THE STANDARD DIARY

PUBLISHED FOR THE TRADE

Patents on slates in cars

Ireland	Ireland,
Krebbs	Russell,
Means	Means,
Northrup	Warren,
Richardson	Sotsdon.

200 Elkon Single Car

CALENDAR.

1889.

JAN.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	..	1	2	3	4	5
	6	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	..	..

FEB.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	..	..	..	..	1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	..	..

MAR.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	..	..	..	..	1	2
	3	4	5	6	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	..	..	..	..	..	..

APRIL.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	..	..	..	..

MAY.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	..	..	1	2	3	4
	5	6	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	..

JUNE.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	..	..	..	..	..	1
	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	..	..	..	..	..	..

JULY.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	1	2	3	4	5	6
	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	..	..	..

AUG.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	..	..	..	1	2	3
	4	5	6	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

SEPT.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	..	..	..	..	..	..
	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	..	..	..	..	..

OCT.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	..	1	2	3	4	5
	6	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	..	..

NOV.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	..	..	..	..	1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30

DEC.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	..	..	..	..	..	..	..
	1	2	3	4	5	6	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	..	..	..	..

WEIGHTS AND MEASURES.

MEASURE OF LENGTH.

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

60 Geographical Miles make 1 Degree.

1760 Yards } = 1 Mile.
5280 Feet }

MEASURE OF SURFACE.

144	Square Inches	make	1 Square Foot.
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.
272¼ Square Feet make 1 Square Rod.
43,560 Square Feet " 1 Acre.

MEASURE OF SOLIDITY.

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

AVOIRDUPOIS WEIGHT.

27 11/32	Grains	make	1 Drachm (dr.)	or	27 11/32	Grains.
16	Drachms	"	1 Ounce (oz.)	or	437½	"
16	Ounces	"	1 Pound (lb.)	or	7000	"
28	Pounds	"	1 Quarter (qr.)			
4	Quarters	"	1 Hundred-Weight (cwt.)			
20	Cwts.	"	1 Ton.			
2240	Pounds	"	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 (4-5ths Grain Troy.)
4 Grains " 1 Carat (3 1-5th Grains Troy)

LIQUID MEASURE.

4 Gills	make	1 Pint.	31½ Gallons	make	1 Barrel.
2 Pints	"	1 Quart.	54 Gallons	"	1 Hhd.
4 Quarts	"	1 Gallon.			

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.

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.

STATES.	Barley.	Buckwheat.	Coal.	Corn, shel'd	Corn Meal.	Onions.	Oats.	Potatoes.	Rye.	Wheat.	Salt.	Turnips.	Beans, wh.	Clover S'd.	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	57	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.

FOUR PER CENT.

Time.	$1	$2	$3	$4	$5	$6	$7	$8	$9	$10	$100	$1000
1 Dy.	0	0	0	0	0	0	0	0	0	0	1	11
3 "	0	0	0	0	0	0	0	0	0	½	3½	33
5 "	0	0	0	0	0	0	0	½	½	½	5½	56
10 "	0	0	0	½	½	½	1	1	1	1	11	1 11
1 Mo.	0	½	1	1½	1½	2	2½	2½	3	3½	33	3 33
2 "	½	1½	2	2½	3½	4	4½	5½	6	6½	67	6 67
3 "	1	2	3	4	5	6	7	8	9	10	1 00	10 00
4 "	1½	2½	4	5½	6½	8	9½	10½	12	13½	1 33	13 33
5 "	1½	3½	5	6½	8½	10	11½	13½	15	16½	1 67	16 67
6 "	2	4	6	8	10	12	14	16	18	20	2 00	20 00
7 "	2½	4½	7	9½	11½	14	16½	18½	21	23½	2 33	23 33
8 "	2½	5½	8	10½	13½	16	18½	21½	24	26½	2 67	26 67
9 "	3	6	9	12	15	18	21	24	27	30	3 00	30 00
10 "	3½	6½	10	13½	16½	20	23½	26½	30	33½	3 33	33 33
11 "	3½	7½	11	14½	18½	22	25½	29½	33	36½	3 67	36 67
1 Yr.	4	8	12	16	20	24	28	32	36	40	4 00	40 00

FIVE PER CENT.

Time.	$1	$2	$3	$4	$5	$6	$7	$8	$9	$10	$100	$1000
1 Dy.	0	0	0	0	0	0	0	0	0	0	1	14
3 "	0	0	0	0	0	0	0	0	0	0	4	42
5 "	0	0	0	0	0	0	0	1	1	1	7	69
10 "	0	0	0	½	1	1	1	1	1	1½	14	1 39
1 Mo.	½	1	1	2	2	3	3	3	4	4	42	4 17
2 "	1	1¾	3	3	4	5	6	7	8	8	83	8 33
3 "	1	2½	4	5	6	8	9	10	11	13	1 25	12 50
4 "	1½	3	5	7	8	10	12	13	15	17	1 67	16 67
5 "	2	4	6	8	10	13	15	17	19	21	2 08	20 83
6 "	2½	5	8	10	13	15	18	20	23	25	2 50	25 00
7 "	3	6	9	12	15	18	20	23	26	29	2 92	29 17
8 "	3	7	10	13	17	20	23	27	30	33	3 33	33 33
9 "	3¾	7½	11	15	19	23	26	30	34	38	3 75	37 50
10 "	4	8	13	17	21	25	29	33	38	42	4 17	41 67
11 "	4½	9	14	18	23	28	32	37	41	46	4 58	45 83
1 Yr.	5	10	15	20	25	30	35	40	45	50	5 00	50 00

SIX PER CENT.

Time.	$1	$2	$3	$4	$5	$6	$7	$8	$9	$10	$100	$1000
1 Dy.	0	0	0	0	0	0	0	0	0	0	2	17
3 "	0	0	0	0	0	0	0	0	0	1	5	50
5 "	0	0	0	0	0	½	1	1	1	1	8	83
10 "	0	0	1	1	1	1	1	1	2	2	17	1 67
1 Mo.	½	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 "	1½	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 "	2½	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 "	3½	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 "	4½	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 "	5½	11	17	22	28	33	39	44	50	55	5 50	55 00
1 Yr.	6	12	18	24	30	36	42	48	54	60	6 00	60 00

RATE OF INCOME ON STOCKS.

Purchased at the following prices, (par value being $100), and bearing interest at the following rates.

Paid.	3%	4%	5%	6%	7%	8%	9%
$50	6 00	8 00	10 00	12 00	14 00	16 00	18 00
55	5 45	7 27	9 09	10 90	12 72	14 55	16 36
60	5 00	6 67	8 33	10 00	11 66	13 33	15 00
65	4 62	6 15	7 69	9 23	10 76	12 30	13 85
70	4 28	5 71	7 14	8 57	10 00	11 42	12 85
75	4 00	5 33	6 66	8 00	9 33	10 66	12 00
80	3 75	5 00	6 25	7 50	8 75	10 00	11 25
85	3 53	4 70	5 88	7 05	8 23	9 41	10 58
90	3 33	4 44	5 55	6 66	7 77	8 88	10 00
91	3 30	4 40	5 49	6 59	7 69	8 79	9 89
92	3 26	4 34	5 43	6 52	7 60	8 70	9 78
93	3 23	4 30	5 38	6 45	7 53	8 60	9 68
94	3 19	4 26	5 32	6 38	7 45	8 51	9 57
95	3 15	4 21	5 26	6 31	7 36	8 42	9 47
96	3 13	4 17	5 21	6 25	7 29	8 33	9 38
97	3 09	4 12	5 15	6 18	7 22	8 25	9 28
98	3 06	4 08	5 10	6 12	7 14	8 16	9 18
99	3 03	4 04	5 05	6 06	7 07	8 08	9 09
101	2 97	3 96	4 95	5 94	6 93	7 92	8 91
102	2 94	3 92	4 90	5 88	6 86	7 84	8 82
103	2 91	3 88	4 85	5 83	6 80	7 77	8 74
104	2 88	3 85	4 81	5 77	6 73	7 69	8 65
105	2 86	3 80	4 76	5 71	6 66	7 61	8 57
106	2 83	3 77	4 72	5 66	6 60	7 55	8 49
107	2 80	3 74	4 67	5 61	6 54	7 48	8 41
108	2 78	3 70	4 63	5 56	6 48	7 41	8 33
109	2 75	3 67	4 59	5 50	6 42	7 34	8 26
110	2 72	3 63	4 54	5 45	6 36	7 27	8 18
115	2 60	3 48	4 34	5 21	6 08	6 95	7 83
120	2 50	3 33	4 16	5 00	5 83	6 66	7 50
130	2 30	3 07	3 84	4 61	5 38	6 15	6 92
140	2 14	2 86	3 57	4 28	5 00	5 71	6 43
150	2 00	2 67	3 33	4 00	4 66	5 33	6 00
160	1 88	2 50	3 12	3 75	4 38	5 00	5 62
170	. .	. .	. .	3 53	4 12	4 70	5 29
180	. .	. .	. .	3 33	3 88	4 44	5 00
190	. .	. .	. .	3 16	3 68	4 21	4 74
200	. .	. .	. .	3 00	3 50	4 00	4 50

RATES OF POSTAGE.

POSTAL CARDS, 1 cent each, go without further charge to all parts of the United States and Canada. Cards for foreign countries (within the Postal Union) 2 cents each. *Postal Cards are unmailable* with any writing or printing on the address side, except the direction, or with anything pasted upon or attached to them.

ALL LETTERS, to all parts of the United States and Canada, 2 cents for each ounce or fraction thereof.

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

FIRST CLASS.—Letters and all other 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, 2 cents for each ounce or fraction thereof.

SECOND CLASS.—Only for publishers and news-agents; 1 cent per pound.

NEWSPAPERS and Periodicals (regular publications) can be mailed by the public at the rate of 1 cent for each 4 ounces or fraction thereof.

THIRD CLASS.—Printed matter, in *unsealed wrappers only* (all matter inclosed in notched envelopes must pay letter rates), 1 cent for each 2 ounces or fraction thereof, *which must be fully prepaid.* This includes books, circulars, chromos, engravings, handbills, lithographs, music, pamphlets, proof-sheets and manuscript accompanying the same, reproductions by the electric pen, hektograph, metallograph, papyrograph, and, in short, any reproduction upon paper by any process *except handwriting and the copying press.* Limit of weight 4 lbs., except for a single book, which may weigh more.

FOURTH CLASS.—All mailable matter not included in the three preceding classes which is so prepared for mailing as to be *easily withdrawn from the wrapper* and examined, 1 cent per ounce or fraction thereof. Limit of weight, 4 lbs. Full prepayment compulsory.

REFORWARDING.—Letters will be forwarded from one post office to another upon the *written* request of the *person addressed*, without additional postage charge; but unclaimed packages *cannot be returned to the sender* until stamps are furnished to pay the return postage.

PERMISSIBLE WRITING.—No writing is permitted on third or fourth class matter except as follows: The name and address of sender on the outside or inside of package, preceded by the word "from." On the wrapper may also be written the names and number of articles inclosed. The sender is further allowed to mark a word or passage in a book or paper to which he desires to call special attention. He may also write a simple inscription

or dedication upon the cover or blank leaves of a book or pamphlet. There may be attached to articles of merchandise, by tag or label, a mark, number, name, or letter for purpose of identification. Printed circulars may contain the written name of the sender, or of the addressee, and the date. Any other writing on third or fourth class matter will subject the package to letter rates of postage, and render the sender liable to a fine of ten dollars for each offense. Printed matter may be inclosed with fourth class matter, but the whole package is subject to the rate of 1 cent per ounce or fraction thereof.

POSTAL NOTES.

Upon payment of a fee of 3 cents each, Postal Notes for any amount under Five Dollars may be purchased at any Money-order Office, payable to bearer at any time within three calendar months from the last day of the month during which it was issued; but payable *only* at such Money-order Office as the purchaser may select or at the office of issue.

MONEY ORDERS.

For Orders not exceeding					$5	5	cents.
Exceeding	$5	and	not	exceeding	$10 . .	8	"
"	10	"	"	"	15 . .	10	"
"	15	"	"	"	30 . .	15	"
"	30	"	"	"	40 . .	20	"
"	40	"	"	"	50 . .	25	"
"	50	"	"	"	60 . .	30	"
"	60	"	"	"	70 . .	35	"
"	70	"	"	"	80 . .	40	"
"	80	"	"	"	100 . .	45	"

When a larger sum than $100 is required, additional Orders to make it up must be obtained.

FOREIGN POSTAGE.

The rates for letters are for the half ounce or fraction thereof, and those for newspapers for 2 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 1 cent for each 2 ounces or fraction thereof.

To Australia, letters, via San Francisco (except to New South Wales), 5 cents; via Brindisi, 15 cents; newspapers, via San Francisco, 2 cents; via Brindisi, 4 cents. China, letters, via San Francisco, 5 cents; via Brindisi, 13 cents; 4 cents for each paper not weighing over 4 ounces. British India, Italian mail, letters 5 cents, newspapers 1 cent for 2 ounces. Japan, letters, via San Francisco, 5 cents; newspapers 1 cent for 2 ounces.

STANDARD TIME.

In this Almanac the risings and settings of the Sun and Moon are given in local mean time, as heretofore. The Tides are given in Standard Time.

To change to Standard Time add or subtract the *minutes* as given below, according as they are marked *plus* or *minus*.

Standard Time Divisions as adopted by the Railroads.

Eastern Standard—75th Meridian. Canada, between Quebec and Detroit,—U. S. east of Buffalo, N. Y.; Pittsburg, Pa.; Wheeling and Huntington, W. Va.; Bristol, Tenn.; Charlotte, N. C., and Augusta, Ga.

Central Standard—90th Meridian. West from "Eastern" limits, as above, to Broadview, Canada; to the Missouri River in Dakota; North Platte and McCook, Nebraska; Wallace and Dodge City, Kansas; Toyah and Sanderson, Texas.

Mountain Standard—105th Meridian. West from "Central" limits to Heron, Montana; Ogden, Utah; Needles and Yuma, Arizona.

Pacific Standard—120th Meridian. West from "Mountain" limits to coast.

Correction for the following Cities.

Eastern Standard.

75° Longitude.

	Minutes.
Bangor, Me.	— 25
Augusta, Me.	— 21
Portland, Me.	— 19
Boston, Mass.	— 16
Newport, R. I.	— 15
Providence, R. I.	— 14
Concord, N. H.	— 14
New London, Conn.	— 11
Springfield, Mass.	— 10
Montpelier, Vt.	— 10
Hartford, Conn.	— 9
Montreal, Que.	— 6
Albany, N. Y.	— 5
New York, N. Y	— 4
Utica, N. Y.	+ 1
Philadelphia, Pa.	+ 1
Syracuse, N. Y.	+ 5
Baltimore, Md.	+ 6
Washington, D. C.	+ 8
Rochester, N. Y.	+ 11
Buffalo, N. Y.	+ 16
Pittsburg, Pa.	+ 20

Central Standard.

90° Longitude.

	Minutes.
Cleveland, Ohio	— 33
Columbus, Ohio	— 28
Detroit, Mich.	— 28
Toledo, Ohio	— 26
Dayton, Ohio	— 23
Cincinnati, Ohio	— 22
Louisville, Ky.	— 18
Indianapolis, Ind.	— 16
Chicago, Ill.	— 10
Milwaukee, Wis.	— 8
Springfield, Ill.	— 2
Memphis, Tenn.	0
New Orleans, La.	0
St. Louis, Mo.	+ 1
Rock Island, Ill.	+ 3
Dubuque, Iowa	+ 3
Burlington, Iowa	+ 5
St. Paul, Minn.	+ 12
Des Moines, Iowa	+ 14
Kansas City, Mo.	+ 18
Galveston, Texas	+ 19
Omaha, Neb.	+ 24

Mountain Standard.

105° Longitude.

Denver, Col.	0
Salt Lake City, Utah,	+ 28

Pacific Standard.

120° Longitude.

Sacramento, Cal.	+ 6
San Francisco, Cal.	+ 10

PRESIDENTS OF THE UNITED STATES.

No.	NAMES.	Born.	Inaugurated.	Term of Office.	Died.	Native of	Residence when elected.	Political Party.
1	GEORGE WASHINGTON	Feb. 22, 1732	April 30, 1789	8 years.....	Dec. 14, 1799	Virginia.	Virginia.	Federal.
2	JOHN ADAMS.....	Oct. 30, 1735	Mar. 4, 1797	4 "	July 4, 1826	Mass.	Mass.	"
3	THOMAS JEFFERSON...	April 2, 1743	" 4, 1801	8 "	" 4, 1826	Virginia.	Virginia.	Republican.
4	JAMES MADISON.....	Mar. 16, 1751	" 4, 1809	8 "	June 28, 1837	"	"	"
5	JAMES MONROE.....	April 28, 1759	" 4, 1817	8 "	July 4, 1831	"	"	"
6	JOHN QUINCY ADAMS.	July 11, 1767	" 4, 1825	4 "	Feb. 23, 1848	Mass.	Mass.	Coalition.
7	ANDREW JACKSON	Mar. 15, 1767	" 4, 1829	8 "	June 8, 1845	S. Carolina.	Tennessee.	Democrat.
8	MARTIN VAN BUREN.	Dec. 5, 1782	" 4, 1837	4 "	July 24, 1862	New York.	New York.	"
9	WM. H. HARRISON ...	Feb. 9, 1773	" 4, 1841	1 month	April 4, 1841	Virginia.	Ohio.	Whig.
10	JOHN TYLER.....	Mar. 29, 1790	April 6, 1841	3 yrs. 11 mos	Jan. 17, 1862	"	Virginia.	"
11	JAMES K. POLK	Nov. 2, 1795	Mar. 4, 1845	4 years.....	June 15, 1849	N. Carolina.	Tennessee.	Democrat.
12	ZACHARY TAYLOR.....	Nov. 24, 1784	" 4, 1849	1 year 4 mos..	July 9, 1850	Virginia.	Louisiana.	Whig.
13	MILLARD FILLMORE ..	Jan. 7, 1800	July 9, 1850	2 years 8 mos.	Mar. 8, 1874	New York.	New York.	"
14	FRANKLIN PIERCE....	Nov. 23, 1804	Mar. 4, 1853	4 years.....	Oct. 8, 1869	N. Hamp.	N. Hamp.	Democrat.
15	JAMES BUCHANAN....	April 23, 1791	" 4, 1857	4 "	June 1, 1868	Penn.	Penn.	"
16	ABRAHAM LINCOLN...	Feb. 12, 1809	" 4, 1861	4 yrs. 40 days.	April 15, 1865	Kentucky.	Illinois.	Republican.
17	ANDREW JOHNSON....	Dec. 29, 1808	April 15, 1865	3 yrs. 10½ mos.	July 31, 1875	N. Carolina.	Tennessee.	"
18	ULYSSES S. GRANT ...	April 27, 1822	Mar. 4, 1869	8 years.....	July 23, 1885	Ohio.	Illinois.	"
19	RUTHERF'D B. HAYES	Oct. 4, 1822	" 5, 1877	4 "	....	Vermont.	Ohio.	"
20	JAMES A GARFIELD..	Nov. 19, 1831	" 4, 1881	6½ months....	Sept. 19, 1881	Ohio.	"	"
21	CHESTER A. ARTHUR.	Oct. 5, 1830	Sept. 20, 1881	3 yrs. 5½ mos.	Nov. 18, 1886	Vermont.	New York.	"
22	GROVER CLEVELAND..	Mar. 18, 1837	Mar. 4, 1885	.....	....	New Jersey.	New York.	Democrat.

HELP! In case of Accidents.

Drowning. 1. Loosen clothing, if any. 2. Empty lungs of water by laying body on its stomach and lifting it by the middle so that the head hangs down. Jerk the body a few times. 3. Pull tongue forward, using handkerchief, or pin with string, if necessary. 4. Imitate motion of respiration by alternately compressing and expanding the lower ribs, about twenty times a minute. Alternately raising and lowering the arms from the sides up above the head will stimulate the action of the lungs. Let it be done gently but persistently. 5. Apply warmth and friction to extremities. 6. By holding tongue forward, closing the nostrils and pressing the "Adam's apple" back, (so as to close entrance to stomach), direct inflation may be tried. Take a deep breath and breathe it forcibly into the mouth of patient, compress the chest to expel the air, and repeat the operation. 7. DON'T GIVE UP! People have been saved after HOURS of patient, vigorous effort. 8. When breathing begins, get patient into a warm bed, give WARM drinks, or spirits in teaspoonfuls, fresh air and quiet.

Burns and Scalds. Cover with Cooking Soda and lay wet cloths over it. Whites of Eggs and Olive Oil. Olive or Linseed Oil, plain, or mixed with Chalk or Whiting.

Lightning. Dash cold water over a person struck.

Sunstroke. Loosen clothing. Get patient into shade and apply ice-cold water to head.

Mad Dog or Snake Bite. Tie cord tight above wound. Suck the wound and cauterize with caustic or white-hot iron at once, or cut out adjoining parts with a sharp knife.

Venomous Insects Stings, &c. Apply weak Ammonia, Oil, Salt Water, or Iodine.

Fainting. Place flat on back; allow fresh air and sprinkle with water.

Tests of Death. Hold mirror to mouth. If living, moisture will gather. Push pin into flesh. If dead the hole will remain, if alive it will close up.

Cinders in the Eye. Roll soft paper up like a lamp lighter and wet the tip to remove, or use a medicine dropper to draw it out. Rub the *other* eye.

Fire in one's Clothing. *Don't run*,—especially not down stairs or out of doors. Roll on carpet, or wrap in woolen rug or blanket. Keep the head down, so as not to inhale flame.

Fire in a Building. Crawl on the floor. The clearest air is the lowest in the room. Cover head with a woolen wrap, wet if possible. Cut holes for the eyes. Don't get excited

Fire in Kerosene. *Don't use water*, it will spread the flames. Dirt, sand or flour is the best extinguisher; or smother with woolen rug, table-cloth or carpet.

ANTIDOTES FOR POISONS.

First. Send for a Physician.

Second. INDUCE VOMITING, by tickling throat with feather or finger. Drinking hot water or strong Mustard and water. Swallow Sweet Oil or whites of Eggs.

Acids are antidotes for ALKALIES, and *vice versa.*

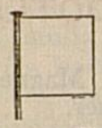
SPECIAL POISONS AND ANTIDOTES.

Acids. MURIATIC, OXALIC. ACETIC. SULPHURIC (Oil of Vitriol). NITRIC (Aqua Fortis).	Soap-suds, Magnesia, Lime-water.
Prussic Acid.	Ammonia in water. Dash water in face.
Carbolic Acid.	Flour and water, mucilaginous drinks.
Alkalies. POTASH. LYE. HARTSHORN. AMMONIA.	Vinegar or Lemon juice in water.
Arsenic. **Rat Poison.** **Paris Green.**	Milk, Raw Eggs, Sweet Oil, Lime-water, Flour aud water.
Bug Poison. **Lead.** **Saltpetre.** **Corrosive Sublimate.** **Sugar of Lead.** **Blue Vitriol.**	Whites of Eggs or Milk in large doses.
Chloroform. **Chloral.** **Ether.**	Dash cold water on head and chest. Artificial respiration. Piece of ice in rectum.
Carbonate of Soda. **Copperas.** **Cobalt.**	Soap-suds and mucilaginous drinks.
Iodine. **Antimony.** **Tartar Emetic.**	Starch and water. Astringent infusions. Strong tea.
Mercury AND ITS SALTS.	Whites of Eggs. Milk. Mucilages.
Nitrate of Silver. **Lunar Caustic.**	Salt and water.
Opium. **Morphine.** **Laudanum.** **Paregoric.** **Soothing Powders or Syrups.**	Strong coffee, hot bath. Keep awake and moving at any cost.
Strychnine. **Tinct. of Nux Vomica.**	Mustard and water, Sulphate of Zinc. Absolute quiet. Plug the ears.

NEW WEATHER SIGNALS.

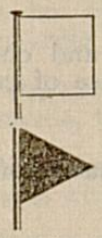
[Adopted for general use by the United States Signal Service on and after March 1, 1887.]

INTERPRETATION OF SIGNALS.

No. 1. White Flag.	No. 2. Blue Flag.	No. 3. Black Triangular Flag.	No. 4. White Flag, Black Center.
			
Clear or Fair.	Rain or Snow.	Temperature.	Cold Wave.

No. 1, white flag, clear or fair weather, no rain. Number 2, blue flag, rain or snow. Number 3, black triangular flag, refers to temperature, and above numbers 1 or 2, indicates warmer weather; below numbers 1 or 2, colder weather, and when not displayed, stationary weather. Number 4, white flag with black center (cold-wave flag) sudden fall in temperature; this signal is usually ordered at least twenty-four hours in advance of the cold wave. It is not displayed unless a temperature of forty-five degrees, or less, is expected, nor is flag number 3 ever displayed with it.

DISPLAY EXAMPLES.



Fair Weather, Colder.

Warmer, Rain or Snow.

Warmer, Fair Weather, followed by Rain or Snow.

Fair Weather, Cold Wave.

TO FIND LENGTH OF DAY OR 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.

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	Forfeiture of principal & interest.	6	10 per ct.
California	No penalty	7	No limit.
Colorado	No penalty	10	No limit.
Connecticut....	No penalty	6	6 per ct.
Dakota	Forfeiture of contract	7	12 per ct.
Delaware.....	Forfeiture of contract	6	6 per ct.
District of Col..	Forfeiture of all interest.....	6	10 per ct.
Florida	No penalty	8	No limit.
Georgia	Forfeiture of excess	7	8 per ct.
Idaho.....	Forf'ture of 3 times excess of int.	10	18 per ct.
Illinois	Forfeiture of all interest.....	6	8 per ct.
Indiana	Forfeiture of int. over 6 per cent.	6	8 per ct.
Iowa.....	Forfeiture of interest and costs..	6	10 per ct.
Kansas	Forfeiture of excess over 12 per ct.	7	12 per ct.
Kentucky	Forfeiture of excess	6	6 per ct.
Louisiana	Forfeiture 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.....	Forfeiture of contract.	7	10 per ct.
Mississippi	Forfeiture of all interest.....	6	10 per ct.
Missouri	Forfeiture of all interest	6	10 per ct.
Montana	No penalty	10	No limit.
Nebraska.....	Forfeiture of all interest & costs.	7	10 per ct.
Nevada.....	No penalty	10	No limit.
New Hampshire	Forfeiture of 3 times excess of int.	6	6 per ct.
New Jersey	Forfeiture of all interest.....	6	6 per ct.
New Mexico ...	No penalty	6	12 per ct.
New York.....	Forfeiture of contract.*	6	6 per ct.
North Carolina.	Forfeiture of double am't of int.	6	8 per ct.
Ohio	Forfeiture of excess.	6	8 per ct.
Oregon	Forfeiture of prin., int. & costs..	8	10 per ct.
Pennsylvania ..	Forfeiture of excess, Act of 1858.	6	6 per ct.
Rhode Island ..	Forfeiture, unless by contract.†.	6	No limit.
South Carolina.	Forfeiture of interest	7	10 per ct.
Tennessee	Forfeiture of over 6 per cent.....	6	6 per ct.
Texas	Forfeiture of interest.....	8	12 per ct.
Utah	No penalty	10	No limit.
Vermont	Forfeiture of excess	6	7 per ct.
Virginia.....	Forfeiture of excess	6	6 per ct.
Washington....	No penalty	10	No limit.
West Virginia..	Forfeiture of excess	6	6 per ct.
Wisconsin.....	Forfeiture of all interest	7	10 per ct.
Wyoming	No penalty	12	No limit.

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

† Also 6 per cent. on judgments.

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, 1888, in compliance with the above stated provisions of law.

COUNTRY.	MONETARY UNIT.	STANDARD.	VALUE.
			D. C. M.
Argentine Repub.	Peso	Gold & silv.	0 96 5
Austria	Florin	Silver	0 34 5
Austria	Florin	Gold	0 48 2
Belgium	Franc	Gold & silv.	0 19 3
Bolivia	Boliviano	Silver	0 69 9
Brazil	Milreis of 1000 reis.	Gold	0 54 6
British America	Dollar	Gold	1 0 0
Central America	Dollar	Silver	0 93 5
Chili	Peso	Gold & silv.	0 91 2
Cuba	Peso	Gold & silv.	0 92 6
Denmark	Crown	Gold	0 26 8
Ecuador	Sucre	Silver	0 69 9
Egypt	Piaster	Gold	0 4 9
France	Franc	Gold & silv.	0 19 3
German Empire	Mark	Gold	0 23 8
Great Britain	Pound sterling	Gold	4 86 6½
Greece	Drachma	Gold & silv.	0 19 3
Hayti	Gourde	Gold & silv.	0 96 5
India	Rupee of 16 annas.	Silver	0 33 2
Italy	Lira	Gold & silv.	0 19 3
Japan	Yen	Gold	0 99 7
Japan	Yen	Silver	0 75 3
Liberia	Dollar	Gold	1 0 0
Mexico	Dollar	Silver	0 75 9
Netherlands	Florin	Gold & silv.	0 40 2
Norway	Crown	Gold	0 26 8
Peru	Sol	Silver	0 69 9
Porto Rico	Peso	Gold	0 92 5
Portugal	Milreis of 1000 reis	Gold	1 0 8
Russia	Roubl. of 100 cop'ks	Silver	0 55 9
Sandwich Islands	Dollar	Gold	1 0 0
Spain	Pseta 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 63 0
Turkey	Piaster	Gold	0 4 4
U. S. of Colombia	Peso	Silver	0 69 9
Uruguay	Patacon	Gold	0 94 8
Venezuela	Bolivar	Silver	0 14 0

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) it is transferable by delivery, the same as if made payable to bearer.

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

SHORT METHOD

For Calculating Interest.

Multiply the principal by as many hundreds as there are days, and

For 4 per cent.	Divide by	90
" 5 " "	" "	72
" 6 " "	" "	60
" 7 " "	" "	52
" 8 " "	" "	45
" 9 " "	" "	40
" 10 " "	" "	36
" 12 " "	" "	30

EXAMPLE — Interest on $50 for 30 days at 4%. 50 x .30 = 15.00, which divided by 90 = 16⅔ cents — the required result.

FESTIVALS AND FASTS.

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
Michælmas Day	Sept. 29
St. Andrew	Nov. 30
First Sunday in Advent	Dec. 1
Christmas Day	Dec. 25

MORNING AND EVENING STARS.

Mercury will be Evening Star about January 30, May 24, and September 20; and Morning Star about March 13, July 12, and October 31.

Venus will be Evening Star till April 30; and Morning Star the rest of the year.

Jupiter will be Morning Star till June 24; and Evening Star the rest of the year.

ECLIPSES FOR THE YEAR.

In the year 1889 there will be five Eclipses; three of the Sun and two of the Moon.

I. A Total Eclipse of the Sun, January 1. Visible to the larger portions of North America and the North Pacific Ocean. Being total along a track 80 miles wide, extending from the Aleutian Islands and running centrally through Point Arena, Cal., Winnemuca, Nev., Mountain Meadows, Idaho, and terminating about Lake Winnepeg. Elsewhere it will be partial. Invisible east of a line drawn through New York City and Ogdensburg. Occurring as follows: —

	Standard.	Eclipse Begins.	Eclipse Ends.	Digits Eclipsed.
Boston, ...	Eastern.	Invisible.	Invisible.	. . .
New York, ...	Eastern.	Sunset.	After sunset.	. . .
Chicago, ...	Central.	3h. 18m. A.	Middle at sunset.	8
Philadelphia, . .	Eastern.	4h. 35m. A.	After sunset.	Slight.
Washington, . . .	Eastern.	4h. 35m. A.	After sunset.	2
Charleston, . . .	Eastern.	4h. 47m. A.	After sunset.	3
New Orleans, . .	Central.	3h. 35m. A.	Middle before sunset.	5
St. Louis, ...	Central.	3h. 20m. A.	Middle before sunset.	8
Denver, ...	Mountain.	1h. 59m. A.	4h. 24m. A.	10
Salt Lake, ...	Mountain.	1h. 43m. A.	4h. 17m. A.	11

II. A Partial Eclipse of the Moon, January 16–17. Visible more or less to the world generally, except to Asia and Australia. Occurring as follows: —

	Eastern Standard.	Central Standard.	Mountain Standard.
	D. H. M.	D. H. M.	D. H. M.
Moon enters Penumbra	16 9 37 A.	16 8 37 A.	16 7 37 A.
Moon enters Shadow...	16 10 58 A.	16 9 58 A.	16 8 58 A.
Middle of Eclipse	17 0 29 M.	16 11 29 A.	16 10 29 A.
Moon leaves Shadow ...	17 2 1 M.	17 1 1 M.	17 0 1 M.
Moon leaves Penumbra	17 3 22 M.	17 2 22 M.	17 1 22 M.

Magnitude of Eclipse = 0.702, (Moon's diameter = 1).

III. An Annular Eclipse of the Sun, June 28. Invisible. Visible to the southern half of Africa, extreme southern Asia, and the Indian Ocean.

IV. A Partial Eclipse of the Moon, July 12. Invisible. Visible more or less to Europe, Asia, Africa, Australia, and Atlantic and Indian Oceans.

V. A Total Eclipse of the Sun, December 22. Invisible. Visible to the northern half of South America and the most of Africa.

CHRONOLOGICAL CYCLES.

Dominical Letter	F
Epact	28
Lunar Cycle, or Golden Number	9
Solar Cycle	22
Roman Indiction	2
Julian Period	6602

TIDE TABLE

(The following values are derived from late determinations of the UNITED STATES COAST SURVEY.)

To find the time (Standard 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*.

EASTERN STANDARD.		H.	M.	Mean range. Feet.
Eastport, Me.	add	2	33	18.2
Bar Harbor, Me.	"	2	27	10.4
Portland, Me.	"	2	55	9.1
Portsmouth, N. H.	"	3	3	8.6
Isle of Shoals, N. H.	"	2	57	8.7
Newburyport, Mass.	"	3	16	7.5
Gloucester, Mass.	"	2	44	8.9
Salem, Mass.	"	2	54	9.2
Nahant, Mass.	"	2	50	9.4
Plymouth, Mass.	"	2	59	10.2
Provincetown, Mass.	"	3	0	9.2
Nantucket, Mass.	"	4	15	3.0
Vineyard Haven, Mass.	"	3	32	1.6
Wood's Hole, North Side, Mass.	sub.	0	21	4.0
Wood's Hole, South Side, Mass.	add	0	14	1.6
New Bedford Entrance (Dumpling Rock), Mass.	sub.	0	20	3.7
Newport, R. I.	"	0	33	3.9
Point Judith, R. I.	"	0	45	3.1
Sandy Hook, N. J.	"	0	32	4.7
Watch Hill, R. I.	add	0	44	2.7
Stonnington, Conn.	"	0	52	2.7
New London, Conn.	"	1	14	2.6
New Haven, Conn.	"	2	57	6.0
Bridgeport, Conn.	"	3	1	6.5
Montauk Point, L. I.	"	0	4	1.9
Throg's Neck, N. Y.	"	3	12	7.3
Cape May Landing, N. J.	"	0	16	4.8
Newcastle, Del.	"	3	52	6.5
Philadelphia, Penn.	"	5	36	6.0
Annapolis, Md.	sub.	3	19	0.9
Blatimore, Md.	"	1	24	1.3
Richmond, Va.	"	3	25	3.6
Hatteras Inlet, N. C.	"	0	56	2.0
Beaufort, N. C.	"	0	35	2.8
Charleston (C. H. Wharf), S C.	"	0	19	5.1
CENTRAL STANDARD.				
Fort Pulaski (Savannah Ent.), Ga.	"	1	21	6.9
Savannah (Dry Dock Wharf), Ga.	"	0	26	6.5
St. Augustine, Fla.	"	0	17	4.2
Key West, Fla.	add	0	26	1.2
Tampa Bay (Egmont Key), Fla.	"	2	49	1.4
Cedar Keys (Depot Key), Fla.	"	4	52	2.6

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
NEW MOON	1d. 4h. 8m. A.	1d. 3h. 8m. A.
FIRST QUARTER..	8d. 7h. 40m. A.	8d. 6h. 40m. A.
FULL MOON	17d. 0h. 37m. M.	16d. 11h. 37m. A.
LAST QUARTER...	24d. 10h. 57m. M.	24d. 9h. 57m. M.
NEW MOON.....	31d. 4h. 10m. M.	31d. 3h. 10m. M.

BOSTON & CHICAGO.				BOST. TIDE.	N. YORK & PHILA.			N. Y. TIDE.
D. of M.	Day of W'k.	Local Mean Time. SUN R.&S.	Local Mean Time. MOON R.&S.	Standard Time.	D. of M.	Local Mean Time. SUN R.&S.	Local Mean Time. MOON R.&S.	Standard Time.
1	TU.	r7 30	7 7	10 49	1	r7 25	7 2	7 44
2	WE.	s4 40	sets.	11 43	2	s4 45	sets.	8 39
3	TH.	r7 30	6 54	0 9	3	r7 25	6 58	9 33
4	FR.	s4 42	8 5	1 0	4	s4 47	8 8	10 22
5	SA.	r7 30	9 13	1 50	5	r7 25	9 15	11 8
6	☰	s4 44	10 19	2 37	6	s4 49	10 20	11 56
7	MO.	r7 29	11 22	3 22	7	r7 25	11 22	0 20
8	TU.	s4 46	morn	4 9	8	s4 51	morn	1 8
9	WE.	r7 29	0 23	4 58	9	r7 24	0 22	1 56
10	TH.	s4 48	1 23	5 49	10	s4 53	1 21	2 47
11	FR.	r7 28	2 22	6 41	11	r7 24	2 19	3 38
12	SA.	s4 50	3 21	7 33	12	s4 55	3 17	4 29
13	☰	r7 28	4 19	8 25	13	r7 23	4 15	5 21
14	MO.	s4 53	5 16	9 13	14	s4 57	5 11	6 11
15	TU.	r7 27	6 10	10 2	15	r7 22	6 5	7 0
16	WE.	s4 55	7 1	10 48	16	s5 0	6 56	7 43
17	TH.	r7 26	rises.	11 30	17	r7 21	rises.	8 25
18	FR.	s4 57	6 28	.....	18	s5 2	6 32	9 12
19	SA.	r7 24	7 33	0 34	19	r7 20	7 36	9 53
20	☰	s5 0	8 38	1 16	20	s5 4	8 40	10 33
21	MO.	r7 23	9 44	1 59	21	r7 19	9 45	11 15
22	TU.	s5 2	10 51	2 43	22	s5 7	10 51	.....
23	WE.	r7 22	morn	3 28	23	r7 17	11 59	0 26
24	TH.	s5 5	0 0	4 18	24	s5 9	morn	1 17
25	FR.	r7 21	1 11	5 16	25	r7 16	1 9	2 14
26	SA.	s5 7	2 23	6 20	26	s5 11	2 20	3 18
27	☰	r7 18	3 35	7 28	27	r7 14	3 31	4 24
28	MO.	s5 10	4 45	8 34	28	s5 14	4 40	5 32
29	TU.	r7 16	5 50	9 38	29	r7 13	5 45	6 36
30	WE.	s5 13	6 47	10 36	30	s5 16	6 42	7 31
31	TH.	r7 14	sets.	11 28	31	r7 11	sets.	8 23

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
FIRST QUARTER ..	7d. 3h. 58m. A.	7d. 2h. 58m. A.
FULL MOON	15d. 5h. 17m. A.	15d. 4h. 17m. A.
LAST QUARTER...	22d. 6h. 55m. A.	22d. 5h. 55m. A.

BOSTON & CHICAGO.					N. YORK & PHILA.			
D. of M.	Day of W'k.	Local Mean Time. Sun R.&S.	Local Mean Time. Moon R.&S.	Bost. Tide. Standard Time.	D. of M.	Local Mean Time. Sun R.&S.	Local Mean Time. Moon R.&S.	N. Y. Tide. Standard Time.
1	FR.	r7 13	6 50	.....	1	r7 10	6 53	9 13
2	SA.	s5 17	7 59	0 38	2	s5 20	8 1	9 58
3	☩	r7 11	9 5	1 22	3	r7 8	9 6	10 39
4	MO.	s5 19	10 9	2 4	4	s5 22	10 9	11 19
5	TU.	r7 9	11 11	2 45	5	r7 6	11 10	....
6	WE.	s5 22	morn	3 27	6	s5 25	morn	0 25
7	TH.	r7 7	0 11	4 12	7	r7 3	0 9	1 11
8	FR.	s5 24	1 11	5 2	8	s5 27	1 8	2 0
9	SA.	r7 4	2 10	5 56	9	r7 1	2 6	2 54
10	☩	s5 27	3 7	6 52	10	s5 30	3 2	3 49
11	MO.	r7 1	4 2	7 49	11	r6 59	3 57	4 45
12	TU.	s5 30	4 53	8 43	12	s5 32	4 48	5 41
13	WE.	r6 58	5 41	9 35	13	r6 56	5 36	6 33
14	TH.	s5 32	6 24	10 24	14	s5 35	6 19	7 21
15	FR.	r6 56	rises.	11 9	15	r6 53	rises.	8 3
16	SA.	s5 35	6 27	11 50	16	s5 37	6 29	8 48
17	☩	r6 53	7 35	0 11	17	r6 51	7 36	9 30
18	MO.	s5 37	8 43	0 53	18	s5 39	8 43	10 11
19	TU.	r6 50	9 53	1 35	19	r6 48	9 52	10 50
20	WE.	s5 40	11 3	2 18	20	s5 42	11 1	11 36
21	TH.	r6 47	morn	3 4	21	r6 45	morn	0 1
22	FR.	s5 42	0 14	3 56	22	s5 44	0 11	0 55
23	SA.	r6 44	1 25	4 56	23	r6 42	1 21	1 55
24	☩	s5 45	2 34	6 4	24	s5 47	2 29	3 1
25	MO.	r6 41	3 39	7 16	25	r6 39	3 34	4 13
26	TU.	s5 47	4 38	8 24	26	s5 49	4 33	5 20
27	WE.	r6 38	5 28	9 26	27	r6 36	5 23	6 24
28	TH.	s5 50	6 10	10 21	28	s5 51	6 6	7 17
..	....	.....	.....	.....	..	.....	.....	.....
..	....	.....	.....	.....	..	.....	.....	.....
..	....	.....	.....	.....	..	.....	.....	.....

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
NEW MOON	1d. 5h. 1m. A.	1d. 4h. 1m. A.
FIRST QUARTER..	9d. 0h. 59m. A.	9d. 11h. 59m. M.
FULL MOON	17d. 6h. 47m. M.	17d. 5h. 47m. M.
LAST QUARTER...	24d. 1h. 54m. M.	24d. 0h. 54m. M.
NEW MOON.....	31d. 6h. 37m. M.	31d. 5h. 37m. M.

BOSTON & CHICAGO.				Bost. Tide.	N. YORK & PHILA.			N. Y. Tide.
D. of M.	Day of W'k.	Local Mean Time. Sun R.&S.	Local Mean Time. Moon R.&S.	Standard Time.	D. of M.	Local Mean Time. Sun R.&S.	Local Mean Time. Moon R.&S.	Standard Time.
1	FR.	r6 35	sets.	11 8	1	r6 33	sets.	8 2
2	SA.	s5 52	6 46	11 50	2	s5 53	6 47	8 47
3	S	r6 32	7 51	0 10	3	r6 30	7 51	9 29
4	MO.	s5 54	8 55	0 50	4	s5 55	8 54	10 6
5	TU.	r6 28	9 57	1 29	5	r6 27	9 55	10 44
6	WE.	s5 57	10 58	2 9	6	s5 58	10 55	11 24
7	TH.	r6 25	11 58	2 48	7	r6 24	11 54	.....
8	FR.	s5 59	morn	3 32	8	s6 0	morn	0 30
9	SA.	r6 21	0 56	4 21	9	r6 21	0 52	1 20
10	S	s6 1	1 51	5 15	10	s6 2	1 46	2 13
11	MO.	r6 18	2 44	6 13	11	r6 17	2 39	3 11
12	TU.	s6 4	3 34	7 14	12	s6 4	3 29	4 11
13	WE.	r6 15	4 19	8 12	13	r6 14	4 14	5 8
14	TH.	s6 6	4 58	9 6	14	s6 6	4 54	6 4
15	FR.	r6 11	5 33	9 56	15	r6 11	5 30	6 54
16	SA.	s6 8	6 6	10 42	16	s6 9	6 4	7 37
17	S	r6 8	rises.	11 24	17	r6 8	rises.	8 19
18	MO.	s6 11	7 39	.....	18	s6 11	7 38	9 4
19	TU.	r6 4	8 51	0 27	19	r6 4	8 49	9 47
20	WE.	s6 13	10 4	1 11	20	s6 13	10 1	10 29
21	TH.	r6 1	11 17	1 57	21	r6 1	11 13	11 15
22	FR.	s6 15	morn	2 46	22	s6 15	morn	.....
23	SA.	r5 57	0 28	3 42	23	r5 58	0 23	0 41
24	S	s6 17	1 34	4 46	24	s6 17	1 29	1 45
25	MO.	r5 54	2 33	5 57	25	r5 54	2 28	2 55
26	TU.	s6 20	3 25	7 8	26	s6 19	3 20	4 4
27	WE.	r5 50	4 9	8 12	27	r5 51	4 5	5 9
28	TH.	s6 22	4 46	9 9	28	s6 21	4 43	6 8
29	FR.	r5 47	5 18	9 59	29	r5 48	5 16	6 57
30	SA.	s6 24	5 46	10 44	30	s6 23	5 45	7 38
31	S	r5 43	sets.	11 23	31	r5 44	sets.	8 17

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
FIRST QUARTER ..	8d. 8h. 47m. M.	8d. 7h. 47m. M.
FULL MOON	15d. 5h. 18m. A.	15d. 4h. 18m. A.
LAST QUARTER...	22d. 8h. 56m. M.	22d. 7h. 56m. M.
NEW MOON.....	29d. 9h. 5m. A.	29d. 8h. 5m. A.

BOSTON & CHICAGO.				BOST. TIDE.	N. YORK & PHILA.			N. Y. TIDE.
D. of M.	Day of W'k.	Local Mean Time. Sun R.&S.	Local Mean Time. Moon R.&S.	Standard Time.	D. of M.	Local Mean Time. Sun R.&S.	Local Mean Time. Moon R.&S.	Standard Time.
1	MO.	r5 42	7 43	11 59	1	r5 43	7 41	8 58
2	TU.	s6 28	8 45	0 18	2	s6 26	8 42	9 36
3	WE.	r5 38	9 46	0 56	3	r5 39	9 43	10 12
4	TH.	s6 30	10 45	1 35	4	s6 28	10 41	10 49
5	FR.	r5 35	11 42	2 16	5	r5 36	11 37	11 33
6	SA.	s6 32	morn	2 59	6	s6 30	morn	.....
7	☵	r5 31	0 37	3 45	7	r5 33	0 32	0 44
8	MO.	s6 34	1 28	4 38	8	s6 33	1 23	1 37
9	TU.	r5 28	2 14	5 38	9	r5 30	2 9	2 36
10	WE.	s6 36	2 54	6 39	10	s6 35	2 49	3 36
11	TH.	r5 25	3 30	7 37	11	r5 27	3 26	4 34
12	FR.	s6 39	4 2	8 33	12	s6 37	3 59	5 30
13	SA.	r5 21	4 33	9 24	13	r5 24	4 31	6 22
14	☵	s6 41	5 3	10 12	14	s6 39	5 2	7 9
15	MO.	r5 18	rises.	10 57	15	r5 20	rises.	7 51
16	TU.	s6 43	7 45	11 41	16	s6 41	7 43	8 37
17	WE.	r5 15	9 1	0 3	17	r5 17	8 57	9 24
18	TH.	s6 45	10 16	0 50	18	s6 43	10 11	10 12
19	FR.	r5 12	11 27	1 41	19	r5 14	11 22	11 2
20	SA.	s6 48	morn	2 36	20	s6 45	morn	.....
21	☵	r5 9	0 30	3 33	21	r5 11	0 25	0 31
22	MO.	s6 50	1 25	4 38	22	s6 47	1 20	1 36
23	TU.	r5 6	2 11	5 46	23	r5 9	2 7	2 44
24	WE.	s6 52	2 48	6 51	24	s6 49	2 44	3 49
25	TH.	r5 3	3 20	7 51	25	r5 6	3 17	4 48
26	FR.	s6 54	3 49	8 44	26	s6 51	3 47	5 41
27	SA.	r5 0	4 16	9 30	27	r5 3	4 16	6 28
28	☵	s6 56	4 41	10 13	28	s6 53	4 42	7 10
29	MO.	r4 57	5 6	10 53	29	r5 0	5 8	7 47
30	TU.	s6 59	sets.	11 30	30	s6 55	sets.	8 25
..	.....	.....	.....	.....	..	.....	.....	.....

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
FIRST QUARTER..	8d. 1h. 42m. M.	8d. 0h. 42m. M.
FULL MOON	15d. 1h. 42m. M.	15d. 0h. 42m. M.
LAST QUARTER...	21d. 4h. 53m. A.	21d. 3h. 53m. A.
NEW MOON.....	29d. 0h. 19m. A.	29d. 11h. 19m. M.

BOSTON & CHICAGO.				BOST. TIDE.	N. YORK & PHILA.			N. Y. TIDE.
D. of M.	Day of W'k.	Local Mean Time. SUN R.&S.	Local Mean Time. MOON R.&S.	Standard Time.	D. of M.	Local Mean Time. SUN R.&S.	Local Mean Time. MOON R.&S.	Standard Time.
1	WE.	r4 54	8 37	.....	1	r4 58	8 33	9 5
2	TH.	s7 1	9 35	0 26	2	s6 57	9 30	9 44
3	FR.	r4 52	10 30	1 6	3	r4 55	10 25	10 23
4	SA.	s7 3	11 22	1 49	4	s7 0	11 17	11 4
5	☵	r4 49	morn	2 31	5	r4 53	morn	11 50
6	MO.	s7 5	0 9	3 17	6	s7 2	0 4	0 15
7	TU.	r4 47	0 51	4 8	7	r4 51	0 46	1 7
8	WE.	s7 8	1 29	5 3	8	s7 4	1 25	2 1
9	TH.	r4 44	2 3	6 1	9	r4 48	2 0	2 58
10	FR.	s7 10	2 33	6 59	10	s7 6	2 31	3 56
11	SA.	r4 42	3 1	7 56	11	r4 46	3 0	4 52
12	☵	s7 12	3 29	8 49	12	s7 8	3 29	5 46
13	MO.	r4 40	3 59	9 42	13	r4 44	4 0	6 39
14	TU.	s7 14	4 32	10 31	14	s7 10	4 34	7 27
15	WE.	r4 38	rises.	11 19	15	r4 42	rises.	8 13
16	TH.	s7 16	9 7	.....	16	s7 11	9 2	9 7
17	FR.	r4 36	10 18	0 35	17	r4 40	10 13	10 0
18	SA.	s7 18	11 18	1 30	18	s7 13	11 13	10 52
19	☵	r4 34	morn	2 26	19	r4 39	morn	11 51
20	MO.	s7 20	0 9	3 23	20	s7 15	0 4	0 21
21	TU.	r4 32	0 51	4 22	21	r4 37	0 47	1 21
22	WE.	s7 22	1 25	5 23	22	s7 17	1 22	2 21
23	TH.	r4 31	1 55	6 22	23	r4 36	1 53	3 20
24	FR.	s7 24	2 22	7 18	24	s7 19	2 21	4 15
25	SA.	r4 29	2 47	8 9	25	r4 34	2 47	5 6
26	☵	s7 26	3 11	8 55	26	s7 20	3 12	5 53
27	MO.	r4 28	3 37	9 39	27	r4 33	3 39	6 37
28	TU.	s7 27	4 5	10 22	28	s7 22	4 8	7 19
29	WE.	r4 27	sets.	11 2	29	r4 32	sets.	7 55
30	TH.	s7 29	8 25	11 40	30	s7 23	8 20	8 36
31	FR.	r4 26	9 18	0 0	31	r4 31	9 13	9 19

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
First Quarter ..	6d. 3h. 1m. A.	6d. 2h. 1m. A.
Full Moon	13d. 8h. 58m. M.	13d. 7h. 58m. M.
Last Quarter...	20d. 2h. 35m. M.	20d. 1h. 35m. M.
New Moon.....	28d. 3h. 53m. M.	28d. 2h. 53m. M.

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

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
First Quarter..	6d. 0h. 59m. M.	5d. 11h. 59m. A.
Full Moon	12d. 4h. 2m. A.	12d. 3h. 2m. A.
Last Quarter...	19d. 2h. 45m. A.	19d. 1h. 45m. A.
New Moon.....	27d. 7h. 0m. A.	27d. 6h. 0m. A.

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

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
FIRST QUARTER ..	4d. 8h. 27m. M.	4d. 7h. 27m. M.
FULL MOON	10d. 11h. 43m. A.	10d. 10h. 43m. A.
LAST QUARTER...	18d. 5h. 31m. M.	18d. 4h. 51m. M.
NEW MOON.....	26d. 9h. 0m. M.	26d. 8h. 0m. M.

BOSTON & CHICAGO.				Bost. Tide.	N. YORK & PHILA.			N. Y. Tide.
D. of M.	Day of W'k.	Local Mean Time. Sun R.&S.	Local Mean Time. Moon R.&S.	Standard Time.	D. of M.	Local Mean Time. Sun R.&S.	Local Mean Time. Moon R.&S.	Standard Time.
1	TH.	r4 53	10 3	2 0	1	r4 57	10 3	11 14
2	FR.	s7 18	10 30	2 40	2	s7 14	10 31	11 58
3	SA.	r4 55	10 58	3 24	3	r4 59	11 0	0 22
4	☽	s7 15	11 29	4 14	4	s7 12	11 32	1 13
5	MO.	r4 57	morn	5 11	5	r5 1	morn	2 9
6	TU.	s7 13	0 7	6 16	6	s7 9	0 11	3 14
7	WE.	r4 59	0 52	7 27	7	r5 2	0 57	4 23
8	TH.	s7 10	1 46	8 36	8	s7 7	1 51	5 33
9	FR.	r5 1	2 49	9 41	9	r5 4	2 54	6 39
10	SA.	s7 7	4 0	10 41	10	s7 4	4 5	7 36
11	☽	r5 3	rises.	11 30	11	r5 6	rises.	8 25
12	MO.	s7 4	8 24	.....	12	s7 1	8 22	9 17
13	TU.	r5 5	8 53	0 41	13	r5 8	8 52	10 1
14	WE.	s7 2	9 20	1 25	14	s6 59	9 20	10 41
15	TH.	r5 7	9 47	2 7	15	r5 10	9 48	11 22
16	FR.	s6 59	10 13	2 48	16	s6 56	10 15	.....
17	SA.	r5 10	10 40	3 31	17	r5 12	10 43	0 30
18	☽	s6 56	11 11	4 19	18	s6 53	11 15	1 18
19	MO.	r5 12	11 46	5 11	19	r5 14	11 51	2 10
20	TU.	s6 53	morn	6 7	20	s6 50	morn	3 5
21	WE.	r5 14	0 26	6 55	21	r5 16	0 31	4 1
22	TH.	s6 50	1 12	7 53	22	s6 47	1 17	4 59
23	FR.	r5 16	2 4	8 57	23	r5 18	2 9	5 55
24	SA.	s6 46	3 1	9 46	24	s6 44	3 6	6 44
25	☽	r5 18	4 1	10 32	25	r5 20	4 5	7 28
26	MO.	s6 43	sets.	11 14	26	s6 41	sets.	8 9
27	TU.	r5 20	7 40	11 53	27	r5 22	7 38	8 50
28	WE.	s6 40	8 7	0 12	28	s6 38	8 6	9 30
29	TH.	r5 22	8 33	0 52	29	r5 24	8 34	10 9
30	FR.	s6 37	9 1	1 33	30	s6 35	9 3	10 48
31	SA.	r5 24	9 32	2 15	31	r5 26	9 35	11 32

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
FIRST QUARTER ..	2d. 2h. 34m. A.	2d. 1h. 34m. A.
FULL MOON	9d. 8h. 52m. M.	9d. 7h. 52m. M.
LAST QUARTER...	16d. 11h. 49m. A.	16d. 10h. 49m. A.
NEW MOON	24d. 9h. 42m. A.	24d. 8h. 42m. A.

BOSTON & CHICAGO.				BOST. TIDE.	N. YORK & PHILA.			N. Y. TIDE.
D. of M.	Day of W'k.	Local Mean Time. SUN R.&S.	Local Mean Time. MOON R.&S.	Standard Time.	D. of M.	Local Mean Time. SUN R.&S.	Local Mean Time. MOON R.&S.	Standard Time.
1	S	r5 25	10 7	3 0	1	r5 27	10 11	.....
2	MO.	s6 31	10 47	3 51	2	s6 30	10 52	0 50
3	TU.	r5 27	11 36	4 52	3	r5 29	11 41	1 51
4	WE.	s6 28	morn	6 3	4	s6 26	morn	3 1
5	TH.	r5 30	0 35	7 16	5	r5 31	0 40	4 13
6	FR.	s6 24	1 41	8 27	6	s6 23	1 46	5 23
7	SA.	r5 32	2 52	9 29	7	r5 33	2 56	6 27
8	S	s6 21	4 6	10 24	8	s6 20	4 9	7 21
9	MO.	r5 34	rises.	11 11	9	r5 35	rises.	8 4
10	TU.	s6 18	7 19	11 52	10	s6 16	7 19	8 49
11	WE.	r5 36	7 46	0 13	11	r5 37	7 47	9 31
12	TH.	s6 14	8 12	0 53	12	s6 13	8 14	10 10
13	FR.	r5 38	8 39	1 33	13	r5 39	8 42	10 48
14	SA.	s6 11	9 9	2 14	14	s6 10	9 13	11 30
15	S	r5 40	9 43	2 56	15	r5 41	9 48	.....
16	MO.	s6 7	10 21	3 41	16	s6 7	10 26	0 40
17	TU.	r5 42	11 5	4 33	17	r5 43	11 10	1 31
18	WE.	s6 3	11 54	5 30	18	s6 3	11 59	2 28
19	TH.	r5 44	morn	6 29	19	r5 45	morn	3 27
20	FR.	s6 0	0 48	7 30	20	s6 0	0 53	4 26
21	SA.	r5 47	1 47	8 25	21	r5 47	1 52	5 21
22	S	s5 56	2 50	9 16	22	s5 56	2 54	6 14
23	MO.	r5 49	3 55	10 3	23	r5 49	3 58	7 1
24	TU.	s5 53	5 1	10 46	24	s5 53	5 3	7 41
25	WE.	r5 51	sets.	11 26	25	r5 51	sets.	8 21
26	TH.	s5 49	7 4	.....	26	s5 50	7 5	9 3
27	FR.	r5 53	7 33	0 26	27	r5 53	7 36	9 45
28	SA.	s5 46	8 6	1 9	28	s5 46	8 10	10 27
29	S	r5 55	8 45	1 54	29	r5 55	8 50	11 14
30	MO.	s5 43	9 32	2 44	30	s5 43	9 37	.....
..	....	.....	.....	.....	..	.....	.....	.....

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
First Quarter..	1d. 8h. 33m. A.	1d. 7h. 33m. A.
Full Moon.....	8d. 8h. 25m. A.	8d. 7h. 25m. A.
Last Quarter...	16d. 7h. 37m. A.	16d. 6h. 37m. A.
New Moon.....	24d. 9h. 26m. M.	24d. 8h. 26m. M.
First Quarter..	31d. 3h. 30m. M.	31d. 2h. 30m. M.

BOSTON & CHICAGO.				Bost. Tide.	N. YORK & PHILA.			N. Y. Tide.
D. of M.	Day of W'k.	Local Mean Time. Sun R.&S.	Local Mean Time. Moon R.&S.	Standard Time.	D. of M.	Local Mean Time. Sun R.&S.	Local Mean Time. Moon R.&S.	Standard Time.
1	Tu.	r5 58	10 27	3 40	1	r5 57	10 33	0 39
2	We.	s5 39	11 29	4 44	2	s5 40	11 34	1 43
3	Th.	r6 0	morn	5 56	3	r5 59	morn	2 54
4	Fr.	s5 36	0 38	7 8	4	s5 37	0 43	4 5
5	Sa.	r6 2	1 51	8 13	5	r6 1	1 55	5 9
6	☯	s5 32	3 2	9 9	6	s5 33	3 5	6 7
7	Mo.	r6 4	4 12	9 59	7	r6 3	4 14	6 57
8	Tu.	s5 29	5 20	10 44	8	s5 30	5 20	7 39
9	We.	r6 7	rises.	11 24	9	r6 5	rises.	8 18
10	Th.	s5 25	6 38	.....	10	s5 27	6 40	9 0
11	Fr.	r6 9	7 8	0 21	11	r6 7	7 11	9 39
12	Sa.	s5 22	7 40	1 1	12	s5 24	7 44	10 18
13	☯	r6 11	8 16	1 42	13	r6 9	8 21	10 57
14	Mo.	s5 19	8 57	2 25	14	s5 21	9 2	11 43
15	Tu.	r6 14	9 44	3 10	15	r6 12	9 50	0 7
16	We.	s5 16	10 36	4 0	16	s5 18	10 41	0 58
17	Th.	r6 16	11 33	4 56	17	r6 14	11 38	1 54
18	Fr.	s5 13	morn	5 33	18	s5 15	morn	2 51
19	Sa.	r6 18	0 34	6 52	19	r6 16	0 38	3 49
20	☯	s5 10	1 38	7 49	20	s5 12	1 41	4 45
21	Mo.	r6 21	2 42	8 40	21	r6 18	2 44	5 38
22	Tu.	s5 7	3 48	9 28	22	s5 9	3 49	6 26
23	We.	r6 23	4 58	10 14	23	r6 20	4 58	7 11
24	Th.	s5 4	sets.	10 58	24	s5 6	sets.	7 52
25	Fr.	r6 25	6 4	11 40	25	r6 23	6 7	8 36
26	Sa.	s5 1	6 41	0 2	26	s5 3	6 45	9 24
27	☯	r6 28	7 26	0 50	27	r6 25	7 31	10 12
28	Mo.	s4 58	8 20	1 41	28	s5 1	8 26	11 2
29	Tu.	r6 30	9 21	2 36	29	r6 27	9 27	.....
30	We.	s4 55	10 29	3 34	30	s4 58	10 34	0 32
31	Th.	r6 33	11 40	4 38	31	r6 30	11 44	1 37

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
FULL MOON	7d. 11h. 5m. M.	7d. 10h. 5m. M.
LAST QUARTER...	15d. 3h. 36m. A.	15d. 2h. 36m. A.
NEW MOON.....	22d. 8h. 43m. A.	22d. 7h. 43m. A.
FIRST QUARTER..	29d. 0h. 29m. A.	29d. 11h. 29m. M.

BOSTON & CHICAGO.				BOST. TIDE.	N. YORK & PHILA.			N. Y. TIDE.
D. of M.	Day of W'k.	Local Mean Time. SUN R.&S.	Local Mean Time. MOON R.&S.	Standard Time.	D. of M.	Local Mean Time. SUN R.&S.	Local Mean Time. MOON R.&S.	Standard Time.
1	FR.	r6 34	morn	5 45	1	r6 31	morn	2 43
2	SA.	s4 52	0 51	6 51	2	s4 55	0 54	3 48
3	☧	r6 36	2 1	7 50	3	r6 33	2 3	4 46
4	MO.	s4 49	3 9	8 42	4	s4 52	3 10	5 40
5	TU.	r6 39	4 14	9 30	5	r6 36	4 14	6 28
6	WE.	s4 47	5 19	10 14	6	s4 50	5 17	7 11
7	TH.	r6 42	6 23	10 54	7	r6 38	6 20	7 49
8	FR.	s4 45	rises.	11 33	8	s4 48	rises.	8 28
9	SA.	r6 44	6 12	.....	9	r6 41	6 17	9 11
10	☧	s4 42	6 51	0 32	10	s4 46	6 56	9 51
11	MO.	r6 47	7 36	1 14	11	r6 43	7 42	10 32
12	TU.	s4 40	8 26	1 58	12	s4 44	8 32	11 14
13	WE.	r6 49	9 21	2 43	13	r6 45	9 26	.....
14	TH.	s4 39	10 20	3 30	14	s4 43	10 25	0 29
15	FR.	r6 52	11 21	4 19	15	r6 48	11 25	1 19
16	SA.	s4 37	morn	5 13	16	s4 41	morn	2 12
17	☧	r6 54	0 24	6 9	17	r6 50	0 27	3 7
18	MO.	s4 35	1 29	7 5	18	s4 40	1 31	4 2
19	TU.	r6 57	2 36	7 59	19	r6 53	2 36	4 55
20	WE.	s4 34	3 45	8 50	20	s4 38	3 44	5 48
21	TH.	r6 59	4 57	9 40	21	r6 55	4 55	6 38
22	FR.	s4 33	6 11	10 30	22	s4 37	6 8	7 26
23	SA.	r7 2	sets.	11 20	23	r6 57	sets.	8 14
24	☧	s4 32	6 9	.....	24	s4 36	6 14	9 8
25	MO.	r7 4	7 9	0 37	25	r6 59	7 15	10 1
26	TU.	s4 31	8 16	1 31	26	s4 35	8 21	10 55
27	WE.	r7 6	9 28	2 29	27	r7 1	9 32	11 53
28	TH.	s4 30	10 41	3 25	28	s4 35	10 44	0 23
29	FR.	r7 8	11 52	4 23	29	r7 3	11 54	1 22
30	SA.	s4 29	morn	5 23	30	s4 34	morn	2 21
..	.....	.....	.....	.....	..	.....	.....	.....

MOON'S PHASES. (In Standard Time.)	BOSTON. And Eastern Division.	CHICAGO. And Central Division.
FULL MOON	7d. 4h. 52m. M.	7d. 3h. 52m. M.
LAST QUARTER...	15d. 9h. 58m. M.	15d. 8h. 58m. M.
NEW MOON.....	22d. 7h. 52m. M.	22d. 6h. 52m. M.
FIRST QUARTER ..	29d. 0h. 16m. M.	28d. 11h. 16m. A.

BOSTON & CHICAGO.						N. YORK & PHILA.					
D. of M.	Day of W'k.	Local Mean Time. Sun R.&S.		Local Mean Time. Moon R.&S.		Bost. Tide. Standard Time.		D. of M.	Local Mean Time. Sun R.&S.		Local Mean Time. Moon R.&S.		N. Y. Tide. Standard Time.	
1	S	r7	10	1	0	6	21	1	r7	5	1	1	3	19
2	Mo.	s4	28	2	6	7	17	2	s4	33	2	6	4	14
3	Tu.	r7	12	3	10	8	12	3	r7	7	3	9	5	5
4	We.	s4	28	4	14	8	57	4	s4	33	4	12	5	54
5	Th.	r7	14	5	17	9	42	5	r7	9	5	14	6	40
6	Fr.	s4	28	6	20	10	26	6	s4	33	6	16	7	23
7	Sa.	r7	16	rises.		11	8	7	r7	11	rises.		8	2
8	S	s4	28	5	31	11	48	8	s4	33	5	37	8	45
9	Mo.	r7	18	6	20	0	9	9	r7	13	6	26	9	29
10	Tu.	s4	28	7	13	0	51	10	s4	33	7	18	10	10
11	We.	r7	20	8	10	1	34	11	r7	15	8	15	10	50
12	Th.	s4	28	9	10	2	17	12	s4	33	9	14	11	34
13	Fr.	r7	21	10	11	3	0	13	r7	16	10	14	.....	
14	Sa.	s4	29	11	13	3	45	14	s4	34	11	15	0	44
15	S	r7	23	morn		4	33	15	r7	18	morn		1	32
16	Mo.	s4	29	0	17	5	25	16	s4	34	0	18	2	23
17	Tu.	r7	24	1	23	6	19	17	r7	19	1	23	3	17
18	We.	s4	30	2	32	7	15	18	s4	35	2	31	4	12
19	Th.	r7	26	3	44	8	12	19	r7	20	3	41	5	10
20	Fr.	s4	31	4	59	9	10	20	s4	36	4	55	6	8
21	Sa.	r7	26	6	14	10	8	21	r7	21	6	9	7	5
22	S	s4	32	sets.		11	4	22	s4	37	sets.		7	59
23	Mo.	r7	27	5	55	11	59	23	r7	22	6	1	8	55
24	Tu.	s4	33	7	8	0	26	24	s4	38	7	13	9	51
25	We.	r7	28	8	23	1	21	25	r7	23	8	27	10	44
26	Th.	s4	34	9	37	2	15	26	s4	40	9	40	11	36
27	Fr.	r7	29	10	48	3	6	27	r7	23	10	50	0	3
28	Sa.	s4	36	11	57	3	57	28	s4	41	11	57	0	56
29	S	r7	29	morn		4	50	29	r7	24	morn		1	48
30	Mo.	s4	37	1	3	5	44	30	s4	42	1	2	2	42
31	Tu.	r7	30	2	7	6	39	31	r7	24	2	5	3	36

Ther. TUES. JAN. 1, 1889 Wea. Fair

Low Moor, Va.

New Track Commenced.

Mrs. Merry receives notice of her brother's death, a Mr. Ray.

Murdoch the blacksmith leaves the Co.

P. M. Measure up the Ore piles by estimates.

Limestone		200 tons
Low Moor	Lump	5 tons
" "	Wash. Fine	3370 "
" " "	Jigged	1650 "
Iron Mountain	Lump	835 "
" "	Wash	800 "
Dolly Ann	Lump	800 "
Stack Mine	"	4200 "
" "	Wash	400
	Total Wed	12260

2 Ther. WEDNESDAY 2

Coal 1600 Tons Coke.

Work abandoned on the Prospect shaft ~~at~~ McElvees Tract of 215 Acres Sunk 113 ft. Finishing in Sand & Water. An iron bar was sunk further.

Write to Prest. Ingalls of C&O Ry for annual pass.

Mrs Thomas leaves for Ohio

Ther. THURS. JAN. 3, 1889 Fair Wea.

Surveying with J. N. Carson, N. G. Merry & L. Karnes
Geo. Crawford - Running line between F. L. Karns
and L. M. I. Co. Tract Callaghan 345 Acres &
the Irvin tract -

Dayle Returned from vacation -

A Blast No 3 17th Nov 84 to 27 May 87

Iron Made	105.658	tons of	2300 lbs
Ore Used	269.606	" "	2240.
Limestone	129.565	" "	2240
Coke	151.139	" "	2240
Coal			

Ther. FRIDAY 4 Fair Wea.

Write to Goshen for Key Brick
" " Ashland about arch Brick

Brick are put in Down Comer Hearth.

Gordon Strobel & Laman Cinder
Car. Side dump for $500 -
James & Witherow Pitts. Cinder Car $850 " & Rydd
to Julian Kennedy of $20 per pt book -
Jones & Hartman Phil. $775 Cinder Car
End dump -

Ther. SAT. JAN. 5, 1889 Wea. Rain

Receive letter from J. C. Smith -

Steel rails arrive from Cambria to be used in furnace yard -

Circle brick are being placed in the gas flue from Stov #5 -

Ther. SUNDAY 6 Wea. Fair

Write to Father

Ther. MON. JAN. 7, 1889 Wea.

Ther. TUESDAY 8 Wea.

~~Mr Bender Fen~~

Layout curve at end of cinder dump – also towards S. fen.

Ther. WED. JAN. 9, 1889 Wea. Rain

Mr. Reuben Jenkins here -
Start on brick in Dust Catcher -
at night take 3 degrees in K of P.
Stay at Clifton allnight -
John Joe Stetson, Albert Peake, Albert
Shelding also join -

Joel Hart leaves for fear of arrest
for bigamy - Here in store
for about 3 months -

Ther. THURSDAY 10 Wea. Fair

John Ham here -

Miss Fanny May Rogers was
married to Mr. White of
Chatanooga Tenn - will live
at 117 Oak St - Leave on # 3 -

Ther. FRI. JAN. 11, 1889 Wea.

Ordered one car load of No 1 qual Keys 9 x 4½ x 3½ x 2½ and one car load of arch 9 x 4½ x 2½ x 1½ from Black Diamond Co Portsmouth @ $20 pr M For Coke ovens –

Ther. SATURDAY 12 fair Wea.

Go up to Mine in P. M.
Receive a letter from father –

Learn of Mrs. Montmollin's death at Ashland –

Ther. SUN. JAN. 13, 1889 Wea. Fair

Write Father –

E. E. Seaton calls in morning and I return to mines with him dining at Mr. Skirkeys

Ther. MONDAY 14 Wea. Fair

Layout curve for Cinder track –
Riter & Conly written to hurry –

Ther. TUES. JAN. 15, 1889 Rain Wea.

Riter & Conleys bid in 1888 –

Boilers	$2567
Cast House Roof & A	1778
Hoist Roof	963
Boilers Shed & Roof	3108
Stove #5 18 x 70	5362
Pipes & Flues	@ 6 34/100 per lb.

Ther. + WEDNESDAY 16 Rain Wea.

Initiate Henry W. Goodevin and Frank Butler into K. of P. at Clifton Forge –

S. G. Cargill leaves on a visit for a week – in W. Va –

Ther. THURS. JAN. 17, 1889 AM Wea. PM
Hazy & Fair

Ther. FRIDAY 18 Wea. Fair

Receive a letter from James O. Handy, Baltimore Md. Also one from Prather.

Visit Quarry & Mine Shaft No. 5.

Write to Handy c/o B & O Laboratory. Baltimore Md.

Ther. SAT. JAN. 19, 1889 Wea.

Rebuild Coke Oven with door set back and short pieces of steel rail to hold up stone work. Oven no.

Measure ring of "A" Fce on top for hopper. Ring 15' 0½" & 5".

Ther. SUNDAY 20 Snow 8 in Wea.

Changing to Rain

Write to Mother & H.

Also Sec A.I.M.E. for application blank for H. G. Merry Low Moor Mines.

Ther. 30 MON. JAN. 21, 1889 Wea. Snow

Strong Wind –

In Laboratory working on Slag

Write to Jo C. Smith.

Ther. 10° TUESDAY 22 Wea.

In Laboratory on Slag –

Rec. letter from Mother –

Set watch

15° Ther. WED. JAN. 23, 1889 Fair Wea.

In Laboratory —
H. G. Merry & I visit Pond - Ice 2 3/4"
Set watch ahead 4 minutes.

Ther. THURSDAY 24 Rain Wea.

John S. Ward & Henry Foster here -
I go with them to the mines -
Take supper with H. G. Merry -
Bell & Hopper Ice A. recd from
Tredegar Co - 4¢ per pound
total $9.41 —

Ther. FRI. JAN. 25, 1889 Wea. Rain

Write to R. N. Richards. Enclosing Proposal for Membership in A. I. M. E. for N. G. Merry —

2 car loads of brick from Black Diamond Co Rcd.

Mrs. Thomas returns from Ohio —

Ther. SATURDAY 26 Wea. Rain

Call at Mines in P. M.

Ned & Harry down at night —

Receive letter from Father —

Ther. SUN. JAN. 27, 1889 Wea.

Write to D. U. Quarterly & N.H.
E. E. S. comes down and we
call at Capt Henys –

Ther. MONDAY 28 Clear Wea.

Order 6 frags & 6 sets of
switch ties from A. M. Stubl
Clifton Forge Va

Furnace Cinder – Gray
Silica 43.30 %
Alumina, Iron Etc 7.20

Ther. TUES. JAN. 29, 1889 10 Wea. Cold

~~Father~~ I go to Clifton after tea to meet Mr. Ham —
Mr. Gaines of Richmond here to sell supplies

Ther. WEDNESDAY 30 Wea. Cold.

Father & Mr. F. Lyman here —
Mr. A. Magoon & Haskings of Victoria Furnace, Goshen, come to Inspect works. They visit furnace, quarry & mines —
John Ham takes tea with me —
In evening Ed & I call at Capt M's — I go to Clifton Forge to attend K of P on 10.10 train returning in morning —
Furnace was stopt at 6 A.M. to make connection for Store #5 And to change cinder track

Ther. THURS. JAN. 31, 1889 Wea. Clear & Warm

Furnace still stopt –
Connection is made to stove.
Cinder track run direct away
from furnaces. Wall of 2nd
battery of boilers torn down –
Last of Stove brick received –
Valve in cold blast main
replaced by larger one – Am
satisfied that the lining of
Fce B is gone at top on side
front towards cinder fall –
Father & Mr Lyman leave on No 1

Ther. FRIDAY, FEB. 1 Wea. Cold

The brick work for connection
finished and blast put
on furnace at 6 PM afte
a stop of 60 hours –
Furnace moves off well,
with exception of escaping
gas from side next down
corner –
Write to Manning & Squire
New York in regard to
flue dust – Quote 1¢ per lb
for 70 % and 80¢ per hundred
for 50 % zinc –

Ther. SAT. FEB. 2, 1889 Wea. Cold & Clear

Furnace made 844 tons last week — 501 being No 1. Telegraph Savage at Ashland about excess of side arch brick — Car load of Mr. Savage clay received — Price 600 per ton freight 30¢ per ton Use transit with Capt Merry at Quarry to locate lower opening, 20 ft below main level — Stove finished except front arch & packing —

3 Ther. SUNDAY 3 Wea. Fair

Beaton, Merry, Chamberlin, Mays and myself go into the cave — In the P.M. they come down to see the city —

No church at night —

The furnace does not show so much gas —

Ther. MON. FEB. 4, 1889 Wea.
Fair

Tom Roberts goes to work at Quarry at new place to run a tunnel back as far as the old workings.
The stove #5 finished at 5.30 P.M.
One carload of clay from Mt. Savage & one from Porta received today.
Use transit in locating new tracks on the cinder yard

Ther. TUESDAY 5 Wea.
Sleight Rain

Mr. Fred Coburn here to arrange price for ore — Robertson with him.
Locating new track & in laboratory.

Ther. WED. FEB. 6, 1889 Wea.

Robertsons Shale Ore
Iron 32.95% Silica 40%.

Work in Laboratory –

Ther. THURSDAY 7 Wea.

Off the Limestone Quarry
to see new tunnel –
Work in Laboratory –

Write to Mother

Ther. FRI. FEB. 8, 1889 Wea.
Cold, Rain

Put up ice, 3 to 4 inches.
Fill Agents ice house about ½.

Rec. letters from Mattie,
Bessie and Richard Epps Jr

Write to James O Handy —

Ther. SATURDAY 9 Wea.
Rain to Cold

Ship One barrel 70 % Blue
dust and one " 50 % "
" to Manning & Squire
Jersey City at 1 cent & 8/10
cents per pound. — F.O.B.
Jersey City —
Receive letter from R. B. Warner

Ritter & Conleys men
finish work here —

Ther. SUN. FEB. 10, 1889 Wea.

Attend Church. Rev Hill —
Take dinner with Seaton
at the mines — He comes
down and we visit Lenny —
Supper at Merrys —

Ther. MONDAY 11 Wea.

In Laboratory

Ther. TUES. FEB. 12, 1889 Wea.

In Laboratory —

Rec. letters from Mother, WAH, HAD —

Ther. WEDNESDAY 13 Wea.

Rec letter from Ross —
In Laboratory —

Lining of Furnace finished.

Samples taken Feb 9th		Iron	Silica
Low Moor	Lumps	48.89	13.55
" "	Wash	40.32	26.97
" "	Jigged	38.90	28.25
Iron Mt.	Lumps	46.16	18.42
" "	Wash	42.09	22.43
Dally Hum	Lumps	39.63	28.07
Stack	Lumps	39.84	27.70
"	Wash	37.23	29.93

Ther. THURS. FEB. 14, 1889 Wea.

Putting up ice, 3½ inches, in market house –
Letter from Epper –
Go down to Clifton Forge on No 6 & return on No 1 –

Ther. FRIDAY 15 Wea.

Laboratory –
The 1st ring of Hopper put in –
Tiers from John Ham –

Freight to Cin $2.75 –

New York Advertyg $3.15 –

+

Ther. SAT. FEB. 16, 1889 Wea. Rain

Second ring of Hopper put in and jam plates set in position Cargill, Seaton, Henry, Hain & Arnot & self go to Clifton Have oysters on return –

This week Furnace B made 894 tons –

Ther. SUNDAY 17 Wea Rain

Father comes on No 2 –
Eat dinner at Henry's with him

Ther. MON. FEB. 18, 1889 Wea.

Tell Penser & Gillespie that they come out too late —
Father & Capt Merry start to New York to directors meeting L. M. I. Co —

Top Coil 23½ diam
Base " 18½ "
10 Coils in 20"

Ther. TUESDAY 19 Wea.
Cold & windy

visit Quarry to see track &
have Sweed repair stable.
Tell Williams to put in rail —
B & O has coal car wrock here —
Have Libscomber repair the
guards rails on Quarry switch —
Harry J. Merry down at noon —
Bricklayers on Cake oven —
All but one of jacket plates in
position, this last will be
about 1 ft smaller than the
others as a make up piece

20° Ther. WED. FEB. 20, 1889 Wea.

Bar. 29.23½ Cold & Clear

Mr. Roof brings in ties —
Write to Capt. M. at Phila.
to Mother & to W. L. H.
Water connections to Stove No 5
being placed in position —

Ther. THURSDAY 21 Wea.

Bar 29.35 Cold

Get ½ Car of stone from Quarry
for Coke ovens —
Bricklayers working on wall for
coke ovens —

Ther. FRI. FEB. 22, 1889 Wea.

29.08 Bar 6 inches Snow

Work resumed on Fce A.
Write Darnell concerning
ties and to Kauffelt
about buggy wheels —

Ther. SATURDAY 23 Wea.

Watch 10 sec fast —

The Cooler Plates, water
blocks, monkey tuyers etc
placed in position on Fce A.
Allow Libscomb to go on track
at quarry switch while
waiting for ties —
visit in P.M. the Quarry & Roberts
new tunnel —
W. G. Merry, Miss Minnie M &
Albert Rag & self visit Clifton
Gorge — Play billiards on return

10° Ther. SUN. FEB. 24, 1889 Wea.
29.28

Rev ~~Chapman~~ Hilton preaches P.M
" Combes " A.M

Rec letters from Harry & Mother

Have caught cold

Last week Tea B made 842

15 Ther. MONDAY 25 Wea.
29.25

Write to Ashland Rep - about
Ice Tower Company
Capt. Merry returns from N.Y.

ordered by Capt. H. Merry –
Low Moor Locomotive No 3
4' 8½" guage, four wheeled,
900 gallon saddle tank;
Cylinders 16"x24"; driving
wheels 44" diam. Weight
in working order about 70,000 lbs.
Iron back to cab, Steam brake
diamond stack –

Price $5435.00 in Philadelphia
Baldwin Locomotive Works –
Burnham, Parry, Williams & Co.

Order one fluid cinder car
from James Hartman 775 & two
from Witherow – 825 + royalty –

In Laboratory and
around Yard –

Ther. THURS. FEB. 28, 1889 Wea.

In Laboratory –

Coburn's Ore from Callie Junction C&O Ry about 2 miles from Low Moor –
Iron = 39.13 %
Silica = 27.23

Ther. FRIDAY, MAR. 1 Rain Wea.

In Laboratory – Rock above limestone has 48.70 % SiO_2
Carload of ties from Darnell Millboro Station – Also some from F. L. Harris & Switch ties from Stull –

Watch 1' 48" too fast —

Ther. SAT. MAR. 2, 1889 Rain Wea.

Visit Stack Mines with Capt & Harry Merry, Albert Ray & John Shaw — Return at 1.15 P.M. Furnace in P.M —

This week Fce B made 817 tons

Ther. SUNDAY 3 Wea.

Seaton & I attend service under Mr. Chapman in A.M —

Ther. MON. MAR. 4, 1889 Wea.

Brick in Fce A completed.
Commence drying out Stove No 5
with gas.

Ther. TUESDAY 5 Fair Wea.

Commence drying out Fce A
with small drying furnace.
Tracing drawing of Fce B.

Ther. WED. MAR. 6, 1889 Wea.

H.G. Merry, Capt. H. Merry. John Ham & A Jay Ray and myself visit Dolly Ann & Iron Mt Mines. Take dinner at the latter place. Am surprised at the amounts of iron on in sight at the two place - Find them running track to a large out crop near dividing ridge -

Draft received in payment of Bluedust

Ther. THURSDAY 7 Wea.
Blustery -

Receive express package containing cravat holder & case for razor paper - from Buffalo
In Laboratory working on Zinc flue dust -

Ther. FRI. MAR. 8, 1889 Wea.

In Laboratory on Filter Beat & Dally Ann Ore $01.

Party from Goshen, Magoon, Wheeler & Orton visit Furnace, Quarry & Washer — Hart & Parker here at night.

Ther. SATURDAY 9 Wea.

In Laboratory morning — In P.M. Capt Merry, Mr Albert Ray & self visit Quarry & mines — Seaton, Merry Hill & I visit Clifton Forge — Iron Gate Co organizes —

Ther. SUN. MAR. 10, 1889 Wea.

Attend church. preaching by Mr Hill -

Furnace made 900 tons last week best record for B -

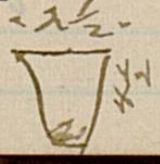
Ther. MONDAY 11 Wea.

In drafting room

Brick for Jacob Hartman End Dump Cinder Car -

625 9" 2nd quality

280 9" Arch 2nd quality



Ther. TUES, MAR. 12, 1889 Wea.

In draughting room morning. Finish tracing of B furnace and place it in the Office of Capt. Merry -

" " , Ray, Jr. Skelding myself visit Robertsons mine at Callie Junction - vein 18 in to 3 ft wide, on fair - Write to Mack.
Rec letter from Father -

Ther. WEDNESDAY 13 Wea.

Watch 3' 15 sec fast.
Set it back 3 min and reg. to run slower -

Capt. Merry & I visit Mine & Quarry. Looking at possible course of No 7 vein No 20 & No 2 shaft - Opp quarry. Get samples of ore at Quarry for analysis -

John Ham calls at night. Lawrence goes to Chgo to join the Gd of P.
Write Father -

Ther. THURS. MAR. 14, 1889 Wea.

In Laboratory -
Limestone Ore Iron 25.25%
Silica 23.00 -
Rec letter from Manning & Squier - Offering $6.88 for 40% Flue Dust and 60¢ for each addition al unit per ton of 2240 f.o.b. Jersey City -

Ther. FRIDAY 15 Wea.

Quote Warner 2.18 per ton for 40% flue dust f.o.b. Locomin and 60¢ for each addition unit -

American Scotch
1st Sample Silicon = 3.90%
2nd " " = 4.11

Ther. SAT. MAR. 16, 1889 Wea.

In Laboratory cleaning up AM & P.M. at New Opening at Quarry, putting in timbers.
Leave for Ashland, spending night in Clifton Forge - and leaving on No 3 -

Ther. SUNDAY 17 Wea.

Breakfast at Alderson
train two hours late on acct of tunnel at Big Bend
Reach Ashland @ 3 P.M.
Spend P.M. at home & ~~Grand Fathers~~

Furnace made 9 15 tons last week

Ther. MON. MAR. 18, 1889 Wea.

Go to Ironton with Charley Means to see Dentist Sloan — Call on Kerr, and Wilson —
Call at Grandfathers —
Leave Ashland with Father for Lawrenceburg — at 6 P.M —
Dr. O.L. Rogers & E. J. Bird Dr on the train —

Cora Cummings, Akron O.

Ther. TUESDAY 19 Wea.

Arrive Lawrenceburg at 6¾ A.M.
Mr E. A. Lowe & Mr A. D. Winslow and here to
Unload Steel rails — 15 tons from Cambria —
Play billiards with E. A. Lowe

Trouble at mines about hours for paying off

Mr Williams enters store

Ther. WED. MAR. 20, 1889 Wea.

Capt Merry. Mess A.S. Winslow
E. A. Lum. John Means, John
Ham & myself. visit
Iron Mt & Dolly Ann Mines —
miss passenger & return on
freight engine —
Take supper at Merrys.
play billiards with Mr Lum.

Mr. Frank Lyman ~~[illegible]~~
from New York — to meet
committee

Ther. THURSDAY 21 Wea.

About Furnace and in
the laboratory —
In P.M. go to the mines.
Mr. Ham Means & supper with me.
Father, Mr Winslow & Mr Lyman
leave for West —
Mr & Harry Merry & baby go
to Mich. on a visit.
Train late on account of cars being
off the track —

Boisterous at mines

Ther. FRI. MAR. 22, 1889 Wea.

In Draughting room & laboratory
Mr Lane leaves for Newyork
on Mt -
Sheriff goes to mines -

Silvery shows 5.62% Si -

Ther. SATURDAY 23 Wea.

In Office & Draughting Room -
Col. Hibbard of the Iron
Gate Co is here - He was
formerly from Ohio -

Capt & I go to mines and
visit McClure track -

Ray, Seaton, Mr Henry & I play
euchre -

Ther. SUN. MAR. 24, 1889 Wea.

On the mountain back of Karns with Seaton, Ray, Cargill & Williams -

Write to Mr. Mr. Coe, Chief Eng. Norfolk & Western Ry - also to Father -

Attend service under Coombs in A.M. and Hill in P.M.

Ther. MONDAY 25 Wea.

Attend court in Covington Summoned for defence in case of Rebbecca Shelding vs United States Life Ins Co. case postponed and transferred to Staunton

Dr. Rogers prescribes Dovers Powder & Quinine for throat Write to Will Seaton.

Ther. TUES. MAR. 26, 1889 Wea.

In draughting room.
Finish drawing showing
lines of Lowthor Furnaces
A. 1, 2, 3 + 4 + B 1 —

Cargill + I write out bylaws
for K of P

Ther. WEDNESDAY 27 Wea.

In draughting room + laboratory

Invited to tea at Capt Henrys
with I + C. E. + Miss Kate Rogers —
Play billiards in evening —

Ther. THURS. MAR. 28, 1889 Wea.

Received letters from Father & Will Seaton –
Write to Will S.

Visit Quarry & No 5 Shaft –

Ther. FRIDAY 29 Wea.

In Laboratory on Limestone and Blue Grass.

Cargill & I play first game of tennis for the year –

Ther. SAT. MAR. 30, 1889 Wea.

Sampling car of flue dust to be shipped to Communipaw Nat. Dock Ry / New Jersey — Connections made on yard switches and engine taken over —

Cargill & I play tennis —

Ther. SUNDAY 31 Wea.

H. G. Merry, John Charlton, E. L. Seaton, A. J. Ray & self visit the old Roaring Run furnace — Dine there — Suppers at Capt. Merrys — borrow a pair of glasses —

Roaring Run Fce run one blast during the war — 4½ hearth about 30 ft high — water blast — Two tuyeres owned by Brammell —

Ther. MON. APRIL 1, 1889 Wea.

Bar 28.59 Rain

In Laboratory on Blue Dust

Write to Rose

Ther. TUESDAY 2 Wea.

Fair

In Laboratory —

Play tennis at night —

Seaton & Harrydown —

Ther. WED. APRIL 3, 1889 Fair Wea.

In Laboratory A.M. Mr Winter of Chicago here in the interest of our property at Pond Gap.

Mr. Henry Merry, Charles Blake & I visit the Ferral property with Prof. Pool. Grace Furnace, the old Elizabeth. Shale on, will not average 45 if 40%. Vein looked to be well worked out.

Stop at night in Clifton Forge. see Yost, Hibbard & Iron Gate property stockholders. Mr Blake returns to Cincinnati.

Joe Skelding takes $1000 in I. G. L & D Co

Ther. THURSDAY 4 Wea.

Return at 7.15 from Clifton Forge.

Visit mines and McElver tract. Go down in No 5 shaft, 80 ft with on in bottom. Take supper at H. G. Merrys with Mrs. Thomas, Miss Merry, Melper Seaton & Ray.

Ther. FRI. APRIL 5, 1889 Wea.

Furnace - Write Witherow to hurry up Cinder Cars - visit the farm -

Write to fm Stuff "Odyssey more Questions" -

28.63 Bar SATURDAY 6 Wea. Snow + Rain 5

Furnace + Laboratory -

Clifton Forge with John Hamer Joe Skelding - Indian Show Train late not arriving until 11 PM

Ther. + SUN. APRIL 7, 1889 Wea.

Mr. Chapman Preaches —
Go to mines with Seaton,
and Merry in P. M.
Write Will Seaton & Deval

ea. 5 Ther. MONDAY 8 Fair Wea.

Fair —
Measure Wood for Crawford
and F. L. Harder — ~~[illegible]~~
visit Quarry

Ther. TUES. APRIL 9, 1889 Fair Wea.

Quarry getting motor and brick for new shop for smith at Roberts Tunnel—

At Furnace— Jas S Kelly goes to Mines—

Ther. WEDNESDAY 10 Fair Wea.

Furnace— Write to Quarry—

Clifton Forge with H Gilmery

Ther. THURS. APRIL 11, 1889 Fair Wea.

Furnace —

on Church hill looking at wood

Write for bill of lumber to O.L. Rogers —

Ther. FRIDAY 12 Cloudy Wea.

Bar 28.56

Furnace —

Write to J. F. W. about gas in flues —

Visit mines and quarry —

Ther. SAT. APRIL 13, 1889 Wea.

A.M. In Laboratory –

P.M. Write to Eggert & Fay Co's for prices –

Ther. SUNDAY 14 Rain Wea.

Assisted in A. M.

Room in P. M.

Rec. letter from M. N. Coe,

Ther. MON. APRIL 15, 1889 Rain Wea.

Ther. TUESDAY 16 Wea.

H. G. Merry goes out to meet his wife –

Ther. WED. APRIL 17, 1889 Wea.

– Mrs Harry Merry & baby return from Michigan –

Ther. THURSDAY 18 Wea.

Ordered from Egan Co Cin'tO
One No 6 – Mortiser & Borer
" 24" Hand Planer
" No 3 Scroll Saw –

Iron Gate Co. Organizes at Clifton Forge –

Ther. FRI. APRIL 19, 1889 Wea.

Ther. SATURDAY 20 Wea.

In P.M. Bert Ray & I use transit at Quarry to determined the distance bet. Roberts Tunnel and end of Quarry – 354 ft + 269 ft

Ther. SUN. APRIL 21, 1889 Wea.

Harry & Charley Means come on No. 2 to visit. First time since '76 for Harry & '78 for Charley –

Visit Quarry & Furnace

Party of eleven go to Clifton Forge for dinner –

See Calburn & Hibbard –

Walk to L. M. and go up to Mines in P. M –

Charley spends the night with Seaton –

Ther. MONDAY 22 Wea.

Harry & Charley at Mines –

Capt. Merry goes to Richmond to purchase parts –

Harry & Charley stay here at night.

Plat Quarry survey –

Ther. TUES. APRIL 23, 1889 Wea.

Harry spends morning at Mines — Charley with me — In P. M. we walk to the Quarry & Mines and return —

Masons at work on blacksmith shop — enlarging —

Harry leaves for Ashland.

Ther. WEDNESDAY 24 Wea.

Charley spends morning with me at Furnace — He leaves for Phila and N. Y. at noon on No 4 —

Men at work on Roof for Car shop —

Capt. Merry returns from ~~[illegible]~~ Richmond with John Hann —

Seaton. H. G. Merry & self visit Clifton Forge

Ther. THURS. APRIL 25, 1889 Rain Wea.

At Furnace and in office.

Ther. FRIDAY 26 Rain Wea.

At Quarry and in Office.
Write to Richmond. Magoun Works
Gardner & Glover, John F. Winslow
Geo Lee etc.
Look at old drawings of houses.

Ther. SAT. APRIL 27, 1889 Rain Wea.

Furnace in A. M.

Mes Geo Gaines & De Costa here —

Mrs. Thomas & Miss Merry leave for Phila. & Newyork —

Cargill goes to Charleston on a visit.

Ther. SUNDAY 28 Cold Wea.

Walk up to Mines with Rogers. Seaton comes down to dinner with me — Call at Merrys —

Ther. MON. APRIL 29, 1889 Wea.

Laying new Grading Shed –

In draughting room –

Play tennis with Ray & Willis

Put new forge in blacksmith shop –

Ther. TUESDAY 30 Rain Wea.

In draughting room –

Cargill returns from Charleston & N.Y.

Ther. WED. MAY 1, 1889 Wea.

In Draughting room on new grading Shed —

Ther. THURSDAY 2 Wea.

Pig Iron To	Staunton	.75
	Waynesboro	.85
	Charlottesville	1.00
	Richmond	1.27
	Newport News	1.65
	Huntington	1.45
	Cincinnati	2.25

Coal	.055	per 100 mile
$3.00 OW	.065	
Pig Iron	.065	
Supplies	.075	

Ther. FRI. MAY 3, 1889 Cold & Clear Wea.

Leave L. M. for Ky on No 1 -

Bell
Burton Compass -
Cards from Press
K. I C & M -
A. E. B. Co -

Ther. SATURDAY 4 Clear Wea.

Train late reach Ashland 11 A M
Find Bessie & Babies & Molly Seaton there
P. M. go down to office with Father -
Moore, Geiger & Ireland come in
to divide Oakland profits,
Call on Grandfathers & Mrs Hugh Ms.
Mr & Mrs. Buffington in town -
Mrs. See Drummond there -

Ther. SUN. MAY 5, 1889 Clear Wea.

Go to M. E. Church -

Drive out to Seaton at Bellefonte to see new Plain Stone being erected at end of boilers -

Charlie Means & I spend the night there -

Ther. MONDAY 6 Clear Wea.

Charley, Will S. & I drive up from Bellefonte to Ashland -

Will goes out to show a gentleman from Detroit a portion of the Clinton Tract of 1400 acres, the same being offered for $10 per acre

Visit Acid Office, Furnace & Shops -

Call at Bank and see John Russell Jr about his taking charge of Fire Brick Works which agrees to do - Secure provides for 52 shares with promise of more

Ther. TUES. MAY 7, 1889 Wea.

Leave on No 4 at 3.20 for Low Moor - Cargill gets on at Covington, having been sworn in as Notary Public - Reach Low Moor on time. Find Locomotive No 3 from Baldwin Works and load dump Cinder car from Jones & Hartman in yard - Mr. Bloomburgh in Charge of the locomotive -

Ther. WEDNESDAY 8 Wea.

Locomotive No 3 in running order on track turned over to our engineers for service -
Ride to mines on 1st in A.M. & P.M.
Try to drive mare "Nellie" in buck board single but she ran away and broke up one wheel & bent axle - Slightly bruising Cargill & myself who were in -

Ther. THURS. MAY 9, 1889 Wea.

visit Quarry - Tom Roberts quits work for being sent back until quartering time -

Witherows "Modoes" arrive -

Wood working tools from Egan Co. come -

Call on Mrs. White nee Rogers

Ther. FRIDAY 10 Wea.

Unload cinder cars and commence to line them with Ashland & Z brick -

Loading flue dust -

Ther. SAT. MAY 11, 1889 Wea.

Loading flue dust and in Laboratory –

Ray & Williams entertain –

Ther. SUNDAY 12 Wea.

Rec letters from Harry M & John Russell Jr The latter decides not to take charge of brick works –

Have a bad cough –

Ther. MON. MAY 13, 1889 Wea.

In Laboratory on
Flue Dust

Ther. TUESDAY 14 Wea.

Flue dust Shipped Sat.:
9000 lbs Green 75.51 %
6900 lbs White Lump 71.76 %
13000 " " fine 54.75 %

Senator calls.

Ther. WED. MAY 15, 1889 Wea.

At Furnace. Erecting wood tools etc.

Write to Father.

Ther. THURSDAY 16 Wea.

Capt. Merry. Joe Skelding & myself drive to Cl. Forge and take the vestibule train out for Staunton where we were summoned as witnesses in the suit of R. Skelding vs Inter States Life Ass. We return at 5 P.M. Dinner at Va. Hotel. Reach L. H a 7.35 P.M.

Harry Merry ill.

Ther. FRI. MAY 17, 1889 Wea.

At Fernden in Shops & writing letters –
John S Ham here in P.M.
Play tennis at night –

Ther. SATURDAY 18 Wea.

At Quarry bridge putting in new stringer –

Ther. SUN. MAY 19, 1889 Wea.

In room nearly all day —
Seaton down —
Call at Merrys —

Ther. MONDAY 20 Wea.

Above Furnace and
in draughting room —

At Quarry in P. M.

Ashland Fire Brick Co — Elect
Directors.
W. C. Ireland Pres.
Harold Means V. Pres
John Russell Jr Sec.
S. S. Savage Supt
Warren P. B.

$600 for previous years

Wea. Ther. TUES. MAY 21, 1889 Wea.

About Furnace and in office –

Mr. E. A. Law & May Bell arrive on No 1 to attend Directors meeting –

Low Moor #1 X $17.25
" " #2 X 16.45
D B New York City –
Thomas Iron #1 X $16.50
" " #2 X $15.50

Wea. Ther. WEDNESDAY 22 Wea.

Father & Mr. A. S. Marlow come over on No 4 to Clifton Forge – driving up to L. M.

May Bell leaves for Staunton on No 32.

Big Bend Tunnel falls in – delays trains for 30 hours

Ther. THURS. MAY 23, 1889 Wea.

Mr Law, Mr. Winslow & Father spend day here. I am invited to Capt. Merrys to dinner.

Tunnel delays their departure –

Father feels unwell and talks of trip –

No 2 Locomotive being repaired

Ther. FRIDAY 24 Wea.

Mr Law is driven to C. F. and takes No 4 from there at 3.30 P.M. Big Bend Tunnel being clear. I take supper at Capt M. – Father & Mr Winslow leave on No 1 for west.

Coke $3.24½

Ther. SAT. MAY 25, 1889 Wea.

At Furnace and in Laboratory
visit Quarry with Capt Merry –
John Hamm here –
Joe Skelding is hurt at
furnace – straining his knee –

Ther. SUNDAY 26 Wea.

Take supper at Mrs Merrys
at mines with Cargill, Seaton,
Ray, Miss Merry & Mrs Thomas –
Rev Chapman preaches –

Rec letter from P. B. Warner –
announcing coming marriage
of John Russell Jr – on 19th June –

Ther. MON. MAY 27, 1889 Wea.

In Laboratory. On pig iron silvery 0.57

Ther. TUESDAY 28 Wea.

In Draughting Room on drawing for casting cleaner.
Putting in Cinder Hall at B. Furnace.
Seaton down. Play billiards.

Ther. WED. MAY 29, 1889 Wea.

Capt. Merry & John Ham at Waynesboro.

Unloading car of lumber from Roach's on cinder dump.

Play cards with Ray, Seaton, Merry Bibb, Carpenter, Cargill & Merry.

M. G. Merry & I leave for Richmond on No. 3.

Ther. THURSDAY 30 Wea. Rain

Arrive in Richmond at 8 A.M. Stop at Murphy's Hotel, European plan. Not very good hotel. No. 8 fair room. Call on Geo Gaines who spends the day with us. Call on Dr. Shields specialist prescribes for me. Bronchial trouble near lungs. Advises the non use of tobacco and out-door exercise. John Ham comes down.

Ther. FRI. MAY 31, 1889 Wea. Rain – Hard Rain –

Shopping and purchasing presents –

Smoked One Cigar the last for ?

C & O Ry, R & A and others running into Richmond so damaged by the storm & freshets that business is abandoned and we were unable to return home – very heavy rains over country – No telegraphic communications –

Ther. SATURDAY, JUNE 1 Wea. Clear

Water up on Cary St in R – R. Rs still unable to operate Johnston Pa badly damaged C & O washed out in spl places betn R. & Cliffs Forge Most freshet for years – Spend the day sightseeing –

Ther. SUN. JUNE 2, 1889 Wea.

In Richmond - No opportunity to leave.

Rec. news that Daly Hum Ry. track very seriously injured badly washed out will take week to repair.

Ther. MONDAY 3 Wea.

Leave Richmond on R. F. P. At 6.45 A.M. Transferring at Chickahominy River, walking across culvert. Take C & O train at R. F & P. Junction - Change again at Charlottesville - No trains from Washington. Walk to Low Moor from Clifton Forge reaching " at 6 P.M. Found furnace running One washout at mines Cinder cars at work on new fill

Ther. TUES. JUNE 4, 1889 Wea.

At Limestone Quarry Locating the place for dock for carts Shepherd & Capt. Merry —
Working Laboratory —

Ther. WEDNESDAY 5 Wea.

Manning & Squire report zinc analysis for last car same as mine but find
Fine White Dust 12947 lbs Met Lead .109
Lumps " " 6871 " " " .212
" Green " 8991 " " " .731
Rate 5 20 per ton for 40% & 63¢ for each additional unit —

Ther. THURS. JUNE 6, 1889 Wea.

Write to Cogan Co & to Sen Anderson -

In Laboratory -

Circle & Moodson Ore

Iron	48.91 %
Silica	16.83

Iron Mt. Lump -

Iron	53.28
Silica	7.15

The Jaws & Hartman Sud Dump Cinder Car is put into service -

Tennis Cargill & Carpenter vs Boyd & Means 1 set to 2 sets

Ther. FRIDAY 7 Wea.

Cargill & I visit the Dolly Ann & Iron Mt Mines with Mr Ham - Dinner at McCarthys - Went up valley opposite Lam Mac to second incline - Good show of ore - Return on local fright at 5 P.M. Play tennis with Cargill & Millican vs - Carpenter & I - The latter win 3 sets

Ther. SAT. JUNE 8, 1889 Wea.

Furnace -
Lucary to see new dock -
Cargill & I layout tennis
court at Henrys -
Cargill & Ray & I play tennis

Ther. SUNDAY 9 Wea. Rain P.M.

Rev Hill preaches -
Cargill, Seaton, Miss, Henry,
Mrs Thomas & Tom Henry
go up to mines to eat ice
cream & berries -

Write to Mother -

Ther. MON. JUNE 10, 1889 Wea.

Rain —

Write Father for Copy Me about Glenmore property —

In Laboratory — and getting samples —

Tennis

Ther. TUESDAY 11 Wea.

In Laboratory

Circle & Moodson's Manganese on

Iron 23.17

Manganese 23.75

Silica 14.27

Cargill & I vs Carpenter & Ray

2 sets to their 1 —

Ther. WED. JUNE 12, 1889 Wea.

At Shop looking up pulleys for shafting for wood tools –
Rumbler finished and at work.
In Laboratory –
2nd Sample Circle & Woodson on
Iron = 51.15
Silica = 13.70

Ther. THURSDAY 13 Wea.
Rain

At Furnace & Quarry

Ther. FRI. JUNE 14, 1889 Wea.

In Laboratory in P. M.
Rain –

Ther. SATURDAY 15 Wea.

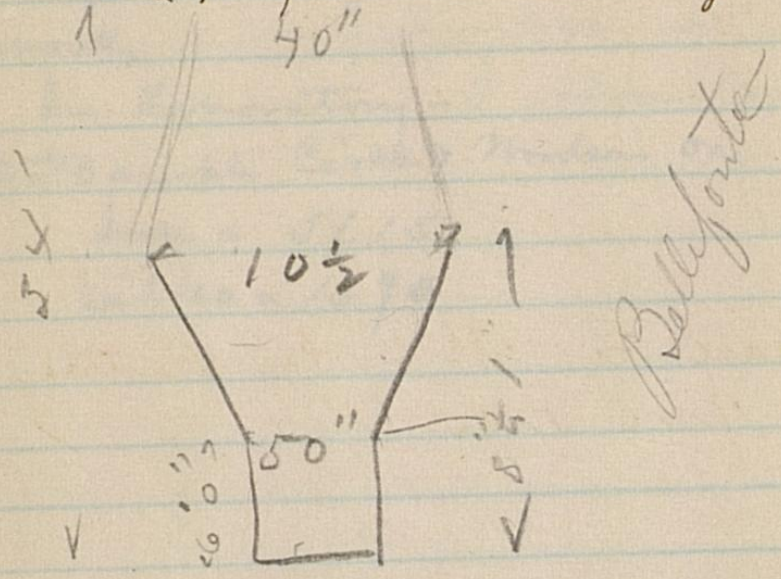
Tennis.

H. G. Merry & I go to Covington calling on Dr. Rogers and Mr. Ham. Meet Mrs Ham & Miss Stannie & Lily for first time

Ther. SUN. JUNE 16, 1889 Wea.

Cargill & I walk to Quarry -

Seaton, Ray & I call at Merrys -



Ther. MONDAY 17 Wea.

In Laboratory -

Stack Mines Wash

Iron	39.95
Silica	30.65
Phos	.295
Mn	1.40

Slag. Green

Silica	43.45
Al_2O_3 etc	7.23
Mn	1.54

Ther. TUES. JUNE 18, 1889 Wea.

In Laboratory -
Mr. Hartman of Phila - here to see about cinder car -
In Laboratory
Slag white gray
Silica 41.95
Al_2O_3 7.40

Leave on No 1 for Kentucky at 7.45 P.M.

Ther. WEDNESDAY 19 Wea. Rain & Fair -

Reach Ashland at 4 A.M. - In A.M. call at Grand Fathers and at N.C & I. Office, Furnace & Shops. Attend at 3 P.M. the marriage of John Russell Jr and Addie Flye at Mrs. A. Poages. E. F. Dunn from Circleville Ohio is present. About 40 guests present. The bridal party leave on 5.30 Train for Huronia Beach on Lake Huron. I had the pleasure of eating at table with the bride & groom. Baptist Minister fully officiates.

Ther. THURS. JUNE 20, 1889 Wea.

Leave on No 4 from Ashland
and arrive at Low Moor @ 7.45
In Laboratory —
Mr Orton was here yesterday —
Play tennis with Williams
and Cargill —
Mr Frank Lyman here over
night —
Attend with Seaton & Cargill
the band concert & dance

Ther. FRIDAY 21 Wea.

Drive Mr Lyman to Clifton —
Gather Rhododendrons on return
In laboratory — P. M.
Very heavy rain —
Meet Mr. Ham at Clifton Forge
he reports Goshen as ready
to buy his ore at $1.75 for mach
and $2.00 for lump — but
he would not close until he
had seen Capt Merry —

Ther. SAT. JUNE 22, 1889 Wea.

Around Furnace & in Laboratory

Ther. SUNDAY 23 Wea.

Rev Coombes preaches in A.M and Rev Hill in P.M.
Ray, Tom Merry & I walk to Jackson's River Station –

Ther. MON. JUNE 24, 1889 Wea.

Afternoon Ray & I play at tennis first game M. 6 - R 5 second game R. 6. M - 2 -

At night Cargill & M vs Williams & Ray - 6-4, 6-2.

In Laboratory.

Write to Father and to Chicago Consolidated Ice Co -

Ther. TUESDAY 25 Wea.

Rain hard all day -
In Laboratory -
John Ham comes down to sell wash ore. Capt Merry contracts for 1000. tons to be delivered during four months at $1.75 per ton. Ore to come direct from washers at rate of 200 tons or less per diem. Equal amounts from Stack washer & Dally Ann washer the latter to be both Iron Mt. & Dally Ann ore.

Ther. WED. JUNE 26, 1889 Wea.

Write to Eng & Mining Journal —

In draughting Room —
& in des buggy

Ther. THURSDAY 27 Wea.

In draughting Room —

John Ham advises Capt Merry that Mr. Lyman had sold Victoria Fee 15000 tons ore @ $2.00 ½ wash & ½ lump to come from Dolly Stun & Iron Mt. He asks to be released from agreement made Tuesday, which request is granted.

Ther. FRI. JUNE 28, 1889 Wea.

In Draughting Room & Laboratory on Iron Mt. Ore

Ther. SATURDAY 29 Wea.

Joe Skelding, Capt Henry & I visit Victoria Furnace and mines. Found them finishing drying out and about ready to put fuel into her preparatory. Mr. Orten invites me to dinner the others going with Mr. Magoon

In P.M visit the mines - about 13 miles from works - 100 men at work on favorable showing of ore. They will get limestone from Belle Valley & Coke from Wm Bussey Cooper & Co & Miller

Ther. SUN. JUNE 30, 1889 Wea.

Rec letter Eng & Mining Journal offering $3 per column for contributions

Rec. Letters from Robt Peebles enclosing Check for a dividend A.C & I Ry Co 1% also one from Field –

Ther. MONDAY, JULY 1 Wea.

In Laboratory –
Iron Mountain Lump Ore
Iron 53.41
Silica 6.95
Phos 0.236

Cargill & I play vs Ray at tennis –

Lee B leaks badly at crack in jacket –

Ther. TUES. JULY 2, 1889 Wea.

Furnace B stops to clean flues and put in a new bell.
In laboratory.
Flue dust from end of flue next coal bin, dark from cake dust contains 29.35 Zn
From end of flue next boilers 33.52% Zn - light color.
"B" blast finished.
Leave Low Moor on No 1 for Kentucky.

Ther. WEDNESDAY 3 Wea.

Reach home 3.30 AM.
Find Father, Mother, Harry, Rose & Tom at home. Call at Gen Office A.C.I. Shops. at Birds tea in Ironton. See Havords about coming to Low Moor as machinist. $80 per month. he was receiving $83.00 from Lambert Bros
At Norton 7 a P.M out of blast, need new hearth & bosh. Nail mill running. Poor business.
visit Ashland Park. Heavy Rain. Call at Russells & Poages.

Ther. THURS. JULY 4, 1889 Wea.

In Oakland Park. Fair etc.
Methodist ladies have a booth
at which Mother and Rose attend
tables. We take dinner there —
Bessie & Hilda & Isabella up to Hall.
Will attends Geo Doute's funeral.
The races are good and about
6000 people in present.
Aft. fair visit Culbertson's to
meet Miss McIntosh of Pine Grove.
who had driven over with Tom —
At Grandfathers & Pooges in P.M.
Matter fair — Skeldings & Bids at fair

Ther. FRIDAY 5 Wea.

Visit Mrs. Skeldings in Drouton
returning at noon. Did not see
Howard & telephoned him offering
him $90 per month to come to
Low Moor as Machinist. He would
not decide to come —
At Park in P.M. Will has
his fine mare Marguerite
out in single harness —
Spend evening at home and
at Hagers. (John) at literary
Club. Leaving on Mt 4 at
10.48 for Low Moor

Ther. SAT. JULY 6, 1889 Wea. Fair

Reach Low Moor at 8.20 A.M. after going to Clifton Forge and returning on No 59 — John Hamx Mr. Clarahan of Pa. here inspecting Brooke. at Furnace where they are preparing Fce A for blast. Cleaning out reservoirs and making connections — at Quarry when they are moving the track nearer the work. Play tennis with Cargill, Williams & H.H. Berry.

Ther. SUNDAY 7 Wea. Fair

Write to Lily & H. H.D.
Services by Rev Chapman.

The reservoir at furnace is being cleaned of mud.

Blast 1 B. from July 1887 to July 1889.

Ore used	184.079	$\frac{1740}{2240}$	tons
Limestone	81.857	$\frac{1246}{2240}$	"
Coke	100.208	$\frac{1605}{2240}$	"
or Coal	186.834		"
Iron Made	80.226	$\frac{800}{2240}$	"

Ther. MON. JULY 8, 1889 Wea. Fair

Work on Fce A is being pushed rapidly a track being laid in the cast house. Commence ~~pulling~~ drying away the drying furnace –

Place the tuyeres in position 6' 6" from nose to nose 28" tuyere lapping 14" on a 35" cooler block walls 3" inside diam hearth 9' –

Mr Gilliland has his foot cut by Eng No 1. Tom Saylor Eng. / His own carelessness – no blame –

Ther. TUESDAY 9 Wea Fair

On Iron Yard in place of Gilliland No cars after 9 AM. 7 shipped 350,000 lbs cap – 6 chords

Wood placed in furnace & Dam plate put in position. Blow pipes put. Connection made for blast for bell cylinder. Nathanial T. Moon of Evergreen fame here from Ferrol Mines which he purchased –

Tons	Dennis Williams & Means	1	6	6
"	Pangiel & Ray	5	4	3
"				
"				

Sullivan whip Kilrain on 8th in 75 rounds

Ther. WED. JULY 10, 1889 Wea.

Loading a Car of flue dust.
Still charging furnace changing burden every 10 rounds.
H.G. Merry & A. T. Moon visit Ferrol, Va.
Call on Gilliland, who was hurt found him getting along as well as could be expected.
Putting up cinder trough & fall. Iron sides brick bottom — also irons for roofing cinder trough
Tenns. Cabell & Means 6 - 6
Williams & Saunders 4 - 4

Ther. THURSDAY 11 Rain Wea.
40 sec fast
Loading car of Flue Dust.
The water connections all made at furnace. Two batteries of boilers fired to run hoist.
Miss Minnie M. Merry lights the furnace for blast #4 at 4.07 PM.
a good draught appears
The cinder monkey not in and the tapping hole for iron left open — about 18 feet of wood in furnace open shaft and wood on ends about 18
Broken limestone & gray cinder used
Rain prevents tennis

Ther. FRI. JULY 12, 1889 Wea.

Charging regularly

Finish loading car of flue dust

Blast put on furnace at 9.25 A.M. gas lighted on top first. No large explosion – at 11 AM two engines on 15 each. The monkey has been put in but iron notch was left open until cinder now out at 1 PM when it was closed –

In laboratory and at quarry where track has been changed and carts substituted for cars –

Tennis Cargill & Ray 1 – 6 – 3

Williams & Mearns 6 – 5 – 6

Ther. SATURDAY 13 Wea.

First cast of iron at 6.30 AM. Salt on runners to make iron run easy – about 11 of 3/4 beds – cinder black glassy.

In laboratory on flue dust –

Second Cast at 5 P.M. –

Mottled Iron –

Foundry " in 4th cast –

E.E. Seaton & I visit Alderson to meet Messrs Helen & Rebecca Spaulding & Miss Ella Culbertson – Leave on No 1 at 7.48 P Arriving at Alderson 10-25

Ther. SUN. JULY 14, 1889 Wea.

Alderson W. Va. Hotel by Alderson & Moffett - Rooms 14x15 - Episcopal Church in A.M. - Drive over to Blue Sulphur Spring in P.M. Caught in Rain and stop at Jarrets a Cattle raisers home. No hotel at the Blue, last one burned during the war - 8 miles from Alderson -
Return to Low Moor or Nor at 11.30 P.M.

Ther. MONDAY 15 Wea.

At Furnace in Laboratory. on Flue Dust, Cinder &c
Play tennis on Merry's Court.

---

resignation as Treasurer was accept and Mr. Rudkell elected to fill his place -

Ther. TUES. JULY 16, 1889 Wea.

In Laboratory —

Last Car of Flue Dust Shipped Manning & Squier — Drying at 100°C

Gate Moisture	41.55%	26700 lbs
Lime after drying	53.55	
Moisture	11.01	22500 lbs
Lime	71.55	

Commence using Carts in Quarry —

Pay Day

Ther. WEDNESDAY 17 Wea.

In Laboratory —

Men strike for an advance in wages in Stock House & on Iron Yard raised in former 1.10 to 1.20 — latter .95 & 1.00 —

Putting belts on wood machinery in Carpenter shop —

Men were brought down from the mines but the furnace men showed fight so Skelding gave in

This day the resignation of John Russell as President of the Norton Iron Works was accepted and C. W. Greene of Tiffen O elected also my father's

Ther. THURS. JULY 18, 1889 Wea.

Mr. Leonard Morris sick &c
I stay in Scales house –
13 Cars of iron shipped
Yard blocked with coal –
Cargill shows me the work

Ther. FRIDAY 19 Wea.

In Scales House —
Tenary Men & Coke Men
demand an advance in
wages of 10% – Granted 5%.

Ther. SAT. JULY 20, 1889 Wea.

In Scales House —
Ed Seaton not well

Ther. SUNDAY 21 Wea.

No Service —
Write to Rose
Supper at Capt Merrys

Ther. MON. JULY 22, 1889 Wea.

In Scales House –
Swim with Ray, Paquet & 24 Me

Ther. TUESDAY 23 Wea.

In Scales House –
Milton On
Before washing 64900
after " 56800

Ther. WED. JULY 24, 1889 Wea.

In Scales House -

Write to Epsses - Also to Tanno & Harlem about another end dump cinder car without brake or doors. The end dump car is found to be very satisfactory for the work here -

Drive to mines with Mary Miss to see Harry who has tooth ache, his baby has flux also Seaton has flux.

Ther. THURSDAY 25 Wea.

In Scales House -

Father & Mother leave this day from Ashland for New York were they go to consult physician about Fathers health. Pass on No 2 C&O Did not send me word so that I did not see them -

Decided to consult Dr George Spaulding.

Ther. FRI. JULY 26, 1889 Wea.

Receive a sad letter from Father who has given up all hope of ever regaining his health He fears death or dementation - Trouble caused by worry over his brothers financial troubles - A letter of advice and concerning his wishes for the future of his family -

In P.M. I write to Father, Aunt Mey & Will Seaton

Ther. SATURDAY 27 Wea.

In Scales House -
At night E. E. Seaton comes down from the Mine and spends the night with me.

Ther. SUN. JULY 28, 1889 Wea.

E. E. Seaton - J. P. Williams, A. J. Ray & myself are driven to Clifton Forge by David Saylor where we breakfast and take R. & A. train for Natural Bridge. Dinner at Bridge Hotel returning on No 1 - Reach L. M at 9 P.M.

Letters from Harry Means & S.R. Ireland -

Ther. MONDAY 29 + Wea.

In Laboratory

		Iron	SiO_2	Mn	P
Milton Fin	Ox	43.85	24.87	0.52	.116
" Jay	Ox	40.68	30.40	0.46	.05
Iron Mt Jay	Ox	47.50	10.17	5.05	0.143
Ferrol	"	48.13	6.20	3.21	0.136

Ther. TUES. JULY 30, 1889 Wea.

In Laboratory.
Seaton comes down –

Ther. WEDNESDAY 31 Wea.

In Laboratory –
Rec letter from Will Seaton in regard to Father business and conclude to go home and talk the matter over and and devise some way to keep his work from accumulating or worrying him while away –

Wea. Ther. THURS. AUG. 1, 1889 Wea.

In Laboratory -
Visit Limestone Quarry -
John Ham comes down to L. M.
Will Hams whips Albert Skelding
at Covington -
Leave on No 1 for Kentucky

Wea. Ther. FRIDAY 2 Wea.

Arrive in Ashland at 6.30 A.M.
train late. Find Bessie & two
children there - also Misses Rosa Seaton &
Georgia L. Miley of Woodstock, Shenandoah
Co. Va. Her father circuit clerk on
a pretty girl of 22 summers -
At bank to deposit money $400 -
for L. E. Seaton -
Will Seaton comes up from Bellefonte
and we play at archery & tennis -
He and his family return in P.M.
At night Rose has Literary Club -
Aunt Amanda & Lizzie leave for
Chatauqua -

Aunt Maggie & I visit Bessie at Bellefonte and dine there — Returning at 4 P.M. when Harry & I play tennis at Russells with John, Charley, Emma & Jennie

John & Harry 6 — 5 —
Charlie & I 4 — 6 —

They have a splendid court

At night Rose has the Carter Cars party to spend the evening. Miss Orr of Covington, Ky visiting Mrs. Culbertson, was there. She is acquainted with Mrs Buffington & Miss Webster of Cincinnati —

Temperance meeting in the park. Two ladies speak in A.M.

Will & Bessie come in and remain to supper taking Rose's visitors away with them

Harry & I call at Culbertsons Sam Ireland comes in while there. He asks me for answer to be an usher or attendant at his wedding in October but I decline — He is to marry a Miss Roberts —

At Ashland Nat Bank in A. M.
Charley & Will Seaton to dinner –
At Ashland Furnace with Will S.
See Crowther there & L. Putnam –
Furnace able to buy all mill cinder
wanted. Large stock of ore and
limestone on hand –
Call at John Russell's Jr's. Dr
Montmallin, who talks as if Father
was in danger of Brights Disease
of the Kidneys – and that the iodine
of the sea air would be beneficial –
Leave on No 4 for

White Sulphur arrive at
6.30 A. M.
D. Cargill arrives on No 3 at 11 AM.
After dinner at the Hotel, we
take horses and with Messrs
Montague & Grant we visit
the Glenmore Iron property.
Only saw one outcrop but
that was of an excellent quality
of ore vein but 5 ft or less in
width – 2500 acres in land
The Company has $30,000 subscribed
and will commence prospecting
with $2,000 in cash

Ther. WED. AUG. 7, 1889 Wea.

Cost of pig iron B.I.B.

$12.56 for past six months

$12.81 " previous " "

Average Sales - Pig Iron

$14.05 3/10 for past six months

$14.19 1/4 " previous " "

In Office writing report for Capt. Merry to send to Mr. Low - Rec. letters from C.P. Arnatt inviting us to Ball at Millbrook Springs but are unable to accept - letters for H.Y.N. and Eng. & Mining Journal -

At Quarry in P.M. Loading stock pile of ore

Ther. THURSDAY 8 Wea.

At furnace in A.M.

Using typewriter to copy the Report of Capt. Merry.

In P.M. at furnace -

Write to Rose & to Father -

Papers in Safe -

Ther. FRI. AUG. 9, 1889 Wea.

Scarce of cars for loading iron — write to J. T. Harahan Supt & to H. B. Cutter Div. Supt to send cars if possible — orders in for over 2000 tons — Cargill & I at Clifton Forge return with Miss Fitz. Huckstep & Hume

Rec letter from Mother announcing that Uncle Charles Hildreth M. D. of Zanesville Ohio has been stricken with paralysis —

Write to Mother, Rose & Uncle George

Mrs. Henry Merry ill —

Ther. SATURDAY 10 Wea.

Dr. Geo O Hildreth writes to Mother that Uncle Charles had an attack of paralysis on Tuesday Aug 6 and is now very low. Paralyzed on the right side, speechless and failing — His case considered hopeless —

Edward Seaton & I go to Covington and spend the night there. Henry Goodrow here on a visit from Charlestown W. Va

Ther. SUN. AUG. 11, 1889 Clear Wea.

Seaton & I board No 4 at Covington and ride to Millboro with Miss Miley - Breakfast & Dinner at Millboro Springs - Mrs. Poage & 2 children and Mrs. Hagar & 3 children. Mr S.P. Arnott & C. Eugene Rogers there. Have a pleasant day and return at night on No 1 to Lexington. Find letters from Harry Means & W.B. Seaton awaiting me -

Photo Lexington to Harrisonburg

Ther. MONDAY 12 Clear Wea.

Henry Meng 3rd 7 years old

In draughting room on Sixth dump Cinder car -

Rec. telegram from Rose Means that Uncle Charles died Sunday noon and would be buried Tuesday P.M. As I could not make the proper connections to reach Gainesville on time I concluded not to go -

Miss Harriet Held & Brother Edward arrive from Buffalo -

Ther. TUES. AUG. 13, 1889 Clear Wea.

Write to Mather, Aunt Sarah and Will Seaton —

In laboratory on Ores as follows

From Alexander's Place Iron, Gate Virginia, two samples one a single lump the other the run of mine —

Iron Silic Residues Mang Phos

RM	33.44	35.30
Lump	47.50	17.08

9 Ther. WEDNESDAY 14 Wea.

H. G. Merry & I go to Pernal to see mines there — Mr. McClearnes is there and we spend the day with him and Mr Beal Shirley his Supt and formerly with the L. M. I. Co — The C & O is putting in a side track and the tram road from the mines is being repaired a new washer will be put up and the whole mine prepared for large work as soon as possible The old Grace Furnace will not be operated —

Ther. THURS. AUG. 15, 1889 Wea.

Mr. Henry Off of Phila is at Capt. Merrys — Miss Coghlan comes to Williams to visit
In laboratory on Ores.
Ferral. Aurora Mines
Iron Sil Res Mn Phos
Red Shale 39.98 32.40
Brown Hem. 52.05 7.03

Play tennis and take Supper at Capt Merrys with Misses Nelle & Merry — Miss Polly Skelding returns to Covington Ky

Ther. FRIDAY 16 Wea.

In laboratory — Rec letter from Mother saying that Father is worse, having taken severe cold and cough on Sunday
Selected Ore from
Greenbrier Co. W Va
Glenmore Iron Co —
Iron Sil. Mn Phos
52.32 6.84

Mr Cougill & I call at both Ed. & Saint Williams's on young ladies visiting there.

Ther. SAT. AUG. 17, 1889 Wea.

In laboratory — orders —
Play tennis in P. M. with Cagill —

Coke Report of July
Per ton Coke

Labor	0.37 3/5
Cost Coal	2.84 3/5
	3.22 1/5

Ther. SUNDAY 18 Wea.

Seaton comes down in A. M.
and spends the day with us —
Mrs & Saml. Hunt and
& Rose Means —

Mr Chapman preaches

Albert J Ray returns from trip
to Akron Ohio —

Ther. MON. AUG. 19, 1889 Wea.

Capt & Tom Merry leave with Mr Henry Off for New York driving to Clifton Forge and taking cars from then — I am left in charge at Low Moor —
Loading a car of Flue Dust
Screening it — 3/4 or 1 day.
Play at tennis with Cargill Misses Merry & Field —
Joe & McC. drinking —

Ther. TUESDAY 20 Wea.

Harry Merry Ill —
Write to M. Erskine Miller about coal supply —
Still loading flue dust. 4 men
In Laboratory and about shops —
Play at tennis with Ray —
Carload of ~~ad~~ o here —
Shepherd puts in a newbent at Quarry trestle —

Write to Capt. Merry —

Ther. WED. AUG. 21, 1889 Wea.

At Quarry with Mr. Henry Held and Master Eddie Held –
Bent under trestle finished –
Small boiler is erected at tunnel to supply steam for one drill –
In furnace yard the railroad is being surveyed and the switches attended –
Tennis at Capt. Henry's –
Call at Henry Williams
Rec letter from C. W. Means in relation to sale of Bellefonte lands.

Ther. THURSDAY 22 Wea.

M M. Birthday –
Write to Mrs. John Means & W. B. Seaton –
Working on flue dust –
Write to C. W. Means at Oakland –
A number of C & O. head officials pass through here inspecting the road – Among whom were Ingalls Prst, Hanahan Supt. Hopkins, Genl Agt. etc.
Call on Miss Polly Spalding at Dr. O T Rogers –

Ther. FRI. AUG. 23, 1889 Rain Wea.

At furnace and about plant generally—
Ed Williams gets new drill to work in Tunnel at Quarry—
J P Williams in store goes on vacation to Waynesboro and Fort Spring—

Ther. SATURDAY 24 Wea.

At furnace and Quarry—
A. G. Merry's 2nd boy arrived at 5.30 A.M. under Dr Rogers guidance
The event was celebrated in proper manner—
At Merrys Dr to dinner—
Rec Telegram from Burnett to Father urging vital interest to see him immediately
Telegraph Will Beaton to go to Cincinnati—

Ther. SUN. AUG. 25, 1889 Wea.
Fair

At Mines - Dinner at Shirleys with E.E. Seaton -
Prepare to go to Cincinnati but receive telegram from W B Seaton to go to New York with him and W B Burnett & U. S. Attorney Cincin -

Capt Merry & Tom return from New York meeting - Where they saw father.

Ther. MONDAY 26 Wea.
Fair -

Leave in wagon for Clifton Forge with Cargill & Miss Elma Gaines of Waskington -
Meet Seaton & Burnett on train and go to New with them reaching there at 9.20 P.M. Stop at Grand Union Hotel.
Burnett anxious to see father about Wm Means -

Ther. TUES. AUG. 27, 1889 Fair Wea.

Mr Seaton & I go out to Woodhaven and see Father Mother & Lily - Seaton & Father go in to meet Burnett, Warrington & McConville Mother, Lily & I go to Coney Island visiting the Oriental, Manhattan and Brighton Beaches —

Father is persuaded to advise Mrs Meaus to return to yellow Springs at once —

With the Cincinnati Mem I leave on the Shore line for Boston at 11.30 P.M.

Ther. WEDNESDAY 28 Fair Wea.

Reach Boston at 7 A.M. and leave at 9. for Weymouth via Old Colony RR and Hyannis reach the former place at noon.

Bathe and sail —

Mrs Meaus returns from an excursion to Nantucket at 6 P.M. She will not return without Hunts consent —

Pearl, Patti, Gertrude and Mrs M. A. Adams are with him —

Father, Mother & Lily sail for Portland

Ther. THURS. AUG. 29, 1889 Wea.

2 - 25½ full

Warrington, Burnett & I go to Hagaman's from whence I telegraph Aunt. Received reply at 3.15 P.M. and return to Craigsville - Wm then decides to return to Yellow Springs the following day - Tom Adams arrives on a visit to his mother who has had slight hemorrage of lungs she was doing the housework at cottage and was overworked -

Ther. FRIDAY 30 Wea.

Leave Craigsville, at 7 for Boston, spending the day there and return to New York via Boston & Albany at 11 P.M. - Visit the Berwick Café and find it changed to the Hotel Fowler - at $4.50 per day house with excellent baths beneath -

Arrive in New York at 6 A.M.
Breakfast at the Grand Union
and then call on Dr. Geo Spaulding
where Will Seaton is staying -
Will & I take Cable cars on 125 St
to Washington Bridge & Fort George.
Dinner at Spauldings. Dr Alfred
there - Dr. Geo S. is father's physician
and advises him to come there
and stay until he is better -
Leave at 2 P.M. & catch train
at Jersey City at 3.30 - C&O. West
Burnett on train -

Reach Clifton Forge at 6 A.M.
and after breakfasting there
walk up to L. Moor -
Seaton down and takes dinner
with me. We call at Capt Henry
and go up to Mines to supper
at Shirkeys -
Write to Harry Means and
W.B. Seaton -

J.P. Williams returns from his
vacation -

Ther. MON. SEPT. 2, 1889 Wea.

In Laboratory on Flue Dust
Carload shipped on 1st inst –
Sheppard commences to raise
the frame for the new grading
shed. Post 10"x12" and caps 10"x10"
length 50' 10" and width 32' 10" –
with truss in centre –
Play tennis with Misses Held & Merry.
Mr. George Merry leaves on No 1
for Chicago to go home and live
with his family there –

Ther. TUESDAY 3 Wea.
H. G. Merry leaves for Hollidays –
burgh Pa – will meet John Ham
and both take a trip through Pa –
In Laboratory on Flue Dust
and Dolly Ann Manganese Ores –
2nd Car load –
Lumps = Moisture =
after drying. Fine =

Fine Moisture =
After drying Fine =

Straight write up Journal to date

~~Anniversary~~ Mothers Birth-day 1826

Ther. WED. SEPT. 4, 1889 Fair Wea.

At Furnace and in Laboratory.

Ther. THURSDAY, 5 Rain Wea.

At Furnace and in Laboratory.
Edwd Held leaves for Buffalo

Ther. FRI. SEPT. 6, 1889 Rain Wea.

Ed. Seaton commenced business ten years ago today —

Mother leaves New York for Kentucky — Father remains with Dr. George Spaulding — in New York —

Letter from Mother —

Ther. SATURDAY 7 Rain Wea.

Mr Price here from Gala Water to sell tunnel timbers —

Ther. SUN. SEPT. 8, 1889 Fair Wea.

Write to Father & Harold —

Ther. MONDAY 9 Fair Wea.

At Quarry & furnace —

Ther. TUES. SEPT. 10, 1889 Wea.

Miss Harriet L. Held & I ride over to Milton to the Circle & Woodson mines — Leave L. M at 9 AM and return at 7.30 PM Dinner at Milton Boarding House Pay to Woodson $248.48 on acct. L.M.I.C.

Horse "Jack" tumbles and throws me but without injury —

Ther. WEDNESDAY 11 Wea.

At furnace —

H.G. Merry returns from visit to Penn. Cornwall mines, Cambria & Lebanon Iron Works, Phila. where Johnstown accompanied him —

Capt. Merry, Joe Skelding, & I visit the Longdale Iron Works. and dine with Capt. Johnson and Mr Harry Firnston —

Two furnaces, bricks & band on four brick columns — output of both about 100 tons old style in tuyers and general arrangements — The furnaces are about 600 ft apart cast house facing engines and boilers are at one furnace, pipe stoves —

Letter from Mr B.S and aunt Mag

Miss Helen Mr Seaton
" Merry & ECM

In draughting room and about furnace yard —

C&O doing better on cars after an interview with W.S. Winslow —

Seaton down at night as above game of whist shows —

Ther. SAT. SEPT. 14, 1889 Wea.

In Office and Draughting room — afternoon spent loading a car of flue dust 5th from furnace B —

Ther. SUNDAY 15 Wea.

In Low Moor

Mr. Frank Lyman of Kelso is here all day with a Kodac Camera. I dine at Capt Henry

Mr Lyman announces his intention of going abroad in Nov. for the benefit of his wifes health to the South of France

Ther. MON. SEPT. 16, 1889 Wea. Th

Hodgman leaves on Mystic reigns for Stack Mines —

Mr. S
Miss
Miss

Ther. TUESDAY 17 Wea. T

Ther. WED. SEPT. 18, 1889 Wea.

Mr Seaton |||
Miss Merry ||
Miss Held |

Ther. THURSDAY 19 Wea.

Ther. FRI. SEPT. 20, 1889 Rain Wea.

Anniversary Fathers Birthday 1829

Ther. SATURDAY 21 Wea.

Yellow Stone Dust after drying gave Zn = 59.58%

Dark Screenings from Slum Dust Shipped Sept 21. Zn = 38.43% Thrown away

Ther. SUN. SEPT. 22, 1889 Wea.

Take Photographs of Capt Merrys house and yard — Dinner there with ~~Mrs~~ Mrs. H. G. Merry —
After dinner walk up to divide at end of Callaghan Hollow with Mr Held —

Ther. MONDAY 23 Wea.

In Draughting Room and about the furnace —

Watch 4 1/3" too fast - set back to correct time Mr Turner here

Furnace A stopt at 2.35 A.M. to clean flues and grind down valve and valve seat on the hoisting engine - ~~Blow cap~~ Blast on at 5 P.M. Only one battery of boilers fired by coal Blowpipes left in tuyeres which were blanked with clay, water was kept on furnace -

Bell lowered and gas lighted bleeder opens Blast put on bell raised, then bleeder closed and gas

lighted under boilers -

Mr. John Ham here to see about turning down shaft for Stackhouse Washer -

Car No 5 - Shipped of Fine Dust
Moisture = 31.25%
After drying
Lime = 50.95%

Ther. THURS. SEPT. 26, 1889 Wea.

Alf Peake one of the keepers leaves the employ of this Co because he could not stand the abuse of Albert Skelding night foreman -

Ther. FRIDAY 27 Wea.

Ther. SAT. SEPT. 28, 1889 Wea.

Ther. SUNDAY 29 Wea.

Ther. MON. SEPT. 30, 1889 Wea.

W C Lawrence returns from New York City where he has been to purchase goods

Write to Lily, Mother & J. H. Hawkes Jr

Ther. TUESDAY, OCT. 1 Wea.

Make drawight of three throw switch stand designed by Capt. Merry —

Ther. WED. OCT. 2, 1889 Wea.

Ther. THURSDAY 3 Wea.

Miss A. L. Held leaves for Buffalo N.Y.
Mrs. Thomas, Miss Mersy & myself go to
Clifton Springs with her in light wagon to
catch No 4

Geo Gaines of Gaines & Glover Richmond
here for dinner

Ther. FRI. OCT. 4, 1889 Wea.

In drawlighting room on Barn –
Play tennis for 15 min in evening –

Bids on Water Tube Boilers –

National Water Tube Boiler Co –
New Brunswick, N. J – Sept 28th 89
100 H.P for $1612.00
120 H.P " $1782.00
The Babcock & Wilcox Co –
New York City No 30 Cortland St –
104 HP for $1942.00

Ther. SATURDAY 5 Wea.

Abendroth & Root Mfg Co –
28 Cliff St. New York
104 HP for $1755.00 less 10% or 1579.50
152 H.P " $2485.00 or 2236.50

circle of Circler Woodson here –

Dennis McCarthy Engineer returns
after 6 weeks trip west –

Ther. SUN. OCT. 6, 1889 Wea.

C & O Land excursions to Knights Templar Conclave at Washington D.C.

Joe Skelding goes from here - leaves Albert in charge Jerman -

Ther. MONDAY 7 Wea.

Mr. Parker of Parker & Austin Fire Brick Co. here and quotes No 1 at $20 and No 2 at $13 from Mr. Hopkins of Hanging Rock Stone Co here - Their ~~works~~ will be removed ~~to~~ Iron Gate Va

Ther. TUES. OCT. 8, 1889 Wea.

Commences forgings for 3 throw switch –

Screenflue destroyed Fire & only fairly good –

Ther. WEDNESDAY 9 Wea.

Capt Merry leaves for N.Y. on business for Nonpareil Mining Co of Mich – He will receive a block of stock from same –

Ther. THURS. OCT. 10, 1889 Wea. H.

Mr. Peut Mitchell of Bessemer, Mich arrives here on a visit to Capt Memy's family -

Ther. FRIDAY 11 Wea.

Mr. A. S. Winslow of Cincinnati here on a visit as a director of Co.

Put in three throw swivel at furnace

Ther. SAT. OCT. 12, 1889 Wea. Rain

Capt. M & Mr John Wood of Mich arrive from Newyork at Midnight Jos Skelding returns for triennial conclave of K. T. at Washington - John Hann & Nettleton here to see Capt HM.

Tom Long gets his fingers mashed

Ther. SUNDAY 13 Wea. Rain

Up at Mines Dine with HSM. Ray & Williams with Seaton -

Ther. MON. OCT. 14, 1889 Pair Wea.

At furnace working on Blue Dust paint for houses —

John Hunt Pettleton here — Tatter to borrow money —

A. S. Winslow leaves for Cinti.

First car painted with Blue Dust —

Joe Kell leaves the locomotive No 2 becau cannot agree with McCarty

Ther. TUESDAY 15 fair Wea.

At furnace & draughting room
Go to Colored Church with A G Henry & wife, J. Wood. P. Mitchell. Mrs Thomas Miss Henry & Meper Ray & Williams —

Bill Stuebl commences work on No 2 train to mines —

Pay day at mines but not at furnace owing to late delivery of money by the express Co

Ther. WED. OCT. 16, 1889 Wea.

Frost –

Pay day at Furnace
E. E. Seaton leaves for a two weeks visit to Kentucky –

Ther. THURSDAY 17 Wea.

Low Moor Lump On
from No 5 Shaft now
down 125 ft –
Iron
Silica
Phos
Alumy

H. G. Merry, Peet Mitchell, John Wood & self go to Dolly Ann Washer and Iron Mt Mines walking back over mountain - Mr. Wood expressed himself as being very well pleased with the show of ore but disappointed in the manner of working, said that ore could be mined for one dollar per ton for many years -

No work was being done above the incline at mouth of hollow

Messers Wood & Mitchell leave for Michigan - on SATURDAY - Wea.

+

In Laboratory -

Ferrous Ore

	Shales	Brown Hem
Iron	48.13	51.99
Sil Res	16.08	3.56
Phos	0.490	0.961
Mang	0.720	3.047

Ther. SUN. OCT. 20, 1889 Wea.

Colored Baptising in the Jackson River

Ther. MONDAY 21 Wea.

Mr Sts. Cargill leaves for Charleston I go to Covington with him and return same night.

Ther. TUES. OCT. 22, 1889 Rain Wea.

Leave on No 1 for Charleston Mo train five hours late leaving here at 12.30 A.M.

Ther. WEDNESDAY 23 Wea.

Arrive in Charleston a 6.30 A.M.
Breakfast at Hotel Ruffner.
Attend Wedding of Sam Glenn Cargill and Miss Elizabeth Goodwin at the home of the latters Mother
Wedding at 9.30 A.M.
Present besides contracting parties & fam
Mrs Henry Goodwin & son Henry
Mrs Welsh & Miss Conny Welsh.
Mr & Mrs Cargill Sr & Flossie Cargill
Mr & Mrs Green.
Take Vestibule for Ashland Ky arriving there at 2 P.M.

Ther. THURS. OCT. 24, 1889 Wea.

Spend the day with Wm Seaton and Harold Means looking over books and preparing tax list for assessor. Prepare Mothers & Margaretts do not prepare Fathers or Grandfathers because we have no authority to do so. Have until Jany to do so. Minnie Hildreth visiting Rose & Ben Aunt Mary Adams & Tom are at home with Mag & Grandfather. Tom writes to Charley Hastings mother advising her that John Ham wants a young engineer.

Ther. FRIDAY 25 Wea.

Arrive in Clifton Forge on No 8 have work done on tooth by Wm Savage dentist. H. Finnstone then and talks about on.

R. M. Broas was on No 4 and told me that he would soon return to take a trip up Potts Creek.

Every body in Ashland was very much interested in securing the location of the steel plant there instead of at Ironton. See letter from Father.

List of Profits of Means, Russel & Means at Bellefonte, Ky.

Date of Payment	What Paid	Amt Paid
Dec 31 1866	Cash	$ 56.000
Feb 24 1869	"	50.000
" "	A.C.& I. Stock	21.000
" "	" Bonds	8.000
May 4th "	Cash	23.000
Mar 1st 1870	A.C.& I. Bonds	1.700
May 24 "	Cash	34.000
" 1st 171	"	16.000
Dec 29 73	N.I.W. Stock	80.000
Jan 21 74	Cash	40.000
" 74	A.C.I.Ry Co Bond	4.000

Nov 12 1880	A.C.I.Ry C. Bonds	48.000
" " "	Ash Nat Bank Stock	8.000
May 11 1882	Cash	40.000
Sept 11 "	U.S. 3% Bonds	80.000
Apr 26 1887	Cash	28.000
Nov 17 "	"	28.000
Feb 13 1888	"	28.000
	Total	$ 593.700

Ther. MON. OCT. 28, 1889 Wea.

Amounts paid for Properties

Clinton Tract	$56.737.00
Amanda "	35.000
Sheeler "	7.000
Pogue "	2.411
Eastham Tunnel "	3.675
Burtenshaw	1.000
Kinkead	1.200
Bellefonte	
Buena Vista	

Falling Spr Valley - Hodge Farm

Ther. TUESDAY 29 Wea.

Ed Seaton returns from his visit to Kentucky -

Rose Means goes to New York to visit Lily and Father who is still there -

Call at D. L. Williams - Miss Silcott governess there -

Ther. WED. OCT. 30, 1889 Wea.

Mr & Mrs. S. G. Cargill return to Low Moor after a bridal trip to Chicago — Taking rooms at Mr. W. C. Lawrence's and boarding at Rowans —

Ther. THURSDAY 31 Wea.

Go to Clifton Forge and attend a meeting of the Knights Pythias — Spend the night at Colburns Hotel —

Ther. FRI. NOV. 1, 1889 Wea.

Have a tooth filled at Dr. W H Savage's —

The work of digging ditches for water works at Clifton Forge has commenced —

Capt Merry loans Nettleton $8000 and receives mortgages on Farm in Falling Spring Valley as security — Interest at 6%

2nd End dump fluid cinder car arrives from Laws & Hartman —

Ther. SATURDAY 2 Wea.

Recd letter from Rose saying that Father has improved in health somewhat since leaving Ashland in July —

Write for bids on lumber for barn —

Ryle at Millboro bids $15.50 per M for long stuff & $14 for short

Ther. SUN. NOV. 3, 1889 Wea.

Write to Mr. B. S. and David Sinton.

Ther. MONDAY 4 Wea.

Rec. letter from Mr. B. S. enclosing one from Dr Geo Spaulding — reporting Fathers improvement.

Ther. TUES. NOV. 5, 1889 Wea.

Election day - State -

Democratic ticket elected by 42000 maj

Alleghany County gone 71 Democratic.

Ther. WEDNESDAY 6 Wea.

John S Ham here from Covington He contracts with Capt Merry for sale of 50 000 tons of ore for 1890 at $2.00 per ton f.o.b. C & O. Ry -

Iron Mt. Mines	25.000	tons -
Dolly Ann "	15.000	" -
Stack "	10.000	" -

Subject to approval from Mr Frank Lyman

Rec Check for Dividend No 5 Norton Iron Works of 3 % —

Ther. THURS. NOV. 7, 1889 Wea.

Ther. FRIDAY 8 Wea.

Ther. SAT. NOV. 9, 1889 Wea.

Mr Frank Lyman to sail for France

Capt Henry at Mines

Ther. SUNDAY 10 Wea.

Mr & Mrs Cargill, Mr & Mrs Lawrence, Gaines
Miss Henry & self call on Henrys
at London Mines

Ther. MON. NOV. 11, 1889 Wea.

Ther. TUESDAY 12 Wea.

Ther. WED. NOV. 13, 1889 Wea.

Ther. THURSDAY 14 Wea.

Missionary Meeting with Mrs Thomas
small attendance. J.E. Williams
presides

Ther. FRI. NOV. 15, 1889 Rain Wea.

Find old report of 1881 Defat
Coke 3100 lbs on 6300 lbs
" 3200 " " 6300 "
" 3240 " " " "
" 3300 " " " "
" 4400 " " " "
" 3350 " " 6250
" 3050 " " "
" 3400 " " "

Ther. SATURDAY 16 Rain Wea.

Leave Low Moor on No 1 for
Ashland Sty

Washout under track at Mine
over No 2 — D.W.

Furnace A -
made 827 Tons this week

Ashland Ky

Ther. SUN. NOV. 17, 1889 Wea.

Arrive at 3.30 A.M. Find all well at home —
Father, Minnie Hildreth & Dora Seaton at Bellefonte —
Will Seaton & I ride out there to dinner — Father & I come home together — Horseback — Find him somewhat improved in health since seeing him in August at Wordsworth — Others of family are looking well — Mrs. Adams has letter from Effie bewailing of troubles there —

12 Ther. MONDAY 18 Wea.

Visit Ashland Furnace & Morton Iron Works with Charly Means see Putnams, Crowther, Green, Pollock, Ackers etc — Unable to secure a keeper for Low Moor Fce as expected —
Will Seaton at Ashland posting Fathers books and making off list for Taxes.
John Russell Sr & Charly Means in to see Father about sale of Bellefonte lands. Unable to give full authority on acct of Grandfather

At A.C&I Shops looking around with E. M. Roberts - Locomotive No 9 nearly completed - Are making changes of tracks in yard & accomodate business Also putting up hoist tower at Furnace #1 - They have ordered timber for a trestle for the stock house -

Father & I leave on No 2 for Lowmoor have supper on train and arrive at 10.45 P.M -

Lizzie Means & Jennie Russell go to Centre

E. A. Low - E. H. R. Leyman, H. M. Bell, S. E. Huntington, M. E. Miller, A. S. Winslow & Henry Butler here for Stockholders meeting at 12 M - The old board of directors was elected -

S. E. Huntington was Chairman of meeting & H. M. Bell secty -

They see furnace cast and visit mines in afternoon to see No 5 and new find under No 20 or No 2 N. E -

Butler leaves for Luray and Baltimore - Miller for New York

Electric Light Co. Meeting in Ashland Ky -

Ther. THURS. NOV. 21, 1889 Rain Wea.

Mr. E.H.R. Lyman leaves for Dolly Sum Mines —

Harry Merry has men from Canada here looking at the Douthat Survey option at $300,000 — For which sale he is to receive 1/16 of property —

Ther. FRIDAY 22 Rainy Wea.

Capt. Merry, E. A. Law, H. M. Bell, E. H. R. Lyman & S. E. Huntington go down to see Thurmond Coal Mines on New River —

Father stays with me —

Dinner & Supper at Merrys —

Ther. SAT. NOV. 23, 1889 Wea. Fair & Cold

Up to Mines in P.M. Stay to supper with Seaton who comes down later

Ther. SUNDAY 24 Wea. Fair

Letter from W.B. Seaton –

Write to Rose & J.C. Smith –

Ther. MON. NOV. 25, 1889 Wea. Fair

McClaren & Ritchie here to complete purchase of Douthat Property & go to Covington with Hes. Merry — Father & I go to See Co. Farm

Ther. TUESDAY 26 Wea. Rain —

A. G. Henry sells the Douthat survey of 102.000 acres to Peter McClaren of Kingston Canada for Semper & Altamus trustees Price paid $300.000 — Henry to receive 1/6 share in property and $3,000 from Altamus. for making the sale. R. L. Parrish also gets $10,000 for his services in connection with the establishing the title. Work on C&O at Guyandotte Bridge —

Thanksgiving Day — Dinner at Capt Henrys — after which Father & I walk to the mines and return — In the evening Ray, Williams Seaton, Miss Henry Father & I play cards —

Ther. FRI. NOV. 29, 1889 Wea.

Capt Stat Hibbard of Mich & wife come to see Capt Henry

Ther. SATURDAY 30 Wea.

Move from room over store to bedroom over offices S. W. John Hare door —

Father & I leave on No 1 for Sly — Wm Bueng of Caperton on train

Ther. SUN. DEC. 1, 1889 Fair Wea.

Reach Ashland at 4 A.M
Spend morning at home -
P.M. Aunt Maggie & I walk
out to see Bessie & Children.
Will Seaton walks in with us -
and spends the night -

Ther. MONDAY 2 Wea.

Father gives his proxy to McRussell
for the Second Nat Bank of Ironton
Stockholders meeting -
Also gives Will S. order on McConnell
for money in his keeping -
Father & I return to Low Moor
on No 1 -
Harold Means & Wm Seaton go
to Cincinnati on No 4 -

Ther. TUES. DEC. 3, 1889 Wea.

Will & Harry call on Sinton, Hanna & Halloway about bond —

Ther. WEDNESDAY 4 Wea.

Harold returns from Cincinnati O. to Ashland —

Ther. THURS. DEC. 5, 1889 Fair Wea.

Trial of Wm Means for Metropolitan Bank Failure on three counts is opened - Motion for postponement on grounds of sickness overruled. Also for insanity - jury selected -

S. F. Hunt & Chas Baker are the attorneys for the defense -

Judge Sage & Judge Hammond on the bench -

Wm Means & wife are at the Burnet House -

Radiators come for Law Moor Office.

Ther. FRIDAY 6 Fair Wea.

Ther. SAT. DEC. 7, 1889 Wea.

Father receives letter from Putnam saying that $50000 has been offered for the Portsmouth O rolling mill – He advises acceptance –

I receive letter from C. W. Means about the sale of Means & Russell stock at par two thirds cash & one third bonds –

Dill Supt this division C & O ben

Ther. SUNDAY 8 Wea.

Ther. MON. DEC. 9, 1889 Wea.

Ther. TUESDAY 10 Wea.

Ther. WED. DEC. 11, 1889 Wea.

Analysis of Rush Run Coal
by Hardin of Staunton —

Water	0.90
Vol Matter	22.90
Fixed Carb	75.50
Sulphur	0.474
Ash	0.70

Rush Run Coal & Coke Co. W. Va.

(To good to be true —)

Ther. THURSDAY 12 Wea.

Thos A. Mack sells Eureka Stock
of Father & Frank Lyman @ 1.25
Cash - Payment to be made
by First Nat at Cincinnati

Flue Dust. Moisture 11.37
After drying Zinc 55.53

Ther. FRI. DEC. 13, 1889 Wea.

Ther. SATURDAY 14 Wea.

+

Ther. SUN. DEC. 15, 1889 Wea.

Father & I walk down to Jackson Rice Depot.

Ther. MONDAY 16 Wea.

Ther. TUES. DEC. 17, 1889 Wea.

Furnace stops to Clean flues at 4 A.M. blast on at 6.30 P.M.

Ther. WEDNESDAY 18 Wea.

Capt Henry & Mrs H.G. Henry & Son Phillips and Miss Porter of Washington leave on No 2 for Salt Lake —

Ther. THURS. DEC. 19, 1889 Wea.

No 1 Engine at work after being repaind

Ther. FRIDAY 20 Wea.

No 2 Locomotive in Shop for repairs.

Wm Means & John R. Decamp acquitted in U. S. Court in Cincinnati

A. C. & I make dividend of 1%.

Ther. SAT. DEC. 21, 1889 Wea.

Mr. & Mrs Henry Merry return from Philadelphia where the latter has been under physician care –

Tom Merry returns from School at Waynesboro.

Mrs. H. G. Merry from Washington

Father receives congratulations from Halloway, Hanna, Baker & Miller

Ther. SUNDAY 22 Wea.

Rev Coskies preaches here in A.M.
" Hill " " " P.M –

H.G. Merry, Father & I walk to Jackson River Bridge –

Ther. MON. DEC. 23, 1889 Wea.

Flue Dust Shipped
Dec 21st
20,000 lbs - Moisture
= 0.60% after drying
Zinc = 71.90%

28,700 lbs Moisture =
13.41% After drying
Zinc = 56.26%

Ther. TUESDAY 24 Wea.

Make a drawing for Lee B blast

Sprain my right ankle at
Quarry -
Father & I leave on No 1
for Ashland to spend Christmas

Ther. WED. DEC. 25, 1889 Rain Wea.

Shires, Charley & James & Edna & Mrs Sue Dickinson at Grandfathers —

Mother, Bessie, Will & children, Rose Hildreth, Harry & I at Grandfathers receive presents as follows;

Mother, chair — Bessie & Book — Rose, towels, — Harry & Hildreth, Harper Aunts books and handkerchiefs —

Ther. THURSDAY 26 Fair Wea.

Have a talk with Father and Mr John Russell about my return to Ashland to look after the affairs of the K.C. I & Mfg Co. After dinner Mr R & I meet at church and later call to see Mr. D D Geiger about same. They both agreed that the sooner I returned the better —

Leave on No 4 for Va. Unable to get in sleeper and sit up entire night.

Ther. FRI. DEC. 27, 1889. Fair Wea.

23 acres of land in the Acadamy tract two dwellings and school house

Reach C. Forge a few minutes late and take Local Freight to Low Moor.

In draughting room making tracing for Lee Blast 2 -

John Hann and Nathaniel Moon here to see Capt. Merry about ore -

But few men at mines and little work doing there -

Ther. SATURDAY 28 Wea.

In Draughting Room designing brick for Coke Ovens

Ther. SUN. DEC. 29, 1889 Rain & warm Wea.

Dine at Capt Merrys —
Rev Chapman preaches
morning & evening —

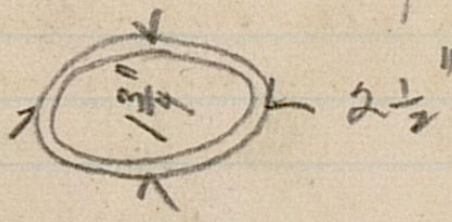
Leave on No 2 at 12.15
for Newport News & Richmond

Ther. MONDAY 30 Rain Wea.

Reach Newport News at 11 AM.
Call to see Simpkins & Hillyer
about iron shipped them
which they complained about
as being too soft for use —
Found that they did have
a softer iron than befor
and that they did not use
a sufficient amount of scrap —
Iron shrank in mould —
Leave Hotel Warwick for
Richmond after visiting the
dry docks at N. News
Boston Ideals at Theatre.

Stop at the Davis house in Richmond — European plan — Room #3 — Good table — Spend the day with Geo Gaines of Gaines & Glover — Call on Dr. C.M. Shields about my throat he advises change of climate to Ohio River in preference to Mountains at Lou Moor — Prescribes Leave on Wed 3 at 9.15 PM for Lou Moor —

50 ft Chain made from $\frac{9}{16}$ iron

Link 

For Cinder Buggies —
Try and get the Crown Chain —

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PAGE(S)

MEMORANDA

J. W. Hopkins. Fuel Agent C & O Ry
Richmond, Va.

T. D. Ranson. Atty for Cooke Fee.
Staunton, Va.

F. R. Hutton. Sec. A. S. Mech. Eng.
280 Broadway. New York City.

Theron H. Hawkes Jr –
care Marvin & Hawkes or 1212 E 2d
Duluth, Minn –

Richard Epper, Jr –
Corner Pearl & Hudson Streets
Nashville, Tenn

143 L
1 2

CASH ACCOUNT. JANUARY.

Date.		Received.	Paid.
Jan 1	Mrs Rowan Board		12 00
Jan 4	L. M. I. Co	70 00	
" "	"		4 00
" "	Ston		24 92
" 9	Travel & C. F.		1 20
" 16	" " "		1 10
" 26	Monticello		3 50
" "	Laundry		40
" 26	D. M. Quarterly		1 00
" 28	Listerine		90
" 30	Travel & C. F.		50
" 31	" "		50
Feb 1	Received	70 00	
"	L. M. I. Co		4 00
"	Mrs Rowan		14 00

CASH ACCOUNT. JANUARY.

Date.		Received.		Paid.	

CASH ACCOUNT. FEBRUARY.

Date.		Received.		Paid.	
1	Received	70	00		
"	Board			14	00
1	L. M. I. Co			4	00
7	Stov L.M.I. Co			1	12
7	Papers to date				25
12	Stamps			2	37
14	Trash & C.L.				25
"	Papers to dates				50
16	Supper				44
20	Chair Repaired				50
22	Clifton Forge				90
24	Church				25
"					25
25	Papers				15
28	G.O. Stock			21	00

CASH ACCOUNT. FEBRUARY.

Date.		Received.		Paid.	

CASH ACCOUNT. MARCH.

Date.		Received.		Paid.	
1st	L. M. I. Co	70	00		
"	" "			4	00
"	Ston				97
~~"	C.M.O. Stock~~			~~21~~	~~00~~
2	Board			14	00
3	Church				35
5	Presents to C.E.			1	00
"	Shoes				75
10	Church				25
11	Book Subscrip. Allowance			75 +	50
16	Trip to Ashland			4	30
18	Dentist			2	00
19	Dividend	130	00		
21	Bills Payable			230	00
25	Church on 2nd				25
26	Covington				20
28	Shoes Sulch				75

CASH ACCOUNT. MARCH

Date.			Received.		Paid.	

CASH ACCOUNT. APRIL.

Date		Received.		Paid.	
1	Received	70	00		
"	Expense Stills Sale			5	00
"	" Clifton Church				10
"	L. M. I. Co —			4	00
"	Miss Rowan			14	00
3	Ship to Ferrol & Cliftn Forge			21	25
"	K of P dues			1	00
6	Clifton Forge				50
7	Church qr 7th				25
"	Papers				10
10	Clifton Forge				20
11	Store L. M. I. Co			1	71
12	Ann Inst M. E.			11	00
"	Postal Order				10
"	Envelopes				55
13	Spring in watch case				75
"	Cigars etc			2	50
"	Clifton forge				30
18	1st Payment 17% trmgts			2	00
21	Clifton Forge			2	50
24	Monticello Co			2	50
25	2nd Payment 18%			18	00
"	Payment on one log			10	00

CASH ACCOUNT. APRIL.

Date.		Received.		Paid.	

In cash $140.00

CASH ACCOUNT. MAY.

Date.		Received.		Paid.		Dat
1	Received	70	00			
	L. M. J. Co			4	00	
7	Trip to Sky			4	25	
12	Harness			17	75	
14	Store			3	02	
15	Barber				50	
16	Travel Stanton			3	15	
"	Lair old	4	80			
18	S. G. Cargill Trust	30	00			
20	File Cases			1	00	
22	Attend Village	4	66			
24	Trunks sold	1	50			
26	Church				25	
30	Dr. Shields			5	00	
"	Medicine			2	75	
"	Medical Supplies			2	05	
"	Theater			1	50	
31	Present for John Russell			14	00	
"	Shirt			3	00	
"	Cap				50	
Pa	Meals			7	10	

CASH ACCOUNT. MAY.

Date.		Received.	Paid.

CASH ACCOUNT. JUNE.

Date.		Received.	Paid.
3d	Travel		
4th	Received	70 00	
"	Paid Room		4 00
5	" Board		11 50
"	" Stop		2 78
7	" Shoes		1 65
"	" Tennis		1 75
10	Ex Church 9th		25
11	Ex Shoes		~~70~~
15	Church		25
	Newport Shoes		2 30
	Connecton		50
18	Church		~~25~~
	Barber		50
21	Medicine		80
23	Church		50
29	Goshen Trip		1 00
"	Johnston Dues		1 00

CASH ACCOUNT. JUNE.

Date.		Received.		Paid.	

75
52 in office
40

CASH ACCOUNT. JULY.

Date.		Received.	Paid.
1	Rec	70 00	
1	Z. M & Co		4 00
1	A. C & Dir	52 00	
2	Board		14 00
"	Ston		5 66
4	Pictures	2 50	
5	John Means on Note		152 00
	Int Scott for Fund		
6	Travel 2.25, 45, 50		3 00
"	Fair 1.75, 50, 70, 75		2 00
13	Rec'd for Saddle	10 00	
"	Paid ½ Hill's Subs		2 50
16	Trip to Alderson		2 75
"	Shoes		80
28	N. Bridge		3 00
31	Market House		2 75

CASH ACCOUNT. JULY.

Date.		Received.		Paid.	

CASH ACCOUNT. AUGUST.

Date.		Received.	Paid.
1	Received	70	
"	L. M. I. Co		4 00
"	Mrs Rowan Board		12 00
6	Trip to Ashland		
8	Store		2 36
8	Tennis	.85	
9	R R		2 00
9	Clyde Forge		1 50
10	Brick Company		1 75
12	Millwork		3 00
17	Captain's Hair		1 55
18	Carroll trip		20
18	Barber		55
19	Quadlapes		58
20	Preston Head Delegate		1 00
22	Little Sister's fare		2 75
24	Book of Poems		10
"	Stamps		50
"	Telegram		
26	Trip to Greenfield Cts	40	50
"	Chicago to Nash		3 40
"	Nash to N Y & Return		10 00
"	Dinner & Lunch		2 00
"	Porter, Palace Cars		40
27	Lunch at Grand Union		20
	Spent on trip $19.75		
21	Borrowed $10.00		
	Mrs P. B. Benton		

CASH ACCOUNT. AUGUST.

Date.		Received.		Paid.	

CASH ACCOUNT. SEPTEMBER.

Date.		Received.		Paid.	
7	Received of Mr Month	52	50		
"	L.M. & Co			4	00
"	Pension Book			2	75
"	Sh. Vandell			1	20
"	Rewards			9	00
3	Store			1	45
6	Quinine			1	00
12	Trip to Longdale				50
10	" " Milton			1	70
"	Expense Saddle	2	00		
17	Dividend L.M.D.Co #11	1	200		
20	Expense Court	2	00		
21	" Shoes			1	80
24	" Barber				50
"	" Church				25
"	" Newspaper				10

CASH ACCOUNT. SEPTEMBER.

Date.		Received.		Paid.	

CASH ACCOUNT. OCTOBER.

Date.		Received.		Paid.	
4th	~~Engrs Journal~~	5	46		
	" "			4	11
	Kapp				70
	Dentist			5	00
18	Bills Payables			49	85
"	Journal	30	00		

CASH ACCOUNT. OCTOBER.

Date.		Received.		Paid.	

CASH ACCOUNT. NOVEMBER.

Date.		Received.		Paid.	
2nd	Rec'd	70	00		
3rd	Pictures			1	25
	Montrelle			4	31
	Dividend	60	00		
13	Photos ~~Postage~~			8	08
"	Postage etc			~~[illegible]~~	58
"	Taxes			5	53
18	Bills Rec			49	85
"	Travel	30	00		
20				1	00
2[illegible]	Expense Shows			1	50

4

CASH ACCOUNT. NOVEMBER.

Date.		Received.		Paid.	

CASH ACCOUNT. DECEMBER.

Date.		Received.		Paid.	
3rd	Z. M. I. Co	70	00		
	"			4	00
4th	Stone			4	98
3	Rowan			14	00
10	Expressage			1	50
"	Expense present			6	50
13	Hill			7	50
"	Presents Shirts			6	00
"	Presents Papers			9	83
21	Dues in Club			1	50
20	A. C. & I. divid	92	00		
23	Postage Christm				12
"	Shoes				75
"	Barber				25
"	Stamped Envelopes				55
24	Porter				25
"	T. Thomas Old Clothes		50		
Dec 31	Trip to Richmond				

CASH ACCOUNT. DECEMBER.

Date.		Received.		Paid.	
	6.59				
	2.00				
	9.53				
	8.49				

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PAGE(S)

ADDRESSES.

Victoria Va.

NAME. N. T. Haskins Agt.
STREET, No. Goshen Bridge P.O.
CITY. Virginia

NAME. J. C. Smith
STREET, No. 282 Greenwich St.
CITY. Providence R. I.

NAME. Frank Leymon
STREET, No. 130 Water St. Cor Pine
CITY. New York

Furnace Supplies

NAME. Weiner Machine Works Co.
STREET, No. Lebanon
CITY. Pa.

Cylinder Borers

NAME. William Renton, Machinist
STREET, No. 67 Water St.
CITY. Pittsburgh, Pa

Private

NAME. J. C. Smith
STREET, No. Union Oil Co.
CITY. New Orleans, La.

Springs

NAME. Pickering Spring Co. Limit
STREET, No.
CITY. Philadelphia Pa.

Cement

NAME. William Slack & Sons
STREET, No. 166 Cherry St
CITY. New York City

Portland Cement

Frogs

NAME. Wier Frog Co.
STREET, No. Cincinnati
CITY. Ohio

Frogs

NAME. Union Switch & Signal Co
STREET, No.
CITY. Pittsburgh Pa

ADDRESSES.

Nails

NAME. Cambria Iron Co –
STREET, No. Lock Box
CITY. Philadelphia, Pa –

Zinc

NAME. Manning & Squier Agents
STREET, No. 111 Liberty St. 2nd Floor
CITY. New York –

NAME. P. B. Warner
STREET, No. 18 Johnston Building
CITY. Cincinnati Ohio

Zinc

NAME. Matthierson & Heyler
STREET, No. Zinc Company
CITY. Lasalle, Ills –

Tiles

NAME. G. F. Darnell
STREET, No. Millboro P.O
CITY. Va

NAME. J M Warren
STREET, No. Millboro PO
CITY. Va

NAME. J. D. Kauffelt, Gen Mang.
STREET, No. Princess Lee
CITY. Glen Wilton, Va

Tarred Felt

NAME. E. R. Grant
STREET, No. 57 Broadway
CITY. New York

NAME. Gazendorfer Iron Roofing & Cornice Co
STREET, No. 15 Public Landing
CITY. Cincinnati – Ohio

Wood Felt

NAME. J. A. Fay & Co
STREET, No. Cincinnati Ohio
CITY.

ADDRESSES.

NAME. Delta Upsilon Club House
STREET, No. 8 East 47 St.
CITY. New York City —

NAME. James O Handy
Private
STREET, No. B. & O. Laboratory —
CITY. Baltimore, Md —

NAME. The Egan Co
STREET, No. 234 W Front St —
CITY. Cincinnati

NAME. Haines & Gloner
STREET, No. Cary St
CITY. Richmond, Va

NAME. C. W. Al Burtis Com Agt
Price
STREET, No. 35 Liberty St 35
CITY. New York

NAME. C. M. Shields Md
STREET, No. Cor 5 & Franklin
CITY. Richmond Va —

NAME. The W. Va. Fire Brick Co —
~~STREET, No.~~ New Cumberland
CITY. W. Va —

NAME. David Haverd
STREET, No. Lamberts Machine Shop
CITY. Ironton Ohio —

NAME. Miss George L Miley
STREET, No. 13 Shallenburgh
CITY. Woodstock Va

NAME. Alfred Spaulding MD
STREET, No. 248 Lenox Ave
CITY. New York

ADDRESSES.

NAME. Ed. Palmer
STREET, No. 216 Franklin St
CITY. Richmond Va

NAME. Conrad Gensler
STREET, No. Keeper at Furnace
CITY. Ashland Ky

NAME. Edna Shires
STREET, No.
CITY. Ottawa Kans

NAME. Charles Shires
STREET, No. Bell Telephone Co
CITY. Cincinnati O.

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ADDRESSES.

NAME. Dr George Spaulding
STREET, No. 248 Lenox Ave
CITY. Olsin below 125 near 1 & 3

NAME. Oxford Ochre Co -
STREET, No. Sands, Page Co -
CITY. Va -

NAME. Mr E. B. Held -
STREET, No. 180 Morgan St
CITY. Buffalo -

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2½ & per bushel slack
125 bushels for $3.00
Smith regenerator one
ton slack replaces ton of
lime — Lime 5 or 6 $
Taxes 1¾% last year
" 2% this year
Average town lot $250
25 ft front 147 depth
$500, $600, for 50 ft lot —
Red brick per 1000 $5½ & 6
Fire " $1 $1½ & $18
One inch oak plank $14.00
Labor $1.00
Steamer to Cincin —
60 & per ton pig iron —
100 " " nails —

5.20 for 40%
63 per unit.