5
Portugal.....	Milreis of 1000 reis.	Gold.....	1 8 0
Russia.....	Roubl. of 100 cop'ks.	Silver.....	0 73 4
Sandwich Islands.	Dollar.....	Gold.....	1 0 0
Spain.....	Peseta of 100 centim.	Gold & silv. 0 19 3	
Sweden.....	Crown.....	Gold.....	0 26 8
Switzerland.....	Franc.....	Gold & silv. 0 19 3	
Tripoli.....	Mahbub of 20 piast's	Silver.....	0 82 9
Tunis.....	Piaster of 16 caroubs	Silver.....	0 11 8
Turkey.....	Piaster.....	Gold.....	0 4 3
U.S. of Colombia.	Peso.....	Silver.....	0 5 8
Uruguay.....	Patacon.....	Gold.....	0 94 8

THE METRIC SYSTEM.

WEIGHTS.

Metric Denominations and values.		Equivalents in Denominations in use.	
Names.	No. Grams.	Weight of what quantity of water at maximum density.	Avoirdupois Weight.
Millier or tonneau	= 1,000,000	= 1 cubic meter	= 2204.6 pounds
Quintal	= 100,000	= 1 hectoliter	= 220.46 pounds
Myriagram	= 10,000	= 10 liters	= 22.046 pounds
Kilogram or kilo	= 1,000	= 1 liter	= 2.2046 pounds
Hectogram	= 100	= 1 deciliter	= 3.5274 ounces
Dekagram	= 10	= 1 c. centimet.	= 0.3527 ounce.
Gram	= 1	= 1 c. centimet.	= 15.432 grains.
Decigram	= .1	= 1 c. centimet.	= 1.5432 grains.
Centigram	= .01	= 10 c. millimet.	= 0.1543 grain.
Milligram	= .001	= 1 c. millimet.	= 0.0154 grain.

MEASURES OF LENGTH.

Metric Denominations and Values.		Equivalents in Denominations in use.	
Myriameter	= 10,000 meters	=	6.2137 miles.
Kilometer	= 1,000 meters	=	0.62137 m. or 3,280 ft. 10 in.
Hectometer	= 100 meters	=	328 feet and 1 inch.
Dekameter	= 10 meters	=	393.7 inches.
Meter	= 1 meter	=	39.37 inches.
Decimeter	= .1 of a meter	=	3.937 inches.
Centimeter	= .01 of a meter	=	0.3937 inch.
Millimeter	= .001 of a meter	=	0.0394 inch.

MEASURES OF SURFACE.

Metric Denominations and Values.		Equivalents in Denominations in use.	
Hectare	= 10,000 square meters	=	2.471 acres.
Are	= 100 square meters	=	119.6 square yards.
Centare	= 1 square meter	=	1,550 square inches.

MEASURES OF CAPACITY.

Metric Denominations and Values.		Equivalents in Denominations in use.		
Names.	No. Liters.	Cubic Measure.	Dry Measure.	Wine Measure.
Kiloliter	= 1,000	= 1 cubic meter	= 1.308 cubic yards	= 264.17 galls.
Hectoliter	= 100	= .1 cubic meter	= 2 bush. 3.35 pks.	= 26.417 galls.
Decaliter	= 10	= 10 c. decimeters	= 9.08 quarts	= 2.0417 galls.
Liter	= 1	= 1 c. decimeter	= 0.908 quart	= 1.0567 qrts.
Deciliter	= .1	= .1 c. decimeter	= 6.1022 cubic in.	= 0.845 gill.
Centiliter	= .01	= 10 c. centimeters	= 0.6102 cubic in.	= 0.338 fluid oz.
Milliliter	= .001	= 1 c. centimeter	= 0.061 cubic inch.	= 0.27 fluid dr.

BUSINESS LAW IN DAILY USE.

THE following compilation of business law contains the essence of a large amount of legal verbiage :

If a note is lost or stolen, it does not release the maker ; he must pay it, if the consideration for which it was given and the amount can be proven.

Notes bear interest only when so stated.

Principals are responsible for the acts of their agents.

Each individual in a partnership is responsible for the whole amount of the debts of the firm, except in cases of special partnership.

Ignorance of the law excuses no one.

The law compels no one to do impossibilities.

An agreement without consideration is void.

A note made on Sunday is void.

Contracts made on Sunday cannot be enforced.

A note by a minor is void.

A contract made with a minor is void.

A contract made with a lunatic is void.

A note obtained by fraud, or from a person in a state of intoxication, cannot be collected.

It is a fraud to conceal a fraud.

Signatures made with a lead pencil are good in law.

A receipt for money is not always conclusive.

The acts of one partner bind all the rest.

"Value received" is usually written in a note, and should be, but is not necessary. If not written it is presumed by the law, or may be supplied by proof.

The maker of an "accommodation" bill or note (one for which he has received no consideration, having lent his name or credit for the accommodation of the holder) is not bound to the person accommodated, but is bound to all other parties, precisely as if there was a good consideration.

No consideration is sufficient in law if it be illegal in its nature.

Checks or drafts must be presented for payment without unreasonable delay.

Checks or drafts should be presented during business hours, but in this country, except in the case of banks, the time extends through the day and evening.

If the drawee of a check or draft has changed his residence, the holder must use due or reasonable diligence to find him.

If one who holds a check as payee or otherwise, transfers it to another, he has a right to insist that the check be presented that day, or, at farthest, on the day following.

A note indorsed in blank (the name of the indorser only written) is transferable by delivery, the same as if made payable to bearer.

BUSINESS LAW IN DAILY USE.

If the time of payment of a note is not inserted, it is held payable on demand.

The time of payment of a note must not depend upon a contingency. The promise must be absolute.

A bill may be written upon any paper, or substitute for it, either with ink or pencil.

The payee should be distinctly named in the note, unless it is payable to bearer.

An indorsee has a right of action against all whose names were on the bill when he received it.

If the letter containing a protest of non-payment be put into the post-office, any miscarriage does not affect the party giving notice.

Notice of protest may be sent either to the place of business or of residence of the party notified.

The holder of a note may give notice of protest either to all the previous indorsers or only to one of them; in case of the latter he must select the last indorser, and the last must give notice to the last before him, and so on. Each indorser must send notice the same day or the day following. Neither Sunday or legal holiday is to be counted in reckoning the time in which notice is to be given.

The loss of a bill or note is not sufficient excuse for not giving notice of protest.

If two or more persons as partners are jointly liable on a note or bill, due notice to one of them is sufficient.

If a note or bill is transferred as security, or even as payment of a preexisting debt, the debt revives if the bill or note be dishonored.

An indorsement may be written on the face or back.

An indorser may prevent his own liability to be sued by writing "without recourse," or similar words.

All claims which do not rest upon a seal or judgment must be sued within six years from the time when they arise.

Part payment of a debt which has passed the time of statutory limitation revives the whole debt, and the claim holds good for another period of six years from the date of such partial payment.

A verbal promise to pay, made without conditions, is generally held as sufficient to revive a claim otherwise shut out by the law of limitation.

If, when a debt is due, the debtor is out of the State, the "six years" do not begin to run until he returns. If he afterward leave the State, the time forward counts the same as if he remained in the State.

An oral agreement must be proved by evidence. A written agreement proves itself. The law prefers written to oral evidence because of its precision.

No evidence may be introduced to contradict or vary a written contract; but it may be received in order to explain it, when such contract is in need of explanation.

8 RATES OF POSTAGE. 3

POSTAL CARDS, costing 1 cent each, can be purchased at any Post Office, and sent to any part of the United States or Dominion of Canada.

LETTERS TO ANY PART OF THE UNITED STATES OR DOMINION OF CANADA, 3 cents for each $\frac{1}{2}$ ounce or part thereof.

LOCAL OR DROP LETTERS, 2 cents for each $\frac{1}{2}$ ounce, at all letter-carrier offices; at other offices, 1 cent.

VALUABLE LETTERS may be registered on application at the office of mailing, and the payment of a registration fee of 10 cents, in addition to postage, on domestic letters. Fees on foreign letters variable.

NEWSPAPERS AND PERIODICALS, mailed from a known office of publication or news agency, and addressed to regular subscribers or news agents, issued weekly and oftener, two cents a pound or fraction thereof; less frequently, three cents a pound or fraction thereof. One copy of a newspaper to each actual subscriber within the County where the same is wholly or partly printed and published, FREE, except at letter-carrier offices.

TRANSIENT NEWSPAPERS and Periodicals, Pamphlets, Proof Sheets, Books, Blanks and all mailable printed matter except circulars, and regular newspapers as above specified, 1 cent for every 2 ounces or part thereof.

ARTICLES OF MERCHANDISE, Unsealed Circulars, Book Manuscripts, Corrected Proof Sheets, Seeds, Cuttings, Bulbs, Roots, and other mailable matter, 1 cent for each ounce or part thereof. — Newspaper, Magazine and Music Manuscripts are subject to letter postage.

ALL PACKAGES of mail matter not charged with letter postage must be so arranged that the same can be conveniently examined by Postmasters; if not, letter postage will be charged.

NO PACKAGE will be forwarded by mail which weighs over 4 pounds.

ALL POSTAL MATTER, for delivery within the United States and Dominion of Canada, must be prepaid.

LETTERS to Great Britain or Ireland, or the Continent of Europe, 5 cents for each $\frac{1}{2}$ ounce. Prepayment optional. Double rates if unpaid.

MONEY ORDER POST OFFICES are established in all the large cities and towns, at which orders can be obtained upon any other office at the following rates of commission:

On orders not exceeding \$15,	10 cents.
Over \$15 " " " \$30,	15 "
" \$30 " " \$40,	20 "
" \$40 " " \$50,	25 "

When a larger sum than fifty dollars is required, additional orders to make it up must be obtained.

ECLIPSES IN THE YEAR 1878.

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In the year 1878 there will be four Eclipses; two of the Sun and two of the Moon; and a Transit of Mercury over the Sun's disc.

I. AN ANNULAR ECLIPSE OF THE SUN, February 2.
Invisible. Visible to Australia.

II. A PARTIAL ECLIPSE OF THE MOON, February 17.
Visible to the world generally, except to Europe and Africa; occurring as follows:

	NEW YORK.	BOSTON.	CHICAGO.
	D. H. M.	D. H. M.	D. H. M.
Moon enters Penum.	17 3 45 M.	17 3 57 M.	17 2 51 M.
Enters Shadow,	17 4 47 M.	17 4 59 M.	17 3 53 M.
Middle of Eclipse,	17 6 15 M.	17 6 27 M.	17 5 21 M.
Leaves Shadow,	Invisible.	Invisible.	17 6 49 M.
Leaves Penumbra,	Invisible.	Invisible.	Invisible.

Magnitude of Eclipse = 0.840 (Moon's diameter = 1.)

III. A TOTAL ECLIPSE OF THE SUN, July 29; visible commonly as a partial one to North America, and north-eastern portion of Asia; occurring as follows:

	Eclipse begins.	Eclipse ends.
Boston,	29d. 4h. 56m. A.	29d. 6h. 40m. A.
New York,	29d. 4h. 45m. A.	29d. 6h. 30m. A.
Chicago,	29d. 3h. 41m. A.	29d. 5h. 38m. A.
Philadelphia,	29d. 4h. 40m. A.	29d. 6h. 26m. A.
Washington,	29d. 4h. 36m. A.	29d. 6h. 22m. A.
Charleston,	29d. 4h. 30m. A.	29d. 6h. 20m. A.
New Orleans,	29d. 3h. 50m. A.	29d. 5h. 48m. A.
St. Louis,	29d. 3h. 34m. A.	29d. 5h. 32m. A.
Denver,	29d. 2h. 20m. A.	29d. 4h. 31m. A.
Salt Lake,	29d. 1h. 38m. A.	29d. 3h. 57m. A.

The Eclipse will be total near to a line drawn through Kingston, Jamaica; Galveston, Texas; Denver, Colorado; Virginia City, Montana; and Behring's Strait, running into Siberia.

ECLIPSES IN THE YEAR 1878.

IV. A PARTIAL ECLIPSE OF THE MOON, August 12. Visible to portions of all the Continents of the globe; occurring as follows:

	NEW YORK.	BOSTON.	CHICAGO.
Moon enters Penum.	Invisible.	Invisible.	Invisible.
Enters Shadow,	D. H. M.	D. H. M.	Invisible.
Middle of Eclipse,	12 7 12 A.	12 7 24 A.	D. H. M.
Leaves Shadow,	12 8 38 A.	12 8 50 A.	12 7 44 A.
Leaves Penumbra,	12 9 58 A.	12 10 10 A.	12 9 4 A.

Magnitude of Eclipse = 0.596 (Moon's diameter = 1.)

V. A TRANSIT OF MERCURY, May 6. Visible to a large portion of the world; happening as follows:

	INGRESS.	EGRESS.
Boston,	6d. 10h. 28m. M.	6d. 6h. 3m. A.
New York,	6d. 10h. 16m. M.	6d. 5h. 51m. A.
Chicago,	6d. 9h. 22m. M.	6d. 4h. 57m. A.
Philadelphia,	6d. 10h. 11m. M.	6d. 5h. 46m. A.
Washington,	6d. 10h. 4m. M.	6d. 5h. 39m. A.
Charleston,	6d. 9h. 52m. M.	6d. 5h. 27m. A.
New Orleans,	6d. 9h. 12m. M.	6d. 4h. 47m. A.
St. Louis,	6d. 9h. 11m. M.	6d. 4h. 46m. A.
Denver,	6d. 8h. 12m. M.	6d. 3h. 47m. A.
Salt Lake,	6d. 7h. 44m. M.	6d. 3h. 19m. A.

MORNING AND EVENING STARS.

MERCURY will be visible as Morning Star about February 2, June 2, and September 26; and as Evening Star about April 15, August 13, and December 8.

VENUS will be Evening Star until February 20; then Morning Star till December 5; and Evening Star again the rest of the year.

JUPITER will be Evening Star until January 5, then Morning Star till July 25; and Evening Star again the rest of the year.

FIXED AND MOVABLE FESTIVALS.

Epiphany,	Jan. 6
Septuagesima Sunday,	Feb. 17
Quinquagesima (Shrove Sunday),	Mar. 3
Ash Wednesday,	Mar. 6
First Sunday in Lent,	Mar. 10
St. Patrick,	Mar. 17
Palm Sunday,	April 14
Good Friday,	April 19
Easter Sunday,	April 21
Low Sunday,	April 28
Rogation Sunday,	May 26
Ascension Day (Holy Thursday),	May 30
Pentecost (Whit Sunday),	June 9
Trinity Sunday,	June 16
Corpus Christi,	June 20
St. John Baptist,	June 24
First Sunday in Advent,	Dec. 1
Christmas,	Dec. 25

CHRONOLOGICAL CYCLES.

Dominical Letter,	F.
Epact,	26
Golden Number,	17
Solar Cycle,	11
Roman Indiction,	6
Julian Period,	6591

THE SEASONS.

Vernal Equinox (Spring Begins),	Mar. 20th, 0h.34m. A.
Autumnal Equinox (Autumn begins),	Sept. 22d, 11h.18m. A.
Summer Solstice (Summer begins),	June 21st, 8h.55m. M.
Winter Solstice (Winter begins),	Dec. 21st, 5h.33m. A.

Given in Washington time.



MOON'S PHASES.	BOSTON.	NEW YORK.
New Moon, . . .	3d. 9h. 19m. a.m.	3d. 9h. 7m. a.m.
First Quarter, . .	11d. 2h. 3m. p.m.	11d. 1h. 51m. p.m.
Full Moon, . . .	18d. 7h. 27m. p.m.	18d. 7h. 15m. p.m.
Last Quarter, . .	25d. 11d. 6m. a.m.	25d. 10h. 54m. a.m.

1878.		BOSTON & CHICAGO.				NEW YORK & PHILA.				
D of M	Day of Week.	Sun R. & S. h. m.	BOST. TIDE.		Moon R. & S. h. m.	D of M	Sun R. & S. h. m.	N. Y. TIDE.		Moon R. & S. h. m.
			Morn'g h. m.	Even'g h. m.				Morn'g h. m.	Even'g h. m.	
1	Tu	r7 30	9 44	10 11	6 6	1	r7 25	6 30	6 57	5 59
2	We	s4 39	10 37	11 3	sets	2	s4 45	7 22	7 46	sets
3	Th	r7 30	11 27	11 49	4 46	3	r7 25	8 9	8 32	4 52
4	Fr	s4 41	.....	0 11	5 47	4	s4 46	8 56	9 19	5 52
5	Sa	r7 30	0 32	0 52	6 52	5	r7 25	9 39	9 58	6 56
6	S	s4 43	1 12	1 32	7 55	6	s4 48	10 17	10 35	7 58
7	Mo	r7 30	1 51	2 10	8 56	7	r7 25	10 53	11 10	8 58
8	Tu	s4 45	2 28	2 46	9 58	8	s4 50	11 28	11 47	9 58
9	We	r7 29	3 3	3 21	10 58	9	r7 24	.....	0 6	10 57
10	Th	s4 47	3 40	4 0	morn	10	s4 52	0 26	0 47	11 58
11	Fr	r7 29	4 21	4 43	0 0	11	r7 24	1 8	1 30	morn
12	Sa	s4 49	5 7	5 33	1 3	12	s4 54	1 53	2 19	1 0
13	S	r7 28	6 1	6 31	2 9	13	r7 23	2 47	3 16	2 4
14	Mo	s4 52	7 1	7 32	3 19	14	s4 56	3 46	4 16	3 13
15	Tu	r7 27	8 3	8 36	4 28	15	r7 22	4 47	5 21	4 22
16	We	s4 54	9 9	9 40	5 34	16	s4 59	5 55	6 26	5 27
17	Th	r7 26	10 10	10 40	6 32	17	r7 21	6 56	7 25	6 25
18	Fr	s4 56	11 9	11 35	rises	18	s5 1	7 52	8 18	rises
19	Sa	r7 25	.....	0 0	5 58	19	r7 20	8 44	9 9	6 2
20	S	s4 59	0 24	0 48	7 18	20	s5 3	9 34	9 58	7 21
21	Mo	r7 24	1 12	1 35	8 37	21	r7 19	10 20	10 41	8 38
22	Tu	s5 1	1 58	2 20	9 54	22	s5 6	11 2	11 25	9 53
23	We	r7 22	2 42	3 5	11 10	23	r7 18	11 49	.....	11 8
24	Th	s5 4	3 28	3 52	morn	24	s5 8	0 13	0 38	morn
25	Fr	r7 21	4 18	4 45	0 25	25	r7 16	1 4	1 32	0 21
26	Sa	s5 6	5 15	5 47	1 39	26	s5 11	2 2	2 33	1 34
27	S	r7 19	6 19	6 52	2 52	27	r7 15	3 5	3 37	2 46
28	Mo	s5 9	7 26	7 59	3 59	28	s5 13	4 10	4 43	3 52
29	Tu	r7 17	8 30	9 0	4 58	29	r7 13	5 15	5 45	4 51
30	We	s5 12	9 29	9 57	5 48	30	s5 15	6 15	6 43	5 41
31	Th	r7 15	10 22	10 46	6 28	31	r7 11	7 8	7 30	6 22

30th Let W at Th by Pollo M



MOON'S PHASES.	BOSTON.	NEW YORK.
New Moon, . . .	2d. 3h. 33m. a.m.	2d. 3h. 21m. a.m.
First Quarter, . . .	10d. 8h. 33m. a.m.	10d. 8h. 21m. a.m.
Full Moon, . . .	17d. 6h. 33m. a.m.	17d. 6h. 21m. a.m.
Last Quarter, . . .	23d. 10d. 29m. p.m.	23d. 10h. 17m. p.m.

1878. BOSTON & CHICAGO. NEW YORK & PHILA.

D. of M	Day of Week.	Sun		BEST. TIDE.		Moon R. & S. h. m.	D. of M	Sun		N. Y. TIDE.		Moon R. & S. h. m.
		R. & S. h. m.		Morn'g h. m.	Even'g h. m.			R. & S. h. m.		Morn'g h. m.	Even'g h. m.	
1	Fr	r7 14	11 8	11 28	7 0		1	r7 10	7 50	8 10	6 55	
2	Sa	s5 16	11 47	.....	sets		2	s5 19	8 30	8 50	sets	
3	S	r7 12	0 5	0 22	6 47		3	r7 9	9 8	9 26	6 49	
4	Mo	s5 18	0 39	0 56	7 48		4	s5 22	9 44	10 0	7 49	
5	Tu	r7 10	1 14	1 31	8 49		5	r7 6	10 16	10 32	8 49	
6	We	s5 21	1 48	2 5	9 50		6	s5 24	10 48	11 5	9 48	
7	Th	r7 7	2 23	2 41	10 51		7	r7 4	11 24	11 44	10 48	
8	Fr	s5 23	3 0	3 19	11 55		8	s5 26	.....	0 4	11 51	
9	Sa	r7 5	3 40	4 3	morn		9	r7 2	0 26	0 50	morn	
10	S	s5 26	4 28	4 55	1 1		10	s5 29	1 15	1 42	0 56	
11	Mo	r7 2	5 25	5 57	2 9		11	r7 0	2 11	2 43	2 3	
12	Tu	s5 29	6 31	7 6	3 15		12	s5 31	3 17	3 52	3 8	
13	We	r6 59	7 42	8 17	4 15		13	r6 57	4 27	5 5	4 8	
14	Th	s5 31	8 51	9 23	5 9		14	s5 34	5 36	6 9	5 3	
15	Fr	r6 57	9 54	10 23	5 53		15	r6 54	6 40	7 9	5 48	
16	Sa	s5 34	10 51	11 15	rises		16	s5 36	7 35	7 58	rises	
17	S	r6 54	11 38	.....	6 8		17	r6 52	8 20	8 44	6 10	
18	Mo	s5 36	0 1	0 23	7 29		18	s5 39	9 9	9 32	7 29	
19	Tu	r6 51	0 46	1 8	8 49		19	r6 49	9 54	10 16	8 48	
20	We	s5 39	1 31	1 53	10 7		20	s5 41	10 37	10 58	10 4	
21	Th	r6 48	2 15	2 38	11 24		21	r6 46	11 20	11 46	11 20	
22	Fr	s5 41	3 2	3 28	morn		22	s5 43	.....	0 14	morn	
23	Sa	r6 45	3 55	4 24	0 40		23	r6 43	0 42	1 11	0 34	
24	S	s5 44	4 56	5 29	1 50		24	s5 46	1 42	2 15	1 44	
25	Mo	r6 42	6 2	6 36	2 53		25	r6 40	2 48	3 22	2 46	
26	Tu	s5 46	7 10	7 43	3 46		26	s5 48	3 56	4 28	3 39	
27	We	r6 39	8 13	8 42	4 29		27	r6 38	4 58	5 27	4 23	
28	Th	s5 49	9 8	9 32	5 3		28	s5 50	5 53	6 18	4 58	
...	...	...	...	...	...		...	...	...	...	...	
...	...	...	...	...	...		...	...	...	...	...	
...	...	...	...	...	...		...	...	...	...	...	



MOON'S PHASES.

BOSTON.

NEW YORK.

New Moon, . . . 3d. 10h. 33m. p.m.
 First Quarter, . . 11d. 11h. 17m. p.m.
 Full Moon, . . . 18d. 4h. 23m. p.m.
 Last Quarter, . . 25d. 0d. 6m. p.m.

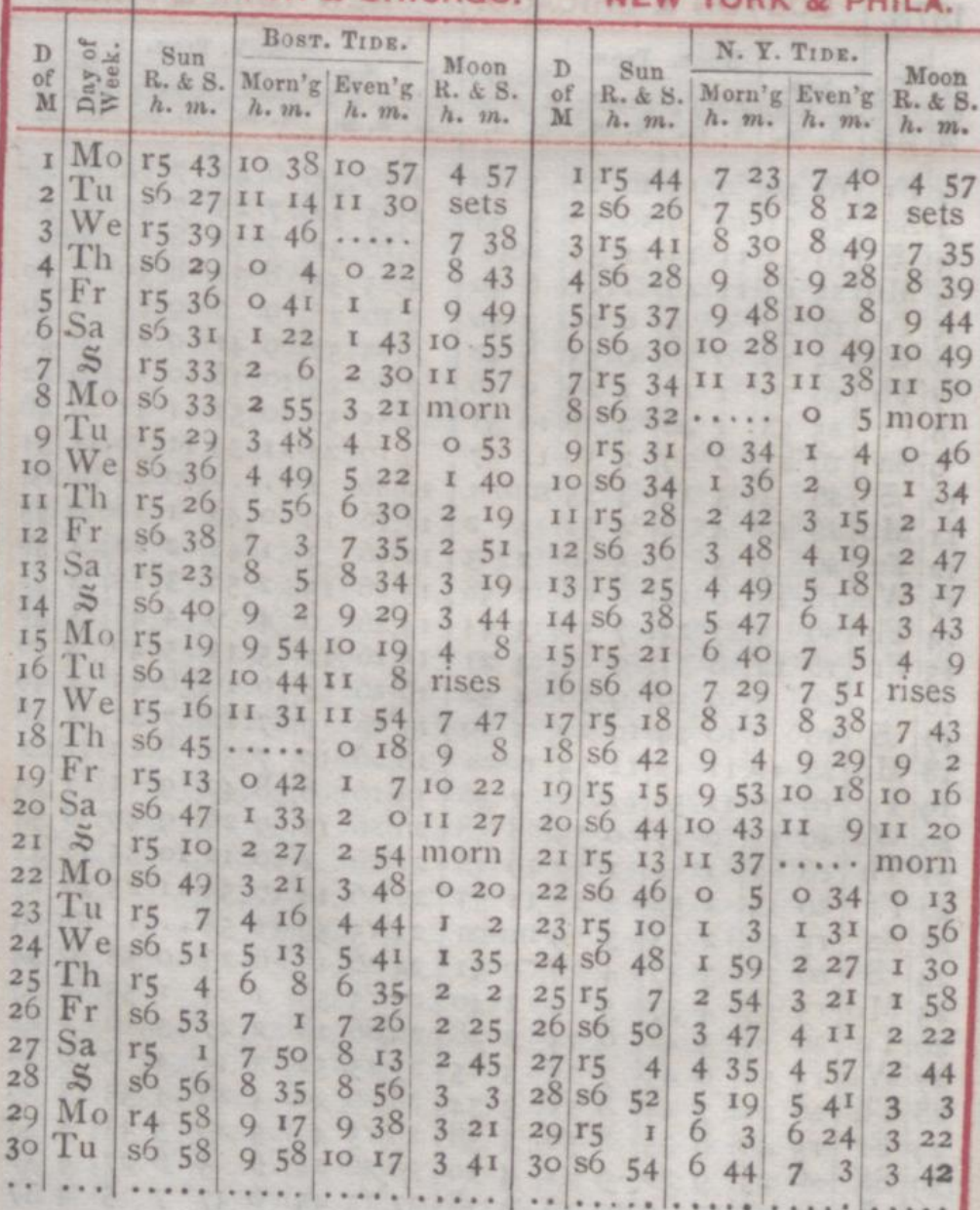
3d. 10h. 21m. p.m.
 11d. 11h. 5m. p.m.
 18d. 4h. 11m. p.m.
 25d. 11h. 54m. a.m.

1878.

BOSTON & CHICAGO.

NEW YORK & PHILA.

D of M	Day of Week.	Sun R. & S. h. m.	BOST. TIDE.		Moon R. & S. h. m.	D of M	Sun R. & S. h. m.	N. Y. TIDE.		Moon R. & S. h. m.
			Morn'g h. m.	Even'g h. m.				Morn'g h. m.	Even'g h. m.	
1	Fr	r6 36	9 55	10 18	5 30	1	r6 35	6 42	7 4	5 26
2	Sa	s5 51	10 39	10 58	5 53	2	s5 52	7 23	7 41	5 50
3	S	r6 33	11 15	11 32	sets	3	r6 31	7 58	8 14	sets
4	Mo	s5 54	11 49	.....	6 40	4	s5 55	8 32	8 50	6 40
5	Tu	r6 29	0 5	0 21	7 40	5	r6 28	9 8	9 25	7 39
6	We	s5 56	0 38	0 55	8 42	6	s5 57	9 41	9 58	8 40
7	Th	r6 26	1 12	1 29	9 46	7	r6 25	10 16	10 32	9 42
8	Fr	s5 58	1 48	2 8	10 51	8	s5 59	10 51	11 11	10 46
9	Sa	r6 23	2 29	2 50	11 57	9	r6 22	11 33	11 56	11 51
10	S	s6 1	3 11	3 35	morn	10	s6 1	.....	0 22	morn
11	Mo	r6 19	4 2	4 31	1 2	11	r6 19	0 49	1 18	0 55
12	Tu	s6 3	5 2	5 36	2 3	12	s6 3	1 48	2 22	1 56
13	We	r6 16	6 12	6 48	2 58	13	r6 15	2 58	3 34	2 51
14	Th	s6 5	7 24	7 58	3 44	14	s6 6	4 9	4 43	3 38
15	Fr	r6 12	8 31	9 1	4 21	15	r6 12	5 15	5 46	4 16
16	Sa	s6 8	9 30	9 58	4 52	16	s6 8	6 16	6 45	4 49
17	S	r6 9	10 24	10 49	5 20	17	r6 9	7 10	7 32	5 18
18	Mo	s6 10	11 12	11 34	rises	18	s6 10	7 54	8 17	rises
19	Tu	r6 6	11 56	.....	7 36	19	r6 6	8 40	9 3	7 34
20	We	s6 12	0 17	0 39	8 58	20	s6 12	9 26	9 49	8 54
21	Th	r6 2	1 2	1 27	10 18	21	r6 2	10 12	10 35	10 13
22	Fr	s6 14	1 52	2 17	11 33	22	s6 14	10 59	11 25	11 27
23	Sa	r5 59	2 43	3 9	morn	23	r5 59	11 54	.....	morn
24	S	s6 16	3 37	4 6	0 41	24	s6 16	0 23	0 53	0 34
25	Mo	r5 55	4 37	5 9	1 40	25	r5 56	1 24	1 55	1 33
26	Tu	s6 19	5 42	6 14	2 28	26	s6 18	2 27	3 0	2 22
27	We	r5 52	6 45	7 15	3 5	27	r5 52	3 31	4 0	2 59
28	Th	s6 21	7 44	8 11	3 34	28	s6 20	4 28	4 55	3 29
29	Fr	r5 48	8 35	8 58	3 58	29	r5 49	5 20	5 43	3 55
30	Sa	s6 23	9 20	9 41	4 19	30	s6 22	6 5	6 27	4 17
31	S	r5 45	10 0	10 19	4 38	31	r5 45	6 47	7 5	4 37





MOON'S PHASES.					BOSTON.			NEW YORK.		
New Moon,					2d. 8h. 6m. a.m.			2d. 7h. 54m. a.m.		
First Quarter, . .					9d. 5h. 48m. p.m.			9d. 5h. 36m. p.m.		
Full Moon,					16d. 9h. 47m. a.m.			16d. 9h. 35m. a.m.		
Last Quarter, . .					23d. 8h. 58m. p.m.			23d. 8h. 46m. p.m.		
New Moon,					31d. 9h. 4m. p.m.			31d. 8h. 52m. p.m.		

1878.		BOSTON & CHICAGO.				NEW YORK & PHILA.				
D of M	Day of Week.	Sun R. & S. h. m.	BOST. TIDE.		Moon R. & S. h. m.	D of M	Sun R. & S. h. m.	N. Y. TIDE.		Moon R. & S. h. m.
			Morn'g h. m.	Even'g h. m.				Morn'g h. m.	Even'g h. m.	
1	We	r4 55	10 37	10 58	4 2	1	r4 59	7 22	7 41	4 5
2	Th	s7 0	11 18	11 37	sets.	2	s6 57	7 59	8 19	sets.
3	Fr	r4 53	11 57	.....	8 45	3	r4 56	8 41	9 4	8 39
4	Sa	s7 2	0 18	0 41	9 50	4	s6 59	9 27	9 51	9 43
5	Su	r4 50	1 5	1 29	10 48	5	r4 54	10 14	10 36	10 41
6	Mo	s7 5	1 53	2 19	11 37	6	s7 1	11 0	11 27	11 31
7	Tu	r4 48	2 45	3 11	morn	7	r4 51	11 55	.....	morn
8	We	s7 7	3 37	4 4	0 19	8	s7 3	0 23	0 51	0 14
9	Th	r4 45	4 33	5 3	0 53	9	r4 49	1 20	1 49	0 49
10	Fr	s7 9	5 33	6 4	1 21	10	s7 5	2 19	2 50	1 18
11	Sa	r4 43	6 35	7 6	1 46	11	r4 47	3 21	3 52	1 44
12	Su	s7 11	7 36	8 4	2 9	12	s7 7	4 21	4 48	2 9
13	Mo	r4 41	8 31	8 58	2 32	13	r4 45	5 15	5 43	2 33
14	Tu	s7 13	9 25	9 52	2 58	14	s7 9	6 11	6 39	3 1
15	We	r4 39	10 19	10 45	3 29	15	r4 43	7 5	7 29	3 33
16	Th	s7 15	11 11	11 36	rises	16	s7 11	7 53	8 18	rises
17	Fr	r4 37	.....	0 1	9 8	17	r4 41	8 45	9 12	9 1
18	Sa	s7 17	0 26	0 52	10 8	18	s7 13	9 38	10 4	10 1
19	Su	r4 35	1 18	1 44	10 55	19	r4 39	10 29	10 53	10 49
20	Mo	s7 19	2 9	2 34	11 32	20	s7 14	11 16	11 41	11 27
21	Tu	r4 33	2 58	3 22	morn	21	r4 38	.....	0 7	11 58
22	We	s7 21	3 45	4 8	0 2	22	s7 16	0 32	0 55	morn
23	Th	r4 31	4 32	4 56	0 27	23	r4 36	1 19	1 43	0 24
24	Fr	s7 23	5 21	5 45	0 48	24	s7 18	2 7	2 31	0 46
25	Sa	r4 30	6 9	6 32	1 6	25	r4 35	2 55	3 18	1 5
26	Su	s7 25	6 56	7 20	1 25	26	s7 20	3 42	4 5	1 26
27	Mo	r4 28	7 44	8 8	1 45	27	r4 33	4 28	4 52	1 47
28	Tu	s7 27	8 32	8 55	2 5	28	s7 21	5 16	5 40	2 8
29	We	r4 27	9 18	9 42	2 29	29	r4 32	6 4	6 28	2 33
30	Th	s7 28	10 6	10 30	2 58	30	s7 23	6 52	7 16	3 3
31	Fr	r4 26	10 54	11 17	3 35	31	r4 31	7 38	7 59	3 41



MOON'S PHASES.

First Quarter, . . .
Full Moon,
Last Quarter, . . .
New Moon,

BOSTON.

7d. 11h. 11m. p.m.
14d. 7h. 7m. p.m.
22d. 2h. 31m. p.m.
30d. 7h. 47m. a.m.

NEW YORK.

7d. 10h. 59m. p.m.
14d. 6h. 55m. p.m.
22d. 2h. 19m. p.m.
30d. 7h. 35m. a.m.

1878.

BOSTON & CHICAGO.

NEW YORK & PHILA.

D of M	Day of Week.	Sun R. & S. h. m.	BOST. TIDE.		Moon R. & S. h. m.	D of M	Sun R. & S. h. m.	N. Y. TIDE.		Moon R. & S. h. m.
			Morn'g h. m.	Even'g h. m.				Morn'g h. m.	Even'g h. m.	
1	Sa	r4 26	11 40	.....	sets.	1	r4 31	8 21	8 48	sets
2	S	s7 31	0 3	0 27	9 34	2	s7 25	9 13	9 38	9 28
3	Mo	r4 25	0 52	1 17	10 18	3	r4 30	10 4	10 28	10 12
4	Tu	s7 32	1 43	2 8	10 54	4	s7 27	10 51	11 15	10 49
5	We	r4 24	2 33	2 58	11 24	5	r4 29	11 41	.....	11 21
6	Th	s7 33	3 22	3 46	11 50	6	s7 28	0 7	0 32	11 48
7	Fr	r4 23	4 11	4 38	morn	7	r4 29	0 58	1 25	morn
8	Sa	s7 35	5 6	5 34	0 14	8	s7 29	1 52	2 20	0 13
9	S	r4 23	6 3	6 33	0 37	9	r4 28	2 49	3 18	0 38
10	Mo	s7 36	7 3	7 33	1 1	10	s7 30	3 48	4 17	1 3
11	Tu	r4 22	8 3	8 33	1 29	11	r4 28	4 47	5 17	1 33
12	We	s7 37	9 3	9 33	2 3	12	s7 31	5 48	6 18	2 8
13	Th	r4 22	10 2	10 31	2 43	13	r4 28	6 48	7 15	2 49
14	Fr	s7 38	10 58	11 23	rises	14	s7 32	7 41	8 6	rises
15	Sa	r4 22	11 48	.....	8 46	15	r4 28	8 31	8 58	8 40
16	S	s7 38	0 13	0 37	9 28	16	s7 33	9 24	9 48	9 22
17	Mo	r4 22	1 1	1 24	10 2	17	r4 28	10 10	10 31	9 57
18	Tu	s7 39	1 46	2 8	10 29	18	s7 34	10 51	11 11	10 26
19	We	r4 23	2 28	2 48	10 51	19	r4 28	11 31	11 52	10 49
20	Th	s7 40	3 8	3 28	11 10	20	s7 34	.....	0 14	11 9
21	Fr	r4 23	3 48	4 8	11 29	21	r4 29	0 35	0 55	11 29
22	Sa	s7 40	4 29	4 51	11 48	22	s7 34	1 16	1 38	11 49
23	S	r4 23	5 14	5 38	morn	23	r4 29	2 0	2 24	morn
24	Mo	s7 40	6 2	6 27	0 8	24	s7 35	2 48	3 13	0 10
25	Tu	r4 24	6 54	7 21	0 31	25	r4 30	3 39	4 6	0 35
26	We	s7 40	7 48	8 16	0 57	26	s7 35	4 33	5 0	1 2
27	Th	r4 25	8 44	9 12	1 30	27	r4 30	5 29	5 58	1 36
28	Fr	s7 40	9 40	10 7	2 13	28	s7 35	6 26	6 53	2 19
29	Sa	r4 25	10 35	11 2	sets.	29	r4 31	7 19	7 45	sets.
30	S	s7 40	11 27	11 52	8 14	30	s7 35	8 10	8 35	8 8



MOON'S PHASES.	BOSTON.	NEW YORK.
First Quarter, . . .	7d. 3h. 36m. a.m.	7d. 3h. 24m. a.m.
Full Moon,	14d. 6h. 11m. a.m.	14d. 5h. 59m. a.m.
Last Quarter, . . .	22d. 7h. 32m. a.m.	22d. 7h. 20m. a.m.
New Moon,	29d. 4d. 56m. p.m.	29d. 4h. 44m. p.m.

1878.		BOSTON & CHICAGO.				NEW YORK & PHILA.				
D of M	Day of Week.	Sun R. & S. h. m.	BOST. TIDE.		Moon R. & S. h. m.	D of M	Sun R. & S. h. m.	N. Y. TIDE.		Moon R. & S. h. m.
			Morn'g h. m.	Even'g h. m.				Morn'g h. m.	Even'g h. m.	
1	Mo	r4 26	.....	0 16	8 54	1	r4 32	9 0	9 26	8 49
2	Tu	s7 40	0 39	1 3	9 27	2	s7 35	9 50	10 13	9 23
3	We	r4 27	1 28	1 52	9 54	3	r4 33	10 34	10 56	9 52
4	Th	s7 40	2 14	2 36	10 18	4	s7 34	11 19	11 43	10 17
5	Fr	r4 29	2 59	3 22	10 41	5	r4 34	.....	0 7	10 42
6	Sa	s7 39	3 46	4 11	11 5	6	s7 33	0 32	0 57	11 7
7	S	r4 30	4 37	5 5	11 31	7	r4 36	1 24	1 52	11 34
8	Mo	s7 38	5 35	6 5	morn	8	s7 33	2 21	2 51	morn
9	Tu	r4 31	6 37	7 10	0 1	9	r4 37	3 23	3 56	0 6
10	We	s7 38	7 44	8 18	0 38	10	s7 32	4 29	5 2	0 44
11	Th	r4 33	8 50	9 21	1 24	11	r4 38	5 35	6 6	1 30
12	Fr	s7 37	9 50	10 18	2 18	12	s7 31	6 36	7 4	2 25
13	Sa	r4 34	10 46	11 11	rises	13	r4 40	7 30	7 53	rises
14	S	s7 35	11 33	11 55	8 0	14	s7 30	8 15	8 39	7 55
15	Mo	r4 36	.....	0 17	8 29	15	r4 41	9 3	9 23	8 25
16	Tu	s7 34	0 37	0 56	8 53	16	s7 29	9 42	10 1	8 50
17	We	r4 38	1 16	1 35	9 14	17	r4 43	10 20	10 37	9 12
18	Th	s7 33	1 53	2 11	9 33	18	s7 27	10 53	11 11	9 33
19	Fr	r4 39	2 29	2 47	9 52	19	r4 44	11 30	11 49	9 53
20	Sa	s7 31	3 5	3 24	10 11	20	s7 26	.....	0 9	10 13
21	S	r4 41	3 43	4 3	10 32	21	r4 46	0 29	0 50	10 35
22	Mo	s7 29	4 25	4 49	10 56	22	s7 24	1 12	1 36	11 0
23	Tu	r4 43	5 15	5 42	11 26	23	r4 48	2 1	2 28	11 31
24	We	s7 28	6 11	6 41	morn	24	s7 22	2 57	3 27	morn
25	Th	r4 45	7 12	7 44	0 3	25	r4 50	3 57	4 29	0 9
26	Fr	s7 26	8 17	8 49	0 49	26	s7 21	5 1	5 34	0 56
27	Sa	r4 47	9 20	9 49	1 47	27	r4 51	6 5	6 35	1 54
28	S	s7 24	10 18	10 46	2 59	28	s7 20	7 3	7 30	3 5
29	Mo	r4 49	11 11	11 35	sets	29	r4 53	7 54	8 17	sets
30	Tu	s7 22	11 58	.....	7 55	30	s7 18	8 42	9 7	7 52
31	We	r4 51	0 21	0 44	8 21	31	r4 55	9 30	9 52	8 20



MOON'S PHASES.	BOSTON.	NEW YORK.
First Quarter, . . .	5d. 8h. 35m. a.m.	5d. 8h. 23m. a.m.
Full Moon,	12d. 7h. 32m. p.m.	12d. 7h. 20m. p.m.
Last Quarter, . . .	20d. 11h. 24m. p.m.	20d. 11h. 12m. p.m.
New Moon,	28d. 1h. 15m. a.m.	28d. 1h. 3m. a.m.

1878. BOSTON & CHICAGO. NEW YORK & PHILA.

D of M	Day of Week.	Sun R. & S. h. m.	BOST. TIDE.		Moon R. & S. h. m.	D of M	Sun R. & S. h. m.	N. Y. TIDE.		Moon R. & S. h. m.
			Morn'g h. m.	Even'g h. m.				Morn'g h. m.	Even'g h. m.	
1	Th	r4 52	1 6	1 28	8 45	1	r4 56	10 13	10 34	8 45
2	Fr	s7 18	1 50	2 12	9 8	2	s7 15	10 55	11 17	9 10
3	Sa	r4 54	2 35	2 58	9 34	3	r4 58	11 41	.....	9 37
4	S	s7 16	3 22	3 46	10 4	4	s7 12	0 7	0 33	10 8
5	Mo	r4 56	4 13	4 42	10 39	5	r5 0	1 0	1 29	10 44
6	Tu	s7 14	5 14	5 48	11 21	6	s7 10	2 0	2 34	11 27
7	We	r4 58	6 23	6 58	morn	7	r5 2	3 9	3 43	morn
8	Th	s7 11	7 32	8 6	0 12	8	s7 7	4 17	4 51	0 19
9	Fr	r5 0	8 39	9 9	1 12	9	r5 4	5 24	5 54	1 19
10	Sa	s7 8	9 37	10 4	2 17	10	s7 5	6 23	6 50	2 23
11	S	r5 2	10 28	10 50	3 25	11	r5 6	7 14	7 34	3 30
12	Mo	s7 6	11 11	11 31	rises	12	s7 2	7 53	8 12	rises
13	Tu	r5 4	11 49	.....	7 19	13	r5 8	8 32	8 51	7 17
14	We	s7 3	0 7	0 24	7 38	14	s7 0	9 10	9 28	7 37
15	Th	r5 7	0 42	0 59	7 57	15	r5 10	9 45	10 1	7 57
16	Fr	s7 0	1 15	1 32	8 16	16	s6 57	10 17	10 34	8 18
17	Sa	r5 9	1 50	2 8	8 36	17	r5 12	10 51	11 8	8 39
18	S	s6 57	2 26	2 45	8 59	18	s6 54	11 27	11 48	9 3
19	Mo	r5 11	3 4	3 24	9 26	19	r5 14	.....	0 10	9 31
20	Tu	s6 54	3 46	4 11	9 59	20	s6 51	0 33	0 58	10 5
21	We	r5 13	4 38	5 7	10 40	21	r5 16	1 25	1 53	10 47
22	Th	s6 51	5 38	6 11	11 32	22	s6 48	2 24	2 57	11 39
23	Fr	r5 15	6 45	7 20	morn	23	r5 18	3 31	4 5	morn
24	Sa	s6 48	7 54	8 26	0 35	24	s6 45	4 38	5 10	0 41
25	S	r5 17	8 58	9 28	1 47	25	r5 20	5 43	6 14	1 53
26	Mo	s6 44	9 57	10 24	3 4	26	s6 42	6 43	7 10	3 8
27	Tu	r5 19	10 49	11 13	sets.	27	r5 22	7 33	7 55	sets
28	We	s6 41	11 35	11 57	6 46	28	s6 39	8 18	8 41	6 45
29	Th	r5 21	.....	0 18	7 11	29	r5 24	9 4	9 27	7 12
30	Fr	s6 38	0 40	1 3	7 37	30	s6 36	9 50	10 12	7 39
31	Sa	r5 23	1 26	1 49	8 6	31	r5 25	10 32	10 54	8 10



MOON'S PHASES.	BOSTON.	NEW YORK.
First Quarter, . . .	3d. 3h. 42m. p.m.	3d. 3h. 30m. p.m.
Full Moon,	11d. 11h. 5m. a.m.	11d. 10h. 53m. a.m.
Last Quarter, . . .	19d. 1h. 46m. p.m.	19d. 1h. 34m. p.m.
New Moon,	26d. 9d. 26m. a.m.	26d. 9h. 14m. a.m.

1878.	BOSTON & CHICAGO.	NEW YORK & PHILA.
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D of M	Day of Week.	Sun		Bost. Tide.		Moon R. & S. h. m.	D of M	Sun R. & S. h. m.	N. Y. Tide.		Moon R. & S. h. m.
		R. & S. h. m.		Morn'g h. m.	Even'g h. m.				Morn'g h. m.	Even'g h. m.	
1	S	r5 24		2 12	2 36	8 40	1	r5 26	11 18	11 46	8 45
2	Mo	s6 33		3 2	3 29	9 20	2	s6 31	.....	0 15	9 26
3	Tu	r5 27		3 58	4 29	10 8	3	r5 28	0 45	1 15	10 15
4	We	s6 29		5 1	5 36	11 6	4	s6 28	1 47	2 22	11 13
5	Th	r5 29		6 11	6 46	morn	5	r5 30	2 57	3 31	morn
6	Fr	s6 26		7 19	7 50	0 10	6	s6 24	4 4	4 35	0 16
7	Sa	r5 31		8 20	8 48	1 16	7	r5 32	5 4	5 33	1 21
8	S	s6 22		9 14	9 38	2 22	8	s6 21	6 0	6 24	2 26
9	Mo	r5 33		10 0	10 21	3 27	9	r5 34	6 46	7 6	3 30
10	Tu	s6 19		10 40	10 59	4 31	10	s6 18	7 25	7 42	4 33
11	We	r5 35		11 17	11 33	rises	11	r5 36	7 59	8 16	rises
12	Th	s6 15		11 49	.....	6 21	12	s6 14	8 32	8 50	6 22
13	Fr	r5 37		0 5	0 22	6 42	13	r5 38	9 8	9 26	6 44
14	Sa	s6 12		0 39	0 57	7 4	14	s6 11	9 43	10 1	7 7
15	S	r5 39		1 15	1 34	7 29	15	r5 40	10 19	10 36	7 34
16	Mo	s6 8		1 53	2 13	7 59	16	s6 8	10 55	11 16	8 5
17	Tu	r5 41		2 34	2 56	8 36	17	r5 42	11 40	.....	8 42
18	We	s6 5		3 20	3 46	9 23	18	s6 4	0 5	0 32	9 30
19	Th	r5 44		4 14	4 43	10 20	19	r5 44	1 0	1 30	10 27
20	Fr	s6 1		5 15	5 48	11 26	20	s6 1	2 1	2 34	11 32
21	Sa	r5 46		6 22	6 56	morn	21	r5 46	3 8	3 41	morn
22	S	s5 58		7 29	8 1	0 39	22	s5 58	4 14	4 45	0 44
23	Mo	r5 48		8 32	9 1	1 55	23	r5 48	5 16	5 46	1 59
24	Tu	s5 54		9 29	9 56	3 14	24	s5 54	6 15	6 42	3 16
25	We	r5 50		10 22	10 46	4 33	25	r5 50	7 7	7 30	4 34
26	Th	s5 51		11 9	11 31	sets	26	s5 51	7 51	8 13	sets
27	Fr	r5 52		11 53	.....	6 3	27	r5 52	8 37	9 2	6 6
28	Sa	s5 47		0 16	0 40	6 36	28	s5 47	9 26	9 50	6 40
29	S	r5 54		1 4	1 29	7 15	29	r5 54	10 13	10 38	7 21
30	Mo	s5 44		1 55	2 21	8 2	30	s5 44	11 4	11 32	8 8



MOON'S PHASES.	BOSTON.	NEW YORK.
First Quarter, . . .	3d. 2h. 17m. a.m.	3d. 2h. 5m. a.m.
Full Moon,	11d. 4h. 10m. a.m.	11d. 3h. 58m. a.m.
Last Quarter, . . .	19d. 2h. 26m. a.m.	19d. 2h. 14m. a.m.
New Moon,	25d. 6h. 14m. p.m.	25d. 6h. 2m. p.m.

1878. BOSTON & CHICAGO. NEW YORK & PHILA.

D of M	Day of Week.	Sun R. & S. h. m.	BOST. TIDE.		Moon R. & S. h. m.	D of M	Sun R. & S. h. m.	N. Y. TIDE.		Moon R. & S. h. m.
			Morn'g h. m.	Even'g h. m.				Morn'g h. m.	Even'g h. m.	
1	Tu	r5 57	2 49	3 17	8 58	1	r5 56	.....	0 1	9 5
2	We	s5 40	3 46	4 16	10 2	2	s5 41	0 32	1 3	10 8
3	Th	r5 59	4 48	5 21	11 9	3	r5 58	1 35	2 7	11 15
4	Fr	s5 37	5 53	6 24	morn	4	s5 38	2 39	3 10	morn
5	Sa	r6 1	6 54	7 22	0 15	5	r6 0	3 39	4 7	0 20
6	S	s5 33	7 49	8 15	1 20	6	s5 34	4 34	5 0	1 23
7	Mo	r6 3	8 39	9 0	2 23	7	r6 2	5 24	5 46	2 25
8	Tu	s5 30	9 21	9 42	3 25	8	s5 31	6 7	6 28	3 26
9	We	r6 6	10 2	10 21	4 26	9	r6 5	6 48	7 7	4 26
10	Th	s5 27	10 39	10 58	5 27	10	s5 28	7 24	7 41	5 26
11	Fr	r6 8	11 16	11 33	rises	11	r6 7	7 58	8 15	rises
12	Sa	s5 23	11 50	.....	5 33	12	s5 25	8 33	8 53	5 37
13	S	r6 10	0 8	0 27	6 2	13	r6 9	9 14	9 34	6 7
14	Mo	s5 20	0 47	1 8	6 38	14	s5 22	9 54	10 15	6 44
15	Tu	r6 13	1 30	1 52	7 22	15	r6 11	10 36	10 57	7 29
16	We	s5 17	2 14	2 38	8 14	16	s5 19	11 20	11 46	8 21
17	Th	r6 15	3 3	3 28	9 15	17	r6 13	.....	0 14	9 21
18	Fr	s5 14	3 55	4 24	10 23	18	s5 16	0 42	1 11	10 28
19	Sa	r6 17	4 54	5 25	11 36	19	r6 15	1 40	2 11	11 40
20	S	s5 11	5 57	6 29	morn	20	s5 13	2 43	3 15	morn
21	Mo	r6 20	7 0	7 31	0 50	21	r6 17	3 46	4 16	0 53
22	Tu	s5 8	8 1	8 29	2 5	22	s5 10	4 45	5 13	2 6
23	We	r6 22	8 56	9 23	3 22	23	r6 20	5 41	6 9	3 22
24	Th	s5 5	9 49	10 15	4 41	24	s5 7	6 36	7 1	4 39
25	Fr	r6 24	10 41	11 6	sets.	25	r6 22	7 25	7 49	sets.
26	Sa	s5 2	11 30	11 55	5 6	26	s5 4	8 14	8 39	5 11
27	S	r6 27	.....	0 21	5 50	27	r6 24	9 6	9 33	5 56
28	Mo	s4 59	0 47	1 14	6 44	28	s5 2	10 0	10 26	6 51
29	Tu	r6 29	1 41	2 9	7 48	29	r6 26	10 52	11 19	7 54
30	We	s4 56	2 37	3 4	8 56	30	s4 59	11 47	.....	9 2
31	Th	r6 32	3 30	3 57	10 4	31	r6 29	0 16	0 44	10 9



MOON'S PHASES.

BOSTON.

NEW YORK.

First Quarter, . . .
Full Moon, . . .
Last Quarter, . . .
New Moon, . . .

1d. 5h. 6m. p.m.
9d. 9h. 50m. p.m.
17d. 1h. 14m. p.m.
24d. 4h. 26m. a.m.

1d. 4h. 54m. p.m.
9d. 9h. 38m. p.m.
17d. 1h. 2m. p.m.
24d. 4h. 14m. a.m.

1878.

BOSTON & CHICAGO.

NEW YORK & PHILA.

D of M	Day of Week.	Sun R. & S. h. m.	BOST. TIDE.		Moon R. & S. h. m.	D of M	Sun R. & S. h. m.	N. Y. TIDE.		Moon R. & S. h. m.
			Morn'g h. m.	Even'g h. m.				Morn'g h. m.	Even'g h. m.	
1	Fr	r6 33	4 24	4 52	11 12	1	r6 30	1 11	1 38	11 16
2	Sa	s4 52	5 20	5 47	morn	2	s4 56	2 6	2 33	morn
3	Su	r6 36	6 13	6 39	0 17	3	r6 32	2 59	3 24	0 20
4	Mo	s4 50	7 4	7 28	1 18	4	s4 53	3 49	4 13	1 19
5	Tu	r6 38	7 52	8 15	2 18	5	r6 35	4 37	5 0	2 18
6	We	s4 48	8 37	8 58	3 18	6	s4 51	5 22	5 44	3 17
7	Th	r6 41	9 19	9 40	4 19	7	r6 37	6 5	6 26	4 17
8	Fr	s4 45	10 1	10 22	5 21	8	s4 49	6 47	7 8	5 18
9	Sa	r6 43	10 43	11 4	6 24	9	r6 40	7 28	7 46	6 20
10	Su	s4 43	11 24	11 44	rises	10	s4 47	8 6	8 28	rises
11	Mo	r6 46	.....	0 5	5 19	11	r6 42	8 50	9 12	5 25
12	Tu	s4 41	0 27	0 49	6 10	12	s4 45	9 35	9 57	6 17
13	We	r6 48	1 11	1 35	7 9	13	r6 44	10 20	10 43	7 15
14	Th	s4 39	2 0	2 25	8 15	14	s4 43	11 7	11 32	8 21
15	Fr	r6 51	2 49	3 13	9 25	15	r6 47	11 58	.....	9 30
16	Sa	s4 37	3 38	4 4	10 37	16	s4 41	0 24	0 51	10 40
17	Su	r6 53	4 31	4 59	11 49	17	r6 49	1 18	1 45	11 51
18	Mo	s4 36	5 27	5 56	morn	18	s4 40	2 13	2 42	morn
19	Tu	r6 56	6 26	6 56	1 2	19	r6 52	3 11	3 41	1 3
20	We	s4 34	7 26	7 55	2 17	20	s4 39	4 11	4 40	2 16
21	Th	r6 58	8 24	8 53	3 35	21	r6 54	5 9	5 38	3 33
22	Fr	s4 33	9 22	9 50	4 54	22	s4 38	6 7	6 36	4 50
23	Sa	r7 1	10 19	10 48	6 15	23	r6 56	7 5	7 32	6 10
24	Su	s4 32	11 14	11 40	sets.	24	s4 37	7 56	8 22	sets.
25	Mo	r7 3	.....	0 7	5 27	25	r6 58	8 51	9 21	5 34
26	Tu	s4 31	0 34	1 1	6 34	26	s4 36	9 49	10 13	6 40
27	We	r7 5	1 27	1 53	7 45	27	r7 0	10 36	11 0	7 50
28	Th	s4 30	2 18	2 42	8 55	28	s4 35	11 25	11 49	8 59
29	Fr	r7 7	3 5	3 28	10 3	29	r7 2	.....	0 12	10 6
30	Sa	s4 29	3 50	4 13	11 7	30	s4 34	0 36	1 1	11 9

DECEMBER



MOON'S PHASES.

BOSTON.

NEW YORK.

First Quarter, . . .	1d. 11h. 53m. a.m.	1d. 11h. 41m. a.m.
Full Moon,	9d. 3h. 6m. p.m.	9d. 2h. 54m. p.m.
Last Quarter, . . .	16d. 10h. 20m. p.m.	16d. 10h. 8m. p.m.
New Moon,	23d. 4h. 40m. p.m.	23d. 4h. 28m. p.m.
First Quarter, . . .	31d. 9h. 13m. a.m.	31d. 9h. 1m. a.m.

1878.

BOSTON & CHICAGO.

NEW YORK & PHILA.

D of M	Day of Week.	BOST. TIDE.				Moon R. & S. h. m.	D of M	Sun R. & S. h. m.	N. Y. TIDE.				Moon R. & S. h. m.
		Sun R. & S. h. m.	Morn'g h. m.	Even'g h. m.					Sun R. & S. h. m.	Morn'g h. m.	Even'g h. m.		
1	S	r7 9	4 37	5 0	morn		1	r7 4	1 24	1 47		morn	
2	Mo	s4 28	5 24	5 48	0 8		2	s4 33	2 10	2 34	0 9		
3	Tu	r7 11	6 12	6 36	1 8		3	r7 6	2 58	3 21	1 7		
4	We	s4 28	7 0	7 24	2 9		4	s4 33	3 45	4 9	2 7		
5	Th	r7 14	7 49	8 14	3 10		5	r7 8	4 34	4 59	3 7		
6	Fr	s4 28	8 38	9 1	4 13		6	s4 33	5 23	5 47	4 9		
7	Sa	r7 16	9 25	9 49	5 17		7	r7 10	6 11	6 36	5 12		
8	S	s4 28	10 14	10 38	6 21		8	s4 33	7 0	7 23	6 15		
9	Mo	r7 17	11 2	11 25	rises		9	r7 12	7 45	8 7	rises		
10	Tu	s4 28	11 48	.....	5 2		10	s4 33	8 31	8 57	5 8		
11	We	r7 19	0 11	0 35	6 8		11	r7 14	9 22	9 46	6 14		
12	Th	s4 28	0 58	1 22	7 17		12	s4 33	10 8	10 30	7 22		
13	Fr	r7 21	1 46	2 9	8 28		13	r7 16	10 52	11 14	8 32		
14	Sa	s4 28	2 32	2 54	9 40		14	s4 34	11 37	.....	9 42		
15	S	r7 22	3 17	3 40	10 52		15	r7 17	0 1	0 26	10 53		
16	Mo	s4 29	4 4	4 29	morn		16	s4 34	0 51	1 16	morn		
17	Tu	r7 24	4 56	5 24	0 4		17	r7 18	1 42	2 10	0 4		
18	We	s4 29	5 53	6 23	1 18		18	s4 35	2 39	3 9	1 16		
19	Th	r7 25	6 54	7 26	2 34		19	r7 20	3 39	4 11	2 31		
20	Fr	s4 30	7 59	8 31	3 52		20	s4 35	4 43	5 15	3 47		
21	Sa	r7 26	9 2	9 33	5 9		21	r7 21	5 47	6 19	5 3		
22	S	s4 31	10 5	10 35	6 22		22	s4 37	6 51	7 21	6 16		
23	Mo	r7 27	11 3	11 29	sets.		23	r7 22	7 47	8 11	sets.		
24	Tu	s4 32	11 54	.....	5 23		24	s4 38	8 37	9 4	5 29		
25	We	r7 28	0 18	0 42	6 34		25	r7 22	9 29	9 52	6 39		
26	Th	s4 34	1 6	1 28	7 44		26	s4 39	10 14	10 34	7 48		
27	Fr	r7 29	1 50	2 11	8 51		27	r7 23	10 53	11 13	8 53		
28	Sa	s4 35	2 31	2 51	9 55		28	s4 40	11 34	11 55	9 56		
29	S	r7 29	3 10	3 30	10 57		29	r7 24	.....	0 16	10 57		
30	Mo	s4 36	3 50	4 11	11 58		30	s4 42	0 36	0 57	11 57		
31	Tu	r7 30	4 32	4 54	morn		31	r7 24	1 19	1 41	morn		

TUESDAY, JANUARY 1, 1878.

Day overcast but warm
On line from Big Sandy
over to E. Fork - At night at
Mr Rifes -

Met Mr J. Miller
this afternoon who is vis-
iting son at head of Mil-
lars or Long Branch, a trib-
utary of Cats Fork

2

WEDNESDAY 2

Morning cloudy and
quite warm the ground being
slightly frozen in the morn-
ing - Rode from Millers
to Hensleys - Spent the night
at the Uncle Billy Davis

THURSDAY, JANUARY 3, 1878.

Should be Jan 2

Morning cool the ground
having frozen slightly in the
night - Run from Newburg
to the mouth of Bear Creek
connecting with the line on that
Creek - closed about 10.30
A.M. Having a lunch in on
prosketo walk to Cannon's trap
where after repairing of land
we walk to Mead crossing in
time for 2.00

FRIDAY 4

Yesterday Morning Thu. 18°
ground frozen, evening warm
This Morning Thu 38 with
9 in. snow Cloudy and cool
This the entire day with more
snow in the evening

Miss C. W. & L. P. dined with
us yesterday -

John started with land
this morning

SATURDAY, JANUARY 5, 1878.

Thurmon etc at dinner 0+13
Strong N.W. wind in the night
Morning calm and day
pleasant - cooler at night
Thur. at 9 PM 0+16 -

Mr Mahan's missing hat
found on River drowned in
a drunken spree or succeeded
the verdict of neighbors
left letter intimating suicide

SUNDAY 6

At dinner Thur. 0+14 - All hands but
H. & Alf at Cantata last night. Two
restful weeks remained at home
Wrote to Mary
Quite cool all day the
snow melting very little
Dr. M. D. & Arch in this
evening

MONDAY, JANUARY 7, 1878.

Ther this morning +10 with mist
(the above should be 0-10-)
bright sun but cool through
the day - at 8 o'clock P.M. Ther
0+2 and still growing cold
ice forming in the River the
large boats little of laying up

TUESDAY 8

This morning Ther 0-10 same as
yesterday with mist. trees finely
frosted - quite warm this
the day with indications
of rain - Ice too heavy
for the boats, Mail came
over the River this evening

WEDNESDAY, JANUARY 9, 1878.

Ther +28 in the morning
Cloudy & warm this the day
Snow melting fast -
about afternoon

THURSDAY 10

Ther +34, still raining
very little ice in the River
the boats again running

FRIDAY, JANUARY 11, 1878.

Rainy & Drizzly
but warm.

At home at work on patterns
Wrote A. J. here in the evening

SATURDAY 12

Clear and bright this morning
Ther. + 28

Out at Eastman's Tunnel
to examine the Rock in the
approach which are likely
to fall -

Forbes came in from
the E. S. Survey with the birds

SUNDAY, JANUARY 13, 1878.

Ther 36+ and Rainy.
At or near noon rain
ceased but continued cloudy
thru the day.

Haskell died this morn-
ing of dropsy of the heart

MONDAY 14

Morning warm & cloudy
probably rain in the night
cloudy & showery all
day -

A letter from Mary

TUESDAY, JANUARY 15, 1878.

This morning cloudy, but
remained all day -
In office all day took
making profile of E.F. RR

WEDNESDAY 16

Ground slightly frozen
this morning - cloudy
and chilly all day
the not cold -

In evening out at Tunnel
Train delayed by large rock
thrown down

At night at Meeting
of Council

THURSDAY, JANUARY 17, 1878.

Ground frozen this morn-
ing but became and during
at midday - A man is -
joined at N. Green who by throw-
ing water on top cinder

Morning down to look
at Russels work on Jones Road
in office remainder of day

FRIDAY 18

Froze slightly last night
Midday warm & pleasant
At the Tunnel in the after-
noon - Evening at Chapter
Small number present

SATURDAY, JANUARY 19, 1878.

Warm & Pleasant all day
Evening informal meeting
of Council in relation to
Change of Charter.

In Office all day

SUNDAY 20

Warm & pleasant in the morning
Evening a light snow in Port
Thomas Bay

MONDAY, JANUARY 21, 1878.

Morning warm & cloudy
About Office & shop, evening
out at Tunnel and over
to E & F Bridge to look at
Coal -

Night down at
the means

TUESDAY 22

Colder this morning continued
chilly & overcast all day - Some
rain in the night -

About the Office all day

WEDNESDAY, JANUARY 23, 1878.

Ground frozen in the morning. Cool but pleasant thru the day. At May's office in the evening but nothing done.

THURSDAY 24

Morning quite cool with ground frozen but clear and pleasant. Arranged to go on the River with Dr. J. Long. Coal hunting, he being called off did not go.

Bird snapper at M^s not any of us there!!

FRIDAY, JANUARY 25, 1878.

Quite warm in the morning with indications of rain. At the office all day. Rainy at night on my way home.

Railroad meeting did not attend.

Understand H. J. Means & J. L. Sosa were selected to attend meeting at Cin. on 30th.

SATURDAY 26

About the office all day. Fine weather but this evening for the first time since putting in New Blast.

Attended R.R. meeting at night. Not in abundance. Not anything of importance done. Engelson, Powell, J. Hampton, Earl, Donated 5 to \$.

Indications of Rain

SUNDAY, JANUARY 27, 1878.

Raining this morning, at noon sun shows thru the clouds - Spent evening at Mr. Richardson's. Raining again at night when I came home.

MONDAY 28

Considerable rain in the night, in the morning clear & cloudy.

At Salt Lake with Messrs. H. Means & J. P. Jones to report on Hood Creek Bridge.

TUESDAY, JANUARY 29, 1878.

About the office all day. Death of Mrs. D. B. Lewis reported in town. She being on a visit to Marysville.

WEDNESDAY 30

A little colder this morning. Therm +28 with indications of snow.

Set watch it having run down.

Evening at Lumber. came in rain and sleet.

Learn Mrs. Lewis is not dead as reported yesterday.

THURSDAY, JANUARY 31, 1878.

About 2 in S. of snow
Ther + 31. Cloudy
Went to C. & P. R.
meeting last night
Snow melting. Cloudy
all day

FRIDAY, FEBRUARY 1

This morning Ther + 32⁺
Snow still melting thru
the day -
Evening spitting
snow but little snow
at home father Ma-
King

SATURDAY, FEBRUARY 2, 1878.

Mamma & son east all
day -
At Mayor's office sitting
upon New Charter -
Mr. Leondits better day
dined with them, Miss S. P.
& our family
J. P. J. had my name re-
jected from Committee on Road
Curt Budge Oh! the insig-
nificance of some men

3

SUNDAY 3

Ther + 30 Cloudy ground
slightly frozen
at home all day
a note to Mr & Charly
R. Hittor

MONDAY, FEBRUARY 4, 1878.

About town in the
morning. Evening out
on the train.

Huttons youngest child
born today

TUESDAY 5

Pattern making at the
shop - Train through the
day but chilly at night

WEDNESDAY, FEBRUARY 6, 1878.

Ground frozen slightly
but warm this the day
About shop & office

THURSDAY 7

At 12 to Mrs. Early on
line started into N. H. Co
abandoned it until some
arrangement can be made
Home at night

FRIDAY, FEBRUARY 8, 1878.

About Shop & office all
day, Warm but Cloudy

SATURDAY 9th

Warm & Cloudy -
Paid for Engine to Sat 16

SUNDAY, FEBRUARY 10, 1878.

Cloudy all day. at night
Chilly & Spitting Snow
In house all day

MONDAY 11th

Sun + 28 ground white
with snow. Warm tow-
ard noon. Snow nearly
all gone at night

Finished Map of Coun-
ties this evening

Paid accounts 61 & 62
Mason's Mutual of
Mayville

TUESDAY, FEBRUARY 12, 1878.

Ground frozen quite
hard this morning,
out at No 4 this evening.
Ed. Roberts reported in
fired by obstructions on track.

WEDNESDAY 13

Day pleasant, at-
night forecast
Mr & Mrs P. & the
Cousins at dinner
Indications of rain

THURSDAY, FEBRUARY 14, 1878.

Morning cloudy with
indications of rain
Spent evening up at
the Norton Iron Works,
at night drizzling
rain

FRIDAY 15

SATURDAY, FEBRUARY 16, 1878.

German overhauled last
night & difficulty in getting out
the iron

Paid for Eugene to this

SUNDAY 17

At home all day it
being rising & unpleasant

MONDAY, FEBRUARY 18, 1878.

Morning, in company
with Forbes took to see the
London Road bridge going
down at Hoot examining
with reference to Bridge

TUESDAY 19

Forenoon cool but pleas-
ant - Evening up at Gray-
ville

WEDNESDAY, FEBRUARY 20, 1878.

About the office making
specifications for No. 2
Crib Bridge
Main and Spring
line

THURSDAY 21

FRIDAY, FEBRUARY 22, 1878.

SATURDAY 23

This morning went out
into the flat wood, Clinton
Road for Crab trees - called
at Mr. Loomis and
A. A. Farnace and
E. Dublin (Gore up)

SUNDAY, FEBRUARY 24, 1878.

Evening up at the group
walked up to Bowles

MONDAY 25

Evening out at Helms
quite chilly this the day

TUESDAY, FEBRUARY 26, 1878.

Evening W. & self
at M. M. for H. I. C. &
Co.
Day pleasant - but
rather chilly

WEDNESDAY 27

Day very pleasant -
W. Kinsley & self at work
for H. I. C. & Co.

THURSDAY, FEBRUARY 28, 1878

At work for H. J. C. & M. Co.
all day. Perry, Hendley
and self

FRIDAY, MARCH 1

Morning cool but
Pleasant -

Perry, Hendley & self
at work in forenoon for
H. J. C. & M. Co.

Evening warm and
spring like

SATURDAY, MARCH 2, 1878.

Stormy all day
In the office plotting
for H. J. C. & M. Co.

SUNDAY 3

Quite cool cloudy and
drizzly all day -

Wrote to Mary
Mr Richardson & Vizzie
here to dinner

MONDAY, MARCH 4, 1878.

About the shop and
open - morning cool
but - pleased out

Meeting of Council in
the evening - Crawford not
present - he having trouble
at home with the woman

TUESDAY 5

At work making plot of
Mrs Biggs lot in evening
Wile left for Kanawha

WEDNESDAY, MARCH 6, 1878.

Ran this morning with
southerly wind & indications
of rain

THURSDAY 7

FRIDAY, MARCH 8, 1878.

At work about office
Warm with indications
of rain

SATURDAY 9

Still indications of rain
Plotting in the office & pre-
paring to the Sandy R.R.
Meeting in C.M. on Wednesday

SUNDAY, MARCH 10, 1878.

Still quite warm but
southerly with indications
of rain

MONDAY 11

Warm & showery
about the shop & office
all day.

R.R. Meeting on Sat-
urday night a success
\$2500 cash and about
the same in land & sub-
scribes.

TUESDAY, MARCH 12, 1878.

WEDNESDAY 13

THURSDAY, MARCH 14, 1878.

FRIDAY 15

SATURDAY, MARCH 16, 1878.

R.R. Delegation returned from
Cin. this morning. Nothing def-
inite as yet.

Morning frosty, Ther. 33°+

About Shop and Office all
the week very little to do. Shall
"clean for talk timber" as soon as
Census matters here are decided. &
see what there is needed there

SUNDAY 17

Not feeling quite well re-
mains about the house all
day. Evening at Dr Moul-
ton's accompanying Mrs M. W.
Church.

See sun chilly and
cloudy all day

MONDAY, MARCH 18, 1878.

State cloudy & cool in the morning
Interviewed Mr Foster in relation
to Sandy R.R. he thinks our route
will win - Went to Mary

TUESDAY 19

This morning at Rush traced Gages
line by Potts. Mary being busy
in evening went up to Alex and was
examined him in afternoon & re-
mained all night

WEDNESDAY, MARCH 20, 1878.

This morning Mr Ramsey
put me near Wells and gave
a West line to Grayson South
side line.

At night at Kelso I had
a good night's rest after the fa-
tigue of the day and an unpleasant
night at Alexander.

Evening quite cool.

THURSDAY 21

This morning cool & frosty
Left B. by morning train
arrived home at 11 A.M.

Learn of important B.R. mat-
ter at Linton in interest of
the Scio Valley Branch gauge
will probably cross to this place.

FRIDAY, MARCH 22, 1878.

About the office and
shop.

Down at Jones with
Lobbs & Westbrook to look
at bridge.

SATURDAY 23

Office in morning
Evening at bank exam-
ining bids on bridge.

Robt Carter Urmann
arrived Linton to morrow
he died in Helena.

SUNDAY, MARCH 24, 1878.

Last night Ingham
with a little rain
Not feeling well at home
all day not attending the
Masonic funeral
Cold and windy with ice
in the night

MONDAY 25

This morning +28° ground
slightly frozen

Settled the Kays Creek
Bridge matter in the
forenoon

TUESDAY, MARCH 26, 1878.

This morning Thu +24°
Cherry bird partly killed
Mr. Carlisle came up
this morning and went up
Landy to examine the road
R. R. lines
At night warmer with
indications of rain

WEDNESDAY 27

THURSDAY, MARCH 28, 1878.

At Coalton measuring field
Snowy and warm all
day

FRIDAY 29

At Coalton at work on
fields in the morning
Quite cool

SATURDAY, MARCH 30, 1878.

About office

SUNDAY 31

MONDAY, APRIL 1, 1878.

Cool all day and the-
pleasant

In Office plotting.
Evening attended Council
Meeting Charles H. H. H.
Consequently voted No
on granting license.

TUESDAY 2

WEDNESDAY, APRIL 3, 1878.

About office all day
Mr. Eastman at home
on stable this evening

THURSDAY 4

Meeting of Council to night
for last time before election.
About the office all day

FRIDAY, APRIL 5, 1878.

Forenoon at Green
plotting - Evening at
home helping about
table

SATURDAY 6

Election day in City. Much ex-
citement - Price ice house and
the upper story of his store burned
Sandy Tashnow blown up near
Cattleshing - two lives reported lost
with fears that three others either
drowned or killed by the explosion

SUNDAY, APRIL 7, 1878.

Cold and frosty this morning
fruit blossoms do not seem to be
injured

MONDAY 8

This morning went out to
Pigeon Roost to survey arable
lands belonging to Co.
At Clark Whitehills - him-
self son Chairman. Mr Ram-
sey along as flagman. Mr R
left in the evening

TUESDAY, APRIL 9, 1878.

This morning out at work until 9 o'clock when there being a high wind, we broke out in the hills and all hands turned out to subdue it. Succeeded in getting it under

WEDNESDAY 10

This morning showery with indications of rain partially clear at noon in the evening pleasant.

Had a hard days work on the hills - Mr. Muchale older son with us to day as flagman

THURSDAY, APRIL 11, 1878.

Morning pleasant. Mr. Ramsey came over to see us and passed and work us until in the afternoon when I returned with him to Jim town and from there up to Mr. Lee for night -

FRIDAY 12

This morning returned to town -

Afternoon in office copying my notes

SATURDAY, APRIL 13, 1878.

at work on holes and
plotting in the morning
evening at Park laying
out Race track

A little shower but not
sufficient to be of any
benefit to crops

SUNDAY 14

This morning found I
took cold in the rain
yesterday -

Arrived Jones (who came
up Friday) and Ed. Roberts
here -

at night I ached a
little

MONDAY, APRIL 15, 1878.

This morning drizzly
at work on Race track in the
Park

TUESDAY 16

Pleasant, on the race track
at work

WEDNESDAY, APRIL 17, 1878.

This morning Peris & self
Laying out - Found for Hood
Creek Bridge
Evening at office

THURSDAY 18

About office in the morning
In the evening down to the
Braz

FRIDAY, APRIL 19, 1878.

At office

SATURDAY 20

Morning at office in the
Evening at home
Heavy snow about 11.0'
clock

SUNDAY, APRIL 21, 1878.

About home all day
Wrote to Mary

MONDAY 22

In the office plotting

TUESDAY, APRIL 23, 1878.

Morning down at H. C. Beech
Lay out foundation corner on the
tombou - Very warm

WEDNESDAY 24

THURSDAY, APRIL 25, 1878.

This morning out on Pryor Road surveying arable land, at Clark
Mr Ramsey with us, showing

SATURDAY, APRIL 27, 1878.

This morning left Clark
took path through wood, had
a hard walk, met Mr Ramsey
in buggy on track - at office
in evening - showing & con

FRIDAY 26

At Pryor Road day show-
ing this the day & cool

SUNDAY 28

Quite cool - Rain all night
cisterns filling fast

MONDAY, APRIL 29, 1878.

WEDNESDAY, MAY 1, 1878.

TUESDAY 30

THURSDAY 2

Went off to work on
Garnett Land

FRIDAY, MAY 3, 1878.

About home a portion
of the day firing up about
Dress

Shower in the evening
Am condit in other
Letter from Mary

SATURDAY 4

Raining this morning

SUNDAY, MAY 5, 1878.

MONDAY 6

TUESDAY, MAY 7, 1878.

Peris and self down
at-Hood's Creek to lay
out-Found for Walnut

WEDNESDAY 8

THURSDAY, MAY 9, 1878.

FRIDAY 10

SATURDAY, MAY 11, 1878.

Ant at Eugeneville or
Linn Co & Eugene.
Hail storm in ashles



SUNDAY 12

Commenced raining
in the night and continued
until into afternoon
Very cold

MONDAY, MAY 13, 1878.

A very cold night but
by consequence no frost
This morning at 0+40

TUESDAY 14

Snowy and rainy all
day - cold -
Morning out to Kellogg
with our horses -

WEDNESDAY, MAY 15, 1878.

THURSDAY 16

FRIDAY, MAY 17, 1878.

Directors & stockholders
of R.R. Co have been around
same officers elected no
change.

SATURDAY 18

Evening down at Hood
Creek to lay out bridge
abutments.

SUNDAY, MAY 19, 1878.

Out at Bellefont in the
Evening with Trout mollen.
Supper at House

MONDAY 20

At Court as Witness in
Case Dandson against R. R.
(Clarkson case) Continued
by Dft. Witnesses absent-

TUESDAY, MAY 21, 1878.

Morning at Park 1/4 day
Driving Cloud on track

WEDNESDAY 22

THURSDAY, MAY 23, 1878.

SATURDAY, MAY 25, 1878.

FRIDAY 24

SUNDAY 26

Blank Page(s)

FRIDAY, MAY 31, 1878.

Completed Institute at
furnace tonight about
8 o'clock

SATURDAY, JUNE 1

Find hair taken a slight
cold which with work in
the bed gives me a bad
pain in my side

SUNDAY, JUNE 2, 1878.

My side worse did not
go from the house during the
day - Dr. West. & Kirk took
tea with us

MONDAY 3

Side no better Called on Dr.
Mons - advised bandaging
and gave me pills.
Cal. - Mass & Hyacyamus
not feeling able did not at-
tend the Council meeting

Heavy Showers

TUESDAY, JUNE 4, 1878.

This morning call from
Mr. at Head Creek - went
down in Mr. R. D. Cammings
dined at home

WEDNESDAY 5

Slept well last night
he took off bandage this morn-
ing

THURSDAY, JUNE 6, 1878.

Grassland P.O. Aaron Davis
Chenwood - at Millers
Bottle Fork - Mr. Bott
Rathgo

FRIDAY 7

SATURDAY, JUNE 8, 1878.

SUNDAY 31 Dec.

I had three dollars &
35 thirty five cents. 3.35
Did not go to Sunday
School ~~as usual~~. read
one book. got in the
coal & wood pumped
water for cow, feed
chickens

Jan. 1, 1878
MONDAY, JUNE 10, 1878. /

TUESDAY 2

Boiled this morning.
made a steam
engine, went
down town, prac-
tised shooting at
a mark, read the
Youths Companion
in the evening.

Practised shooting.
washed turnips. went
down town after the
mail, played in
the cedar trees.
7° below freezing at
half past seven in
the morning.
bought 5¢ worth of
gun caps.

Jan. 1894
WEDNESDAY, JUNE 12, 1878. 3

4 lb cast
2 pork stakes.
commercial gazette
 $\frac{1}{4}$ in thick
 $1\frac{3}{4}$ long.
 $\frac{3}{4}$ in wide.
THURSDAY 13 4
 $\frac{1}{16}$ in thick
 $1\frac{3}{4}$ in long
 $\frac{1}{2}$ in wide.

Jan. 1894
FRIDAY, JUNE 14, 1878. 5

SATURDAY 15 6

Blank Page(s)

THURSDAY, JULY ~~18~~ 1878. 1883

1 day at Star dwelling

FRIDAY 19

SATURDAY, JULY 20, 1878. 1883

SUNDAY 21

MONDAY, JULY 22, 1878. 1883

at Machine Shop 1 Day

TUESDAY 23

WEDNESDAY, JULY 24, 1878. 1883

THURSDAY 25

Blank Page(s)

Monday
WEDNESDAY, AUGUST 7, 1878. 1883

Wednesday THURSDAY 8

Monday FRIDAY, AUGUST 9, 1878. 1883

Summ for Boy Draw
29171 ± *Balance*
2334 ± 1 inch

Friday SATURDAY 10

Saturday

SUNDAY, AUGUST 11, 1878. 1882

Monday

TUESDAY, AUGUST 13, 1878. 1883

Sunday

MONDAY 12

Tuesday

WEDNESDAY 14

Wednesday
THURSDAY, AUGUST 15, 1878. / 1883

Thursday FRIDAY 16

N. G. & Co. Dr

Plate of Wash House \$5.00

Friday
SATURDAY, AUGUST 17, 1878. / 1883

SUNDAY 18

Blank Page(s)

MEMORANDA. 1878

Mar 1 Paid Hensley & Piers \$5.00
for K.I. 6 & M Co 5 1/2 dyp
Relf for Lane 4 dyp

Mr Castner on stable Sunday Apr 2
to the 6" inclusive 4 1/2 dyp

Apr 13 Mr Castner 5 1/2 dyp

" 16 2 1/2 dyp for Lane Co

" 1/2 " Piers

" 17 1/2 dyp on Hoods Cuck
1/2 " Piers

Apr 22 Mr Castner came to
work on stable about Thursday

making in bank nearly 3 dyp

Mark at work Monday 22

Mark 5 dyp this week

Castner 5 dyp this week

Mark 1/4 day

" 1

" 7 " 1

" 7 Relf & Piers at Hoods 1/2

MEMORANDA.

May 13 Hoods Cuck 1/4 day

Madison 15 Relf & Piers 1/4

May 18 at Hoods Am

Relf & Piers 1/2 day

20 Park Co 1/4 day

June 6, Made 1/2 Day

July 14 Park 1/2 Day Relf

MEMORANDA.

MEMORANDA.

Blank Page(s)

CASH ACCOUNT. JANUARY.

Date.		Received.	Paid.
3	Cigar & Ticket		45
5	Beans, Tob-		50
7	Flannel		1 17
9	Shoes		1 30
8	Honkey		25
9	Price Map		9 82
10	Mitchell at Bank		8 00
12	Home Made, Cigar		8 20
14	Mat. Adv. Cigar		2 30
18	Chapter by Mrs	5, 88	
	Medicine Chest		5 88

CASH ACCOUNT, JANUARY.

Date.		Received.	Paid.
4	Bt of Mrs B. on Note of 162	\$972	
6	Book Organs Sugar, Coffee Nibs		1 60
7	Reviews		2 00
9	Engineer in Advance		2 00
11	Md Asst 61 & 62		2 20
18	of G.M. Wilm	10 00	
"	Drying		3 00
20	{ Mc Mahan } { Cow \$13.00 }		
	Paper		2 00
22	Lumber Truck		6 20
25	Kelly Drayage		1 00
27	Feld for Prossy		1 50
	Nelson Bal.		13 20

CASH ACCOUNT. APRIL.

Date.	Received.	Paid.
1		5
29	15 00	2 25
		2 00
6		1 25
		1 00

CASH ACCOUNT. 21 APRIL.

CASH ACCOUNT. MAY.

Date.		Received.	Paid.
4	Cash of Co	50 00	
8	Castro		10 00
18	are ^{mt}		2 25
	Castro		5 00
24	Coffin - Wysser		1 96
	Sim - Richardson		1 10
25	mt		50
Apr	Fare Co a/c		
16	Self 2 1/2 Dp	10 00	
	Pena 1/2	50	
Jun 23	Self 1/4	1 00	
		11 50	

CASH ACCOUNT. MAY.

Date.		Received.	Paid.
Apr	Ma Mo No		
22 to 27	5 Dp		
May 3	3/4		
6 & 7	2		
Jun 6	1/2		
	To Cow		13 50

CASH ACCOUNT. JUNE.

Date.		Received.	Paid.
8	Cash of Co Castro	10.00	5.00
20	Cash of Co Mas a est 70 Lodge dues Home meat co	200.00	1.10 3.00 19.50
22	Markable to date Bills of Alexander Hay of Campbell	5.50	7.95 4.00
24	Mary Mittys Bill to Mr Miller		30.00 10.70 10.00
26	Bess Bill Bess Coat		1.35 1.00 1.65
29	Castro 18 1/2 dy		27.75

CASH ACCOUNT. JUNE.

Date.		Received.	Paid.
Apr	Castro A/c		
29	Cash		2.00
May 8	"		10.00
18	"		5.00
Jun 8	"		5.00
			5.75
2 Apr to 6	4 1/2 Dy		
13	5 1/2		
18 to 20	3		
23 to 27	5		
	18 1/2		
	7 1/4		
	27 1/2		

CASH ACCOUNT. 1871 JULY.

Date.		Received.	Paid.
3	L. A. Richardson		22.50
1	Mitchell		30.00
4	M. J. Mule		7.18
12	Asen		2.35
25	Burn		1.20
26	Hann		1.50
29	Shore (W. E. S. S. S.)		1.60

CASH ACCOUNT. JULY.

CASH ACCOUNT. AUGUST. ~~1878~~

1894

~~1878~~

Date.	Received.	Paid.
4 $\frac{1}{2}$ lb port rawl		45
$\frac{1}{2}$ lb black pepper		15
loaf bread		C
200 lb feed		C
27 Milk & Lard		30
Wheat 1		
Wheat 0		
oil 2		10
Wheat		10
Wheat		10

CASH ACCOUNT. AUGUST.

[illegible]

BILLS PAYABLE. FEBRUARY.

Date.	NAME.	Dolls.	Cts.
-------	-------	--------	------

Gov. measure land
 a township consists
 of a sq. 6 mi. on each
 side or 36 sq. mi.
 a section consists
 of one sq. mi. or 640
 a.

RECEIVABLE.

BILLS PAYABLE. MARCH.

Date.	NAME.	Dolls.	Cts.
-------	-------	--------	------

RECEIVABLE.

10 " " 80874 " "

APRIL.

Date	NAME.	Dolls.	Cts.
1/1			
1/2			
1/3			
1/4			
1/5			
1/6			
1/7			
1/8			
1/9			
1/10			
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5/1			
5/2			
5/3			
5/4			

RECEIVABLE.

BILLS PAYABLE. MAY.

Date.	NAME.	Dolls.	Cts.
-------	-------	--------	------

RECEIVABLE.

BILLS PAYABLE. JUNE.

Date.	NAME.	Dolls.	Cts.
-------	-------	--------	------

Long measure

12 in make 1 ft.
 3 ft. " 1 yd.
 6 " " 1 fth.
 5 1/2 yds. make 1 rod pole perch
 40 perches or 220 yd. make
 1 furlong. fur.
 8 fur. or 1760 yd. make 1 mi.
 3 mi. or 5280 yd. 1 league. lea.
 60 geographical mi. }
 or 69 1/2 statute mi. }
 1 degree - deg.
 4 in. make 1 hand
 used in measuring
 horses

BILLS PAYABLE. JULY.

Date.	NAME.	Dolls.	Cts.
-------	-------	--------	------

Avoirdupois wt.

437 1/2 grains. make 1 oz.
 16 oz. " 1 lb.
 28 lbs. " 1 qr.
 4 qr. or 112 lbs. " 100 cwt.
 20 cwt or 2240 lbs. 1 ton.

surface measure

144 sq. in. make 1 sq. ft.
 9 sq. ft. " 1 sq. yd.
 30 1/4 sq. yds. make 1 rood.
 40 sq. poles " 1 rood.
 4 roods or 43560 sq. ft. 1 a.
 1 sq. mi is 640 a.

cubic

1728 cu. in. 1 cu. ft.
 27 cu. ft. 1 cu. yd.

BILLS PAYABLE. AUGUST.

Date.	NAME.	Dolls.	Cts.
Interest			
Multiply the principal by as many hundred as there are days &			
For 4%	divide by 90		
" 5%	"	72	
" 6%	"	60	
" 7%	RECEIVABLE.	52	
" 8%	"	45	
" 9%	"	40	
" 10%	"	36	
" 11%	"	30	
Int. on \$50 for 30 da. at 7%			
\$50. x .30 = \$15.00 which divide			
by 90 = 16 $\frac{2}{3}$ ¢. ans.			

BILLS PAYABLE. SEPTEMBER.

BILLS PAYABLE. OCTOBER.

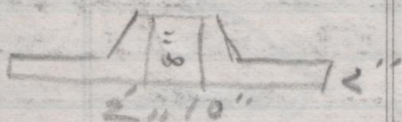
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BILLS PAYABLE. 18 NOVEMBER.

BILLS PAYABLE. 11 DECEMBER.

Date.	NAME.	Dolls.	Cts.
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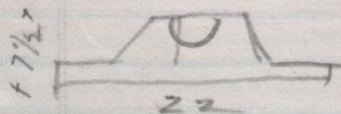
Table 50 74
 Ornd 9x20
 Brans 54 12
 Pals 12 4 14



RECEIVABLE.

Ornd Brans 10x24

Bottom 22"



MEMORANDA.

Date.	Dolls.	Cts.
-------	--------	------

Pattern for Table Wheel
 Aug 13 1/2 with prints
 The Cor Wheel pattern
 gave weight of 1 to 12
 Table Casting Aug 16 2nd
 Print taken from pattern
 side given weight 1 to 12 ±

Mar 10 for Lam Co
 Apr 16 - 2 1/2 off - 1/2 plus.
 July 16 1/2 r

John Ewing

MEMORANDA.

Date.		Dolls.	Cts
1877	May 23d 4 th Star 2 dys		
	June 2 nd In stable 3/4		
	Aug 14 Star 1/2		
	At-Less 5 meals		
1878	3/4 Day Star		
Feb 7	Less 1 meal		
	High can 6' 8"		
	Box Stock		
	floor 4' up Door 6' 4" up		
	+ 4 1/2 wide		

1869 11 1.25
 1785 12 8.50
 84 2.25
 1884
 1869
 1.5
 1.7
 10.5
 1.5
 25.0
 \$ 30
 .90
 45.00
 72/45.00 62 2
 432
 180
 174
 38 = 18 1/3
 72 36 3

$12'' 4 \frac{7}{16} = \frac{3}{8}$ to foot nearly

23. Province
23. Capri

12

FAMILY SOLDERING SET.

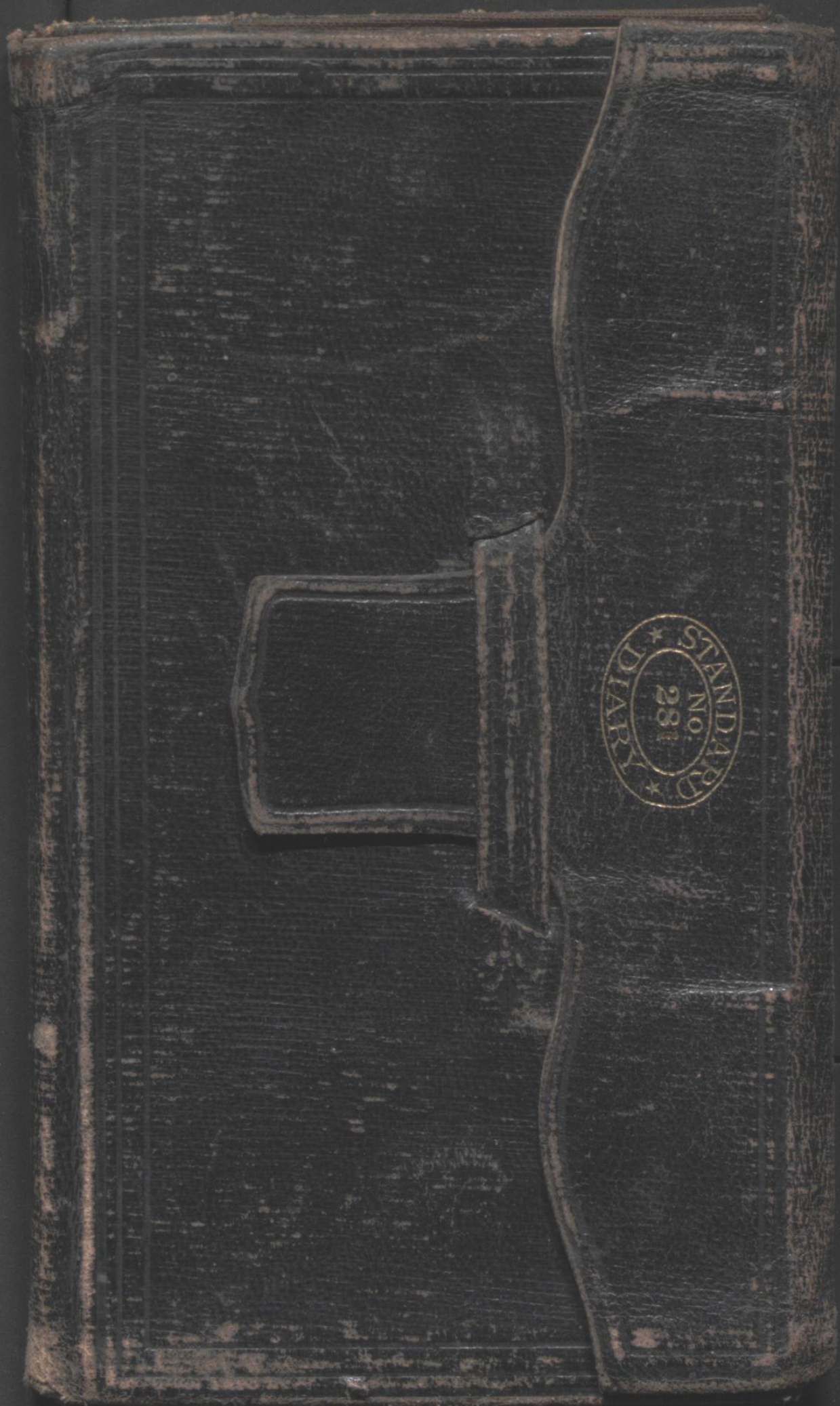
DIRECTIONS.—Place handle of the Soldering Iron over the heat point upwards. Iron must not be red hot but somewhat hotter than a smoothing iron. While the iron is heating and before commencing to solder, it will be necessary to use Scraper and clean off the grease and dirt around the place intending to mend; scrape the place bright and apply a small portion of the rosin around the place; remove the Iron, apply it to the solder—sufficient will adhere to operate with.

In Soldering Fruit Cans, if old, heat the Iron and rub over old solder; this will do away with the scraping. There will be enough solder on old cans to resolder with. Punch a small hole in the top of fruit cans before soldering fast to let the air out, and solder up hole afterward. To open fruit cans, heat the Iron and rub over soldered top. Should it ever be necessary the point of Iron can be re-tinned by melting a little of the solder on a piece of tin or brick, and rubbing the point of the copper when hot through the melted solder; where there is no gas, the Iron can be heated in the stove. Do not cool off the Iron with water. Keep in dry place.

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W. F. Kellom

Jan 1st 1880

Curve at Long Run

12+25 PC 5 RI- to 21+50
21+50 PCC 238' RI-
35+10 PTL 35' 49'

THE
STANDARD
DIARY



PUBLISHED
FOR
THE TRADE.

Counting-House Calendar.

1880.

	Su	Mo	Tu	We	Th	Fr	Sa		Su	Mo	Tu	We	Th	Fr	Sa
JAN.	..	..	..	..	1	2	3	JULY.	..	..	..	..	1	2	3
	4	5	6	7	8	9	10		4	5	6	7	8	9	10
	11	12	13	14	15	16	17		11	12	13	14	15	16	17
	18	19	20	21	22	23	24		18	19	20	21	22	23	24
	25	26	27	28	29	30	31		25	26	27	28	29	30	31
FEB.	..	..	..	..	..	..	..	AUG.	..	..	..	..	..	..	..
	1	2	3	4	5	6	7		1	2	3	4	5	6	7
	8	9	10	11	12	13	14		8	9	10	11	12	13	14
	15	16	17	18	19	20	21		15	16	17	18	19	20	21
	22	23	24	25	26	27	28		22	23	24	25	26	27	28
	29	..	..	..	..	..	..		29	30	31	..	..	..	..
MAR.	..	1	2	3	4	5	6	SEPT.	..	..	..	1	2	3	4
	7	8	9	10	11	12	13		5	6	7	8	9	10	11
	14	15	16	17	18	19	20		12	13	14	15	16	17	18
	21	22	23	24	25	26	27		19	20	21	22	23	24	25
	28	29	30	31	..	..	..		26	27	28	29	30	..	..
APRIL.	..	..	..	..	1	2	3	OCT.	..	..	..	..	..	1	2
	4	5	6	7	8	9	10		3	4	5	6	7	8	9
	11	12	13	14	15	16	17		10	11	12	13	14	15	16
	18	19	20	21	22	23	24		17	18	19	20	21	22	23
	25	26	27	28	29	30	..		24	25	26	27	28	29	30
	..	..	..	..	..	..	1		31	..	..	..	..	..	..
MAY.	2	3	4	5	6	7	8	NOV.	..	1	2	3	4	5	6
	9	10	11	12	13	14	15		7	8	9	10	11	12	13
	16	17	18	19	20	21	22		14	15	16	17	18	19	20
	23	24	25	26	27	28	29		21	22	23	24	25	26	27
	30	31	..	..	..	..	..		28	29	30	..	..	..	..
JUNE.	..	..	1	2	3	4	5	DEC.	..	..	..	1	2	3	4
	6	7	8	9	10	11	12		5	6	7	8	9	10	11
	13	14	15	16	17	18	19		12	13	14	15	16	17	18
	20	21	22	23	24	25	26		19	20	21	22	23	24	25
	27	28	29	30	..	..	..		26	27	28	29	30	31	..
	..	..	..	..	..	..	..		..	..	..	..	..	..	..

WEIGHTS AND MEASURES.

MEASURE OF LENGTH.

4 In. make 1 Hand.	3 Feet make 1 Yard.
7.92 " 1 Link.	5½ Yds. " 1 Rod or Pole.
18 in. " 1 Cubit.	40 Poles " 1 Furlong.
12 In. " 1 Foot.	8 Furl. " 1 Mile.
6 Ft. " 1 Fathom.	69 1-6 Miles " 1 Degree.
60 Geographical Miles make 1 Degree.	

MEASURE OF SURFACE.

144 Square Inches make 1 Square Foot.	1 Square Yard.
9 Square Feet " 1 Square Yard.	
30¼ Square Yards " 1 Rod, Perch or Pole.	
40 Square Rods " 1 Square Rood.	
4 Square Roods " 1 Square Acre.	
10 Square Chains " 1 Square Acre.	
640 Square Acres " 1 Square Mile.	
Gunter's Chain equal to 22 Yards or 100 Links.	

MEASURE OF SOLIDITY.

1728 Cubic Inches make 1 Cubic Foot.	
27 Cubic Feet " 1 Cubic Yard.	

AVOIRDUPOIS WEIGHT.

27½ Grains make 1 Drachm (dr.)	or 27½ Grains.
16 Drachms " 1 Ounce (oz.)	or 437½ "
15 Ounces " 1 Pound (lb.)	or 7000 "
28 Pounds " 1 Quarter (qr.)	
4 Quarters " 1 Hundred-Weight (cwt.)	
20 Cwts. " 1 Ton.	

TROY WEIGHT.

24 Grains make 1 Pennyweight,	or 24 Grains.
20 Pennywts. " 1 Ounce,	or 480 "
12 Ounces " 1 Pound,	or 5760 "

APOTHECARIES' WEIGHT.

20 Grains make 1 Scruple.	8 Drachms make 1 Ounce.
3 Scruples " 1 Drachm.	12 Ounces " 1 Pound.

DIAMOND WEIGHT.

16 Parts make 1 Grain (8-10ths Grain Troy.)	
14 Grains " 1 Carat (3 1-5th Grains Troy.)	

LIQUID MEASURE.

4 Gills make 1 Pint.	2 Gallons make 1 Peck.
2 Pints " 1 Quart.	3½ Gallons " 1 Barrel.
4 Quarts " 1 Gallon.	54 Gallons " 1 Hhd.

DRY MEASURE.

8 Quarts make 1 Peck.	8 Bushels make 1 Quarter.
4 Pecks " 1 Bushel.	36 Bushels " 1 Chaldron.
1 Bushel equal to 2815½ cubic in. nearly.	

A Bushel of Wheat is on an average 60 lbs.; Barley or Buckwheat, 46 lbs.; Indian Corn or Rye, 56 lbs.; Oats, 30 lbs.; Salt, 70 lbs.; Potatoes, 60 lbs.; Peas, 64 lbs.; Beans, 63 lbs.; Clover Seed, 60 lbs.; Flax Seed, 56 lbs.; Timothy Seed, 50 lbs. 14 lbs. of Lead or Iron make 1 Stone; 21½ Stone, 1 Pig. 1 Bbl. of Flour contains 196 lbs.; Beef or Pork, 200 lbs. The Imperial Gallon is 10 lbs. avoirdupois of pure water; Pint 1 1-4 lbs.

WEIGHT PER BUSHEL OF GRAIN, ETC.

The following Table shows the number of pounds per bushel required, by law or custom, in the sale of articles specified, in the several States of the Union. (Official).

STATES.	Barley.	Buckwheat.	Coal.	Corn, shld.	Corn Meal.	Onions.	Oats.	Potatoes.	Rye.	Wheat.	Salt.	Turnips.	Beans, wh.	Clover Sd.	Timothy.
Maine.....	48	48	..	56	50	52	30	60	..	60	..	50	64	..	..
N. Hampshire.....	..	..	..	56	50	..	30	60	56	60	..	..	60	..	..
Vermont.....	48	48	..	..	..	..	32	60	56	60	70	..	64	60	42
Massachusetts.....	48	48	..	56	50	52	32	60	56	60	..	..	..	..	..
Connecticut.....	..	45	..	56	..	..	28	60	56	56	..	..	..	..	..
New York.....	48	48	..	58	..	..	32	60	56	60	..	..	62	60	44
New Jersey.....	48	50	..	56	..	..	30	60	56	60	..	..	..	64	..
Pennsylvania.....	47	48	..	56	..	..	30	56	56	60	85	..	..	62	..
Delaware.....	..	..	..	56	..	..	..	..	..	60	..	..	..	..	..
Maryland.....	48	48	..	56	..	57	32	60	56	60	56	..	62	64	45
Dist. Columbia.....	47	48	..	56	48	57	32	56	56	60	50	55	62	60	45
Virginia.....	48	48	..	56	50	..	32	60	56	60	..	56	60	64	45
West Virginia.....	48	52	80	56	48	..	32	60	56	60	..	60	60	60	45
North Carolina.....	48	50	..	54	46	..	30	..	56	60	..	..	..	64	..
South Carolina.....	48	56	80	56	50	57	33	60	56	60	50	..	60	60	..
Georgia.....	40	..	80	56	48	75	35	56	..	60	56	..	..	60	45
Louisiana.....	32	..	..	56	..	..	32	..	32	60	..	..	..	..	..
Arkansas.....	48	52	80	56	50	57	32	60	56	60	50	..	60	60	45
Tennessee.....	48	50	..	56	50	56	32	60	56	60	..	..	60	..	45
Kentucky.....	48	52	..	56	50	57	33	56	56	60	50	..	60	60	45
Ohio.....	48	50	..	56	..	..	32	60	56	60	..	..	60	60	45
Michigan.....	48	48	80	56	..	54	32	60	56	60	56	58	60	60	45
Indiana.....	48	50	70	56	50	48	32	60	56	60	50	..	60	60	..
Illinois.....	48	52	..	56	48	57	32	60	56	60	50	..	60	60	..
Wisconsin.....	48	50	..	56	..	..	32	60	56	60	..	..	..	60	..
Minnesota.....	48	42	..	56	..	..	32	60	56	60	..	..	..	60	..
Iowa.....	48	52	..	56	..	57	33	60	56	60	50	..	60	60	45
Missouri.....	48	52	..	56	..	57	32	60	56	60	50	..	60	60	45
Kansas.....	50	50	..	56	50	57	32	60	56	60	50	55	60	..	45
Nebraska.....	48	52	..	56	50	57	34	60	56	60	50	55	60	60	45
California.....	50	40	..	52	..	..	32	..	54	60	..	..	..	..	..
Oregon.....	46	42	..	56	..	..	36	60	56	60	..	..	..	60	..

INTEREST TABLE.

SIX PER CENT.

TIME.	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
1 D'y.	0	0	0	0	0	0	0	0	0	0	2	17
2 "	0	0	0	0	0	0	0	0	0	0	3	33
3 "	0	0	0	0	0	0	0	0	0	1	5	50
4 "	0	0	0	0	0	0	0	1	1	1	7	67
5 "	0	0	0	0	0	1	1	1	1	1	8	83
6 "	0	0	0	0	1	1	1	1	1	1	10	1 00
7 "	0	0	0	0	1	1	1	1	1	1	12	1 17
8 "	0	0	0	1	1	1	1	1	1	1	13	1 33
9 "	0	0	0	1	1	1	1	1	1	2	15	1 50
10 "	0	0	1	1	1	1	1	1	2	2	17	1 67
11 "	0	0	1	1	1	1	1	1	2	2	18	1 83
12 "	0	0	1	1	1	1	1	2	2	2	20	2 00
13 "	0	0	1	1	1	1	2	2	2	2	22	2 17
14 "	0	0	1	1	1	1	2	2	2	2	23	2 33
15 "	0	1	1	1	1	2	2	2	2	3	25	2 50
16 "	0	1	1	1	1	2	2	2	2	3	27	2 67
17 "	0	1	1	1	1	2	2	2	3	3	28	2 83
18 "	0	1	1	1	2	2	2	2	3	3	30	3 00
19 "	0	1	1	1	2	2	2	3	3	3	32	3 17
20 "	0	1	1	1	2	2	2	3	3	3	33	3 33
21 "	0	1	1	1	2	2	2	3	3	4	35	3 50
22 "	0	1	1	1	2	2	3	3	3	4	37	3 67
23 "	0	1	1	2	2	2	3	3	3	4	38	3 83
24 "	0	1	1	2	2	2	3	3	4	4	40	4 00
25 "	0	1	1	2	2	3	3	3	4	4	42	4 17
26 "	0	1	1	2	2	3	3	3	4	4	43	4 33
27 "	0	1	1	2	2	3	3	4	4	5	45	4 50
28 "	0	1	1	2	2	3	3	4	4	5	47	4 67
29 "	0	1	1	2	2	3	3	4	4	5	48	4 83
1 Mo.	1	1	2	2	3	3	4	4	5	5	50	5 00
2 "	1	2	3	4	5	6	7	8	9	10	1 00	10 00
3 "	2	3	5	6	8	9	11	12	14	15	1 50	15 00
4 "	2	4	6	8	10	12	14	16	18	20	2 00	20 00
5 "	3	5	8	10	13	15	18	20	23	25	2 50	25 00
6 "	3	6	9	12	15	18	21	24	27	30	3 00	30 00
7 "	4	7	11	14	18	21	25	28	32	35	3 50	35 00
8 "	4	8	12	16	20	24	28	32	36	40	4 00	40 00
9 "	5	9	14	18	23	27	32	36	41	45	4 50	45 00
10 "	5	10	15	20	25	30	35	40	45	50	5 00	50 00
11 "	6	11	17	22	28	33	39	44	50	55	5 50	55 00
1 Y'R.	6	12	18	24	30	36	42	48	54	60	6 00	60 00

RATE OF INCOME ON INVESTMENTS,

Par value being \$100, bearing interest at

Price Paid.	5%	6%	7%	8%	10%	12%
\$50	10.00	12.00	14.00	16.00	20.00	24.00
55	9.09	10.90	12.72	14.55	18.18	21.80
60	8.33	10.00	11.66	13.33	16.66	20.00
65	7.69	9.23	10.76	12.30	15.38	18.47
70	7.14	8.57	10.00	11.42	14.28	17.14
75	6.66	8.00	9.33	10.66	13.35	16.00
80	6.25	7.50	8.75	10.00	12.50	15.00
82½	6.06	7.27	8.48	9.69	12.12	14.54
85	5.88	7.05	8.23	9.41	11.76	14.10
87½	5.71	6.85	8.00	9.14	11.42	13.70
90	5.55	6.66	7.77	8.88	11.11	13.32
92½	5.40	6.48	7.56	8.64	10.80	12.96
95	5.26	6.31	7.36	8.42	10.52	12.62
96	5.20	6.25	7.29	8.33	10.41	12.50
97	5.15	6.18	7.21	8.24	10.30	12.36
97½	5.12	6.15	7.17	8.20	10.25	12.30
98	5.10	6.12	7.14	8.16	10.20	12.24
99	5.05	6.06	7.07	8.08	10.10	12.12
100	5.00	6.00	7.00	8.00	10.00	12.00
101	4.95	5.94	6.93	7.92	9.90	11.88
102	4.90	5.88	6.86	7.84	9.80	11.76
103	4.85	5.82	6.79	7.76	9.70	11.64
104	4.80	5.76	6.73	7.69	9.61	11.52
105	4.76	5.71	6.66	7.61	9.52	11.42
110	4.54	5.45	6.36	7.27	9.09	10.90
115	4.34	5.21	6.08	6.95	8.69	10.42
120	4.16	5.00	5.83	6.66	8.33	10.00
125	4.00	4.80	5.60	6.40	8.00	9.60
130	3.84	4.61	5.38	6.15	7.69	9.22
135	3.70	4.44	5.18	5.92	7.40	8.88
140	3.57	4.28	5.00	5.71	7.14	8.56
145	3.44	4.13	4.82	5.51	6.89	8.27
150	3.33	4.00	4.66	5.33	6.66	8.00

TO ASCERTAIN THE LENGTH OF THE DAY AND NIGHT.

At any time of the year add 12 hours to the time of the sun's setting, and from the sum subtract the time of rising for the length of the day. Subtract the time of setting from 12 hours, and to the remainder add the time of rising next morning for the length of the night. These rules are equally true for apparent time.

VALUES IN UNITED STATES MONEY OF THE

PURE GOLD OR SILVER

REPRESENTING RESPECTIVELY THE MONETARY UNITS AND STANDARD
COINS OF FOREIGN COUNTRIES.

The first section of the Act of March 3, 1873, provides "that the value of foreign coin, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the values of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the first day of January by the Secretary of the Treasury."

The estimates of values contained in the following table are those made by the Director of the Mint, January 1st, 1879, in compliance with the above stated provisions of law.

COUNTRY.	MONETARY UNIT.	STANDARD.	VALUE.
			D. C. M.
Argentine Republic.	Peso fuerte.....	Gold.....	1 0 0
Austria.....	Florin.....	Silver.....	0 48 2
Belgium.....	Franc.....	Gold & silver.	0 19 3
Bolivia.....	Dollar.....	Gold & silver.	0 96 5
Brazil.....	Milreis of 1000 reis...	Gold.....	0 54 5
British America.....	Dollar.....	Gold.....	1 0 0
Bogota.....	Peso.....	Gold.....	0 96 5
Central America....	Dollar.....	Silver.....	0 93 5
Chili.....	Peso.....	Gold.....	0 91 2
Cuba.....	Peso.....	Gold.....	0 92 5
Denmark.....	Crown.....	Gold.....	0 26 8
Ecuador.....	Dollar.....	Silver.....	0 93 5
Egypt.....	Pound of 100 piasters.	Gold.....	4 97 4
France.....	Franc.....	Gold & silver.	0 19 3
Great Britain.....	Pound sterling.....	Gold.....	4 86 6½
Greece.....	Drachma.....	Gold & silver.	0 19 3
German Empire.....	Mark.....	Gold.....	0 23 8
Hayti.....	Dollar.....	Silver.....	0 95 2
India.....	Rupee of 16 annas....	Silver.....	0 44 4
Italy.....	Lira.....	Gold & silver.	0 19 3
Japan.....	Yen.....	Gold.....	0 99 7
Liberia.....	Dollar.....	Gold.....	1 0 0
Mexico.....	Dollar.....	Silver.....	1 1 5
Netherlands.....	Florin.....	Silver.....	0 38 5
Norway.....	Crown.....	Gold.....	0 26 8
Paraguay.....	Peso.....	Gold.....	1 0 0
Peru.....	Dollar.....	Silver.....	0 93 5
Porto Rico.....	Peso.....	Gold.....	0 92 5
Portugal.....	Milreis of 1000 reis...	Gold.....	1 8 0
Russia.....	Rouble of 100 copecks	Silver.....	0 74 8
Sandwich Islands...	Dollar.....	Gold.....	1 0 0
Spain.....	Peseta of 100 centimes	Gold & silver.	0 19 3
Sweden.....	Crown.....	Gold.....	0 26 8
Switzerland.....	Franc.....	Gold & silver.	0 19 3
Tripoli.....	Mahbub of 20 piasters	Silver.....	0 84 4
Tunis.....	Piaster of 16 caroubs.	Silver.....	0 11 8
Turkey.....	Piaster.....	Gold.....	0 4 3
U. States of Colombia	Peso.....	Silver.....	0 93 5
Uruguay.....	Patacon.....	Gold.....	0 94 8

VALUE OF FOREIGN COINS

AS DETERMINED BY
U. S. MINT ASSAYS.

			D. C. M.
AUSTRIA	Gold,	Quadruple Ducat.	9 13 2
	"	Ducat.	2 28 3
		Sovereign (no longer coined).	6 75 4
	Silver,	Rix Dollar.	1 0 2
BELGIUM	Gold,	Twenty-five Franc piece.	4 82 5
BOLIVIA	Gold,	Doubloon.	15 50 3
BRAZIL	Silver,	Double Milreis.	1 0 4
CENTRAL AMERICA.	Gold,	Escudo	1 84 4
	"	Dollar.	0 98 1
	"	Four Reals.	0 48 8
CHILI	Gold,	Doubloon (before 1835)	15 50 3
	Silver,	Dollar.	0 96 2
DENMARK	Gold,	Double Fred. or Ten-Thaler.	7 90 0
	Silver,	Rigsbank Daler.	0 54 2
EGYPT	Silver,	Twenty Piasters.	0 96 5
	"	Piaster (new).	0 4 0
FRANCE	Gold,	Twenty Francs.	3 84 7
	Silver,	Five Francs.	0 96 5
GERMAN EMPIRE.	Silver,	Five Marks (new).	0 96 5
	"	Thaler (no longer coined).	0 71 5
GREAT BRITAIN.	Silver,	Half Crown.	0 56 3
	"	Shilling.	0 22 5
	"	Sixpence.	0 11 3
GREECE	Gold,	Twenty Drachmas.	3 44 2
HINDOSTAN	Silver,	Rupie	0 45 7
ITALY	Gold,	Twenty Lire.	3 84 7
	Silver,	Five Lire.	0 95 0
JAPAN	Gold,	Chobang (obsolete).	3 57 6
	Silver,	Fifty Sen.	0 42 8
MEXICO	Gold,	Doubloon (average).	15 59 3
NETHERLANDS.	Gold,	Ducat.	2 26 5
	"	Ten Guilders.	3 99 7
	Silver,	Two-and-a-half Guilders.	1 1 2
	"	Guilder.	0 40 5
NEW GRANADA.	Silver,	Dollar, usual weight.	0 96 0
NORWAY	Silver,	Specie Daler.	1 8 4
PERU	Silver,	Old Dollar.	1 4 3
	"	Dollar (1858).	0 92 8
	"	Half Dollar (1838).	0 37 5
	"	Sol	0 96 0
PORTUGAL	Gold,	Crown.	5 80 7
	Silver,	Crown of 1000 Reis.	0 97 2
RUSSIA	Gold,	Five Roubles.	3 97 6
	Silver,	Rouble.	0 77 8
SPAIN	Gold,	Ten Escudos.	5 1 5
	"	One Hundred Reals.	4 96 4
	Silver,	Pistareen (4 Reals Veilon).	0 17 8
SWEDEN	Gold,	Five Pesetas (Dollar).	0 96 0
	Silver,	Half Daler.	0 52 0
	"	Rixdaler.	0 27 3
TURKEY	Gold,	Hundred Piasters.	4 37 0
	"	Twenty Piasters (new)	0 85 2

DISTANCE, TIME, AND DIFFERENCE OF TIME

BETWEEN NEW YORK CITY, AND
OTHER CITIES IN THE UNITED STATES AND CANADA.

FROM NEW YORK CITY TO	DIST.	R.R. TIME.	DIFF. IN TIME.*
	<i>Miles.</i>	<i>Hours.</i>	<i>h. m. s.</i>
Albany, N. Y.	144	4 30	0 1 6
Baltimore, Md.	188	8 00	0 10 22
Bangor, Me.	484	....	0 20 56
Boston, Mass.	236	9 00	0 11 50
Buffalo, N. Y.	417	15 00	0 19 36
Burlington, Iowa.	1,123	48 50	.....
Burlington, Vt.	296	13 30	.....
Cairo, Ill.	1,143	54 30	0 58 10
Charleston, S. C.	829	....	0 23 38
Chicago, Ill.	955	36 00	0 53 58
Cincinnati, Ohio.	859	33 00	0 41 44
Cleveland, "	604	23 00	0 30 10
Columbus, "	637	24 30	0 36 8
Concord, N. H.	270	11 35	.....
Council Bluffs, Iowa.	1,411	66 50	.....
Decatur, Ill.	1,095	41 35	.....
Detroit, Mich.	646	25 30	0 36 6
Dunkirk, N. Y.	561	17 30	.....
Fort Wayne, Ind.	765	31 00	.....
Harrisburg, Penn.	197	6 55	0 11 16
Indianapolis, Ind.	969	38 00	0 48 16
Leavenworth, Kan.	1,393	64 10	.....
Memphis, Tenn.	1,376	60 00	1 5 10
Milwaukee, Wis.	1,000	39 00	0 55 44
Macon, Ga.	1,471	82 10	.....
Mobile, Ala.	1,591	86 00	0 59 58
Montgomery, Ala.	1,236	52 00	.....
Montreal, Can.	400	20 30	0 1 44
Nashville, Tenn.	1,089	48 10	0 51 12
New Orleans, La.	1,495	72 00	1 3 56
Newport, R. I.	218	9 00	0 10 50
Omaha, Neb.	1,413	66 45	.....
Portland, Me.	347	14 00	0 15 10
Philadelphia, Penn.	90	4 00	0 4 35
Pittsburg, Penn.	443	16 30	0 24 4
Richmond, Va.	356	18 30	0 13 45
Sacramento, Cal.	3,082	168 00	3 3 56
Salt Lake City, Utah.	2,464	120 00	2 8 0
San Francisco, Cal.	3,310	192 00	3 14 41
Savannah, Ga.	933	42 00	0 28 28
St. Louis, Mo.	1,084	47 00	1 4 53
St. Joseph, Mo.	1,352	57 30	.....
St. Paul, Minn.	1,388	56 40	1 16 7
Springfield, Ill.	1,033	43 25	1 2 7
Toledo, Ohio.	708	27 30	.....
Vicksburg, Miss.	1,511	85 00	.....
Washington, D. C.	226	10 00	0 12 7
Wheeling, W. Va.	535	22 00	0 27 7

* The difference in time, indicated by the above table, East of New York, FAST—West, SLOW.

POPULATION OF PRINCIPAL NATIONS.

United States.....	38,925,598	Sweden and Norway.....	6,137,559
China.....	425,000,000	Belgium.....	5,253,821
British India.....	192,847,900	Arabia.....	4,600,000
Russia.....	85,685,945	Portugal.....	4,390,589
Turkey *.....	47,627,000	Holland.....	3,767,263
German Empire.....	41,060,846	Canada.....	3,718,745
France.....	36,102,921	Switzerland.....	2,669,147
Austria and Hungary...	35,904,435	Central America.....	2,580,700
Japan.....	33,110,825	Chili.....	2,068,447
Great Britain †.....	33,098,400	Bolivia.....	2,000,000
Italy.....	26,801,154	Persia.....	2,000,000
Spain.....	16,835,506	Argentine Republic.....	1,877,490
Brazil.....	9,700,187	Greece and Ionian Island.	1,457,894
Mexico.....	9,276,079	Cuba.....	1,400,000
Siam.....	6,300,000	Equador.....	1,308,082

* Ottoman Empire (including Asiatic possessions). † Including Ireland.

PRINCIPAL CITIES OF UNITED STATES.

Stars indicate Population census of 1875; other cities, 1870.

*Albany, N. Y.	86,013	*Minneapolis, Minn.....	32,720
Allegheny City, Pa.	53,180	Mobile, Ala.....	32,034
Baltimore, Md.	267,354	Newark, N. J.	105,059
*Boston, Mass.	341,919	New Haven, Conn.....	50,840
*Brooklyn, N. Y.....	484,616	New Orleans, La.....	191,418
*Buffalo, N. Y.....	134,573	*New York, N. Y.....	1,046,037
*Cambridge, Mass.....	47,838	Philadelphia, Pa... ..	674,022
Charleston, S. C.	48,656	Pittsburgh, Pa.	86,076
*Chicago, Ill.....	407,667	*Portland, Me.	37,000
Cincinnati, Ohio.....	216,239	*Providence, R. I.....	100,675
Cleveland, Ohio.....	92,829	Reading, Pa.	33,930
Columbus, Ohio.....	31,274	Richmond, Va.	51,038
Detroit, Mich.....	79,577	*Rochester, N. Y.....	81,673
Hartford, Conn.	37,180	*San Francisco, Cal.	250,000
Indianapolis, Ind.	48,244	*St. Louis, Mo.....	400,000
Jersey City, N. J.....	82,546	*Springfield, Mass.....	31,053
Louisville, Ky.....	100,753	*Syracuse, N. Y.....	48,315
*Lowell, Mass.	49,688	*Troy, N. Y.....	48,821
Manchester, N. H.....	23,536	Washington, D. C.	109,200
Memphis, Tenn.....	40,226	Wilmington, Del.	30,841
*Milwaukee, Wis.....	100,775	*Worcester, Mass.....	49,317

ABRIDGED METRIC TABLE

Myria- means	10,000.	METRIC LENGTH.	METER.	YARD	= 0.9144 meter.
Kilo- "	1,000.		Deci-meter.	HAND (4 inches)	= 0.1016 "
Hekt- "	100.		Centi-meter.	3-8 INCH	= 0.009525 "
Deka- "	10.		Milli-meter.	1-32 INCH	= 0.000794 "
Deci- "	0.1				
Cent- "	0.01				
Mill- "	0.001				

Accurate Metric Equivalents of Avoirdupois Weights.	Corresponding Avoirdupois Weights.	METRIC WEIGHT.	Volume of water which has metric weight and fills metric CAPACITY MEASURE.	METRIC CAPACITY MEASURE.	
1,016,048. grams =	(gross) TON.	TON. (Metric.)	1 cubic meter.	Kilo-liter.	TUN (8 barrels) . . = 954. liters.
88,904. " = standard weight of	BARREL of FLOUR.	QUINTAL. (Metric.)	0.1 " "	Hekto-liter.	BARREL (31½ galls.) = 119.2 "
11,339.8 " = (net) QUARTER.		MYRIA-GRAM.	0.01 " "	Deka-liter.	PECK (U. S.) . . = 8.81 "
907.19 " =	2 POUNDS.	KILO.	0.001 " "	LITER.	QUART { U. S. dry = 1.101 " " liquid = 0.946 "
113.398 " =	¼ POUND.	HEKTO-GRAM.	0.0001 " "	Deci-liter.	GILL (U. S.) . . = 0.1183 "

THE METRIC SYSTEM.

WEIGHTS.

Metric Denominations and values.			Equivalents in Denominations in use.	
Names.	No. Grams.	Weight of what quantity of water at maximum density.	Avoirdupois Weight.	
Millier or tonneau	= 1,000,000	= 1 cubic meter	=	2204.6 pounds.
Quintal	= 100,000	= 1 hectoliter	=	220.46 pounds.
Myriagram	= 10,000	= 10 liters	=	22.046 pounds.
Kilogram or kilo	= 1,000	= 1 liter	=	2.2046 pounds.
Hectogram	= 100	= 1 deciliter	=	3.5274 ounces.
Dekagram	= 10	= 10 c. centimeters	=	0.3527 ounce.
Gram	= 1	= 1 c. centimeter	=	15.432 grains.
Decigram	= .1	= .1 c. centimeter	=	1.5432 grains.
Centigram	= .01	= 10 c. millimeters	=	0.1543 grain.
Milligram	= .001	= 1 c. millimeter	=	0.0154 grain.

MEASURES OF LENGTH.

Metric Denominations and Values.		Equivalents in Denominations in use.	
Myriameter	= 10,000 meters	=	6.2137 miles.
Kilometer	= 1,000 meters	=	0.62137 m. or 3,280 ft. 10 in.
Hectometer	= 100 meters	=	328 feet and 1 inch.
Dekameter	= 10 meters	=	393.7 inches.
Meter	= 1 meter	=	39.37 inches.
Decimeter	= .1 of a meter	=	3.937 inches.
Centimeter	= .01 of a meter	=	0.3937 inch.
Millimeter	= .001 of a meter	=	0.0394 inch.

MEASURES OF SURFACE.

Metric Denominations and Values.		Equivalents in Denominations in use.	
Hectare	= 10,000 square meters	=	2.471 acres.
Are	= 100 square meters	=	119.6 square yards.
Centare	= 1 square meter	=	1,550 square inches.

MEASURES OF CAPACITY.

Metric Denominations and Values.			Equivalents in Denominations in use.		
Names.	No. Liters.	Cubic Measure.	Dry Measure.	Wine Measure.	
Kiloliter	= 1,000	= 1 cubic meter	= 1.308 cubic yards	=	264.17 galls.
Hectoliter	= 100	= .1 cubic meter	= 2 bush. 3.35 pks.	=	26.417 galls.
Decaliter	= 10	= 10 c. decimeters	= 9.08 quarts	=	2.6417 galls.
Liter	= 1	= 1 c. decimeter	= 0.908 quart	=	1.0567 qrts.
Deciliter	= .1	= .1 c. decimeter	= 6.1022 cubic in.	=	0.845 gill.
Centiliter	= .01	= 10 c. centimeters	= 0.6102 cubic in.	=	0.338 fluid oz.
Milliliter	= .001	= 1 c. centimeter	= 0.061 cubic inch.	=	0.27 fluid dr.

TIDE TABLE

FOR OBTAINING TIME OF HIGH WATER FOR PLACES ON THE
EASTERN COAST OF THE UNITED STATES.

*(The following values are derived from late determinations of the
United States Coast Survey.)*

To find the time of High Water at any of the following places, add or subtract the hours and minutes opposite the name of place in the following Table, to or from the hours and minutes of High Water at New York for the required day, as found in the *Calendar Page*.

		h.	m.
Portland, Maine.....	add	3	12
Portsmouth, New Hampshire.....	"	3	10
Newburyport, Massachusetts.....	"	3	9
Salem, ".....	"	3	0
Nantucket, ".....	"	4	11
Holmes Hole, ".....	"	3	30
Wood's Hole, S. Side, ".....	"	0	21
New Bedford Entrance (Dumpling Rock), Mass.....	sub.	0	16
Newport, Rhode Island.....	"	0	28
Point Judith, ".....	"	0	41
Sandy Hook, New Jersey.....	"	0	44
Watch Hill, Rhode Island.....	add	0	47
Stonington, Connecticut.....	"	0	54
New London, ".....	"	1	15
New Haven, ".....	"	3	3
Bridgeport, ".....	"	2	58
Throg's Neck, New York.....	"	3	7
Cape May Landing, New Jersey.....	"	0	6
Newcastle, Delaware.....	"	3	40
Philadelphia, Pennsylvania.....	sub.	6	55
Annapolis, Maryland.....	"	3	35
Baltimore, ".....	"	1	40
Richmond, Virginia.....	"	3	41
Hatteras Inlet, North Carolina.....	"	1	9
Beaufort, ".....	"	0	47
Charleston (C. H. Wharf), S. C.....	"	0	47
Fort Pulaski (Savannah Ent.), Ga.....	"	0	53
Savannah (Dry Dock Wharf), Ga.....	"	0	0
St. Augustine, Florida.....	add	0	8
Key West, ".....	"	1	9
Tampa Bay (Egmont Key), Fla.....	"	3	8
Cedar Keys (Depot Key), Fla.....	"	5	2

INTEREST LAWS OF ALL THE STATES.

STATES AND TERRITORIES.	PENALTY OF USURY.	Legal.	Special.
Alabama,	Loss of interest.	8	.....
Arizona,	No penalty.	10	No limit.
Arkansas,	" "	6	" "
California,	" "	10	" "
Colorado,	" "	10	" "
Connecticut,	Forfeiture of all interest.	7	" "
Dacotah,	" " contract.	7	18 per ct.
Delaware,	" " "	6	6 per ct.
District of Colum.	" " all interest.	6	10 per ct.
Florida,	No penalty.	8	No limit.
Georgia,	Forfeiture of excess.	7	12 per ct.
Idaho,	\$300 fine or imp't. 6 mos. or both.*	10	24 per ct.
Illinois,	Forfeiture of all interest.	6	10 per ct.
Indiana,	" " interest and costs.	6	10 per ct.
Iowa,	" " excess.	6	10 per ct.
Kansas,	" " " over 12 per cent.	7	12 per ct.
Kentucky,	" " all interest.	6	10 per ct.
Louisiana,	" " interest.	5	8 per ct.
Maine,	No penalty.	6	No limit.
Maryland,	Forfeiture of excess.	6	6 per ct.
Massachusetts,	No penalty—6 per ct. on judgments.	6	No limit.
Michigan,	Forfeiture of excess.	7	10 per ct.
Minnesota,	" " " over 7 per cent.	7	12 per ct.
Mississippi,	No penalty.	6	No limit.
Missouri,	Forfeiture of all interest.	6	10 per ct.
Montana,	No penalty.	10	.....
Nebraska,	Forfeiture of all interest and costs.	10	12 per ct.
Nevada,	No penalty.	10	No limit.
New Hampshire,	Forfeit of three times interest rec'd.	6	6 per ct.
New Jersey,	Forfeit of all interest.	7	7 per ct.
New Mexico,	No penalty.	6	12 per ct.
New York,	Forfeiture of contract.†	6	6 per ct.
North Carolina,	" " interest.	6	8 per ct.
Ohio,	" " excess.	6	8 per ct.
Oregon,	" " prin., interest & costs.	10	12 per ct.
Pennsylvania,	" " excess, Act of 1858.	6	6 per ct.
Rhode Island,	" " unless by contract.‡	6	No limit.
South Carolina,	No penalty.	7	" "
Tennessee,	Forfeit of over 6 per ct. and \$100 fine.	6	10 per ct.
Texas,	No penalty.	8	No limit.
Utah,	" "	10	" "
Vermont,	Forfeit of excess on R. R. bonds.	6	7 per ct.
Virginia,	" " contract.	6	12 per ct.
Washington,	No penalty.	10	No limit.
West Virginia,	Forfeit of excess.	6	6 per ct.
Wisconsin,	" " all interest.	7	10 per ct.
Wyoming,	No penalty.	10	No limit.

* Liable to arrest for misdemeanor.

† Also punishable as a misdemeanor. Banks forfeit interest only, or double the interest if charged in advance.

‡ Also 6 per cent. on judgments.

RATES OF POSTAGE.

POSTAL CARDS, 1 cent each, go without further charge to all parts of the United States and Canada, with an additional one-cent stamp they go to all parts of Europe.

ALL LETTERS, to all parts of the United States and Canada, 3 cents per half-ounce.

LOCAL, OR "DROP" LETTERS, that is, for the city or town where deposited, 2 cents if delivered by carriers, and 1 cent where there is no carrier system.

NEWSPAPERS, daily, semi-weekly, tri-weekly and weeklies, regularly issued and sent to regular subscribers, 2 cents per pound, payable at the office of publication; newspapers and magazines published less frequently than once a week, 2 cents per pound.

TRANSIENT NEWSPAPERS, Magazines, Pamphlets, Books (printed), Calendars, Catalogues, Corrected Proofs, Handbills, Maps (lithographed or engraved), Music (printed sheet), Posters, Proof-sheets and Prospectuses, 1 cent for each two ounces or fraction thereof. All other miscellaneous matter, including unsealed Circulars, Blank Books, Book Manuscripts, Photographs, &c., and also Seeds, Cuttings, Bulbs and Roots, and Merchandise, not exceeding four pounds in weight, 1 cent for each ounce or fraction thereof.

The following are the postal rates with Europe. The rates for letters are for the half-ounce or fraction thereof, and those for newspapers for four ounces or fraction thereof:—

To Great Britain and Ireland, France, Spain, all parts of Germany, including Austria, Denmark, Switzerland, Italy, Russia, Norway, Sweden, Turkey (European and Asiatic), Egypt, letters 5 cents, newspapers 2 cents.

For Asiatic countries, the half-ounce limit for letters, and the four ounces for newspapers, still holding good, the rates are:—

To Australia, letters, via San Francisco (except to New South Wales), 5 cents, via Southampton 15 cents, via Brindisi 19 cents; newspapers, via San Francisco 2 cents, via Southampton 4 cents, via Brindisi 6 cents; China, letters, via San Francisco 5 cents, via Southampton 11 cents, via Brindisi 15 cents, newspapers 2, 4 and 6 cents, by the respective routes; British India, Italian mail, letters 5 cents, newspapers 7 cents; Japan, letters, via San Francisco 5 cents, newspapers 2 cents.

U. S. MONEY ORDERS.

MONEY ORDER POST OFFICES are established in all the large cities and towns, at which Orders can be obtained upon any other office, at the following rates of commission:

On Orders not exceeding \$15,	10 cents.
Over \$15 " " \$30,	15 "
" \$30 " " \$40,	20 "
" \$40 " " \$50,	25 "

When a larger sum than fifty dollars is required, additional Orders to make it up must be obtained.

BUSINESS LAW IN DAILY USE.

The following compilation of business law contains the essence of a large amount of legal verbiage:

If a note is lost or stolen, it does not release the maker; he must pay it, if the consideration for which it was given and the amount can be proven.

Notes bear interest only when so stated.

Principals are responsible for the acts of their agents.

Each individual in a partnership is responsible for the whole amount of the debts of the firm, except in cases of special partnership.

Ignorance of the law excuses no one.

The law compels no one to do impossibilities.

An agreement without consideration is void.

A note made on Sunday is void.

Contracts made on Sunday cannot be enforced.

A note by a minor is void.

A contract made with a minor is void.

A contract made with a lunatic is void.

A note obtained by fraud, or from a person in a state of intoxication, cannot be collected.

It is a fraud to conceal a fraud.

Signatures made with a lead pencil are good in law.

A receipt for money is not always conclusive.

The acts of one partner bind all the rest.

"Value received" is usually written in a note, and should be, but is not necessary. If not written it is presumed by the law, or may be supplied by proof.

The maker of an "accommodation" bill or note (one for which he has received no consideration, having lent his name or credit for the accommodation of the holder) is not bound to the person accommodated, but is bound to all other parties, precisely as if there was a good consideration.

No consideration is sufficient in law if it be illegal in its nature.

Checks or drafts must be presented for payment without unreasonable delay.

Checks or drafts should be presented during business hours, but in this country, except in the case of banks, the time extends through the day and evening.

If the drawee of a check or draft has changed his residence, the holder must use due or reasonable diligence to find him.

If one who holds a check as payee or otherwise, transfers it to another, he has a right to insist that the check be presented that day, or, at farthest, on the day following.

A note indorsed in blank (the name of the indorser only written) is transferable by delivery, the same as if made payable to bearer.

BUSINESS LAW IN DAILY USE.

If the time of payment of a note is not inserted, it is held payable on demand.

The time of payment of a note must not depend upon a contingency. The promise must be absolute.

A bill may be written upon any paper, or substitute for it, either with ink or pencil.

The payee should be distinctly named in the note, unless it is payable to bearer.

An indorsee has a right of action against all whose names were on the bill when he received it.

If the letter containing a protest of non-payment be put into the post office, any miscarriage does not affect the party giving notice.

Notice of protest may be sent either to the place of business or of residence of the party notified.

The holder of a note may give notice of protest either to all the previous indorsers or only to one of them; in case of the latter he must select the last indorser, and the last must give notice to the last before him, and so on. Each indorser must send notice the same day or the day following. Neither Sunday or legal holiday is to be counted in reckoning the time in which notice is to be given.

The loss of a bill or note is not sufficient excuse for not giving notice of protest.

If two or more persons as partners are jointly liable on a note or bill, due notice to one of them is sufficient.

If a note or bill is transferred as security, or even as payment of a pre-existing debt, the debt revives if the bill or note be dishonored.

An indorsement may be written on the face or back.

An indorser may prevent his own liability to be sued by writing "without recourse," or similar words.

All claims which do not rest upon a seal or judgment must be sued within six years from the time when they arise.

Part payment of a debt which has passed the time of statutory limitation revives the whole debt, and the claim holds good for another period of six years from the date of such partial payment.

A verbal promise to pay, made without conditions, is generally held as sufficient to revive a claim otherwise shut out by the law of limitation.

If, when a debt is due, the debtor is out of the State, the "six years" do not begin to run until he returns. If he afterward leave the State, the time forward counts the same as if he remained in the State.

An oral agreement must be proved by evidence. A written agreement proves itself. The law prefers written to oral evidence because of its precision.

No evidence may be introduced to contradict or vary a written contract; but it may be received in order to explain it, when such contract is in need of explanation.

MORNING AND EVENING STARS.

MERCURY will be visible as Evening Star about March 10, July 5, and November 3; and as Morning Star about April 26, August 21, and December 13.

VENUS will be Morning Star till July 13, and Evening Star the rest of the year.

JUPITER will be Evening Star till March 15; then Morning Star till October 7; and Evening Star again the rest of the year.

FIXED AND MOVABLE FESTIVALS.

Epiphany,	Jan. 6	Rogation Sunday,	May 2
Septuagesima Sunday,	Jan. 25	Ascension Day,	May 6
Shrove Sunday,	Feb. 8	Whit Sunday,	May 16
Ash Wednesday,	Feb. 11	Trinity Sunday,	May 23
First Sunday in Lent,	Feb. 15	Corpus Christi,	May 27
St. Patrick,	Mar. 17	St. John, Baptist,	June 24
Palm Sunday,	Mar. 21	Michaelmas Day,	Sept. 29
Annunciation,	Mar. 25	First Sunday in Advent,	Nov. 28
Good Friday,	Mar. 26	St. Andrew,	Nov. 30
Easter Sunday,	Mar. 28	St. Thomas,	Dec. 21
Low Sunday,	April 4	Christmas,	Dec. 25
St. George,	April 23		

CHRONOLOGICAL CYCLES.

Dominical Letters,	D. C.	Solar Cycle,	13
Epact,	18	Roman Indiction,	8
Golden Number,	19	Julian Period,	6593

THE SEASONS.

Vernal Equinox (Spring begins),	Mar. 20, oh. A. M.
Summer Solstice (Summer begins),	June 20, 8h. P. M.
Autumnal Equinox (Autumn begins),	Sept. 22, 11h. A. M.
Winter Solstice (Winter begins),	Dec. 21, 5h. A. M.

Given in Washington time.

ECLIPSES IN THE YEAR 1880.

IN the year 1880 there will be six Eclipses; four of the Sun and two of the Moon.

I. A TOTAL ECLIPSE OF THE SUN, January 11. Invisible east of a line drawn through St. Joseph, Mo., and Baton Rouge, La. Visible to the western quarter of North America and to the Pacific Ocean; being central and total along a line distant twenty miles south of and parallel to a line drawn through Monterey, Cal., Mariposa, and Salt Lake City. Elsewhere it will be partial.

The Eclipse will begin as follows:

Denver, Col.	11d. 4h. 1m. A.
Santa Fe, New Mexico	11d. 4h. 1m. A.
Salt Lake City, Utah	11d. 3h. 24m. A.

The Sun setting more or less eclipsed.

II. A TOTAL ECLIPSE OF THE MOON, June 22. Invisible. Visible to Asia, Australia, the Pacific Ocean, and western edge of No. America.

III. AN ANNULAR ECLIPSE OF THE SUN, July 7. Invisible. Visible to the southern half of South America, to Cape of Good Hope, and to South Atlantic Ocean.

IV. AN UNIMPORTANT PARTIAL ECLIPSE OF THE SUN, December 1. Invisible. Visible to Southern Ocean.

V. A TOTAL ECLIPSE OF THE MOON, December 16. Visible more or less to the world generally, except to South America, the West India Islands, and eastern portion of North America. To the eastern seaboard it will be wholly invisible. To the adjoining region, as far west as the Mississippi River, the Moon will set in the morning tinged with the advancing Penumbral shade. To the region still further west the Moon will set more or less in shadow.

VI. A PARTIAL ECLIPSE OF THE SUN, December 31. Visible to the eastern portion of North America as far west as Illinois and Mississippi, to Europe and to North Atlantic Ocean. To all places in the United States where visible the Sun will rise partly eclipsed; the Eclipse ending in the morning at the times given, as follows:

Portland	31d. 9h. 17m. M.
Boston	31d. 9h. 9m. M.
New York	31d. 8h. 50m. M.
Columbus	31d. 7h. 59m. M.
Philadelphia	31d. 8h. 41m. M.
Washington	31d. 8h. 29m. M.
Charleston	31d. 7h. 58m. M.

Magnitude of greatest Eclipse = 0.715 (Moon's diameter = 1.)

AN OCCULTATION OF MARS will occur March 17. Visible to the eastern portion of North America; beginning shortly after sunset and lasting generally about an hour and a quarter.



JANUARY.

MOON'S PHASES.	BOSTON.	NEW YORK.
LAST QUARTER.....	5d. 2h. 5m. A.M.	5d. 1h. 53m. A.M.
NEW MOON.....	11d. 5h. 56m. P.M.	11d. 5h. 44m. P.M.
FIRST QUARTER.....	19d. 1h. 56m. A.M.	19d. 1h. 44m. A.M.
FULL MOON.....	27d. 5h. 28m. A.M.	27d. 5h. 16m. A.M.

		BOSTON & CHICAGO.					N. YORK & PHILA.				
Day of Mo.	Day of Week.	SUN	MOON	BOST. TIDE.		Day of Mo.	SUN	SUN	MOON	N. Y.	
		R.&S.	R.&S.	Morning.	Evening.		Rises	Sets.	R.&S.	TIDE.	
		H. M.	H. M.	H. M.	H. M.		H. M.	H. M.	H. M.	H. M.	
1	TH.	r7 30	8 56	1 46	2 6	1	7 25	4 43	8 58	10 49	
2	FR.	s4 39	10 3	2 26	2 46	2	7 25	4 44	10 3	11 29	
3	SA.	r7 30	11 12	3 7	3 28	3	7 25	4 45	11 11	.....	
4	S	s4 41	MORN.	3 51	4 15	4	7 25	4 46	MORN.	0 37	
5	MO.	r7 30	0 22	4 41	5 8	5	7 25	4 47	0 20	1 28	
6	TU.	s4 43	1 34	5 38	6 11	6	7 25	4 48	1 31	2 25	
7	WE.	r7 30	2 49	6 45	7 19	7	7 25	4 49	2 44	3 30	
8	TH.	s4 45	4 5	7 54	8 29	8	7 25	4 50	3 59	4 38	
9	FR.	r7 29	5 16	9 3	9 37	9	7 24	4 51	5 10	5 48	
10	SA.	s4 47	6 21	10 9	10 39	10	7 24	4 52	6 15	6 55	
11	S	r7 29	SETS.	11 7	11 33	11	7 24	4 53	SETS.	7 50	
12	MO.	s4 49	5 58	11 58	.....	12	7 24	4 54	6 2	8 42	
13	TU.	r7 28	7 12	0 22	0 45	13	7 23	4 55	7 15	9 32	
14	WE.	s4 51	8 24	1 8	1 30	14	7 23	4 56	8 25	10 14	
15	TH.	r7 27	9 32	1 51	2 12	15	7 23	4 57	9 32	10 54	
16	FR.	s4 54	10 38	2 32	2 52	16	7 22	4 58	10 37	11 35	
17	SA.	r7 26	11 41	3 12	3 33	17	7 22	4 59	11 39	.....	
18	S	s4 56	MORN.	3 55	4 17	18	7 21	5 1	MORN.	0 42	
19	MO.	r7 25	0 43	4 41	5 6	19	7 21	5 2	0 40	1 28	
20	TU.	s4 59	1 45	5 33	6 1	20	7 20	5 3	1 41	2 19	
21	WE.	r7 24	2 46	6 29	6 58	21	7 20	5 4	2 41	3 15	
22	TH.	s5 1	3 44	7 27	7 56	22	7 19	5 5	3 38	4 12	
23	FR.	r7 23	4 38	8 25	8 53	23	7 18	5 6	4 32	5 10	
24	SA.	s5 3	5 27	9 19	9 45	24	7 17	5 8	5 21	6 5	
25	S	r7 21	6 10	10 10	10 34	25	7 17	5 9	6 5	6 56	
26	MO.	s5 6	6 46	10 58	11 19	26	7 16	5 10	6 41	7 41	
27	TU.	r7 20	RISES.	11 39	11 58	27	7 15	5 11	RISES.	8 21	
28	WE.	s5 8	6 46	.....	0 18	28	7 14	5 12	6 48	9 4	
29	TH.	r7 18	7 55	0 39	0 59	29	7 14	5 14	7 56	9 45	
30	FR.	s5 11	9 4	1 18	1 37	30	7 13	5 15	9 3	10 22	
31	SA.	r7 16	10 13	1 58	2 19	31	7 12	5 16	10 11	11 1	



FEBRUARY.

MOON'S PHASES.	BOSTON.	NEW YORK.
LAST QUARTER.....	3d. 10h. 55m. A.M.	3d. 10h. 43m. A.M.
NEW MOON.....	10d. 6h. 33m. A.M.	10d. 6h. 21m. A.M.
FIRST QUARTER.....	17d. 11h. 1m. P.M.	17d. 10h. 49m. P.M.
FULL MOON.....	25d. 8h. 38m. P.M.	25d. 8h. 26m. P.M.

Day of Mo.	Day of Week.	BOSTON & CHICAGO.					Day of Mo.	N. YORK & PHILA.				
		SUN	MOON	BOST. TIDE.		SUN		SUN	MOON	N. Y.		
		R.&S. H. M.	R.&S. H. M.	Morning. H. M.	Evening. H. M.	Rises H. M.		Sets H. M.	R.&S. H. M.	TIDE. H. M.		
1	S	r7 15	II 25	2 40	3 2	1	7 11	5 17	II 22	II 46		
2	Mo.	s5 15	MORN.	3 25	3 50	2	7 10	5 18	MORN.	0 10		
3	TU.	r7 13	0 39	4 18	4 48	3	7 9	5 20	0 35	1 4		
4	WE.	s5 18	1 52	5 21	5 55	4	7 8	5 21	1 47	2 7		
5	TH.	r7 10	3 3	6 31	7 8	5	7 7	5 22	2 57	3 16		
6	FR.	s5 20	4 7	7 45	8 21	6	7 6	5 23	4 1	4 30		
7	SA.	r7 8	5 2	8 55	9 26	7	7 5	5 25	4 56	5 39		
8	S	s5 23	5 47	9 56	10 25	8	7 4	5 26	5 42	6 43		
9	Mo.	r7 6	6 24	10 51	11 15	9	7 2	5 27	6 20	7 34		
10	TU.	s5 25	SETS.	11 37	11 57	10	7 1	5 28	SETS.	8 20		
11	WE.	r7 3	7 10	....	0 18	11	7 0	5 29	7 11	9 3		
12	TH.	s5 28	8 17	0 38	0 57	12	6 59	5 31	8 16	9 44		
13	FR.	r7 0	9 23	1 16	1 36	13	6 58	5 32	9 21	10 20		
14	SA.	s5 31	10 28	1 56	2 16	14	6 56	5 33	10 25	10 58		
15	S	r6 58	II 31	2 36	2 56	15	6 55	5 34	II 27	II 40		
16	Mo.	s5 33	MORN.	3 17	3 39	16	6 53	5 36	MORN.	0 2		
17	TU.	r6 55	0 33	4 2	4 27	17	6 53	5 37	0 28	0 49		
18	WE.	s5 36	1 33	4 54	5 23	18	6 51	5 38	1 27	1 41		
19	TH.	r6 52	2 29	5 53	6 24	19	6 50	5 39	2 23	2 39		
20	FR.	s5 38	3 19	6 54	7 24	20	6 48	5 40	3 13	3 39		
21	SA.	r6 49	4 4	7 53	8 22	21	6 47	5 42	3 58	4 38		
22	S	s5 41	4 43	8 50	9 17	22	6 45	5 43	4 38	5 35		
23	Mo.	r6 46	5 17	9 42	10 6	23	6 44	5 44	5 13	6 28		
24	TU.	s5 43	5 46	10 29	10 50	24	6 43	5 45	5 43	7 14		
25	WE.	r6 43	RISES.	II 11	II 31	25	6 41	5 46	RISES.	7 53		
26	TH.	s5 46	6 50	II 51	....	26	6 40	5 48	6 50	8 34		
27	FR.	r6 40	8 1	0 10	0 30	27	6 38	5 49	8 0	9 17		
28	SA.	s5 48	9 14	0 50	1 11	28	6 37	5 50	9 11	9 57		
29	S	r6 37	10 28	1 33	1 56	29	6 35	5 51	10 24	10 39		
...	...	...	...	...	...	...	...	...	...	...		
...	...	...	...	...	...	...	...	...	...	...		



MARCH.

MOON'S PHASES.	BOSTON.	NEW YORK.
LAST QUARTER.....	3d. 6h. 23m. P.M.	3d. 6h. 11m. P.M.
NEW MOON.....	10d. 8h. 3m. P.M.	10d. 7h. 51m. P.M.
FIRST QUARTER.....	18d. 7h. 52m. P.M.	18d. 7h. 40m. P.M.
FULL MOON.....	26d. 8h. 39m. A.M.	26d. 8h. 27m. A.M.

Day of Mo.	Day of Week.	BOSTON & CHICAGO.				Day of Mo.	N. YORK & PHILA.			
		SUN	MOON	BOST. TIDE.			SUN	SUN	MOON	N. Y.
		R.&S.	R.&S.	Morning.	Evening.		Rises	Sets.	R.&S.	TIDE.
		H. M.	H. M.	H. M.	H. M.		H. M.	H. M.	H. M.	H. M.
1	Mo.	r6 35	II 42	2 19	2 44	1	6 34	5 52	II 37	II 26
2	Tu.	s5 52	MORN.	3 10	3 37	2	6 32	5 53	MORN.	.....
3	We.	r6 32	0 54	4 7	4 39	3	6 31	5 54	0 48	0 54
4	Th.	s5 54	2 0	5 13	5 49	4	6 29	5 55	I 54	2 0
5	Fr.	r6 28	2 57	6 26	7 3	5	6 28	5 56	2 51	3 12
6	Sa.	s5 57	3 44	7 38	8 12	6	6 26	5 57	3 39	4 23
7	S	r6 25	4 22	8 43	9 11	7	6 24	5 59	4 18	5 27
8	Mo.	s5 59	4 54	9 38	10 3	8	6 23	6 0	4 51	6 24
9	Tu.	r6 22	5 23	10 27	10 49	9	6 21	6 1	5 21	7 12
10	We.	s6 1	SETS.	II 9	II 29	10	6 19	6 2	SETS.	7 52
11	Th.	r6 18	7 5	II 47	.....	11	6 18	6 3	7 4	8 31
12	Fr.	s6 4	8 12	0 5	0 24	12	6 16	6 4	8 10	9 11
13	Sa.	r6 15	9 16	0 43	I 3	13	6 15	6 5	9 12	9 49
14	S	s6 6	10 19	I 23	I 43	14	6 13	6 6	10 14	10 27
15	Mo.	r6 12	II 20	2 3	2 24	15	6 11	6 7	II 15	II 6
16	Tu.	s6 8	MORN.	2 45	3 7	16	6 10	6 8	MORN.	II 52
17	We.	r6 8	0 18	3 31	3 55	17	6 8	6 9	0 12	0 17
18	Th.	s6 10	I 11	4 21	4 49	18	6 6	6 11	I 5	I 8
19	Fr.	r6 5	I 57	5 18	5 48	19	6 5	6 12	I 51	2 4
20	Sa.	s6 13	2 37	6 18	6 48	20	6 3	6 13	2 32	3 4
21	S	r6 1	3 12	7 18	7 47	21	6 1	6 14	3 7	4 3
22	Mo.	s6 15	3 43	8 14	8 40	22	6 0	6 15	3 40	4 58
23	Tu.	r5 58	4 11	9 6	9 30	23	5 58	6 16	4 9	5 51
24	We.	s6 17	4 37	9 54	10 18	24	5 56	6 17	4 36	6 40
25	Th.	r5 54	5 2	10 39	II 1	25	5 55	6 18	5 2	7 24
26	Fr.	s6 19	RISES.	II 23	II 43	26	5 53	6 19	RISES.	8 4
27	Sa.	r5 51	8 9	.....	0 4	27	5 51	6 20	8 6	8 49
28	S	s6 22	9 27	0 27	0 50	28	5 50	6 21	9 22	9 36
29	Mo.	r5 47	10 42	I 14	I 39	29	5 48	6 22	10 37	10 24
30	Tu.	s6 24	II 51	2 5	2 33	30	5 46	6 23	II 45	II 15
31	We.	r5 44	MORN.	3 1	3 30	31	5 45	6 24	MORN.	.....



APRIL.

MOON'S PHASES.	BOSTON.	NEW YORK.
LAST QUARTER.....	2d. 1h. 29m. A.M.	2d. 1h. 17m. A.M.
NEW MOON.....	9d. 10h. 23m. A.M.	9d. 10h. 11m. A.M.
FIRST QUARTER.....	17d. 2h. 30m. P.M.	17d. 2h. 18m. P.M.
FULL MOON.....	24d. 6h. 6m. P.M.	24d. 5h. 54m. P.M.

Day of Mo.	Day of Week.	BOSTON & CHICAGO.						Day of Mo.	N. YORK & PHILA.					
		SUN	MOON	BoSt. TIDE.		SUN	SUN		MOON	N. Y.				
		R.&S.	R.&S.	Morning.	Evening.						Rises	Sets.	R.&S.	TIDE.
		H. M.	H. M.	H. M.	H. M.		H. M.	H. M.	H. M.	H. M.		H. M.		
1	TH.	r5 42	0 52	4 1	4 33	1	5 43	6 25	0 46	0 48				
2	FR.	s6 27	1 43	5 7	5 42	2	5 41	6 26	1 38	1 54				
3	SA.	r5 39	2 23	6 16	6 49	3	5 40	6 27	2 19	3 1				
4	S	s6 30	2 56	7 21	7 51	4	5 38	6 28	2 53	4 5				
5	MO.	r5 35	3 25	8 19	8 46	5	5 36	6 29	3 23	5 4				
6	TU.	s6 32	3 50	9 10	9 33	6	5 35	6 30	3 49	5 56				
7	WE.	r5 32	4 14	9 55	10 17	7	5 33	6 31	4 14	6 42				
8	TH.	s6 34	4 38	10 38	10 58	8	5 32	6 32	4 39	7 23				
9	FR.	r5 28	SETS.	11 17	11 36	9	5 30	6 33	SETS.	7 59				
10	SA.	s6 36	8 6	11 55	.....	10	5 28	6 34	8 2	8 39				
11	S	r5 25	9 7	0 14	0 34	11	5 27	6 36	9 2	9 20				
12	MO.	s6 38	10 7	0 54	1 14	12	5 25	6 37	10 1	10 0				
13	TU.	r5 22	11 2	1 35	1 57	13	5 24	6 38	10 56	10 40				
14	WE.	s6 41	11 51	2 19	2 41	14	5 22	6 39	11 45	11 24				
15	TH.	r5 19	MORN.	3 4	3 28	15	5 21	6 40	MORN.	.....				
16	FR.	s6 43	0 34	3 52	4 17	16	5 19	6 41	0 29	0 39				
17	SA.	r5 15	1 11	4 44	5 11	17	5 18	6 42	1 6	1 31				
18	S	s6 45	6 42	5 39	6 7	18	5 16	6 43	1 38	2 25				
19	MO.	r5 12	2 10	6 36	7 4	19	5 15	6 44	2 7	3 22				
20	TU.	s6 47	2 36	7 32	7 59	20	5 13	6 45	2 34	4 17				
21	WE.	r5 9	3 1	8 25	8 51	21	5 12	6 46	3 0	5 10				
22	TH.	s6 50	3 26	9 16	9 40	22	5 10	6 47	3 27	6 2				
23	FR.	r5 6	3 53	10 5	10 31	23	5 9	6 48	3 55	6 51				
24	SA.	s6 52	4 25	10 56	11 20	24	5 8	6 49	4 28	7 39				
25	S	r5 3	RISES.	11 44	.....	25	5 6	6 50	RISES.	8 26				
26	MO.	s6 54	9 35	0 9	0 35	26	5 5	6 51	9 29	9 21				
27	TU.	r5 0	10 41	1 2	1 30	27	5 3	6 52	10 35	10 15				
28	WE.	s6 56	11 37	1 59	2 27	28	5 2	6 53	11 32	11 9				
29	TH.	r4 58	MORN.	2 54	3 22	29	5 1	6 54	MORN.	.....				
30	FR.	s6 59	0 22	3 51	4 21	30	4 59	6 55	0 17	0 38				
...	...	...	...	...	...	...	...	...	...	...	...	...		



MAY.

MOON'S PHASES.	BOSTON.		NEW YORK.	
LAST QUARTER.....	1d.	9h. 9m. A.M.	1d.	8h. 57m. A.M.
NEW MOON.....	9d.	1h. 32m. A.M.	9d.	1h. 20m. A.M.
FIRST QUARTER.....	17d.	5h. 39m. A.M.	17d.	5h. 27m. A.M.
FULL MOON.....	24d.	1h. 55m. A.M.	24d.	1h. 43m. A.M.
LAST QUARTER.....	30d.	6h. 9m. P.M.	30d.	5h. 57m. P.M.

		BOSTON & CHICAGO.					N. YORK & PHILA.				
Day of Mo.	Day of Week.	SUN	MOON	BOST. TIDE.		Day of Mo.	SUN	SUN	MOON	N. Y.	
		R.&S.	R.&S.	Morning.	Evening.		Rises	Sets.	R.&S.	TIDE.	
		H. M.	H. M.	H. M.	H. M.		H. M.	H. M.	H. M.	H. M.	
1	SA.	r4 55	0 58	4 52	5 23	1	4 58	6 56	0 54	1 39	
2	S	s7 1	1 28	5 52	6 21	2	4 57	6 57	1 26	2 38	
3	MO.	r4 52	1 54	6 50	7 19	3	4 56	6 58	1 53	3 36	
4	TU.	s7 3	2 18	7 46	8 11	4	4 54	6 59	2 18	4 30	
5	WE.	r4 49	2 42	8 35	8 58	5	4 53	7 0	2 43	5 20	
6	TH.	s7 5	3 6	9 21	9 44	6	4 52	7 2	3 8	6 7	
7	FR.	r4 47	3 31	10 6	10 28	7	4 51	7 3	3 34	6 52	
8	SA.	s7 7	4 1	10 49	11 9	8	4 50	7 4	4 5	7 33	
9	S	r4 45	SETS.	11 29	11 49	9	4 49	7 5	SETS.	8 12	
10	MO.	s7 9	8 54	.....	0 9	10	4 47	7 6	8 48	8 54	
11	TU.	r4 42	9 45	0 30	0 51	11	4 46	7 7	9 39	9 39	
12	WE.	s7 12	10 29	1 13	1 34	12	4 45	7 8	10 23	10 19	
13	TH.	r4 40	11 8	1 56	2 18	13	4 44	7 9	11 3	11 0	
14	FR.	s7 14	11 41	2 40	3 1	14	4 43	7 9	11 37	11 45	
15	SA.	r4 38	MORN.	3 23	3 46	15	4 42	7 10	MORN.	0 9	
16	S	s7 16	0 10	4 9	4 34	16	4 42	7 11	0 7	0 56	
17	MO.	r4 36	0 36	4 59	5 26	17	4 41	7 12	0 34	1 46	
18	TU.	s7 18	1 1	5 53	6 20	18	4 40	7 13	1 0	2 39	
19	WE.	r4 34	1 25	6 47	7 15	19	4 39	7 14	1 25	3 33	
20	TH.	s7 20	1 51	7 44	8 13	20	4 38	7 15	1 52	4 28	
21	FR.	r4 32	2 20	8 41	9 10	21	4 37	7 16	2 23	5 26	
22	SA.	s7 22	2 54	9 38	10 6	22	4 36	7 17	2 58	6 24	
23	S	r4 31	3 35	10 34	11 2	23	4 36	7 18	3 40	7 19	
24	MO.	s7 24	RISES.	11 30	11 57	24	4 35	7 18	RISES.	8 12	
25	TU.	r4 29	9 24	.....	0 24	25	4 34	7 19	9 18	9 11	
26	WE.	s7 25	10 15	0 52	1 21	26	4 34	7 20	10 10	10 7	
27	TH.	r4 28	10 56	1 49	2 15	27	4 33	7 21	10 52	10 57	
28	FR.	s7 27	11 29	2 41	3 7	28	4 33	7 22	11 26	11 52	
29	SA.	r4 27	11 57	3 32	3 58	29	4 32	7 23	11 55	0 19	
30	S	s7 29	MORN.	4 24	4 51	30	4 32	7 23	MORN.	1 11	
31	MO.	r4 26	0 22	5 18	5 44	31	4 31	7 24	0 22	2 4	



JULY

MOON'S PHASES.	BOSTON.	NEW YORK.
NEW MOON.....	7d. 8h. 37m. A.M.	7d. 8h. 25m. A.M.
FIRST QUARTER.....	15d. 1h. 32m. A.M.	15d. 1h. 20m. A.M.
FULL MOON.....	21d. 4h. 18m. P.M.	21d. 4h. 6m. P.M.
LAST QUARTER.....	28d. 6h. 57m. P.M.	28d. 6h. 45m. P.M.

Day of Mo.	Day of Week.	BOSTON & CHICAGO.					Day of Mo.	N. YORK & PHILA.				
		SUN	MOON	BOST. TIDE.		SUN		SUN	MOON	N. Y.		
		R.&S.	R.&S.	Morning.	Evening.						Rises	Sets	R.&S.	TIDE.
		H. M.	H. M.	H. M.	H. M.		H. M.	H. M.	H. M.	H. M.		
1	TH.	r4 27	0 6	6 23	6 51	1	4 32	7 35	0 10	3 9		
2	FR.	s7 40	0 36	7 18	7 46	2	4 33	7 34	1 41	4 3		
3	SA.	r4 28	1 11	8 14	8 41	3	4 33	7 34	1 16	4 59		
4	S	s7 40	1 52	9 7	9 32	4	4 34	7 34	1 58	5 52		
5	MO.	r4 29	2 39	9 57	10 22	5	4 35	7 34	2 45	6 44		
6	TU.	s7 39	3 32	10 45	11 7	6	4 35	7 33	3 38	7 29		
7	WE.	r4 30	SETS.	11 28	11 48	7	4 36	7 33	SETS.	8 10		
8	TH.	s7 38	8 17	.....	0 8	8	4 37	7 33	8 13	8 53		
9	FR.	r4 32	8 44	0 27	0 47	9	4 38	7 32	8 41	9 33		
10	SA.	s7 37	9 9	1 6	1 26	10	4 38	7 32	9 7	10 10		
11	S	r4 33	9 33	1 45	2 5	11	4 39	7 32	9 32	10 47		
12	MO.	s7 36	9 57	2 24	2 43	12	4 39	7 31	9 58	11 27		
13	TU.	r4 35	10 21	3 3	3 25	13	4 40	7 31	10 23	.....		
14	WE.	s7 35	10 48	3 48	4 12	14	4 41	7 30	10 51	0 34		
15	TH.	r4 36	11 21	4 38	5 6	15	4 41	7 30	11 25	1 25		
16	FR.	s7 34	MORN.	5 37	6 9	16	4 42	7 29	MORN.	2 23		
17	SA.	r4 38	0 1	6 43	7 19	17	4 43	7 28	0 6	3 29		
18	S	s7 32	0 50	7 55	8 31	18	4 44	7 28	0 56	4 40		
19	MO.	r4 40	1 50	9 6	9 39	19	4 45	7 27	1 56	5 51		
20	TU.	s7 31	3 0	10 10	10 40	20	4 45	7 26	3 6	6 56		
21	WE.	r4 42	RISES.	11 9	11 35	21	4 46	7 25	RISES.	7 51		
22	TH.	s7 29	7 54	11 58	.....	22	4 47	7 25	7 51	8 43		
23	FR.	r4 44	8 23	0 21	0 44	23	4 48	7 24	8 21	9 31		
24	SA.	s7 28	8 50	1 7	1 29	24	4 49	7 23	8 50	10 14		
25	S	r4 45	9 15	1 50	2 11	25	4 50	7 22	9 16	10 53		
26	MO.	s7 26	9 40	2 32	2 54	26	4 51	7 21	9 42	11 37		
27	TU.	r4 47	10 7	3 15	3 36	27	4 52	7 20	10 10	.....		
28	WE.	s7 23	10 37	3 59	4 24	28	4 53	7 19	10 41	0 46		
29	TH.	r4 49	11 11	4 50	5 17	29	4 54	7 18	11 16	1 36		
30	FR.	s7 21	11 50	5 45	6 14	30	4 55	7 17	11 56	2 31		
31	SA.	r4 51	MORN.	6 44	7 14	31	4 56	7 16	MORN.	3 30		



MOON'S PHASES.	BOSTON.	NEW YORK.
NEW MOON.....	5d. 11h. 4m. P.M.	5d. 10h. 52m. P.M.
FIRST QUARTER.....	13d. 7h. 58m. A.M.	13d. 7h. 46m. A.M.
FULL MOON.....	20d. 0h. 34m. A.M.	20d. 0h. 22m. A.M.
LAST QUARTER.....	27d. 11h. 31m. A.M.	27d. 11h. 19m. A.M.

Day of Mo.	Day of Week.	BOSTON & CHICAGO.					Day of Mo.	N. YORK & PHILA.				
		SUN R.&S. H. M.	MOON R.&S. H. M.	BOST. TIDE.		SUN Rises H. M.		SUN Sets. H. M.	MOON R.&S. H. M.	N. Y. TIDE. H. M.		
				Morning. H. M.	Evening. H. M.							
1	S	4 52	0 35	7 43	8 12	1	4 57	7 15	0 41	4 28		
2	Mo.	5 18	1 25	8 40	9 7	2	4 58	7 14	1 31	5 24		
3	TU.	4 54	2 21	9 33	9 57	3	4 58	7 13	2 26	6 18		
4	WE.	5 15	3 21	10 20	10 42	4	4 59	7 12	3 26	7 6		
5	TH.	4 57	4 24	11 4	11 24	5	5 07	7 10	4 28	7 46		
6	FR.	5 13	SETS.	11 43	.....	6	5 17	9	SETS.	8 25		
7	SA.	4 59	7 39	0 1	0 19	7	5 27	8	7 38	9 5		
8	S	5 10	8 3	0 38	0 57	8	5 37	7 8	3	9 43		
9	Mo.	5 1	8 27	1 16	1 35	9	5 47	5 8	28	10 20		
10	TU.	5 8	8 53	1 55	2 16	10	5 57	4 8	56	10 58		
11	WE.	5 3	9 24	2 37	2 59	11	5 67	3 9	28	11 42		
12	TH.	5 5	10 1	3 22	3 48	12	5 77	1 10	6	0 8		
13	FR.	5 5	10 45	4 16	4 47	13	5 87	0 10	50	1 3		
14	SA.	5 2	11 39	5 20	5 55	14	5 96	59	11 45	2 6		
15	S	5 7	MORN.	6 32	7 9	15	5 106	58	MORN.	3 18		
16	Mo.	5 59	0 42	7 46	8 22	16	5 116	56	0 48	4 31		
17	TU.	5 9	1 53	8 56	9 28	17	5 126	54	1 58	5 42		
18	WE.	5 56	3 9	9 58	10 26	18	5 136	53	3 13	6 44		
19	TH.	5 11	4 27	10 51	11 14	19	5 146	52	4 30	7 34		
20	FR.	5 53	RISES.	11 36	11 57	20	5 156	50	RISES.	8 18		
21	SA.	5 14	7 16	.....	0 17	21	5 166	49	7 16	9 3		
22	S	5 50	7 43	0 38	0 58	22	5 176	47	7 45	9 44		
23	Mo.	5 16	8 9	1 18	1 39	23	5 186	46	8 12	10 24		
24	TU.	5 47	8 38	2 0	2 21	24	5 196	44	8 42	11 3		
25	WE.	5 18	9 10	2 42	3 3	25	5 206	43	9 15	11 48		
26	TH.	5 43	9 47	3 26	3 50	26	5 216	41	9 52	0 11		
27	FR.	5 20	10 30	4 15	4 42	27	5 226	40	10 36	1 2		
28	SA.	5 40	11 18	5 10	5 39	28	5 236	38	11 24	1 56		
29	S	5 22	MORN.	6 9	6 40	29	5 246	37	MORN.	2 55		
30	Mo.	5 37	0 12	7 10	7 39	30	5 256	35	0 18	3 55		
31	TU.	5 24	1 10	8 8	8 35	31	5 266	33	1 15	4 52		



MOON'S PHASES.	BOSTON.	NEW YORK.
NEW MOON.....	4d. oh. 8m. P.M.	4d. 11h. 56m. A.M.
FIRST QUARTER.....	11d. 1h. 41m. P.M.	11d. 1h. 29m. P.M.
FULL MOON.....	18d. 10h. 45m. A.M.	18d. 10h. 33m. A.M.
LAST QUARTER.....	26d. 6h. 24m. A.M.	26d. 6h. 12m. A.M.

BOSTON & CHICAGO.						N. YORK & PHILA.				
Day of Mo.	Day of Week.	SUN R.&S. H. M.	MOON R.&S. H. M.	BOST. TIDE.		Day of Mo.	SUN Rises H. M.	SUN Sets. H. M.	MOON R.&S. H. M.	N. Y. TIDE. H. M.
1	WE.	5 25	2 11	9 0	9 24	1	5 27	6 32	2 15	5 45
2	TH.	6 32	3 15	9 47	10 10	2	5 28	6 30	3 18	6 34
3	FR.	5 27	4 19	10 32	10 53	3	5 29	6 28	4 21	7 17
4	SA.	6 28	SETS.	11 13	11 32	4	5 30	6 27	SETS.	7 56
5	S	5 29	6 31	11 50	.....	5	5 31	6 25	6 32	8 34
6	MO.	6 25	6 58	0 9	0 29	6	5 32	6 24	7 0	9 14
7	TU.	5 32	7 28	0 49	1 10	7	5 33	6 22	7 31	9 56
8	WE.	6 22	8 2	1 32	1 54	8	5 34	6 20	8 6	10 38
9	TH.	5 34	8 44	2 18	2 42	9	5 35	6 18	8 49	11 25
10	FR.	6 18	9 34	3 8	3 36	10	5 36	6 17	9 40	.....
11	SA.	5 36	10 33	4 6	4 38	11	5 37	6 15	10 39	0 53
12	S	6 14	11 41	5 13	5 49	12	5 38	6 14	11 46	1 59
13	MO.	5 38	MORN.	6 25	7 1	13	5 39	6 12	MORN.	3 11
14	TU.	6 11	0 54	7 37	8 10	14	5 40	6 10	0 58	4 22
15	WE.	5 40	2 8	8 40	9 9	15	5 41	6 9	2 11	5 25
16	TH.	6 7	3 22	9 36	10 1	16	5 42	6 7	3 24	6 22
17	FR.	5 42	4 33	10 25	10 47	17	5 43	6 5	4 34	7 10
18	SA.	6 4	RISES.	11 9	11 29	18	5 44	6 4	RISES.	7 51
19	S	5 44	6 8	11 48	.....	19	5 45	6 2	6 10	8 31
20	MO.	6 0	6 38	0 7	0 27	20	5 46	6 0	6 41	9 14
21	TU.	5 46	7 9	0 48	1 9	21	5 47	5 59	7 13	9 55
22	WE.	5 57	7 44	1 30	1 51	22	5 48	5 57	7 49	10 34
23	TH.	5 49	8 25	2 13	2 35	23	5 49	5 55	8 31	11 17
24	FR.	5 53	9 11	2 58	3 21	24	5 50	5 54	9 17	.....
25	SA.	5 51	10 3	3 45	4 10	25	5 51	5 52	10 9	0 31
26	S	5 50	11 0	4 37	5 6	26	5 52	5 50	11 5	1 24
27	MO.	5 53	MORN.	5 35	6 3	27	5 53	5 48	MORN.	2 20
28	TU.	5 46	0 0	6 32	7 1	28	5 54	5 47	0 4	3 18
29	WE.	5 55	1 2	7 28	7 55	29	5 55	5 45	1 5	4 13
30	TH.	5 43	2 4	8 22	8 47	30	5 56	5 43	2 6	5 7



OCTOBER.

MOON'S PHASES.	BOSTON.	NEW YORK.
NEW MOON.....	3d. 11h. 59m. P.M.	3d. 11h. 47m. P.M.
FIRST QUARTER.....	10d. 7h. 51m. P.M.	10d. 7h. 39m. P.M.
FULL MOON.....	17d. 11h. 42m. P.M.	17d. 11h. 30m. P.M.
LAST QUARTER.....	26d. 2h. 16m. A.M.	26d. 2h. 4m. A.M.

Day of Mo.	Day of Week.	BOSTON & CHICAGO.					Day of Mo.	N. YORK & PHILA.				
		SUN	MOON	BOST. TIDE.		SUN		SUN	MOON	N. Y.		
		R.&S.	R.&S.	Morning.	Evening.	Rises		Sets.	R.&S.	TIDE.		
		H. M.	H. M.	H. M.	H. M.		H. M.	H. M.	H. M.	H. M.		
1	FR.	5 57	3 8	9 10	9 32	1	5 57	5 42	3 9	5 55		
2	SA.	5 39	4 14	9 55	10 18	2	5 58	5 40	4 14	6 41		
3	S	6 0	5 23	10 40	11 2	3	5 59	5 38	5 22	7 25		
4	MO.	5 36	SETS.	11 23	11 43	4	6 0	5 37	SETS.	8 5		
5	TU.	6 2	6 2	...	0 4	5	6 1	5 35	6 6	8 49		
6	WE.	5 33	6 42	0 27	0 51	6	6 2	5 33	6 47	9 39		
7	TH.	6 4	7 31	1 16	1 42	7	6 3	5 32	7 37	10 25		
8	FR.	5 29	8 29	2 8	2 35	8	6 4	5 30	8 35	11 17		
9	SA.	6 6	9 34	3 2	3 31	9	6 5	5 29	9 39	...		
10	S	5 26	10 45	4 1	4 33	10	6 6	5 27	10 50	0 48		
11	MO.	6 9	11 58	5 6	5 40	11	6 7	5 26	MORN.	1 52		
12	TU.	5 23	MORN.	6 13	6 45	12	6 8	5 24	0 2	2 59		
13	WE.	6 11	1 10	7 16	7 46	13	6 9	5 22	1 13	4 1		
14	TH.	5 19	2 21	8 15	8 42	14	6 10	5 21	2 22	4 59		
15	FR.	6 14	3 30	9 7	9 32	15	6 11	5 19	3 31	5 52		
16	SA.	5 16	4 38	9 55	10 17	16	6 13	5 18	4 37	6 41		
17	S	6 16	5 44	10 39	11 0	17	6 14	5 16	5 42	7 24		
18	MO.	5 13	RISES.	11 21	11 41	18	6 15	5 15	RISES.	8 2		
19	TU.	6 18	5 41	...	0 1	19	6 16	5 13	5 46	8 45		
20	WE.	5 10	6 20	0 21	0 42	20	6 17	5 12	6 25	9 28		
21	TH.	6 20	7 5	1 3	1 25	21	6 18	5 11	7 11	10 11		
22	FR.	5 7	7 55	1 47	2 9	22	6 19	5 9	8 1	10 52		
23	SA.	6 23	8 50	2 31	2 54	23	6 20	5 8	8 55	11 38		
24	S	5 4	9 48	3 17	3 40	24	6 21	5 6	9 53	0 2		
25	MO.	6 25	10 48	4 4	4 29	25	6 23	5 5	10 52	0 51		
26	TU.	5 1	11 49	4 55	5 21	26	6 24	5 4	11 52	1 41		
27	WE.	6 28	MORN.	5 48	6 15	27	6 25	5 2	MORN.	2 34		
28	TH.	4 58	0 52	6 42	7 9	28	6 26	5 1	0 54	3 28		
29	FR.	6 30	1 57	7 35	8 1	29	6 27	5 0	1 58	4 20		
30	SA.	4 56	3 3	8 27	8 53	30	6 28	4 59	3 2	5 13		
31	S	6 33	4 11	9 18	9 43	31	6 30	4 57	4 9	6 4		



NOVEMBER.

MOON'S PHASES.	BOSTON.	NEW YORK.
NEW MOON.....	2d. 11h. 11m. A.M.	2d. 10h. 59m. A.M.
FIRST QUARTER.....	9d. 3h. 36m. A.M.	9d. 3h. 24m. A.M.
FULL MOON.....	16d. 3h. 55m. P.M.	16d. 3h. 43m. P.M.
LAST QUARTER.....	24d. 9h. 21m. P.M.	24d. 9h. 9m. P.M.

Day of Mo.	Day of Week.	BOSTON & CHICAGO.					Day of Mo.	N. YORK & PHILA.				
		SUN	MOON	BOST. TIDE.		SUN		SUN	MOON	N. Y.		
		R.&S.	R.&S.	Morning.	Evening.	Rises		Sets.	R.&S.	TIDE.		
		H. M.	H. M.	H. M.	H. M.		H. M.	H. M.	H. M.	H. M.		
1	Mo.	16 34	5 22	10 8	10 33	1	6 31	4 56	5 19	6 54		
2	Tu.	54 52	6 37	10 58	11 23	2	6 32	4 55	6 33	7 41		
3	We.	16 36	SETS.	11 47	.....	3	6 33	4 54	SETS.	8 30		
4	Th.	54 49	6 19	0 11	0 37	4	6 34	4 53	6 25	9 24		
5	Fr.	16 39	7 24	1 5	1 33	5	6 36	4 52	7 30	10 17		
6	Sa.	54 47	8 35	2 0	2 27	6	6 37	4 50	8 40	11 11		
7	S	16 41	9 49	2 55	3 23	7	6 38	4 49	9 53	.....		
8	Mo.	54 45	11 2	3 51	4 20	8	6 39	4 48	11 5	0 37		
9	Tu.	16 44	MORN.	4 49	5 19	9	6 41	4 47	MORN.	1 36		
10	We.	54 43	0 12	5 49	6 18	10	6 42	4 46	0 14	2 35		
11	Th.	16 46	1 20	6 46	7 14	11	6 43	4 45	1 20	3 31		
12	Fr.	54 41	2 27	7 42	8 9	12	6 44	4 44	2 26	4 26		
13	Sa.	16 49	3 34	8 35	8 59	13	6 45	4 44	3 32	5 19		
14	S	54 39	4 39	9 23	9 47	14	6 46	4 43	4 36	6 9		
15	Mo.	16 52	5 43	10 10	10 33	15	6 47	4 42	5 39	6 56		
16	Tu.	54 37	6 45	10 56	11 17	16	6 49	4 41	6 40	7 39		
17	We.	16 54	RISES.	11 37	11 58	17	6 50	4 40	RISES.	8 19		
18	Th.	54 35	5 48	.....	0 19	18	6 51	4 40	5 54	9 5		
19	Fr.	16 56	6 41	0 40	1 2	19	6 52	4 39	6 46	9 48		
20	Sa.	54 34	7 38	1 23	1 44	20	6 54	4 38	7 43	10 28		
21	S	16 59	8 37	2 5	2 27	21	6 55	4 38	8 41	11 9		
22	Mo.	54 33	9 37	2 48	3 9	22	6 56	4 37	9 40	11 54		
23	Tu.	17 1	10 38	3 30	3 52	23	6 57	4 37	10 40	0 16		
24	We.	54 32	11 40	4 15	4 38	24	6 58	4 36	11 41	1 2		
25	Th.	17 4	MORN.	5 2	5 27	25	6 59	4 36	MORN.	1 48		
26	Fr.	54 31	0 44	5 53	6 20	26	7 0	4 36	0 44	2 39		
27	Sa.	17 6	1 50	6 48	7 16	27	7 1	4 35	1 49	3 33		
28	S	54 30	2 58	7 44	8 13	28	7 2	4 35	2 56	4 29		
29	Mo.	17 8	4 10	8 42	9 11	29	7 3	4 34	4 7	5 26		
30	Tu.	54 29	5 25	9 40	10 8	30	7 4	4 34	5 20	6 25		



MOON'S PHASES.	BOSTON.	NEW YORK.
NEW MOON.....	1d. 10h. 12m. P.M.	1d. 10h. 0m. P.M.
FIRST QUARTER.....	8d. 1h. 54m. P.M.	8d. 1h. 42m. P.M.
FULL MOON.....	16d. 10h. 52m. A.M.	16d. 10h. 40m. A.M.
LAST QUARTER.....	24d. 2h. 13m. P.M.	24d. 2h. 1m. P.M.
NEW MOON.....	31d. 9h. 12m. A.M.	31d. 9h. 0m. A.M.

Day of Mo.	Day of Week.	BOSTON & CHICAGO.						Day of Mo.	N. YORK & PHILA.			
		SUN R.&S. H. M.	MOON R.&S. H. M.	BOST. TIDE.		SUN Rises H. M.	SUN Sets H. M.		MOON R.&S. H. M.	N. Y. TIDE. H. M.		
				Morning. H. M.	Evening. H. M.							
1	WE.	r7 10	6 40	10 37	11 6	1	7 54 34	6 35	7 22			
2	TH.	s4 28	SETS.	11 34	.....	2	7 64 33	SETS.	8 17			
3	FR.	r7 12	6 15	0 1	0 28	3	7 74 33	6 20	9 13			
4	SA.	s4 28	7 31	0 55	1 22	4	7 84 33	7 35	10 7			
5	S	r7 14	8 47	1 49	2 15	5	7 94 33	8 50	10 57			
6	MO.	s4 28	10 1	2 41	3 6	6	7 104 33	10 3	11 49			
7	TU.	r7 16	11 12	3 30	3 55	7	7 114 33	11 13	0 16			
8	WE.	s4 28	MORN.	4 21	4 48	8	7 124 33	MORN.	1 8			
9	TH.	r7 18	0 20	5 15	5 42	9	7 134 33	0 20	2 1			
10	FR.	s4 28	1 26	6 9	6 37	10	7 144 33	1 24	2 55			
11	SA.	r7 20	2 32	7 6	7 33	11	7 154 33	2 29	3 51			
12	S	s4 28	3 36	8 0	8 27	12	7 164 33	3 32	4 45			
13	MO.	r7 21	4 38	8 53	9 19	13	7 164 33	4 33	5 39			
14	TU.	s4 29	5 37	9 44	10 8	14	7 174 34	5 32	6 30			
15	WE.	r7 23	6 34	10 32	10 55	15	7 184 34	6 28	7 17			
16	TH.	s4 29	RISES.	11 17	11 38	16	7 184 34	RISES.	7 58			
17	FR.	r7 24	5 31	11 58	.....	17	7 194 35	5 36	8 43			
18	SA.	s4 29	6 29	0 19	0 39	18	7 204 35	6 33	9 25			
19	S	r7 25	7 29	0 58	1 18	19	7 204 35	7 33	10 4			
20	MO.	s4 31	8 30	1 38	1 58	20	7 214 36	8 33	10 41			
21	TU.	r7 26	9 31	2 17	2 36	21	7 214 36	9 33	11 18			
22	WE.	s4 32	10 32	2 56	3 16	22	7 214 37	10 32	.....			
23	TH.	r7 27	11 35	3 36	3 57	23	7 224 38	11 34	0 22			
24	FR.	s4 33	MORN.	4 20	4 44	24	7 224 38	MORN.	1 7			
25	SA.	r7 28	0 40	5 10	5 37	25	7 234 39	0 38	1 56			
26	S	s4 34	1 48	6 6	6 36	26	7 234 39	1 45	2 52			
27	MO.	r7 29	2 58	7 7	7 40	27	7 234 40	2 54	3 53			
28	TU.	s4 35	4 10	8 14	8 47	28	7 244 41	4 5	4 58			
29	WE.	r7 29	5 22	9 19	9 51	29	7 244 42	5 16	6 5			
30	TH.	s4 37	6 28	10 23	10 53	30	7 244 42	6 22	7 8			
31	FR.	r7 30	7 25	11 21	11 48	31	7 244 43	7 20	8 4			

THURSDAY, JANUARY 1, 1880

Cloudy & Warm - Dr & Mrs
M. at dinner and Miss May
Savage - Nell in at Tea after
Called in the evening -

Shown a presentation card
in at the Jewellers, much im-
pressed when told to whom it
was to be presented, Dr Mar-
tin - Duet about Town this
the day - Many guesses to
whom card goes, gave her 50 Cents

2

FRIDAY 2

Very Warm & Cloudy - Mrs.
M. & Miss May M. and returned
to Callisto's office, home at
night in the dark, even my
indications of rain -

Old girls of the card. offered them
50¢ to guess whom of six individuals
it was to be presented. Many guessed
Dr. Martin & won

SATURDAY, JANUARY 3, 1886

Very Warm all day
At work in shop on Chest-
for Kitchen
Cloudy with indications
of rain

SUNDAY 4

Sits Warm and Cloudy
A. & M. P. here at dinner
No

MONDAY, JANUARY 5, 1886

Raining last night, Morning
Warm & Cloudy

At work putting up dresser in
the Kitchen, Paddy aiding me
by stealing my tools and kicking
up a row generally

It seems the cane was presented
to Dr. M. by Miss C. Leiman, not-
from admiring funds as I suppo-
sed

Wine looks higher than ever
Known by the "Oldest in the State"

TUESDAY 6

Morning Warm and Showery-
Out to Coalton, met Schuch
and ran early time from Wm.
back near the blue black cross-
ing by River and intersecting
the Road from Ellington Br. by
River to the Ridge Road - Returned
to Coalton after dark & stayed with
Schuch

WEDNESDAY, JANUARY 7, 1880

Morning warm & cloudy
met Morris Lee at Eugene
Van Sine between Eugene &
The Hall property. at night
at Mr Lee's

THURSDAY 8

Showers early in the morning, thun-
der all the forenoon, finished work
on Star Eutaw at 10 1/2 A.M. Mrs Lee
put me up a lunch, then left for
Mr Lee's, ate my lunch in the
old church at Mr. Norton's Spring
Branch while waiting for my men
to come up -

Raining in the afternoon, dinner in
spent night at Mr. Kiebs - Raining
heavily all night -

FRIDAY, JANUARY 9, 1880

Surgeon let for Dr Rice at Ruska.
after which took train for home.

Then at the Welch Bridge preparing to
put the new bridge - Found men at work
laying new steel rails -

At home in afternoon and about
town -

Warm & clear at night

SATURDAY 10

Colder this morning but pleasant
morning about home - Evening
dry & mild producing back line of
Railway across up to Biggs line -

Sore & tired at night - leaving to-
morrow cold in town on Thursday eve-
ning

The papers report flood for
all quarters

SUNDAY, JANUARY 11, 1880

Morning warm & pleasant -
Bridal Breeze and other early
shrubs show indications of
leaving out - Flowering almond
bursting its bud a few of the flowers
out but looking sickly

MONDAY 12

Raining in the morning
which turned to snow before
night -

In the shop all day

TUESDAY, JANUARY 13, 1880

Cooler this morning with
about 2 in. snow -

Working in the shop all
day on Paddy's blocks

Very comfortable this the
day. Clear & bright

WEDNESDAY 14

Cool morning but warm
& pleasant - the the day - snow
nearly gone. Notice buds of flow-
ering quince in Meane's Yard are
near opening -

Rads. captured the Capitol in
Maine -

About home & town all day
Evening bottled Keg of Beer
8 Gallons filling 32 bottles

THURSDAY, JANUARY 15, 1880

Morning raining clear
off about noon

Out to Run line between Chri-
ton & M. Adams, Russell
Adams & C. Mead present -
dined at Adams

FRIDAY 16

Warm & clear but
very muddy -

At home turning grape
vines &c, &c,

SATURDAY, JANUARY 17, 1880

Warm & drizzly all day
About home, feeling lame
& lazy - commenced raining
again at 8 o'clock P.M.

Examined the Strawberry bed
found all right - found 4 run-
down seeds coming up in
the garden -

Pogon sent Flour. Bran
and Corn

SUNDAY 18

Warm & clear through the
day - Remained at home in
the forenoon - After dinner went
down to see Uncle Jack who is not
expected to live -

Evening, Nell & Alta up to see
us

MONDAY, JANUARY 19, 1880

TUESDAY 20

Day warm & overcast -
Had garden plowed -

Mrs Montmolin in in
the evening - about house
all day

WEDNESDAY, JANUARY 21, 1880

THURSDAY 22

Morning warm with in-
dications of rain - Evening
pleasant -

Woods put 2 loads of manure
on Orchard

Prices sent up two bags which
cut up and pupated for pack-
ing -

Paid \$2.90 additional for
Capt Wade with the remainder
due me from Aunt Sarah's es-
tate

TUESDAY, JANUARY 27, 1880

Morning on cast with indications of Rain - Evening Warm & pleasant

Raison, Do M Conny, & self up in Mrs Bartels Wood. Obtained a skull much decayed - partly opened a large Mammal which from the bed of ashes was Lacustrine.

WEDNESDAY 28

Morning pleasant

With Singer et al. up on oak-land property running lines between John Alley & Land Co. Not completing Runway Spent night at Alley's -

Called at C R R office and got money due for work

With John Alley all night - well treated

Find myself with a raw throat which came suddenly upon me in the evening

THURSDAY, JANUARY 29, 1880

Cloudy this morning & chilly out with Alley running line between him & Evening which took till 10 o'clock. Then went on to where closed last night and met the parties to complete the work of yesterday.

At home about dark. Supper relished after a days fasting -

FRIDAY 30 1880

Weather much the same as yesterday - Cold & very terrible - Some rain in all day at home on notes of Oakland Sunday

SATURDAY, JANUARY 31, 1880

Cold no better. At home
Completing work of Palken
and in evening cleaning
and mending head of the
mowed fields.

Rain in the morning but
cleared off about noon.

SUNDAY, FEBRUARY 1

The ground slightly frozen
this morning.

Day clear but cool. At home
and family dined northward.

MONDAY, FEBRUARY 2, 1880

Quite cold last night thaw-
ing very little thro' the day, at home
all day. Mr. Wmley & others called
in the evening making enqui-
ries northward to the propo-
sition of the Road.

Attended Council Meeting voted to
pay \$5330 ± to purchase depot
grounds for E.S. & B.S. R.R.

Mr. Means directed me to de-
cate our portion.

TUESDAY 3

This morning cold down
to Mr. Means & cleared
up the office preparatory
to the action of the Board
to pay for depot
grounds for E.S. & B.S. R.R.

Mr. Means informed by
Mr. Means that the location
of the depot should be
communicated directly -
showing only but not
Co. D.

WEDNESDAY, FEBRUARY 4, 1880

Morning cool and clear during a little afternoon warmer and thawing in sunny spots -
Lime -

Stones about 25 Drums
clerped up the office preparing
to having it washed -

Evening at home in on-
going by the day of specimens
"Nations"

THURSDAY 5

Quite cold last night
warm this the day
thawing

At home all day m
singing my cold

FRIDAY, FEBRUARY 6, 1880

Froze a little last night -
this the day snow melted com-
ing up at noon to
look at Budget. Will write
me

SATURDAY 7

Froze a little last night -
but warm & pleasant all
day snow melting fast -

At work on plan & spec
for County Road Budget at
Moore

Mrs. Forbes returned last
night

SUNDAY, FEBRUARY 8, 1880

Morning warm & pleasant, ground slightly frozen. Evening down to the ice. I came down to the ice to Frankfort to night. Called on Mr. Forbes & family, fine Mrs. & much improved in health.

MONDAY 9

Froze last night. Morning cloudy with indications of rain. Rant my tools down to the depot, went to see models of the Steamship Clock.

Left in evening train for Wash. McNeil took my self & tools up to the depot where I put up for night.

TUESDAY, FEBRUARY 10, 1880

Froze some last but a pleasant day. Will Perse & Jo. McNeil came on this morning, all day engaged in finding old line above Porters, did not fully complete at night. Made arrangements to meet Alexander at head of Creek and make examination for test pits.

WEDNESDAY 11

Froze last night. Morning cloudy. With Alexander up to head of Creek and let him at work on test pits. Would do the work for what was reasonable. Let me settle the value says he has 1 1/4 m day. told him would give him 15 m of gold.

THURSDAY, FEBRUARY 12, 1880

Rain last morning cloudy
& warm with indications of more
rain.

Pleasant till near night
when commenced raining
again, went in about 4 1/2 o'clock

FRIDAY 13

Raining hard this morn-
ing with prospect of a rainy
day - rain continuing till after
dinner for Rush found the low ground
flooded but no serious damage to
the R.R., trains however were not
on time, consequently did not
reach home until 8 o'clock

Clear with light wind at 9 o'clock

SATURDAY, FEBRUARY 14, 1880

About home all day
Rising fast, weather
warm

SUNDAY 15

Rising still rising

MONDAY, FEBRUARY 16, 1880

Left on 7 o'clock train
for Coaltown on Mono Creek
Secured at the Depot
of the burning of Mountmiller
House last night

Found the Creek no longer
and the travelling much
improved - froze a little
last night

TUESDAY 17

A light crust on the
ground this morning, plus
and thru the day

WEDNESDAY, FEBRUARY 18, 1880

Indications of rain in the
morning. out on the work, rain
came on about 9 o'clock. returned
to Board and laid up for the day.
After dinner Mr. Rich left for home.
Rain ceasing about 2 o'clock. Will
and self out with load till night
chilled when we came in
Night clear & cool

THURSDAY 19

This morning cool & bright
ground melted, out in the fore-
noon with load. returned to Board
for dinner, in evening went down
to Coaltown to turn entry line. Ad-
justed transit. looked over notes
and went to Sertians for night

FRIDAY, FEBRUARY 20, 1880 12 VI

Last night - pleasant ground
slightly frozen this morning.
Out on early line from
New Castle on Clinton toward
Mouth of Old Trace -

Returned to Sartans at
night - time out
appearance of rain

SATURDAY 21 VII

Rainy in this morn-
ing. Being indications of
clear weather took up line
of yesterday and completed
to crossing of S. Fork of Big
Run - Returned to Coalton
about 1 o'clock P.M.

By evening train return
home

SUNDAY, FEBRUARY 22, 1880

Ground slightly frozen, day
warm & pleasant. At home
until evening when went down
to see Dr. Mont. and re-
mained to tea. Found them
quite comfortably settled in
their new quarters. Dr. Pathe-
is disponding but inter-
ested in talking of build-
ing. Mrs. M. ated making
plans of imaginary castles

MONDAY 23 VIII

Morning pleasant -
Out to Stewarts to meet
contractors. Returned to
Hottel to dinner - Eve-
ning at work on line

TUESDAY, FEBRUARY 24, 1880

Wrote a little last night
pleasant day at work from
Kotto to John Rock.

WEDNESDAY 25

All hands out on work
of a day.

THURSDAY, FEBRUARY 26, 1880

Rain last night. foggy
morning, but a good day
for work. Commenced line
on Tunnel - Had trouble
crossing the creek on account
of high water.
Made a line on Tunnel
preliminary.

FRIDAY 27

Out early this morning
and located line for Tunnel,
not satisfactory. Made a
second trial which I think
is as wide as we can do.

Much trouble with the
brush & cordwood in the
chopping on South side of lake.
At night went to Sawmills
indications of rain.

SATURDAY, FEBRUARY 28, 1886

Rained last night and continued through the day. Straight Creek very high.

McNeil went home after dinner.

I spent the day looking over notes and copying same.

SUNDAY 29

Rained nearly all night. Morning cloudy & cool.

Evening went over to Hotel (Perry & Self) and spent the night.

MONDAY, MARCH 1, 1886

This morning cool. Looked up birds below Hotel and over to near Summit. Went to Stewart at night.

Col Cooper & others to see us, persuaded me to consent to go up to furnace at night. Sat up with the Col till one o'clock, did not sleep much. Back to Stewart at breakfast. Morning finished birds. Evening took up birds again.

TUESDAY 2

This morning took birds over Summit, evening over transit line.

Tired & stupefied all day the result of my last night's vigils.

WEDNESDAY, MARCH 3, 1880

Raining this morning, but
went to work about 8 o'clock.
Rain drove us in, took an
early dinner and out the
remainder of the day the
rain was somewhat
troublesome.

At night cloudy

THURSDAY 4

Rain last night but warm
and pleasant this morning.
Clouds disappearing, snow out
out on the work all day, rain
about 5 1/2 p.m. in for night
with a slight melting and then
out working in the trench on
the steep hill sides.

FRIDAY, MARCH 5, 1880

This has been one of our best
days for work this the morning
was lowing indicating rain.
Transit line across Hoghead

SATURDAY 6

A pleasant and spring like
day. Left Stuart early in the
morning. Failed to meet the
passenger train but Will &
I took passage on the Crab
train - home at 11 a.m. found
all well -

Evening Saw Mr. Means
advised to take time for all
necessary examinations of
books.

SUNDAY, MARCH 7, 1880

Rainy day, down to see Dr
M. in the afternoon

MONDAY 8

This morning cloudy,
took the 7 am. train, found a
fetter at the E. F. Bridge causing
away by the high water, the
new bridge not yet being
completed. train could not
pass, the builder thinks can
pass tomorrow. will do well
to get over Wednesday. I think
reach the summit
at noon having weather from
E. F. Seveling all the afternoon
Raining again to night

TUESDAY, MARCH 9, 1880

Rained all night, clearing off
about 8 o'clock a.m., out with le-
ads all day.

Mr Hood put us to right
on our way in from work

WEDNESDAY 10

Morning cool & cloudy, out-
with the leads crossed the Kops-
heads valley at noon, Evening
sent the team out to look after
stables while working up notes
and examining ground. Our
work for the morning will
be on the West side of the head
when will run a trial line.

Van der Putt his hand with
axe but is late at work

Afternoon fine weather

THURSDAY, MARCH 11, 1880

This morning pleasant
on line down west side
of Hoghead. So far think
the route more favorable
than on the East side

FRIDAY 12

Raining last night this
morning snowing, snow
ceased after noon when
rain commenced

In the house all day, making
up estimates and such
other matters as I could find
to do - At 8 o'clock started
raining again

SATURDAY, MARCH 13, 1880

Went down with snow
this morning. the snow and
rain ceased but still cloudy,
but during preliminary
down Hoghead reached the mo.
about 4 P.M. when Mr. and
Baugh left for Bush, Mr. and I went
in for night

SUNDAY 14

Cloudy & muddy, in the
house all day

Back troublesome, at
night - rubbed with white
Spts turpentine

MONDAY, MARCH 15, 1880

Morning cloudy with indications of rain. Piers & self out leveling on West side of Hoghead. Boys came on at noon. Rain down in about 3 o'clock P.M.

Back not much trouble to one through the day. Hope the wetting may not make it any worse. Raining hard at night.

TUESDAY 16

Raining this morning. about noon rain ceased but there being still indications did not go out. Cloudy and unpleasant all the remainder of the day.

At work a portion of the day on estimates.

Cut up and the ground very wet and muddy.

WEDNESDAY, MARCH 17, 1880

A little snow last night. This morning cloudy & cold. Commenced location on the West side Hoghead reached the forks at night.

THURSDAY 18

This is the first pleasant day for a long while. Completed the line on West side to the mouth and started down straight - cut.

FRIDAY, MARCH 19, 1880

Not well last night but better in the morning. Raining in the morning. Not out on the work. After dinner out and made a good half days run.

SATURDAY 20

A fine day, run a problem in my interesting the West side. Not having other work till the heels are run at the boys off at 3 PM.

SUNDAY, MARCH 21, 1880

This has been one of the most-springlike days this spring. Out walking in the hills both morning and evening - John Black has at home thinks of taking a contract on the road -

Mr Stewart will be willing to grant the right of way provided a station is located near his place. Clouding up to night.

MONDAY 22

A fine day for work. Put with Leach brought him down from Waterfall to Sta 348, a hard days work, rough ground.

TUESDAY, MARCH 23, 1880

Arrive from Mine a good day for work - Hills & Kelly among Cords - Mc + Baughman came in this morning -

WEDNESDAY 24

This morning went back on line to mouth of Hogs - head, throwing line off the hole from

THURSDAY, MARCH 25, 1880

This morning made connection with line of the last - one division got through at noon and sent Mc + Baughman home - Evening Mc + Kelly commenced work on the division - Col. Kuper came out to see us

FRIDAY 26

Ran this morning with indications of rain, out with the line to make introduction, finished before 11 AM and went on to dinner after which left for Rush washed there before tea time, spent an hour at Kellogg, rain commenced on our way home - Found all well but Enzo who has had an attack of dropsy

SATURDAY, MARCH 27, 1880

At work about the office
on Estimates and profile

SUNDAY 28

Went home all day

MONDAY, MARCH 29, 1880

At the office

TUESDAY 30

At the office

An attack of Lame Back
which makes it very hard
to move about
Advances Writing of Road

WEDNESDAY, MARCH 31, 1880

St. at work on estimates in office
Indication of rain

THURSDAY, APRIL 1

About the office all day

FRIDAY, APRIL 2, 1880

SATURDAY 3

This morning passing
at the office in the forenoon
in the evening out at Coal-
ton to examine route for
tracks for a new line

SUNDAY, APRIL 4, 1880

A Snow last night with
heavy wind & snow. The
brook much swollen this
morning. Not feeling very
well at home all day.

MONDAY 5

At work with John Kelly about
the house & garden all day.

TUESDAY, APRIL 6, 1880

This morning snow in
locations of rain quite cool
light. Morning train for
head of the creek at Waits to
dinner. Evening with a lady
from West-land up to home
back at Waits at night.

WEDNESDAY 7

Up at home in the
morning with Alexander
looking for coal. Run cars
on top of hill. At home
to dinner. Evening continued
work even of 7' on hill.
At home at night.
Very cold.

THURSDAY, APRIL 8, 1880

To day Will. and self un-
der took over tunnel
state quite cool

SATURDAY, APRIL 10, 1880

This morning took the
train for home
In the office all the
afternoon

Mrs Newman buried
to day - J. M. S. Johns
death reported

Made offer of shop &
1/2 lots to Schell for
18.00 half cash

FRIDAY, 9

This morning cold
There being an error in
the ground levels over the
tunnel went over them
a third time found the
second levels correct

Alexander not found
the coat, so concluded
not to make any further
search at present

At night at Ward, very
cold

SUNDAY, 11

Last night - windy & cold
Thermometer in the morn-
ing at +34

At home all day

MONDAY, APRIL 12, 1880

Morning cold but pleasant through the day -

Left by morning train for Straight Creek took along with Kelgon over to Stewart, in time for dinner - Evening camped two miles -

Finds Mrs Black & Anna Lee at Stewart.

TUESDAY 13

Morning much pleasanter than for some days - arriving here this side lunch - finished at night

WEDNESDAY, APRIL 14, 1880

This morning went over my work on work of yesterday. Kelgon sick and went out to house, finished about 10 o'clock - found Kelgon unusually quite well - His father brought out from Mr Gaylord to meet Dr Graves. Mr Means & Sam at intersection - Kelgon went home on his father's horse, he walking with him & carrying tools

THURSDAY 15

This morning very indication of rain

Messrs Means & Gaylord came out with Dr Graves, met them at Hottel - at noon Ed & Charles & Sam came to Stewart decided on station 412 at the junction

Rainy until evening. after supper left for Wards leaving Means & Gaylord at Stewart arrived at Wards after dark Met & tea

FRIDAY, APRIL 16, 1880

Left Grand this morning
a meeting on my way to town
home at noon evening
at work on track for Cinders

SATURDAY, 17th

This morning completing
work on Cinder track. Evening
about office

SUNDAY, APRIL 18, 1880

At home all day

MONDAY 19th

This morning Will and
myself out to meet C & O
Engle to arrange line at Junction
in evening the portions of line
at Stewart

TUESDAY, APRIL 20, 1880

Mr Hillhouse & party not
on ground until afternoon. Left
them as soon as possible on
my return home, at Ward's
all night, took Coal train
in the morning home at noon.
Bids have been coming
in busily, 14 I think.

WEDNESDAY 21

Took Coal train this morning
home at noon.

Bids in, 14 in all. at office
all the evening.

THURSDAY, APRIL 22, 1880

This morning quite cool

FRIDAY 23

About the office figuring on
Bids - afternoon had
Bids to help.

SATURDAY, APRIL 24, 1880

State at work on Bids
Went with me
Rec'd Dispatch this evening
announcing Funch's death
in Washington

SUNDAY 25

Wrote some all day

MONDAY, APRIL 26, 1880

This morning directed
out the Bids on Road under
construction - at the office
all day

TUESDAY 27

WEDNESDAY, APRIL 28, 1880

THURSDAY 29

Rainy Morning but - Clear
up in the afternoon - Heat
for the circus - Jails with packing
about home & the office

FRIDAY, APRIL 30, 1880

Morning cold with pros-
pect of a fair day
Mr. Layton in attendance
with reported attack of paraly-
sis

SATURDAY, MAY 1

At work about home, state
cold

SUNDAY, MAY 2, 1880

Cold last night but warm
in this morning

MONDAY 3

TUESDAY, MAY 4, 1880

WEDNESDAY 5

THURSDAY, MAY 6, 1880

SATURDAY, MAY 8, 1880

Returned this morning from
mine work. Return here but
since Monday changing
line from Hite to other side of
Innuit.

Has been quite warm the
latter part of the week

Thermometer in tower
said to be about $+90^{\circ}$

FRIDAY 7

SUNDAY 9

Trud & stupied all day
mainly about the road

Thermometer at noon
about $+86^{\circ}$ with a breeze
which made the heat bear-
able for a while

MONDAY, MAY 10, 1880

WEDNESDAY, MAY 12, 1880

TUESDAY 11

This morning Will & self
Went out the line

THURSDAY 13

Not having much to do
The Contractor is not being in
Madras came in this morn-
ing

FRIDAY, MAY 14, 1880 ¹³W

SATURDAY ¹⁴T

SUNDAY, MAY 16, 1880

Went to hear Paine at the
park this morning. Will please
write the preaching at the S. M.
Church to hear him again this
evening. Sermon not much

MONDAY ¹⁷T

This morning out on the
line again. Laid out work in
the East-end of the tunnel. Then
there clearing

TUESDAY, MAY 18, 1880

Over at Shaws this morning
lay hand out work on Dec 8

WEDNESDAY 19

A small crew at work
this morning near Dec
400 -

Laid out more work
on Dec 8

THURSDAY, MAY 20, 1880

Another crew of men at work
near 391 - Rip from leaving
7 at Dec 400

Evening left Shaws
and went over to the tunnel
and made up a lot of stakes
a slight shower in the
afternoon at night down
at Ward -

FRIDAY 21

Rip at the tunnel again
laid out more work, drove
at Shaws - Left after dinner
for home -

Set out potato plants in
the dark

SATURDAY, MAY 22, 1886

About office all day
I am letting out potato
plants at night. Not enough
to fill the beds.

SUNDAY 23

To hear Barnes again
this morning

MONDAY, MAY 24, 1886

Wrote a letter out to Shum
at dinner coming on
at-Stewarts. Very warm
but shown west of us
cooled the atmosphere
at night.

Saying out-work on 8

TUESDAY 25

Out on the work this morn-
ing. Gebhart came over
informing me of some num-
ber of my family. My son
left directly for Rich. There
learned of Egnas death
came in on the coal train
all seem calm but H.
He bears his death better
than I expected

Ernest made arrange-
ments for funeral

WEDNESDAY, MAY 26, 1880

Mr. Laid E. in his last
acting place this evening
dinner at the house at
2 o'clock P.M. Mr. Condit
officially - the affec-
tions being out of action
the kindly feelings of
the night before

He getting along as well
as one could expect

THURSDAY 27

He seems more recon-
ciled this morning -
Ashy & his family are
with us

Met Mrs. McCoy at the
River this evening, a well-
come visitor at this partic-
ular time

FRIDAY, MAY 28, 1880

About the office and
unsettled

SATURDAY 29

SUNDAY, MAY 30, 1880

About home all day
Wrote to Selina therefore
noon

MONDAY 31

This morning Mild +
left out on the work again
day
at Huwalle

TUESDAY, JUNE 1, 1880

About the work but being
quite unwell did not do
much work

WEDNESDAY 2

Still quite unwell with
trouble of the bowels

THURSDAY, JUNE 3, 1880

This morning feeling better on the work in morning. Evening left Stewart & Son to Shaws

FRIDAY 4

All night at Shaws. Left in the morning for home

Met morning train home at noon - all well, the baby however having got a pin in her throat yesterday all much frightened. Dr. M. took it out this morning. Evening at home the office

SATURDAY, JUNE 5, 1880

At the office at work on Estimates &c

SUNDAY 6

At home all day -

Mr Brown died this morning of consumption after a lingering illness of two years -

Went to see a woman who had been shot by a woman named at the Chicago Convention a fine show this evening

MONDAY, JUNE 7, 1880

This morning out at
Lantz to dinner, evening
at Stewart's. Laid out
on Sect-7 for Coleman
& Mc Gills

TUESDAY 8

At work on Sect-7

At Linnell in the morn-
ing with Messrs Shan-
ahan, Gunn & Hogan.

They think we will
have trouble at the
East end of Linnell
Quarry-Site?

WEDNESDAY, JUNE 9, 1880

Coleman & Mc Gills at
work at heavy file on 7

At work on Sect 8 com-
pleting the laying out

THURSDAY 10

This morning on Sec
8, Evening will left to
attend the Plans

Went down to Kel-
gore at night

FRIDAY, JUNE 11, 1880 ^W

Took early train for
home - Evening on
the fair grounds

Mrs Mc Coy left for
Wheeling on Wednesday
for Portsmouth

SATURDAY 12 ^T

At the office all day

SUNDAY, JUNE 13, 1880

MONDAY 14 ^T

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SUNDAY, JUNE 27, 1880

MONDAY 28

Tuesday, JUNE 29, 1880 Dec

Sat Dec 30 1881

WEDNESDAY 31

This morning two of the Gibbons children and a Thomas girl found murdered up in the Empire addition.

The girls had probably been violated and after having been killed by blows on the head with an axe their clothes were saturated with oil and set on fire. Bodies much burned when discovered, not able to quench the fire which was burned.

THURSDAY, JULY 1, 1880 Jan 1

The horrible murder has produced a great excitement could the persons be found there would be no safety for them - Much speculation as to who the criminal are some think the father of the Gibbons children who is away & cannot be found

FRIDAY 2

Excitement some quieted, no clue to the criminals - Citizens have employed a detective at home completing my estimate on Brad

SATURDAY, JULY 3, 1880 Jan 2

Upon going down town this morning, the crowds upon the street corners indicated increased excitement.

Learned that the parties had been arrested, a man by the name of Ellis having supplied incriminating letters & tied - who was taken to Cellistown this evening - out to Rush in the evening

SUNDAY 4 Jan 3

No examination of the parties as yet, will probably be examined tomorrow. Snowing all day, the first snow storm of the season; not very cold about the house and office all day - My estimate finished

MONDAY, JULY 5, 1880

Jan 23 at Coaltown
Dinner at Sealeau's
Jan 24 at Ste Fanne 1 Day
Stops with Baule
Jan 25 at home in evening

TUESDAY 6

WEDNESDAY, JULY 7, 1880

THURSDAY 8

FRIDAY, JULY 9, 1880

Monday Feb 18

SATURDAY, JULY 10, 1880

SUNDAY, JULY 11, 1880

MONDAY *February 1-85*

*Left Ashland at 9:55 for O. Vale
on Local Fr 2, S, 13, 5, 10, 21*

TUESDAY, JULY 13, 1880

THURSDAY, JULY 15, 1880

WEDNESDAY 14

FRIDAY 16

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MEMORANDA

Jan 8. Surveying for Stew \$7.00
 " 9 " " Dr Rice Paid 1.50
 " 10 Self & Wife R. I. C. Co 2.50
 " R R work to date 10.00
 " 15 J. Russell Surveying 3.50
 " 24 Self & Wife R. I. C. & M Co 2.50
 " 29 Surveying in Parkland 10.00
 Feb 7 Plan of St. Marys }
 Bridge for County 3

MEMORANDA

MEMORANDA

Whitewash

Put 2 lbs Fallow in 1 pk. Lin.
While Shaking (Outside)

Inside 1 lb Glue to 2 lbs Whiting

MEMORANDA

Shaft E's MEMORANDA

	7.60
Earth per cu	0.16 3/20
Solid Rock	0.61 3/4
Loose	0.33 3/4
Plate	0.33 3/4
Haul av. less 500 ft	0.01 9/10
Tunnel	2.32 3/4
1st Class B.M.	6.65
2nd "	5.22 1/2
Piling in Foundation per lin ft	0.28 1/2
Timber & plank in Foundation	23.75
Box Caisson & retaining walls	2.85
Arch Mass. 1st class	8.55
" " 2nd "	5.70
Coping	9.50
Paving	1.90
Vertical Wall	3.80
Slope	1.90
Brick Work in Tunnels &c	5.46 1/4
Concrete	4.27 1/2
Raprap Wall	1.42 1/2
Hauling Rock over 1/2 mile	47 1/2
per cu ft per cu	
Timber in Tunnel Work per cu	22.80
Cattle guards &c	
Brace Bridges per run	24.70
Brought down Bridge per cu	0.07 3/20

MEMORANDA

Round timber in tunnels 20.90
 Tunnel circular head 15 1/2 x 21 1/4
 = 20.754 fds @ 2.32 3/4 = \$48,305.00
 1.25 cut in = 81.89 fds to 100 ft

Apr 27 Calf in Culbuteano

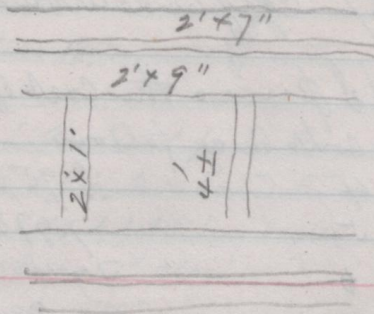
At Mt of Prices the cost of several
 sections will be as follows

No	4	953.16
	5	7.972.84
	6	77.486.46
	7	27.895.23
	8	24.057.03
		13 9 7 4.72

Constructing Est No 10 Red 2
 Price 94¢

MEMORANDA

Table at S. V 12
Lido Double 22 x 8 - 10 1/2 But
Lido Rod 176



5-10-11 10-11-12 10-11-12
10-11-12 10-11-12 10-11-12

MEMORANDA

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CASH ACCOUNT. JANUARY.

Date.		Received.	Paid.
1	Oysters & Corals		80
	Butts, Cigars,		20
	Mary, for Querry		50
2	Pineapple 20, Cigar		20
	Dinner at Pines		17
3	Paper & Bellows		30
	Coffee		55
	Nails & Butts		35
	Butts		05
9	M. Nils Brown		30
	Commercial		05
14	Asbestos Mass 10	2	25
	Shells Corn &	5	35
	Paper & Meat		30
	Coffee Cigar		1 05
15	Oil Medicine		55
	Bread		10
16	Supper		40
	Sugar & Cherry		1 10
	Butt & But		2 85
19	Soap - Cigar		1 05
	Serrano		20
	Cards		05

CASH ACCOUNT. JANUARY.

Date.		Received.	Paid.
20	Wells Ball		4 70
	Paper		05
	Blowing		1 50
21	Sand of Pines		50
22	Steak & Paper		30
	Butcher Knife		20
	Farm Hardware	2 90	
	Pods & 5 ct		23 87
	Salt Peter - Paper		10
23	Tea		20
	Eggs & Bread		1 25
25	Paper		05
27	Halt Lane, Cigar		25
	Sugar		1 00
28	Ants & Cigar		30
	Corals		10
29	Lunch & Cigar		30
	Whittam R.R.	7 00	
	John Alley	1 00	
30	Paint		2 00
	H		3 00
	Cough Medicine		25
	Wash		50

CASH ACCOUNT. FEBRUARY.

Date.		Received.	Paid.
2	Irish Jams		2 00
4	Oil & Cigar		25
5	Cigar & Nuts		10
	Rice & 6 Parton		75
	Hay		6 45
	Seaton & C		45
7	Coffee Brown Shick		1 00
	Paper & Cigar		10
	Cigar & Sugar		1 05
	Dray Ind		10
9	Dr Rice	1 00	
14	Dr B & B. P. Co	30 00	
	this about 10 over		
	Joe Hutton		8 35
	Lape		50
	Manner		8 00
	Oil & Meat		50
	Pain Kellen Cigar		35
4-11	Pine Cider		25
			10
			0 2

CASH ACCOUNT. FEBRUARY.

Date.	Received.	Paid.
6	Boys on Board	11 00
"	Butter on Hay	7 50
"	Sale for Shovel	50
"	Board Money of H	20 00
Sum of Stables of Traps In frame 2070 Feb 6 12 42 7x10 not used 900 2 Horse 960 5 76 18 18		
Feb 21 30 - 6 * 18 7.50		
Mr. Butte Summ 80 pieces 16x2x4 of Good = 854 12 " 16x2x4 of Ref = 128 in all 982		

CASH ACCOUNT. MARCH.

CASH ACCOUNT. 30 MARCH.

[illegible]

CASH ACCOUNT. APRIL.

Date.		Received.	Paid.
1	of B.R. Co	50 00	
	Way of Hattam		9 25
	Rmfr & Pcas		45
3	Mas acct		2 25
	Paper		05
	Lug in & Loffen	Pcas	3 70
5	John Kelly		2 50
	Belt		25
10	Pink N. Cigar.		30
	Lodge dues		3 00
16	Newman Clothing		14 50
	Pozum in full		12 47
15	Wm. H. Co. Bfg. Buge		50
	Acct mnt		2 30

CASH ACCOUNT. APRIL.

Date.	Received.	Paid.
10 10	10 10	10 10
11 11	11 11	11 11
12 12	12 12	12 12
13 13	13 13	13 13
14 14	14 14	14 14
15 15	15 15	15 15
16 16	16 16	16 16
17 17	17 17	17 17
18 18	18 18	18 18
19 19	19 19	19 19
20 20	20 20	20 20
21 21	21 21	21 21
22 22	22 22	22 22
23 23	23 23	23 23
24 24	24 24	24 24
25 25	25 25	25 25
26 26	26 26	26 26
27 27	27 27	27 27
28 28	28 28	28 28
29 29	29 29	29 29
30 30	30 30	30 30
31 31	31 31	31 31
32 32	32 32	32 32
33 33	33 33	33 33
34 34	34 34	34 34
35 35	35 35	35 35
36 36	36 36	36 36
37 37	37 37	37 37
38 38	38 38	38 38
39 39	39 39	39 39
40 40	40 40	40 40
41 41	41 41	41 41
42 42	42 42	42 42
43 43	43 43	43 43
44 44	44 44	44 44
45 45	45 45	45 45
46 46	46 46	46 46
47 47	47 47	47 47
48 48	48 48	48 48
49 49	49 49	49 49
50 50	50 50	50 50
51 51	51 51	51 51
52 52	52 52	52 52
53 53	53 53	53 53
54 54	54 54	54 54
55 55	55 55	55 55
56 56	56 56	56 56
57 57	57 57	57 57
58 58	58 58	58 58
59 59	59 59	59 59
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62 62	62 62	62 62
63 63	63 63	63 63
64 64	64 64	64 64
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66 66	66 66	66 66
67 67	67 67	67 67
68 68	68 68	68 68
69 69	69 69	69 69
70 70	70 70	70 70
71 71	71 71	71 71
72 72	72 72	72 72
73 73	73 73	73 73
74 74	74 74	74 74
75 75	75 75	75 75
76 76	76 76	76 76
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89 89	89 89	89 89
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91 91	91 91	91 91
92 92	92 92	92 92
93 93	93 93	93 93
94 94	94 94	94 94
95 95	95 95	95 95
96 96	96 96	96 96
97 97	97 97	97 97
98 98	98 98	98 98
99 99	99 99	99 99
100 100	100 100	100 100

CASH ACCOUNT. MAY.

Date.	Received.	Paid.
1	Cash of B N	50 00
	Newman for Coat	7 00
	Hauling Man }	1 50
	by Galleher }	
	Smith work on spikes	25
	Black for Bools	5 25
28	Mud Lake	33 00
	Newman Clothes	11 50
	Lypton	3 00
	Cash of Co	100 00

CASH ACCOUNT. MAY.

Date.	Received.	Paid.
10/10	10/10	10/10
10/11	10/11	10/11
10/12	10/12	10/12
10/13	10/13	10/13
10/14	10/14	10/14
10/15	10/15	10/15
10/16	10/16	10/16
10/17	10/17	10/17
10/18	10/18	10/18
10/19	10/19	10/19
10/20	10/20	10/20
10/21	10/21	10/21
10/22	10/22	10/22
10/23	10/23	10/23
10/24	10/24	10/24
10/25	10/25	10/25
10/26	10/26	10/26
10/27	10/27	10/27
10/28	10/28	10/28
10/29	10/29	10/29
10/30	10/30	10/30
10/31	10/31	10/31

CASH ACCOUNT. JUNE.

[illegible]

CASH ACCOUNT. JUNE.

CASH ACCOUNT. JULY.

Date.	Part	Received.	Received.	Paid.
2	cash of Co			
	Shaw's 4 1/2 Dps			
	Stewart's 11 "			
	M'Kelley 1			

CASH ACCOUNT. JULY.

CASH ACCOUNT. 40 SEPTEMBER.

[illegible]

CASH ACCOUNT. SEPTEMBER.

CASH ACCOUNT. OCTOBER.

Date.	Received.	Paid.
Cash of Co	75.00	
Wilson's Bill		22.20
Mumman's Drifts		3.50
October 1881		
13 Tickets to Columbus		7.60
14 St Charles Bill		3.00
Tickets Milwaukee		3.70
15 Buggy Hire		2.00
16 Hotel St. John order		9.00
N.Y. to Lancaster		1.30
St. Charles		1.90
C to Ashland		7.00
		55.50
Sum and due	25	35.75
Schuyler Paid		15.20
Sum and due	25	15.45
Return to Co & Credit from		on 2/6

CASH ACCOUNT. OCTOBER.

[illegible]

CASH ACCOUNT. NOVEMBER.

Date.		Received.	Paid.
17	Cash of Co	100 00	
	Bal on Hay		1 00
	Bungroff Blue		2 25
	Polatsko		2 00

January 1 1881

10 Cash of Co 50 00

CASH ACCOUNT. NOVEMBER.

Date.		Received.	Paid.
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BILLS PAYABLE. IN DECEMBER.

Date.	NAME.	Dollars.	Cts.
-------	-------	----------	------

Monday Jan 16 - 1882 to
be at Smith in the morning to
Meet Mr Kirk

Sallye's
100 to Bbl
1 Drachon to 5 kally

RECEIVABLE.

MEMORANDA.

Date.	Dollars.	Cts.
-------	----------	------

1875 Sept-15
Summary Road from
Bates to Eastham

6 day Runway 12 00

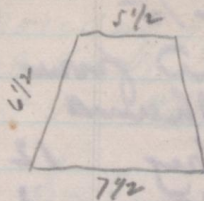
Making Plot 2 00

July 1 Work on
Hood until 12 Aug 30 00

MEMORANDA.

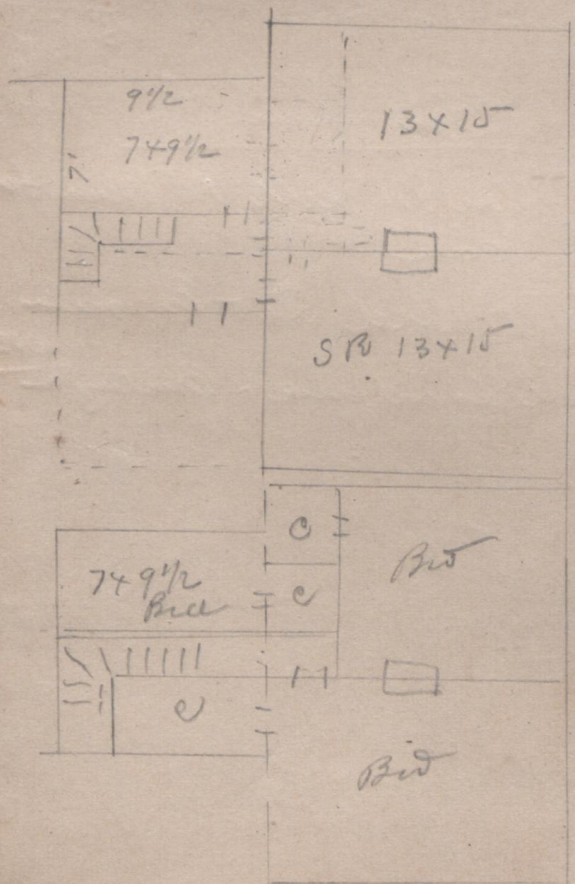
Date.

Dollars. Cts.



$3\frac{1}{2}$ $\frac{3}{4}$ in. $\frac{1}{2}$ in. $\frac{1}{2}$ in.
 4" R.R. W.
 Comp. Haul

M. S. Sime Engineer
 E. S. + B. S. R. R.



Boyd Co Dr 1875

Road to Summit Oct 12 = 5/12 p day 10

Plating & Ript 5

Jan 1878
Hood's Cuts 30

79 Sept 12 Bates Road 5
\$ 50.00

Alex Ballance A 15

John McLeish McBrum for
can

Mr Aid Geo Engman

Volado Dr. Phoe & Burlington ^{AK}

sent to

J. J. Watrous

Cincinnati Ohio

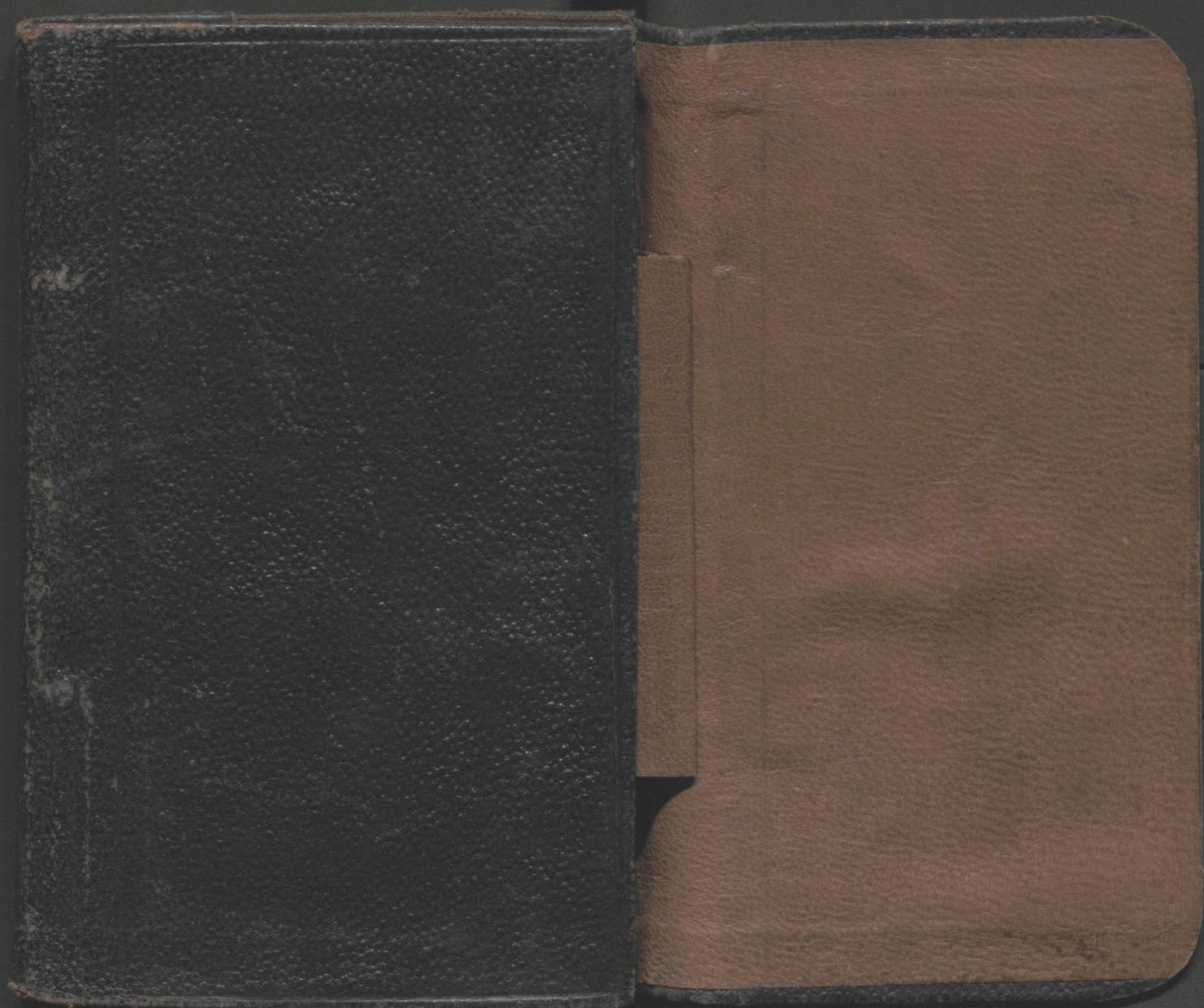
for Saw

On Table 7 of addition
of 3 mm masons





Michaelis Hians



✓ 132

M. J. Hinton

Ashland

189

EXCELSIOR

DIARY

for

1890





CALENDAR FOR 1890.

1890								1890							
	SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.		SUN.	MON.	TUE.	WED.	THU.	FRI.	SAT.
JAN.	..	5	6	7	8	9	10	JULY.	..	6	7	8	9	10	11
	12	13	14	15	16	17	18		13	14	15	16	17	18	19
	19	20	21	22	23	24	25		20	21	22	23	24	25	26
	26	27	28	29	30	31	..		27	28	29	30	31	..	..
FEB.	..	2	3	4	5	6	7	AUG.	..	3	4	5	6	7	8
	9	10	11	12	13	14	15		10	11	12	13	14	15	16
	16	17	18	19	20	21	22		17	18	19	20	21	22	23
	23	24	25	26	27	28	..		24	25	26	27	28	29	30
MARCH.	..	2	3	4	5	6	7	SEPT.	31	..	1	2	3	4	5
	9	10	11	12	13	14	15		7	8	9	10	11	12	13
	16	17	18	19	20	21	22		14	15	16	17	18	19	20
	23	24	25	26	27	28	29		21	22	23	24	25	26	27
	30	31	..	..	..	..	..		28	29	30	..	..	..	..
APRIL.	..	6	7	8	9	10	11	OCT.	..	5	6	7	8	9	10
	13	14	15	16	17	18	19		12	13	14	15	16	17	18
	20	21	22	23	24	25	26		19	20	21	22	23	24	25
	27	28	29	30	..	..	..		26	27	28	29	30	31	..
MAY.	..	4	5	6	7	8	9	NOV.	..	2	3	4	5	6	7
	11	12	13	14	15	16	17		9	10	11	12	13	14	15
	18	19	20	21	22	23	24		16	17	18	19	20	21	22
	25	26	27	28	29	30	31		23	24	25	26	27	28	29
	..	..	..	..	..	..	..		30	..	..	..	..	..	..
JUNE.	1	2	3	4	5	6	7	DEC.	..	1	2	3	4	5	6
	8	9	10	11	12	13	14		7	8	9	10	11	12	13
	15	16	17	18	19	20	21		14	15	16	17	18	19	20
	22	23	24	25	26	27	28		21	22	23	24	25	26	27
	29	30	..	..	..	..	..		28	29	30	31	..	..	..



ECLIPSES, 1890.

There will be three Eclipses this year, two of the Sun and one of the Moon, and a Lunar Appulse, as follows:

I. A Lunar Appulse, June 3. The nearest approach of the Moon to the Earth's shadow will occur at 11 h. 53 m. morn., Washington mean time. The uncertainty of atmospheric conditions renders it impossible to say whether the Moon will be seen to enter the Earth's shadow or not.

II. An Annular Eclipse of the Sun, June 17, invisible in North America, visible throughout Europe.

III. A Partial Eclipse of the Moon, November 26, invisible in the United States.

IV. A Central Eclipse of the Sun, December 12, visible in the Southern Pacific Ocean.

MORNING STARS.

MERCURY, from Jan. 29 to April 9, May 30 to July 22, and Sept. 29 to Nov. 16. VENUS, until Feb. 18, and after Dec. 3. MARS, until Feb. 9. JUPITER, from Jan. 10 to May 1. SATURN, from Aug. 10 to Dec. 8. URANUS, until Jan. 16 and after Oct. 20, and NEPTUNE, from May 25 to Aug. 30.

EVENING STARS.

MERCURY, until Jan. 29, and from April 9 to May 30, July 22 to Sept. 29, and after Nov. 16. VENUS, from Feb. 18 to Dec. 3. MARS, after Feb. 9. JUPITER until Jan. 10, and after May 1. SATURN, until Aug. 30, and after Dec. 8. URANUS, from Jan. 16 to October 20, and NEPTUNE, until May 25, and after Aug. 30.

MOVABLE FEASTS.

Septuagesima Sunday..Feb. 2	Easter Sunday .....Apr. 6
Sexagesima " " 9	Low " 13
Quinquagesima " " 16	Rogation "May 11
Ash-Wednesday 19	Ascension Thursday.. " 15
Quadragesima Sun.... " 23	Whit-Sunday (Pent.). " 25
Mid-Lent Sunday.....Mar. 16	Trinity Sunday.....June 1
Palm Sunday " 30	Corpus Christi..... " 5
Good Friday.....Apr. 4	Advent Sunday .....Nov. 30

CHRONOLOGICAL CYCLES.

Dominical Letter..... E	Roman Indiction..... 3
Epact (Moon's Age, Jan. 1) 9	Julian Period.....6603
Lunar Cycle (Golden No.) 10	Dionysian Period..... 219
Solar Cycle 23	Jewish Lunar Cycle..... 7

HEAVY-FACE Figures in these Almanac pages indicate time from 6 P. M. to 6 A. M.



MOON'S PHASES.		EASTERN TIME.	CENTRAL TIME.
Full Moon.....	6 d.	0 h. 37 m.	11 h. 37 m.
Last Quarter....	14 d.	1 h. 33 m.	0 h. 33 m.
New Moon.....	20 d.	6 h. 49 m.	5 h. 49 m.
First Quarter...	27 d.	3 h. 16 m.	2 h. 16 m.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon sets.	H.W. N. Y.			Sun rises.	Sun sets.	Moon sets.	H.W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.			Mean time.	Mean time.	Mean time.	Mean time.
7 25	4 43	3 8	4 33	1	We	7 30	4 38	3 10	7 48
7 25	4 44	4 8	5 25	2	Th.	7 30	4 39	4 12	8 38
7 25	4 45	5 7	6 15	3	Fr.	7 30	4 40	5 11	9 29
7 25	4 46	6 4	7 2	4	Sa.	7 30	4 41	6 9	10 16
7 25	4 47	rises.	7 44	5	S.	7 30	4 42	rises.	11 1
7 25	4 48	5 16	8 25	6	Mo.	7 29	4 43	5 11	11 42
7 25	4 49	6 12	9 10	7	Tu.	7 29	4 44	6 7	ev. 23
7 24	4 50	7 9	9 51	8	We	7 29	4 45	7 5	1 28
7 24	4 51	8 9	10 30	9	Th.	7 29	4 46	8 6	1 46
7 24	4 52	9 9	11 9	10	Fr.	7 29	4 47	9 6	2 26
7 24	4 53	10 9	11 51	11	Sa.	7 29	4 48	10 7	3 6
7 23	4 54	11 10	ev. 34	12	S.	7 28	4 50	11 10	3 48
7 23	4 55	morn.	1 22	13	Mo.	7 28	4 51	morn.	4 35
7 23	4 56	13	2 13	14	Tu.	7 28	4 52	14	5 27
7 22	4 57	1 19	3 9	15	We	7 27	4 53	1 21	6 23
7 22	4 59	2 29	4 10	16	Th.	7 27	4 54	2 33	7 25
7 21	5 0	3 42	5 16	17	Fr.	7 26	4 55	3 46	8 31
7 21	5 1	4 55	6 22	18	Sa.	7 26	4 56	5 0	9 36
7 21	5 2	6 4	7 23	19	S.	7 25	4 58	6 9	10 38
7 20	5 3	7 9	8 16	20	Mo.	7 24	4 59	7 15	11 34
7 19	5 4	sets.	9 15	21	Tu.	7 24	5 0	sets.	morn.
7 18	5 5	7 19	10 5	22	We	9 23	5 1	7 16	28
7 17	5 7	8 34	10 50	23	Th.	7 22	5 3	8 32	1 19
7 17	5 8	9 45	11 38	24	Fr.	7 22	5 4	9 44	2 8
7 16	5 9	10 52	morn.	25	Sa.	7 21	5 5	10 52	2 54
7 16	5 10	11 57	26	26	S.	7 20	5 6	11 59	3 40
7 15	5 11	morn.	1 15	27	Mo.	7 19	5 8	morn.	4 28
7 14	5 13	59	2 4	28	Tu.	7 18	5 9	1 2	5 18
7 13	5 14	2 0	2 58	29	We	7 17	5 10	2 4	6 12
7 12	5 15	3 0	3 54	30	Th.	7 16	5 12	3 5	7 9
7 12	5 16	3 58	4 51	31	Fr.	7 15	5 13	4 3	8 7



MOON'S PHASES.				EASTERN TIME.		CENTRAL TIME.	
Full Moon.....	4 d.	8 h. 13 m.	7 h. 13 m.				
Last Quarter....	12 d.	1 h. 51 m.	0 h. 51 m.				
New Moon.....	19 d.	5 h. 28 m.	4 h. 28 m.				
First Quarter....	26 d.	9 h. 6 m.	8 h. 6 m.				

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.					
Sun rises.	Sun sets.	Moon sets.	H.W. N. Y.	D. OF MO.	D. OF WK.	Sun rises.	Sun sets.	Moon sets.	H.W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.			Mean time.	Mean time.	Mean time.	Mean time.
7 11	5 18	4 54	5 46	1	Sa.	7 14	5 14	4 59	9 1
7 10	5 19	5 44	6 37	2	S.	7 13	5 15	5 50	9 59
7 9	5 20	6 30	7 23	3	Mo.	7 12	5 16	6 35	10 38
7 7	5 21	rises.	8 3	4	Tu.	7 11	5 18	rises.	11 20
7 6	5 22	6 2	8 45	5	We	7 10	5 19	5 59	12 0
7 5	5 23	7 2	9 25	6	Th.	7 9	5 21	7 0	ev. 39
7 4	5 25	8 2	10 3	7	Fr.	7 8	5 22	8 0	1 17
7 3	5 26	9 3	10 38	8	Sa.	7 6	5 23	9 3	1 56
7 2	5 27	10 6	11 16	9	S.	7 5	5 24	10 6	2 34
7 1	5 28	11 10	12 0	10	Mo.	7 4	5 25	11 12	3 15
7 0	5 30	morn.	ev. 47	11	Tu.	7 2	5 26	morn.	4 0
6 58	5 31	17	1 41	12	We	7 1	5 28	19	4 54
6 57	5 32	1 25	2 40	13	Th.	7 0	5 29	1 29	5 54
6 56	5 34	2 35	3 45	14	Fr.	6 59	5 30	2 39	7 3
6 55	5 35	3 45	4 59	15	Sa.	6 57	5 32	3 51	8 15
6 53	5 36	4 48	6 9	16	S.	6 56	5 33	4 54	9 23
6 52	5 37	5 51	7 10	17	Mo.	6 54	5 35	5 56	10 26
6 51	5 39	6 37	8 1	18	Tu.	6 53	5 36	6 42	11 19
6 49	5 40	sets.	8 55	19	We	6 52	5 38	sets.	morn.
6 48	5 41	7 23	9 41	20	Th.	6 50	5 39	7 21	10
6 46	5 43	8 32	10 25	21	Fr.	6 48	5 40	8 32	55
6 45	5 44	9 40	11 4	22	Sa.	6 47	5 42	9 41	1 40
6 44	5 45	10 44	11 49	23	S.	6 45	5 43	10 46	2 21
6 42	5 46	11 48	morn.	24	Mo.	6 44	5 45	11 51	3 4
6 41	5 48	morn.	36	25	Tu.	6 42	5 46	morn.	3 50
6 39	5 49	51	1 27	26	We	6 41	5 47	55	4 40
6 38	5 50	1 50	2 21	27	Th.	6 39	5 49	1 55	5 35
6 37	5 51	2 47	3 22	28	Fr.	6 38	5 50	2 53	6 36



MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.
Full Moon.....	6 d.	1 h. 47 m.		0 h. 47 m.
Last Quarter	13 d.	11 h. 5 m.		10 h. 5 m.
New Moon.....	20 d.	4 h. 1 m.		3 h. 1 m.
First Quarter ...	28 d.	4 h. 32 m.		3 h. 32 m.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon sets.	H.W. N. Y.			Sun rises.	Sun sets.	Moon sets.	H.W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.			Mean time.	Mean time.	Mean time.	Mean time.
6 35	5 53	3 40	4 20	1	Sa.	6 36	5 51	3 45	7 35
6 34	5 53	4 28	5 16	2	S.	6 35	5 52	4 32	8 31
6 32	5 54	5 9	6 9	3	Mo.	6 33	5 53	5 14	9 23
6 30	5 55	5 46	6 57	4	Tu.	6 31	5 54	5 51	10 11
6 29	5 56	6 18	7 37	5	We	6 30	5 55	6 21	10 54
6 27	5 57	rises.	8 14	6	Th.	6 28	5 56	rises.	11 32
6 25	5 58	6 57	8 55	7	Fr.	6 26	5 57	6 56	ev. 9
6 24	5 59	7 59	9 34	8	Sa.	6 25	5 58	7 59	48
6 22	6 0	9 2	10 13	9	S.	6 23	5 59	9 4	1 25
6 20	6 1	10 9	10 48	10	Mo.	6 21	6 0	10 11	2 6
6 19	6 2	11 17	11 32	11	Tu.	6 20	6 2	11 21	2 48
6 17	6 3	morn.	ev. 23	12	We	6 18	6 3	morn.	3 37
6 16	6 4	26	1 21	13	Th.	6 16	6 4	30	4 33
6 14	6 5	1 36	2 28	14	Fr.	6 14	6 5	1 41	5 39
6 12	6 6	2 41	3 40	15	Sa.	6 13	6 6	2 46	6 51
6 11	6 8	3 39	4 51	16	S.	6 11	6 7	3 44	8 7
6 9	6 9	4 28	5 58	17	Mo.	6 9	6 9	4 32	9 12
6 7	6 10	5 12	6 56	18	Tu.	6 7	6 10	5 16	10 10
6 6	6 11	5 47	7 44	19	We	6 6	6 11	5 49	11 1
6 4	6 12	sets.	8 27	20	Th.	6 4	6 12	sets.	11 44
6 2	6 13	7 16	9 12	21	Fr.	6 2	6 13	7 17	morn.
6 1	6 14	8 25	9 54	22	Sa.	6 0	6 14	8 27	25
5 59	6 15	9 31	10 33	23	S.	5 59	6 15	9 34	1 8
5 58	6 16	10 35	11 15	24	Mo.	5 57	6 16	10 38	1 49
5 56	6 17	11 38	morn.	25	Tu.	5 55	6 17	11 43	2 32
5 54	6 18	morn.	2	26	We	5 53	6 18	morn.	3 17
5 52	6 19	37	53	27	Th.	5 52	6 19	43	4 6
5 51	6 20	1 32	1 47	28	Fr.	5 50	6 20	1 37	5 0
5 49	6 21	2 22	2 47	29	Sa.	5 48	6 21	2 27	5 58
5 47	6 22	3 5	3 45	30	S.	5 46	6 22	3 11	7 0
5 45	6 23	3 45	4 42	31	Mo.	5 44	6 23	3 50	7 57



MOON'S PHASES.		EASTERN TIME.	CENTRAL TIME.
Full Moon.....	5 d.	4 h. 24 m.	3 h. 24 m.
Last Quarter....	12 d.	5 h. 53 m.	4 h. 53 m.
New Moon.....	19 d.	3 h. 5 m.	2 h. 5 m.
First Quarter...	26 d.	11 h. 51 m.	10 h. 51 m.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon sets.	H.W. N. Y.			Sun rises.	Sun sets.	Moon sets.	H.W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.			Mean time.	Mean time.	Mean time.	Mean time.
5 44	6 24	4 18	5 35	1	Tu.	5 43	6 25	4 22	8 50
5 42	6 26	4 49	6 24	2	We	5 41	6 27	4 52	9 38
5 41	6 27	5 18	7 8	3	Th.	5 40	6 28	5 20	10 22
5 39	6 28	rises.	7 46	4	Fr.	5 38	6 29	rises.	11 3
5 37	6 29	6 52	8 22	5	Sa.	5 36	6 30	6 53	11 40
5 36	6 30	7 59	9 4	6	S.	5 35	6 31	8 1	ev. 18
5 34	6 31	9 9	9 46	7	Mo.	5 33	6 32	9 12	1 0
5 33	6 32	10 18	10 26	8	Tu.	5 31	6 33	10 23	1 42
5 31	6 33	11 28	11 14	9	We	5 30	6 34	11 33	2 31
5 30	6 34	morn.	ev. 10	10	Th.	5 28	6 36	morn.	3 25
5 28	6 35	35	1 12	11	Fr.	5 26	6 37	40	4 25
5 26	6 36	1 36	2 20	12	Sa.	5 25	6 38	1 41	5 34
5 25	6 37	2 27	3 31	13	S.	5 23	6 39	2 32	6 45
5 24	6 38	3 10	4 39	14	Mo.	5 21	6 40	3 14	7 54
5 22	6 39	3 47	5 41	15	Tu.	5 20	6 41	3 49	8 56
5 20	6 40	4 18	6 34	16	We	5 18	6 42	4 20	9 48
5 19	6 41	4 47	7 20	17	Th.	5 16	6 43	4 48	10 35
5 17	6 42	5 15	8 1	18	Fr.	5 15	6 45	5 15	11 19
5 16	6 43	sets.	8 41	19	Sa.	5 13	6 46	sets.	11 59
5 14	6 44	8 18	9 23	20	S.	5 12	6 47	8 22	morn.
5 13	6 45	9 23	10 6	21	Mo.	5 10	6 48	9 27	37
5 11	6 46	10 36	10 47	22	Tu.	5 9	6 49	10 41	1 20
5 10	6 47	11 23	11 32	23	We	5 7	6 50	11 28	2 5
5 8	6 48	morn.	morn.	24	Th.	5 6	6 51	morn.	2 48
5 7	6 49	16	23	25	Fr.	5 4	6 52	22	3 37
5 6	6 50	1 3	1 16	26	Sa.	5 3	6 53	1 9	4 29
5 4	6 51	1 43	2 12	27	S.	5 1	6 55	1 48	5 26
5 3	6 52	2 19	3 8	28	Mo.	5 0	6 56	2 23	6 22
5 2	6 53	2 50	4 3	29	Tu.	4 58	6 57	2 54	7 28
5 0	6 55	3 17	4 54	30	We	4 57	6 58	3 20	8 10



MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.	
Full Moon.....	4 d.	4 h.	9 m.	3 h.	9 m.
Last Quarter....	11 d.	11 h.	21 m.	10 h.	21 m.
New Moon.....	18 d.	3 h.	18 m.	2 h.	18 m.
First Quarter...	26 d.	5 h.	34 m.	4 h.	34 m.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon sets.	H.W. N. Y.			Sun rises.	Sun sets.	Moon sets.	H.W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.			Mean time.	Mean time.	Mean time.	Mean time.
4 59	6 56	3 44	5 44	1	Th.	4 56	7 0	3 45	8 59
4 58	6 57	4 11	6 30	2	Fr.	4 54	7 1	4 11	9 44
4 56	6 58	4 35	7 12	3	Sa.	4 53	7 2	4 33	10 27
4 55	6 59	rises.	7 53	4	S.	4 52	7 3	rises.	11 11
4 54	7 0	8 4	8 37	5	Mo.	4 51	7 4	8 8	11 54
4 53	7 1	9 16	9 24	6	Tu.	4 49	7 5	9 21	ev. 38
4 52	7 2	10 28	10 12	7	We	4 48	7 6	10 33	1 27
4 51	7 3	11 31	11 4	8	Th.	4 47	7 7	11 37	2 21
4 49	7 4	morn.	ev. 4	9	Fr.	4 46	7 8	morn.	3 19
4 48	7 5	25	1 7	10	Sa.	4 44	7 9	31	4 20
4 47	7 6	1 12	2 12	11	S.	4 43	7 10	1 16	5 26
4 46	7 7	1 49	3 15	12	Mo.	4 42	7 11	1 52	6 29
4 45	7 8	2 22	4 18	13	Tu.	4 41	7 12	2 24	7 33
4 44	7 9	2 51	5 14	14	We	4 40	7 13	2 52	8 39
4 43	7 10	3 18	6 5	15	Th.	4 39	7 14	3 18	9 19
4 42	7 11	3 44	6 51	16	Fr.	4 38	7 15	3 42	10 5
4 41	7 12	4 12	7 35	17	Sa.	4 37	7 16	4 10	10 51
4 40	7 13	4 43	8 12	18	S.	4 36	7 17	4 40	11 30
4 39	7 14	sets.	8 57	19	Mo.	4 35	7 18	sets.	morn.
4 39	7 15	9 12	9 41	20	Tu.	4 34	7 19	9 17	11
4 38	7 16	10 7	10 25	21	We	4 33	7 20	10 13	55
4 37	7 17	10 57	11 7	22	Th.	4 32	7 21	11 3	1 40
4 36	7 18	11 41	11 57	23	Fr.	4 31	7 22	11 46	2 24
4 36	7 19	morn.	morn.	24	Sa.	4 31	7 23	morn.	3 9
4 35	7 20	18	42	25	S.	4 30	7 24	23	3 56
4 34	7 20	50	1 32	26	Mo.	4 29	7 25	53	4 45
4 34	7 21	1 19	2 23	27	Tu.	4 29	7 26	1 22	5 37
4 33	7 22	1 45	3 15	28	We	4 28	7 27	1 47	6 29
4 32	7 23	2 11	4 7	29	Th.	4 27	7 28	2 11	7 25
4 32	7 23	2 35	4 58	30	Fr.	4 27	7 28	2 34	8 14
4 31	7 24	3 2	5 50	31	Sa.	4 26	7 29	3 1	9 5



MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.
Full Moon.....	3 d.	1 h.	34 m.	0 h. 34 m.
Last Quarter....	9 d.	4 h.	50 m.	3 h. 50 m.
New Moon.....	17 d.	4 h.	58 m.	3 h. 58 m.
First Quarter....	25 d.	8 h.	53 m.	7 h. 53 m.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon sets.	H.W. N. Y.			Sun rises.	Sun sets.	Moon sets.	H. W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.			Mean time.	Mean time.	Mean time.	Mean time.
4 31	7 24	3 30	6 40	1	S.	4 25	7 30	3 28	9 54
4 30	7 25	4 6	7 29	2	Mo.	4 25	7 30	4 7	10 45
4 30	7 26	rises.	8 15	3	Tu.	4 25	7 31	rises.	11 33
4 30	7 26	9 18	9 11	4	We	4 24	7 32	9 24	ev. 24
4 29	7 27	10 21	10 5	5	Th.	4 24	7 32	10 26	1 19
4 29	7 28	11 10	10 58	6	Fr.	4 24	7 33	11 15	2 16
4 29	7 28	11 51	11 55	7	Sa.	4 23	7 33	11 55	3 10
4 29	7 29	morn.	ev. 53	8	S.	4 23	7 34	morn.	4 6
4 28	7 30	25	1 52	9	Mo.	4 23	7 35	28	5 6
4 28	7 30	55	2 50	10	Tu.	4 23	7 36	57	6 4
4 28	7 31	1 2	3 46	11	We	4 22	7 36	1 21	7 1
4 28	7 31	1 48	4 40	12	Th.	4 22	7 37	1 47	7 55
4 28	7 32	2 15	5 33	13	Fr.	4 22	7 37	2 13	8 48
4 28	7 32	2 45	6 23	14	Sa.	4 22	7 38	2 42	9 37
4 28	7 32	3 16	7 10	15	S.	4 22	7 38	3 12	10 24
4 28	7 33	3 52	7 50	16	Mo.	4 22	7 38	3 48	11 8
4 28	7 33	sets.	8 35	17	Tu.	4 22	7 39	sets.	11 52
4 28	7 33	8 51	9 21	18	We	4 22	7 39	8 57	morn.
4 28	7 34	9 38	10 3	19	Th.	4 22	7 39	9 43	3 2
4 29	7 34	10 18	10 42	20	Fr.	4 23	7 40	10 22	1 17
4 29	7 34	10 52	11 24	21	Sa.	4 23	7 40	10 56	2 0
4 29	7 34	11 21	morn.	22	S.	4 23	7 40	11 24	2 42
4 29	7 34	11 47	9	23	Mo.	4 23	7 40	11 49	3 24
4 29	7 34	morn.	53	24	Tu.	4 23	7 40	morn.	4 6
4 30	7 35	13	1 40	25	We	4 24	7 41	15	4 53
4 30	7 35	37	2 30	26	Th.	4 24	7 41	37	5 44
4 30	7 35	1 2	3 22	27	Fr.	4 24	7 41	1 1	6 36
4 29	7 35	1 28	4 17	28	Sa.	4 25	7 40	1 26	7 32
4 29	7 35	1 59	5 13	29	S.	4 25	7 40	1 55	8 28
4 29	7 35	2 36	6 11	30	Mo.	4 26	7 40	2 32	9 25



MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.
Full Moon.....	2 d.	9 h. 23 m.		8 h. 23 m.
Last Quarter	8 d.	11 h. 43 m.		10 h. 43 m.
New Moon.....	16 d.	7 h. 49 m.		6 h. 49 m.
First Quarter ...	24 d.	9 h. 44 m.		8 h. 44 m.
Full Moon.....	31 d.	4 h. 24 m.		3 h. 24 m.

New-York City,
Phila., Conn., New Jersey,
Penn., O., Ind., & Ill.

Boston, New England,
New-York, Mich., Wis.,
Iowa, and Oregon.

Sun rises.	Sun sets.	Moon sets.	H.W. N. Y.	D. OF MO.	D. OF WK.	Sun rises.	Sun sets.	Moon sets.	H.W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.			Mean time.	Mean time.	Mean time.	Mean time.
4 32	7 35	3 23	7 10	1	Tu.	4 26	7 40	3 17	10 24
4 32	7 35	rises.	8 1	2	We	4 26	7 40	rises.	11 19
4 33	7 34	9 2	9 1	3	Th.	4 27	7 40	9 7	ev. 15
4 33	7 34	9 46	9 57	4	Fr.	4 28	7 40	9 50	1 11
4 34	7 34	10 26	10 46	5	Sa.	4 29	7 39	10 29	2 4
4 35	7 34	10 58	11 38	6	S.	4 29	7 39	11 0	2 54
4 35	7 33	11 26	ev. 30	7	Mo.	4 30	7 39	11 27	3 44
4 36	7 33	11 53	1 23	8	Tu.	4 30	7 38	11 53	4 36
4 37	7 33	morn.	2 16	9	We	4 31	7 38	morn.	5 30
4 37	7 32	21	3 11	10	Th.	4 32	7 38	19	6 25
4 38	7 32	47	4 6	11	Fr.	4 33	7 37	44	7 21
4 39	7 31	1 18	5 0	12	Sa.	4 33	7 37	1 14	8 16
4 39	7 31	1 53	5 55	13	S.	4 34	7 36	1 48	9 10
4 40	7 30	2 33	6 46	14	Mo.	4 35	7 36	2 27	10 0
4 41	7 30	3 18	7 33	15	Tu.	4 36	7 35	3 12	10 49
4 42	7 29	4 7	8 12	16	We	4 37	7 34	4 1	11 32
4 43	7 29	sets.	8 57	17	Th.	4 37	7 34	sets.	morn.
4 44	7 28	8 52	9 39	18	Fr.	4 38	7 33	8 57	11
4 44	7 27	9 23	10 17	19	Sa.	4 39	7 32	9 26	53
4 45	7 26	9 51	10 53	20	S.	4 40	7 31	9 53	1 32
4 46	7 26	10 16	11 32	21	Mo.	4 41	7 30	10 18	2 11
4 47	7 25	10 40	morn.	22	Tu.	4 42	7 30	10 41	2 48
4 48	7 24	11 5	13	23	We	4 43	7 29	11 4	3 28
4 48	7 23	11 29	57	24	Th.	4 44	7 28	11 27	4 10
4 49	7 23	11 57	1 45	25	Fr.	4 45	7 27	11 54	4 58
4 50	7 22	morn.	2 39	26	Sa.	4 46	7 26	morn.	5 53
4 51	7 21	32	3 41	27	S.	4 47	7 25	27	6 56
4 52	7 20	1 11	4 44	28	Mo.	4 48	7 24	1 6	7 59
4 53	7 19	2 1	5 52	29	Tu.	4 49	7 23	1 56	9 7
4 54	7 18	3 2	6 56	30	We	4 50	7 22	2 56	10 10
4 55	7 17	rises.	7 52	31	Th.	4 51	7 21	rises.	11 10



MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.	
Last Quarter	7 d.	9 h.	18 m.	8 h.	18 m.
New Moon.....	15 d.	11 h.	19 m.	10 h.	19 m.
First Quarter ...	22 d.	8 h.	19 m.	7 h.	19 m.
Full Moon.....	29 d.	11 h.	35 m.	10 h.	35 m.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.			Mean time.	Mean time.	Mean time.	Mean time.
4 56	7 16	8 0	8 49	1	Fr.	4 52	7 20	8 4	ev. 4
4 57	7 14	8 56	9 41	2	Sa.	4 53	7 18	8 58	55
4 58	7 13	9 26	10 27	3	S.	4 54	7 17	9 28	1 43
4 59	7 12	9 58	11 13	4	Mo.	4 55	7 16	9 58	2 30
5 0	7 11	10 23	12 0	5	Tu.	4 56	7 15	10 21	3 15
5 1	7 10	10 50	ev. 49	6	We	4 57	7 14	10 47	4 2
5 2	7 9	11 18	1 41	7	Th.	4 58	7 12	11 14	4 54
5 3	7 7	11 53	2 36	8	Fr.	4 59	7 11	11 48	5 50
5 4	7 6	morn.	3 33	9	Sa.	5 0	7 10	morn.	6 47
5 5	7 5	32	4 34	10	S.	5 1	7 8	26	7 49
5 6	7 4	1 15	5 31	11	Mo.	5 2	7 7	1 9	8 46
5 7	7 2	2 4	6 24	12	Tu.	5 3	7 6	1 58	9 38
5 8	7 1	2 56	7 10	13	We	5 4	7 4	2 50	10 25
5 9	7 0	3 53	7 51	14	Th.	5 5	7 3	3 48	11 9
5 10	6 58	sets.	8 31	15	Fr.	5 6	7 1	sets.	11 48
5 11	6 57	7 55	9 11	16	Sa.	5 7	7 0	7 58	morn.
5 12	6 55	8 20	9 47	17	S.	5 8	6 58	8 21	24
5 13	6 54	8 45	10 24	18	Mo.	5 10	6 57	8 46	1 1
5 14	6 53	9 9	10 57	19	Tu.	5 11	6 55	9 8	1 39
5 15	6 51	9 33	11 37	20	We	5 12	6 54	9 31	2 15
5 16	6 50	9 59	morn.	21	Th.	5 13	6 52	9 56	2 53
5 17	6 48	10 29	21	22	Fr.	5 14	6 51	10 26	3 35
5 17	6 47	11 5	1 12	23	Sa.	5 15	6 49	11 0	4 25
5 18	6 45	11 49	2 10	24	S.	5 16	6 48	11 44	5 24
5 19	6 44	morn.	3 15	25	Mo.	5 17	6 46	morn.	6 29
5 20	6 42	43	4 27	26	Tu.	5 18	6 44	37	7 42
5 21	6 41	1 49	5 39	27	We	5 19	6 43	1 44	8 50
5 22	6 39	3 3	6 44	28	Th.	5 20	6 41	2 59	9 58
5 23	6 37	rises.	7 39	29	Fr.	5 21	6 39	rises.	10 56
5 24	6 36	7 22	8 29	30	Sa.	5 22	6 38	7 24	11 46
5 25	6 34	7 52	9 19	31	S.	5 23	6 36	7 53	ev. 32



MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.	
Last Quarter	5 d.	10 h.	29 m.	9 h.	29 m.
New Moon.....	14 d.	2 h.	53 m.	1 h.	53 m.
First Quarter....	21 d.	5 h.	5 m.	4 h.	5 m.
Full Moon.....	28 d.	8 h.	0 m.	7 h.	0 m.

New-York City,
Phila., Conn., New Jersey,
Penn., O., Ind., & Ill.

Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.
Mean time.	Mean time.	Mean time.	Mean time.
5 26	6 33	8 21	10 2
5 27	6 31	8 50	10 43
5 28	6 29	9 20	11 27
5 29	6 28	9 56	ev. 16
5 30	6 26	10 29	1 8
5 31	6 25	11 11	2 2
5 32	6 23	11 58	3 5
5 33	6 21	morn.	4 5
5 34	6 20	51	5 2
5 35	6 18	1 46	5 56
5 36	6 16	2 44	6 44
5 37	6 15	3 42	7 25
5 38	6 13	4 43	8 1
5 39	6 11	sets.	8 39
5 40	6 9	7 13	9 17
5 41	6 8	7 57	9 52
5 42	6 6	8 2	10 28
5 43	6 4	8 31	11 8
5 44	6 3	9 4	11 56
5 45	6 1	9 44	morn.
5 46	5 59	10 33	50
5 47	5 58	11 33	1 53
5 48	5 56	morn.	3 5
5 49	5 55	42	4 18
5 50	5 53	1 56	5 27
5 51	5 52	3 13	6 28
5 52	5 50	4 30	7 21
5 53	5 48	rises.	8 4
5 54	5 46	6 46	8 50
5 54	5 44	7 15	9 34

D. OF MO.

D. OF WK.

Boston, New England,
New-York, Mich., Wis.,
Iowa, and Oregon.

Sun rises.	Sun sets.	Moon rises.	H.W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.
5 24	6 35	8 20	1 16
5 26	6 33	8 48	2 1
5 27	6 31	9 17	2 45
5 28	6 29	9 52	3 30
5 29	6 28	10 24	4 21
5 30	6 26	11 6	5 16
5 31	6 24	11 52	6 19
5 32	6 22	morn.	7 20
5 33	6 21	45	8 18
5 34	6 19	1 40	9 11
5 35	6 17	2 39	9 58
5 36	6 15	3 38	10 41
5 37	6 14	4 41	11 18
5 38	6 12	sets.	11 56
5 39	6 10	7 13	morn.
5 40	6 8	7 36	30
5 41	6 7	8 0	1 6
5 43	6 5	8 28	1 44
5 44	6 3	8 59	2 25
5 45	6 1	9 39	3 11
5 46	6 0	10 27	4 3
5 47	5 58	11 27	5 7
5 48	5 56	morn.	6 19
5 49	5 54	37	7 33
5 50	5 53	1 52	8 42
5 51	5 51	3 10	9 42
5 52	5 49	4 28	10 36
5 53	5 47	rises.	11 21
5 54	5 46	6 44	ev. 5
5 56	5 44	7 12	48



MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.
Last Quarter	5 d.	3 h. 23 m.		2 h. 23 m.
New Moon	13 d.	6 h. 5 m.		5 h. 5 m.
First Quarter ...	21 d.	0 h. 36 m.		11 h. 36 m.
Full Moon	27 d.	6 h. 42 m.		5 h. 42 m.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				MO. D.	OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.			Mean time.	Mean time.	Mean time.	Mean time.
5 56	5 43	7 48	10 15	1	We	5 57	5 42	7 44	1 38
5 57	5 41	8 24	10 58	2	Th.	5 58	5 40	8 20	2 16
5 58	5 39	9 5	11 48	3	Fr.	5 59	5 39	9 0	3 1
5 59	5 38	9 51	ev. 38	4	Sa.	6 0	5 37	9 45	3 52
6 0	5 36	10 42	1 34	5	S.	6 1	5 35	10 36	4 49
6 1	5 35	11 37	2 34	6	Mo.	6 2	5 33	11 32	5 48
6 2	5 33	morn.	3 32	7	Tu.	6 3	5 32	morn.	6 46
6 3	5 31	34	4 28	8	We	6 4	5 30	29	7 43
6 4	5 30	1 33	5 21	9	Th.	6 6	5 28	1 29	8 36
6 5	5 28	2 33	6 8	10	Fr.	6 7	5 27	2 30	9 22
6 7	5 27	3 33	6 51	11	Sa.	6 8	5 25	3 31	10 5
6 8	5 25	4 32	7 30	12	S.	6 9	5 23	4 31	10 46
6 9	5 23	5 34	8 5	13	Mo.	6 10	5 22	5 34	11 22
6 10	5 22	sets.	8 43	14	Tu.	6 11	5 20	sets.	11 58
6 11	5 20	6 33	9 23	15	We	6 13	5 19	6 30	morn.
6 12	5 19	7 5	10 7	16	Th.	6 14	5 17	7 1	37
6 13	5 17	7 43	10 48	17	Fr.	6 15	5 15	7 38	1 21
6 14	5 16	8 30	11 41	18	Sa.	6 16	5 14	8 24	2 6
6 15	5 14	9 27	morn.	19	S.	6 17	5 12	9 21	2 57
6 16	5 13	10 30	40	20	Mo.	6 18	5 11	10 25	3 54
6 18	5 12	11 42	1 46	21	Tu.	6 20	5 9	11 37	4 59
6 19	5 10	morn.	2 55	22	We	6 21	5 8	morn.	6 9
6 20	5 9	56	4 4	23	Th.	6 22	5 6	53	7 19
6 21	5 7	2 10	5 8	24	Fr.	6 23	5 5	2 7	8 23
6 22	5 6	3 23	6 4	25	Sa.	6 24	5 3	3 22	9 18
6 23	5 4	4 35	6 54	26	S.	6 26	5 2	4 35	10 8
6 24	5 3	5 46	7 38	27	Mo.	6 27	5 1	5 47	10 55
6 26	5 2	rises.	8 19	28	Tu.	6 28	4 59	rises.	11 37
6 27	5 1	6 19	9 6	29	We	6 29	4 57	6 12	ev. 20
6 28	4 59	6 57	9 50	30	Th.	6 31	4 57	6 51	1 4
6 29	4 58	7 40	10 34	31	Fr.	6 32	4 55	7 34	1 50



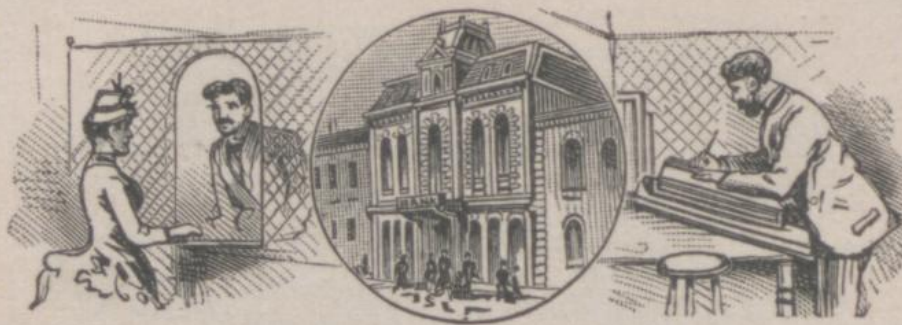
MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.
Last Quarter	4 d.	11 h.	13 m.	10 h. 13 m.
New Moon.....	12 d.	8 h.	37 m.	7 h. 37 m.
First Quarter	19 d.	7 h.	44 m.	6 h. 44 m.
Full Moon.....	26 d.	8 h.	23 m.	7 h. 23 m.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.			Mean time.	Mean time.	Mean time.	Mean time.
6 30	4 57	8 31	11 19	1	Sa.	6 33	4 54	8 25	2 47
6 31	4 56	9 25	ev. 12	2	S.	6 34	4 53	9 19	3 27
6 32	4 54	10 23	1 5	3	Mo.	6 36	4 51	10 18	4 18
6 34	4 53	11 22	1 58	4	Tu.	6 37	4 50	11 17	5 12
6 35	4 52	morn.	2 53	5	We	6 38	4 49	morn.	6 7
6 36	4 51	21	3 46	6	Th.	6 39	4 48	18	7 1
6 37	4 50	1 20	4 37	7	Fr.	6 41	4 47	1 18	7 52
6 38	4 49	2 19	5 26	8	Sa.	6 42	4 45	2 18	8 41
6 40	4 48	3 20	6 11	9	S.	6 43	4 44	3 20	9 24
6 41	4 47	4 21	6 53	10	Mo.	6 44	4 43	4 22	10 7
6 42	4 46	5 27	7 36	11	Tu.	6 46	4 42	5 29	10 52
6 43	4 45	6 34	8 14	12	We	6 47	4 41	6 37	11 32
6 44	4 44	sets.	9 2	13	Th.	6 48	4 40	sets.	morn.
6 46	4 43	6 25	9 51	14	Fr.	6 49	4 39	6 20	16
6 47	4 42	7 19	10 39	15	Sa.	6 51	4 39	7 13	1 5
6 48	4 41	8 22	11 35	16	S.	6 52	4 38	8 16	1 57
6 49	4 40	9 33	morn.	17	Mo.	6 53	4 37	9 28	2 51
6 50	4 39	10 45	35	18	Tu.	6 54	4 36	10 41	3 49
6 51	4 39	11 59	1 38	19	We	6 56	4 35	11 56	4 51
6 53	4 38	morn.	2 39	20	Th.	6 57	4 34	morn.	5 53
6 54	4 38	1 11	3 43	21	Fr.	6 58	4 34	1 10	6 58
6 55	4 37	2 22	4 40	22	Sa.	6 59	4 33	2 21	7 55
6 56	4 36	3 30	5 35	23	S.	7 0	4 32	3 31	8 50
6 57	4 36	4 38	6 26	24	Mo.	7 2	4 32	4 40	9 40
6 58	4 35	5 47	7 12	25	Tu.	7 3	4 31	5 51	10 27
6 59	4 35	rises.	7 55	26	We	7 4	4 31	rises.	11 13
7 0	4 35	5 32	8 41	27	Th.	7 5	4 30	5 27	11 58
7 2	4 34	6 20	9 27	28	Fr.	7 6	4 30	6 14	ev. 41
7 3	4 34	7 14	10 12	29	Sa.	7 7	4 30	7 8	1 27
7 4	4 34	8 10	10 56	30	S.	7 8	4 29	8 5	2 14



MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.
Last Quarter	4 d.	8 h.	26 m.	7 h. 26 m.
New Moon	11 d.	10 h.	11 m.	9 h. 11 m.
First Quarter	18 d.	3 h.	36 m.	2 h. 36 m.
Full Moon	26 d.	0 h.	57 m.	11 h. 57 m.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Bost.
Mean time.	Mean time.	Mean time.	Mean time.			Mean time.	Mean time.	Mean time.	Mean time.
7 5	4 34	9 8	11 43	1	Mo.	7 10	4 29	9 4	2 59
7 6	4 33	10 8	ev. 30	2	Tu.	7 11	4 29	10 4	3 44
7 7	4 33	11 6	1 18	3	We	7 12	4 28	11 4	4 32
7 8	4 33	morn.	2 5	4	Th.	7 13	4 28	morn.	5 19
7 9	4 32	6	2 55	5	Fr.	7 14	4 28	4	6 10
7 10	4 32	1 5	3 46	6	Sa.	7 15	4 28	1 4	7 1
7 11	4 32	2 4	4 36	7	S.	7 16	4 28	2 5	7 51
7 12	4 32	3 8	5 27	8	Mo.	7 17	4 28	3 10	8 42
7 13	4 32	4 14	6 17	9	Tu.	7 17	4 28	4 17	9 31
7 14	4 32	5 24	7 7	10	We	7 18	4 28	5 28	10 21
7 15	4 32	6 36	7 54	11	Th.	7 19	4 28	6 41	11 12
7 15	4 32	sets.	8 47	12	Fr.	7 20	4 28	sets.	morn.
7 16	4 33	6 8	9 41	13	Sa.	7 21	4 28	6 2	2
7 16	4 33	7 18	10 33	14	S.	7 22	4 28	7 13	55
7 17	4 33	8 34	11 26	15	Mo.	7 22	4 29	8 29	1 49
7 18	4 33	9 47	morn.	16	Tu.	7 23	4 29	9 44	2 44
7 18	4 33	11 2	22	17	We	7 24	4 29	11 0	3 36
7 19	4 34	morn.	1 18	18	Th.	7 24	4 29	morn.	4 32
7 20	4 34	24	2 15	19	Fr.	7 25	4 30	23	5 29
7 20	4 35	1 22	3 12	20	Sa.	7 26	4 30	1 22	6 26
7 21	4 35	2 29	4 8	21	S.	7 26	4 31	2 30	7 23
7 21	4 36	3 36	5 2	22	Mo.	7 26	4 31	3 39	8 18
7 22	4 37	4 42	5 58	23	Tu.	7 27	4 32	4 47	9 12
7 22	4 37	5 47	6 48	24	We	7 27	4 32	5 52	10 2
7 23	4 38	6 51	7 37	25	Th.	7 28	4 33	6 56	10 51
7 23	4 39	rises.	8 19	26	Fr.	7 28	4 33	rises.	11 37
7 23	4 39	5 59	9 8	27	Sa.	7 28	4 34	5 53	ev. 22
7 23	4 40	6 56	9 51	28	S.	7 29	4 35	6 51	1 5
7 24	4 40	7 56	10 32	29	Mo.	7 29	4 36	7 52	1 48
7 24	4 41	8 56	11 12	30	Tu.	7 29	4 37	8 53	2 39
7 24	4 42	9 53	11 54	31	We	7 30	4 37	9 51	3 9



INTEREST TABLES.

4%	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
4 DAY.	0	0	0	0	0	0	0	0	0	0	5	45
8 "	0	0	0	0	0	0	0	0	1	1	9	89
12 "	0	0	0	0	0	1	1	1	2	2	14	1.34
16 "	0	0	0	0	1	1	1	2	2	2	18	1.78
20 "	0	0	0	1	1	2	2	2	2	2	22	2.22
24 "	0	0	1	1	2	2	2	2	3	3	27	2.67
28 "	0	0	1	1	2	2	2	3	3	3	31	3.11
1 MO..	0	0	1	2	2	2	3	3	3	4	34	3.34
2 "	0	2	2	3	4	4	5	6	6	7	67	6.67
3 "	1	2	3	4	5	6	7	8	9	10	1.00	10.00
6 "	2	4	6	8	10	12	14	16	18	20	2.00	20.00
1 YR..	4	8	12	16	20	24	28	32	36	40	4.00	40.00

5%	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
4 DAY.	0	0	0	0	0	0	0	0	0	0	6	56
8 "	0	0	0	0	0	0	1	1	1	1	11	1.11
12 "	0	0	0	0	1	1	1	2	2	2	17	1.67
16 "	0	0	0	1	1	2	2	2	2	2	22	2.22
20 "	0	0	1	1	2	2	2	2	3	3	28	2.28
24 "	0	0	1	2	2	2	3	3	3	4	34	3.34
28 "	0	1	1	2	2	3	3	3	4	4	39	3.39
1 MO..	0	1	2	2	2	3	3	4	4	4	42	4.17
2 "	1	2	3	4	4	5	6	7	8	9	84	8.34
3 "	2	3	4	5	6	7	9	10	11	13	1.25	12.50
6 "	3	5	8	10	13	15	18	20	23	25	2.50	25.00
1 YR..	5	10	15	20	25	30	35	40	45	50	5.00	50.00

6%	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
4 DAY.	0	0	0	0	0	0	0	1	1	1	7	67
8 "	0	0	0	1	1	1	1	1	1	1	13	1.33
12 "	0	0	1	1	1	1	1	2	2	2	20	2.00
16 "	0	1	1	1	1	2	2	2	2	3	27	2.67
20 "	1	1	1	2	2	2	2	3	3	3	33	3.33
24 "	1	1	1	2	2	2	3	3	4	4	40	4.00
1 MO..	1	1	2	2	3	3	4	4	5	5	50	5.00
2 "	1	2	3	4	5	6	7	8	9	10	1.00	10.00
3 "	2	3	5	6	8	9	11	12	14	15	1.50	15.00
6 "	3	6	9	12	15	18	21	24	27	30	3.00	30.00
1 YR..	6	12	18	24	30	36	42	48	54	60	6.00	60.00

TABLE OF WAGES BY THE WEEK.

Wages	One hour.	Two hours.	Five hours.	Eight hours.	Nine hours.	One day.	Two days.	Three days.	Four days.	Five days.	Six days.
\$3	.05	.10	.25	.40	.45	.50	1.00	1.50	2.00	2.50	3.00
4	.06 $\frac{2}{3}$	.13 $\frac{1}{3}$	.33 $\frac{1}{3}$	.53 $\frac{1}{3}$	.60	.66 $\frac{2}{3}$	1.33 $\frac{1}{3}$	2.00	2.66 $\frac{2}{3}$	3.33 $\frac{1}{3}$	4.00
5	.08 $\frac{1}{3}$	.16 $\frac{2}{3}$	.41 $\frac{2}{3}$	.66 $\frac{2}{3}$	.75	.83 $\frac{1}{3}$	1.66 $\frac{2}{3}$	2.50	3.33 $\frac{1}{3}$	4.16 $\frac{2}{3}$	5.00
6	.10	.20	.50	.80	.90	1.00	2.00	3.00	4.00	5.00	6.00
7	.11 $\frac{2}{3}$	.23 $\frac{1}{3}$	.58 $\frac{1}{3}$	.93 $\frac{1}{3}$	1.05	1.16 $\frac{2}{3}$	2.33 $\frac{1}{3}$	3.50	4.66 $\frac{2}{3}$	5.83 $\frac{1}{3}$	7.00
8	.13 $\frac{1}{3}$	.26 $\frac{2}{3}$	.66 $\frac{2}{3}$	1.06 $\frac{2}{3}$	1.20	1.33 $\frac{1}{3}$	2.66 $\frac{2}{3}$	4.00	5.33 $\frac{1}{3}$	6.66 $\frac{2}{3}$	8.00
9	.15	.30	.75	1.20	1.35	1.50	3.00	4.50	6.00	7.50	9.00
10	.16 $\frac{2}{3}$	.33 $\frac{1}{3}$	.83 $\frac{1}{3}$	1.33 $\frac{1}{3}$	1.50	1.66 $\frac{2}{3}$	3.33 $\frac{1}{3}$	5.00	6.66 $\frac{2}{3}$	8.33 $\frac{1}{3}$	10.00
11	.18 $\frac{1}{3}$	.36 $\frac{2}{3}$	.91 $\frac{2}{3}$	1.46 $\frac{2}{3}$	1.65	1.83 $\frac{1}{3}$	3.66 $\frac{2}{3}$	5.50	7.33 $\frac{1}{3}$	9.16 $\frac{2}{3}$	11.00
12	.20	.40	1.00	1.60	1.80	2.00	4.00	6.00	8.00	10.00	12.00
13	.21 $\frac{2}{3}$	.43 $\frac{1}{3}$	1.08 $\frac{1}{3}$	1.73 $\frac{1}{3}$	1.95	2.16 $\frac{2}{3}$	4.33 $\frac{1}{3}$	6.50	8.66 $\frac{2}{3}$	10.83 $\frac{1}{3}$	13.00
14	.23 $\frac{1}{3}$	.46 $\frac{2}{3}$	1.16 $\frac{2}{3}$	1.86 $\frac{2}{3}$	2.10	2.33 $\frac{1}{3}$	4.66 $\frac{2}{3}$	7.00	9.33 $\frac{1}{3}$	11.66 $\frac{2}{3}$	14.00
15	.25	.50	1.25	2.00	2.25	2.50	5.00	7.50	10.00	12.50	15.00
16	.26 $\frac{2}{3}$	.53 $\frac{1}{3}$	1.33 $\frac{1}{3}$	2.13 $\frac{1}{3}$	2.40	2.66 $\frac{2}{3}$	5.33 $\frac{1}{3}$	8.00	10.66 $\frac{2}{3}$	13.33 $\frac{1}{3}$	16.00
17	.28 $\frac{1}{3}$	.56 $\frac{2}{3}$	1.41 $\frac{2}{3}$	2.26 $\frac{2}{3}$	2.55	2.83 $\frac{1}{3}$	5.66 $\frac{2}{3}$	8.50	11.33 $\frac{1}{3}$	14.16 $\frac{2}{3}$	17.00
18	.30	.60	1.50	2.40	2.70	3.00	6.00	9.00	12.00	15.00	18.00
19	.31 $\frac{2}{3}$	.63 $\frac{1}{3}$	1.58 $\frac{1}{3}$	2.53 $\frac{1}{3}$	2.85	3.16 $\frac{2}{3}$	6.33 $\frac{1}{3}$	9.50	12.66 $\frac{2}{3}$	15.83 $\frac{1}{3}$	19.00
20	.33 $\frac{1}{3}$	.66 $\frac{2}{3}$	1.66 $\frac{2}{3}$	2.66 $\frac{2}{3}$	3.00	3.33 $\frac{1}{3}$	6.66 $\frac{2}{3}$	10.00	13.33 $\frac{1}{3}$	16.66 $\frac{2}{3}$	20.00
24	.40	.80	2.00	3.20	3.60	4.00	8.00	12.00	16.00	20.00	24.00

This Table is based upon the usual calculation of 10 hours to a day.





VALUE OF FOREIGN COINS.

DENOMINATION.	COUNTRY.	Equiv't in U. S. Money.
Alfonso	Spain.....	\$4.80.
Boliviano	Bolivia	.82.3
Crown	Nor'y, Swed'n, Den'k.	.26.8
Dollar	British America	1.00.
"	Mexico	.89.4
"	Spain.....	.94.
Drachma	Greece	.19.3
Florin.....	Austria.....	.40.7
"	Netherlands.....	.40.2
Franc.....	France, Belg., Switz..	.19.3
20 Kroner	Nor'y, Swed'n, Den'k.	5.25.
Lira	Italy.....	.19.3
Mark	German Empire.....	.23.8
Milreis of 1000 reis	Brazil	.54.6
"	Portugal.....	1.08.
Peseta of 100 centimes.....	Spain.....	.19.3
Peso	Chili.....	.91.2
"	Cuba	.93.2
Piaster	Egypt.....	.04.9
"	Turkey.....	.04.4
Pound Sterling (Sovereign)	England.....	4.87.
Rouble of 100 copecks.....	Russia.....	.65.8
Shilling	England.....	.24.
Sol.....	Peru.....	.82.3
Thaler (3 marks)	Germany.....	.70.
Yen.....	Japan	.88.8

Explanation of the Currencies of the various Countries.

AUSTRIA AND RUSSIA.—The Paper Currencies are continually subject to important fluctuations.

In FRANCE, BELGIUM, SWITZERLAND, AND ITALY, 1 franc=100 centimes. GERMANY, 1 mark=100 pfennig. HOLLAND, 1 florin or gulden=100 cents. NORWAY, SWEDEN, AND DENMARK, 1 kroner=100 öre. UNITED STATES, 1 dollar=100 cents. SPAIN, 1 peseta=100 centavos. AUSTRIA, 1 florin=100 kreuzer. PORTUGAL, 1 milreis=1000 reis. GREECE, 1 drachma=100 leptas. TURKEY, 1 piaster=40 paras. RUSSIA, 1 rouble=100 copecks.

Italian notes and silver are not current in France, Belgium, and Switzerland, but the silver of these countries passes current in Italy.

PRESIDENTS OF THE UNITED STATES.

Names.	Born.	Inaugurated.	In Office.	Died.	Native of
GEO. WASHINGTON..	Feb. 22, 1732	April 30, 1789	8 years...	Dec. 14, 1799	Virginia.
JOHN ADAMS.....	Oct. 30, 1735	Mar. 4, 1797	4 " "	July 4, 1826	Mass.
THOMAS JEFFERSON.	April 2, 1743	" 4, 1801	8 " "	June 28, 1836	Virginia.
JAMES MADISON....	Mar. 16, 1751	" 4, 1809	8 " "	July 4, 1831	"
JAMES MONROE.....	April 2, 1759	" 4, 1817	8 " "	Feb. 23, 1848	Mass.
JOHN QUINCY ADAMS	July 11, 1767	" 4, 1825	4 " "	June 8, 1845	S. Carol.
ANDREW JACKSON..	Mar. 15, 1767	" 4, 1829	8 " "	Dec. 27, 1862	New-York.
MARTIN VAN BUREN.	Dec. 5, 1782	" 4, 1837	4 " "	April 4, 1841	Virginia.
WM. H. HARRISON ..	Feb. 9, 1773	" 4, 1841	1 month..	Jan. 17, 1862	"
JOHN TYLER.....	Mar. 20, 1790	April 5, 1841	3 yrs. 11m.	June 15, 1849	N. Carol.
JAMES K. POLK.....	Nov. 2, 1795	Mar. 4, 1845	4 years...	July 9, 1850	Virginia.
ZACHARY TAYLOR ..	Nov. 24, 1790	" 4, 1849	1 yr. 4 m.	Mar. 8, 1874	New-York.
MILLARD FILLMORE.	May 7, 1800	July 10, 1850	2 yrs. 8 m.	Oct. 8, 1869	N. Hamp.
FRANKLIN PIERCE..	Nov. 23, 1804	Mar. 4, 1853	4 years...	June 1, 1868	Pennsylvania.
JAMES BUCHANAN..	April 23, 1791	" 4, 1857	4 " "	April 15, 1865	Kentucky.
ABRAHAM LINCOLN.	Feb. 12, 1809	Mar. 4, 1861	4 yrs. 4od.	July 31, 1875	N. Carol.
ANDREW JOHNSON..	Dec. 29, 1808	April 15, 1865	3 yrs. 11m	July 23, 1885	Ohio.
ULYSSES S. GRANT.	Apr. 27, 1822	Mar. 4, 1869	8 years...	.....	"
RUTH. B. HAYES....	Oct. 4, 1822	" 5, 1877	4 " "	Sept. 19, 1881	Vermont.
JAMES A. GARFIELD.	Nov. 19, 1831	" 4, 1881	6 mo. 15d.	Nov. 18, 1886	N. Jersey.
CHESTER A. ARTHUR	Oct. 5, 1830	Sept. 19, 1881	3 yrs. 5m.	.....	Ohio.
GROVER CLEVELAND	Mar. 18, 1837	Mar. 4, 1885	4 years...	.....	
BENJAMIN HARRISON	Aug. 20, 1833	" 4, 1889	.....	.....	





PRINCIPAL CITIES.

POPULATION, DISTANCE FROM NEW-YORK, AND DIFFERENCE BETWEEN MEAN AND STANDARD TIME.

CITIES.	Population. 1880.	Miles.	Hrs.	Stan. Time.	
				— } Mean + } Time.	
New-York, N.Y.	1,206,299	....	.....	—	4 m.
Philadelphia, Pa.	847,170	90	2	+	1
Brooklyn, N.Y.	566,663	....	.....	—	4
Chicago, Ill.	503,185	912	24	—	9
Boston, Mass.	369,832	234	6	—	16
St. Louis, Mo.	350,518	1065	35 $\frac{1}{2}$	+	1
Baltimore, Md.	332,313	188	4 $\frac{3}{4}$	+	6
Cincinnati, Ohio.	255,139	757	25 $\frac{1}{2}$	—	22
San Francisco, Cal.	233,959	3269	151	+	10
New Orleans, La.	216,090	1371	51		0
Cleveland, Ohio.	160,146	585	19 $\frac{1}{2}$	+	27
Pittsburgh, Pa.	156,839	444	12	+	20
Buffalo, N.Y.	155,134	410	14	+	16
Washington, D.C.	147,293	228	7	+	8
Newark, N.J.	136,508	10	1 $\frac{1}{2}$		3
Louisville, Ky.	123,758	867	35	—	18
Detroit, Mich.	116,340	646	23	—	28
Milwaukee, Wis.	115,712	997	40	—	8
Providence, R.I.	104,857	188	5 $\frac{1}{2}$	—	14
Albany, N.Y.	90,758	145	3 $\frac{1}{2}$	—	5
Rochester, N.Y.	89,366	374	9 $\frac{1}{4}$	+	11
Indianapolis, Ind.	75,056	825	30	—	16
Worcester, Mass.	58,291	190	5	—	13
Kansas City, Mo.	55,785	1385	48 $\frac{1}{4}$	+	19
Syracuse, N.Y.	51,792	293	7 $\frac{1}{4}$	+	5
Columbus, O.	51,647	748	22 $\frac{1}{4}$	—	20
Toledo, Ohio.	50,137	706	24	—	16
Minneapolis, Minn.	46,887	1332	55	+	12
St. Paul, Minn.	41,473	1322	54	+	12
Denver, Col.	35,629	1982	92		0
Memphis, Tenn.	33,592	1240	46 $\frac{1}{4}$		0
Des Moines, Iowa.	22,408	1270	51 $\frac{1}{4}$	+	14
Salt Lake City, Utah. .	20,768	2471	120	+	28
Portland, Or.	17,577	3232	152	+	20
Leavenworth, Kan.	16,546	1369	62	+	20
Lincoln, Neb.	13,003	1460	58	+	22
Deadwood, Dak.	3,777	....	.....	+	26
Helena, Mont.	3,624	2575	92 $\frac{1}{2}$	+	21
Cheyenne, Wyo.	3,456	1928	67	+	24



U. S. POPULATION AND ELECT'L VOTE.

States and Territories.	Elect'l Vote.	Popu'n 1880.	States and Territories.	Elect'l Vote.	Popu'n 1880.
Alabama...	10	1,262,794	Missouri....	16	2,168,804
Arizona	..	40,441	Montana...	..	39,157
Arkansas...	7	802,564	Nebraska ..	5	452,433
California ..	8	864,686	Nevada	3	62,265
Colorado ...	3	194,649	New Hamp.	4	346,984
Connecticut	6	622,683	New Jersey.	9	1,130,983
Dakota.....	..	135,180	New Mexico	..	118,430
Delaware ..	3	146,654	New-York..	36	5,083,810
D. Columbia	..	177,638	N. Carolina.	11	1,400,047
Florida.....	4	267,351	Ohio	23	3,198,239
Georgia	12	1,539,048	Oregon.....	3	174,767
Idaho	..	32,611	Pennsylvan.	30	4,282,786
Illinois	22	3,078,769	Rhode Is...	4	276,528
Indiana	15	1,978,362	S. Carolina.	9	995,622
Iowa	13	1,624,620	Tennessee .	12	1,542,463
Kansas.....	9	995,966	Texas.....	13	1,592,574
Kentucky ..	13	1,648,708	Utah.....	..	143,906
Louisiana ..	8	940,103	Vermont ...	4	332,286
Maine	6	648,945	Virginia ...	12	1,512,806
Maryland ..	8	934,632	Washington	..	75,120
Massachu'ts	14	1,783,012	W. Virginia.	6	618,443
Michigan...	13	1,636,331	Wisconsin..	11	1,315,480
Minnesota...	7	780,806	Wyoming ..	..	20,788
Mississippi..	9	1,131,592	Total....	401	50,152,866

WEATHER SIGNALS.



When Black triangular flag is placed above white or blue flag it indicates warmer; when placed below, colder weather. For example—3, 1, 2 indicates warmer, fair weather, followed by rain or snow.



DOMESTIC POSTAGE.

FIRST CLASS.—Letters and all written matter, whether sealed or unsealed, and all other matter sealed, nailed, sewed, tied, or fastened in any manner, so that it cannot be easily examined, **two cents per ounce** or fraction thereof. A "Special Delivery" ten-cent stamp when attached to a letter, in addition to the lawful postage, shall entitle the letter to immediate delivery at, or within one mile of, any post-office. Postal cards, one cent each.

SECOND CLASS.—All regular newspapers, magazines and other periodicals issued at intervals not exceeding three months; the postage is **one cent for each four ounces**, payable by postage stamps.

THIRD CLASS.—Embraces **printed books**, pamphlets, circulars, engravings, lithographs, proof-sheets and manuscript accompanying the same, and all matter of the same general character, and not having the character of personal correspondence. Circulars produced by hektograph or similar process, or by electric pen, are rated as third class. The limit of weight for mail matter of the third class is four pounds, except in the case of single books exceeding that weight. The rate of postage on mail matter of the third class is **one cent for each two ounces** or fraction thereof.

FOURTH CLASS.—Allailable matter not included in the three preceding classes, which is so prepared for mailing as to be easily taken from the wrapper and examined. Rate, **one cent per ounce** or fraction thereof, except seeds, roots, cuttings, bulbs, plants and scions, which are 1 c. per two ounces. Limit of weight, 4 lbs. Full prepayment compulsory. Liquids, and other like injurious matter, not admitted, except under conditions which may be learned at any post-office.

Registry fee, ten cents, which, with the postage, must be fully prepaid. The name and address of sender must be given on the outside of the envelope or wrapper.

POSTAL NOTE AND MONEY ORDER FEES.—Postal notes, 3 c. each, in denominations of \$4.99 and less, payable to bearer. Such notes are invalid upon the expiration of three months from the last day of the month of issue, but the holder can after that time get it renewed at the Department at Washington, upon payment of a fee of 3 cents. For Money Orders in denominations of \$100 or less, the following fees are charged: Orders not exceeding \$5, 5 c.; over \$5 to \$10, 8 c.; \$10 to \$15, 10 c.; \$15 to \$30, 15 c.; \$30 to \$40, 20 c.; \$40 to \$50, 25 c.; \$50 to \$60, 30 c.; \$60 to \$70, 35 c.; \$70 to \$80, 40 c.; \$80 to \$100, 45 c.



FOREIGN POSTAGE.

To all parts of the Universal Postal Union (embracing nearly every civilized country):

ON LETTERS, **five cents for each half ounce** or fraction thereof—prepayment optional. Double rates are collected on delivery of unpaid or short-paid letters.

On newspapers, books, pamphlets, photographs, sheet music, maps, engravings, and similar printed matter, **one cent for each two ounces** or fraction thereof.

TO CANADA (including Nova Scotia, New Brunswick, Manitoba, and Prince Edward Island): LETTERS, **two cents for each ounce** or fraction thereof; Books, Circulars, and similar printed matter, **one cent for each two ounces** or fraction thereof; SECOND CLASS MATTER, same as in the United States; SAMPLES AND MERCHANDISE, **one cent per ounce**. Packages must not exceed 4 lbs. 6 ozs. in weight—prepayment compulsory.

TO MEXICO: Letters, Postal Cards, and printed matter, same rates as in the United States. SAMPLES. **one cent per ounce**; MERCHANDISE other than Samples can only be sent by Parcel Post.

TO AUSTRALIA (except New South Wales, Queensland, and Victoria), *via* San Francisco: On LETTERS, **five cents for each half ounce** or fraction thereof; on NEWSPAPERS, **two cents each**—prepayment compulsory.

INTERNATIONAL OR FOREIGN MONEY-ORDER FEES.

On Algeria, Belgium, British India, Cape Colony, Constantinople, Denmark, Dominion of Canada, Egypt, England, France, German Empire, Hong Kong, Ireland, Italy, Jamaica, Japan, Newfoundland, New South Wales, New Zealand, Portugal, Sandwich Islands, Scotland, Shanghai, Sweden, Switzerland, Tasmania, Victoria.

For sums not exceeding \$10.....	10 cents.
Over \$10 and not exceeding \$20.....	20 cents.
Over \$20 and not exceeding \$30.....	30 cents.
Over \$30 and not exceeding \$40.....	40 cents.
Over \$40 and not exceeding \$50.....	50 cents.

Orders can also be obtained on Austria and East Indies, by remittance through the Postal Department of Switzerland, subject to the rates of the Swiss Department to those countries. Also on Norway and the Netherlands, through the Postal Department of the German Empire, subject to the rates of the German Department to those countries.

No order issued for a larger amount than \$50 in U. S. money.

THE METRIC SYSTEM.

METRIC EQUIVALENTS.

1 inch	=	0.0254 meter, or about $2\frac{1}{2}$ centimeters.
1 foot	=	0.3048 " " 30 "
1 yard	=	0.9144 " " 10-11 of a meter.
1 mile	=	1609 " " 1 6-10 kilometers.
1 U. S. liquid quart	=	$\left\{ \begin{array}{l} 0.946 \text{ liter} \\ 1.101 \text{ "} \end{array} \right\}$ or rather less than 1 liter.
1 U. S. gallon	=	3.785 " or about 3 8-10 liters.
1 U. S. bushel	=	35.24 " " 4-11 of a hektoliter.
1 avoirdupois oz.	=	$\left\{ \begin{array}{l} 0.02835 \text{ kilo} \\ 0.03110 \text{ "} \end{array} \right\}$ or rather less than 30 gr.
1 Troy & apoth. oz.	=	0.03110 " or about 5-11 of a kilo.
1 avoirdupois lb.	=	0.45359 " or about 5-11 of a kilo.
1 long ton (2240 lbs)	=	1016.05 " " 1 metric ton.

WEIGHTS.

Metric Denominations and Values.	Equiva. in Denominations in use.	W'gt of what quantity of water at maxim. density.	Avoirdupois Weight.
Ton	= 1,000,000	= 1 cubic meter	= 2204.6 lbs.
Kilogram or kilo	= 1,000	= 1 liter or cu. dm.	= 2.2046 lbs.
Hektogram	= 100	= 1 deciliter	= 3.5274 oz.
Dekagram	= 10	= 1 centiliter	= 0.3527 oz.
Gram	= 1	= 1 cub. centimeter	= 15.432 grs.
Decigram	= .1	= .1 cub. centimeter	= 1.5432 grs.
Centigram	= .01	= 10 cub. millimeters	= 0.1543 gr.
Milligram	= .001	= 1 cub. millimeter	= 0.0154 gr.

MEASURES OF LENGTH.

Kilometer	=	1,000 meters	=	0.62137 m. or 3,280 ft. 10 in.
Hektometer	=	100 meters	=	328 feet and 1 inch.
Dekameter	=	10 meters	=	393.7078 inches.
Meter	=	1 meter	=	39.37 inches.
Decimeter	=	.1 of a meter	=	3.937 inches.
Centimeter	=	.01 of a meter	=	0.3937 inch.
Millimeter	=	.001 of a meter	=	0.0394 inch.

LAND MEASURE.

Hektar	=	10,000 square meters	=	2.471 acres.
Ar	=	100 square meters	=	3.9538 square rods.
Centar	=	1 square meter	=	1.196 square yards.

MEASURES OF CAPACITY.

Names.	No. Liters.	Cu. Meas.	Dry Meas.	U.S. Wine Meas.
Hektoliter	= 100	= .1 c. meter	= 2 bus. 3.35 pks	= 25.417 galls.
Dekaliter	= 10	= 10 c. decimet'rs	= 9.08 quarts	= 2.6417 galls.
Liter	= 1	= 1 c. decimeter	= 0.908 quart	= 1.0567 qts.
Deciliter	= .1	= .1 c. decimeter	= 6.1022 cubic in	= 0.845 gill.
Centiliter	= .01	= 10 c. centimet'rs	= 0.6102 cubic in	= 0.338 fluid oz
Milliliter	= .001	= 1 c. centimeter	= 0.061 cubic in	= 0.27 fluid dr.

JANUARY,

WEDNESDAY 1.

1890.

THURSDAY 2.

Blank Page(s)

FEBRUARY,

FRIDAY 28.

1890.

MARCH,

SATURDAY 1.

Rec'd of A. C. & S. B. B. Co
Check for Ashland Bank
in full for amount to
date

o.

MARCH,

SUNDAY 2.

1890.

MONDAY 3.

to
C
g
of the day to date

MARCH,

TUESDAY 4.

1890.

Recd of R. J. L & M Co
Chk for 97^{13/100} in full
for invoices to date

WEDNESDAY 5.

Cloudy with snow
at night

MARCH,

THURSDAY 6.

1890.

four or five inches of
snow -
Clear, Therm. 0 + 10

FRIDAY 7.

MARCH,

SATURDAY 8.

1890.

SUNDAY 9.

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MARCH,

MONDAY 24.

1890.

With Engines

TUESDAY 25.

With Engines Rainy

MARCH,

WEDNESDAY 26.

1890.

With Engines

Iron Day

THURSDAY 27.

Rainy

MARCH,

FRIDAY 28.

1890.

Strong N. Wind & Cloudy

Hood cut 9 lbs 1 80

Grass 1 lb 3 00

Waper. 1 lb 50

5 30

SATURDAY 29.

Pleasant all day
Put with engines

MARCH,

SUNDAY 30.

1890.

MONDAY 31.

Snow and Rain

APRIL,

TUESDAY 1.

1890.

North Side hills white,
with snow which is melting
fast - the sun being out - bright

WEDNESDAY 2.

Bright & warm
with engineers in morning 1/2
at Park Ferry \$1.50

APRIL,

THURSDAY 3.

1890.

FRIDAY 4.

APRIL,

SATURDAY 5.

1890.

SUNDAY 6.

APRIL,

MONDAY 7.

1890.

Pleasant
Storm 1/2 day

TUESDAY 8.

Pleasant
Storm 1 day

APRIL,

WEDNESDAY 9.

1890.

Heavy Rain with Thunder
indications of heavy wind

THURSDAY 10.

Snow & Rain, Cold

APRIL,

FRIDAY 11.

1890.

Cool but Clear
With Drizzle in Morning
1/2 day for Drizzle
Stannum 1 day

SATURDAY 12.

Mare & Fair
Stannum 1 day

APRIL,

SUNDAY 13.

1890.

MONDAY 14.

APRIL,

TUESDAY 15.

1890.

Out with Eugene 3/4 Day
Stamm 1 Day
Rain in evening

WEDNESDAY 16.

Overcast out with Eugene
in morning
Stamm at noon

APRIL,

THURSDAY 17.

1890.

Chandy in Money
Rain 2000
Out for Town in Money
Stam 1/2 1000
5 1/2 Lys 5.50
Parse 5.00
Dun 50

FRIDAY 18.

APRIL,

SATURDAY 19.

1890.

Not Cool but Pleasant
at Mrs Bartles in
the morning
Stammi 1 day

SUNDAY 20.

Cool but pleasant -
A. died this morning
Sto

APRIL,

MONDAY 21.

1890.

Stammered 1/2 day in
Evening. Day
cool but pleasant in
the morning.

TUESDAY 22.

Cold this morning
with indications
of Rain

Addie to be burnt
to day

APRIL,

WEDNESDAY 23.

1890.

Cloudy in morning
Rain at 10 o'clock

Steamer left at 11

THURSDAY 24.

APRIL,

FRIDAY 25.

1890.

Pleasant
over at Louetdale, morning

SATURDAY 26.

APRIL,

SUNDAY 27.

1890.

MONDAY 28.

With Engine at Bartlett

Steam 1 Day
Fuels 1 "

APRIL,

TUESDAY 29.

1890.

Surveying for Price $\frac{1}{2}$
farms & Starnum 1 by
Clear & Pleasant

WEDNESDAY 30.

Pleasant -
farms & Starnum 1 by

MAY,

THURSDAY 1.

1890.

Rain at Noon

John & Stanner 187

FRIDAY 2.

MAY,

SATURDAY 3.

1890.

Rain this evening

SUNDAY 4.

*Rain all night- and
continued*

MAY,

MONDAY 5.

1890.

Rainy

TUESDAY 6.

Rainy & Cold

MAY,

WEDNESDAY 7.

1890.

Stamm to date 6	
Due from 1/2	6.50
Paid	5.00
Due	1.50

Rain at night

THURSDAY 8.

MAY,

FRIDAY 9.

1890.

SATURDAY 10.

MAY,

WEDNESDAY 7.

1890.

Stamm to date 6	
Due from 1/2	6.50
Paid	5.00
Due	<u>1.50</u>

Rain at night

THURSDAY 8.

MAY,

FRIDAY 9.

1890.

SATURDAY 10.

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JUNE,

SATURDAY 28.

1890.

SUNDAY 29.

JUNE,

MONDAY 30.

1890.

JULY,

TUESDAY I.

In Bank

642.70

JULY,

WEDNESDAY 2.

1890.

THURSDAY 3.

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SEPTEMBER, MONDAY 22. 1890.

U. I. C & M Co
Work on Nott's Lot

\$
1.00

TUESDAY 23.

This evening at-work
on the Ireland purchase
Sey
Norton

\$2.00
0.50

SEPTEMBER, WEDNESDAY 24. 1890.

For Steel Mills
Self & Norton 1 dy

THURSDAY 25.

Steel Mills
Norton 3/4
Self 1

10.

SEPTEMBER, FRIDAY 26.

1890.

Sugar $\frac{1}{2}$ doz

OCTOBER, SATURDAY 27.

Recd of A C & D in full 17.50

SEPTEMBER,

SUNDAY 28.

1890.

MONDAY 29.

SEPTEMBER,

TUESDAY 30.

1890.

OCTOBER,

WEDNESDAY 1.

OCTOBER,

THURSDAY 2.

1890.

FRIDAY 3.

OCTOBER

Antone to Cash 2/00
W. S. Eugene 3/4 Day

OCTOBER,

SATURDAY 4.

1890.

SUNDAY 5.

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OCTOBER,

SUNDAY 12.

1890.

MONDAY 13.

Cash in Bank 100.00
Chk to Collector 33.08
\$ 66.92

OCTOBER,

TUESDAY 14.

1890.

Paid S Norton '6.75 in
full to date

WEDNESDAY 15.

Left Ashland this morning
for Escudapea

OCTOBER, THURSDAY 16. 1890.

FRIDAY 17.

by at Jackson

OCTOBER,

SATURDAY 18.

1890.

3 Days Work 1

Brant

1 2/3
3 1/2 p

SUNDAY 19.

In Company with Mr Jack
Loren visited the Iron Mines
the scene of an escape of
two white men from Indians
in early times

OCTOBER,

MONDAY 20.

1890.

TUESDAY 21.

ack
ms
of
Sury

OCTOBER, WEDNESDAY 22.

1890.

THURSDAY 23.

A rainy day after making
up some notes, remainder of
the passed drearily.

OCTOBER,

FRIDAY 24.

1890.

Left Esculapian this
evening at 8.15 arriving
at Olive Hill at 11 p.m.
Remained all night -
a good rest

5 Days Work
6 " " " " " " " "

SATURDAY 25.

Left O.H. this morning at
5 a.m. without breakfast -
after a slow drag on the
DASHWATER arrived home
about 10 a.m.

OCTOBER,

SUNDAY 26.

1890.

at home Raining
in morning Evening
cloudy & lowering

MONDAY 27.

Took train at 6.50 for
Olympia fare $2\frac{1}{4}$

Cold and Cloudy in the
morning

gives at Jackson at noon
in the evening examining
proposed change near Jackson
men not out-

OCTOBER,

TUESDAY 28.

1890.

Cool & Cloudy all day
covering line near
Jackson
Hawkins not out
till 9 o'clock

WEDNESDAY 29.

Cold & Cloudy with rain
& sleet in the forenoon
at work all day on re-
vision of line near Jack-
son - 12th Men out in
season

OCTOBER,

THURSDAY 30.

1890.

Cold and Cloudy
all day, on line down
to Rose Run

Jack came on at
8 1/2 o'clock 3/4
Boy in morning

FRIDAY 31.

Travelling on Rose Run
this morning

In evening on Farm
Road, Jack & boy 1/2 Day

Morning Cold & Cloudy
with spitting of snow,
evening warm

o.

NOVEMBER,

SATURDAY 1.

1890.

5 1/2 Days Work
5 1/2 " Bran

SUNDAY 2.

NOVEMBER,

MONDAY 3.

1890.

on Iron Road

TUESDAY 4.

Completed Iron Road

2 Days Work
3 Days Road = 15 1/2 Dp

O.

NOVEMBER, WEDNESDAY 5. 1890.

THURSDAY 6.

Waiting train at Olympia
Report says will be 4 1/2 hrs.

NOVEMBER,

FRIDAY 7.

1890.

SATURDAY 8.

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1890

Ashland

MEMORANDA.

Dr

Date.

Dolls. Cts.

Mar 3

To Check

397 75
97 13

" 5

"

"

W

1200 MEMORANDA.

68

Cts.	Date.		Dolls.	Cts.
75	ma 3	By Cash	97	75
13	5	"	7	13
	Apr			
	14	"	40	00

BILLS RECEIVABLE.

Date.

Name.

Dolls. Cts.

D

BILLS PAYABLE.

s.	Date.	Name.	Dolls.	Cts.
----	-------	-------	--------	------

March CASH ACCOUNT — *March* JANUARY.

Date.		Received.	Paid.	Date.
<i>Feb 3</i>	<i>Ashtabuta Bank</i>	<i>91 70 39</i>	<i>75</i>	
<i>B-</i>	<i>Chas. H. ...</i>	<i>7 13</i>	<i>97 18</i>	
	<i>" ...</i>			
	<i>Kate Kelley</i>			
	<i>Wood</i>			

CASH ACCOUNT — JANUARY.

Date.

Received.

Paid.

CASH ACCOUNT — FEBRUARY.

Date.

Received.

Paid.

Da

CASH ACCOUNT — FEBRUARY.

Date.

Received.

Paid.

CASH ACCOUNT — MARCH.

Date.		Received.	Paid.	D.
Mar 3	Chack A B	97 75		
	Proagio Bille		6 00	
	Kate Kelley		15 00	
	Moore		2 00	
	Met. Yarn. Met		1 50	
4	Kim. Dlin		50	
5	Bob Chalk	7 13		
6	Fish Hauls 2c		50	
	Oil 2 Chandel		3 00	
8	Bulls		15	
"	Assessment		8 08	
"	Dringles		50	
12	Yarn & Yarns		40	
"	Phil. Lat & C		14 31	
"	Hay & Hay feed		10 00	
	Drugs & C		3 50	
17	Tobacco & Mails		50	
18	Pat by Abby	5 00		
19	Hovst		2 00	
27	Surv 2c		40	
28	Piers		1 25	
29	Hovst in full		1 00	
31	Build ass.		7 50	
31	Vellum Soda		9 00	
Apr 1	Boys Post		2 5	
2	Sugar		50	

CASH ACCOUNT — MARCH.

Date.

Received.

Paid.

CASH ACCOUNT — APRIL.

Date.		Received.	Paid.	Date
4	Wash			
	+ Cham ^{Wash}	10 00	1 25	
	Samtich		75	
5	Cham		1 25	
8	Maile Cigars		50	
	Uby		5 00	
19	Indes out		50	
	Senoua de		40	
	Aperient-		1 00	
10	Meat-de		1 78	
12	Pills		30	
	Lodge dues		4 00	
	Brush		20	
	oil		20	
14	Build Ass	1 00	5 00	
	"	1 00		
	Bank E	40 00		
15	Mede an de		1 25	
	Pants for Bros		7 00	
	Cracks 2 lb		75	
	of Mrs Bartule	2 50		
24	Meat-de		70	
	Brown 2		55	
25	Hill-Bill		11 99	
	Pers		1 50	

CASH ACCOUNT — APRIL.

Date.Received.

Paid.

CASH ACCOUNT — MAY.

Date.		Received.	Paid.	Da
2	Cash to 1st		5 00	
3	Cambusk & Vegetables		80	
	Mary		2 00	
6	Bank of Ashes	50 00		
	Surplus		1 00	
7	Assessment		8 00	
7	Starnum		5 00	
	Mauve		1 00	
	Stonto		5 50	
	Mol.		75	
	B.L. Hyman Check		9 65	
	Powell Check		18 45	
16	Wick Co	2 00		
18	Price	5 00		
	" Work		3 00	
19	Fruit		1 00	
	Carpet		5 50	
22	Joins		10 31	
24	Bank	50 00		
	Starnum		12 00	
26	Stone & Co		5 75	

CASH ACCOUNT—MAY.

[illegible]

CASH ACCOUNT — JUNE.

Date.		Received.	Paid.	
	N. J. Who	30 00		
	Shore		1 00	
5-	Seythe		60	
9	Erubru		14 00	
	Bru		2 50	
14	Bank	50 00		
16	Mud. & Tanton		1 20	
	Tish		50	
	Brook		1 70	
	Church		1 00	
1-	Bank & Hd N 39 00			
17	Ar de		75	
	Coat		3 00	
23	assaut		5 00	
	Spman 12		5 00	
	Stamm		3 00	
	Dray		1 20	
July				

CASH ACCOUNT — JUNE.

Date.

Received.

Paid.

2
 5
 7
 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31

CASH ACCOUNT — JULY.

Date:		Received.	Paid.	
	Match for Assmt- ^{\$8.00}			
2	Book		5 00	
	Gravens		1 00	
3	Settled to July 1 st (Rate)		25 00	
	Children		3 50	
5	"		3 00	
6	Church		1 25	
7	Assessment-		8 00	
8	Termance		3 00	
14	"		1 00	
15	Building ass.		5 00	
30	Check to Paig		7 60	

CASH ACCOUNT—JULY.

CASH ACCOUNT — AUGUST.

Date.		Received.	Paid.	D
2	Ascent		5 00	
	Ice Hony		5 25	
5	Soap		2 10	
5	Peague 13th		5 25	
6	Smack bin		1 25	
7	Jackit dc		2 30	

CASH ACCOUNT — AUGUST.

Date.

Received.

Received.

Paid.

7
5
0
5
5
0

CASH ACCOUNT — AUGUST.

Date.

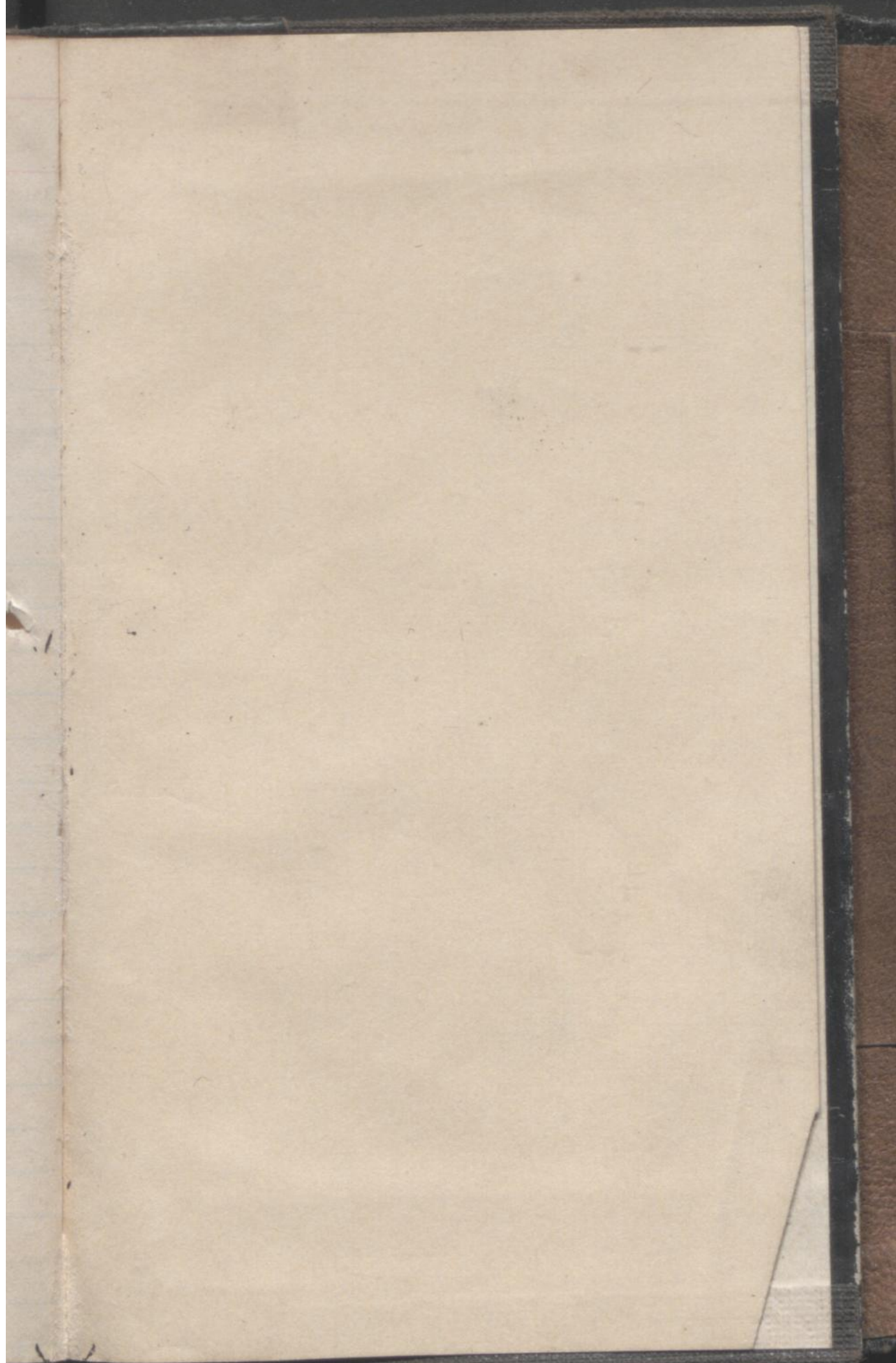
Received.

Paid.

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SUMMARY.

D	Received.	Paid.
Cash on hand Jan. 1,		
JANUARY,		
FEBRUARY,		
MARCH, 3 ⁴ 1	97 75	21 00
APRIL,		
MAY,		
JUNE, 30	500 00	
<i>In Bank</i>	142.90	<i>in Bank</i>
JULY, 1. 1890	642.90	
AUGUST, <i>check</i>	7 60	
SEPTEMBER, 5	635.30	
	100 00	
OCTOBER,	535 30	
NOVEMBER,		
DECEMBER,		
Total,		
Balance to new account,		

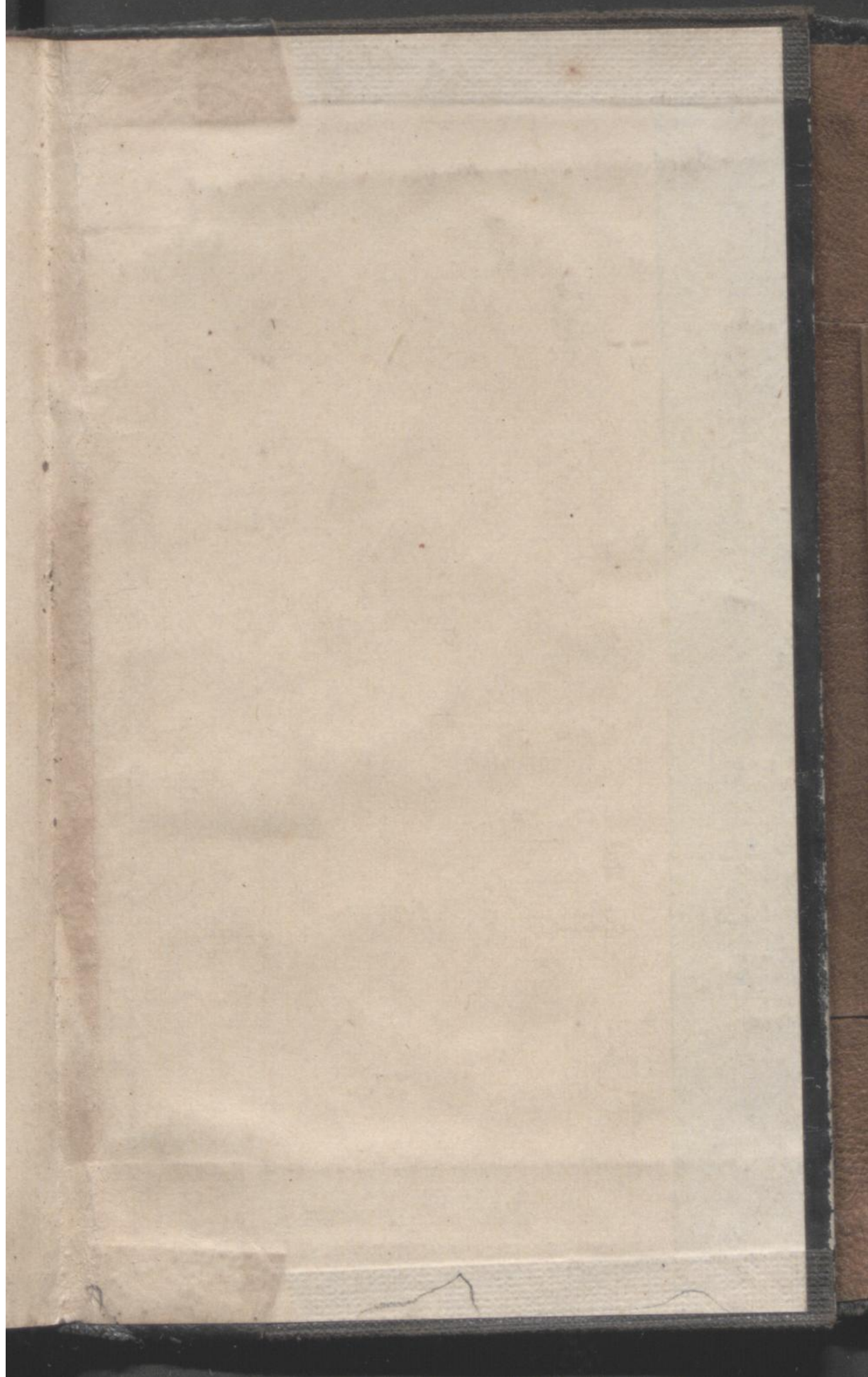


1st 4 1/2p

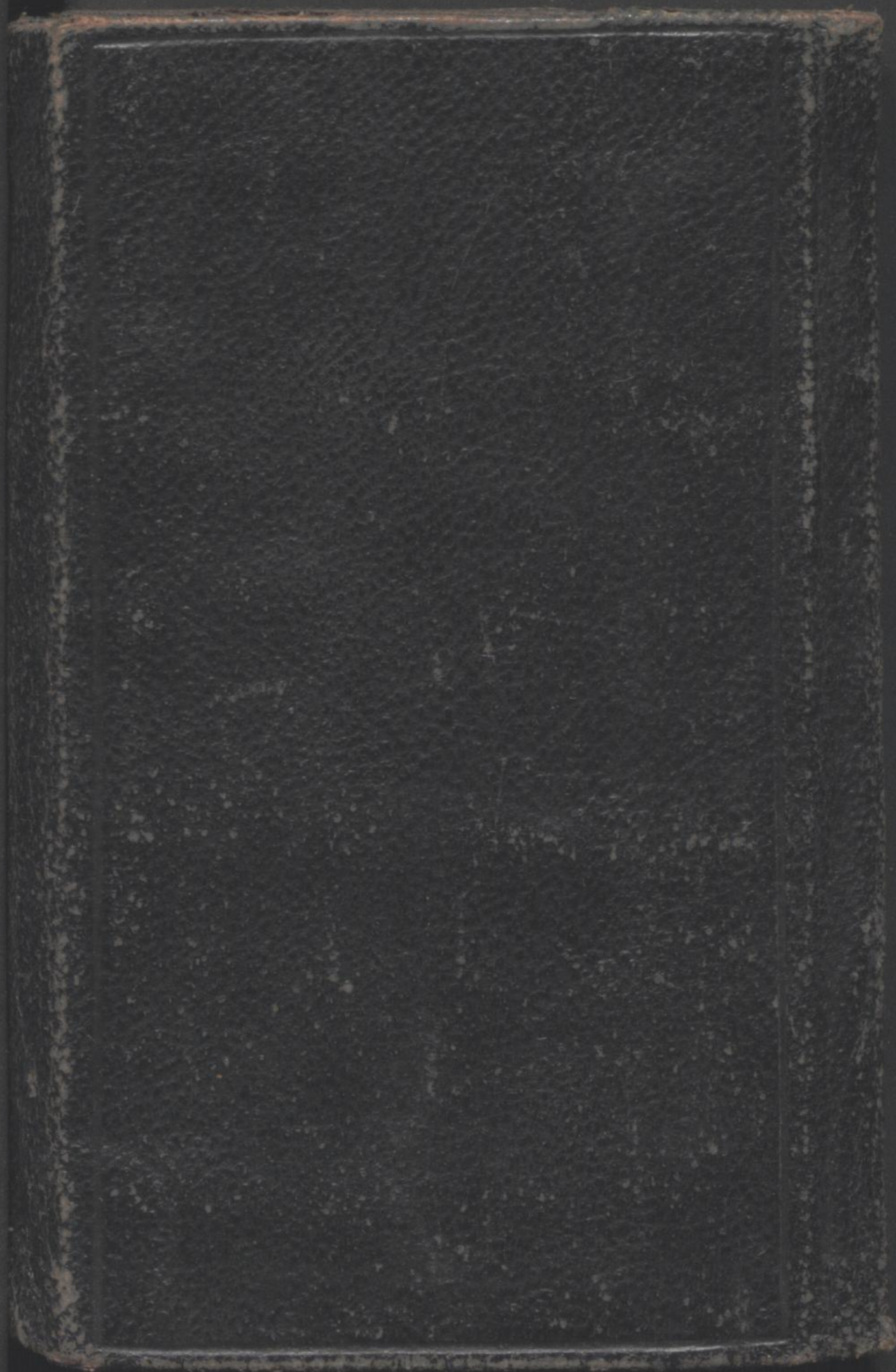
2 4 "

3 5 1/2

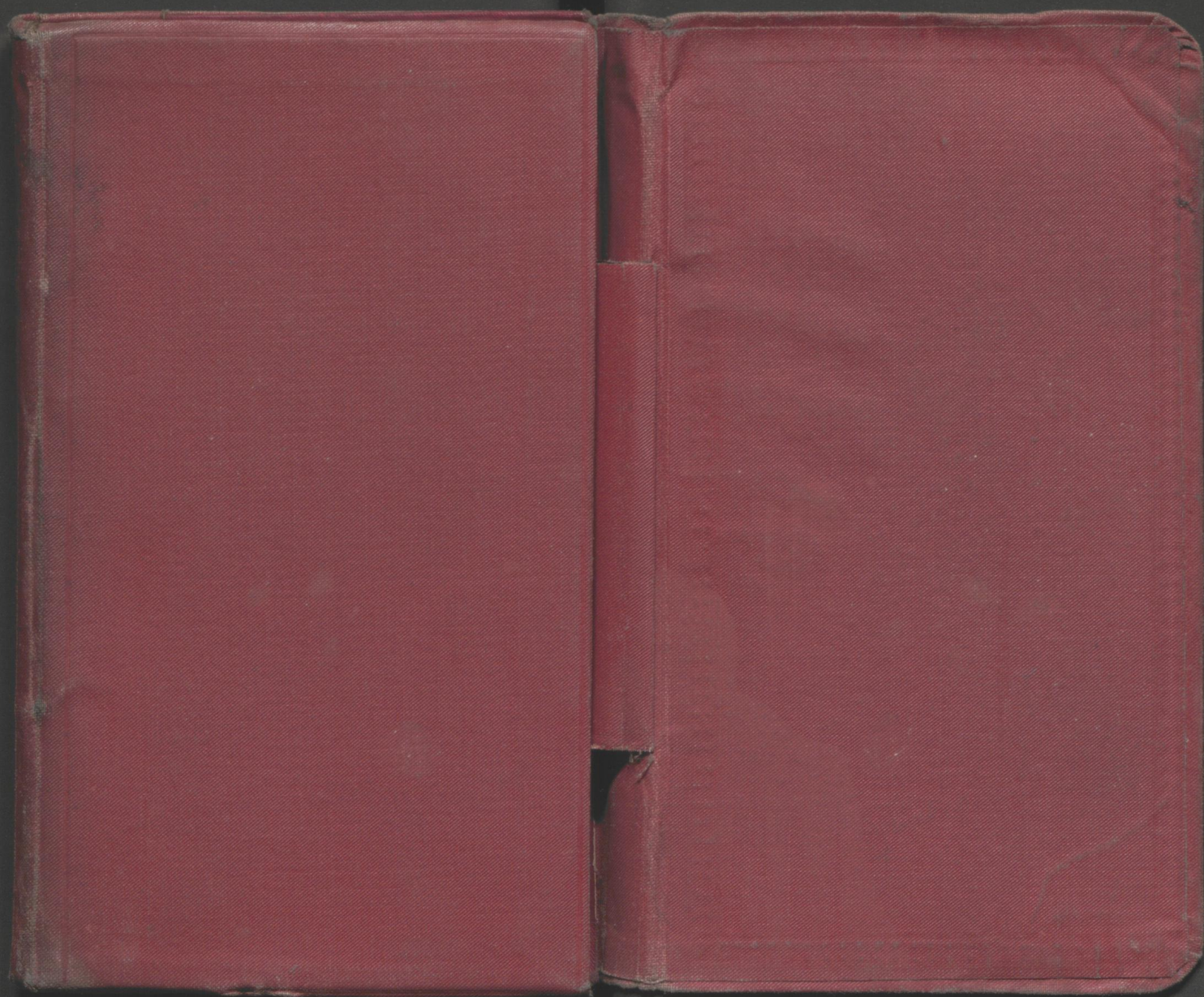
4 2
15 5p



Ex Libris



Emel's Diary



SL

162

M. J. Vittore,

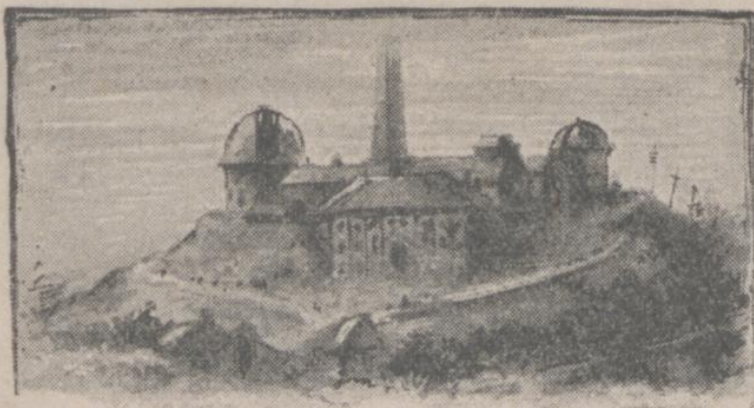
EXCELSIOR
DIARY
FOR



1891



1891.							1891.						
JUNE.	MAY.	APRIL.	MARCH.	FEB'Y.	JAN'Y.	SUNDAY.	DEC'R.	NOV'R.	OCT'R.	SEPT'R.	AUGUST.	JULY.	SUNDAY.
1	3	5	1	1	4	..	27	8	4	6	2	5	..
2	4	6	2	2	5	..	28	9	5	7	3	6	..
3	5	7	3	3	6	..	29	10	6	8	4	7	..
4	6	8	4	4	7	..	30	11	7	9	5	8	..
5	7	9	5	5	8	..	31	12	8	10	6	9	..
6	8	10	6	6	9	..	1	1	9	11	7	10	..
7	9	11	7	7	10	..	2	2	10	12	8	11	..
8	10	12	8	8	11	..	3	3	11	1	9	12	..
9	11	13	9	9	12	..	4	4	12	2	10	1	..
10	12	14	10	10	13	..	5	5	1	3	11	2	..
11	13	15	11	11	14	..	6	6	2	4	12	3	..
12	14	16	12	12	15	..	7	7	3	5	1	4	..
13	15	17	13	13	16	..	8	8	4	6	2	5	..
14	16	18	14	14	17	..	9	9	5	7	3	6	..
15	17	19	15	15	18	..	10	10	6	8	4	7	..
16	18	20	16	16	19	..	11	11	7	9	5	8	..
17	19	21	17	17	20	..	12	12	8	10	6	9	..
18	20	22	18	18	21	..	1	1	9	11	7	10	..
19	21	23	19	19	22	..	2	2	10	12	8	11	..
20	22	24	20	20	23	..	3	3	11	1	9	12	..
21	23	25	21	21	24	..	4	4	12	2	10	1	..
22	24	26	22	22	25	..	5	5	1	3	11	2	..
23	25	27	23	23	26	..	6	6	2	4	12	3	..
24	26	28	24	24	27	..	7	7	3	5	1	4	..
25	27	29	25	25	28	..	8	8	4	6	2	5	..
26	28	30	26	26	29	..	9	9	5	7	3	6	..
27	29	31	27	27	30	..	10	10	6	8	4	7	..
28	30	..	28	28	31	..	11	11	7	9	5	8	..
29	31	..	29	29	..	..	12	12	8	10	6	9	..
30	..	..	30	30	..	..	1	1	9	11	7	10	..
31	..	..	..	..	..	..	2	2	10	12	8	11	..



ECLIPSES, 1891.

There will be four Eclipses in the year 1891, two of the Sun and two of the Moon, and a Transit of the Planet Mercury over the Sun's disk, as follows:

- I. A Total Eclipse of the Moon, May 23, invisible in America.
- II. An Annular Eclipse of the Sun, June 6, invisible in the Eastern and Southern States, the Southern line of the Eclipse extending from Quebec to St. Louis, and through Nor. Texas.
- III. A Total Eclipse of the Moon, Nov. 15, visible generally throughout the American Continent. The following is the time for New York City; for other points apply the difference in longitude expressed in time, subtracting if West and adding if East of New York. Eclipse begins, 5.39 eve. Total begins, 6.41 eve. Middle, 7.23 eve. Total ends, 8.05 eve. Part. ends, 9.07 eve.
- IV. A Partial Eclipse of the Sun, Dec. 1, invisible in North America.
- V. A Transit of the Planet Mercury across the Sun's disk, May 9; the beginning will be invisible on New England and Atlantic seaboard, north of Charleston, and occurs at 6 h. 46 m. 6 s. at Washington, the Sun setting at 7 h.; at Chicago, 6 h. 4 m. eve.; San Francisco, 3 h. 44 m. eve.

MORNING STARS.

MERCURY, from Jan. 13 to March 23, May 9 to July 7, Sept. 13 to Oct. 27 and after Dec. 28. VENUS, until Sept. 18. MARS, after July 30. JUPITER, from Feb. 13 to June 7. SATURN, from Sept. 13 to Dec. 21. URANUS, until Jan. 21 and after Oct. 25, and NEPTUNE, from May 27 to Sept. 1.

EVENING STARS.

MERCURY, until Jan. 13, and from March 23 to May 9, July 7 to Sept. 13, and Oct. 27 to Dec. 28. VENUS, after Sept. 18. MARS, until July 30. JUPITER until Feb. 13, and after June 7. SATURN, until Sept. 13, and after Dec. 21. URANUS, from Jan. 21 to October 25, and NEPTUNE, until May 27, and after Sept. 1.

MOVABLE FEASTS.

Septuagesima Sunday. Jan. 25	Easter Sunday. Mar. 29
Sexagesima " " Feb. 1	Low " " Apr. 5
Quinquagesima " " 8	Rogation " " May. 3
Ash-Wednesday. " 11	Ascension Day. " 7
Quadragesima Sun. " 15	Whit-Sunday (Pent.). " 17
Mid-Lent Sunday. Mar. 8	Trinity Sunday. " 24
Palm Sunday. " 22	Corpus Christi. " 28
Good Friday. " 27	Advent Sunday. Nov. 29

CHRONOLOGICAL CYCLES.

Dominical Letter. D	Roman Indiction. 4
Epact. 20	Julian Period. 6604
Golden No. (Lunar Cycle) 11	Dionysian Period. 264
Solar Cycle. 24	Jewish Lunar Cycle. 8

HEAVY-FACE Figures in these Almanac pages indicate time from 6 P. M. to 6 A. M.





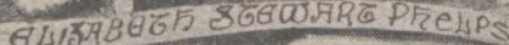
JOHN G. WHITTIER

❖ JANUARY ❖ 1891 ❖

MOON'S PHASES.	EASTERN TIME.	CENTRAL TIME.
Last Quarter..... 3 D.	5 H. 12 M. mo.	4 H. 12 M. mo.
New Moon 10 D.	10 H. 24 M. mo.	9 H. 24 M. mo.
First Quarter..... 17 D.	1 H. 17 M. mo.	0 H. 17 M. mo.
Full Moon..... 24 D.	7 H. 25 M. ev.	6 H. 25 M. ev.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
7 25	4 43	10 52	ev. 35	1	Th.	7 30	4 38	10 51	3 49
7 25	4 44	11 52	1 20	2	Fr.	7 30	4 39	11 52	4 33
7 25	4 45	morn.	2 4	3	Sa.	7 30	4 40	morn.	5 18
7 25	4 46	51	2 55	4	S.	7 30	4 41	52	6 9
7 25	4 47	1 55	3 48	5	M.	7 30	4 42	1 57	7 3
7 25	4 48	3 0	4 44	6	Tu.	7 29	4 43	3 4	7 59
7 25	4 49	4 11	5 55	7	W.	7 29	4 44	4 15	9 0
7 24	4 50	5 22	6 43	8	Th.	7 29	4 45	5 28	9 57
7 24	4 51	6 32	7 39	9	Fr.	7 29	4 46	6 38	10 56
7 24	4 52	sets.	8 33	10	Sa.	7 29	4 47	sets.	11 51
7 24	4 53	6 11	9 30	11	S.	7 29	4 48	6 6	morn.
7 23	4 54	7 30	10 22	12	M.	7 28	4 50	7 26	44
7 23	4 55	8 47	11 9	13	Tu.	7 28	4 51	8 44	1 37
7 23	4 56	10 1	11 59	14	W.	7 28	4 52	10 0	2 26
7 22	4 57	11 13	morn.	15	Th.	7 27	4 53	11 13	3 3
7 22	4 59	morn.	51	16	Fr.	7 27	4 54	morn.	4 4
7 21	5 0	22	1 44	17	Sa.	7 26	4 55	23	4 57
7 21	5 1	1 28	2 38	18	S.	7 26	4 56	1 30	5 52
7 21	5 2	2 35	3 35	19	M.	7 25	4 58	2 38	6 49
7 20	5 3	3 40	4 36	20	Tu.	7 24	4 59	3 45	7 51
7 19	5 4	4 43	5 34	21	W.	7 24	5 0	4 48	8 49
7 18	5 5	5 41	6 29	22	Th.	7 23	5 1	5 47	9 43
7 17	5 7	6 35	7 18	23	Fr.	7 22	5 3	6 41	10 33
7 17	5 8	rises.	8 2	24	Sa.	7 22	5 4	rises.	11 20
7 16	5 9	5 47	8 45	25	S.	7 21	5 5	5 43	12 0
7 16	5 10	6 46	9 26	26	M.	7 20	5 6	6 42	ev. 40
7 15	5 11	7 46	10 4	27	Tu.	7 19	5 8	7 44	1 18
7 14	5 13	8 43	10 38	28	W.	7 18	5 9	8 42	1 56
7 13	5 14	9 43	11 15	29	Th.	7 17	5 10	9 42	2 32
7 12	5 15	10 40	11 54	30	Fr.	7 16	5 12	10 41	3 9
7 12	5 16	11 41	ev. 34	31	Sa.	7 15	5 13	11 43	3 48





✧ FEBRUARY ✧ 1891 ✧

MOON'S PHASES.		EASTERN TIME.	CENTRAL TIME.
Last Quarter.....	1 D.	11 H. 42 M. ev.	10 H. 42 M. ev.
New Moon	8 D.	9 H. 12 M. ev.	8 H. 12 M. ev.
First Quarter.....	15 D.	1 H. 29 M. ev.	0 H. 29 M. ev.
Full Moon.....	23 D.	2 H. 18 M. ev.	1 H. 18 M. ev.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
7 11	5 18	morn.	1 21	1	S.	7 14	5 14	morn.	4 3
7 10	5 19	45	2 12	2	M.	7 13	5 15	48	5 26
7 9	5 20	1 50	3 9	3	Tu.	7 12	5 16	1 54	6 23
7 7	5 21	2 59	4 14	4	W.	7 11	5 18	3 4	7 28
7 6	5 22	4 9	5 20	5	Th.	7 10	5 19	4 15	8 35
7 5	5 23	5 16	6 27	6	Fr.	7 9	5 21	5 22	9 41
7 4	5 25	6 15	7 27	7	Sa.	7 8	5 22	6 21	10 43
7 3	5 26	7 7	8 19	8	S.	7 6	5 23	7 12	11 37
7 2	5 27	sets.	9 13	9	M.	7 5	5 24	sets.	morn.
7 1	5 28	7 39	10 1	10	Tu.	7 4	5 25	7 37	26
7 0	5 30	8 53	10 45	11	W.	7 2	5 26	8 53	1 15
6 58	5 31	10 6	11 30	12	Th.	7 1	5 28	10 7	2 3
6 57	5 32	11 18	morn.	13	Fr.	7 0	5 29	11 20	2 46
6 56	5 34	morn.	20	14	Sa.	6 59	5 30	morn.	3 34
6 55	5 35	26	1 12	15	S.	6 57	5 32	29	4 25
6 53	5 36	1 33	2 8	16	M.	6 56	5 33	1 38	5 22
6 52	5 37	2 37	3 9	17	Tu.	6 54	5 35	2 42	6 23
6 51	5 39	3 37	4 10	18	W.	6 53	5 36	3 43	7 25
6 49	5 40	4 32	5 12	19	Th.	6 52	5 38	4 38	8 27
6 48	5 41	5 21	6 8	20	Fr.	6 50	5 39	5 27	9 22
6 46	5 43	6 3	6 57	21	Sa.	6 48	5 40	6 9	10 11
6 45	5 44	6 36	7 39	22	S.	6 47	5 42	6 40	10 56
6 44	5 45	rises.	8 16	23	M.	6 45	5 43	rises.	11 34
6 42	5 46	6 36	8 55	24	Tu.	6 44	5 45	6 34	ev. 9
6 41	5 48	7 36	9 32	25	W.	6 42	5 46	7 35	46
6 39	5 49	8 34	10 7	26	Th.	6 41	5 47	8 35	1 21
6 38	5 50	9 34	10 38	27	Fr.	6 39	5 49	9 36	1 56
6 37	5 51	10 35	11 17	28	Sa.	6 38	5 50	10 37	2 34





✧ MARCH ✧ 1891

MOON'S PHASES.	EASTERN TIME.	CENTRAL TIME.
Last Quarter. 3 D.	2 H. 37 M. ev.	1 H. 37 M. ev.
New Moon 10 D.	6 H. 51 M. mo.	5 H. 51 M. mo.
First Quarter..... 17 D.	4 H. 10 M. mo.	3 H. 10 M. mo.
Full Moon..... 25 D.	8 H. 12 M. mo.	7 H. 12 M. mo.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
6 35	5 53	11 39	11 58	1	S.	6 36	5 51	11 43	3 13
6 34	5 53	morn.	ev. 45	2	M.	6 35	5 52	morn.	3 58
6 32	5 54	45	1 40	3	Tu.	6 33	5 53	50	4 53
6 30	5 55	1 53	2 42	4	W.	6 31	5 54	1 59	5 57
6 29	5 56	2 59	3 52	5	Th.	6 30	5 55	3 5	7 7
6 27	5 57	4 0	5 3	6	Fr.	6 28	5 56	4 6	8 19
6 25	5 58	4 43	6 13	7	Sa.	6 26	5 57	4 48	9 27
6 24	5 59	5 38	7 10	8	S.	6 25	5 58	5 43	10 25
6 22	6 0	6 16	8 1	9	M.	6 23	5 59	6 19	11 19
6 20	6 1	sets.	8 49	10	Tu.	6 21	6 0	sets.	morn.
6 19	6 2	7 41	9 34	11	W.	6 20	6 2	7 42	4
6 17	6 3	8 54	10 18	12	Th.	6 18	6 3	8 56	48
6 16	6 4	10 8	11 2	13	Fr.	6 16	6 4	10 11	1 33
6 14	6 5	11 18	11 50	14	Sa.	6 14	6 5	11 22	2 20
6 12	6 6	morn.	morn.	15	S.	6 13	6 6	morn.	3 5
6 11	6 8	27	43	16	M.	6 11	6 7	32	3 57
6 9	6 9	1 31	1 42	17	Tu.	6 9	6 9	1 37	4 55
6 7	6 10	2 28	2 42	18	W.	6 7	6 10	2 32	5 56
6 6	6 11	3 18	3 46	19	Th.	6 6	6 11	3 24	7 1
6 4	6 12	4 2	4 45	20	Fr.	6 4	6 12	4 8	8 0
6 2	6 13	4 38	5 41	21	Sa.	6 2	6 13	4 42	8 56
6 1	6 14	5 9	6 29	22	S.	6 0	6 14	5 13	9 43
5 59	6 15	5 36	7 10	23	M.	5 59	6 15	5 39	10 25
5 58	6 16	6 0	7 47	24	Tu.	5 57	6 16	6 1	11 4
5 56	6 17	rises.	8 20	25	W.	5 55	6 17	rises.	11 38
5 54	6 18	7 27	8 57	26	Th.	5 53	6 18	7 29	ev. 11
5 52	6 19	8 28	9 34	27	Fr.	5 52	6 19	8 30	48
5 51	6 20	9 33	10 10	28	Sa.	5 50	6 20	9 36	1 24
5 49	6 21	10 37	10 47	29	S.	5 48	6 21	10 41	2 5
5 47	6 22	11 44	11 30	30	M.	5 46	6 22	11 49	2 46
5 45	6 23	morn.	ev. 23	31	Tu.	5 44	6 23	morn.	3 37



✧ APRIL ✧ 1891 ✧

MOON'S PHASES.		EASTERN TIME.	CENTRAL TIME.
Last Quarter.	2 D.	1 H. 30 M. mo.	0 H. 30 M. mo.
New Moon	8 D.	3 H. 57 M. ev.	2 H. 57 M. ev.
First Quarter.....	15 D.	8 H. 40 M. ev.	7 H. 40 M. ev.
Full Moon.....	24 D.	0 H. 5 M. mo.	11 H. 5 M. (23)

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
5 44	6 24	50	1 23	1	W.	5 43	6 25	56	4 36
5 42	6 26	1 50	2 30	2	Th.	5 41	6 27	1 56	5 44
5 41	6 27	2 46	3 42	3	Fr.	5 40	6 28	2 52	6 57
5 39	6 28	3 32	4 51	4	Sa.	5 38	6 29	3 37	8 7
5 37	6 29	4 10	5 53	5	S.	5 36	6 30	4 14	9 8
5 36	6 30	4 45	6 49	6	M.	5 35	6 31	4 47	10 3
5 34	6 31	5 16	7 36	7	Tu.	5 33	6 32	5 17	10 53
5 33	6 32	5 43	8 20	8	W.	5 31	6 33	5 42	11 38
5 31	6 33	sets.	9 9	9	Th.	5 30	6 34	sets.	morn.
5 30	6 34	8 55	9 52	10	Fr.	5 28	6 36	8 58	21
5 28	6 35	10 6	10 37	11	Sa.	5 26	6 37	10 11	1 6
5 26	6 36	11 16	11 24	12	S.	5 25	6 38	11 21	1 53
5 25	6 37	morn.	morn.	13	M.	5 23	6 39	morn.	2 42
5 24	6 38	18	19	14	Tu.	5 21	6 40	24	3 33
5 22	6 39	1 12	1 16	15	W.	5 20	6 41	1 17	4 29
5 20	6 40	1 59	2 16	16	Th.	5 18	6 42	2 5	5 30
5 19	6 41	2 27	3 15	17	Fr.	5 16	6 43	2 32	6 29
5 17	6 42	3 14	4 11	18	Sa.	5 15	6 45	3 18	7 26
5 16	6 43	3 39	5 2	19	S.	5 13	6 46	3 42	8 15
5 14	6 44	4 8	5 50	20	M.	5 12	6 47	4 10	9 5
5 13	6 45	4 28	6 33	21	Tu.	5 10	6 48	4 29	9 47
5 11	6 46	4 49	7 10	22	W.	5 9	6 49	4 49	10 25
5 10	6 47	rises.	7 48	23	Th.	5 7	6 50	rises.	11 5
5 8	6 48	7 24	8 22	24	Fr.	5 6	6 51	7 27	11 40
5 7	6 49	8 29	9 3	25	Sa.	5 4	6 52	8 33	ev. 17
5 6	6 50	9 37	9 45	26	S.	5 3	6 53	9 42	59
5 4	6 51	10 43	10 27	27	M.	5 1	6 55	10 49	1 43
5 3	6 52	11 46	11 16	28	Tu.	5 0	6 56	11 52	2 33
5 2	6 53	morn.	ev.	12 29	W.	4 58	6 57	morn.	3 27
5 0	6 55	43	1 14	30	Th.	4 57	6 58	49	4 27





✧ MAY ✧ 1891 ✧

MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.	
Last Quarter.	 1 D.	8 H. 51 M. mo.		7 H. 51 M. mo.	
New Moon	 8 D.	1 H. 15 M. mo.		0 H. 15 M. mo.	
First Quarter.	 15 D.	2 H. 4 M. ev.		1 H. 4 M. ev.	
Full Moon.	 23 D.	1 H. 26 M. ev.		0 H. 26 M. ev.	
Last Quarter.	 30 D.	1 H. 54 M. ev.		0 H. 54 M. ev.	

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
4 59	6 56	1 28	2 21	1	Fr.	4 56	7 0	1 34	5 35
4 58	6 57	2 10	3 27	2	Sa.	4 54	7 1	2 14	6 31
4 56	6 58	2 44	4 31	3	S.	4 53	7 2	2 47	7 45
4 55	6 59	3 14	5 30	4	M.	4 52	7 3	3 16	8 45
4 54	7 0	3 41	6 23	5	Tu.	4 51	7 4	3 42	9 37
4 53	7 1	4 11	7 11	6	W.	4 49	7 5	4 10	10 26
4 52	7 2	4 38	7 55	7	Th.	4 48	7 6	4 38	11 13
4 51	7 3	sets.	8 40	8	Fr.	4 47	7 7	sets.	11 57
4 49	7 4	8 54	9 29	9	Sa.	4 46	7 8	9 0	morn.
4 48	7 5	10 2	10 16	10	S.	4 44	7 9	10 8	43
4 47	7 6	11 1	11 3	11	M.	4 43	7 10	11 7	1 31
4 46	7 7	11 54	11 56	12	Tu.	4 42	7 11	12 0	2 20
4 45	7 8	morn.	morn.	13	W.	4 41	7 12	morn.	3 11
4 44	7 9	37	47	14	Th.	4 40	7 13	42	4 2
4 43	7 10	1 12	1 43	15	Fr.	4 39	7 14	1 16	4 56
4 42	7 11	1 42	2 35	16	Sa.	4 38	7 15	1 46	5 49
4 41	7 12	2 7	3 27	17	S.	4 37	7 16	2 10	6 41
4 40	7 13	2 31	4 18	18	M.	4 36	7 17	2 33	7 33
4 39	7 14	2 53	5 2	19	Tu.	4 35	7 18	2 53	8 18
4 39	7 15	3 15	5 49	20	W.	4 34	7 19	3 14	9 4
4 38	7 16	3 38	6 32	21	Th.	4 33	7 20	3 36	9 46
4 37	7 17	4 4	7 14	22	Fr.	4 32	7 21	4 1	10 29
4 36	7 18	rises.	7 53	23	Sa.	4 31	7 22	rises.	11 12
4 36	7 19	8 33	8 39	24	S.	4 31	7 23	8 39	11 56
4 35	7 20	9 38	9 27	25	M.	4 30	7 24	9 44	ev. 41
4 34	7 20	10 38	10 16	26	Tu.	4 29	7 25	10 44	1 31
4 34	7 21	11 29	11 7	27	W.	4 29	7 26	11 34	2 24
4 33	7 22	morn.	ev. 4	28	Th.	4 28	7 27	morn.	3 19
4 32	7 23	12	1 4	29	Fr.	4 27	7 28	17	4 17
4 32	7 23	46	2 1	30	Sa.	4 27	7 28	50	5 15
4 31	7 24	1 17	3 5	31	S.	4 26	7 29	1 19	6 19



❖ JUNE ❖ 1891 ❖

MOON'S PHASES.	EASTERN TIME.	CENTRAL TIME.
New Moon 6 D.	11 H. 26 M. mo.	10 H. 26 M. mo.
First Quarter..... 14 D.	7 H. 34 M. mo.	6 H. 34 M. mo.
Full Moon..... 23 D.	0 H. 12 M. mo.	11 H. 12 M. (22)
Last Quarter..... 28 D.	6 H. 16 M. ev.	5 H. 16 M. ev.

New-York City. Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H. W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H. W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
4 31	7 24	1 44	4 3	1	M.	4 25	7 30	1 45	7 18
4 30	7 25	2 13	4 59	2	Tu.	4 25	7 30	2 12	8 15
4 30	7 26	2 39	5 54	3	W.	4 25	7 31	2 37	9 9
4 30	7 26	3 9	6 46	4	Th.	4 24	7 32	3 6	10 0
4 29	7 27	3 42	7 40	5	Fr.	4 24	7 32	3 38	10 54
4 29	7 28	4 21	8 20	6	Sa.	4 24	7 33	4 16	11 38
4 29	7 28	sets.	9 11	7	S.	4 23	7 33	sets.	morn.
4 29	7 29	9 43	9 59	8	M.	4 23	7 34	9 49	24
4 28	7 30	10 30	10 42	9	Tu.	4 23	7 35	10 36	1 15
4 28	7 30	11 9	11 28	10	W.	4 23	7 36	11 14	2 0
4 28	7 31	11 42	morn.	11	Th.	4 22	7 36	11 46	2 46
4 28	7 31	morn.	16	12	Fr.	4 22	7 37	morn.	3 30
4 28	7 32	9	1 3	13	Sa.	4 22	7 37	12	4 16
4 28	7 32	34	1 48	14	S.	4 22	7 38	36	5 1
4 28	7 32	57	2 36	15	M.	4 22	7 38	58	5 50
4 28	7 33	1 18	3 25	16	Tu.	4 22	7 38	1 17	6 39
4 28	7 33	1 41	4 14	17	W.	4 22	7 39	1 39	7 28
4 28	7 33	2 4	5 1	18	Th.	4 22	7 39	2 1	8 17
4 28	7 34	2 31	5 53	19	Fr.	4 22	7 39	2 27	9 8
4 29	7 34	3 5	6 44	20	Sa.	4 23	7 40	3 0	9 58
4 29	7 34	rises.	7 34	21	S.	4 23	7 40	rises.	10 50
4 29	7 34	8 28	8 22	22	M.	4 23	7 40	8 34	11 40
4 29	7 34	9 24	9 17	23	Tu.	4 23	7 40	9 30	ev. 30
4 29	7 34	10 10	10 9	24	W.	4 23	7 40	10 15	1 23
4 30	7 35	10 49	10 57	25	Th.	4 24	7 41	10 53	2 15
4 30	7 35	11 21	11 50	26	Fr.	4 24	7 41	11 24	3 5
4 30	7 35	11 48	ev. 43	27	Sa.	4 24	7 41	11 50	3 57
4 29	7 35	morn.	1 39	28	S.	4 25	7 40	morn.	4 52
4 29	7 35	16	2 34	29	M.	4 25	7 40	16	5 48
4 29	7 35	42	3 32	30	Tu.	4 26	7 40	41	6 46





WILLIAM DEAN HOWELLS

❖ JULY ❖ 1891 ❖

MOON'S PHASES.	EASTERN TIME.	CENTRAL TIME.
New Moon 5 D.	10 H. 58 M. ev.	9 H. 58 M. ev.
First Quarter..... 15 D.	0 H. 29 M. mo.	11 H. 29 M. (14)
Full Moon..... 21 D.	8 H. 54 M. mo.	7 H. 54 M. mo.
Last Quarter..... 27 D.	11 H. 32 M. ev.	10 H. 32 M. ev.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
4 32	7 35	1 10	4 32	1	W.	4 26	7 40	1 8	7 47
4 32	7 35	1 43	5 30	2	Th.	4 26	7 40	1 39	8 45
4 33	7 34	2 18	6 24	3	Fr.	4 27	7 40	2 13	9 40
4 33	7 34	3 1	7 18	4	Sa.	4 28	7 40	2 55	10 33
4 34	7 34	3 49	8 4	5	S.	4 29	7 39	3 43	11 21
4 35	7 34	sets.	8 54	6	M.	4 29	7 39	sets.	morn.
4 35	7 33	9 7	9 38	7	Tu.	4 30	7 39	9 12	9
4 36	7 33	9 41	10 20	8	W.	4 30	7 38	9 46	52
4 37	7 33	10 12	10 58	9	Th.	4 31	7 38	10 15	1 35
4 37	7 32	10 36	11 38	10	Fr.	4 32	7 38	10 39	2 16
4 38	7 32	11 0	morn.	11	Sa.	4 33	7 37	11 1	2 54
4 39	7 31	11 22	19	12	S.	4 33	7 37	11 22	3 33
4 39	7 31	11 43	1 2	13	M.	4 34	7 36	11 42	4 15
4 40	7 30	morn.	1 45	14	Tu.	4 35	7 36	morn.	4 58
4 41	7 30	5	2 33	15	W.	4 36	7 35	3	5 47
4 42	7 29	30	3 25	16	Th.	4 37	7 34	26	6 39
4 43	7 29	1 0	4 21	17	Fr.	4 37	7 34	55	7 36
4 44	7 28	1 37	5 20	18	Sa.	4 38	7 33	1 32	8 35
4 44	7 27	2 22	6 21	19	S.	4 39	7 32	2 16	9 35
4 45	7 26	3 20	7 18	20	M.	4 40	7 31	3 14	10 33
4 46	7 26	rises.	8 11	21	Tu.	4 41	7 30	rises.	11 28
4 47	7 25	8 50	9 5	22	W.	4 42	7 30	8 55	ev. 19
4 48	7 24	9 22	9 56	23	Th.	4 43	7 29	9 25	1 10
4 48	7 23	9 52	10 41	24	Fr.	4 44	7 28	9 54	1 57
4 49	7 23	10 18	11 28	25	Sa.	4 45	7 27	10 18	2 46
4 50	7 22	10 45	ev. 18	26	S.	4 46	7 26	10 44	3 32
4 51	7 21	11 12	1 10	27	M.	4 47	7 25	11 10	4 23
4 52	7 20	11 44	2 3	28	Tu.	4 48	7 24	11 41	5 17
4 53	7 19	morn.	3 6	29	W.	4 49	7 23	morn.	6 20
4 54	7 18	18	4 7	30	Th.	4 50	7 22	13	7 22
4 55	7 17	58	5 11	31	Fr.	4 51	7 21	53	8 26





❖ AUGUST ❖ 1891 ❖

MOON'S PHASES.	EASTERN TIME.	CENTRAL TIME.
New Moon 4 D.	0 H. 12 M. ev.	11 H. 12 M. mo.
First Quarter..... 12 D.	4 H. 11 M. ev.	3 H. 11 M. ev.
Full Moon..... 19 D.	4 H. 28 M. ev.	3 H. 28 M. ev.
Last Quarter..... 26 D.	7 H. 9 M. mo.	6 H. 9 M. mo.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H. W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H. W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
47	56	716	144 6 9	1	Sa.	452	720	138 9 23	
45	57	714	237 7 3	2	S.	453	718	231 10 17	
40	58	713	335 7 50	3	M.	454	717	329 11 7	
33	59	712	sets. 8 40	4	Tu.	455	716	sets. 11 45	
21	50	711	8 12 9 13	5	W.	456	715	8 15 morn.	
n.	51	710	8 39 9 50	6	Th.	457	714	8 41 26	
9	52	709	9 3 10 24	7	Fr.	458	712	9 5 1 4	
52	53	707	9 27 10 59	8	Sa.	459	711	9 25 1 40	
35	54	706	9 46 11 36	9	S.	500	710	9 46 2 17	
16	55	705	10 8 morn.	10	M.	501	709	10 6 2 52	
54	56	704	10 30 16	11	Tu.	502	708	10 27 3 30	
33	57	703	10 58 58	12	W.	503	707	10 54 4 11	
15	58	702	11 34 1 48	13	Th.	504	706	11 30 5 1	
58	59	701	1 243 morn.	14	Fr.	505	705	1 557 morn.	
47	510	658	10 3 48	15	Sa.	506	704	4 7 3	
39	511	657	1 2 4 55	16	S.	507	703	54 8 11	
36	512	655	2 3 6 2	17	M.	508	658	1 57 9 16	
35	513	654	3 15 7 4	18	Tu.	510	657	3 10 10 18	
35	514	653	ris. 7 56	19	W.	511	655	ris. 11 14	
33	515	651	7 50 8 47	20	Th.	512	654	7 52 ev. 2	
28	516	650	8 19 9 34	21	Fr.	513	652	8 20 48	
19	517	648	8 47 10 20	22	Sa.	514	651	8 46 1 35	
10	517	647	9 15 11 2	23	S.	515	649	9 13 2 19	
57	518	645	9 45 11 51	24	M.	516	648	9 41 3 6	
46	519	644	10 18 ev. 42	25	Tu.	517	646	10 14 3 56	
32	520	642	10 58 1 41	26	W.	518	644	10 52 4 54	
23	521	641	11 41 2 42	27	Th.	519	643	11 35 5 56	
17	522	639	morn. 3 48	28	Fr.	520	641	morn. 7 3	
10	523	637	35 4 53	29	Sa.	521	639	28 8 9	
2	524	636	1 28 5 51	30	S.	522	638	1 22 9 6	
6	525	634	2 28 6 43	31	M.	523	636	2 23 9 57	





SEPTEMBER 1891

MOON'S PHASES.	EASTERN TIME.	CENTRAL TIME.
New Moon	3 H. 16 M. mo.	2 H. 16 M. mo.
First Quarter.....	6 H. 7 M. mo.	5 H. 7 M. mo.
Full Moon.....	0 H. 4 M. mo.	11 H. 4 M. (17)
Last Quarter.....	6 H. 7 M. ev.	5 H. 7 M. ev.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
5 26	6 33	3 29	7 27	1	Tu.	5 24	6 35	3 25	10 43
5 27	6 31	4 29	8 3	2	W.	5 26	6 33	4 26	11 20
5 28	6 29	sets.	8 41	3	Th.	5 27	6 31	sets.	11 58
5 29	6 28	7 28	9 18	4	Fr.	5 28	6 29	7 29	morn.
5 30	6 26	7 50	9 50	5	Sa.	5 29	6 28	7 50	31
5 31	6 25	8 12	10 25	6	S.	5 30	6 26	8 10	1 4
5 32	6 23	8 34	10 58	7	M.	5 31	6 24	8 32	1 40
5 33	6 21	8 59	11 38	8	Tu.	5 32	6 22	8 55	2 16
5 34	6 20	9 29	morn.	9	W.	5 33	6 21	9 24	2 54
5 35	6 18	10 3	24	10	Th.	5 34	6 19	9 58	3 38
5 36	6 16	10 49	1 16	11	Fr.	5 35	6 17	10 43	4 29
5 37	6 15	11 48	2 17	12	Sa.	5 36	6 15	11 41	5 31
5 38	6 13	morn.	3 27	13	S.	5 37	6 14	morn.	6 41
5 39	6 11	51	4 37	14	M.	5 38	6 12	45	7 52
5 40	6 9	2 5	5 45	15	Tu.	5 39	6 10	2 0	9 0
5 41	6 8	3 22	6 45	16	W.	5 40	6 8	3 18	9 58
5 42	6 6	rises.	7 36	17	Th.	5 41	6 7	rises.	10 53
5 43	6 4	6 45	8 22	18	Fr.	5 43	6 5	6 45	11 40
5 44	6 3	7 14	9 10	19	Sa.	5 44	6 3	7 12	ev. 23
5 45	6 1	7 43	9 55	20	S.	5 45	6 1	7 41	1 9
5 46	5 59	8 26	10 37	21	M.	5 46	6 0	8 22	1 55
5 47	5 58	8 53	11 26	22	Tu.	5 47	5 58	8 48	2 44
5 48	5 56	9 36	ev. 21	23	W.	5 48	5 56	9 30	3 35
5 49	5 55	10 28	1 11	24	Th.	5 49	5 54	10 22	4 34
5 50	5 53	11 23	2 23	25	Fr.	5 50	5 53	11 17	5 37
5 51	5 52	morn.	3 29	26	Sa.	5 51	5 51	morn.	6 43
5 52	5 50	21	4 29	27	S.	5 52	5 49	15	7 44
5 53	5 48	1 22	5 27	28	M.	5 53	5 47	1 18	8 42
5 54	5 46	2 22	6 14	29	Tu.	5 54	5 46	2 18	9 28
5 54	5 44	3 23	6 56	30	W.	5 56	5 44	3 20	10 10



CHARLES EGBERT GRADDOCK

❖ OCTOBER ❖ 1891 ❖

MOON'S PHASES.		EASTERN TIME.	CENTRAL TIME.
New Moon	2 D.	7 H. 58 M. ev.	6 H. 58 M. ev.
First Quarter.....	10 D.	5 H. 56 M. ev.	4 H. 56 M. ev.
Full Moon.....	17 D.	8 H. 45 M. mo.	7 H. 45 M. mo.
Last Quarter.....	24 D.	8 H. 56 M. mo.	7 H. 56 M. mo.

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D.	OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
5 56	5 43	4 21	7 33	1	Th.	5 57	5 42	4 19	10 49
5 57	5 41	5 20	8 5	2	Fr.	5 58	5 40	5 19	11 22
5 58	5 39	sets.	8 41	3	Sa.	5 59	5 39	sets.	11 58
5 59	5 38	6 37	9 17	4	S.	6 0	5 37	6 36	morn.
6 0	5 36	7 3	9 52	5	M.	6 1	5 35	6 59	30
6 1	5 35	7 30	10 29	6	Tu.	6 2	5 33	7 26	1 6
6 2	5 33	8 4	11 11	7	W.	6 3	5 32	7 58	1 45
6 3	5 31	8 45	morn.	8	Th.	6 4	5 30	8 39	2 28
6 4	5 30	9 37	1	9	Fr.	6 6	5 28	9 11	3 16
6 5	5 28	10 35	57	10	Sa.	6 7	5 27	10 29	4 10
6 7	5 27	11 43	2 0	11	S.	6 8	5 25	11 37	5 14
6 8	5 25	morn.	3 10	12	M.	6 9	5 23	morn.	6 24
6 9	5 23	57	4 19	13	Tu.	6 10	5 22	53	7 36
6 10	5 22	2 14	5 24	14	W.	6 11	5 20	2 11	8 39
6 11	5 20	3 30	6 21	15	Th.	6 13	5 19	3 28	9 35
6 12	5 19	4 47	7 10	16	Fr.	6 14	5 17	4 46	10 25
6 13	5 17	rises.	7 55	17	Sa.	6 15	5 15	rises.	11 13
6 14	5 16	6 9	8 41	18	S.	6 16	5 14	6 6	11 56
6 15	5 14	6 46	9 30	19	M.	6 17	5 12	6 41	ev. 44
6 16	5 13	7 28	10 17	20	Tu.	6 18	5 11	7 22	1 32
6 18	5 12	8 19	11 6	21	W.	6 20	5 9	8 12	2 23
6 19	5 10	9 14	ev. 2	22	Th.	6 21	5 8	9 8	3 17
6 20	5 9	10 11	1	23	Fr.	6 22	5 6	9 45	4 13
6 21	5 7	11 13	1 59	24	Sa.	6 23	5 5	11 7	5 13
6 22	5 6	morn.	2 58	25	S.	6 24	5 3	morn.	6 12
6 23	5 4	14	3 54	26	M.	6 26	5 2	10	7 9
6 24	5 3	1 14	4 45	27	Tu.	6 27	5 1	1 11	8 0
6 26	5 2	2 14	5 33	28	W.	6 28	4 59	2 12	8 48
6 27	5 1	3 11	6 16	29	Th.	6 29	4 57	3 10	9 30
6 28	4 59	4 10	7 5	30	Fr.	6 31	4 57	4 10	10 9
6 29	4 58	5 10	7 32	31	Sa.	6 32	4 55	5 11	10 48





HENRY W. LONGFELLOW

NOVEMBER 1891

MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.	
New Moon	1 D.	1 H. 32 M. ev.		0 H. 32 M. ev.	
First Quarter.....	9 D.	3 H. 46 M. mo.		2 H. 46 M. mo.	
Full Moon.....	15 D.	7 H. 16 M. ev.		6 H. 16 M. ev.	
Last Quarter.....	23 D.	3 H. 26 M. mo.		2 H. 26 M. mo.	

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
6 30	4 57	6 10	8 6	1	S.	6 33	4 54	6 12	11 23
6 31	4 56	sets.	8 45	2	M.	6 34	4 53	sets.	12 0
6 32	4 54	6 4	9 26	3	Tu.	6 36	4 51	5 59	morn.
6 34	4 53	6 42	10 11	4	W.	6 37	4 50	6 38	40
6 35	4 52	7 32	10 54	5	Th.	6 38	4 49	7 26	1 25
6 36	4 51	8 29	11 48	6	Fr.	6 39	4 48	8 23	2 12
6 37	4 50	9 32	morn.	7	Sa.	6 41	4 47	9 26	3 3
6 38	4 49	10 42	46	8	S.	6 42	4 45	10 38	3 59
6 40	4 48	11 56	1 47	9	M.	6 43	4 44	11 52	5 0
6 41	4 47	morn.	2 51	10	Tu.	6 44	4 43	morn.	6 5
6 42	4 46	1 9	3 52	11	W.	6 46	4 42	1 7	7 7
6 43	4 45	1 34	4 53	12	Th.	6 47	4 41	2 33	8 9
6 44	4 44	3 38	5 50	13	Fr.	6 48	4 40	3 38	9 5
6 46	4 43	4 52	6 42	14	Sa.	6 49	4 39	4 54	9 56
6 47	4 42	6 8	7 32	15	S.	6 51	4 39	6 12	10 48
6 48	4 41	rises.	8 16	16	M.	6 52	4 38	rises.	11 34
6 49	4 40	6 3	9 9	17	Tu.	6 53	4 37	5 57	ev. 22
6 50	4 39	6 59	9 59	18	W.	6 54	4 36	6 52	1 13
6 51	4 39	7 58	10 47	19	Th.	6 56	4 35	7 51	2 5
6 53	4 38	8 59	11 41	20	Fr.	6 57	4 34	8 54	2 57
6 54	4 38	10 2	ev. 34	21	Sa.	6 58	4 34	9 57	3 48
6 55	4 37	11 8	1 27	22	S.	6 59	4 33	11 4	4 40
6 56	4 36	morn.	2 35	23	M.	7 0	4 32	morn.	5 49
6 57	4 36	14	3 10	24	Tu.	7 2	4 32	12	6 24
6 58	4 35	1 3	3 59	25	W.	7 3	4 31	1 1	7 14
6 59	4 35	2 1	4 43	26	Th.	7 4	4 31	2 0	7 58
7 0	4 35	2 59	5 30	27	Fr.	7 5	4 30	3 0	8 45
7 2	4 34	3 59	6 14	28	Sa.	7 6	4 30	4 1	9 28
7 3	4 34	5 1	6 57	29	S.	7 7	4 30	5 4	10 11
7 4	4 34	6 6	7 37	30	M.	7 8	4 29	6 10	10 54



SARAH ORNE JEWETT.

❖ DECEMBER ❖ 1891 ❖

MOON'S PHASES.		EASTERN TIME.		CENTRAL TIME.	
New Moon	1 D.	6 H. 45 M. mo.		5 H. 45 M. mo.	
First Quarter.....	8 D.	0 H. 13 M. ev.		11 H. 13 M. mo.	
Full Moon.....	15 D.	7 H. 52 M. mo.		6 H. 52 M. mo.	
Last Quarter.....	23 D.	0 H. 38 M. mo.		11 H. 38 M. (22)	
New Moon.....	31 D.	10 H. 20 M. ev.		9 H. 20 M. ev.	

New-York City, Phila., Conn., New Jersey, Penn., O., Ind., & Ill.				D. OF MO.	D. OF WK.	Boston, New England, New-York, Mich., Wis., Iowa, and Oregon.			
Sun rises.	Sun sets.	Moon rises.	H.W. N. Y.			Sun rises.	Sun sets.	Moon rises.	H.W. Boston
M. ti.	M. ti.	M. ti.	M. ti.			M. ti.	M. ti.	M. ti.	M. ti.
7 5 4 34	7 11	8 20	1	Tu.	7 10 4 29	7 17	11 38		
7 6 4 33	sets.	9 9	2	W.	7 11 4 29	sets.	ev. 22		
7 7 4 33	6 23	9 58	3	Th.	7 12 4 28	6 17	1 12		
7 8 4 33	7 24	10 45	4	Fr.	7 13 4 28	7 18	2 3		
7 9 4 32	8 35	11 37	5	Sa.	7 14 4 28	8 30	2 53		
7 10 4 32	9 47	morn.	6	S.	7 15 4 28	9 42	3 45		
7 11 4 32	10 58	31	7	M.	7 16 4 28	10 55	4 40		
7 12 4 32	morn.	1 27	8	Tu.	7 17 4 28	morn.	5 37		
7 13 4 32	10	2 23	9	W.	7 17 4 28	8	6 38		
7 14 4 32	1 22	3 24	10	Th.	7 18 4 28	1 22	7 37		
7 15 4 32	2 34	4 22	11	Fr.	7 19 4 28	2 35	8 34		
7 15 4 32	3 46	5 19	12	Sa.	7 20 4 28	3 48	9 31		
7 16 4 33	5 0	6 17	13	S.	7 21 4 28	5 5	10 25		
7 16 4 33	6 8	7 11	14	M.	7 22 4 28	6 13	11 19		
7 17 4 33	rises.	8 1	15	Tu.	7 22 4 29	rises.	ev. 8		
7 18 4 33	5 41	8 53	16	W.	7 23 4 29	5 35	58		
7 18 4 33	6 41	9 44	17	Th.	7 24 4 29	6 35	1 46		
7 19 4 34	7 45	10 30	18	Fr.	7 24 4 29	7 40	2 32		
7 20 4 34	8 49	11 15	19	Sa.	7 25 4 30	8 45	3 16		
7 20 4 35	9 50	ev.	1	S.	7 26 4 30	9 47	3 59		
7 21 4 35	10 50	46	21	M.	7 26 4 31	10 48	4 43		
7 21 4 36	11 49	1 30	22	Tu.	7 26 4 31	11 48	5 30		
7 22 4 37	morn.	2 16	23	W.	7 27 4 32	morn.	6 19		
7 22 4 37	47	3 5	24	Th.	7 27 4 32	48	7 6		
7 23 4 38	1 47	3 51	25	Fr.	7 28 4 33	1 49	7 56		
7 23 4 39	2 47	4 41	26	Sa.	7 28 4 33	2 49	8 48		
7 23 4 39	3 50	5 33	27	S.	7 28 4 34	3 54	9 39		
7 23 4 40	4 57	6 25	28	M.	7 29 4 35	5 1	10 30		
7 24 4 40	6 2	7 15	29	Tu.	7 29 4 36	6 8	11 19		
7 24 4 41	7 4	8 1	30	W.	7 29 4 37	7 11	morn.		
7 24 4 42	sets.	8 55	31	Th.	7 30 4 37	sets.	9		





INTEREST TABLES.

4%	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
4 DAY	0	0	0	0	0	0	0	0	0	0	5	45
8 "	0	0	0	0	0	0	0	0	1	1	9	89
12 "	0	0	0	0	0	1	1	1	1	2	14	1.34
16 "	0	0	0	0	1	1	1	2	2	2	18	1.78
20 "	0	0	0	1	1	2	2	2	2	2	22	2.22
24 "	0	0	1	1	2	2	2	2	3	3	27	2.67
28 "	0	0	1	1	2	2	2	3	3	3	31	3.11
1 MO.	0	0	1	2	2	2	3	3	3	4	34	3.34
2 "	0	2	2	3	4	4	5	6	6	7	67	6.67
3 "	1	2	3	4	5	6	7	8	9	10	1.00	10.00
6 "	2	4	6	8	10	12	14	16	18	20	2.00	20.00
1 YR.	4	8	12	16	20	24	28	32	36	40	4.00	40.00

5%	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
4 DAY	0	0	0	0	0	0	0	0	0	0	6	56
8 "	0	0	0	0	0	0	1	1	1	1	11	1.11
12 "	0	0	0	0	1	1	1	2	2	2	17	1.67
16 "	0	0	0	1	1	2	2	2	2	2	22	2.22
20 "	0	0	1	1	2	2	2	2	3	3	28	2.28
24 "	0	0	1	2	2	2	3	3	3	4	34	3.34
28 "	0	1	1	2	2	3	3	3	4	4	39	3.39
1 MO.	0	1	2	2	2	3	3	4	4	4	42	4.17
2 "	1	2	3	4	4	5	6	7	8	9	84	8.34
3 "	2	3	4	5	6	7	9	10	11	13	1.25	12.50
6 "	3	5	8	10	13	15	18	20	23	25	2.50	25.00
1 YR.	5	10	15	20	25	30	35	40	45	50	5.00	50.00

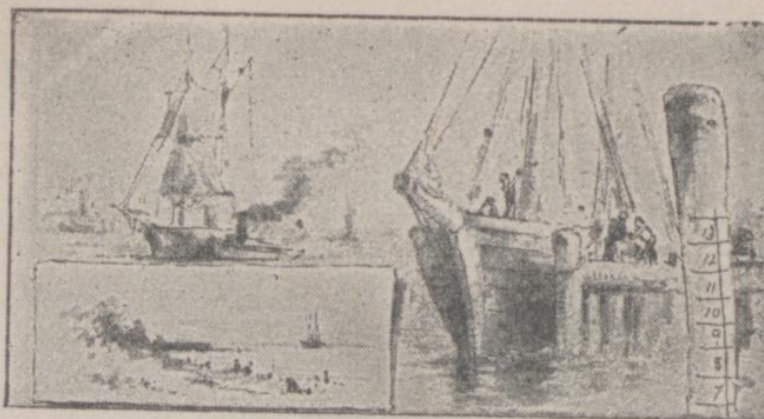
6%	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
4 DAY	0	0	0	0	0	0	0	1	1	1	7	67
8 "	0	0	0	1	1	1	1	1	1	1	13	1.33
12 "	0	0	1	1	1	1	1	2	2	2	20	2.00
16 "	0	1	1	1	1	2	2	2	2	3	27	2.67
1 MO.	1	1	2	2	3	3	4	4	5	5	50	5.00
2 "	1	2	3	4	5	6	7	8	9	10	1.00	10.00
3 "	2	3	5	6	8	9	11	12	14	15	1.50	15.00
6 "	3	6	9	12	15	18	21	24	27	30	3.00	30.00
1 YR.	6	12	18	24	30	36	42	48	54	60	6.00	60.00

TABLE OF WAGES BY THE WEEK.

Wages	Half hour.	One hour.	Two hours.	Four hours.	Five hours.	Six hours.	Eight hours.	Nine hours.	One day.	Two days.	Three days.	Four days.	Five days.	6 d.
\$3	.02 1/2	.05	.10	.20	.25	.30	.40	.45	.50	1.00	1.50	2.00	2.50	3
4	.03 1/3	.06 2/3	.13 1/3	.26 2/3	.33 1/3	.40	.53 1/3	.60	.66 2/3	1.33 1/3	2.00	2.66 2/3	3.33 1/3	4
5	.04 1/6	.08 1/3	.16 2/3	.33 1/3	.41 2/3	.50	.66 2/3	.75	.83 1/3	1.66 2/3	2.50	3.33 1/3	4.16 2/3	5
6	.05 1/6	.10	.20	.40	.50	.60	.80	.90	1.00	2.00	3.00	4.00	5.00	6
7	.05 5/6	.11 2/3	.23 1/3	.46 2/3	.58 1/3	.70	.93 1/3	1.05	1.16 2/3	2.33 1/3	3.50	4.66 2/3	5.83 1/3	7
8	.06 2/3	.13 1/3	.26 2/3	.53 1/3	.66 2/3	.80	1.06 2/3	1.20	1.33 1/3	2.66 2/3	4.00	5.33 1/3	6.66 2/3	8
9	.07 1/2	.15	.30	.60	.75	.90	1.20	1.35	1.50	3.00	4.50	6.00	7.50	9
10	.08 1/3	.16 2/3	.33 1/3	.66 2/3	.83 1/3	1.00	1.33 1/3	1.50	1.66 2/3	3.33 1/3	5.00	6.66 2/3	8.33 1/3	10
11	.09 1/6	.18 1/3	.36 2/3	.73 1/3	.91 2/3	1.10	1.46 2/3	1.65	1.83 1/3	3.66 2/3	5.50	7.33 1/3	9.16 2/3	11
12	.10 5/6	.20	.40	.80	1.00	1.20	1.60	1.80	2.00	4.00	6.00	8.00	10.00	12
13	.10 2/3	.21 2/3	.43 1/3	.86 2/3	1.08 1/3	1.30	1.73 1/3	1.95	2.16 2/3	4.33 1/3	6.50	8.66 2/3	10.83 1/3	13
14	.11 2/3	.23 1/3	.46 2/3	.93 1/3	1.16 2/3	1.40	1.86 2/3	2.10	2.33 1/3	4.66 2/3	7.00	9.33 1/3	11.66 2/3	14
15	.12 1/2	.25	.50	1.00	1.25	1.50	2.00	2.25	2.50	5.00	7.50	10.00	12.50	15
16	.13 1/3	.26 2/3	.53 1/3	1.06 2/3	1.33 1/3	1.60	2.13 1/3	2.40	2.66 2/3	5.33 1/3	8.00	10.66 2/3	13.33 1/3	16
17	.14 1/6	.28 1/3	.56 2/3	1.13 1/3	1.41 2/3	1.70	2.26 2/3	2.55	2.83 1/3	5.66 2/3	8.50	11.33 1/3	14.16 2/3	17
18	.15	.30	.60	1.20	1.50	1.80	2.40	2.70	3.00	6.00	9.00	12.00	15.00	18
19	.15 5/6	.31 2/3	.63 1/3	1.26 2/3	1.58 1/3	1.90	2.53 1/3	2.85	3.16 2/3	6.33 1/3	9.50	12.66 2/3	15.83 1/3	19
20	.16 2/3	.33 1/3	.66 2/3	1.33 1/3	1.66 2/3	2.00	2.66 2/3	3.00	3.33 1/3	6.66 2/3	10.00	13.33 1/3	16.66 2/3	20
24	.20	.40	.80	1.60	2.00	2.40	3.20	3.60	4.00	8.00	12.00	16.00	20.00	24

This Table is based upon the usual calculation of 10 hours to a day.





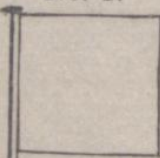
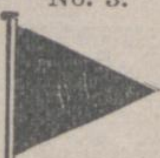
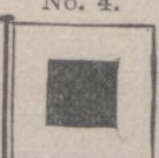
TO TELL TIME OF TIDE.

The time of high water at the places following may be found approximately for each day by adding or subtracting from the time of high water at New-York the hours and minutes annexed.

	H. M.		H. M.
Albany, N. Y.....	+ 9.39	New Haven, Conn...	+ 3.1
Annapolis, Md.....	+ 8.57	New London, Conn..	+ 1.16
Asbury Park, N. J...	- 0.37	Newport, R. I.....	- 0.22
Atlantic City, N. J..	- 0.18	Norfolk, Va.....	+ 0.56
Baltimore, Md.....	+ 10.52	Norwich, Conn.....	+ 2.5
Bar Harbor, Me.....	+ 2.50	Ocean Grove, N. J...	- 0.37
Beaufort, S. C.....	- 0.9	Old P. Comfort, Va..	- 0.37
Block Island, R. I...	- 0.53	Philadelphia, Pa....	+ 5.37
Boston, Mass.....	+ 3.22	Plymouth, Mass.....	+ 3.12
Bridgeport, Conn....	+ 3.4	Point Lookout, Md..	+ 4.49
Bristol, R. I.....	- 0.2	Portland, Me.....	+ 3.10
Cape May, N. J.....	+ 3.12	Portsmouth, N. H....	+ 3.16
Charleston, S. C....	- 0.43	Poughkeepsie, N. Y.	+ 4.27
Coney Island, N. Y..	- 0.20	Providence, R. I....	+ 0.7
Eastport, Me.....	+ 3.1	Richmond, Va.....	+ 8.47
Fernandina, Fla....	- 0.19	Rockaway, N. Y.....	- 0.28
Gloucester, Mass....	+ 2.57	Rockland, Me.....	+ 2.55
Isle of Shoals.....	+ 3.11	Rockport, Mass.....	+ 2.50
Jacksonville, Fla...	+ 0.36	Salem, Mass.....	+ 3.5
Key West, Fla.....	+ 1.23	Sandy Hook, N. J....	- 0.40
League Island, Pa...	+ 5.12	Savannah, Ga.....	- 0.49
Long Branch, N. J..	- 0.38	Smithville, N. C....	- 0.51
Marblehead, Mass...	+ 3.4	Vineyard Haven, Mass	+ 3.35
Nahant, Mass.....	+ 3.2	Washington, D. C...	+ 11.54
Nantucket, Mass....	+ 4.31	Watch Hill, R. I....	+ 0.53
New Bedford, Mass.	+ 0.10	West Point, N. Y....	+ 2.55
Newburyport, Mass..	+ 3.29	Wilmington, N. C...	+ 0.59

EXAMPLE.—To ascertain at what hour it will be high tide at Sandy Hook on the 1st of July, find first the time of high water at New-York under that date, and then subtract 40 minutes, as found in above table opposite Sandy Hook; the result is the time of high water required.

WEATHER SIGNALS.

No. 1.	No. 2.	No. 3.	No. 4.
			
Clear or Fair Weather.	Local Rain or Snow.	Temperature Signal.	Cold Wave.

When black triangular flag is placed above white or blue flag it indicates warmer; when placed below, colder weather. For example—3, 1, 2 indicates warmer, fair weather, followed by rain or snow.





WEIGHTS AND MEASURES.

MEASURES OF WEIGHT.—*Avoirdupois*: 16 drams equal 1 ounce; 16 ounces 1 pound; 112 pounds 1 hundred weight; 20 hundred weight 1 ton. *Troy*: 24 grains equal 1 pennyweight; 20 pennyweights 1 ounce; 12 ounces 1 pound. *Apothecaries*: 20 grains equal 1 scruple; 3 scruples 1 dram; 8 drams 1 ounce; 12 ounces 1 pound.

SURFACE OR SQUARE MEASURE.—144 square inches equal 1 square foot; 9 square feet 1 square yard; $30\frac{1}{4}$ square yards 1 square rod; 40 square rods 1 square rood; 4 square roods 1 square acre; 640 square acres 1 square mile; 4840 square yards 1 acre; measure 200 feet on each side and you will have a square acre within an inch.

MEASURES OF LENGTH.—A palm is three inches; a hand (horse measure) is four inches; a span is $10\frac{7}{8}$ inches; a cubit is two feet; a pace is three feet; a fathom is six feet; a great cubit is 11 feet; $16\frac{1}{2}$ feet equal 1 rod; 40 rods 1 furlong; 8 furlongs 1 mile; 60 geo. miles 1 degree; a mile is 5280 feet, or 1760 yards in length; a league is 3 miles; a day's journey is $33\frac{1}{2}$ miles; a Sabbath day's journey in the Bible is 1155 yards.

SOLID OR CUBIC MEASURE.—1728 inches equal 1 cubic foot; 27 cubic feet 1 cubic yard; 40 cubic feet of round timber 1 ton; 50 cubic feet of hewn timber 1 ton; 128 cubic feet of wood (4 feet wide, 4 feet high, and 8 feet long) 1 cord; 24.75 cubic feet, 1 perch of stone.

HOUSEHOLD WEIGHTS AND MEASURES.—Wheat Flour, 1 pound is 1 quart; Indian Meal, 1 pound 2 oz. is one quart; Butter (soft) 1 pound is one quart; Loaf Sugar, 1 pound is one quart; White Sugar, powdered, 1 pound 1 oz. is one quart; Brown Sugar, fine, 1 pound 2 oz. is 1 quart; 10 Eggs are one pound; Flour, 8 quarts are 1 peck, 4 pecks are one bushel.

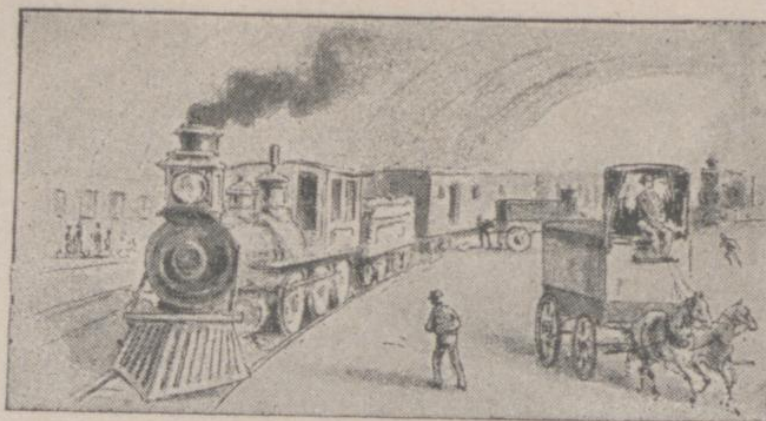
LIQUIDS.—English pint, 20 oz.; American pint, 16 oz.; 4 gills, 1 pint; 2 pints, 1 quart; 4 quarts, 1 gallon; tumbler, half pint; common wine-glass, 2 oz.; large wine-glass, 4 oz.; common tea-cup, 7 oz.; 5 table-spoons, 4 oz.; 4 tea-spoons, 1 oz.

POUNDS PER BUSHEL.—Wheat, 60 pounds; Corn, shelled, 56; Corn in ear, 70; Rye, 60; Oats, 32; Potatoes, 60; White Beans, 60; Clover Seed, 60; Timothy, 35; Flax Seed, 56; Hemp, 42; Peas, 60; Grass Seed, 14; Buckwheat, 42; Dried Peaches, 33; Dried Apples, 26; Onions, 57; Stove Coal, 80; Bran, 20; Plastering Hair, 8; Turnips, 55; Unslaked Lime, 30; Corn Meal, 48; Salt, fine, 55; Salt, coarse, 50; Barley, 48.

CAPACITY OF BOXES.

30 inches Square,	$16\frac{1}{2}$ inches Deep,	will contain	one Barrel.
15 " "	$14\frac{1}{2}$ " "	" "	half a Barrel.
17x14 inches,	9 " "	" "	one Bushel.
10x12 " "	9 " "	" "	half a Bushel.
8 inches Square,	$8\frac{2}{3}$ " "	" "	one Peck.
8 " "	4 3-16 " "	" "	one Gallon.





DOMESTIC POSTAGE.

FIRST CLASS.—Letters and all written matter, whether sealed or unsealed, and all other matter sealed, nailed, sewed, tied, or fastened in any manner, so that it cannot be easily examined, **two cents per ounce** or fraction thereof. A "Special Delivery" ten-cent stamp when attached to a letter, in addition to the lawful postage, shall entitle the letter to immediate delivery at, or within one mile of, any post-office. Postal cards, one cent each.

SECOND CLASS.—All regular newspapers, magazines and other periodicals issued at intervals not exceeding three months; the postage is **one cent for each four ounces**, payable by postage stamps.

THIRD CLASS.—Embraces **printed books**, pamphlets, circulars, engravings, lithographs, proof-sheets and manuscript accompanying the same, and all matter of the same general character, and not having the character of personal correspondence. Circulars produced by hektograph or similar process, or by electric pen, are rated as third class. The limit of weight for mail matter of the third class is four pounds, except in the case of single books exceeding that weight. The rate of postage on mail matter of the third class is **one cent for each two ounces** or fraction thereof.

FOURTH CLASS.—All mailable matter not included in the three preceding classes, which is so prepared for mailing as to be easily taken from the wrapper and examined. Rate, **one cent per ounce** or fraction thereof, except seeds, roots, cuttings, bulbs, plants and scions, which are 1 c. per two ounces. Limit of weight, 4 lbs. Full prepayment compulsory. Liquids, and other like injurious matter, not admitted, except under conditions which may be learned at any post-office.

Direct your mail matter to a post-office, writing the name of the *State* plainly; and if to a city, add the street and number or post-office box of the person addressed. Matter not addressed to a post-office cannot be forwarded. Write or print your name and address, and the contents, if a package, upon the upper left-hand corner of all mail matter. This will insure its immediate return to you for correction, if improperly addressed or insufficiently paid; and if it is not called for at destination it can be returned to you without going to the Dead Letter office. If a letter, it will be returned free. Register all valuable letters and packages. **Registry fee, ten cents**, which, with the postage, must be fully prepaid.

POSTAL NOTE AND MONEY ORDER FEES.—Postal notes, 3c. each, in denominations of \$4.99 and less, payable to bearer. Such notes are invalid upon the expiration of three months from the last day of the month of issue, but the holder can after that time get it renewed at the Department at Washington, upon payment of a fee of 3 cents. For Money Orders in denominations of \$100 or less, the following fees are charged: Orders not exceeding \$5, 5 c.; over \$5 to \$10, 8 c.; \$10 to \$15, 10 c.; \$15 to \$30, 15 c.; \$30 to \$40, 20 c.; \$40 to \$50, 25 c.; \$50 to \$60, 30 c.; \$60 to \$70, 35 c.; \$70 to \$80, 40 c.; \$80 to \$100, 45 c.





FOREIGN POSTAGE.

To all parts of the Universal Postal Union (embracing nearly every civilized country):

ON LETTERS, **five cents for each half ounce** or fraction thereof—prepayment optional. Double rates are collected on delivery of unpaid or short-paid letters.

On newspapers, books, pamphlets, photographs, sheet music, maps, engravings, and similar printed matter, **one cent for each two ounces** or fraction thereof.

TO CANADA (including Nova Scotia, New Brunswick, Manitoba, and Prince Edward Island): LETTERS, **two cents for each ounce** or fraction thereof; Books, Circulars, and similar printed matter, **one cent for each two ounces** or fraction thereof; SECOND CLASS MATTER, same as in the United States; SAMPLES AND MERCHANDISE, **one cent per ounce**. Packages must not exceed 4 lbs. 6 oz. in weight—prepayment compulsory.

TO MEXICO: Letters, Postal Cards, and printed matter, same rates as in the United States. SAMPLES, **one cent per ounce**; MERCHANDISE other than Samples can only be sent by Parcel Post.

TO AUSTRALIA (except New South Wales, Queensland, and Victoria), *via* San Francisco: On LETTERS, **five cents for each half ounce** or fraction thereof. To places excepted above, **twelve cents for each half ounce**; on NEWSPAPERS, **two cents each**—prepayment compulsory.

LIMITS OF SIZE AND WEIGHT: Packages of samples of merchandise to the countries named above (except Great Britain, France, Belgium, and Switzerland) must not exceed 8¾ oz., nor measure more than 8 in. in length, 4 in breadth, and 2 in depth; and packages of printed matter must not exceed 4 lbs. 6 oz. Packages of merchandise samples to Great Britain, France, Belgium, Switzerland, and Argentine Republic are limited to 12 oz. in weight, 12 in. in length, 8 in width, and 4 in depth. Packages of printed matter to Germany and Great Britain are limited to 2 ft. in length and 1 ft. in each other dimension.

INTERNATIONAL OR FOREIGN MONEY-ORDER FEES.

On Algeria, Belgium, British India, Cape Colony, Constantinople, Denmark, Dominion of Canada, Egypt, England, France, German Empire, Hong Kong, Ireland, Italy, Jamaica, Japan, Newfoundland, New South Wales, New Zealand, Portugal, Sandwich Islands, Scotland, Shanghai, Sweden, Switzerland, Tasmania, Victoria.

For sums not exceeding \$10.....	10 cents.
Over \$10, not exceed. \$20, 20c.	Over \$30, not exceed. \$40, 40c.
Over \$20, not exceed. \$30, 30c.	Over \$40, not exceed. \$50, 50c.

Orders can also be obtained on Austria and East Indies, by remittance through the Postal Department of Switzerland, subject to the rates of the Swiss Department to those countries. Also on Norway and the Netherlands, through the Postal Department of the German Empire, subject to the rates of the German Department to those countries.

No order issued for a larger amount than \$50 in U. S. money.





PRINCIPAL CITIES.

POPULATION, DISTANCE FROM NEW-YORK, AND DIFFERENCE BETWEEN MEAN AND STANDARD TIME.

CITIES.	Estimated Population 1890.	Miles.	Hours.	Stan. Time - } Mean + } Time.
New-York, N. Y.....	1,800,000	....	.....	- 4 m.
Philadelphia, Pa.....	1,250,000	90	2	+ 1
Chicago, Ill.....	1,150,000	912	24	- 9
Brooklyn, N. Y.....	835,000	....	.....	- 4
St. Louis, Mo.....	500,000	1065	35 $\frac{1}{2}$	+ 1
Baltimore, Md.....	500,000	188	4 $\frac{3}{4}$	+ 6
Boston, Mass.....	416,000	234	6	- 16
San Francisco, Cal....	335,000	3269	151	+ 10
Cincinnati, Ohio.....	325,000	757	25 $\frac{1}{2}$	- 22
Cleveland, Ohio.....	275,000	585	19 $\frac{1}{2}$	+ 27
Buffalo, N. Y.....	265,000	410	14	+ 16
New Orleans, La.....	260,000	1371	51	0
Pittsburgh, Pa.....	250,000	444	12	+ 20
Detroit, Mich.....	235,000	646	23	- 28
Washington, D. C.....	230,000	228	7	+ 8
Minneapolis, Minn....	225,000	1332	55	+ 12
St. Paul, Minn.....	220,000	1322	54	+ 12
Milwaukee, Wis.....	210,000	997	40	- 8
Louisville, Ky.....	200,000	867	35	- 18
Kansas City, Mo.....	200,000	1385	48 $\frac{1}{4}$	+ 19
Newark, N. J.....	175,000	10	1 $\frac{1}{2}$	- 3
Omaha, Neb.....	135,000	1402	56 $\frac{1}{2}$	+ 14
Providence, R. I.....	132,000	188	5 $\frac{1}{2}$	- 14
Indianapolis, Ind.....	130,000	825	30	- 16
Denver, Col.....	130,000	1982	92	0
Rochester, N. Y.....	120,000	374	9 $\frac{1}{4}$	+ 11
Albany, N. Y.....	100,000	145	3 $\frac{1}{2}$	- 5
Toledo, Ohio.....	90,000	706	24	- 16
Syracuse, N. Y.....	87,000	293	7 $\frac{1}{2}$	+ 5
Richmond, Va.....	85,000	342	11 $\frac{1}{4}$	+ 10
Worcester, Mass....	85,000	190	5	- 13
Grand Rapids, Mich...	80,000	934	30 $\frac{1}{2}$	- 17
Memphis, Tenn.....	75,000	1244	46 $\frac{1}{4}$	0
Charleston, S. C.....	60,000	803	33	+ 24
Portland, Or.....	60,000	3232	152	+ 20
Savannah, Ga.....	58,000	904	39	+ 24
Hartford, Conn.....	53,000	113	3	- 9
Mobile, Ala.....	45,000	1230	48	- 8
Galveston, Texas.....	45,000	1782	97 $\frac{1}{2}$	+ 19
Dubuque, Iowa.....	36,000	1097	43 $\frac{1}{4}$	+ 3
Des Moines, Iowa.....	36,000	1270	51 $\frac{1}{4}$	+ 14
Leavenworth, Kan....	30,000	1369	62	+ 20
Topeka, Kan.....	25,000	1410	63	+ 23
Salt Lake City, Utah..	25,000	2471	120	+ 28
Lincoln, Neb.....	23,000	1460	53	+ 22
Rutland, Vt.....	15,000	232	8	- 9



STATES AND TERRITORIES.

States and Territories.	Area Square Miles.	When Settled.	When Admitted.	Apparent Populat'n in 1889.	El'l votes How cast in 1889.
Alabama.....	50,540	1711	1819	1,541,583	10 D
Arkansas.....	53,045	1685	1836	1,089,952	7 D
California.....	158,360	1768	1850	1,299,428	8 R
Colorado.....	103,645	1806	1876	320,008	3 R
Connecticut...	4,990	1635	1789	708,298	6 D
Delaware.....	2,050	1638	1787	145,956	3 D
Florida.....	58,680	1565	1845	346,392	4 D
Georgia.....	59,475	1733	1789	1,414,353	12 D
Illinois.....	56,650	1682	1818	3,662,916	22 R
Indiana.....	36,350	1702	1816	2,255,185	15 R
Iowa.....	55,275	1788	1837	2,020,650	15 R
Kansas.....	82,080	1719	1861	1,618,073	9 R
Kentucky.....	40,400	1787	1792	2,137,542	13 D
Louisiana.....	45,420	1699	1812	1,106,448	8 D
Maine.....	29,875	1635	1820	577,129	6 R
Maryland.....	12,210	1634	1789	1,144,368	8 D
Massachusetts	8,315	1620	1789	2,167,716	14 R
Michigan.....	57,430	1670	1837	2,186,186	13 R
Minnesota.....	83,365	1819	1858	1,280,217	7 R
Mississippi.....	46,810	1716	1817	1,112,584	9 D
Missouri.....	68,735	1764	1821	2,803,075	16 D
Montana.....	146,080	1860	1889	.....	.....
Nebraska.....	76,185	1854	1867	555,502	5 R
Nevada.....	109,700	1848	1864	41,609	3 R
New Hampsh.	9,305	1623	1789	366,852	4 R
New Jersey...	7,815	1620	1789	1,386,834	9 D
New-York.....	49,170	1614	1789	6,079,732	36 R
N. Carolina...	52,250	1650	1789	1,675,225	11 D
N. Dakota.....	.....	.....	1889	.....	.....
Ohio.....	40,760	1788	1802	3,712,856	23 R
Oregon.....	94,560	1811	1859	259,799	3 R
Pennsylvania.	45,215	1638	1789	4,785,189	30 R
Rhode Island.	1,250	1636	1790	383,219	4 R
S. Carolina...	30,170	1690	1789	461,477	9 D
S. Dakota.....	.....	.....	1889	.....	.....
Tennessee.....	42,050	1750	1796	1,912,717	12 D
Texas.....	265,780	1685	1845	2,088,928	13 D
Vermont.....	9,565	1724	1791	373,671	4 R
Virginia.....	42,450	1607	1789	2,159,060	12 D
Washington...	69,180	1845	1889	.....	.....
W. Virginia..	24,780	1607	1863	857,633	6 D
Wisconsin.....	56,040	1669	1847	1,729,461	11 R
Alaska Ter.	561,409	1741	.....	.....	.....
Arizona.....	113,020	1582	.....	.....	.....
Idaho.....	84,800	1860	.....	.....	.....
Utah.....	84,900	1847	.....	.....	.....
Indian.....	64,609	1834	.....	.....	.....
N. Mex.	122,580	1582	.....	.....	.....
Wyoming.....	99,890	1869	.....	.....	.....





VALUE OF FOREIGN COINS.

DENOMINATION.	COUNTRY.	Equivalent U. S. Money.
Alfonso.....	Spain.....	\$4.80.
Boliviano.....	Bolivia.....	.69.8
Bolivar.....	Venezuela.....	.14.
Crown.....	Nor'y, Swed'n, Den'k.	.26.8
Dollar.....	British America.....	1.00.
".....	Liberia.....	1.00.
".....	Mexico.....	.75.8
".....	Sandwich Islands.....	1.00.
".....	Spain.....	.94.
Drachma.....	Greece.....	.19.3
Florin.....	Austria.....	.34.5
".....	Netherlands.....	.40.2
Franc.....	France, Belg., Switz..	.19.3
Half Imperial.....	Russia.....	3.97.
20 Kroner.....	Nor'y, Swed'n, Den'k.	5.25.
Lira.....	Italy.....	.19.3
Mahbub of 20 piasters.....	Tripoli.....	.62.9
Mark.....	German Empire.....	.23.8
Milreis of 1000 reis.....	Brazil.....	.54.6
".....	Portugal.....	1.08.
Peseta of 100 centimes.....	Spain.....	.19.3
Peso.....	Chili.....	.91.2
".....	Cuba.....	.92.6
".....	Ecuador.....	.69.8
".....	U. S. of Columbia.....	.69.8
Piaster.....	Egypt.....	.04.9
".....	Turkey.....	.04.4
Pound Sterling (Sovereign)	England.....	4.87.
Rouble of 100 copecks.....	Russia.....	.55.8
Rupee of 16 annas.....	India.....	.33.2
Shilling.....	England.....	.24.
Sol.....	Peru.....	.69.8
Thaler (3 marks).....	Germany.....	.70.
Yen.....	Japan.....	.75.2

Explanation of the Currencies of the various Countries.

AUSTRIA AND RUSSIA.—The Paper Currencies are continually subject to important fluctuations.

In FRANCE, BELGIUM, SWITZERLAND, AND ITALY, 1 franc=100 centimes. GERMANY, 1 mark=100 pfennig. HOLLAND, 1 florin or gulden=100 cents. NORWAY, SWEDEN, AND DENMARK, 1 kroner=100 öre. UNITED STATES, 1 dollar=100 cents. SPAIN, 1 peseta=100 centavos. AUSTRIA, 1 florin=100 kreuzer. PORTUGAL, 1 milreis=1000 reis. GREECE, 1 drachma=100 leptas. TURKEY, 1 piaster=40 paras. RUSSIA, 1 rouble=100 copecks.

Italian notes and silver are not current in France, Belgium, and Switzerland, but the silver of these countries passes current in Italy.



JANUARY,

THURSDAY 1.

1891.

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Money.

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FRIDAY 2.

JANUARY, SATURDAY 3. 1891.

Cash of Weaver on Note 75
Paid Coal Bills to Bank $33\frac{1}{2}$
" Transcripts 2
" Samples 9

SUNDAY 4.

JANUARY, MONDAY 5. 1891.

N. S. Eugene to Bill $\$6.67$
Note to Bal 7.00
Paid for Book $\$0.65$

TUESDAY 6.

Clear & cool, $T + 36^{\circ}$
Morning up at Eugene Clay
Bank for Ship Co $\frac{1}{2}$ day
Up at Callisburg Ship Co
Afternoon Rainy

JANUARY, WEDNESDAY 7. 1891.

Colden $T 20^{\circ}+$
Evening with frost up at 33°
Measuring 65

THURSDAY 8.

Clear & cold $T 23^{\circ}$
Saw

JANUARY, FRIDAY 9. 1891.

Overcast $T 32^{\circ}$
Up at Leabells by North Mr
Rings measuring Angus Sats $1/4$

SATURDAY 10.

Cloudy & drizzly, $T 36^{\circ}$
Re A. C. & I Co in full \$12.50

JANUARY, SUNDAY 11. 1891.

Raining all night, T 48°
in the morning
Wind southerly
At Noon sun out, T. 60°
At 2 P.M. Raining hard

MONDAY 12.

T. 36° Wind from N.W. over
cast feels like snow

JANUARY, TUESDAY 13. 1891.

Snow in the night - just whi-
tening the ground - Still clou-
dy - T. 32°
Paid for Daily News to Apr 17
1.75

WEDNESDAY 14.

Clear, T. 32° Pleasant Day
at Church in the evening

JANUARY, THURSDAY 15. 1891.

Clear & cool, T. $24^{\circ}+$
Warm at noon, Evening Cloudy
Plowing Early, some No. 6 came
in on A. N. & M. V. $1\frac{1}{2}$ day

FRIDAY 16.

Warm & cloudy T. $34^{\circ}+$
Has some & clear warm &
at Rush Swelling in
No. 6 cross entry to No. 6
Evening up to see at. Haws

JANUARY, SATURDAY 17. 1891.

Thin $36^{\circ}+$ cloudy with in-
dications of Rain
Snow & Rain all day

SUNDAY 18.

T. $30^{\circ}+$. Sky overcast. Snow
gone. Cool & cloudy all
day, at 4 P. M. T. $32^{\circ}+$

JANUARY, MONDAY 19. 1891.

T. 30° + Sky overcast, May
snow

At Rush this morning
no work, Evening warm
and pleasant

Rest of Week for Post³⁷²¹⁴/₁₀₀
Lit. M.S. Engleham³⁵⁰⁰⁰/₁₀₀
at 6 pm etc.

TUESDAY 20.

Morning cool clear and
frosty, at noon pleasant
T. 48° + at noon

Evening up with the Sordian
Location of the lake on D. Engle

JANUARY, WEDNESDAY 21. 1891.

T. 40° + Indications of rain
directly, At night rain-
ing hard

THURSDAY 22.

T. 38° + Rainy & snowing
all night

JANUARY, FRIDAY 23. 1891.

T. 38°+ Sky overcast, no
rain through the night
a pleasant evening

SATURDAY 24.

T. 31°+ Sky overcast -
out at Snow this morning
Saying out two sets
Harden J. and children
visiting me

JANUARY, SUNDAY 25. 1891.

Overcast at 6 a.m. Sun
out at 8 o'clock T. 34°+ with
indications of fair weather

MONDAY 26.

T. 32°+ Indications favorable

JANUARY,

TUESDAY 27.

1891.

T, 32°+ Indications of fair day
 arrived at Glenwood at 11 AM.
 for B. Dimm and out in the
 hills in the evening

WEDNESDAY 28.

Indications of rain in the
 morning continued over
 work until noon when
 we went in on account
 of rain

JANUARY,

THURSDAY 29.

1891.

This morning warm and clou-
 dy, out on the work closed on
 the beginning line and in
 for dinner. Evening sun came
 out bright. At 3 PM left for
 home where arrived at 7 PM
 finding all well & Anna-
 Jones & children with me

FRIDAY 30.

Thun. 41°+ and cloudy af-
 ter a clear night
 At home sitting Eugene Law

JANUARY, SATURDAY 31. 1891.

T. 46° + Rain in the night
Sunny & clear this morning
Sunny all day

FEBRUARY, SUNDAY 1.

T. 56° + Very hard rain in
the night - Still cloudy with
indications of more rain
Clear and warm at noon
Clouds in the West at sun-
set indicate a pleasant
morning

FEBRUARY, MONDAY 2. 1891.

T. 34° + Foggy, a pleasant
day. A fine shower

TUESDAY 3.

Warm this morning with
Rain
Cooler & clear in evening
with Northerly Wind

FEBRUARY, WEDNESDAY 4. 1891.

T 20°+ cold & windy with
snow, Wind Northerly
Cold in the morning but
warmer in evening
Freezing nearly all day

THURSDAY 5.

T 20°+ with indications of a
clear day - started for Apple
but too late for train
Evening out to music

FEBRUARY, FRIDAY 6. 1891.

T 40°+ and cloudy

SATURDAY 7.

T. 46°+ Rain commenced
in the night - still raining
hard
At midday rain ceased

FEBRUARY, SUNDAY 8. 1891.

$T 40^+$ Cloudy with Wind
Northwesterly
At church in the morn-
ing. Evening out with Hil-
ton for a walk

MONDAY 9.

$T 52^+$ Thunder storm in the
night. Still raining with the
prospect of its continuance

FEBRUARY, TUESDAY 10. 1891.

$T 31^+$ Cloudy with Northwesterly
Wind - Cool & Cloudy
Out to Mines in evening
Still cloudy

WEDNESDAY 11.

$T 24^+$ With indications of
a pleasant day
Making map of Mines
Barnes Coal Mines
A letter from old friend
Dr. Brackett of Negrofoot Va

FEBRUARY, THURSDAY 12. 1891.

T. 38°+ Cloudy, will prob-
ably rain by noon

A drizzly day but got
at work all day on survey
of Higgins place

FRIDAY 13.

T. 44°+ and raining
Plot of Higgins place (Plat 57th)

FEBRUARY, SATURDAY 14. 1891.

Temp 32°+ With clear sky
at Cratton this morning
and returned

SUNDAY 15.

T. 32°+ Cloudy
at work all day to have
Mr. Berry's papers ready
for the ~~printing~~

FEBRUARY, MONDAY 16. 1891.

A rainy night with indications of fair weather. Left the company with Mr. Norton on morning train for Bruce Mills on Lygault Creek, at work on tracks after noon, a fine night. Painter Gap Railway.

TUESDAY 17.

Warm this morning and windy clouds threatening rain. A cloudy day but not all day.

FEBRUARY, WEDNESDAY 18. 1891.

A warm day and pleasant until toward night when clouded up and drizzly in the evening.

THURSDAY 19.

About 33+ Rain in the night still cloudy and threatening. Rain at noon and continued until night.

FEBRUARY, FRIDAY 20. 1891.

One of the pleasantest days
of the season

SATURDAY 21.

Raining this morning
but managed to complete
work at Berry, and at-
tends home on the mail
train in time for supper

Finds the River much
higher than when I left home
with reports of much dam-
age at Parkersburg and
other towns in the region

FEBRUARY, SUNDAY 22. 1891.

732+am Rise clear and
pleasant

At-work all day on
Mr Berry's Papers

MONDAY 23.

This morning warm
and pleasant, sent off
Mr Berry's papers by the
morning mail

FEBRUARY, TUESDAY 24. 1891.

Warm and dry all day

WEDNESDAY 25.

Raining hard in the night
Left camp about 6 am.
Out for trap Co. Raining
Sat to 12 3/4 day

FEBRUARY, THURSDAY 26. 1891.

Left by 2 o'clock train for
Millicat where we arrived
6 P.M. and walked some 4
or 5 miles and put up for
night at Mr Thompson, where
we took supper + had a
good fire & bed

FRIDAY 27.

After a snowy and dis-
agreeable evening, a cold
night but indications of
again cool day

To day out on work for
Mr H Singer. At night at
Mrs Giles - Cold

FEBRUARY, SATURDAY 28. 1891.

A cold night and
snowy disagreeable day.
In the morning getting
work. After dinner out to
farm cut off line then
walked down to depot
and spent the night
with Mr Kilgus, found
all the family well

MARCH, SUNDAY 1.

Spent the day with
the Kilgus. Met Mr How
whom I last saw in
1853 at Owego
A cold & unpleasant
day

MARCH, MONDAY 2. 1891.

This morning took train
for home by way of Brocton
Took dinner with Will
Hord. Arrived home about
2 p.m. All well

TUESDAY 3.

Raining all night and so
continues thro the day. Out at
Rush at work in Hines house
at noon

MARCH,

WEDNESDAY 4.

1891.

This morning up to
with tracing birds of Gray-
son, at Shadyside at dinner

THURSDAY 5.

T. 20+, clear indications of
another fair day

MARCH,

FRIDAY 6.

1891.

T 33+ and clearing
About home all day

SATURDAY 7.

T 42+ and drizzly,
Commenced hatching in the
forenoon and continues
all day

MARCH,

SUNDAY 8.

1891.

Raining this morning
little.

Cleared at noon giving
us a warm pleasant even-
ing -

I at Baptist Church in
the morning

Raining at night

J. 42°+

MONDAY 9.

A Rainy night with
no indications of clearing
up

MARCH,

TUESDAY 10.

1891.

Clear this morning
up on Mrs. Leath's work
in the evening
Dined at Mrs. L's

WEDNESDAY 11.

About Even Pleasant

MARCH,

THURSDAY 12.

1891.

Raining in the night
and all day

FRIDAY 13.

This morning sleet or
cast. Rains & snow
run out, evening snow-
ing

MARCH,

SATURDAY 14.

1891.

T 24° this morning, snow
in the night - an inch or
more

SUNDAY 15.

T 17° - The coldest night
of the winter but clear and
bright sunshine after sun up
at home all the day
at evening weather
moderated

MARCH,

MONDAY 16.

1891.

74°+ Broken clouds but
otherwise pleasant
Morning at Mrs. Easters
when I took dinner

TUESDAY 17.

73°+ Clear sky with ev-
ery indication of a fair
day

MARCH,

WEDNESDAY 18.

1891.

Morning & pleasant
all day
out at Rush in morning 3/4
home at night

THURSDAY 19.

a little sprinkle of Rain
in the night, Morning cloud-
y, wind southerly

MARCH,

FRIDAY 20.

1891.

Morning Cloudy with wind
out - with Isaac re-
tracing lines of his farm

MARCH,

SUNDAY 22.

1891.

Snowy & cold through
the day, but away from
the house

SATURDAY 21.

Rainy at noon

MONDAY 23.

Morning Cloudy but in the evening
clears off

MARCH,

TUESDAY 24.

1891.

Cloudy Morning and evening
but Bright at Midday
at Rush

WEDNESDAY 25.

Cloudy all day. up at Gun-
trills

MARCH,

THURSDAY 26.

1891.

at home all day
Cloudy & drizzly

FRIDAY 27.

Raining this morning

MARCH,

SATURDAY 28.

1891.

SUNDAY 29.

MARCH,

MONDAY 30.

1891.

At Swanson in the
forenoon evening raining
and left noon

TUESDAY 31.

Rain Rain

APRIL,

WEDNESDAY 1.

1891.

At Work on Swanson
Branch all day
Pleasant

THURSDAY 2.

Raining this morning
by went out to St. Charles
Rain all the evening
Spent night at Hous

APRIL,

FRIDAY 3.

1891.

Located Bank Road
This day was stormy
At Hous at dinner
through in season for A & I
Mr Kelgou on train, came
home with me for the night

SATURDAY 4.

The ground white with snow
this morning but melting
fast -
Mr Kelgou left early
this morning

Cloudy and chilly all
day, at night snow near-
ly all gone

APRIL,

SUNDAY 5.

1891.

T. 34°+ Ground white
with snow again this morn-
ing with a sprinkling of snow
still falling

At night still cold
with iceicles on the out-
houses. Cloudy

MONDAY 6.

T. 33°+ this morning and snow-
ing

APRIL,

TUESDAY 7.

1891.

Out at Rush extending Entry
No 6
A fine day, spent night
at Mr Rice

WEDNESDAY 8.

Completed Entry late this
evening returning to Mr Rice
completely tired but
a fine day

APRIL,

THURSDAY 9.

1891.

Indications of Rain this
Morning, at home to dinner

APRIL,

SATURDAY 11.

1891.

Out with Mr. R. this morning
on Gigue & Price line

FRIDAY 10.

Out this evening with Mr.
Ringo at Brook

SUNDAY 12.

A fine morning, on my
way to the P. O. encountered a
crowd caused by a collision
between Spicer & Miller, a
drawn battle, nobody hurt

APRIL,

MONDAY 13.

1891.

TUESDAY 14.

Blank Page(s)

APRIL,

TUESDAY 21.

1891.

Warm with a shower
in the evening

WEDNESDAY 22.

Warm again at 3 P.M.,
58°+

APRIL,

THURSDAY 23.

1891.

FRIDAY 24.

APRIL,

SATURDAY 25.

1891.

APRIL,

MONDAY 27.

1891.

Began garden this week
Weather fair & warm

SUNDAY 26.

TUESDAY 28.

Favourable weather
Planned & dug in garden

APRIL,

WEDNESDAY 29.

1891.

At work in Garden
sowed Beets, parsnips,
Salsify & planted Bush Beans

THURSDAY 30.

At work in Garden

MAY,

FRIDAY 1.

1891.

At work in Garden

SATURDAY 2.

Sowed onions & plan-
ted Watermelons & a
portion of the Squashes
Bitter day 74°

MAY,

SUNDAY 3.

1891.

Raining this morning

MAY,

TUESDAY 5.

1891.

Cold this morning
with frost

MONDAY 4.

Cold night
Up at Cattle Creek for
D. D. Eugene 24 day

WEDNESDAY 6.

This evening at Mary
Cool Wks
Ice at M. S. day this
morning

MAY,

THURSDAY 7.

1891.

Return from Mr. C. M.
this morning, at home
in the evening

Sent 8th to Elkheart
Inds.

Ice at Mt. Savage this
morning

FRIDAY 8.

Cold this morning but
not fast - Evening warm.
Up with Mr. Dodge on Lexington

MAY,

SATURDAY 9.

1891.

About all day, Evening
warm

Accident at the S. M.
Chm. R. Stephenson killed
and the three Cumber Bros.
badly hurt

SUNDAY 10.

A warm morning, at
9 1/2 O'clock F. 76°+

The three men injured
yesterday may recover

MAY,

MONDAY 11.

1891.

This morning left for
Parthen gap. At work in
the evening, Jan 4.30

TUESDAY 12.

At work on P. G. 12.12

MAY,

WEDNESDAY 13.

1891.

At work this morning
the evening being drizzly
remained in doors

THURSDAY 14.

At work today raising
line along bluffs. in at-
night came and tried

MAY,

FRIDAY 15.

1891.

Finished work at P. G.
after noon and returned
home in evening fare \$1.30

SATURDAY 16.

Morning self & Pers
on Exington 1/2 day
Evening at home

MAY,

SUNDAY 17.

1891.

Just this morning

MONDAY 18.

Self & Pers cross section
ing the fill on Six St

MAY,

TUESDAY 19.

1891.

MAY,

THURSDAY 21.

1891.

WEDNESDAY 20.

FRIDAY 22.

MAY,

SATURDAY 23.

1891.

At home this week not
feeling well - Weak, with
Rheumatism

P^o To Building all 5/10

SUNDAY 24.

Miss Sophronia Wilson
reported dead

MAY,

MONDAY 25.

1891.

Miss S. Wilson Buried
to day

TUESDAY 26.

Laying out - Solo mine
furniture for Imps Co in
Co. with S. Norton
Cold & windy

MAY,

WEDNESDAY 27.

1891.

At Work on Lake below Town
on Long River, with Norton
at night indications
of Rain

THURSDAY 28.

MAY,

FRIDAY 29.

1891.

SATURDAY 30.

MAY,

SUNDAY 31.

1891.

At B. lunch in Morn-
ing, Evening wrote Lelina
A fine day

Turnips
Red top Strap leaf
Golden Ball

JUNE,

MONDAY 1.

Left this morning for May
Coal Works. At work on
Switch all the Evening a light
snow

At Mr. Puchard at night

JUNE,

TUESDAY 2.

1891.

At work on Switch, com-
pleted in afternoon
Drove at Mt. Savage at
night encountered a heavy
wind on my way after which
there was a heavy shower
of short duration

WEDNESDAY 3.

A shower first with rain
in the night, in the morn-
ing another heavy rain.

Took mail train for
home where arrived for
dinner. A heavy wind
here yesterday doing some
damage to buildings and
to the shade & fruit trees

JUNE,

THURSDAY 4.

1891.

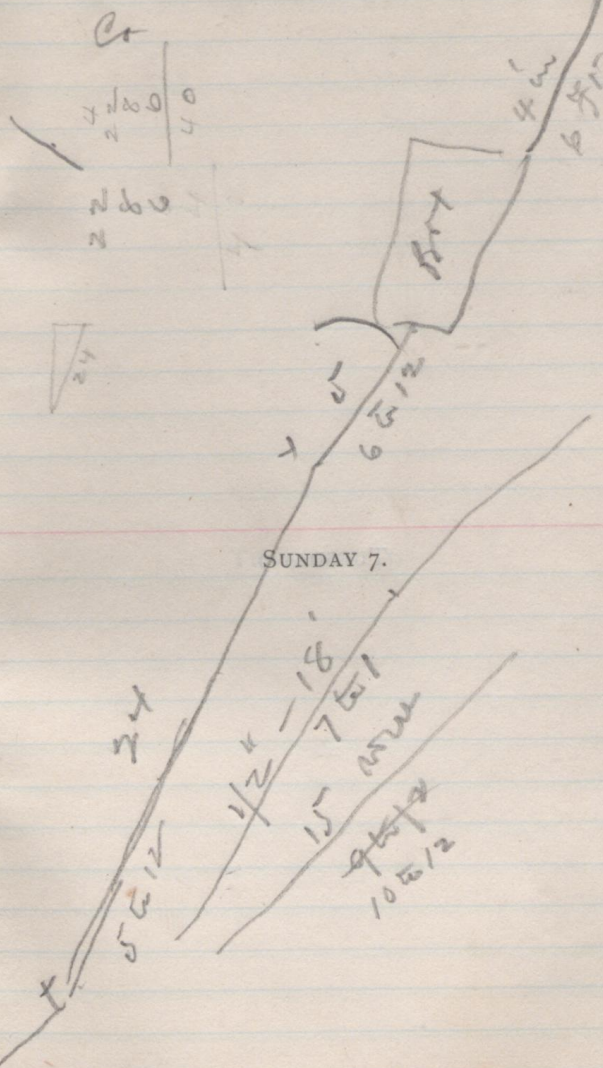
Last night a heavy shower
cloudy in the morning

FRIDAY 5.

JUNE,

SATURDAY 6.

1891.



JUNE,

MONDAY 8.

1891.

TUESDAY 9.

Blank Page(s)

JUNE,

TUESDAY 30.

1891.

JULY,

WEDNESDAY 1.

Sum to $3/4$ for Salt
Self $3/4$
Mother $1/2$

JULY,

THURSDAY 2.

1891.

Smith 1
Self 1
Bostin 1

FRIDAY 3.

Smith 4
Self 4
Bostin 1

JULY,

SATURDAY 4.

1891.

SUNDAY 5.

JULY,

MONDAY 6.

1891.

Smith 3/4
July 3/4
Wilton 3/4

TUESDAY 7.

JULY,

WEDNESDAY 8.

1891.

THURSDAY 9.

Blank Page(s)

AUGUST,

MONDAY 17.

1891.

A C & S Co	Dr	
Paice Craig		5.00
G. M. & Flay		1.50
Sutton Meals		<u>2.00</u>

TUESDAY 18.

AUGUST,

WEDNESDAY 19.

1891.

THURSDAY 20.

Blank Page(s)

NOVEMBER,

TUESDAY 17.

1891.

WEDNESDAY 18.

Left Note against a cde
for 1800000 with the money
to be delivered to Mr. Perkins
to be returned

Int-to debt \$118,50

NOVEMBER, THURSDAY 19. 1891.

FRIDAY 20.

Blank Page(s)

DECEMBER,

MONDAY 7.

1891.

At Work on Pine
Rings - Liza - Crawford

TUESDAY 8.

on pine as above

DECEMBER, WEDNESDAY 9. 1891.

On Pike
Rings - Sora - Crawford

DECEMBER, FRIDAY 11. 1891.

On Pike
Rings - Sora - Crawford

THURSDAY 10.

On Pike as above

SATURDAY 12.

On Pike as above

DECEMBER, SUNDAY 13. 1891.

On Pike
Rings - Crawfish

MONDAY 14.

On Pike
Rings - Crawfish

DECEMBER, TUESDAY 15. 1891.

On Pike
Rings

WEDNESDAY 16.

DECEMBER, THURSDAY 17. 1891.

DECEMBER, SATURDAY 19. 1891.

FRIDAY 18.

SUNDAY 20.

Blank Page(s)

ADDRESSES.

Name.

Residence.

Old Coins (Dealer in)
W. E. Skinner 16 Globe Building
Boston Mass
S. L. Barry Limestone Ky

ADDRESSES.

Name.

Residence.

Blank Page(s)

RECEIVABLE. *From A.B. 1st Nat.*

No.	Where Payable.	Due.	Amount.
	<i>Ashland Bank</i>		<i>30.75</i>
	<i>1st National</i>		
<i>Jan 5</i>	<i>W S Lewis Mch</i>	<i>on order</i>	<i>66.25</i>
<i>19</i>	<i>W S Lewis Mch</i>	<i>" "</i>	<i>358.00</i>

NOTES AND BILLS

Date.

To whom given.

Time.

No.

Where Payable.

When Due.

Amount.

PAYABLE.

CASH ACCOUNT — JANUARY.

RECEIVED.	PAID.
3 g Weaver 75 75	3 Kymen 33 50
	Bausapt 2
	5 J. M. and Co 9
	Book 65
	6 Life Vest 8 08
	7 Shinton & Co 3 1/2 70
	7 Car Fare 10
	8 14 50
1 Black r. } 33 70	8 Sugar 60
Ship Co } 35 35	Rate 11 00
	To 6 bottles 30
	Lia 35
10 A. C. & Co 12 50	10 Meat 10
	10 Water 3 50
	10 Milk Bill 19 60
	10 Paper 40
	11 Boat 6 50
	Saus. Chin 10
	Crackers 25
	13 Paid to Apr 17 1 75
	Freight 50
	14 28 Church 1 00
	15 12 40
	17 Alcohol 60

CASH ACCOUNT — JANUARY.

RECEIVED.	PAID.
19 g Weaver 372 1/4 16	16 Job 10
	Water for 3 05
	S. M. and Co 350 00
	19 Sugar 85
	Linn 05
	20 Abstract Co 5 00
	21 Church 1 35
	22 Credit 20
	24 Saw's 1 75
	25 Church 25
	27 May 40
	Bread 5 00
	Lb. 20
	30 May 60

CASH ACCOUNT — FEBRUARY.

RECEIVED.		PAID.	
2		3	Bap. Ch 1 00
			Cigar 05
		3	Theat 10 00
			Envelopes 30
		5	Book buys 20
6	20	6	Com 20 2 45
7	12	7	Herring 30
		10	Catfish 20
11	of H 5 00	10	P Abstract 5 00
		11	Rmfs 25
12	From Bank 30 75	12	Sm and 3 50
21	of Haskell 30 00		Sodas 4 00
	of Mr. Berry 30 00		H 5 00
		16	R R Lou 1 30
		21	R R Lou 1 30
		23	Karnack 80
			Job. M. 20
			H 1 00
		25	Books 25
		1	Coat 2 00

CASH ACCOUNT — ~~FEBRUARY~~ *March*

RECEIVED.		PAID.	
		6	Book buy 5 00
			Pen 10

CASH ACCOUNT — MARCH.

RECEIVED.		PAID.	
2		2	R B Jan 1 70
17	H 5 00	3	Coat 2 50
20	Check from Mrs Garhke	"	S Appl 40
	7 00		Tartan Lb 25
25	Summa Co 2 00	6	B. Ass. 5 00
			Powells 10
			B Chmck 1 00
		7	Abstract 25
		8	Abstract 5 00
		10	Assmt 8 00
		10	Envelope 80
		11	Sape 3 00
			Erasmus 1 00
			Frut 40
		13	Toy 20
			Kate Shro 15
		14	Paper 40
		16	Fares 30
		17	Methodist 3 00
			Pop Comm 25
			Dr ap d c 35
		19	Harry Lc 2 05
		20	Pepper de 35
		22	Hay 8 00
		25	Summa Co 2
			Lans 20

CASH ACCOUNT — MARCH.

RECEIVED.	PAID.
27	Sepkstein 2 50

CASH ACCOUNT — APRIL.

RECEIVED.		PAID.	
6		6	Sam. Mrs 60
8	From Stmp 3 10	9	Sugar 9 75
21	A.C.I. 0 9 00		Abstract 5 00
23	M'saway	12	Indus 40
	for Plans 4 00		Church 1 00
		31	Peap 14 90
			S. Maud 7 00
		23	News 1 00
		23	Kate 10 00

CASH ACCOUNT — APRIL.

RECEIVED. PAID.

CASH ACCOUNT — MAY.

RECEIVED.			PAID.	
		2	Stature	6 00
B. Assoc	3 00	5	B. Ass	5 00
Berry	20.00		Stamm	2 00
		7	Elkhart	8 00
		11	Jane	1 30
		15	"	1 30
		16	Orange	40
		16	Abshart	5 00
		19	Berry	
		22	C. Fred	1 80
		23	B. ass.	5 00
			Festivals	7 25
		28	Holton	3 25

CASH ACCOUNT — MAY.

RECEIVED.			PAID.	
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1891

CASH ACCOUNT — JUNE.

RECEIVED.		PAID.	
11	of Bank 15.00	1	B Church 1.00
30	Bagby 25.00	2	Trap do 1.00
"	Lincoln Co 25.00	4	Shute do 2.60
		4	Sam R.R. 70
		7	Doan's 1.50
		"	Edge 1.00
		"	Abstract 65.00
		11	Pauls 3.00
		30	Carbide 4.00
		"	Shore 2.50
		"	Morse 10.00

CASH ACCOUNT — JUNE.

RECEIVED. PAID.

1891

CASH ACCOUNT — JULY.

RECEIVED.		PAID.	
8	Wysan 20	8	Lew 2.00
13	Imp Co 32 25		Stone 6.00
			B. ass 10.00
			Elmwood 8.00
			Stann 8.00
		14	Holt-Low 6.75
		14	Abstract 5.00
		15	Wysan 20.00
		18	Coal 2.00
		23	B. Chum 5.00
		30	Coburn 105.00
30	Wear 574.80	"	24 10.00
	Bank 200.00		Bank
31	Elwood 250	31	Perry 1.00
	Perry 1.00		24 5.00

CASH ACCOUNT — JULY.

RECEIVED. PAID.

1891

CASH ACCOUNT — SEPTEMBER.

RECEIVED.			PAID.		
2 2 N.B.	74.80	4	A. Menden	1.00	
6 2	00.00	5	Assmt	8.00	
			babine	5.50	
			Soap	.50	
		7	Linn	1.60	
		"	Chapman	3.00	
		8	Abstract	5.00	
		8	Cassatt	3.00	

CASH ACCOUNT — SEPTEMBER.

RECEIVED. PAID.

CASH ACCOUNT — OCTOBER.

RECEIVED.		PAID.	
6	2 Nat Am 50.00	6	Mikes 5.00
19	Eng 12.50	6	Rath 10
	2 Nat 163.15	7	B. Chmsh 1.00
		8	Abstract 5.00
		9	Fees of S. 3.45
			Dec 1.00
		13	B. Ass. 3.75
		25	Nat 2.50
		19	Eng 17.35
			Mikes 160.00

CASH ACCOUNT — OCTOBER.

RECEIVED. PAID.

CASH ACCOUNT — DECEMBER.

RECEIVED.		PAID.	
Bank 10	2	Jelly	1.00
11 Bank 30	11	Carpet	6.40

CASH ACCOUNT — DECEMBER.

RECEIVED.		PAID.	
Wednesday Jan 11			
Bills			32.20
Imp Co			5.00
M. B. & M			18.75
W S Corp	3 3/4		3.50
DD Corp	Paid 5	7.50	12.50
W Corp			2.00
Gunnar Co			9.00
Boys Co			83.75

Iron clad

2" 10' x 4'

Sash outside 4" 6 1/2 x 2" 2 1/4

Keelfors Inc Co 29²⁰⁻

Int 118.50 ±

Room 11.4" x 12"
Long wide

Dents 33/4 x 4

750

04

480
380
840

1080
9
1180

