

Std
Weight

Old (Error $\frac{57(21)}{384} = \frac{1}{64}$) new scales

3

Std Weight	Old	new scales	
1	1:0	1:0.3	1:0.1
2	2:0	2:0.5	5:0.2
5	5:0.3	4:15.8	7:0.2
7	7:0.0	6:15.5	10:0.8
10	10:1.2	9:15.8	12:0.3
12		10:0.0	14:15.5
15	14:16.9	14:15.7	16:15.8 2.03
17		17:0.2	19:15.7
20	20:2.4	20:1.0	20:15.7
21	21:3.0	21:1.0	22:0.0
22	22:4.1	22:0	23:15.9
24	24:5.0	24:1.2	

1 in .64

.98 in. of water

Compared with
standard weight

zero
+0:1:0

+0.1 oz

10:0.1
12:1.0

old

1

2

3

1

5

10

15

20

25

REPRODUCED FROM
THE
ORIGINAL
OF THE
U.S. GEOLOGICAL SURVEY

UNIVERSITY OF NEVADA

AGRICULTURAL EXPERIMENT STATION
MOUNT ROSE OBSERVATORY

J. E. CHURCH, JR.
S. P. FERGUSSON

DEPARTMENT OF METEOROLOGY

S. P. FERGUSSON

RENO, NEVADA, U. S. A.,

		Actual	Std (Cord)	Error of actual	Date	Actual	Std	Error	
Feb 15	10A	25.60	25.75	+0.15	Feb 21	8:30A	24.94	25.05	-0.11
	12M	25.56	25.70	-0.14		74 ⁴⁵			
	17 10A	25.24	25.34	-0.10		8:00A	24.88	25.05	-0.17
65°	18 10A	25.24	25.37	-0.13		10:00A	24.99	25.06	-0.15
	" 3P.	25.18	25.27	-0.09		5:30P	24.86		
	" 4P	25.16	25.28	-0.12		28 ⁵			
				-0.18		10A	25.42	25.60	-0.18
53°	20 9A	25.01	25.19			12:00A	25.43		
63°	" 10A	25.01				10A			
64						30			
	2P	24.98				10A	25.47	25.63	-0.16
	4:30P	24.99				4 ⁵	25.57	25.72	-0.16
						10A			

J. E. CHURCH, JR., CHAIRMAN
PETER FRANDSEN
JOHN W. WRIGHT
DAVID W. HAYS
MRS. MAUDE WHEELER SENSENEY
MRS. FLORENCE H. CHURCH

UNIVERSITY OF NEVADA

COMMITTEE ON HOME-COMING
MRS. LOUISE BLANEY TWADDLE, SECRETARY

MRS. HENRY THURTELL
MRS. HATTIE RHODES PIERSON
ROMANZO ADAMS
EDITH FRANCES HURD
FRANCES FREY
ESTHER WICKHAM

RENO, NEVADA, MARCH 20, 1911

Greeting:

Next Commencement will mark the completion of thirty-seven years since the University was established at Elko, and twenty-five years since its removal to Reno.

The University, feeling that it is growing old and that many of its alumni have long been absent from its halls desires to renew the old ties and to unite the generations of alumni more closely to each other.

To accomplish this, a committee of the faculty and alumni has been organized. A home-coming has been planned for all alumni who can be present from near or far. The Commencement exercises have been planned especially for them. They are to be the guests of honor.

A member of the pioneer class, Judge Frank H. Norcross of the Supreme Court, will deliver the Commencement address. President Stubbs, who is completing his twenty-fifth year as college president, and his seventeenth at Nevada, will preach the Baccalaureate sermon.

Mr. Clarence H. Mackay, the University's benefactor and friend, and Mrs. Mackay, an alumnus, will bring a party of friends from New York to add zest to the occasion.

The pioneer class will hold a reunion and other classes are urged to follow its example. But all alumni and all former students, whether graduates or not, will gather in one large reunion to recount the incidents and accidents of college days.

Plans are being made, also, for a permanent record of all the alumni of the University from its infant days at Elko to the present time. This record will form a register of all students who have ever matriculated at the University in any of its departments. It will also include biographical notices of all regents and members of the faculty, past and present. The names of graduates will appear in their appropriate classes.

This register will be printed and distributed among the alumni. In the future, it will be revised periodically that it may become a permanent bond between them and the University.

Commencement with the celebration will occur May 14th to 17th, next. Will you be one of the home-comers?

Will you not fill out the enclosed blank for the Alumni Register, and also furnish all possible assistance in locating lost alumni?

Yours for the University,

COMMITTEE ON HOME-COMING,

Louise Blaney Twaddle, Secretary.

26th Feb 1912

Test of Alumin (Forsellum) Snow-Scale

With std weights

1 (4)	2	3	4	5	10
15.6	30.8	46.5 ⁺	62.2	77.9	
15.6	15.2	15.8	15.7	15.5	
6	7	8	9	10	
93.4 ²	109.0 ¹	124.5 ¹	140.3 ³	155.9 ²	
15.7	15.6	15.5	15.8	15.6	6.0
					15.6

1	2	3	4	5	6	7	8	9	10
55.8	70.9	86.4	102.3	117.6	133.4	149.1	164.4	180.3	195.6
(15.8)	15.1	15.5	15.9	15.3	15.8	15.7	15.3	15.9	15.6

20

15.5	31.1	46.7	62.5	78.0	93.7	109.5	125.1	140.8	156.5
Normal (15.6)	15.6	15.6	15.8	15.6	15.6	15.8	15.6	15.7	15.7
+ 0.1	31.2								

Pelouze No. 3

lbs	1	2	3	4	5	6	7	8	9	10	15
Reading	16	15.5	15.5	15.2	15.0	15.0	15.0	14.9	14.5	14.2	13.6
					4-15						

15 lbs = 14 lb 13.6 oz - 1.4 oz

97 2^d ady
 wet std
 54 54.0 53.0 53.5
 61.0 60.1

55.0 53.5

70.5 70.1

80.0 80.0

80.0 79.9

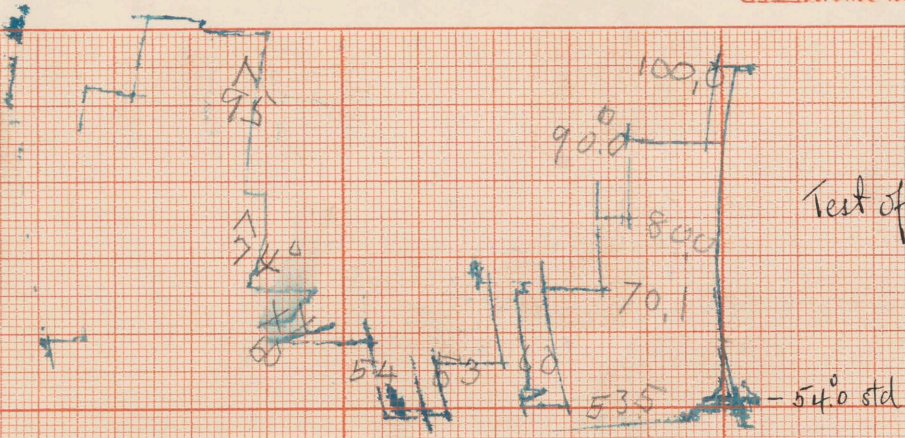
89.7 90.0

99.8 100.0

56.0 54.0

44.8

46.5



Test of scale of Proctor thermograph

Range of " "	= 44.8
" " standard	46.5
error of Proctor	- 1.7

adjusted after this test and
now probably nearly correct.

71,3	71,6	72,2	⁸⁵ 72,2	DANE 72,0	71,3
50,1	50,2	50,3	50,1	59,0	57,5
<u>21,2</u>	<u>21,4</u>	<u>21,9</u>	<u>22,1</u>	<u>22,0</u>	<u>16,8</u>
17	16	15	15	(21) 15	(38) 300%
					Unsubstantiated

Cast test

15 to 97 = 82% rampy

Hum. Scale Cov

~~7 1.75 X 24 24 + 18 40 by 10 = 548~~

12 (Frank)

S.P. 7 M.T.W

Thermometers in melting snow March 20, 1912

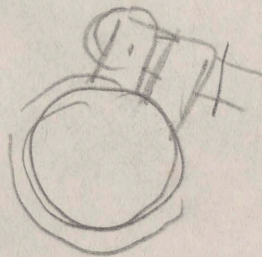
	Old Man	Exped	Std	Psychrometers		Psychrometer	
	#6977	2187	#3072	7645	7657	19325	19324
Bulb only in slush	32.0	32.45	32.4				
fully immersed	32.0	32.3	32.2	32.0+	32.0+	0.05	0.0
corr.	± 0	-0.3	-0.2	± 0.0	± 0.0	-0.05	± 0.0

EA CH

Test of tele-thermograph

$$\begin{array}{r} 12 \\ 45 \\ \hline 15 \end{array} \quad \begin{array}{r} 48 \\ 12 \end{array}$$

		net 60.5		net.
Temp of Room	60.0	53.0	102.0	103.5
" " Water	51.5	<u>7.5</u>	<u>51.5</u>	<u>53.0</u>
	8.5		50.5	50.5

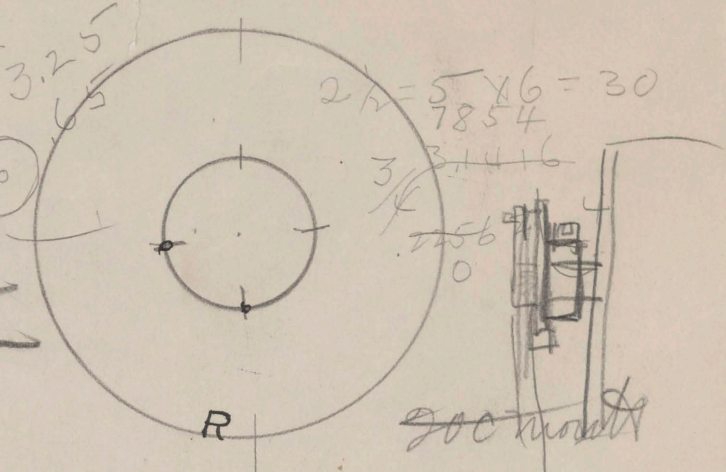
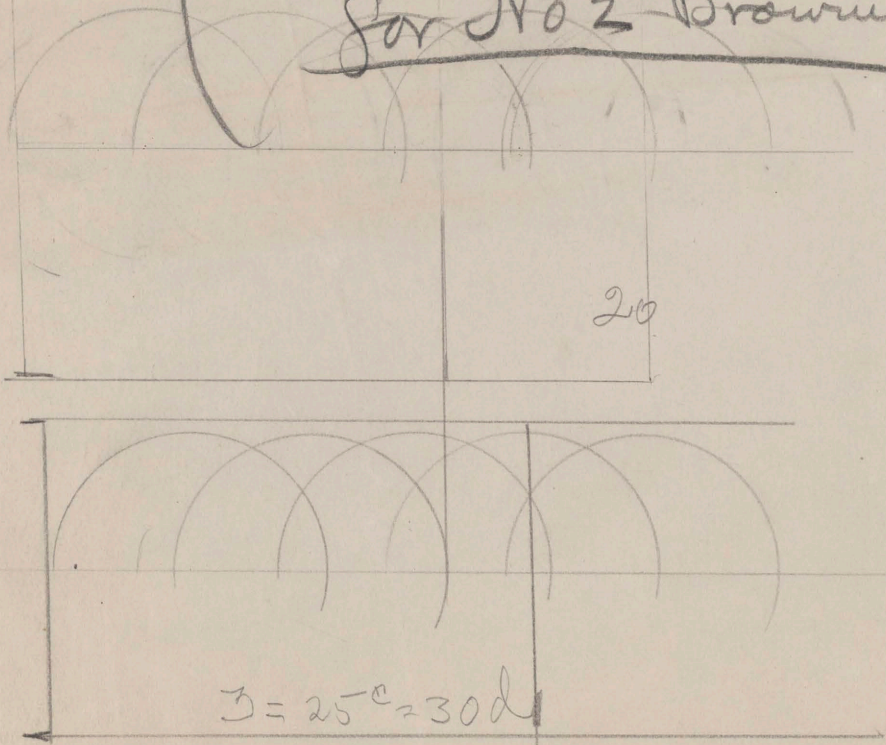


Heated gradually to 98°

Both read the same
in sunlight

Recorder placed outside window at 2 PM, bulb
in ice-water inside room Compensator did not
work.

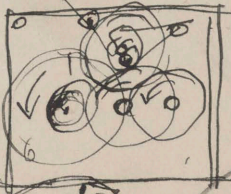
$2\frac{1}{4} \times 3\frac{1}{4} \times 6 \times 4 = 30 \text{ days}^\circ$
 for No 2 Brownie



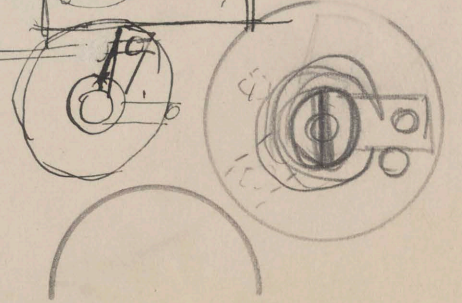
Drawing Clock

1 rev of string while striking
 156 $\frac{1}{2} = 78 \text{ strokes}$ $1 = 156$

#

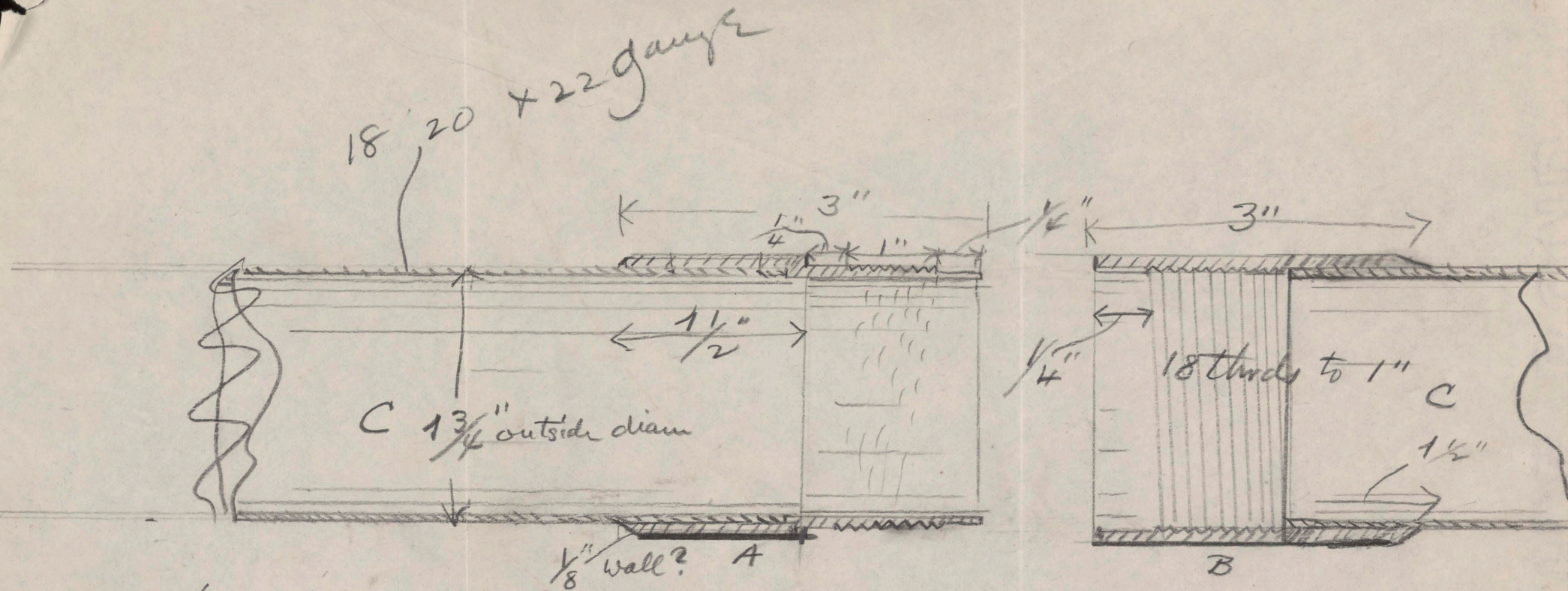


$\frac{1}{4} = \text{shutter}$
 $\frac{1}{4} \times 1 = \text{shutter}$



\$2400

600

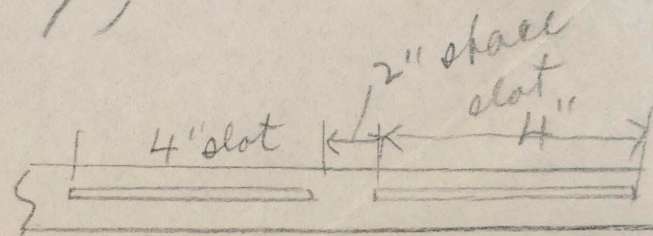


Coupling for 20 Gauge Steel Tube,

Pieces A & B are made of heavy steel tubing rivetted or brazed to ^{ends of} thin tube C, C, and when coupled together are smooth inside. The ends are beveled & the outside diameter is small as possible without weak ~~any~~ tube (coupling should be strong as tube). Threads should not cover all of space, (to avoid injury)

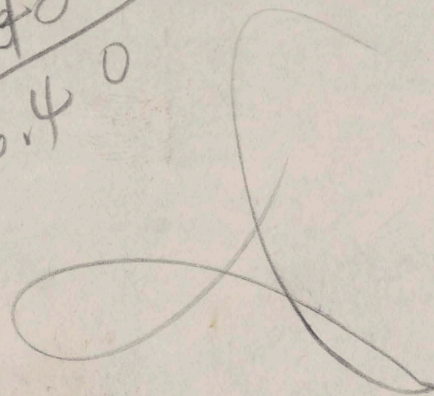
(Four of these needed)

Also, 30 ft of tubing to be slotted (1/8" slot)



~~37~~ 5 20
 6.6
40
 26.40

20
 30 2.40
~~2.00~~ 60
~~900~~ 40
1.00
 1.20
 40



.04
 712
 193
~~700~~ 19
 .026
1200
 31.200 6
 .25
 0.4
 .4
 .06 .6
 .6
 .36
 .8
288
 .3 = 1 lb
 30 = 10 lb
 21 000
 .070
147 0.000

028
 .056
 1.750

 1.694
 3.7 $\frac{12}{13}$ 4 $\frac{148}{39}$ (3.692)
 90
 789
120

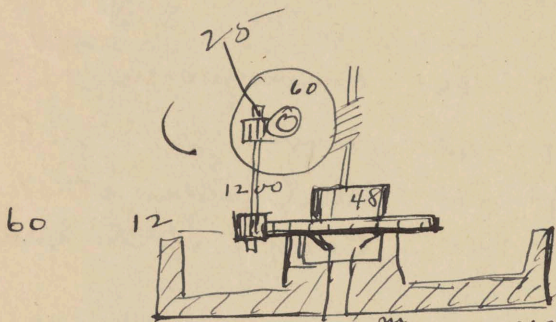
2696 (3.692)
 78

 180 14,768
~~27456~~ 269
 240
~~234~~
 60
 August
 5 Jan
 5 July
 5 Aug

Foot Survey

Gears for Meteorograph anemometers

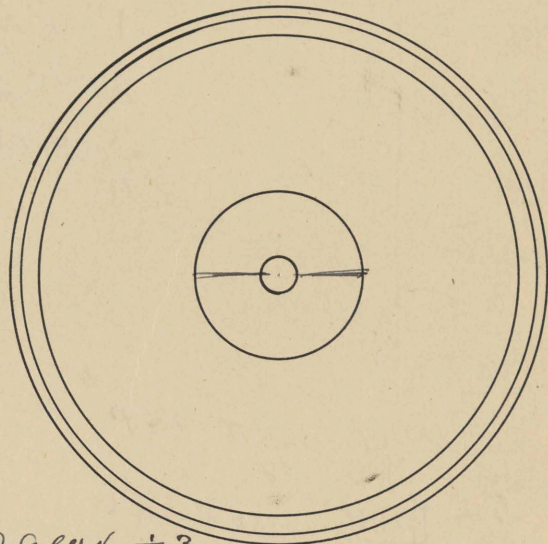
Cups turn once for 3 metres of wind
assuming $V = 2.5V$



$$2m = 4 \times 20 = 800 \times 60 = 48,000 \quad 15000m$$

$$60 \times 20 \times 4 = 4800$$

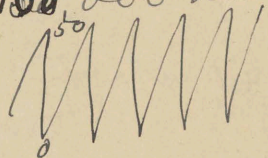
$$60 \times 20 \times 45 = 0$$



= ratio of gear $\div 3$

$$\begin{array}{r} 1200 \overline{) 161000} \\ \underline{1341667} \\ 4.472223 \end{array}$$

to turn over for ^{Kilometres} 100,000 metres



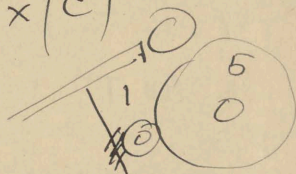
1440

$$60 \times 25 = 1500 \times 3 = 4500 \quad \begin{array}{r} 4500 \overline{) 1610} \\ \underline{1350} \\ 260 \\ 5 \end{array} \quad 3.5$$

$$100 \text{ km} = \text{Cups} \times 3 \times (c)$$

$$\begin{array}{r} 1610 \\ 60 \overline{) 536.67} \\ \underline{2089.445} \end{array}$$

$$\begin{array}{r} 3 \quad 100000 \\ 60 \quad 333333 \\ \hline 550 \end{array}$$



$$3 \text{ metres to 1 turn in } \frac{100,000}{20,000} =$$

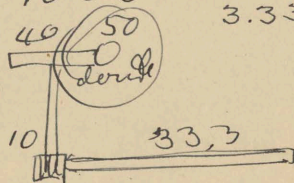
$$= 50 \times 33 \times$$

$$60 \times 20 = 1200 \quad \begin{array}{r} 1200 \overline{) 1610} \\ \underline{134} \end{array}$$

$$\frac{4}{3} \times 10 = \frac{40}{1333}$$

$$\begin{array}{r} 80 \quad 161000 \\ \quad 51 \\ 4 \quad 201 \\ \quad 50.25 \end{array}$$

$$25 \times 40 = 1000 \times \frac{10}{3.33}$$



$$50 \times 300$$

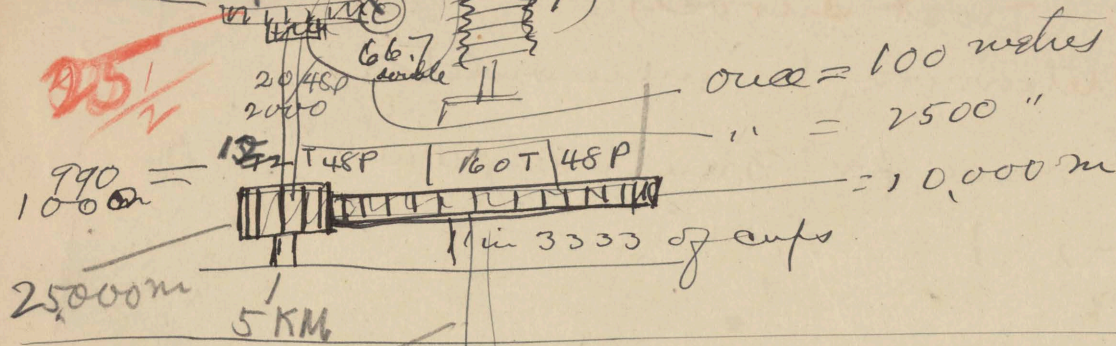
$$1500$$

$$500 \times 2$$

$$750 \times 3$$

30 to 40 5 double 100m 1 in 3 metres

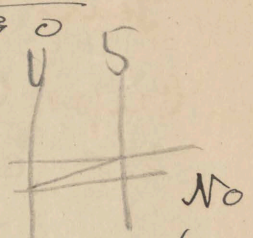
8 | 192 5
 24 60
 24 1
 2 25



33
 30
 990

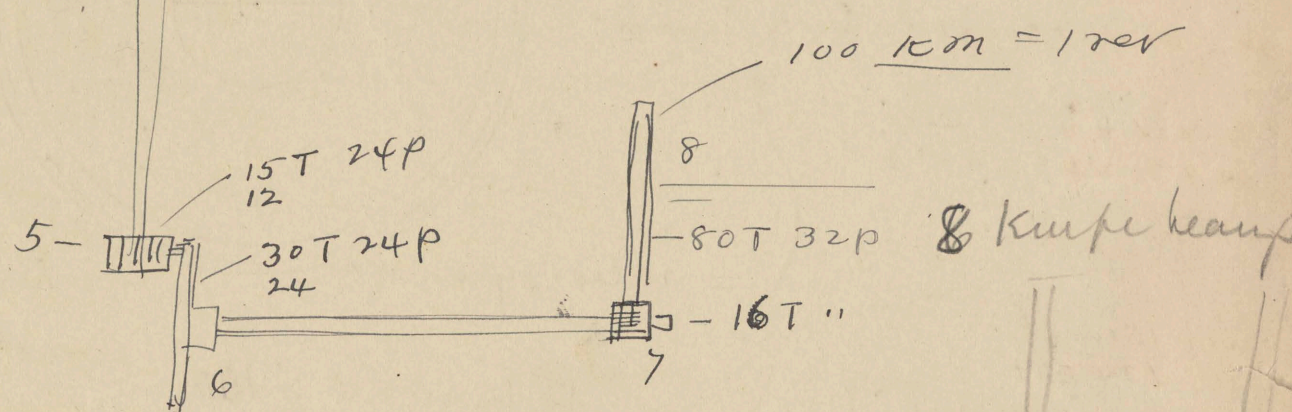
one = 100 metres
 " = 2500 "

990 = 1000
 25000m



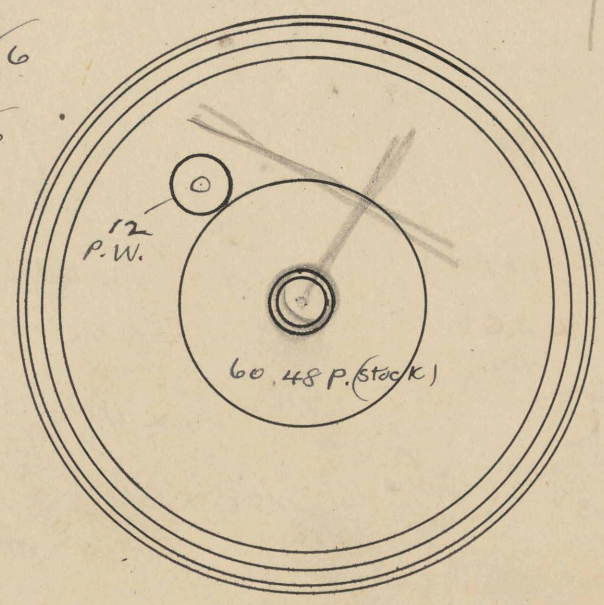
- 1" = 67 T 64P Double worm (6)
- 2 = 20 T 48 single "
- 3 = 12 T " steel pinion stock (wire)
- 4 = 60 T " Cerup. stock gear 6

62
 20
 12
 25
 20
 5
 144

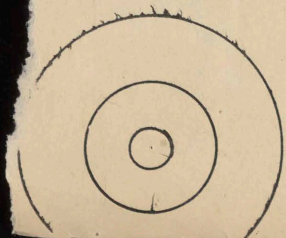


- 5 = 12 T 24P stock
- 6 = 24 T " " crown
- 7 = 16 T 32 " ~~shaft~~ 1/16
- 8 = 80 T " " " 1/16

61
 80
 6.67



192 | 6 200
 24 25
 7 6.25



For scales
 8 gears 200 T (spoked) sheet brass 1/16" thick 32p
 8 brass worms

Spring balances

With aluminium cases will weigh $1\frac{1}{2}$ lbs or less

Required:

To send cast ^{iron} back to Boston for use as pattern for 6 aluminium castings
One pattern for dial mechanism 6 castings
" 6" dial wheel (with worm) ruled to 100 inches.

Cost of new parts

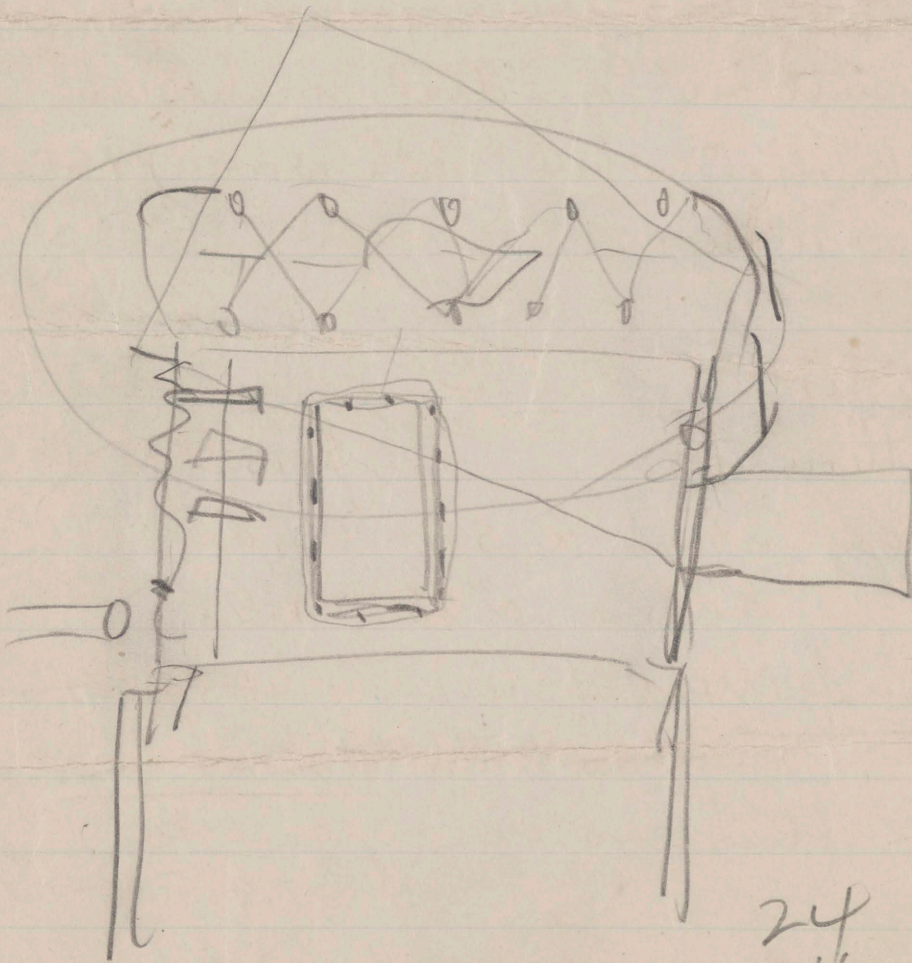
Pattern 4.50	\$1.50
6 castings for back @ 50	3.00
" " " dials @ 25	1.50
Express on pattern (3 lbs)	145¢
" " Castings from Boston 6 lbs	1.50
6 dials approx. 5.00	<u>30.00</u>
	\$37.95
Labor	5.00
	<u>\$40.00</u>
Estimates \$10 each or	\$60.00
6 scales @ 3.00	18.00

Ordered parts

U. S. DEPARTMENT OF AGRICULTURE

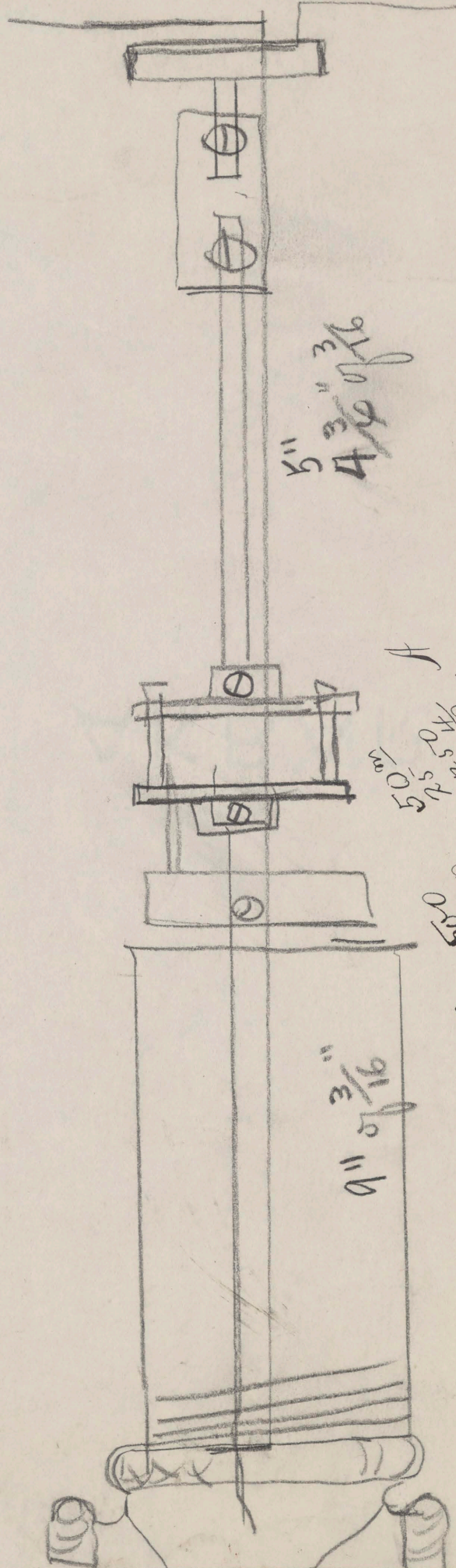
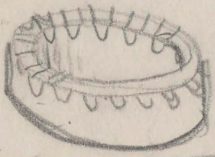
WEATHER BUREAU

OFFICE OF SPECIAL METEOROLOGICAL OBSERVER



24	4A	23
14	4A	24
<u>38</u>	6P	24

Oil 2.50
 4 Dials 5.40
 12 gears 1.50
 6 boxes 1.50
 8 castings 2.00
 still gear



$\frac{5000}{1250} = 4$
 $\frac{1250}{4} = 312.5$
 $\frac{33}{125} = 0.264$
 $\frac{400}{125} = 3.2$
 $\frac{1000}{125} = 8$

4 9-8leo @ 1.25	5.00
50ft chain 2 1/2 @ 8	4.00
8 32p gears @	2.00
8 castings @ 20	2.00
4 clocks	80.00
4 castings (bases)	3.00
4 cases	5.00
Tube & castings	5.00
Material	<u>106.00</u>
Price	<u>240</u>
	134.00

This has gears 80 T $\frac{1}{16}$ thick
 72 T $\frac{1}{8}$ "

from S.F.
shard

@ 80¢

\$2.00 Without trip 200

400	4.00
800	12.00
1700	

191

Week ending

57.99

15.
42.99
17.00
97.50

7.00
27.50
20.00
25.50
19.50

2 month = 3.6 metres
 12.0 months
 3.6 m.p.s
 S.F.P.P.
 D.P.
 + allow
 Randall
 3 months 5.4 m

METRES

Needs of University Dept. of Meteorology

Files for Record sheets:

~~5 small thermos.~~
~~3 large "~~
~~one barograph~~ 7 alike @ 1.25 ea
~~4 barograph~~ = \$16.00 ?
~~4 barograph~~
~~1 Tallon & Ruske~~

~~15 pamphlet boxes \$6.00~~
 Cards for mailing list 1.50 ?
 Roll record paper \$10.00
 Kite & other record sheets 6.00
Lumber for shelter sets 5.00

Lumber & labor for kite shed \$75.00
 Material & labor finishing
 meteorograph for station 5.00

~~Clerical labor in reducing
 records~~ ~~100~~
 100.00

\$224.00

Wind direction device N. & Z London

45
x 120
3
145
90
85
145
45
150

14.75
1.00

15
20
160
180
20

295

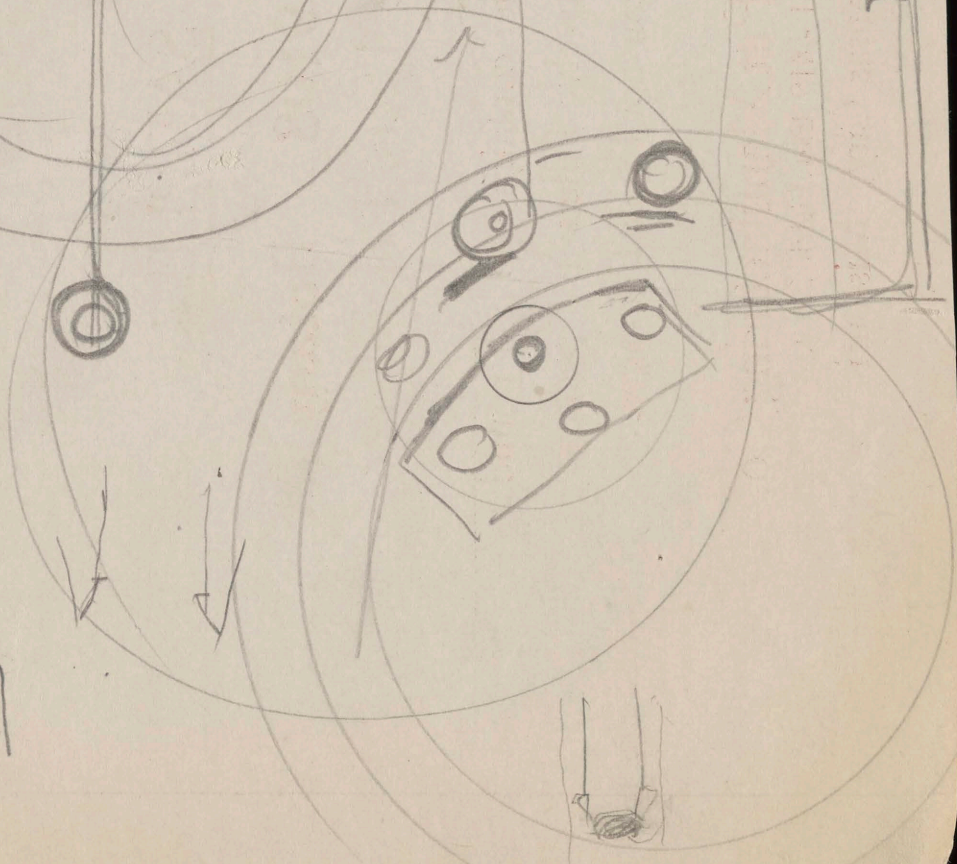
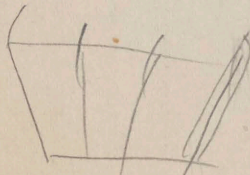
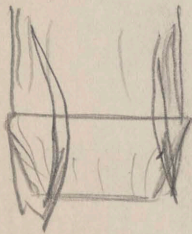
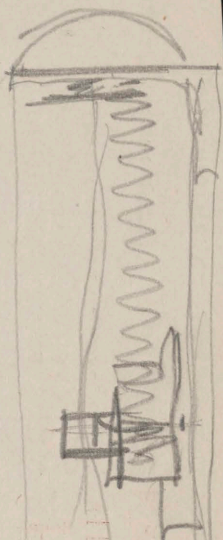
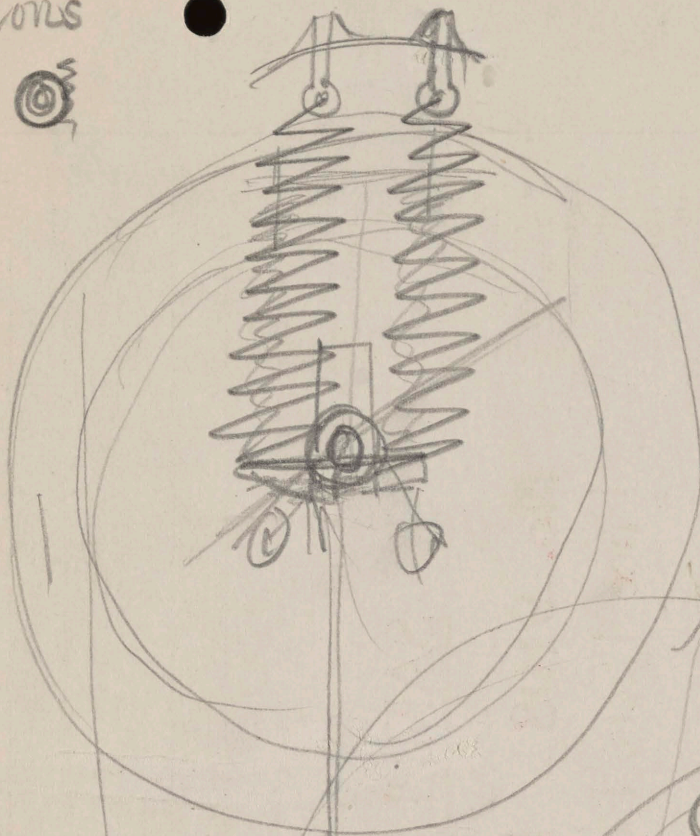
200
300
260
110
1333
370

2830
75

3000
2000

5000

Chatillons



Root _____

Stem _____

Leaves _____

Petiole _____ Stipules _____

Inflorescence _____

Flower _____

Perianth: _____

Calyx _____

Sepals _____

Corolla _____

Petals _____

Andræcium: _____

Stamens _____

Filament _____ Anthers _____

Gynæcium: _____

Pistil _____

Stigma _____

Style _____

Ovary _____

Pollination _____

Fruit _____

Habitat _____

Distribution _____

Remarks _____

SAMPLE**No. 9108 Botany****Price 15cts. Per Filler****Each Filler contains one half pound****Packed twelve Fillers in a package****We can not break Packages.****Irving - Pitt Manufacturing Co.****411 - 419 East Eighth Street,****Kansas City, Missouri**

Scale to centimetres of snow

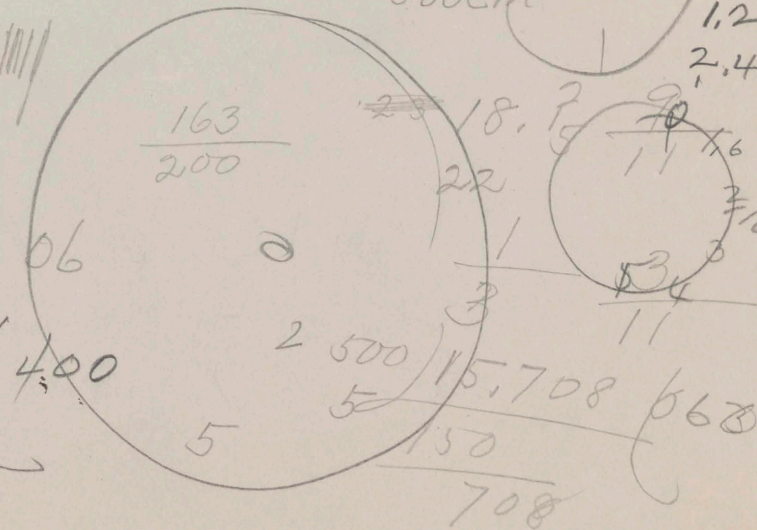
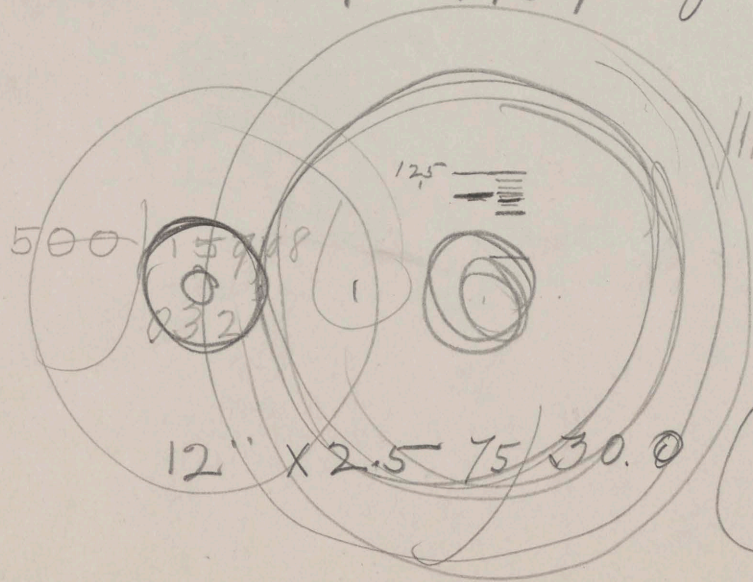
$$25.40 = 1''$$
$$1.40 =$$

Shorten springs to make scale = 1 turn for 196.9 inches
Which = 500 cm (5 metres)

Shorten springs $\frac{1600}{196.9}$ of $\frac{50}{1}$ $\frac{80000}{78768}$ $\frac{420.6}{12400}$ coils

$$25^v = 30.4 \text{ mm}$$
$$500 \text{ cm}$$
$$1.216$$
$$2.432$$

\$20



Mt Rose storage drum

50 complete rev of cylinder for run of spring

Assuming 25 arc effective $25 \times 12.65 (32.2 \text{ cm}) = 800 \text{ cm}$
 $2.5 \text{ mm} = 1 \text{ h}$ $4 \text{ h} = 1 \text{ cm}$ $800 \text{ cm} = 3200 \text{ h} \div 24 = 133 \text{ days}$
 4.4 months

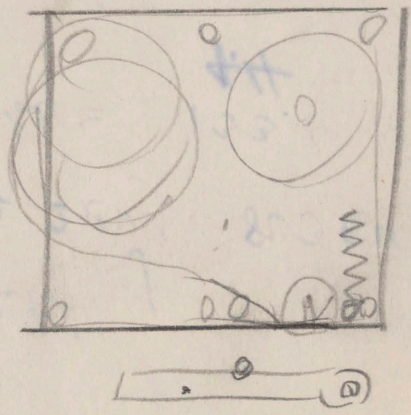
Or, in 2 months drum will be only $\frac{1}{4}$ run down
There should be room enough for 3 months run.

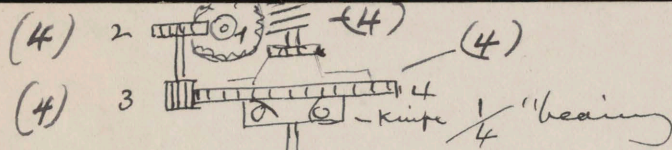
$$5 \text{ mm} = 2 \text{ h}, \quad 24 \text{ h} = 5 \times 12 = 60 \text{ mm} \quad 6 \text{ cm}$$

$$30 \text{ d} = 180 \text{ cm}$$

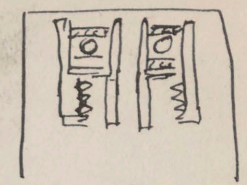
$$1.8 \text{ m}$$

$$60 \text{ d} = 3.6 \text{ m}$$

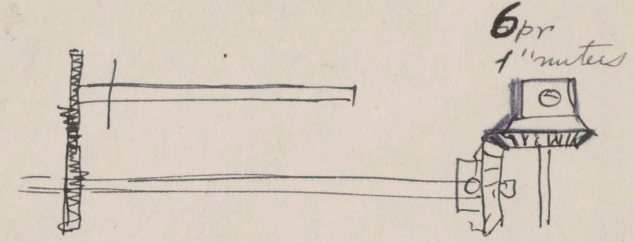
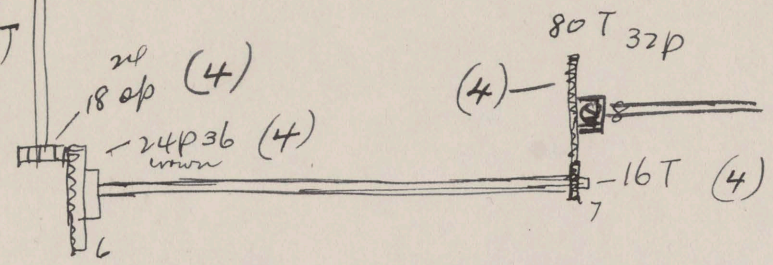




(3) Thimst.
 (6) knife



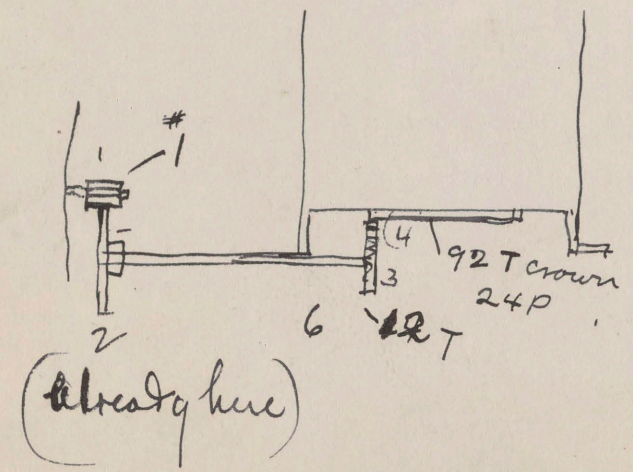
- #1 67 double (5)
- ~~25~~ T 64P
- 2 25 dowl (5)
- 3 12 (4)
- 4 60 (4)



ANEMR.

FROST MET. GEARING.

ANEMOSCOPE



Clocks		No.
#1	{ 12 T 32 P	(4)
	{ 15 T "	(4)
3	12 T 24 P	(4)
4	92 T " crown	(4)

clock teeth

green

green

Six's thermometer

4.50

Thing psychrometer & case

5.00

~~##~~

Discussion items:

✓ Peter

✓ Peterson

Wack

9.50

Labor 6 days

~~/\$~~ 15.00

10 Small therm

~~8.00~~

3 thermographs (medium)

3.00

2 barograph

2.00

13.00

Snow thermographs - 24.75

Thermo-hygrographs - 4.00

Open balance 3.90

9.50

~~/\$~~ 41.95

28

70.00

From Richard:

10 sets small thermos charts 8.00

4 " Medium 4.00

2 " " Baro 2.00

14.00

4 small cylinders 39.00

for hygrothermographs

9

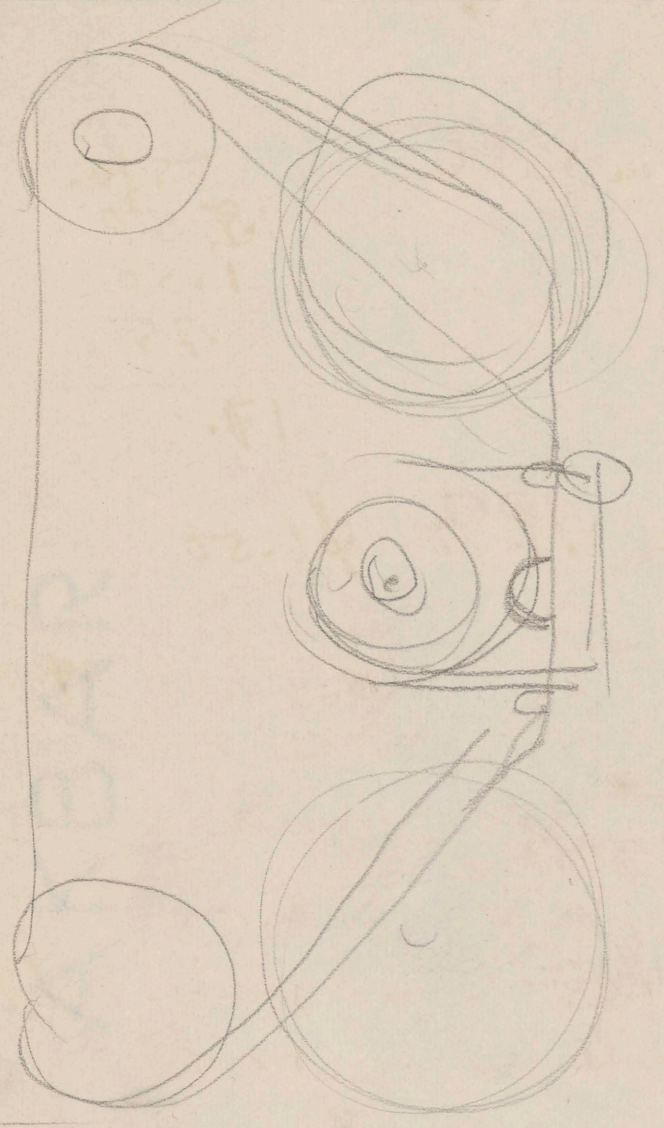
3.50

(OVER) 22.70

35.20

New apparatus
 One Six thermometer 4.50
 " Six Psychrometer
 Two hygro-thermographs ✓
 Two Snow " ✓
 One scale for sampler
~~Two cutters " "~~
~~One coupling~~
 5 ft graduated tube for sampler
 4 portable anemometers

9-3/4 x 3 flanges not drilled? "
 4 3/8 x 3 " "



40" #14
 40" #14

(2) snow thermos

2 clocks from Richard
& castings
2 cases

35 lbs
15.50
1.50
.75

17.75

Two tubes from A.P.F. \$6.50

3.70
4.00
\$14.20

24.75

Thermohygraph
Cases ~~& Car~~

2.00

Castings for base

1.00

J.P.F.

" " pivots

1.00

\$4.00

Spring balance
Parts.

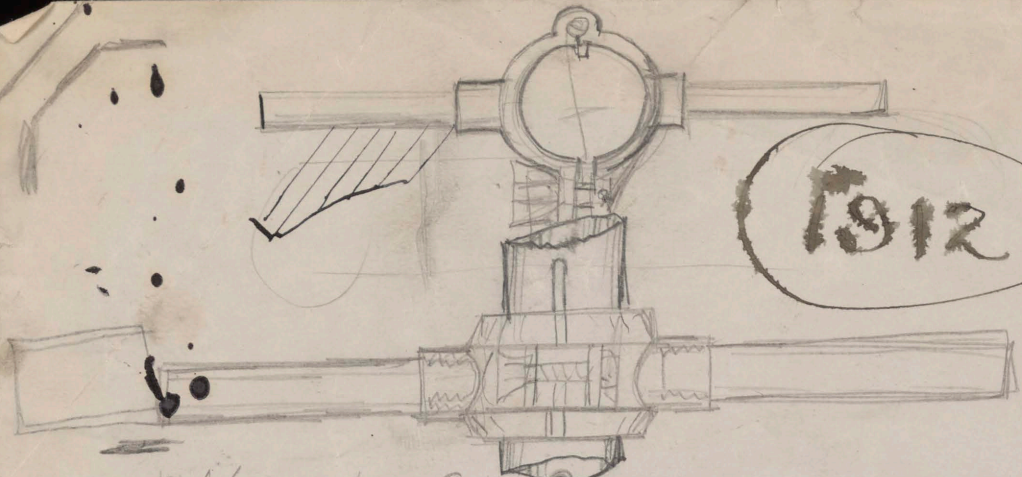
\$3.70

A.P.F.

~~Snow sampler tube~~

2 cutters for snow-sampler @ 1.25

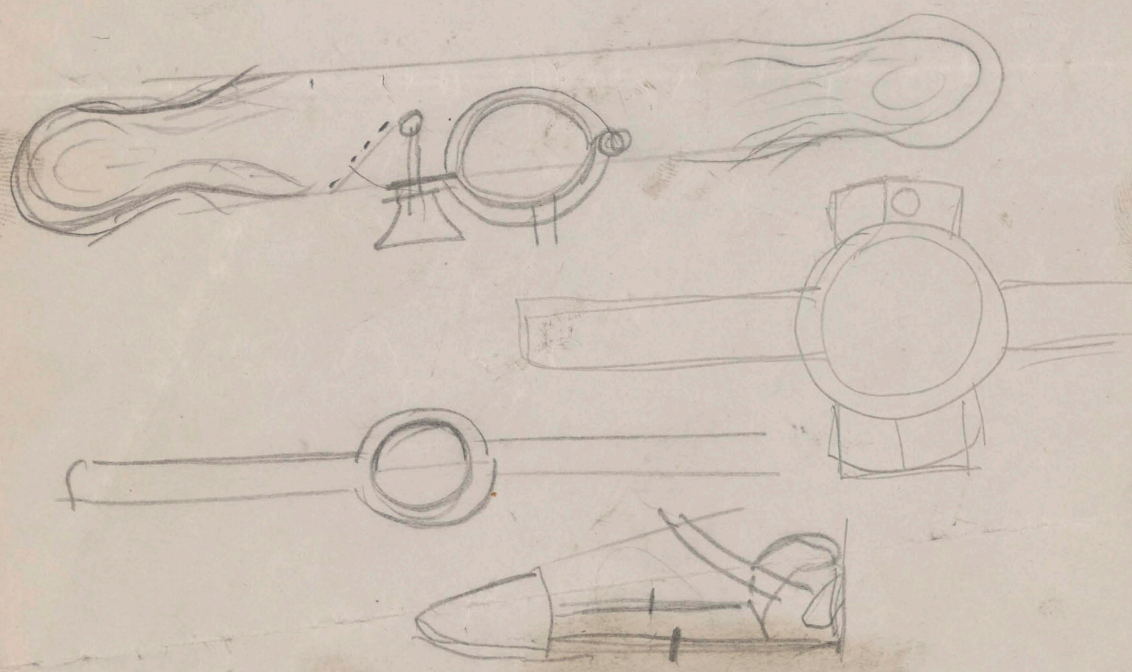
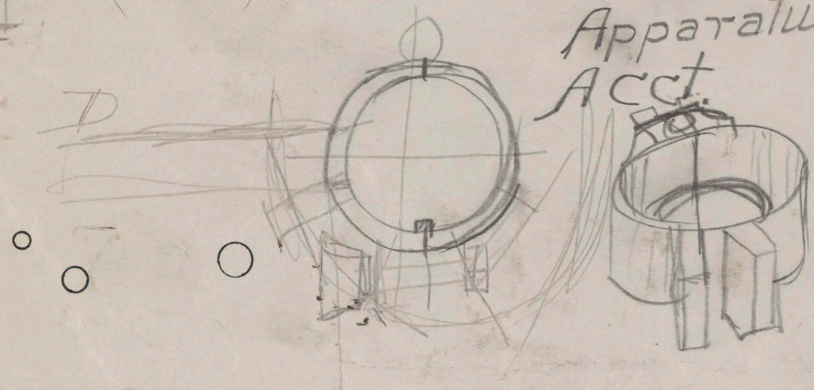
\$2.50



1912

Trench for Snow-gage

Apparatus
Acct



86

.9 in 24

16 54 3.38 3.6 to 10.0

DOOR
DOOR

77 tetra $\frac{48}{170}$
 10,0012 $\frac{48}{178}$
 86 CHRISTIE
~~5000~~

10 $\frac{36}{0}$ 10 5.4
 20 $\frac{72}{0}$ 16 86.4
 24

15 15, 540 20-
 30, 108

Reno 97) 27857 $\frac{3.61}{3.6} = 1 \text{ day}$
 $\frac{231}{475}$ ~~5000~~ $\frac{362}{3.6} = 6d$
 $\frac{462}{130}$ 1: 3.6
 $\frac{77}{530}$ 10 3.6
 $\frac{339}{339}$ 20 72

91 $\frac{32.4}{3.6}$ 22 792
 10 X 3.6
 11 X 4.0 39.6
 12 X 43.2
 15 X 54.0 150
 16 X 57.6 75
 18 X 64.8
 20 X 72
 25 X 90

78 T = 3.6 in 24 h = 14.4 = 1 turn

27.86 in 24 h

$\div 6 = 16$
 2160 h
 720 hrs 3.6
 90 days
 30 "
 3.6 in/d
 252

27857 (3.2)
 2558
 784
 235

28 0.6 = 24
 3.4 1 turn = 14.4 h
 90 (623)
 864
 360
 30.9 125 6.25 87288
 20 100
 920
 720

56 90
 137
 144
 14 3.6 in/day
 112 36 100 69

27857 (318)
 258
 86
 88
 87 205
 172
 264
 145
 261

3.2 / 27857 / 87.05
 256
 225
 224
 170

8) 3.2 in 24 h

20:125 264
 145
 261

3.5) 27857 (92.52 79.7
 280
 245
 337 5 75 796
 315
 3.5 in 24 h

.4 3.6
 110
 6 3.2
 .5 1/3
 5.71) 32000
 2855
 3450
 3426
 24078
 2284

.5604 165
 187
 780
 1.5
 145

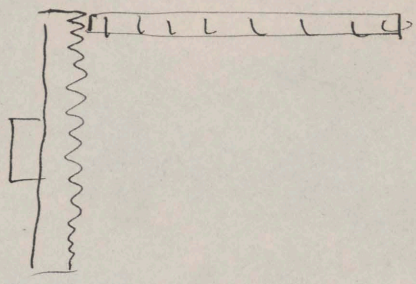
220
 245
 210

Ratio 3.72 to 1 = 48 x 48

Gear 4.81 to 1 = 48 x 38

24) 405 (17

24
 165
 168
 1028
 372
 2056
 7196
 3084
 382416



6.3/4 days

48) 481 (10.28

4 3/4" = 27. h

480
 100
 96
 24.00 400
 30.66 384
 160

24.00 }
 30.66 } 1
 12 } 48.00 2
 28.800 } 61.32
 36.792 } 72.00 3
 15 } 91.98
 45.99

440
 5.11
 12
 92 7 2/3

362
 36.000
 45960 36
 38.400 46
 49056
 576

24) 46 (1.92
 24
 220

0.258 rev in 1 h =

1000 (0388)
774
2260 0388
2322

25
25

3.72 ft in 2400 ft

04 6.72 31 = 1 rev
7
2132 0.96 h = 1 rev
2680 47.04 h = 1 rev
2604

860
744

1160
1116

6 | 3.72 rev in 1 h 440
1 day
.620 in 1 h

3.72
1.6
55.52

3.72 in 6 days

3.72 to 10

3.72 to 10
15

5580

56 to 15 3.72

45

110

105

50

45

113.50

770
744

2600
~~2600~~

3.72 | 7700 | 20.7

744

2600
2604

176

1 27 0

Gears for Mt. Rose Clock No. 3

200

36.11

150

166.67

90

202.78

200

40

220

242.78

330

280

780

90

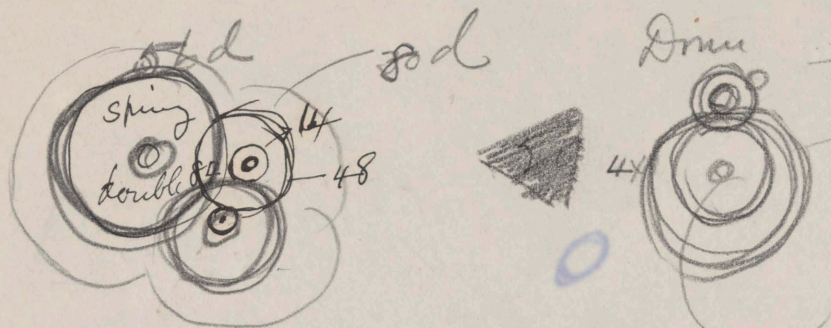
2000
50

1723

4

|||||

24 to 1
5
120 rev
71 #10



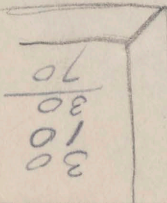
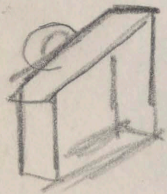
24 | 120 2^m = 1 rev
3 = "

50 teeth single
33 " single

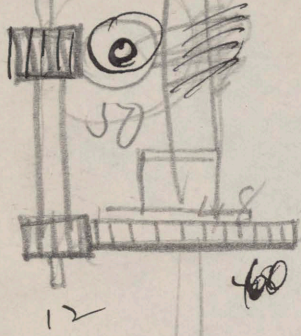
One each:

93 T like sample as to pitch & face $\frac{3}{4}$ hole
2 84 T " " $\frac{1}{4}$ hole

~~84 T~~ 32 p ~~std~~ clock T
(2) 14 T



12 30 100
 48
 50 160

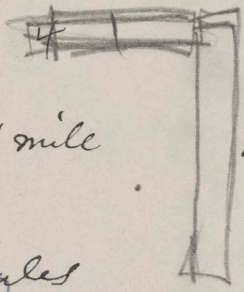


2m
 1440
 1440
 5760
 5000
 (4)
 288

360
 4
 1440
 5000
 5000
 5000
 5000
 5000
 5000

800 = 1 mile

64
 25
 1600 = 2 miles
~~1600~~



10000
 5000
 5000
 10000

1 = 6
 50
 60 200
 1440 1000
 4
 1600 50
 40
 2000
 5
 18,000
 10

Large handwritten scribbles and a diagonal line across the page.

104 176

1536

25.938

List of Gears wanted for University of Nevada

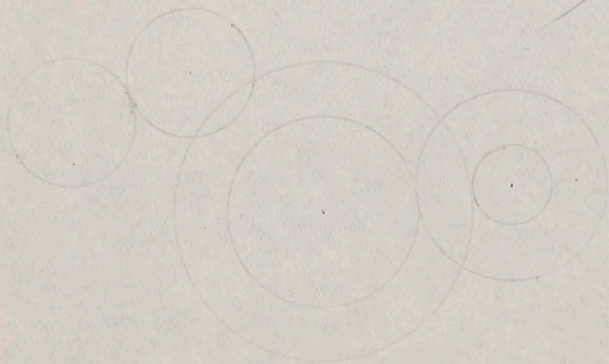
November 20, 1911

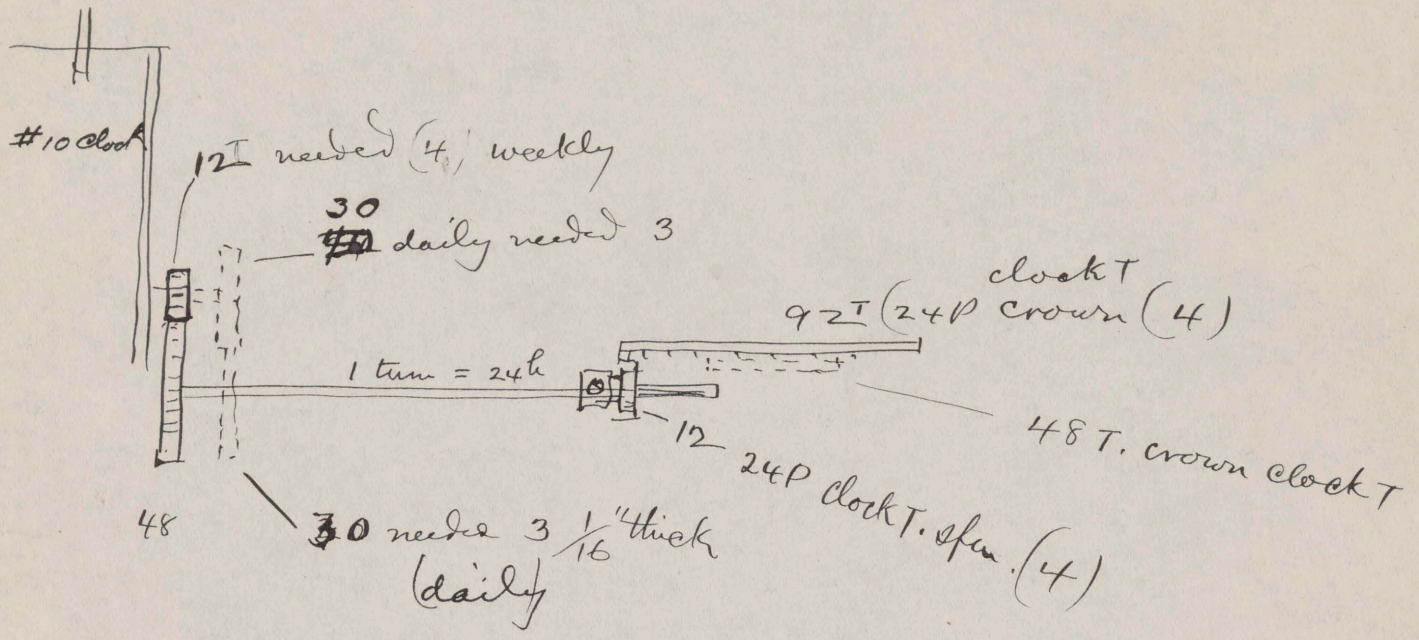
Number wanted	Material	Pitch	Number of teeth	Kind of teeth	Face	Hole	Remarks
6	Brass	32	192	1/16 <i>Scale</i>	1/16	3/8	Sheet brass (No 125) <i>List stock</i>
6	"	" <i>Stock</i>	12	3/16	3/16	1/8	No. 136 (stock)
One	"	" <i>F</i>	128	std			No. 160 (stock)
2	"	32	24		3/16		No. 144 (stock)
one	steel	20 <i>F</i>	20				No. 1920 (stock)
2	Brass	16 <i>F</i>					No. 693 (stock) <i>rated</i>
4	"	1					No. 314 " <i>mitre</i>
4	Brass	24	18	clock	<i>(3 new clocks)</i>		No. 220 " <i>spur</i>
<i>Crown gears</i>							
4	Br.	24	36	clock	3/32	5/16	<i>3 new clocks</i>
4	"	"	92	clock	3/32	5/16	"
3	"	36	12	"	3/16	1/16	"
3	"	32	40 <i>30?</i>				" No. 150 (stock)
3	"	32	40 <i>30?</i>				" No. 83 (")
4		32	80				No 119 stock
6		32	16				" 140 "
3		16	80				"
4		48P	60				" 42
6		"	15				" 29
6		48P	25	clock	1/16	3/16	worn gear
6		worn	32 pitch				
2		like small sample	93 Teeth		3/16	hole 1/16	face
1		"	"	84	1/4	3/8	"

EXCHANGE BOND

3 of # 30 T # 147
4 of # 30 # 81

A 7

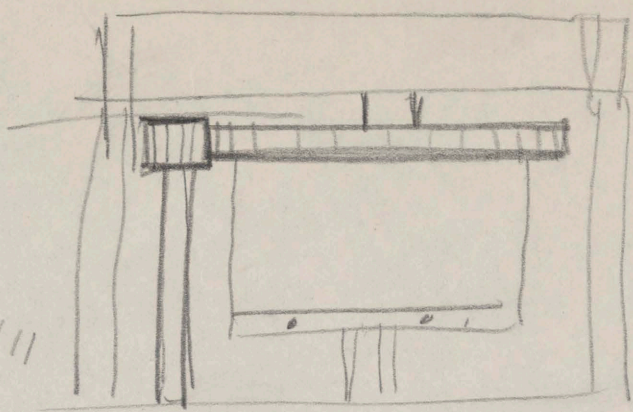
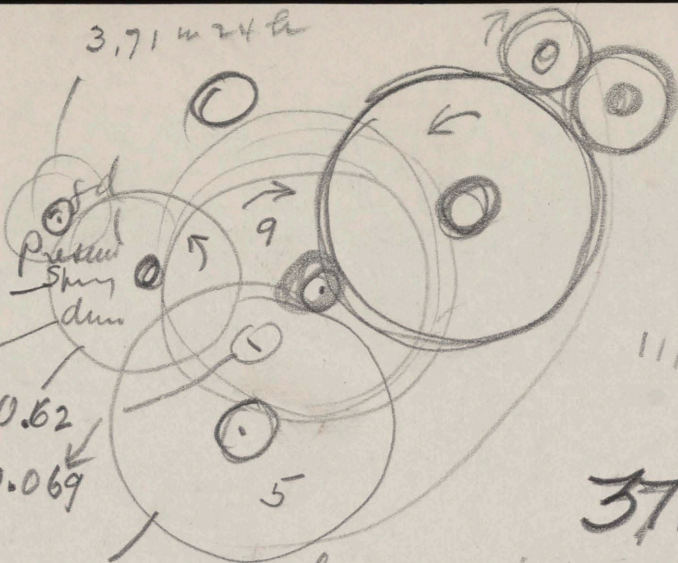




Mention pitch & no. teeth previous order
 write Kendrick abt. alumina & scale castings
 Make sketch of coupling for sampler

3.71 m 24h

$$\begin{array}{r} 3 \overline{) 371} \\ 1237 \end{array}$$



0.5 0.62
 .055 0.069

0.014 m 24h
 .01 m id x 90 4.5

371 \approx
 3
 3 m 24h

108

(1)
 $30 \div 112 = 3 \frac{3}{4}$ days
 30 d
 90 d

lotus

8 days
 $24 \overline{) 90} \left(3.75 \text{ to } 10 \right)$
 72
 3 1125 .30
 180
 168
 120

$$5.71 \overline{) 60000} / 1.8 \quad 128$$

$$\begin{array}{r} 571 \\ \underline{2900} \end{array}$$

80.87

$$3.71 \overline{) 34.26} \quad (9.2)$$

$$\begin{array}{r} 3389 \\ \underline{870} \end{array}$$

$$\begin{array}{r} 11260 \\ 130 \\ \hline 24260 \end{array}$$

$$\begin{array}{r} 323.47 \\ 242.60 \\ \hline 80.87 \end{array}$$

10

$$\begin{array}{r} 80.87 \\ 323.47 \\ 288.6 \\ \hline 34.87 \end{array}$$

$$\begin{array}{r} 14.00 \\ 21.60 \\ 10.20 \\ \hline 45.80 \\ 50.87 \\ \hline 35.07 \end{array}$$

$$\begin{array}{r} 10.20 \\ 14.00 \\ 21.60 \\ 21.60 \\ 112.20 \\ 130.20 \\ \hline 288.60 \end{array}$$

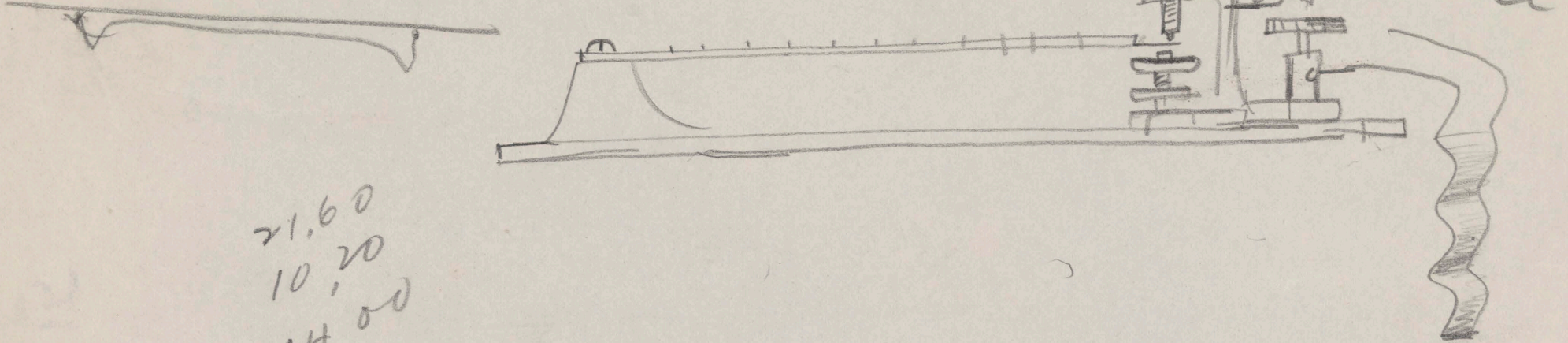
Je

1500

16	166
25-	68
20	
-7	
68	

S. D. Mills

W. L. Z. Zsuzsany



21.60
 10.20
 14.00

Ad Nades cum Sapentia

cl

For cyl. turn 1 in 6 days or 144 h gear 20 to 74
(or 3.7 to 1)

Same speed for 90 cm cylinder = ratio $\times \frac{5}{2} \frac{185}{185}$ 9.25 to 1

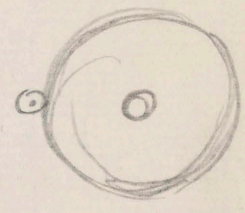
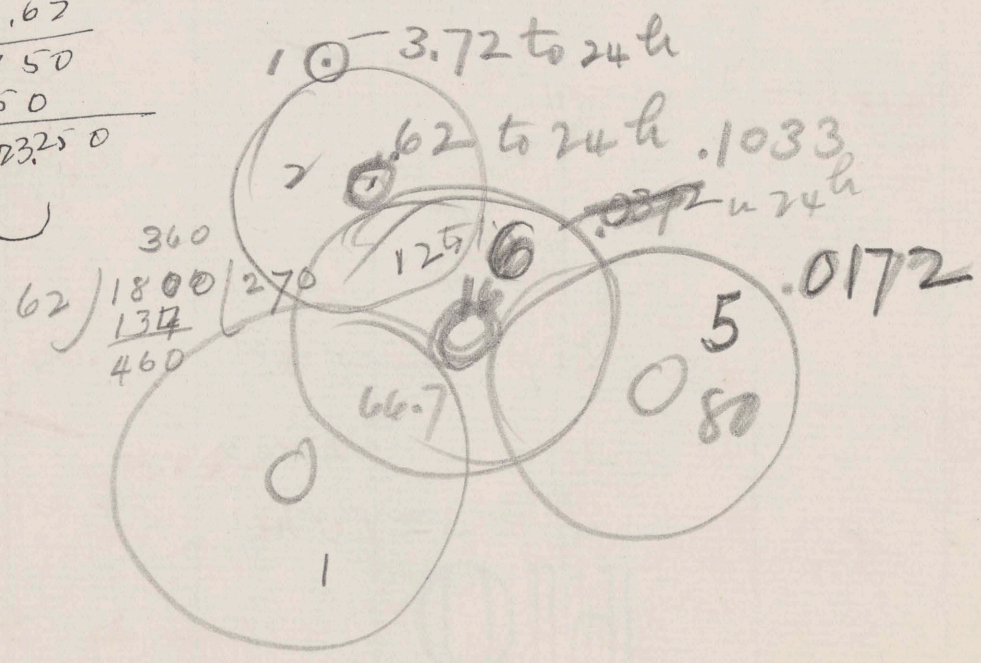
Desirable speeds are for 90 cm cylinder 9-1
 1 turn in 90 days (1 cm = 1 day) 1-1
 1 " " 30 " 1 " = 8 hrs 3-1
 1 " " 3.75 " 1 " = 4 h 24-1

925	10
1850	48
	20
277.5	30
1387	15
111.00	12
37	4

108

90 d * 1 turn in 24 h .62 = 55.80 turns in 90 days 1 cm = 1 day
 30 d " " .4062 15.6 " 30 d 3 " = "
 3.75 " " X .62 2.32 3.75 d 24 " = "

3.75 | 558 | 13250
375
 2250



925 ÷ 100

36 $\frac{25}{2}$ BLUE HILLS
METEOROLOGICAL
OBSERVATORY.

POST OFFICE,
HYDE PARK, MASS., U. S. A.

RAILROAD STATION,
READVILLE.

TELEPHONE NUMBER,
HYDE PARK, 71-2.

L. P. Hatch

35) 130 (3.7142857... 190

$$\begin{array}{r} 250 \\ 245 \\ \hline 50 \\ 35 \\ \hline 150 \\ 140 \\ \hline 100 \\ 70 \\ \hline 300 \\ 280 \\ \hline 200 \\ 175 \\ \hline 250 \end{array}$$

6.19
0.62 in 24h
Hatch
 $1 \text{ mm} = 2.5 \text{ h}$
 $5 \text{ } 6 \text{ } 15 \text{ days}$
 $\frac{5}{2} \text{ } 6$
 $2.5 \text{ mm} = 1 \text{ h} = 60 \text{ mm} = 1$
 $\frac{6}{15} \frac{2}{5}$

$\frac{1}{7}$ of
3.71 in 24h
 $\frac{7}{3}$ 0.53 turn in 24h

$$\begin{array}{r} 168 \\ 16 \\ \hline 184 \\ .53 \text{ in } 24 \text{ h} \\ \hline 552 \\ 920 \\ \hline 97.52 \end{array}$$

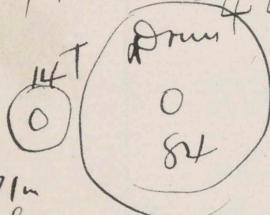
$$\begin{array}{r} .53 \\ 73 \\ \hline 354 \end{array}$$

Speeds desirable

- 10 mm = 1 h
- 10 " = 1 day
- 10 " = 4 h
- 2.5 h } 90 (3.6

Cylinders 90cm in circum
" 36 " " "

- 30 mm = 12 h
- 60 = 24
- 360 = 144 h or 6 days
- 10 mm = 1 h
- 1.0 mm = 2.4 h
- 360 mm =
- 360 mm = 36 h or 1.5 rotations
- 1.0 rot. = 900 " = 90 h " 3.



.6183 rev in 24h = $\frac{1}{6}$ of 3.714

.62 rev in 24h
 $\frac{7}{3}$ 20667
 $\frac{434}{41}$ 4074

$\frac{11750}{87}$ 475

3.7225 3.7 20

18602 744

9100 20

24/90 (3.65

$\frac{180}{168}$ 120

216 (9
216

rev in 144h 6 days or 300 mm 3.75 .62 in 24h
270 h

3 = 1 CM

3d 18h

- 10 mm = 1 h = turn in 90 h or 3.75
- 10 " = 4 h = " " 14.00
- 10 " = 24 h = " " 90.00

2 iron ratchets 80
 2 brass " 100
 2-7" ^{cast} 20 p gears 140
 2-14T ^{steel} pinions 44
 2-4" brass gears 32p 150

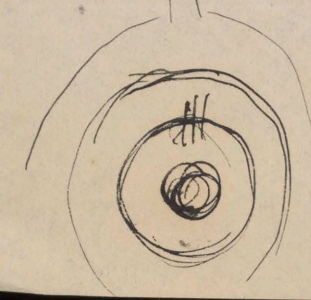
5.14

2.00

1.50

10.00

2 crows
 Pinion wire



1.75
 .75
 1.50

2 brass (cast) 50¢
 100cm, 1h

2m = 1 = 10^h 8
 2 = 20^h 28

1-3/8" Norway iron

3
 4 48
 10

1-3/8 x 1/8 " "

30
 40

70 miles = 1°
 = 4 minutes
 5 minutes

Tools - one 10x32
 6x32

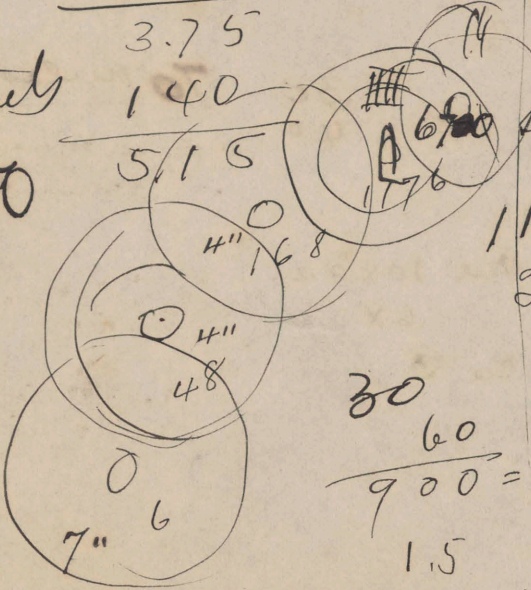
~~One 5~~

2 shims 1.75 (one here)
 2 gears 1.00
 2 pinions 1.00

57 weights 2.00
 gears 1.40
 pinions .48

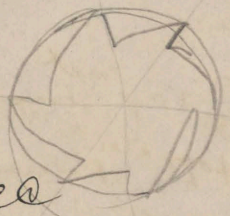
Ratchets 3.75
 140
 150
 5.15

Ratchets .80 1 = 1 sec

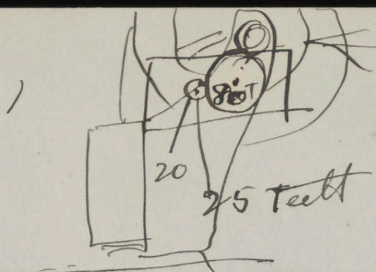


30
 60
 900 = 1 h
 1.5

6700 sec 4.68
 112 mm 28000 11167 m
 2h 60 467 m 18
 60 8



300 8 13



Gear 33 teeth

Swivel wheel for Haworth
 10 $\frac{3}{8}$ " (10.375") diam

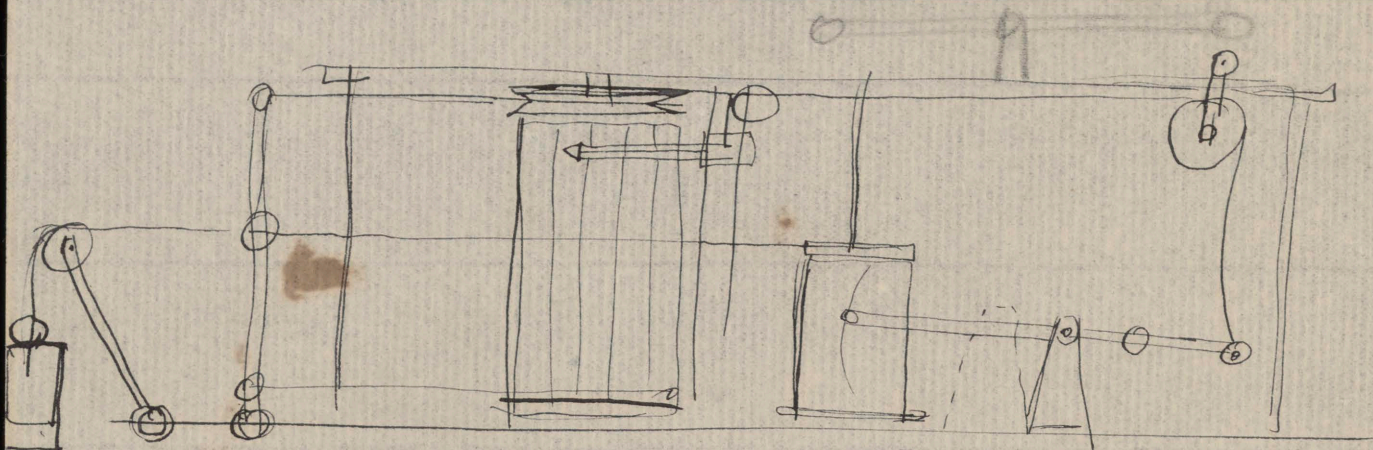
828 mm in circumference

Gears: shear spindle = ~~25~~³³ teeth $\frac{1}{8}$ " face 33 teeth
 Intermediate = 80 to 100 $\frac{1}{16}$
 Decolymete = 20 teeth
 " 1.0 " 40 "

~~33 T~~
~~25 T~~
 33 T $\frac{3}{16}$ face $\frac{1}{4}$ " hole ~~1.0~~
 20 T (stock)

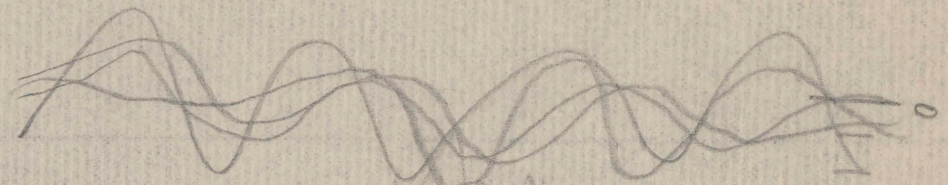
132068

Ratchet #663 ~~right~~
 10" rack #626



$$\begin{array}{r}
 360 \\
 986 \\
 \hline
 12 \overline{) 1346} \\
 \underline{7111} \\
 986
 \end{array}$$

0115



W

$$\begin{array}{r}
 35 \\
 16 \\
 \hline
 19 \quad 9.5
 \end{array}$$

$$\begin{array}{r}
 0 \\
 9
 \end{array}$$

$$35 \overline{)130} = 3.72 \text{ in } 24 \text{ h} = 75 \div 10$$

$$\begin{array}{r} 7.5 \\ \hline 1860 \\ 2604 \\ \hline 3 \overline{)27900} \\ 9300 \\ 75 \end{array}$$

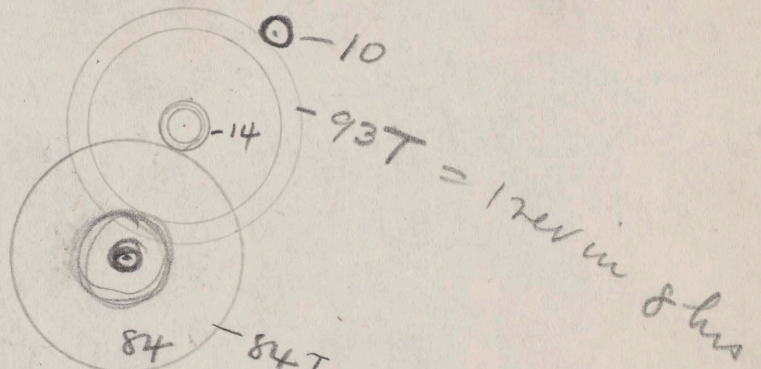
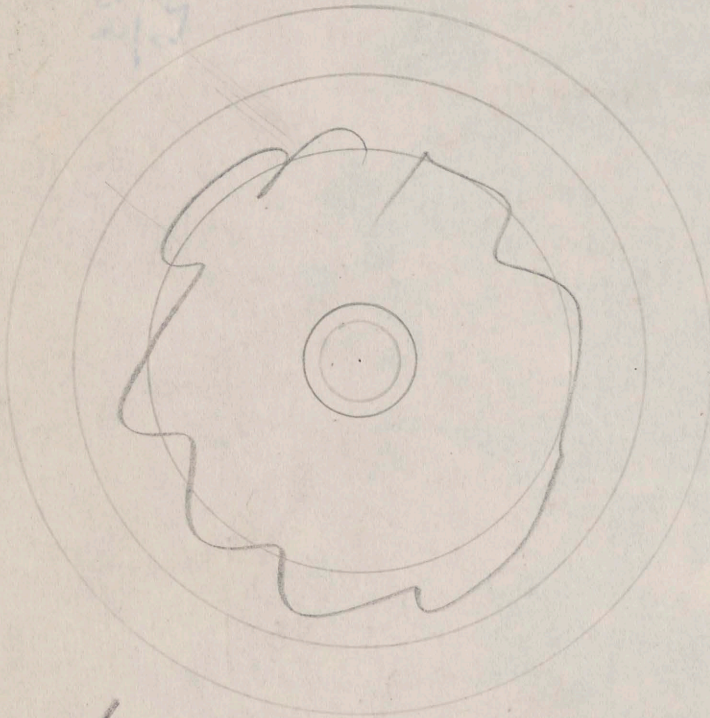
$$\begin{array}{r} 84 \\ \hline 157.372 \\ 16 \\ \hline \end{array} \quad \begin{array}{r} 25 \\ 28 \\ 23 \end{array}$$

$$372 \overline{)2207} \left(\begin{array}{r} 6.46 \\ \hline 5.7 \end{array} \right) \begin{array}{l} \text{in } 24 \text{ h} \\ \text{in } = 17 \text{ rev} \end{array}$$

$$\begin{array}{r} 1680 \\ 1488 \\ \hline 1920 \end{array} \begin{array}{r} 3230 \\ 36822 \\ \hline 1 \text{ rev in} \end{array} \quad 36.82 \text{ in } 24 \text{ h}$$

$$\begin{array}{r} 37 \\ \hline 48 \end{array} \quad \begin{array}{r} 12 \\ 16 \\ 34 \end{array}$$

$$\begin{array}{r} 72 \\ 64 \times 13 \\ \hline 12 \end{array} \quad \begin{array}{r} 136 \\ 19 \\ \hline 16 \end{array} \quad \begin{array}{l} 84 \\ 86 \end{array}$$



$$\begin{array}{r} 3.7 \text{ in } 24 \\ 1 \overline{)5.7} \\ 759 \\ 1855 \\ \hline 2109 \end{array} \quad \begin{array}{r} 75 \\ 93 \\ \hline 3 \\ 3 \\ \hline 279 \end{array}$$

$$16 \overline{)4788} \left(\begin{array}{r} 29.93 \\ 80 = 28.5 \end{array} \right) \quad \begin{array}{r} 32 \\ 158 \\ 144 \\ \hline 148 \\ 144 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 314 \\ 4.5 \\ \hline 1570 \end{array}$$

= 3.10 in 6 days
0.5 in 24 h
= x60
÷ 7
30 in 60 days
5 in 24 h
4.3

$$\begin{array}{r} 285 \ 80 \ 84 \\ \hline 80 \ 285 \ 84 \\ \hline 16 \ 57 \\ \hline 588 \\ 420 \\ \hline 4788 \end{array} \quad \begin{array}{r} 28.5 \ 80 \ 84 \\ 5.7 \ 16 \\ 19 \ 28 \\ \hline 3 \ 2 \ 2 \ 448 \end{array} \quad \begin{array}{r} 93 \overline{)26} \\ 75 \\ \hline 3 \ 31 \end{array}$$

1 turn of cylinder in 6 days = 1.8 metres ^{paper} in 30 days (2.5 mm paper)

1 " " gear in .0258h

.62. string gear in 24^h or 3.72 in 6 days

20^m

Ratio of planetary gear

{	3.72 to 1		
	37.2 " 10		
	74.4 " 20	204	60
	111.6 " 30		
	112. to 30	56 to	15
			3
		168	45

Dist. bet centres 1.5"

5/8 2 3/8

- Wanted:
- 1 ~~spur gear 37p clock teeth~~ ~~1/8 face~~ 74T ~~1/4" hole~~
 - 2 1 " " " " " ~~3/16~~ " 20T " "
 - 3 1 " " (^{special} 84 teeth) 78pitch ~~1/8 face~~ 84T ~~1/4 hole~~

Mr. Rose 60 day clock

25

Total cost of gears \$2.75

" " " "

for 4 stations

meteorographs

\$7.50

~~80~~
~~84~~
 21
~~28~~
~~20~~
 5
 7
 147
 29.4

~~8~~ 9 81
~~8~~ 8 810
~~8~~
 8 80
 640 84
 63 888
 10 5964

71 | 84T (1.18)
 84 71
 71 130
 71 590

AS

RENO, NEVADA, U. S. A.

Clock for new meteorographs 1911-12 $\frac{16}{24} \frac{2}{3}$

$$\frac{24}{184} \frac{12}{92}$$

$$7d 16^h = 168 + 16 = 184$$

$$\div 12^h = 15.33\frac{1}{3} \times 1$$

$$\therefore 6h = (30.66\frac{2}{3})^2 = 61.33\frac{1}{3}$$

$$\frac{72}{24} = 3$$

$$\frac{184}{24} = 7\frac{2}{3}$$

$$\frac{12}{92} = 180$$

$$\frac{72}{1380} = \frac{2}{369}$$

$$\frac{3}{4} = 23$$

$$200$$

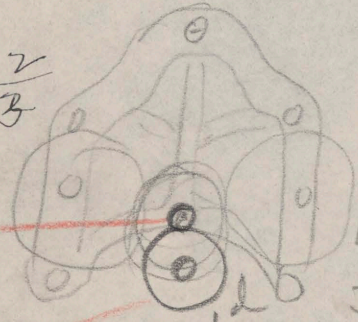
$$192$$

$$80.$$

3.8333 +

24 pitch ~~24 pitch~~

$$7\frac{6}{9} \frac{2}{3}$$



12

48

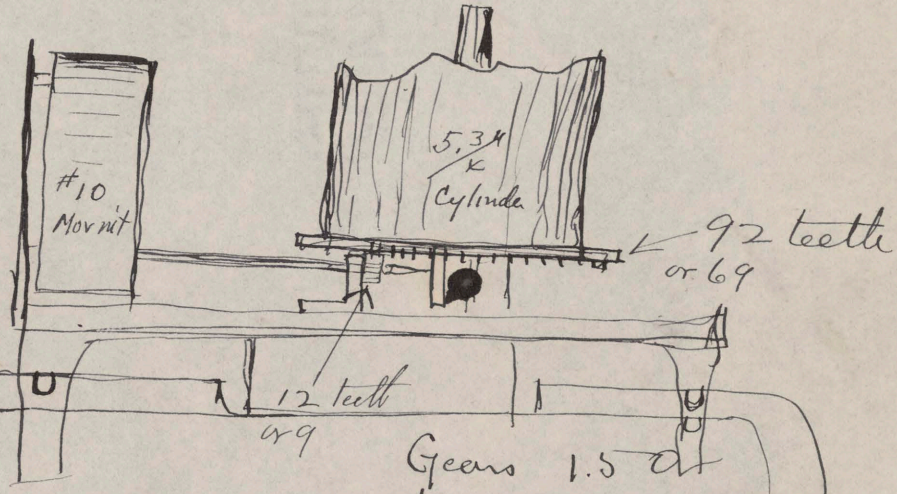
$$432$$

$$324$$

$$108$$

$$216$$

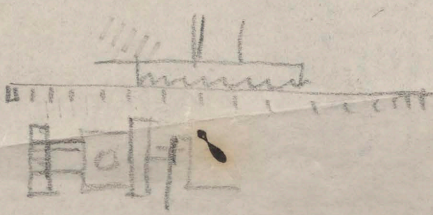
$$\frac{6}{24}$$



Gears 1.50
Clock 350

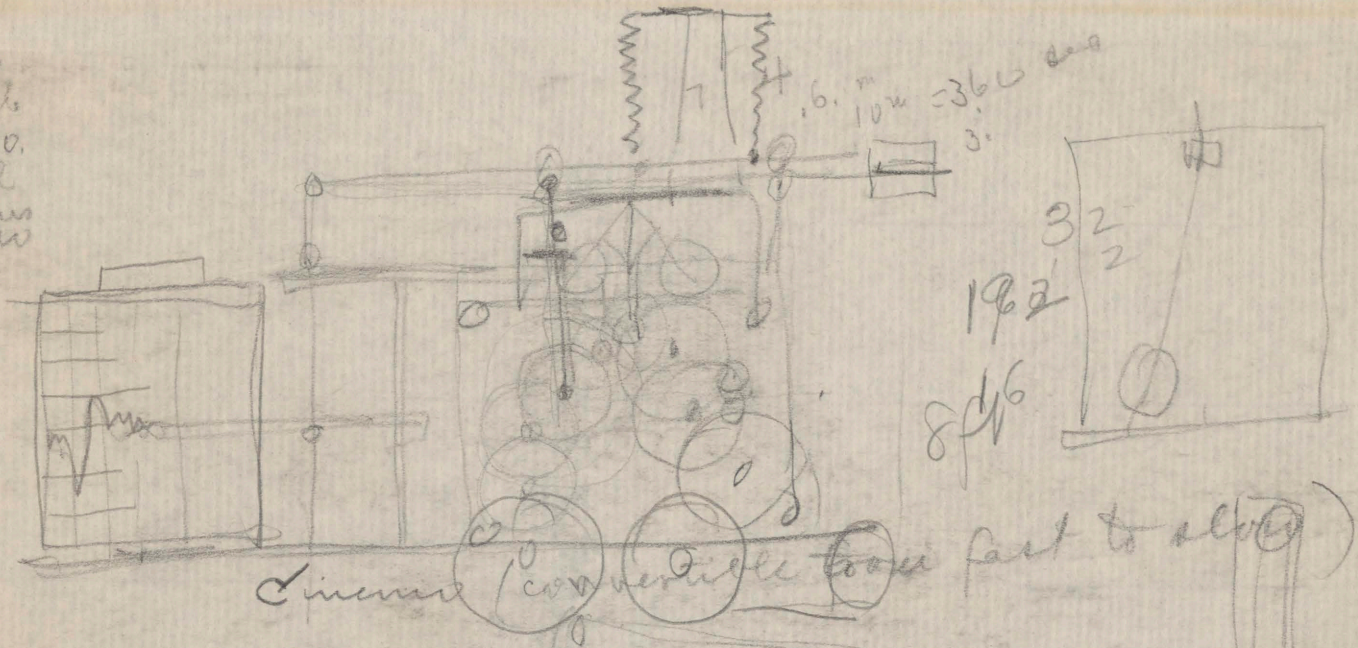
Richard clock 10.00

Required:	(Clock)		
4 crown gears weekly	92 teeth 24p	$7.8 \frac{16}{24}$	5.00
4 spur "	12 " "		4.00
6 " "	96 " 50 pitch clock teeth @ 30		1.80
or 6 " "	56 " to mesh with spring gear		



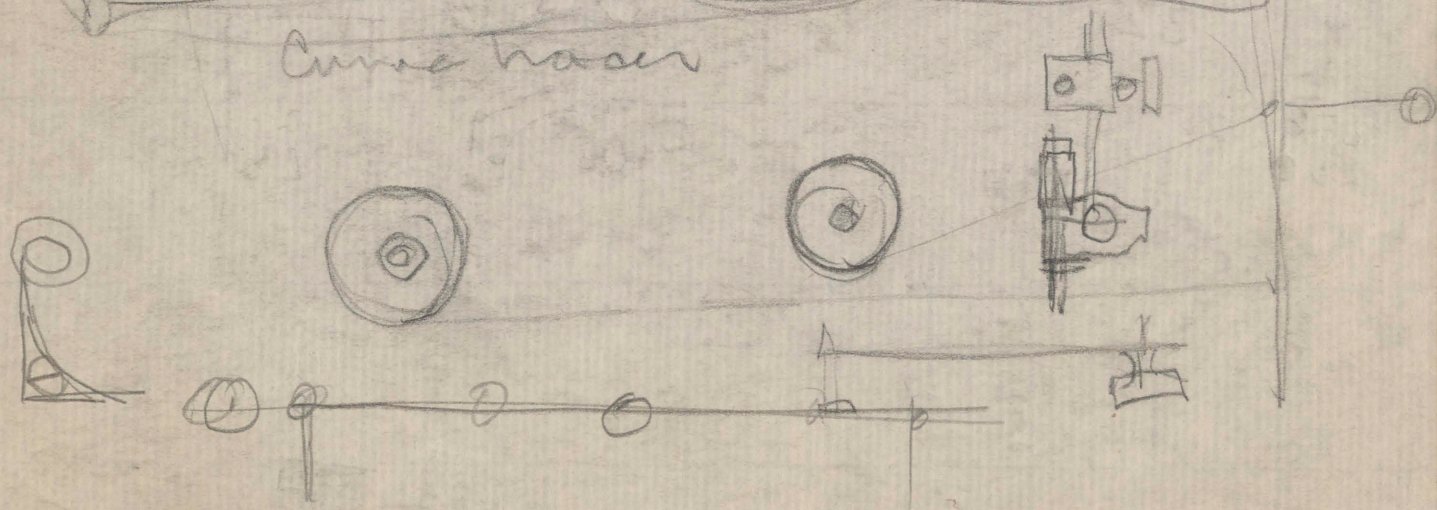
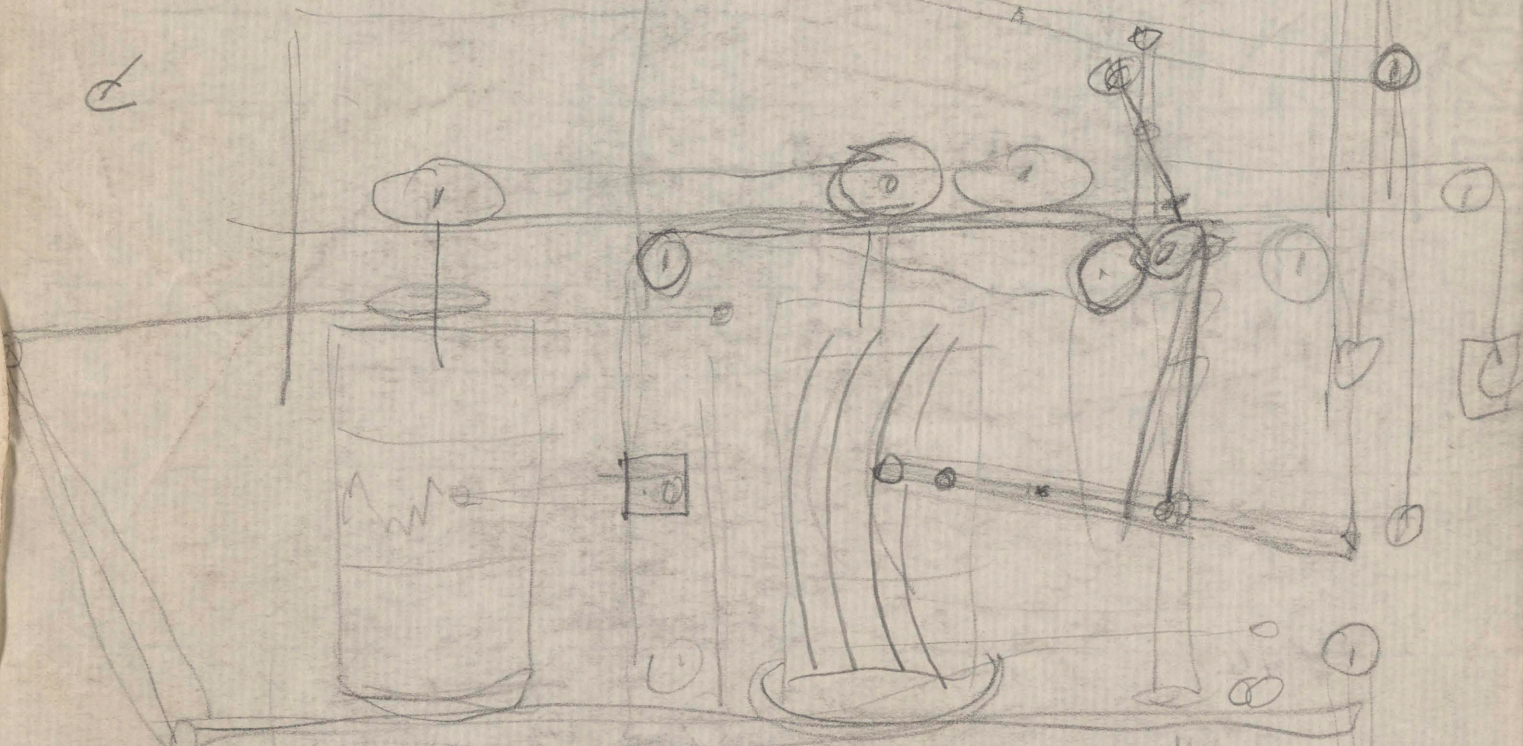
New
Wyo.
col
Kans
ms

16. m
10w = 360
3.



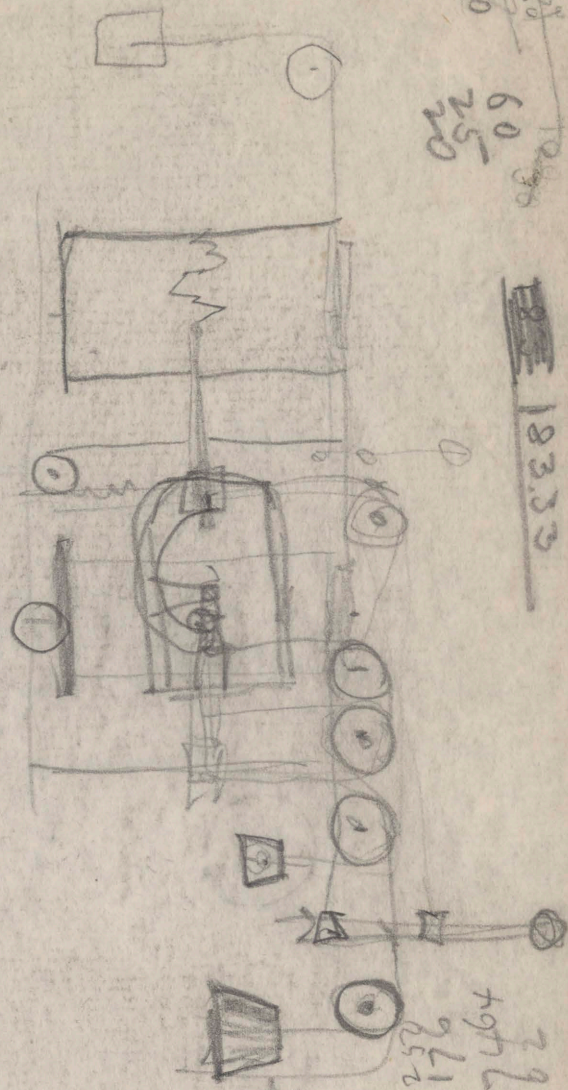
192
846
32
2

C



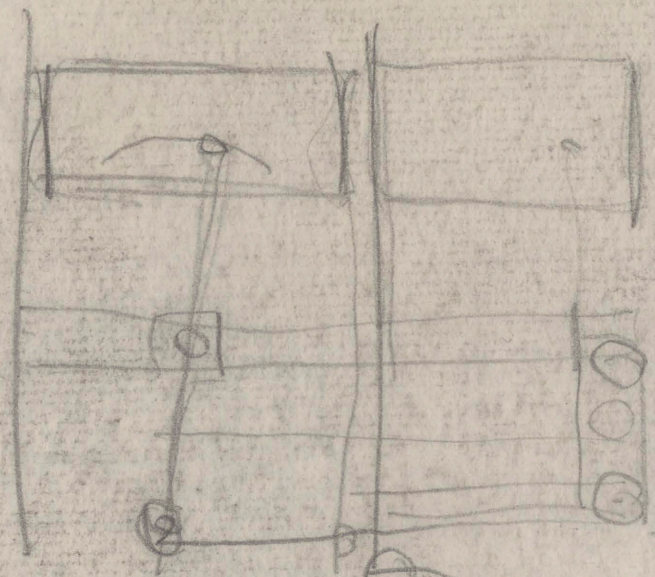
$\frac{250}{30}$
 $\frac{180}{7}$
 60
 250

~~183.33~~
 183.33

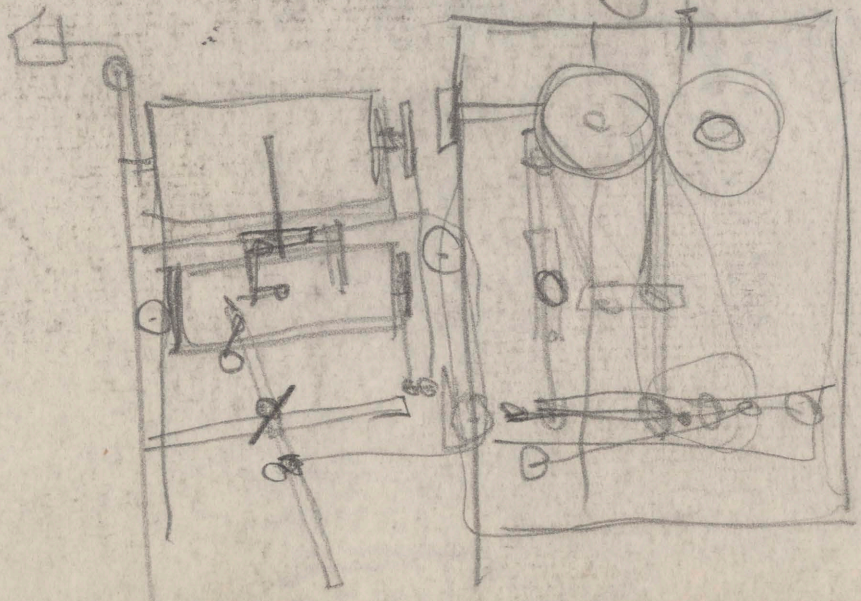


291
 4976
 252
 27
 252
 250
 - 30
 148
 110
 22

180
 176
 276
 972
 250
 494\$
 182
 25



~~1500~~
 1500
 1500
 77.40



3300 metres. Numerous ~~measurements show~~
~~that make~~ comparisons of the amount
and density of snow in forests with similar
data in near-by open spaces indicate
that, in this region and very probably others,
~~there~~ a larger quantity of snow accumulates
in forests than on bare slopes or areas; that
there is a noticeable difference in the
amount retained by ~~forests of~~ different
kinds of trees. ~~This leads~~ Also, it ~~seems~~
~~to be important~~ dense forests apparently
do not retain ^{snow} ~~as much~~ so well as those
where groups of trees alternate with open

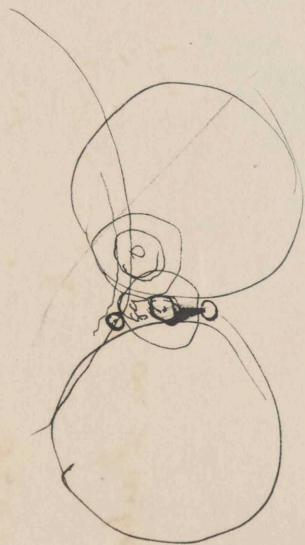
	0 —	0
	1	
1	2 — 1.8	1.80 1.8
	3	
	4 — 3.6	3.60 1.8
	5	
	6 — 5.4	5.40
	7	
	8 —	7.20
10	9	
	10 —	9.00
	11	
	12	1.080
	13	
	14	1.260
	15	
	16 —	1.440
	17	
	18 —	16.20
	19	
	20	2800

and enlarging
 followed in extending ^{the} work. The
 influence of forests of certain kinds in conserving
 snow for ~~irrigation~~ ^{is} ~~appears to be~~ very
 evident from observations ^{already} made in natural
 forests, and it is reasonable to suppose
 that the planting of trees in

$$\begin{array}{r} 5^h 30_1 \\ \hline 188 \end{array} \quad \begin{array}{r} 3,3.6 \\ \hline \end{array}$$

$$\frac{1}{34} = \frac{1}{64} \text{ of } 1''$$

$$168 \begin{array}{l} 5000 \\ 504 \end{array} \left(\begin{array}{l} 3\% \\ 03\% \end{array} \right)$$



8 5.3333 in 24h

SCOTT.



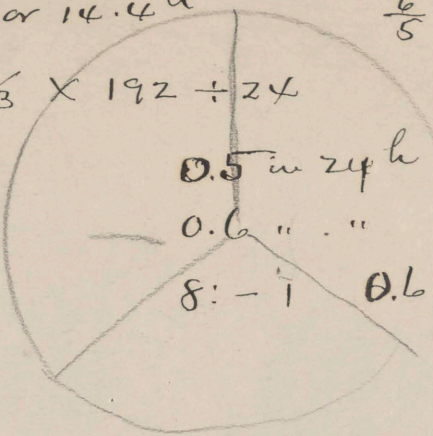
60 $\overline{) .66667}$
1111.1183
80
888944

89 teeth = 1 turn in 0.6 day or 14.4h

8 to 1 (4 days) = $0.6 \div 3\frac{1}{3} \times 192 \div 24$

6		20
9	$\times 3\frac{1}{3}$	30
12	(32)	40
15	(32)	50
18	48(32)	60
21	48	70
24	48	80
27		90
30		100
33		110

$\frac{6}{5} 89 \frac{535}{107}$ $\frac{8-1}{3.3} = \frac{7}{3.3} = 2.1212$
(8 rev)



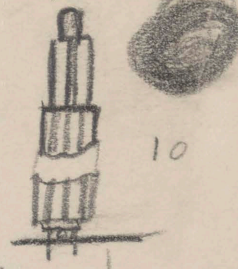
0.5 in 24h = 2.0 in 4 days = 4 to 1
0.6 " " = 2.4 " " $3\frac{1}{3}$ to 1
8: - 1 0.6 = 4.8 in 24h
 $\times 4$
19.2 10 teeth on 2 arbor

$\frac{10}{8} 48 60$

8 48
10 0.5 in 24h
1.5 in 24h

4 days (24h) 1 cm = 1h
24 " (weekly) 1 " = 6h
96 " monthly 1 " = 24h

10 teeth on 1st pinion shaft
24 teeth on 40 \div 72 } counter arbor
10 \div 54
~~54 \div 40~~
or $\frac{72}{80}$ on drivers
12 = 48 - 48
365 87
288



0.6 in 1d
 $24^2 = \times 0.6$ 14.4

(Gear for to 96cm cylinder.)

8 14.4 18 4 72
1.8 54 54 8 14.4
240 30 30 1 14

11 3" of 10 tooth pinion wire 32 p
One No 44
The No 88
8 \div 1 0.075
48
72 $\frac{10.375}{9}$

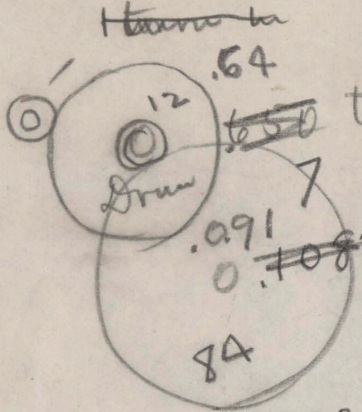
18 $\overline{) 72}$ (40 15)
5

1.8 $\overline{) 260}$ (333 5.4 10 75.6 756
27 11 594
15648 12
13 \rightarrow 70.2

$\frac{54}{14}$
 $\frac{50}{45}$
 $\frac{40}{72} \times \frac{1}{4} = \frac{10}{72} \frac{8}{19}$
60
574
 $\frac{80}{72}$

3.714 turns in 24 hr

84



~~6.50~~ turns in 24 hr

~~0.7083~~ turns in 24 hr or 10 days to each rev

5 turns to spring

= 50 ~~days~~ in all 50 days

.093

.093 rev in 1 day

$$\begin{array}{r} .093 \text{ rev in 1 day} \\ \hline 7 \text{ d} \\ \hline .651 \text{ " " 7 d} \\ \hline 60 \text{ d} \\ \hline 39060 \end{array}$$

84

$$\frac{11000}{111}$$

.09 rev in 1 d

$$1 \text{ rev} = \frac{1 \cdot 1 \cdot 1}{5} = \frac{111}{555}$$

5 mm = 2 hr

$$60 \text{ d} = 1440 \text{ hr}$$

$$\begin{array}{r} 1440 \text{ hr} \\ \hline 2.5 \\ \hline 7200 \\ \hline 2880 \\ \hline 3600.0 \text{ mm} \end{array}$$

$$720 \times 5 \text{ mm}$$

$$3600 \text{ mm}$$

$$= 3.6 \text{ m} \approx 10$$

3^m - 1 rev

$$\begin{array}{r} 3.38 \\ 36 \\ \hline 198 \\ 99 \\ \hline 1188 \end{array}$$

12 feet

$147 \div 80 = 1.8375$
 1098
 204
 14
 606
 40
 28
 120
 112
 80
 70

$6 \overline{) 18571}$
 $\underline{.319516}$
 $\underline{2}$
 $.6390$
 $.64 \text{ rev in}$

125

50.06

80
72

35 65

35 130

7 $\overline{) 260000}$

3.714 (2857142857142857 rev. in 24 hrs

1.8571428 in 12 h

1.5383 days = 1 rev

$\frac{65}{9.2298} = 1 \text{ rev}$
 $\frac{7695}{461490}$

1.538

$6500 \overline{) 10000}$ (1.54
 $\frac{65}{350}$
 $\frac{375}{250}$
 $\frac{295}{550}$
 $\frac{530}{200}$
 $\frac{195}{195}$

$1857 = 12 \text{ h} \div 5.714 = \text{rot. in}$

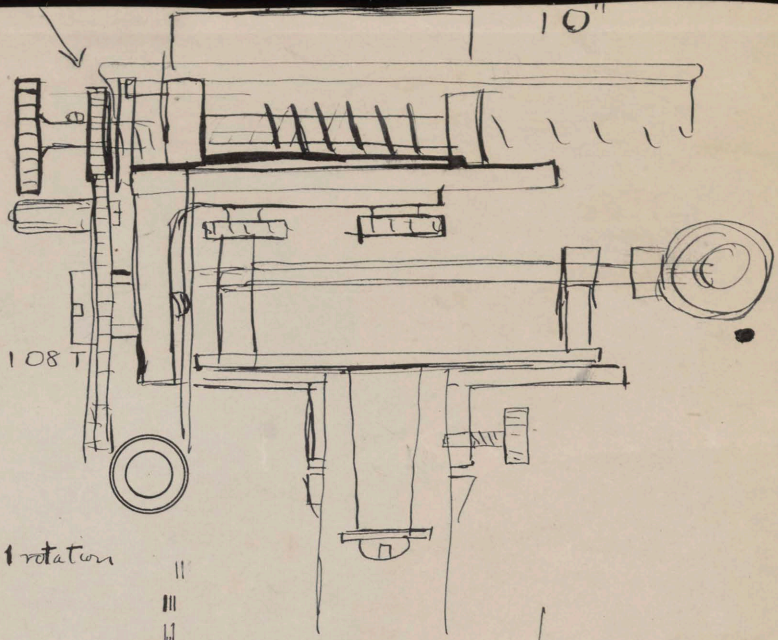
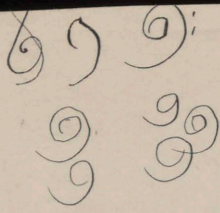
$5.714 \overline{) 1.8571428}$.32502 of down in 12 h
 $\underline{17142}$
 14294
 $\underline{11428}$
 28660
 $\underline{28570}$
 9000

.65004 rev in 24 h 8 5.30 rev in 8 days

X 7 days = 4.550 rev in 7 days

27,300

$6 \overline{) 185714}$
 $\underline{.2653}$
 $.3093$



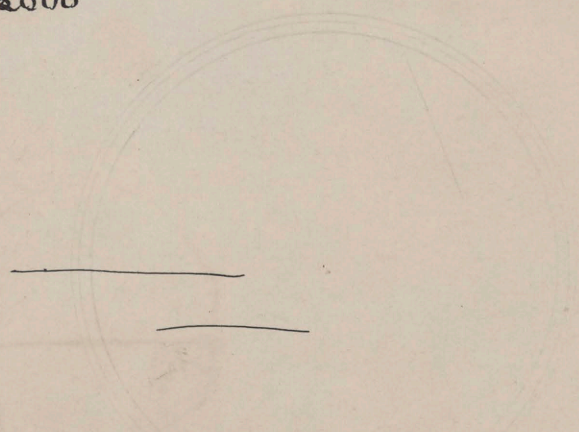
3.6 to 1
 36 : 10
 108 * 30

1 = 100 to 1 rotation
 1.5 = 66 2/3
 2.0 = 50
 2.5 = 40
 4.0 = 25
 5.0 = 20
 7.5 = 10
 10.0 = 10

0.5 = 200
 0.4 = 250
 0.2 = 500
 0.1 = 1000
 0.05 = 2000

Mécanisme pour machine à calculer
 pour obtenir les divisions centésimal

1.2 "
 6.0 "
 30
 8 "



23.75
~~23.75~~
 25
 12500
 50
 2500



1800
1800
5700

2.50
2.50

900
400
1000

2300
60

64

1000

64
360

320
400

380
160

128

320

(.0150825)

5
.075

225 = 160

240) 360 (145
24

120
120

0

3.6 = 100

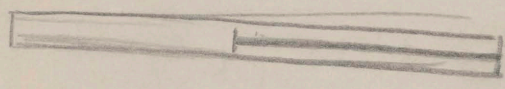
0 3

36

0

72

108



144

3
180

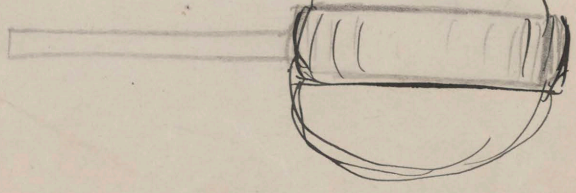
216



252

288

324



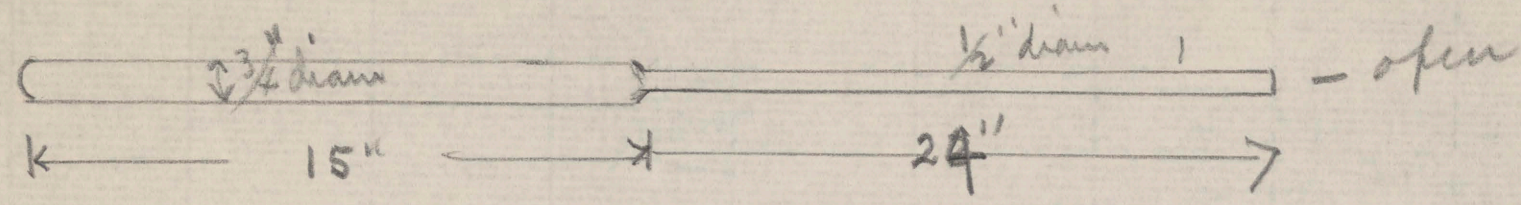
360

30 m = 10
2 m

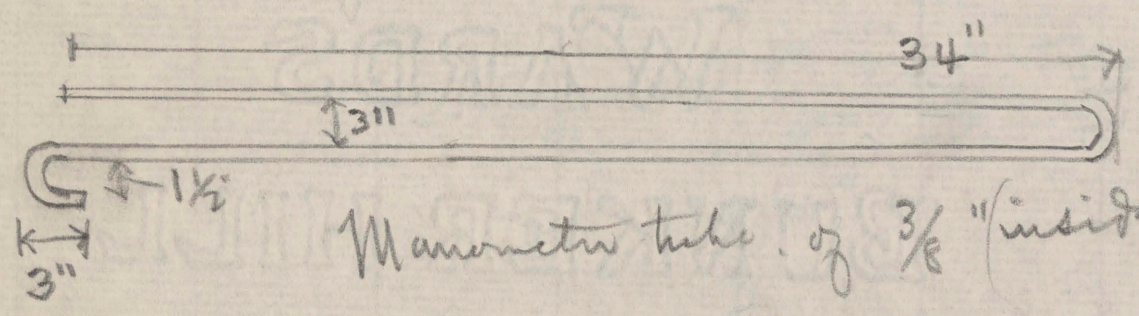
37
26
11

closed end

Glasstube $\frac{3}{4}$ and $\frac{1}{2}$ " inside diam.



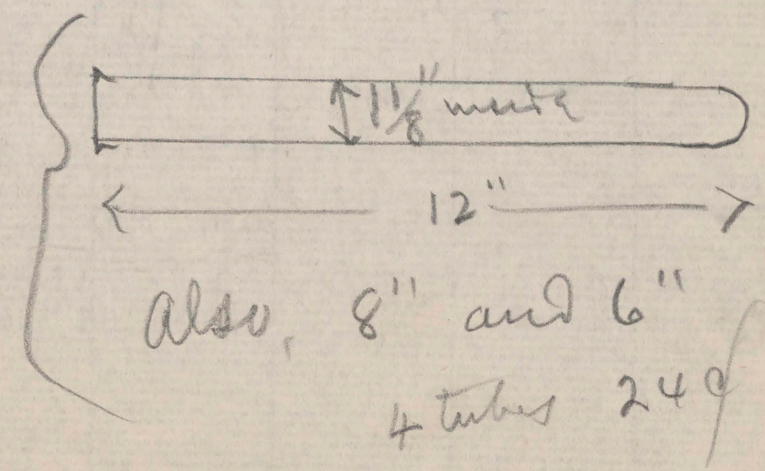
2 tubes 2.00



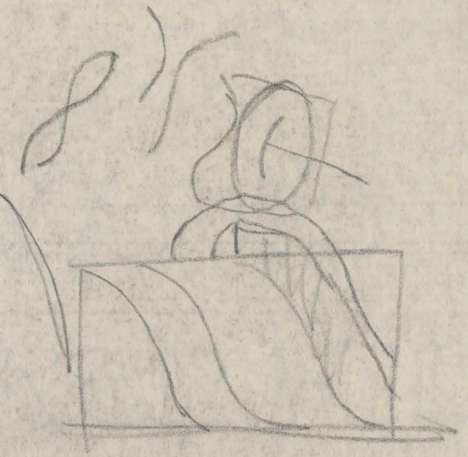
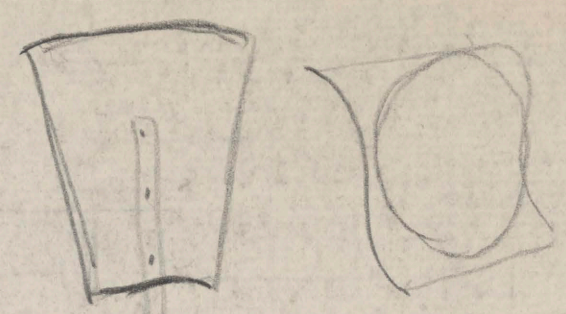
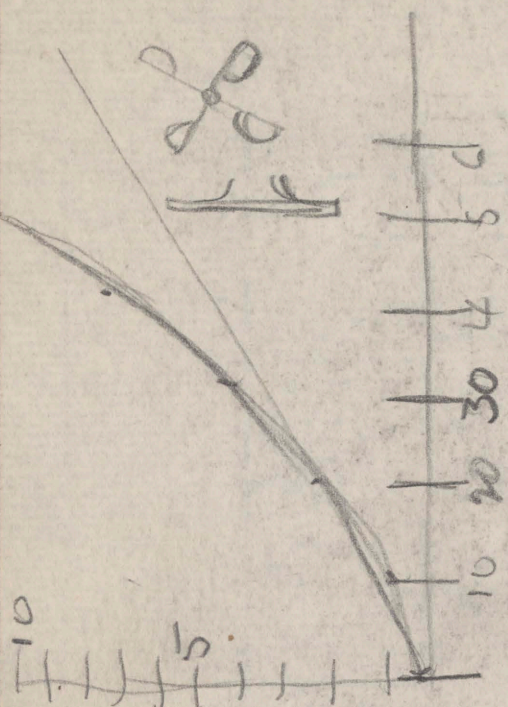
Manometer tube of $\frac{3}{8}$ " (inside) glass tubes

S.P. Fergusson
University of Nevada
Reno Nevada

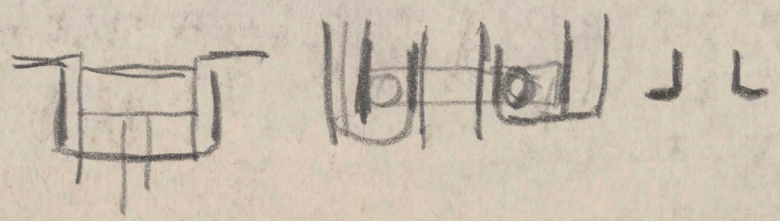
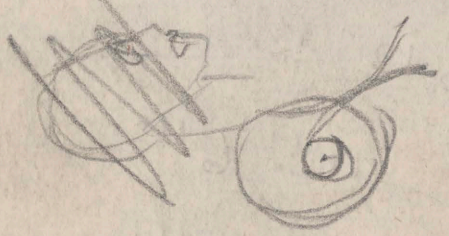
Test tubes?

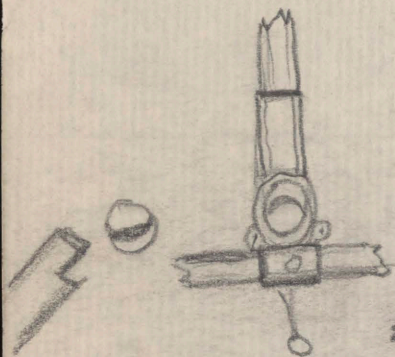


4 tubes 24¢



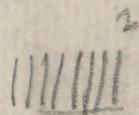
PORE Cy!!





~~PORE C-Y!!~~

Fore C-y!!! 1.55
 Fore C-y!!! .65
 2.20



288 = 3000
 63
 90.00

222 222 29 ~~115~~ 100.00
 L'Observatoire Meteor de Blue Hill 3600 ym

Blue Hill
 Estimates

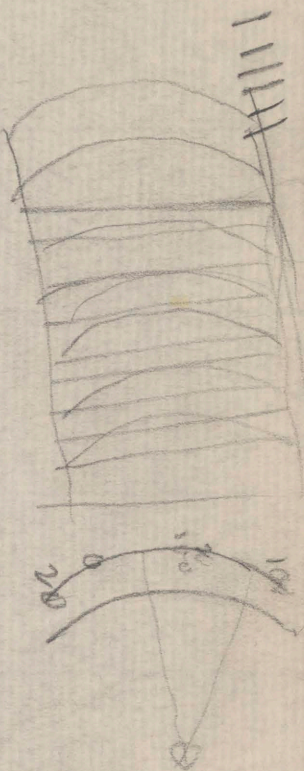
Salaries = \$ 200
 Coal & wood 175
 Janitor 360
 Read sheets 50
 Decm 60
 Periodicals 40
 Binding 30

~~1800~~
~~600~~
~~2400~~
~~1200~~
 3600

~~7600~~
~~50~~
~~12000~~
 5000

Director
 Assistant

915 900
 2400 900
 1200 1000
~~3615~~ 2200
~~4000~~

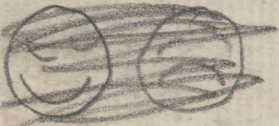


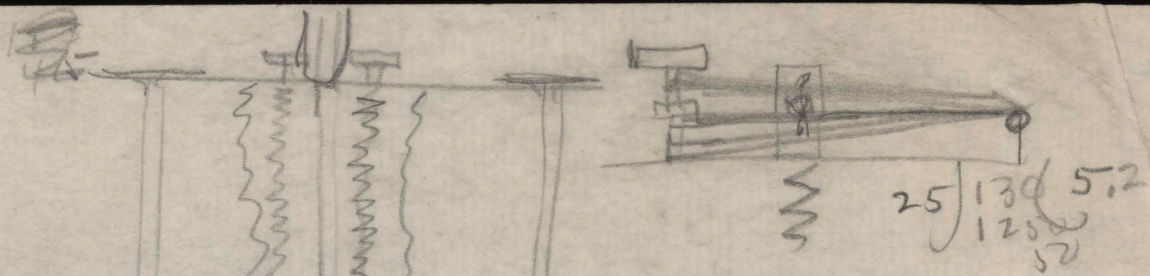
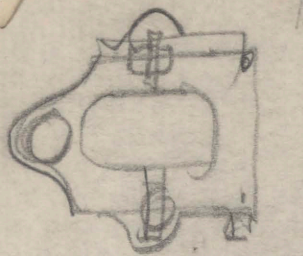
1909
 1891
 1891 18
 1894 1891
 1894 1901 Expens-y
 1904 1911 Penn

1899-1900 600
 1902 400

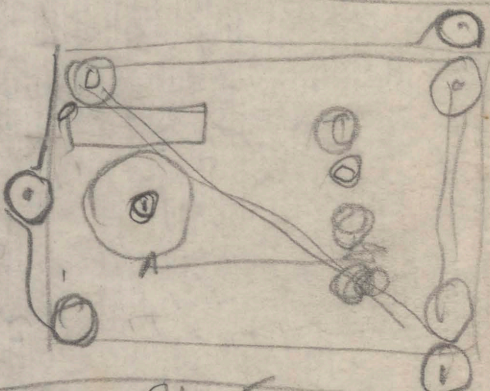
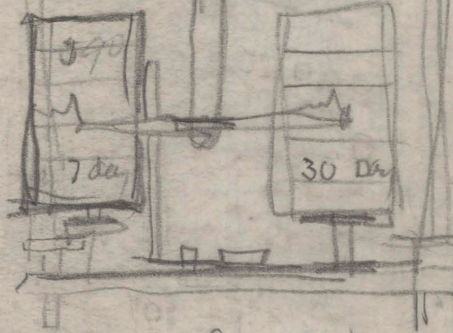
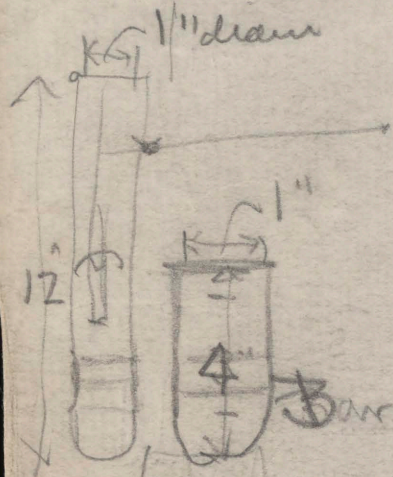
9 9 3 400

~~2000~~ 2000
~~1000~~ 1800
 900
 3900 3800



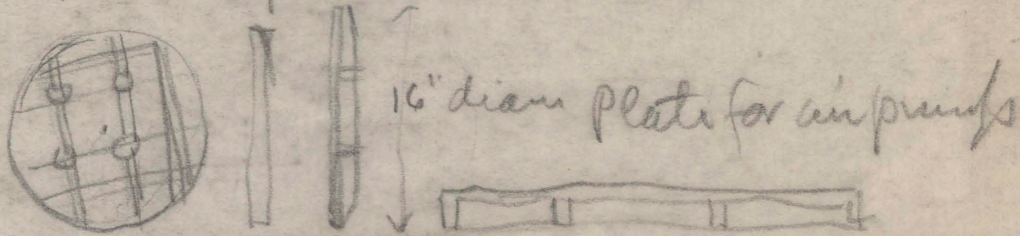


25 | 130 5.2
 125
 52



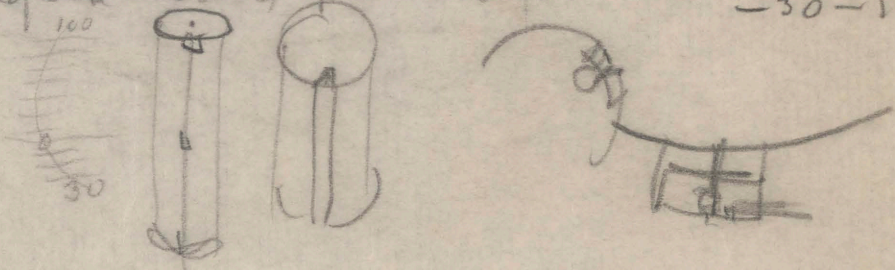
Barometric & registration part M. Ferguson
 (after M. Draper)

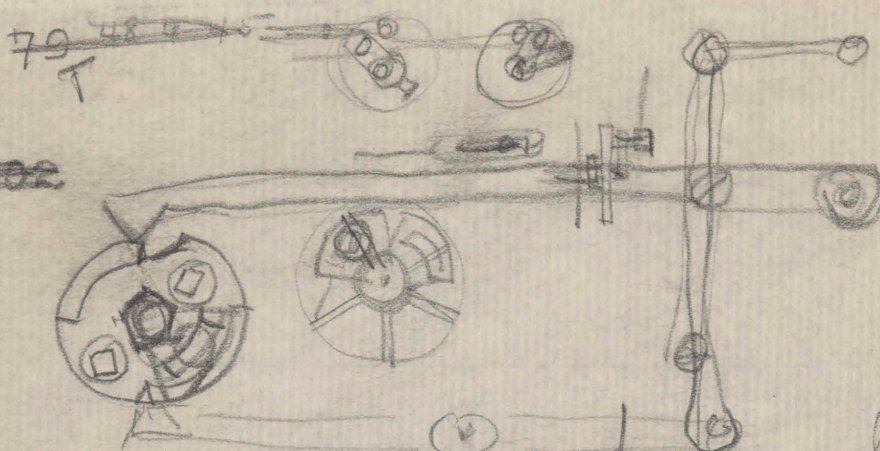
- 4 3/4" x 3/4" steel tubes 18 gauge
- 6 3/8" x 3 flanges
- 1 iron plate with 3 lev. screws 12" x 16"



6 small cylinder head turn with vanes
 6 " " small turn

Inquire about sheets for " 100-300
 -30-100"

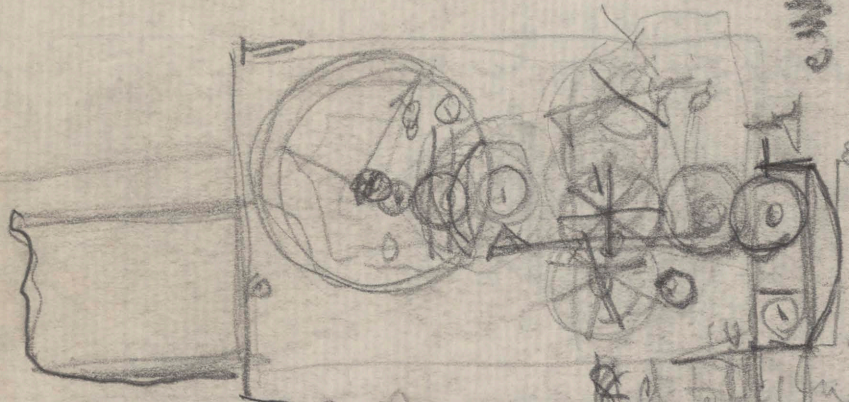




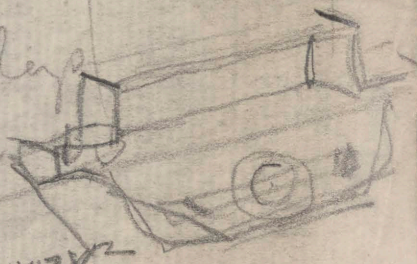
189.902

~~31.5~~
~~21~~

1 = 4d
78
19
2 = 1-4
45 200 (4.5)
180



P.S. Ruenda, W. Va. 1912

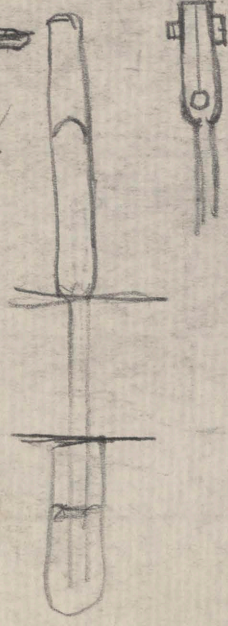


39°

15 lb P=003V2

OTTER

$\frac{5}{8}$ $\frac{3}{4}$

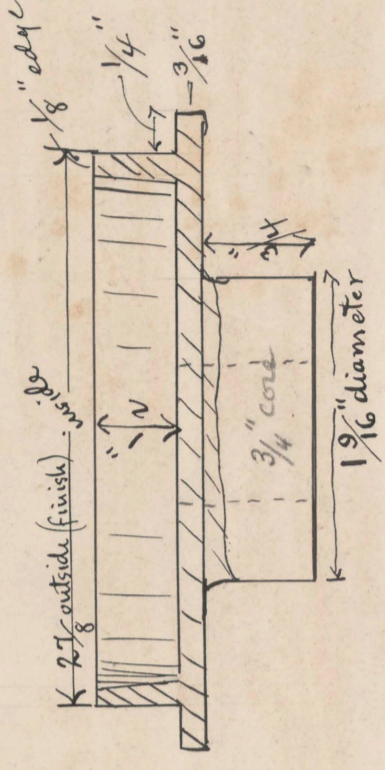
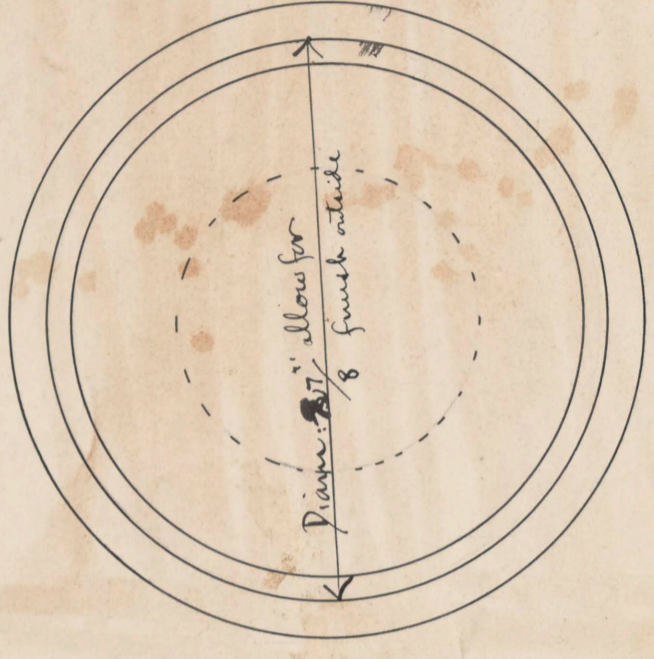


75
75
375
526
5625
46000
30
27000
135
162000

25
20
20 4. 4.0
14.50000 4
9, 16
2, .13
13 lb 20
2.60
75.8 6.00
.64
95.12
72

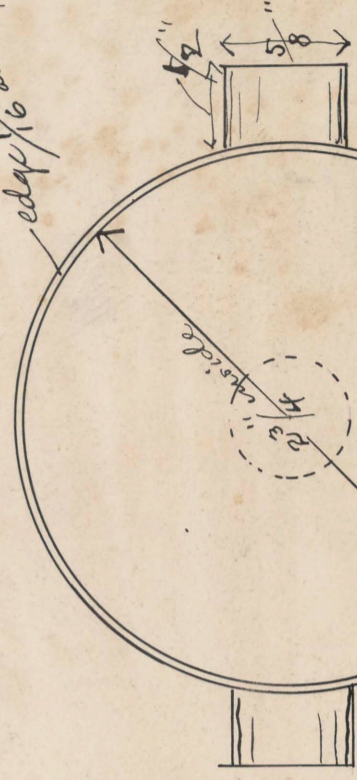
.8
.8
64
.8
512
10
7.50 11 lb

No. 3 - Two brass castings

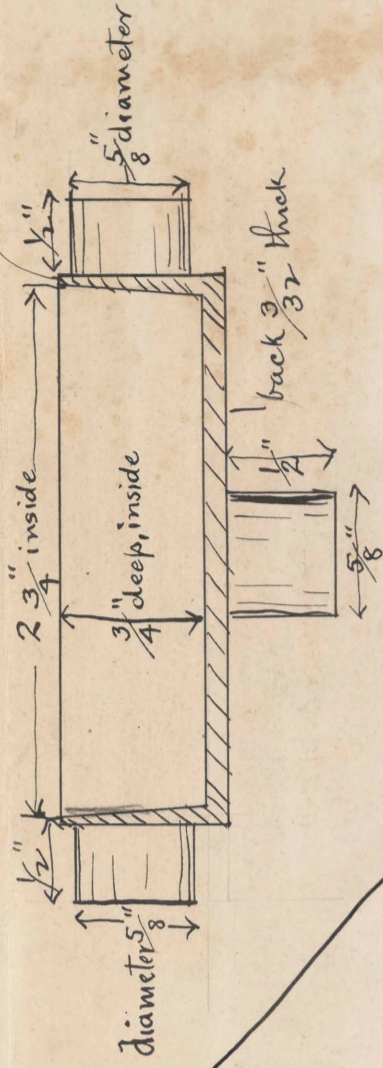


No. 4. Four Aluminum Castings

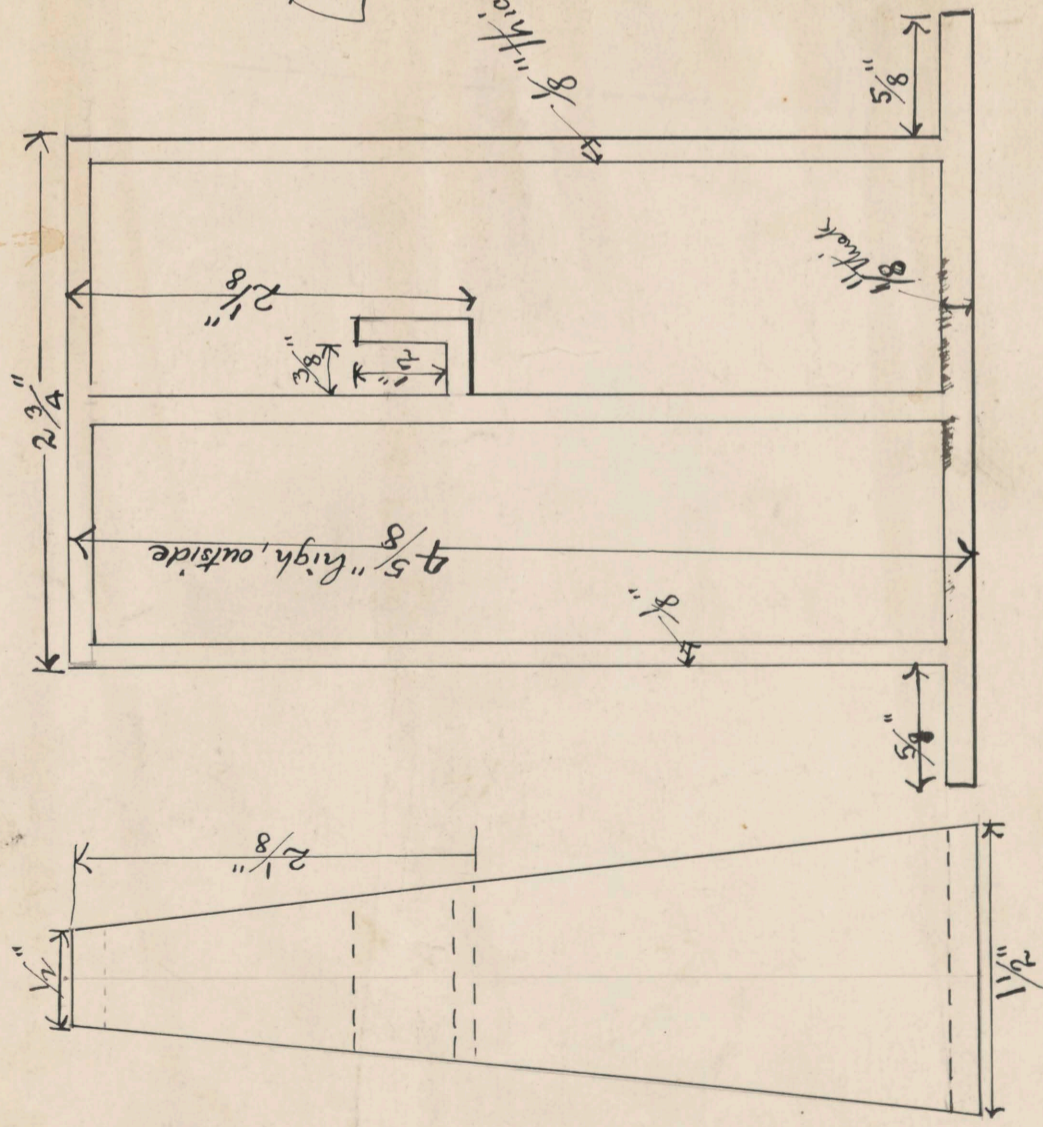
edge $\frac{1}{16}$ " allow for finish



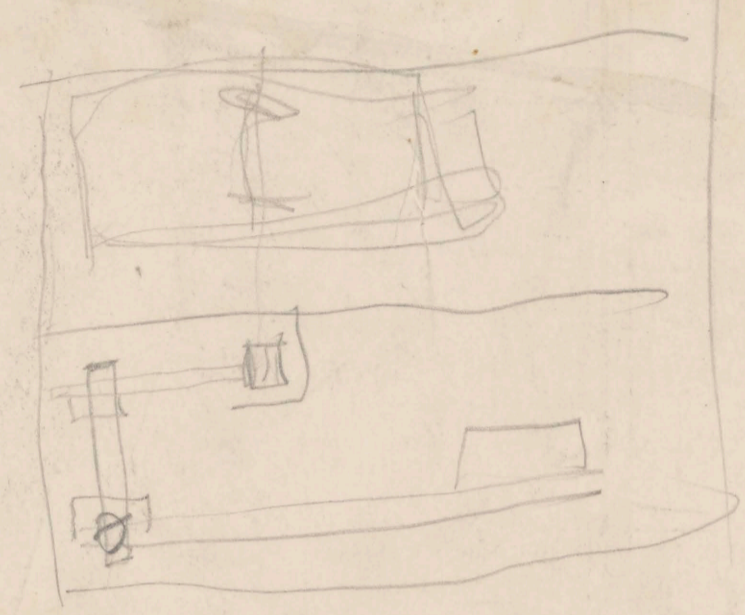
allow $\frac{1}{16}$ " thick edge for finish



No. 2 One aluminum and one brass casting of this pattern



For
S.P. Fergusson
124 Dana Ave,
Hyde Park Mass.



²⁰⁰
 December } 6P-6A 1 5233
 January }
 February }

March } 7P-5A 3
 September }
 October }

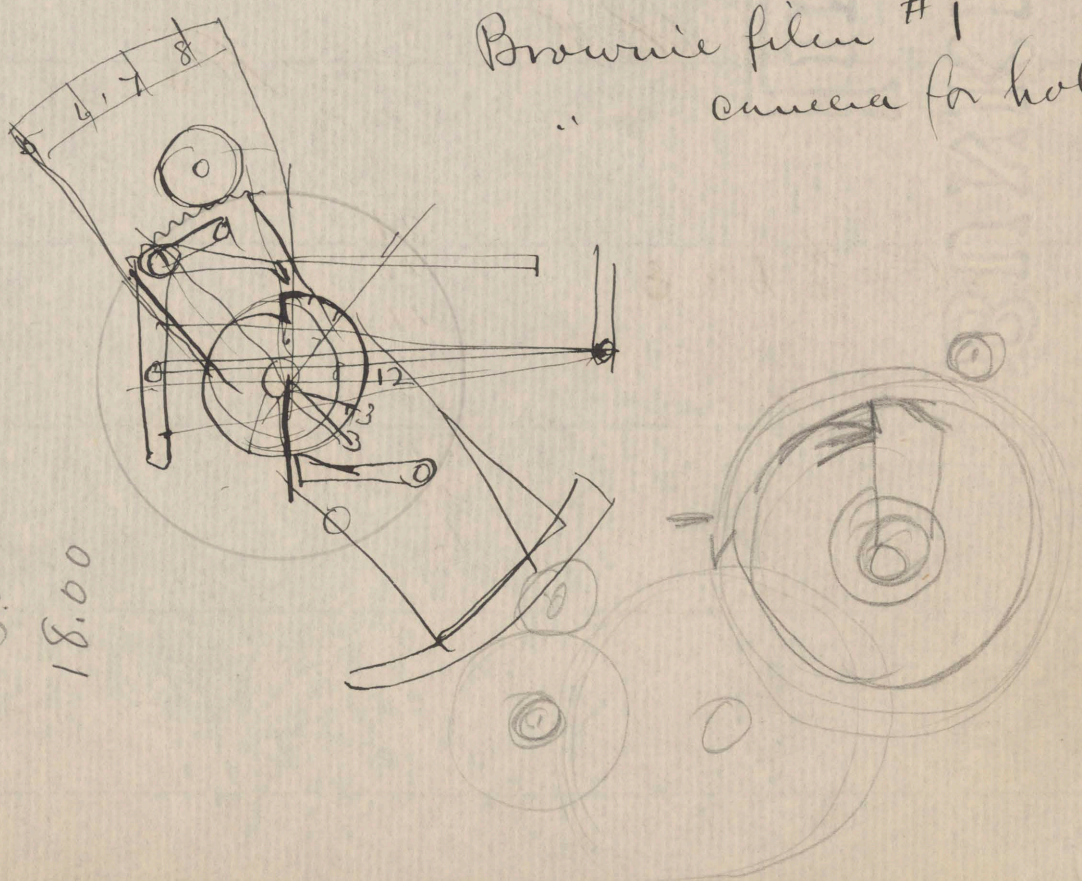
April } 8P-4A 3 2
 August }

May } 8P-3A 4 3
 June }
 July }

~~6P-6A~~

Pole-star Recorder
 Brownie film #1
 camera for holder

13.00
 5.200
 18.00



9
10
10
10
9
10
10
10

$$8 \times 9 \frac{3}{4} = 78$$

W. J. M.

~~Carroll~~

		12	
2 of	39	12	
3 of	26	13	
6 of	13	13	
		13	
13 of	6	13	72
		12	
		12	48
			26
			<u>78</u>
		8.000	
	70		

1
2
3
4
5
6
7
8
9
10
11
12

8	72	88
	<u>64</u>	176
	136	352
	544	
10	<u>400</u>	
	944	

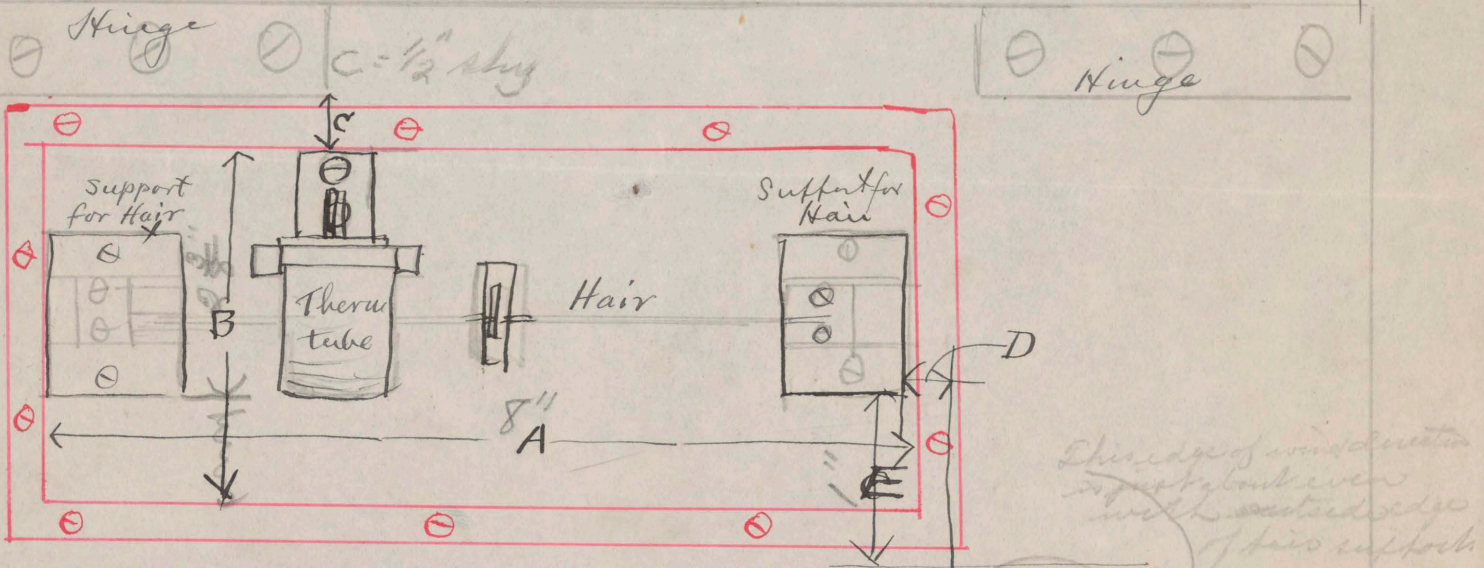
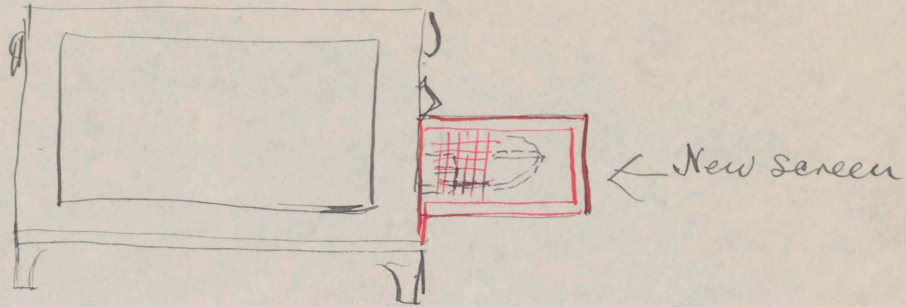
78	26	13
39	2 of 39	
	6 of 13	
	12 of	

Death



129.629 (

TRUCKEE-CARSON
EXPERIMENT FARM
RECEIVED
DEPARTMENT OF METEOROLOGY
OCT 31 1912
S. P. FERGUSON
Answered.....



Rear of base of Meteorograph
Red lines show proposed screen

Length of thermograph support $4\frac{1}{4}$ "

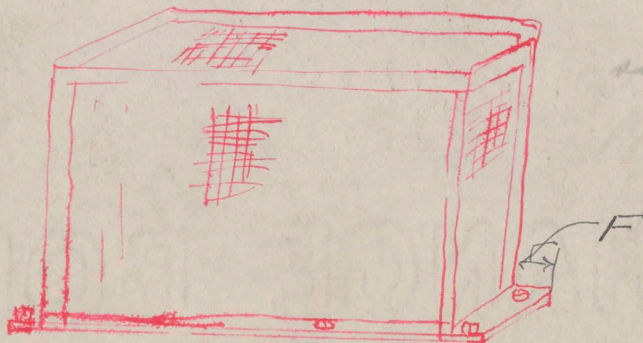


Fig. 2

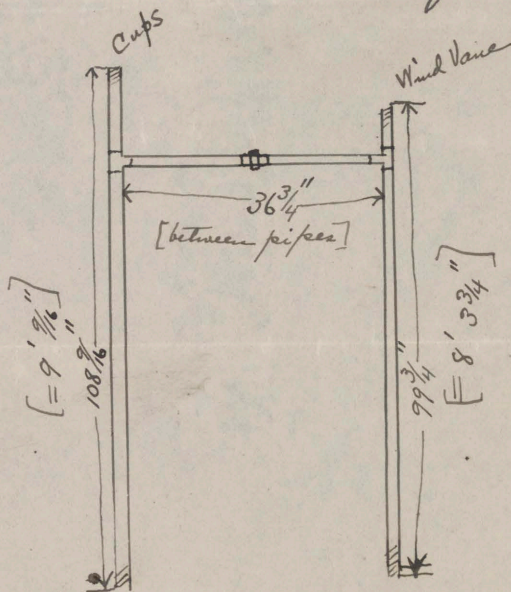
Reno, Nevada, December 29, 1907.

My dear Mr. Fergusson:

Your last letter has remained unanswered on account of my absence at Stanford University and a recent illness.

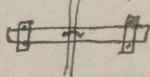
The supports were rickled to the summit on the last day horses could be forced through the snow. We go up this week to erect them.

The dimensions are as follows —



The length may vary with the tightness of the screws of the pipes.
(two for each pipe)

The pipes are to be held by straps of iron bolted across the sides of the shelter and a U shaped staple passing through the strap and around gas pipe support — as



Parts for ~~the~~ Snow Samplers:

The ✓ 2 couplings

✓ 2 5ft length tubes

✓ 2 10ft " "

✓ 4 cutters

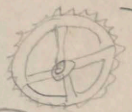
400 4 doz 4X40 screws

2 cleaning tools

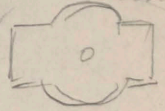
2 wrenches

3 rimp (cover for scale) ✓

3 gears graduated & spaced



3 plates cut from sheet ✓



3 back castings

3 hooks for scale-suspensions



3 sets lugs for suspending springs

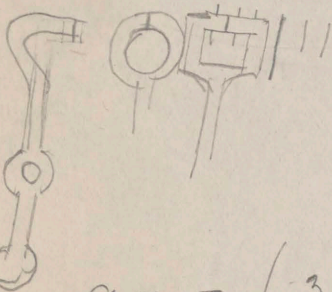
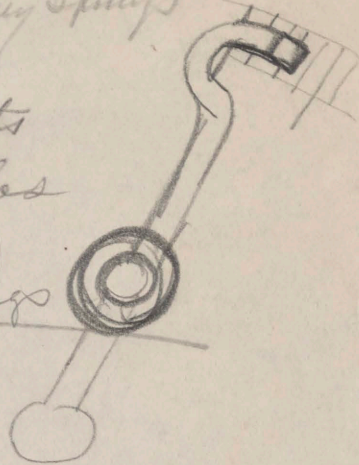
bon & fit racks

3 small gears & pivots

3 glass disks for scales

3 indexes

3 suspension rings



18
52
300
246

2.50

95.5

382 mm

75

191

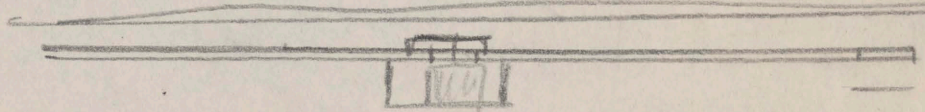
20.5

20.0

5.0

31.8

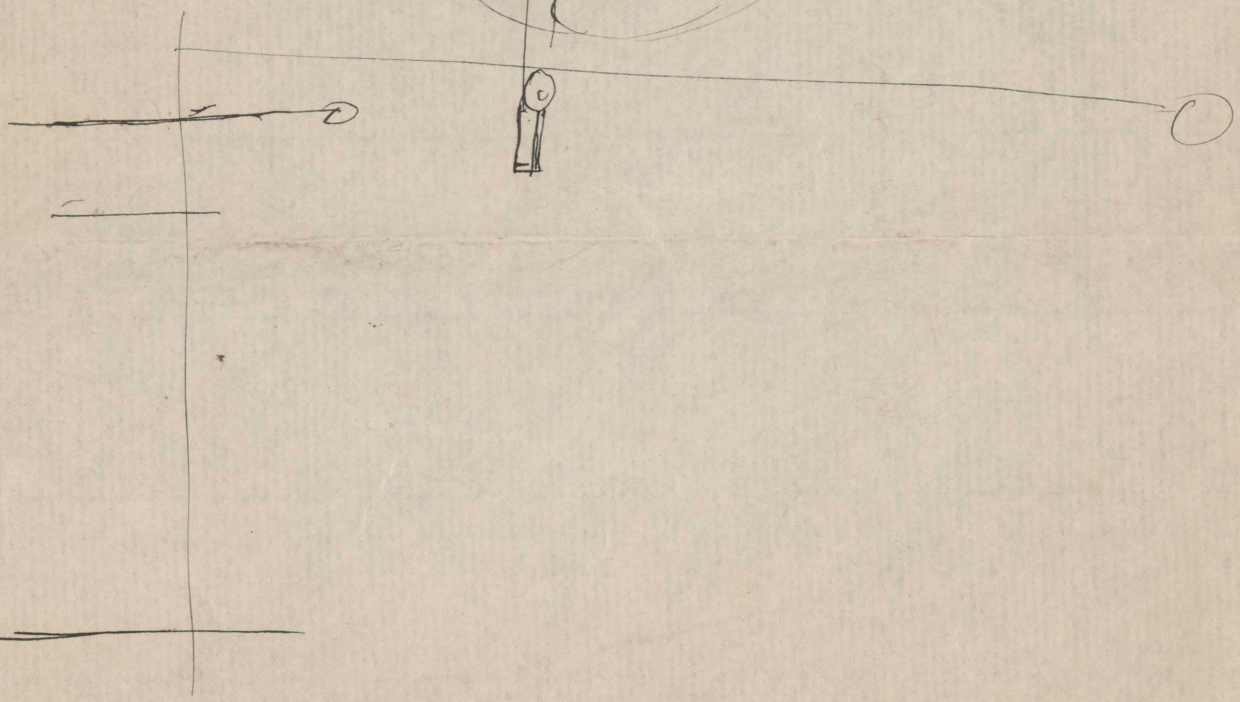
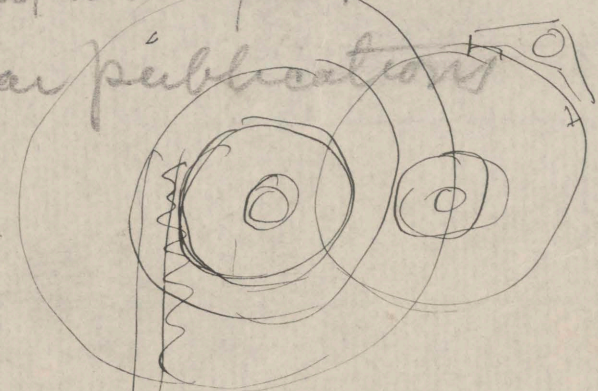
15.9



Reins

Cups for small beam accelerators	}	25.00	
Gears			
Castings			
Steel rods			
Seals		8.00	
Gears for micrographs		15.00	

Printer, 50 vols 100 pamphlets	100	A.P. 2
Plotter, 500 duplicate pamphlets	100	"
USWB, Regular publications		



P. 392 M.W.B. Sept 1897

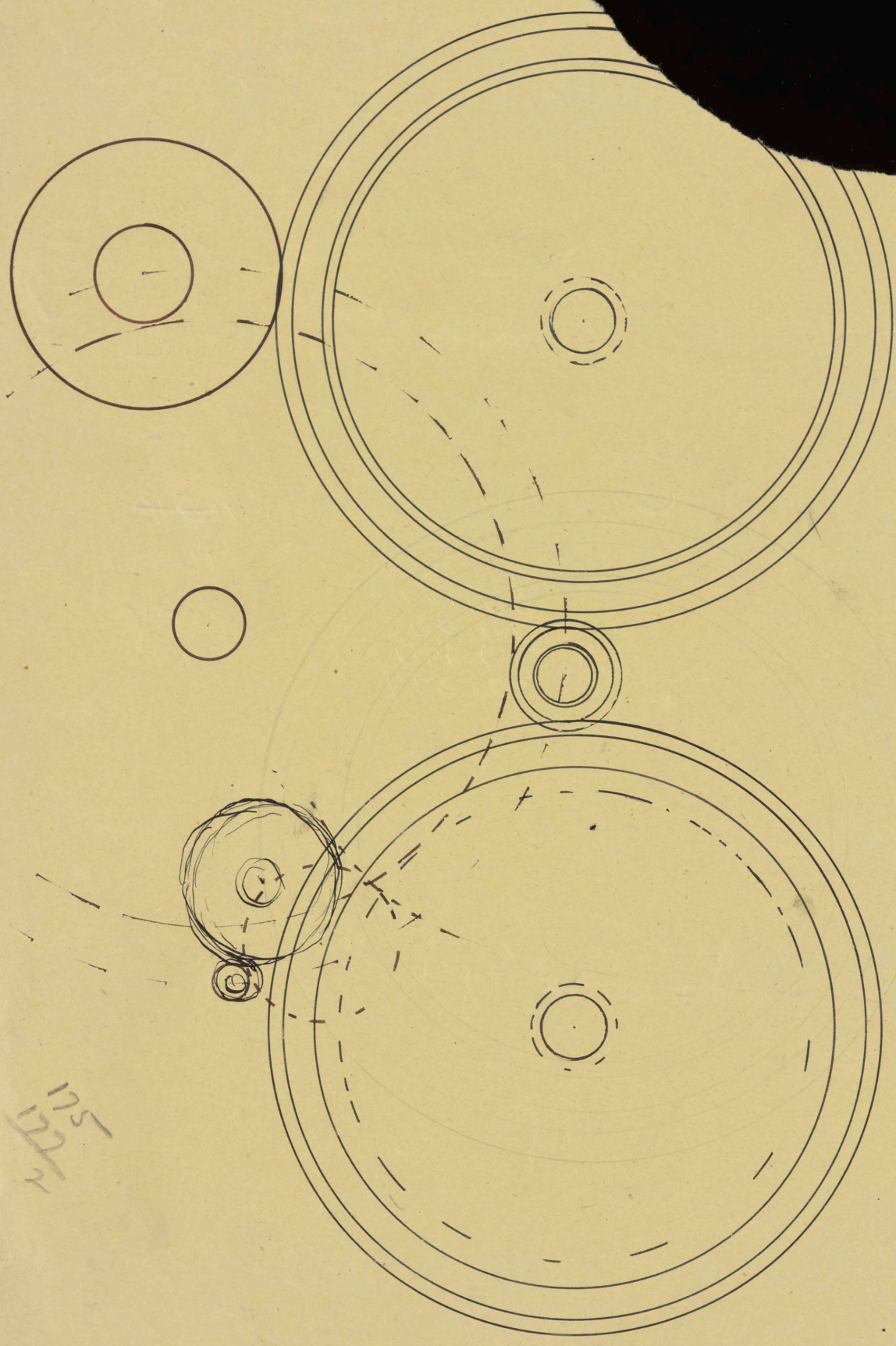
Plate Chart VIII

JP. 7

Instrument & books
purchased, 1911-12

Thermus - tubes for 3 meteorographs	10.50	
Iron castings	15.50	
Brass	18.00	
" tubing	15.00	
" brass & steel rods etc	25.00	
Teletheograph	55.00	
Pipe fittings	12.00	
4 mercurial thermometers	10.00	
2 sets scale parts	5.00	
1 snow sampler, complete	12.00	
Castings for scales	15.00	
Dials	8.00	
Repairing barometer	17.50	
Kite meteorograph	80.00	JP. 7
" materials	15.00	"
One new kite	30.00	"
Portable reel	40.00	"
1500 metres wire	10.00	"
New aneroid for Mt. Roof (parts only)	18.00	

50
25
61



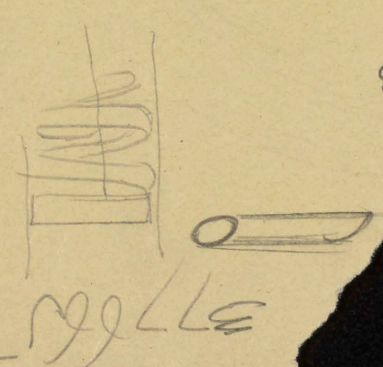
1/2
1/2

Scale Values of Focusing scale to 5x7 Kodak

Scale reading (Feet)	Actual Distance when in focus	Equivalent in Scale value of actual distance
6	4.5	6ft = 8 on scale
8	5.5	8 = 11 1/2
10	7.0	10 = 18
12	8.5	15 = 50
15	10	20 = 105
20	12	
25		
50		
100		

In using the above, if, for instance, the distance is estimated as 10ft, ^{index on} set scale to 18; if 20ft set to 100 or slightly more.

old	New	Scale Value	Scale Value
4	4	20	20
6	4.5	110	110
8	6	120	120
10	8	96	96
12	8		
15	10	7-1	7-1
20	10		
25	15		
50	15		
100	20		



33

377377

Description of Knapp's
Pressure meter

J. P. Ferguson

Silverdale N.Y.
7-20-02.

Dear Mr. Fergusson

I was very glad to receive your early and affirmative answer and will give you now the principles of my construction. Thinking over many constructions, I found that to have a sensitive device, it would be best to have a lever construction by which it is possible to decrease all friction to the smallest amount by use of ball bearings. The trial or testing surface or body is fastened in form of a small model at the top of the lever; to ~~be~~ always

have the same exposure to the wind this lever turns around a vertical axis by a vane and has also a parallel motion.

At last there is to determine the centerpoint of pressure and that makes all construction much more difficult, but I think I have found for the lever construction a device which is pretty simple and satisfactory. I will try to explain the principle as good as I can with my English, hoping that you will understand me.

Let us consider the first con-

struction as shown in Fig. 1.

M is the model

C may be the centerpoint
of pressure

x the unknown distance

a the vertical distance from
the joint to equal $l \sin \alpha$

P the unknown Pressure of
the wind

Then is Moment at C

$$M_C = \bar{P} \cdot (a + x)$$

M_C can be measured or recorded directly by the angle α when there is a clock spring at C, but here you see are two unknown in one equation, you want therefore another equation. Now consider

quite the same model fastened
 on the same apparatus but
 with a longer or shorter lever
 $l_1 = a_1 \sin \alpha_1$, then you get a
 moment $M_{b_1} = \bar{P} \cdot (a_1 + x)$ and
 you have now two equations with
 two unknowns \bar{P} and x

$$\bar{P} = \frac{M_b - M_{b_1}}{a - a_1}$$

$$x = \frac{M_b}{M_b - M_{b_1}} - a$$

That is in outline the theoretical
 principle. The practical in-
 strument shall only have one
 model and one recording device
 but shall embody the above
 "two-lever" principle. I have
 found following construction:

Fig 1

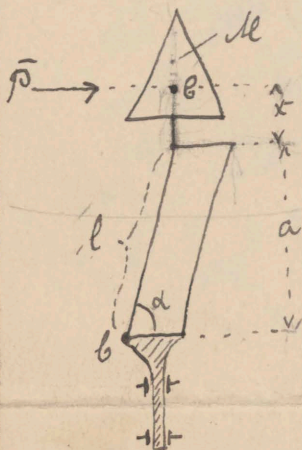


Fig 2

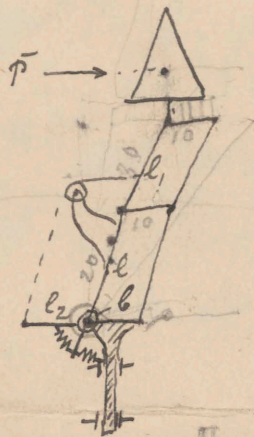
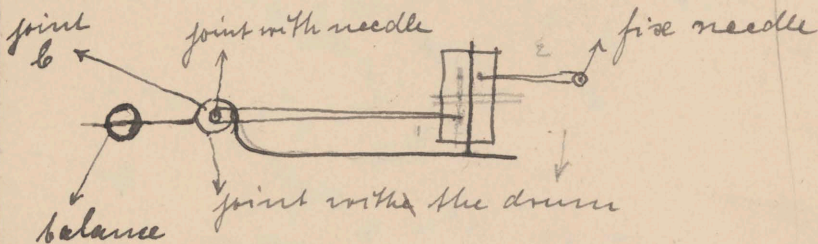


Fig 3.



the two joints are moving in
each other.

The model is fastened as shown in Fig 2 on 2 levers in series l_1 and l_2 , which have a parallel motion. To have the moments of both levers on one point there is a little chain which brings the moment from l_1 to the lever l_2 which turns around the same point as the lever l_1 . The spring for the lever l_1 is fastened on the frame and the spring for the lever l_2 and l_1 , is fastened on l_1 , so that you get a relative motion between the two joints which is proportional to the difference of the two moments ^{which} and is just what you want to record directly the Pressure P_1 because the pressure P is as shown

in the formula proportional to $M_0 - M_1$. By the motion between one of the levers and the frame you get one of the moments which you can record on the same drum so that you have the corresponding values under each other and you get by the quotient of these values $\frac{M_0}{M_0 - M_1}$ and the length of the

lever in each moment the value of x that is you record also the position of center of pressure.

If for instance the recording drum is moving with one of the joints and the one needle with the other joint you will get the difference of the moments or of the

pressure P . If finally we have another fixed needle it will then record on the drum one of the moments and through both records you get the centerpoint of pressure.

The motion of the drum means here not a motion around its axis, it means a motion like that shown in Fig 3.

The whole apparatus would consist of 3 levers two with parallel motion 2 clocksprings The recording drum and two needle two bearings for the vertical shaft and a frame and at least an encasing which will protect all parts of the apparatus except

the model from the wind
Before I send you more details
I will send you this hoping
that you will understand me
I am very anxious to hear your
opinion about the construction
I did not understand your letter
right, if you have already the
publication of Vogel or only some
parts of it.

With best wishes to all
at Blue Hill. I am
very sincerely yours

Otto Kuapp.

1914

March

1914

Sunday *Monday* *Tuesday* *Wednesday* *Thursday* *Friday* *Saturday*

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

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21

22

23

24

25

26

27

28

29

30

31

First Qr.

5

Full Moon

12

Last Qr.

18

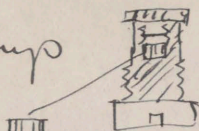
New Moon

26

Parts to be ordered

Anemometer bearings

12 steel disks
hardened & polished on ends
 $\frac{3}{16}$ " diam $\frac{1}{8}$ " high

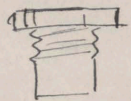


12 screw step bearings



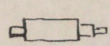
12 bearing caps

$\frac{1}{4}$ " diam of thread 32 thr. to inch.



12 upper bearings

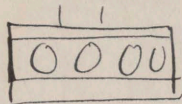
$\frac{15}{32} \times 40$ thread



10 of each



German silver like samples



6 thrust bearings for anemoscope

6 Knipe & "

" cylinders $\frac{3}{8}$ " shaft.

Gears furnished by A.P.F.

3	48 T. and 3 12 T. for Meteorograph clocks	\$ 1.20
<u>Answer, 1</u>	50 T., 1 40 T., 1, 24 T., 1 96 T 2 worms	1.50
clock 1	steel 24 T., 1 72 T	.65
for Mr. R.		<hr/> \$ 3.35

Wanted for A.P.F.

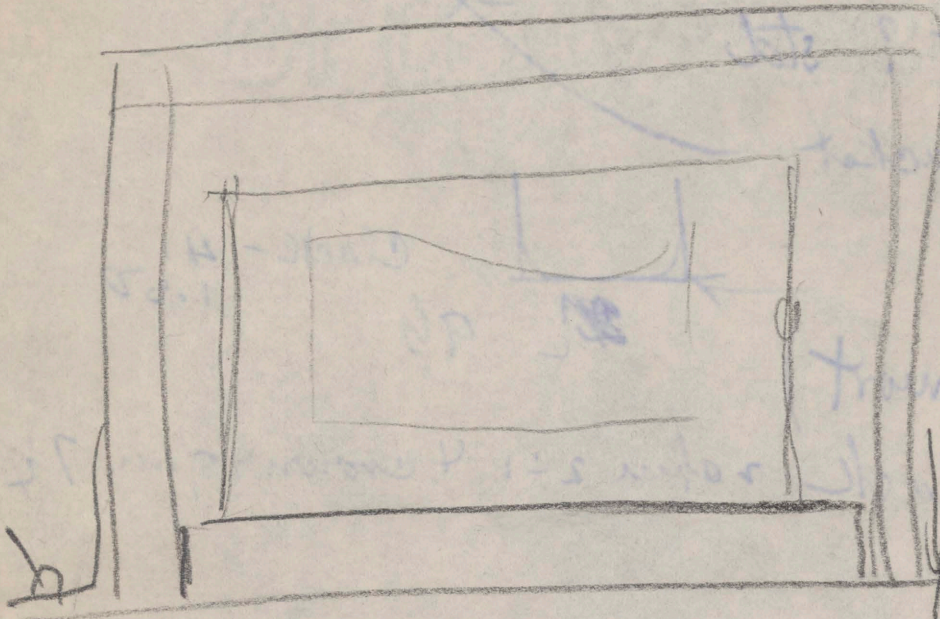
2	16 p. ratchets 24 T	1.00
1	# 160	1.00
1 S	1920	.67

NEVADA AGRICULTURAL EXPERIMENT STATION
 SAMUEL BRADFORD DOTEN, DIRECTOR



DEPARTMENT OF METEOROLOGY
 J. E. CHURCH, JR., PH.D.
 S. P. FERGUSSON

UNIVERSITY OF NEVADA
 RENO, NEVADA, U. S. A.

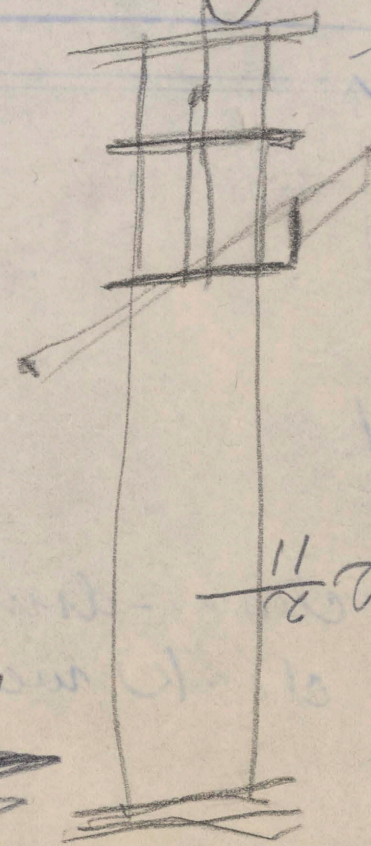
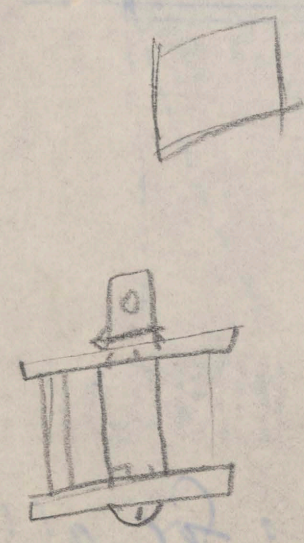


Handwritten notes and calculations on the right side of the page:

- $\frac{70}{78}$
- $\frac{94}{78}$
- $\frac{384}{78}$
- $\frac{13.3}{78}$
- $\frac{96}{29}$
- $\frac{7\frac{1}{2} \times 13}{50}$
- $\frac{24}{50}$
- $\frac{1396}{91}$
- $\frac{1396}{71}$

Handwritten notes and calculations on the left side of the page:

- $\frac{71}{14}$
- $\frac{29}{4}$
- $\frac{2}{4}$
- $\frac{29}{14}$
- $\frac{7}{14}$
- $\frac{7}{4}$



Handwritten notes and calculations on the right side of the lower section:

- $\frac{14}{22}$
- $\frac{24}{11}$

Large handwritten scribbles and signatures at the bottom of the page, including what appears to be a signature and some illegible text.

Order

46ft chain
 sprocket 5" (one)

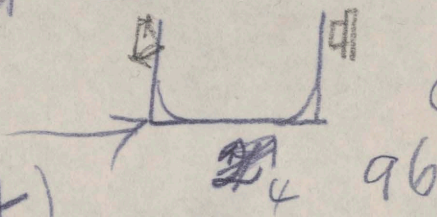
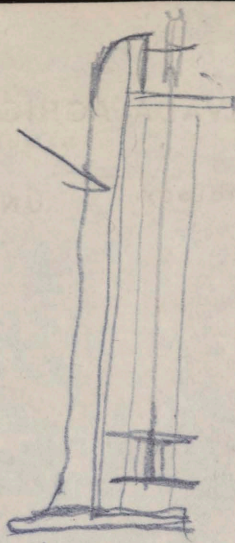
Gears: 32P
 2 - 64T sheath
 4 - 16T? std

~~Iron~~ iron bracket

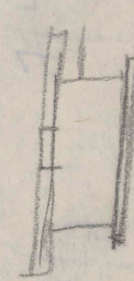
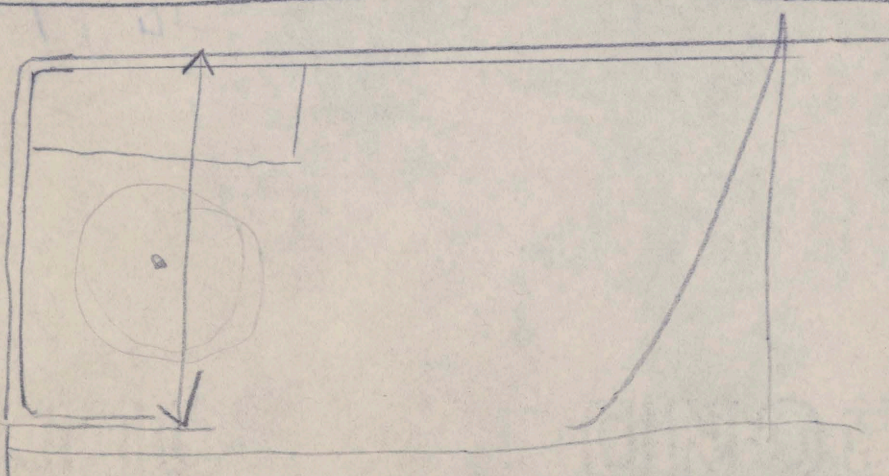
Brass "

Clock (#10 mort)

gears for clock 2 spur 2:1 & crown & spur 7/4 to 1
 Pen:



clock	12.00
2.50	
	3.60
	1.30
	40
	1.00
	2.75
	<hr/>
	9.05



96

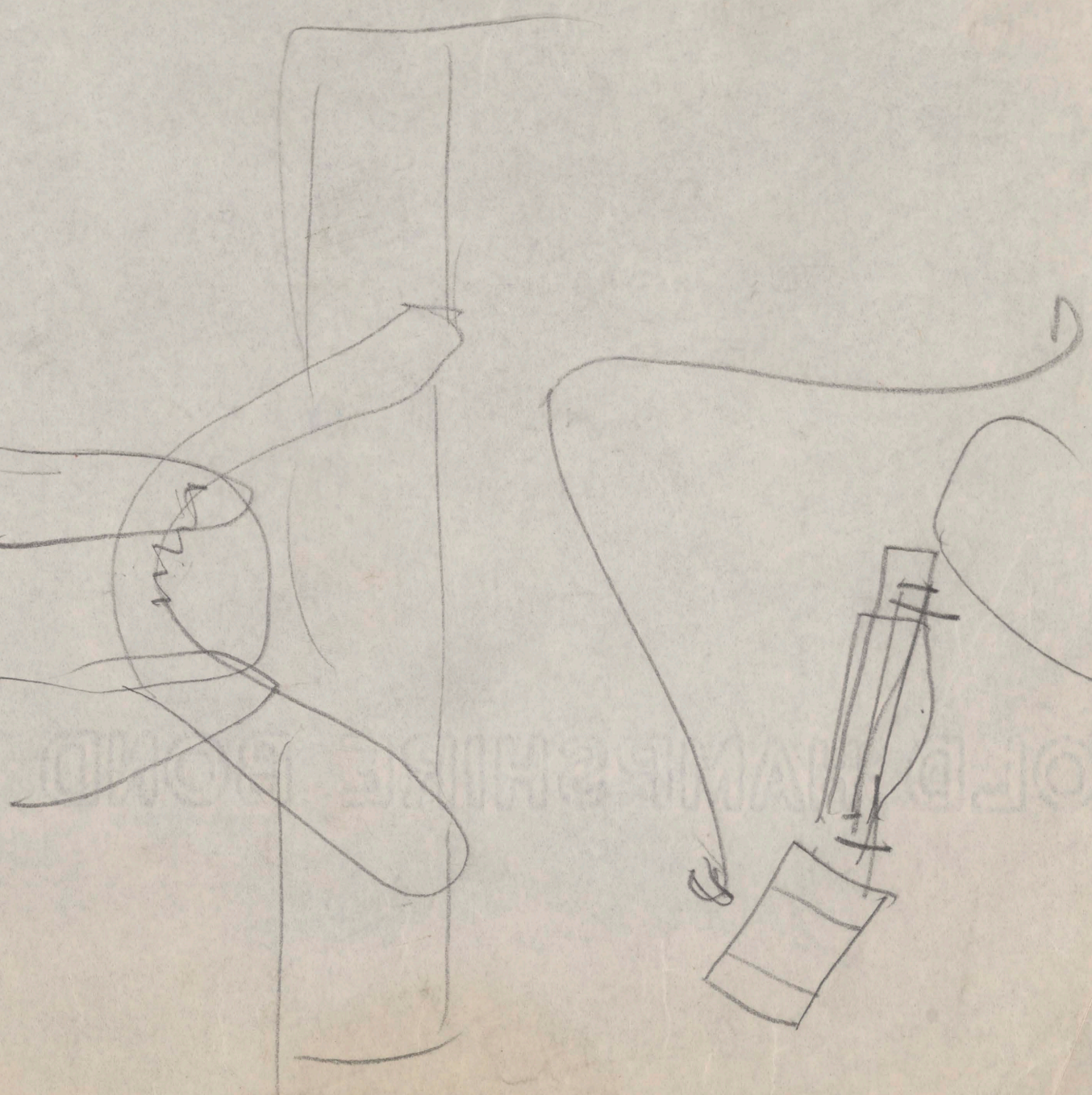
Four chain-drums for all instruments
 Make clock mechanism
 Cost of whole for SP7 about \$20
 Extra parts \$10

Library

Classification

- | | | | |
|---|---|--------------------------------|-------------|
| 1 | Observations <u>general</u> | 10 | Treatises |
| | " <u>aeronautical</u> | | + Textbooks |
| 2 | Stat Barometry & Pressure | 11 | Marine |
| 3 | Temperature | 12 | Forecasting |
| 4 | Winds, Velocity
Directions | | Prediction |
| 5 | Moisture { Rain
Snow
Dew & Frost, Evaporation | | |
| 6 | Clouds & Sunshad | | |
| 7 | Upper air Physics | Kites
balloons
Mountains | |
| 8 | Clouds Optical phenomena | | |
| 9 | Instrument in general - catalogs | | |

$$\begin{aligned} 2.5 \\ 5.0 = 2h \\ 6.0 = 24h \\ \frac{30}{1,800} = 30d \\ 3.6 \quad 60 \\ \quad \quad 8 \end{aligned}$$



RENO, NEVADA, U. S. A.

- 4 Tubes pour barometre a Bourdon 50
12 plumes (ordinaires) 36f
3 tubes de thermometre ^{supplement} 35f
4 " " " " 50 "
pour met. a inf. volante
2 mouvements d'horologie 100f
Pour cylindre a 3mm 221

Large bell jar (12" inside diam.) 50
Manometre a mercure
Cases & castings etc for 4 thermo-hygrographs
4 iron
5 brass brackets
8 cylinder heads
4 set gears

OVER

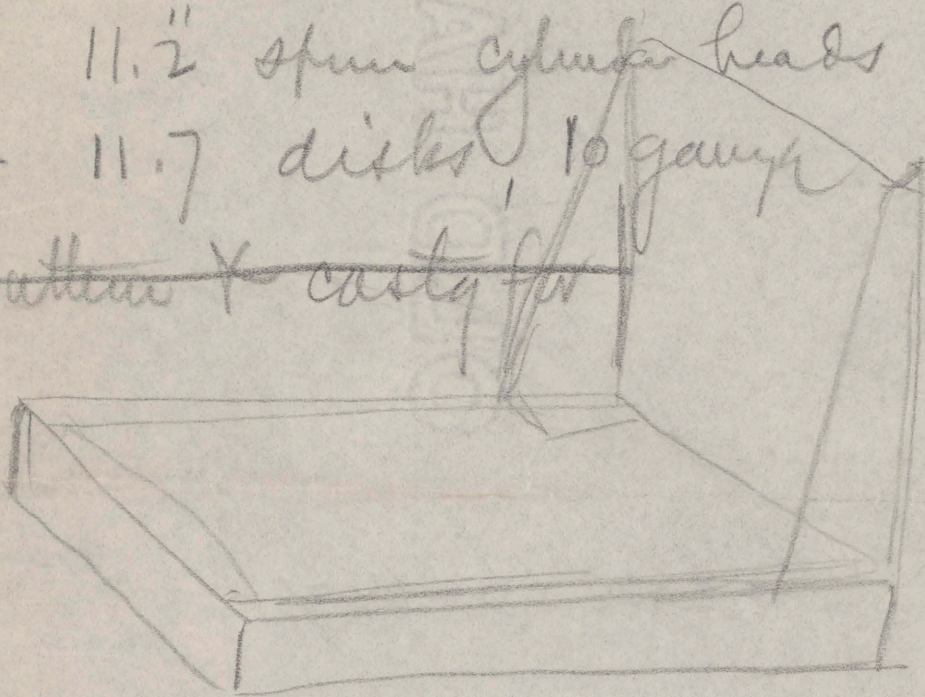
10 80cm balloons Pattern 250 \$25

1 Carboy H₂SO₄
2 Reqs for generator
Pipe fittings

6 11.2" spun cylinder heads 3.00

4 11.7" disks, 10 gamps 1.00

Pattern & cast for

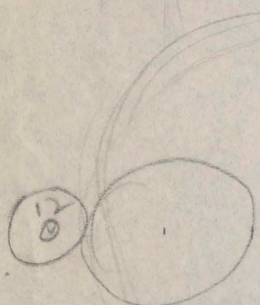


Base

2.00

Case 2.00

Clock parts 3.00



1 = 3.75 days 1 cm = 1 hr
1 rev = 90 hrs

1 = 3" approx = 1 day 1 turn in 30d

1 = 1 cm = 1 d 1" 90d

Device for filling barometric tube

Tube is thoroughly dried and kept warm, while connected with air-pump and mercury still

- Required:
- One black iron pipe nipple $\frac{1}{8}$ " long
 - 1 ft $\frac{1}{8}$ " pipe
 - One elbow
 - One tee
 - 8" of tin tube for boiler
 - 2 ft rubber suction tube small
 - 6" " " $\frac{1}{2}$ "

8 am Monday

Tues

wed

6 pm Thur

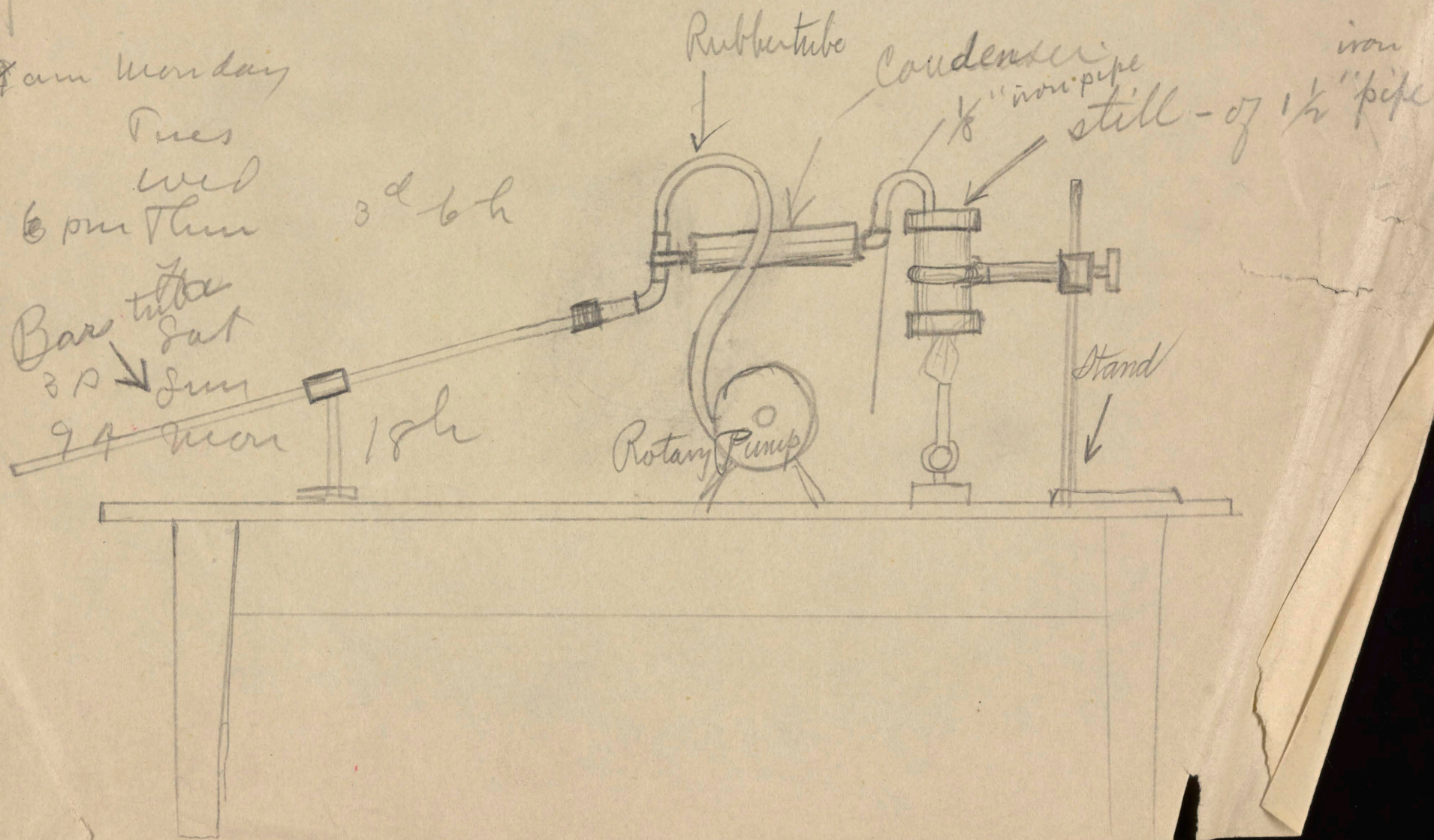
3^d 6 h

Bar tube
Sat

3 P → Sun

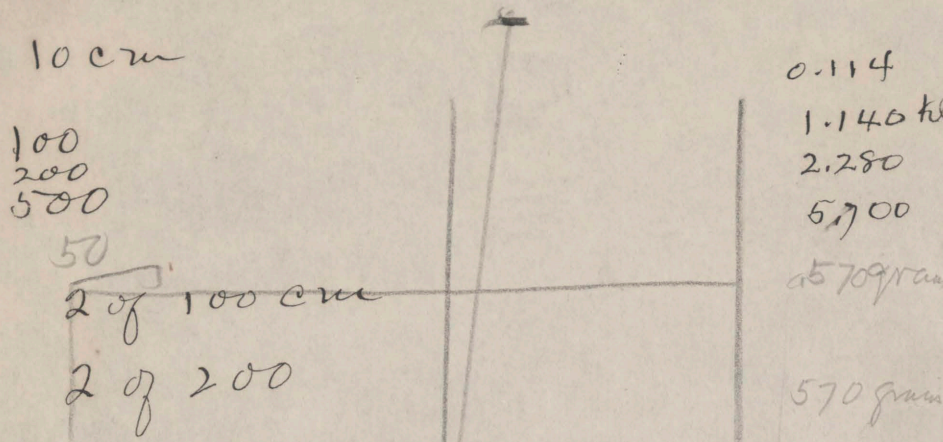
9 A Mon

18 h



10 cm = $\frac{3937}{102} = 38.598$ Ka

1 cm = .3937" = .401 oz = 0.0114



1.5" = 3.81 cm \times 3 = 11.40 area cm^2
= 11.4 grams

39.4 inches
1.02

78.8
394

40.188 oz 1.134

One inch = 1.02 oz
One cm. = 0.4017"
~~One oz~~ = 0.0113 kilo
= 11.3 grams

1 cm depth in 1.5" tube = 11.3 grams
10 = 113 "
100 " = 1130 " or 1.13 kilo
200 = 4.850
500

1.0 kilo 2.425

20.30 1.00
15.00 50

260

Ladder March 25 3.50
Refund Expenses April 6.00
Tractor 5.30
Johnson " 2.90
Fallon 2.60

20.30

DEPARTMENT OF METEOROLOGY
J. E. CHURCH, JR., PH.D.
P. FERGUSON

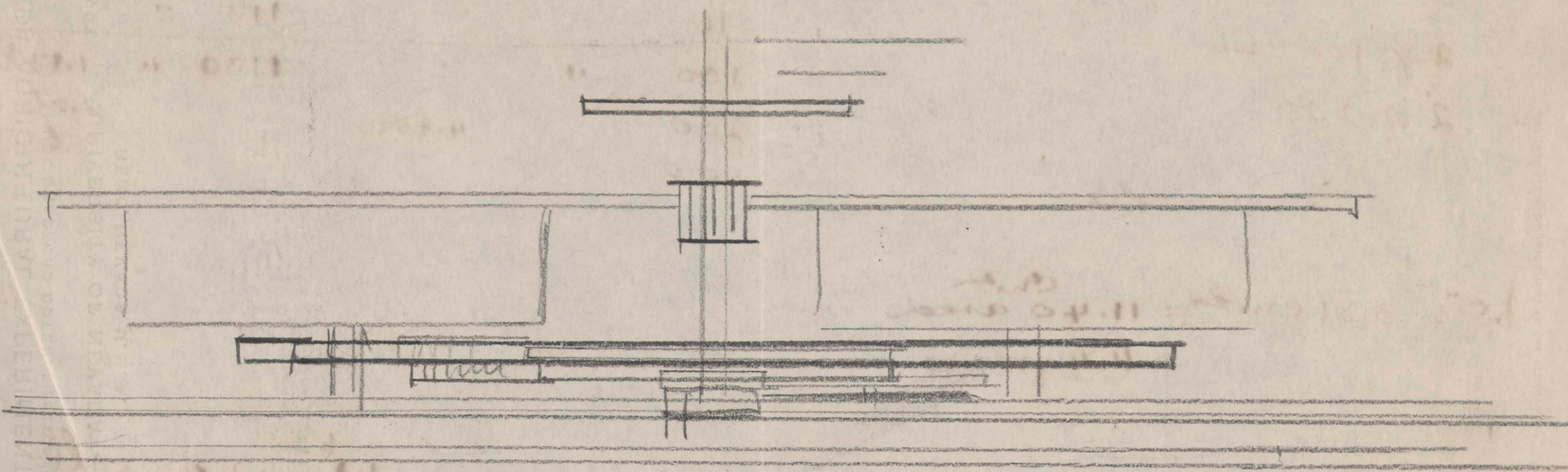
NEVADA AGRICULTURAL EXPERIMENT STATION

UNIVERSITY OF NEVADA
SAMUEL BRADFORD DOTEN, DIRECTOR
RENO, NEVADA, U. S. A.

ADDRESS ALL COMMUNICATIONS TO THE DEPARTMENT

22

NEWARK COUNTY JURAL EXPLORER
RIVER CITY OF NEWARK
STATION



# 18	4000	637	Kilos	25.48	600
# 16	4000			20.00	23
# 14	3000			12.00	9.20
# 12	1000			3.20	207
				6.4	
				22	
				8	
				60.68	

3000

70	
25	
12	
<u>107</u>	Kilos
225	9
<u>120</u>	Kilos
27000	
40	
<u>10800</u>	

95 Kilos
200 lbs

108	600	500	1835
187	250	430	
25	350	400	
25	1.40	1535	
25	490		
	22		
	40 kg		
	88		

300
400
13

# 18	50 lbs	10 feet
16	90	1 "
14	50	1 "
12	25	1 "
9	25	
	<u>240</u>	10 lbs for Blue Hill

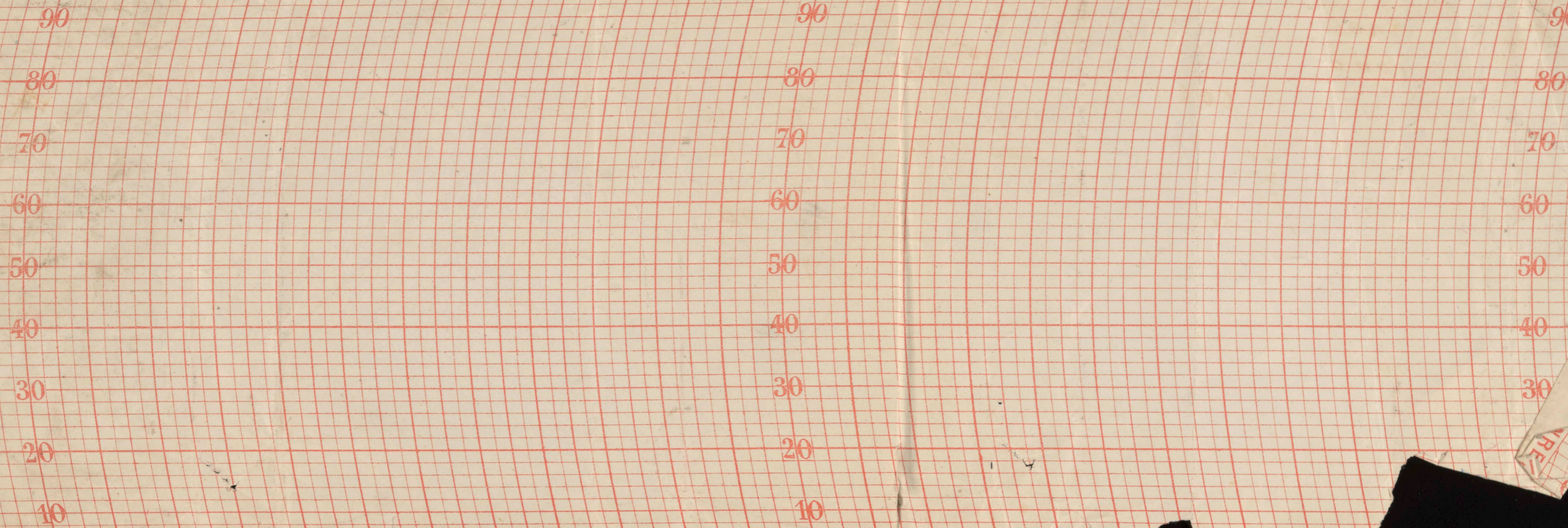
25.1
00.1
00.9

Anemo Cinemograph Patent N.º 410 023 RICHARD brothers Manu^{rs} PARIS

Blue Hill Meteorological Observatory

189

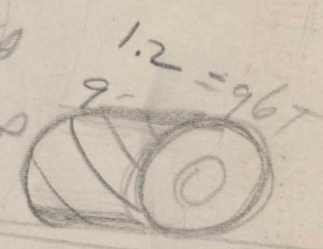
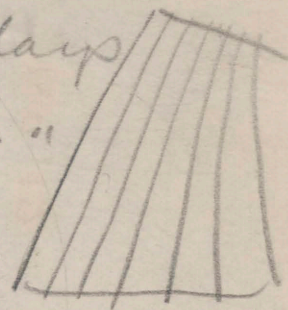
7 8 9 10 11 12 1 A.M. 2 3 4 5 6 7 8 9 10 11 12 P.M. 1 2 3 4 5 6 7 8 9



7 8 9 10 11 12 1 A.M. 2 3 4 5 6 7 8 9 10 11 12 P.M. 1 2 3 4 5 6 7 8 9

PARIS BREVETÉ S.G.D.G.

Present: 5.77 to 1 = 8 days
 Adapter 6 to 1 8.4 "
 28 - 5 92
 30 70
~~577 19~~
~~600 20~~ 3.72 to 6 days
 or .67 to 6 days



14/80 (5.71
 70
 100 6.00
 98
 20

8.1
 2.7 hr

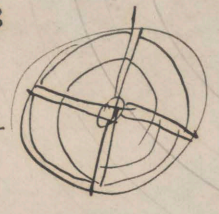
405 mm

Internal

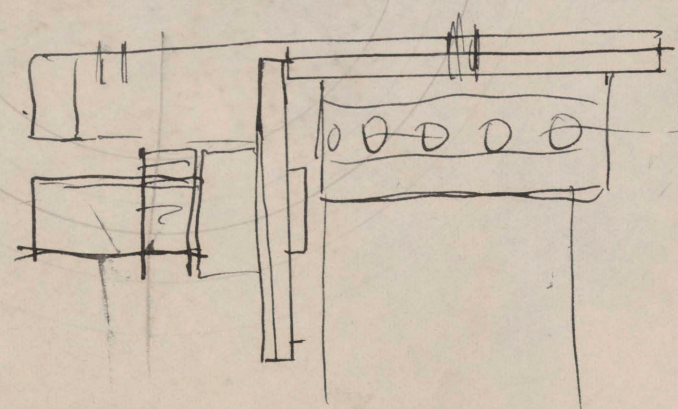


7 ²/₃

24



8



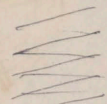
Anemometer gears:

$$\begin{array}{r} 2.31 \\ 16 \\ \hline 3.696 \end{array} \quad 3.70$$

Evaporation instruments:

Cups turn once for 3 metres ($R = \frac{2.5}{1}$)

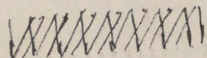
Arbors turn 1 = 100 m = $33\frac{1}{3}$ to 1 ^{1th}
 1 = 50 m = $66\frac{2}{3}$ to 1 ^{1th} or 33. double
 1 33 " =



For 2 m to rev 50 teeth on 1 m or 100 T on 50 metres
 4 25 100m ^{double} 25 " 50
 3 $33\frac{1}{3}$ 100 $33\frac{1}{3}$ double



(48P) 12 - of 64P. 33 teeth worm gear clock teeth $\frac{3}{16}$ hole $\frac{1}{16}$ " face = 3.00



for 24 to 1 day Present gear 1:1 = 2.4 to 1 = 37.5 days to 1 turn
 for 4 to 1 day " " 1:1 = 22.5 " "
 1 to 1 day " " 1:1 = 90.0 " "

5 to 1
4 to 1

1.25

16 x 5 = 80
16 x 4 = 64

37.5 ~~days~~

37.5 h 55
480 92 5



Spring gear 1 in 37.5 hrs ~~37.5 day~~
 2^o " x 6 = 225.0 1.52 9.375
 Spring " x 5 = 1125.0 = 4,687.5

$$\begin{array}{r} 96 \\ 165 \\ 144 \\ \hline 210 \\ + 92 \\ \hline 180 \\ 168 \end{array}$$

2.4 : 1
 24 : 10 Gearing
 36 : 15
 60 : 25
 72 : 30
 48 : 20
 96 : 40
 120 : 50 3 3/4 ~~1.5~~

$$375 \overline{) 46,875} (1.2235) 80000 (6.5) \\ \underline{375} \\ 937 \\ \underline{750} \\ 870 \\ \underline{750} \\ 1200 \\ \underline{1125} \\ 750 \\ 65900 \\ - 8940 \\ \hline 12996$$

$$\begin{array}{r} 5 \overline{) 46875} \\ 4 \\ \hline 58595 \end{array}$$

$$\begin{array}{r} 4 \overline{) 46875} \\ 5 \\ \hline 9375 \end{array}$$

37.500 days ÷ 24 = 90

$$\begin{array}{r} 4 \overline{) 8016} \overline{) 64} \\ 5 \\ \hline 3.2'' \end{array}$$

4/5

80 - 64
 40 - 32
 20 - 16
~~30~~
 60 - 48
 30 - 24
 15 - 12

45-36

J. E. CHURCH, JR., CHAIRMAN
PETER FRANSDEN
JOHN W. WRIGHT
DAVID W. HAYS
MRS. MAUDE WHEELER SENSENEY
MRS. FLORENCE H. CHURCH

UNIVERSITY OF NEVADA

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MRS. LOUISE BLANEY TWADDLE, SECRETARY

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Yours for the University,

COMMITTEE ON HOME-COMING,

Louise Blaney Twaddle, Secretary.

$$(3) 1 = 48^h = 2d$$

$$(2) 1 = 288 \quad 12$$

$$(1) 1 = 1152 \quad 48d \times 5 = 240d = 8 \text{ months}$$

$$4 \quad 192 \quad 6.4 \text{ ''}$$

$$4.5 = 216 \quad 7.2 \text{ ''}$$

$$1 \text{ time in } 90d = 7.5 \text{ to } 1 \text{ on } 2$$

$$1 \text{ '' '' } 3.75 \text{ ''} = 7.5 \text{ to } 1 \text{ on } 2 \times \frac{4}{4}$$

$$2 \times 4$$

$$(2) 384 = 16d \div 90 = 5.625$$

$$20 \overline{) 144} \quad 20 \\ \underline{72} \\ 72$$

$$1 \times 3.75$$

$$0.5 \times 7.5$$

$$72 \overline{) 90} \quad 12.5 \\ \underline{72} \\ 180 \\ \underline{144} \\ 360 \\ \underline{360} \\ 0$$

$$4 \times 32 \quad 7.5 \overline{) 128} \quad 1.70 \\ \underline{75} \\ 530 \\ \underline{525} \\ 500$$

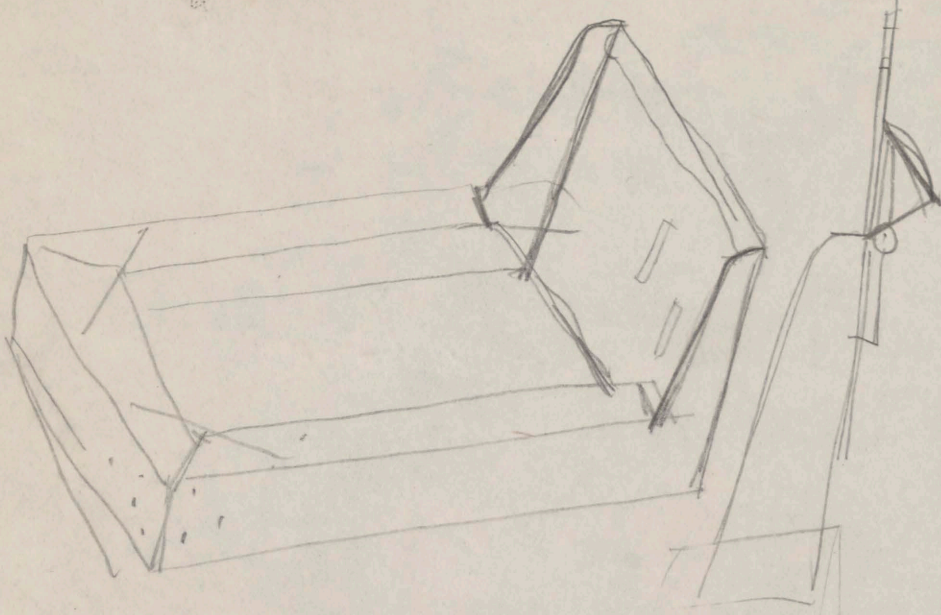
$$75 \times \begin{array}{l} 10 = 75 \\ 11 \quad 82.5 \\ 12 \quad 90 \\ 14 \quad 105.0 \\ 16 \quad 120.0 \\ 18 \quad 135.0 \\ 20 \quad 150.0 \end{array}$$

$$75 \overline{) 108} \quad 1 \\ \underline{75} \\ 330 \\ \underline{300} \\ 30$$

$$\boxed{5 \text{ to } 1}$$

$$75 \overline{) 125} \quad 16 \frac{2}{3} \\ \underline{75} \\ 500 \\ \underline{450} \\ 50$$

$$75 \overline{) 160} \quad 21 \frac{3}{4} \\ \underline{150} \\ 100 \\ \underline{75} \\ 250 \\ \underline{225} \\ 25$$

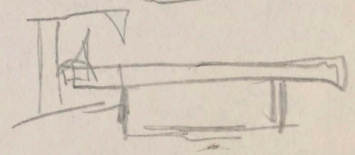
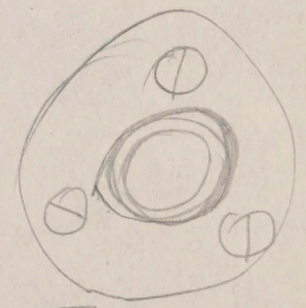
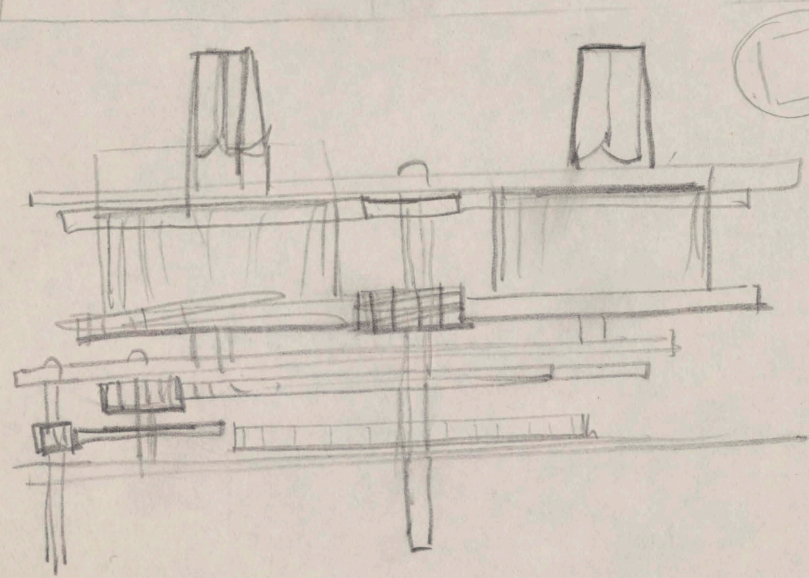
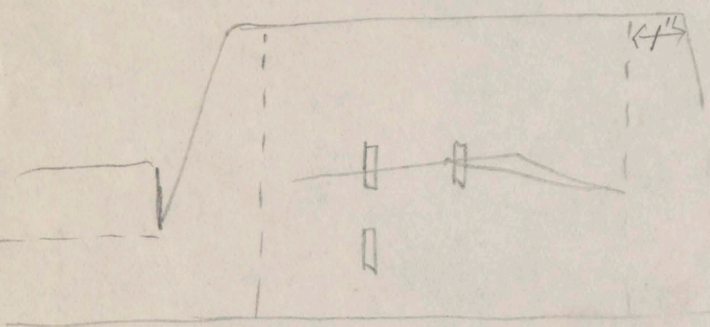


1730
3.40

13,00
12,50
~~11,50~~
3.
28,50
5,00
33,00

141

Mar
apil



100

Rulison

90cm sheet

1893.

Cylinder: $\left\{ \begin{array}{l} 1 \text{ cm} = 1 \text{ h} = 1 \text{ turn in } 3.75 \text{ days} \div 3 = 1.25 \\ 1 \text{ " } = 6 \text{ " } \quad \quad \quad 22.50 \text{ " } \\ 1 \text{ " } = 24 \text{ " } \quad \quad \quad 90.00 \text{ " } \end{array} \right.$

Arbors $\left\{ \begin{array}{l} \text{old Spring} = 1 \text{ turn in } 2 \text{ days} \quad \text{ratio } 1:8 \quad 1.875 \quad 1.7/8 \\ 20 \div 6 = \text{ " } \quad 12 \text{ " } \quad \text{ratio } 1:1.875 \\ \text{Spring} \div 5 = \text{ " } \quad 60 \text{ " } \times 20 = \text{ " } \quad 1:1.875 \end{array} \right.$

~~Note~~

Lonley Linley

22.50 1.875

11.250

6 x 5
30
3.75

3.75

20

60/90
1.50

112.50 days

1: 1.25 90 days

1:

5/4 80

125
320 800 64
750 64

125
200

64 8 84
80 10 67.2

24 1175 4,6875
96

165
144

210
192

180
168

24 210
36 15

72 30
40 58

20
16

2160 hrs

24

1875 90000 40.8
7500
15000
15000

49.6

49.6

56

49

105

Ratio 2.4067 to 1

W.W. = N

200 8 5 84
125 5 8

420 40 5.2956 40 58 37500 3116 2.407

6346
6232

1080
10906

60 5
48 4

3.75
24

375-h

1500
750

9000 hrs

24 rev

24
24

375 1.55
24

96
48
576

134 24 90 3.75
126
140
120
200

80 10 5
64 8 4

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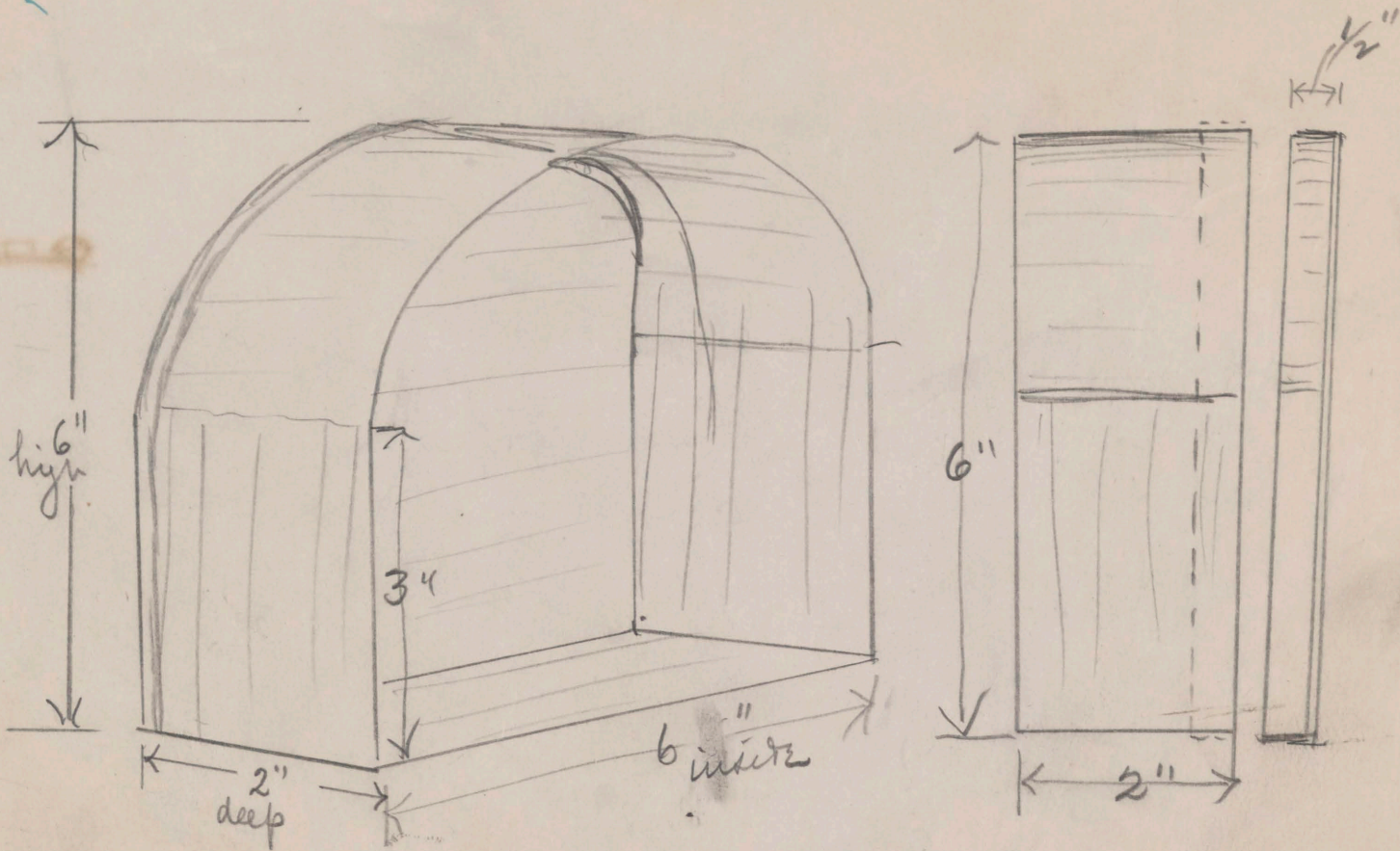
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COMMITTEE ON HOME-COMING,

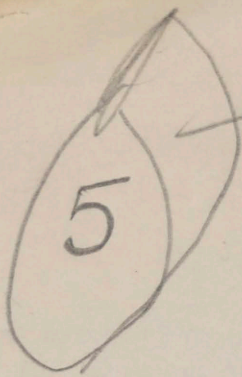
Louise Blaney Twaddle, Secretary.

16.00
8.00
W

April, 16.00
May 18 day = 9.60
15d = 8.00
3 1.60
25.60
2.50
28.10



Tin box, with cover, 6" wide 6" high, 2" deep



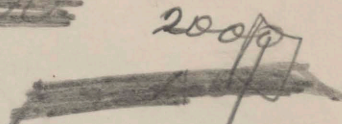
$$300 = 100$$

~~2250~~ ~~28~~

~~7000~~

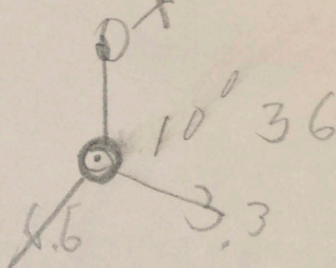
~~500~~

$$\begin{array}{r} 25 \\ 20 \\ 18.50 \\ 10 \\ \hline 73.50 \end{array}$$



$$\begin{array}{r} 16 \\ 18 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ 40 \\ \hline 74 \end{array}$$



$$3.15 \quad 315$$

$$12 = 3.00$$

56

$$10 = 3.50$$

$$12 = 3.00$$

~~700~~

~~700~~

Wanted:

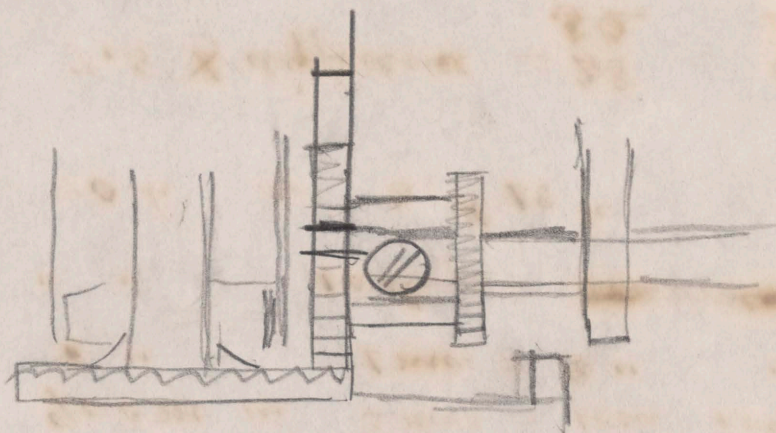
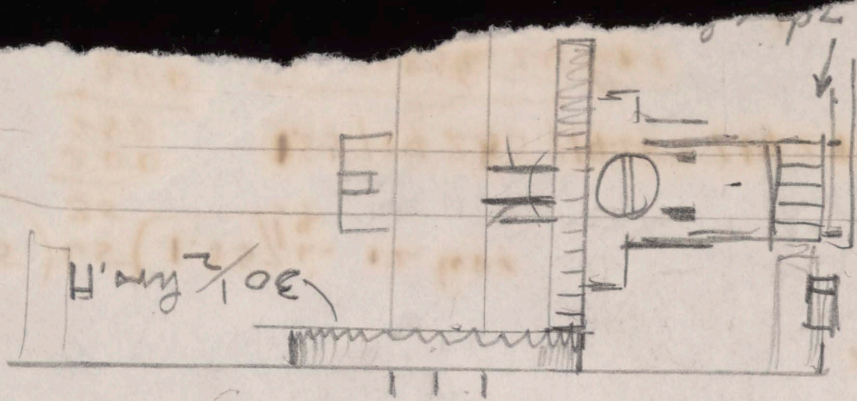
3 S.T. clocks for new meteorographs	\$10.50
" cases (to be made here) "	5.00
2 doz Richard pens	15.00
50 ft small flexible tube (for tele-thermo.)	3.00
2 sets gears for Fallon & Truckee	2.50
One large thermometer shelter for testing instruments	
4 sets ball bearings for vanes	3.00
4 " " " cylinders	1.60

Salary of Mr. Phetres? June & October (5 mos) // 75.00

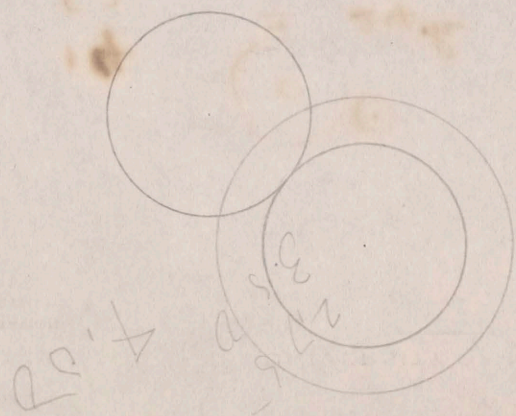


12096
17 05
19
14

Δ
Δ
Δ

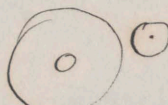


Le spurs 30 T



RENO, NEVADA, U. S. A.,

14
52


= 24^h

90cm in 3mos = 1cm = 1 day

" " " 1mo. = 3 " "

" " " 10 days = ~~90cm = 1 day~~ 10m = 1h

1cm = 1h = 90h or 3. d 18^h

12h

7.5 X difference = $\frac{278}{56} = \frac{0.9}{26}$ 3.

225
—
550

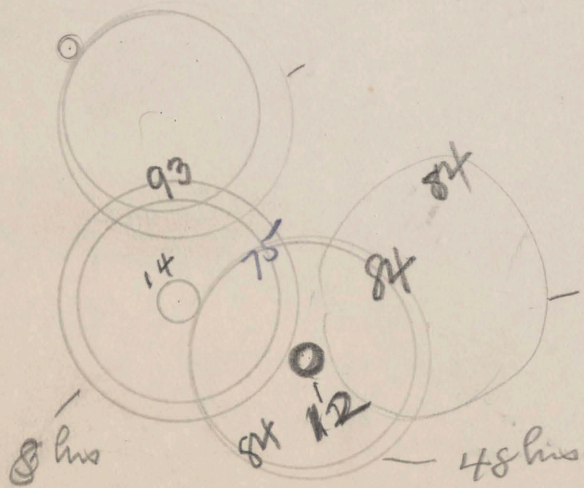
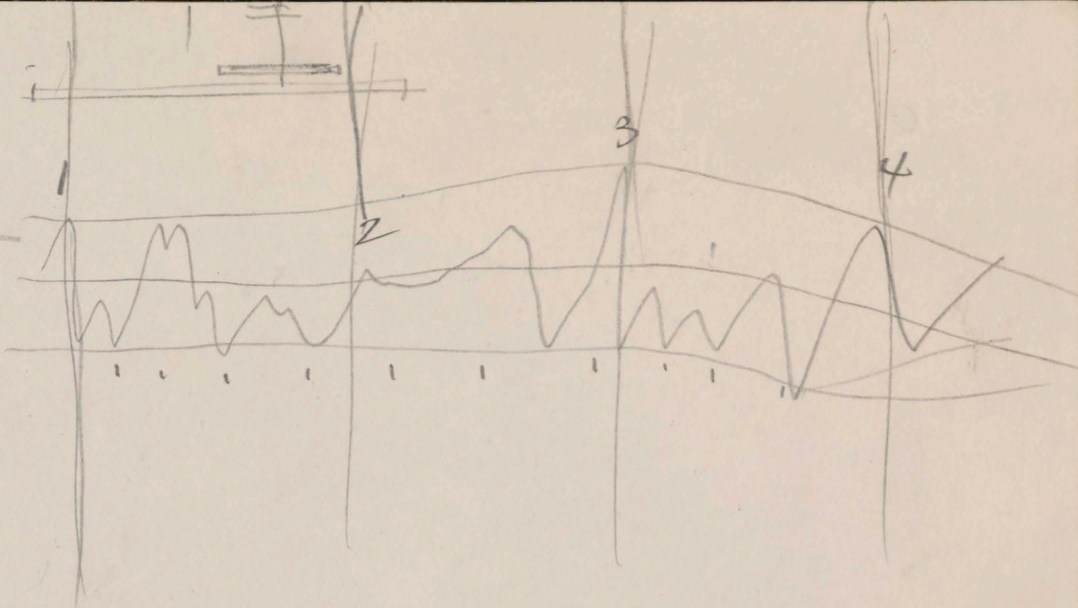
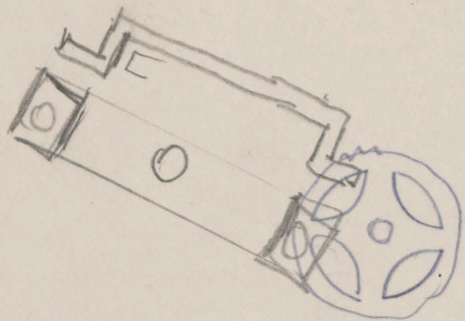
35) 65 (1.857 in 12 hrs
35

300
280
—
200

1.8571428571428571428571428

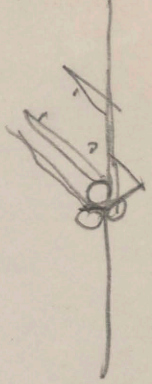
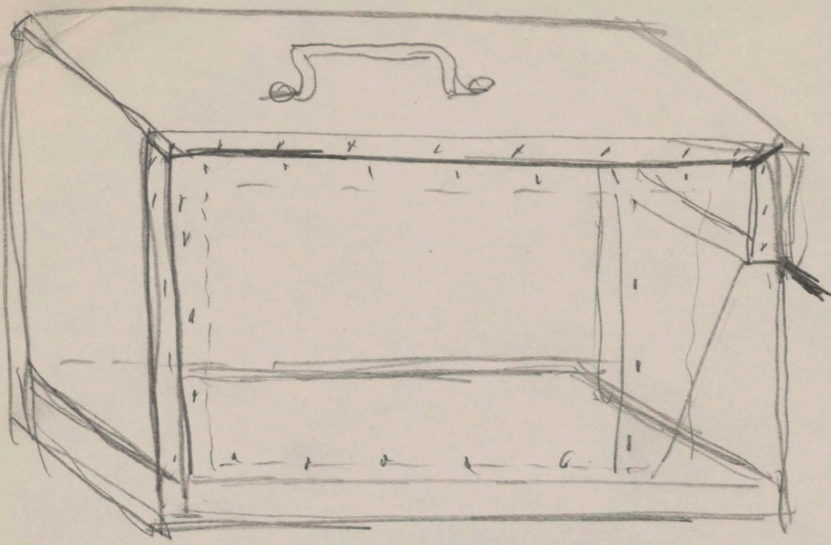
2
—
3.7142857 24 hrs

84 Tethe



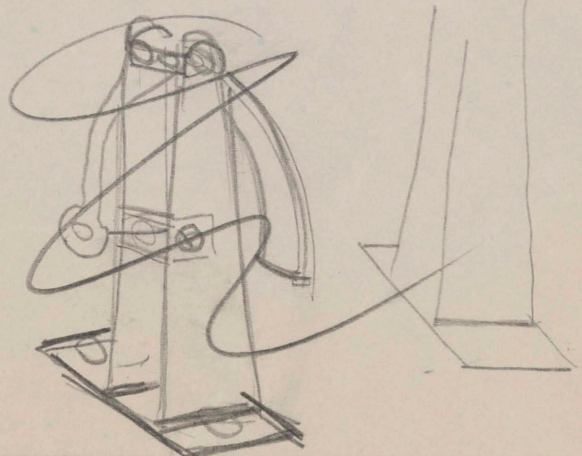
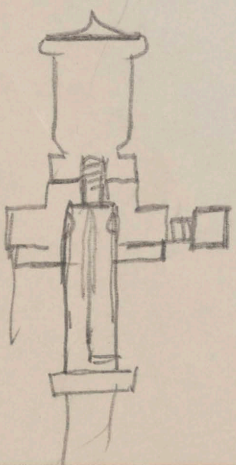
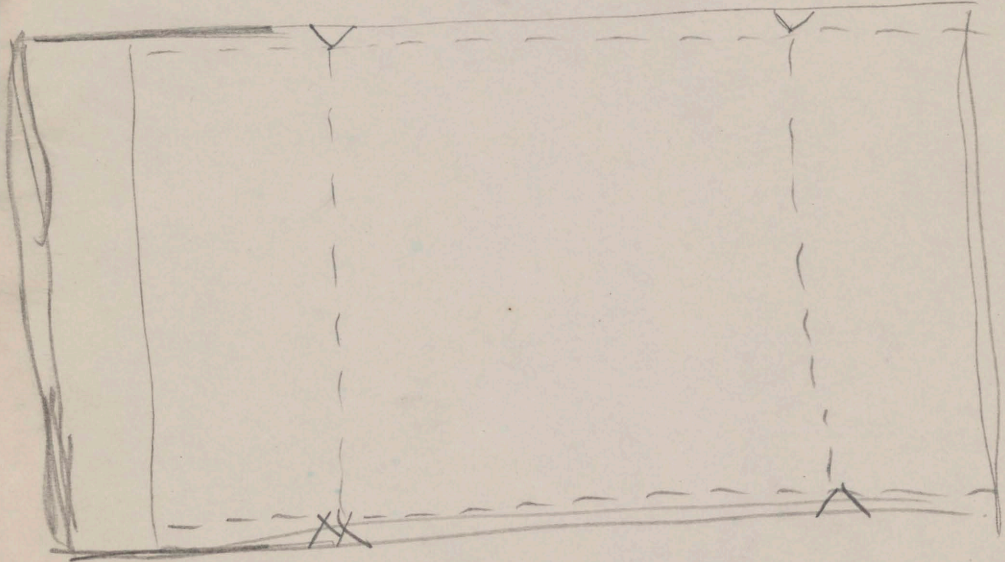
$336 \text{ hrs} = 14 \text{ days}$
 $6.5 \times 5 = 32.5$
 $32.5 \times 4 = 130$
 $130 + 900 = 1030$
 $1030 \div 14.7 \approx 70 \text{ days}$

14" Neva
FCDH



Procedure

$\frac{14''}{3}$
 $\frac{42''}{42''}$



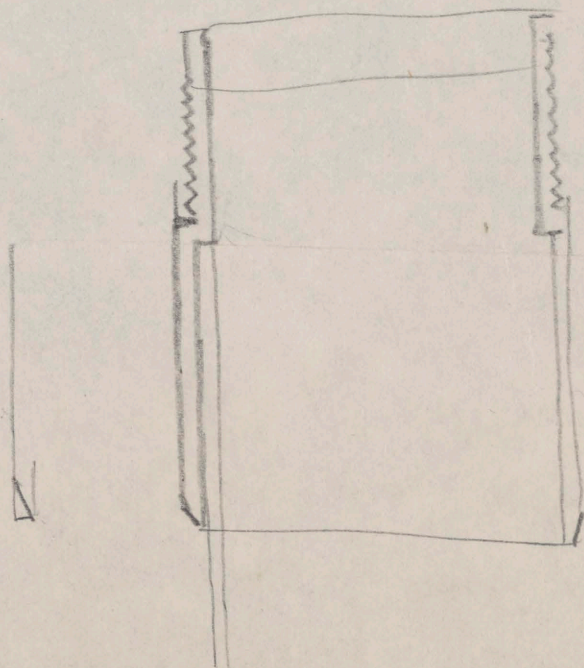
$$\begin{array}{r}
 3,14 \\
 \underline{4,5} \\
 15,70 \\
 \underline{1256} \\
 14130 \\
 \underline{14,17} \\
 ,04
 \end{array}$$

$$\sqrt[5]{360 \text{ mm} \div 2,5} = 1 \text{ h} =$$

$$\begin{array}{r}
 \cancel{180} \\
 7,2 \text{ h}
 \end{array}$$

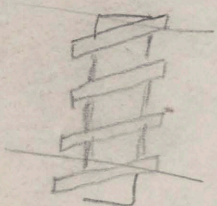
$$\begin{array}{r}
 16 \quad 5 \\
 \hline
 777 \\
 80
 \end{array}$$

$$1044 \text{ h} = 6 \text{ days}$$

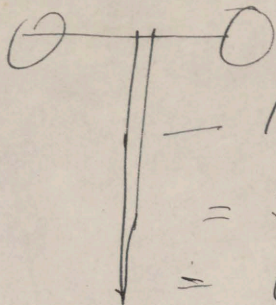


$$\begin{array}{r} 48 \\ 30 \overline{) 48} \\ \underline{30} \\ 18 \\ \underline{12} \\ 6 \\ \underline{6} \\ 0 \end{array}$$

48 pitch gear
 ⇒ double worm for



Stnd $\frac{48}{30} = 1\frac{1}{2}$ Rev
 Sams 30



1 rev = 3 metres
 = 33.3 rev = 100 m
 = 66.7 $\frac{1}{2}$ rev = 100 m

48 = $\frac{15}{16}$

9375	48	50
1875		10
375		2
	50	

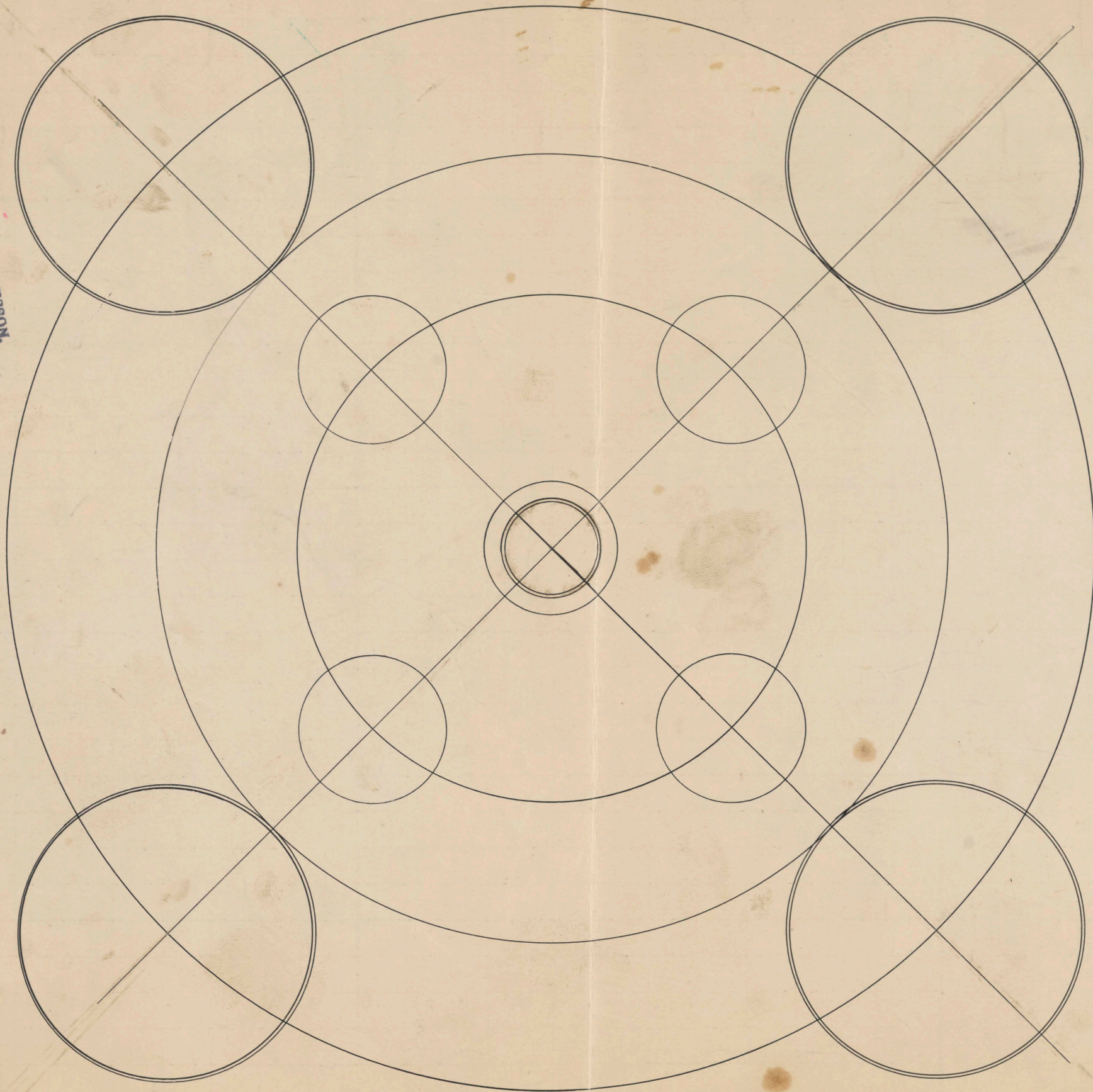
48	25	
24	50	
	9375	
	234375	.9765625
	216	
	183	
	168	
	157	
	144	
	135	
	120	
	150	
	144	
	60	

BLUE HILL METEOROLOGICAL OBSERVATORY.

Draper's Self-recording Anemoscope

S.E.	S.	S.W.	W.	N.W.	N.	N.E.	E.
8		8		8		8	
9		9		9		9	
10		10		10		10	
11		11		11		11	
12		12		12		12	
1 AM.		1 AM.		1 AM.		1 AM.	
2		2		2		2	
3		3		3		3	
4		4		4		4	
5		5		5		5	
6		6		6		6	
7		7		7		7	
8		8		8		8	
9		9		9		9	
10		10		10		10	
11		11		11		11	
12		12		12		12	
1 PM.		1 PM.		1 PM.		1 PM.	
2		2		2		2	
3		3		3		3	
4		4		4		4	
5		5		5		5	
6		6		6		6	
7		7		7		7	
8		8		8		8	
9		9		9		9	
10		10		10		10	

S. P. FERGUSON,
UNIVERSITY OF NEVADA,
RENO, NEVADA, U. S. A.



Plan of Anemometer Cups
rotating once each metre
and each two metres,
2 metres factor 2.8,
radius = 113.5 mm
1 metre factor 3.0
radius = 53.05 mm
Cups 31 + 62 mm
diameter

100

280

280

18 cm

~~40~~ 3110

~~20~~ 280

~~20~~ 280

0

120

200

300

100

290

Wor 100
Cin Run 1000

Wor 100

2000

1000

40

80

Dir 120

Temp

Press
(2.67 to 1)

100

270

30

60

80

Wor 100 1000

20

40

40

250990

10

20

0

—

980

10

340

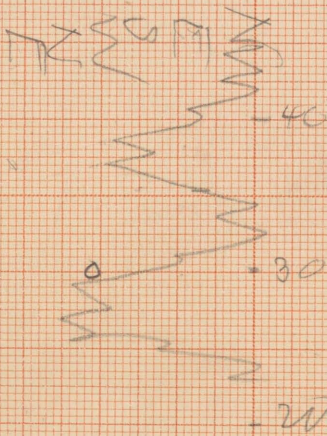
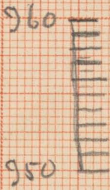
240980

—

-1000

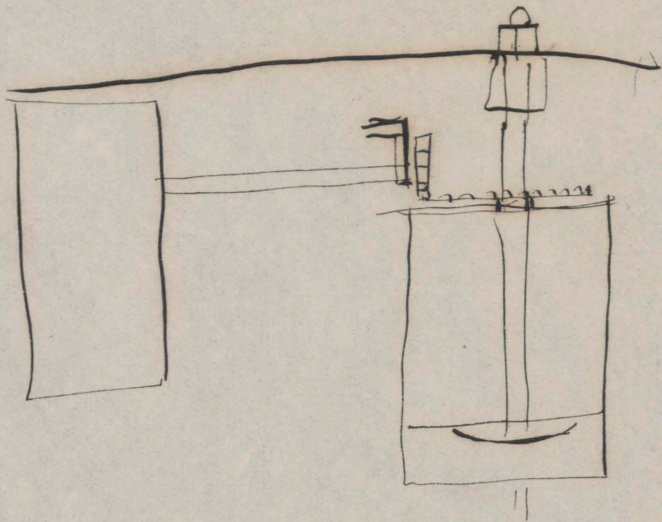
970

-1000



Clock about	4.00	
Cylinder	2.50	
Gears	1.50	
Labor	5.00	?

13,00



W

60

32

Above sea 4592 = 1400 m

$$\begin{array}{r} 1,22 \\ 1386.8 \\ \hline 1388,02 \end{array}$$

" ~~W~~ from 44 = 13.4

" WB station 60 = 18.3

Ancurs. above ground 90 = 27.5

Mt. Rose 10,800 = 3292 or

1892 above station (6201)

Mt. Whitney 4420

Pikes Peak 4300

$$\begin{array}{r} 4554 \\ 34 \\ \hline 4588 \\ 3 \\ \hline 4591 \end{array}$$

B.M. 4558

$$\begin{array}{r} 34 \\ \hline 4592 \\ \hline 4595 \end{array}$$

Revised
July 4

4595 1400

4592 1399.6

$$\begin{array}{r} 4554.8 \\ \hline 34.0 \\ 3 \\ \hline 4591.8 \end{array} \quad \begin{array}{r} 30 \\ 24 \\ \hline 57 \end{array}$$

$$\begin{array}{r} 4591.8 \\ 1399.0 \\ \hline 57 \end{array}$$

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Next Commencement will mark the completion of thirty-seven years since the University was established at Elko, and twenty-five years since its removal to Reno.

The University, feeling that it is growing old and that many of its alumni have long been absent from its halls desires to renew the old ties and to unite the generations of alumni more closely to each other.

To accomplish this, a committee of the faculty and alumni has been organized. A home-coming has been planned for all alumni who can be present from near or far. The Commencement exercises have been planned especially for them. They are to be the guests of honor.

A member of the pioneer class, Judge Frank H. Norcross of the Supreme Court, will deliver the Commencement address. President Stubbs, who is completing his twenty-fifth year as college president, and his seventeenth at Nevada, will preach the Baccalaureate sermon.

Mr. Clarence H. Mackay, the University's benefactor and friend, and Mrs. Mackay, an alumnus, will bring a party of friends from New York to add zest to the occasion.

The pioneer class will hold a reunion and other classes are urged to follow its example. But all alumni and all former students, whether graduates or not, will gather in one large reunion to recount the incidents and accidents of college days.

Plans are being made, also, for a permanent record of all the alumni of the University from its infant days at Elko to the present time. This record will form a register of all students who have ever matriculated at the University in any of its departments. It will also include biographical notices of all regents and members of the faculty, past and present. The names of graduates will appear in their appropriate classes.

This register will be printed and distributed among the alumni. In the future, it will be revised periodically that it may become a permanent bond between them and the University.

Commencement with the celebration will occur May 14th to 17th, next. Will you be one of the home-comers?

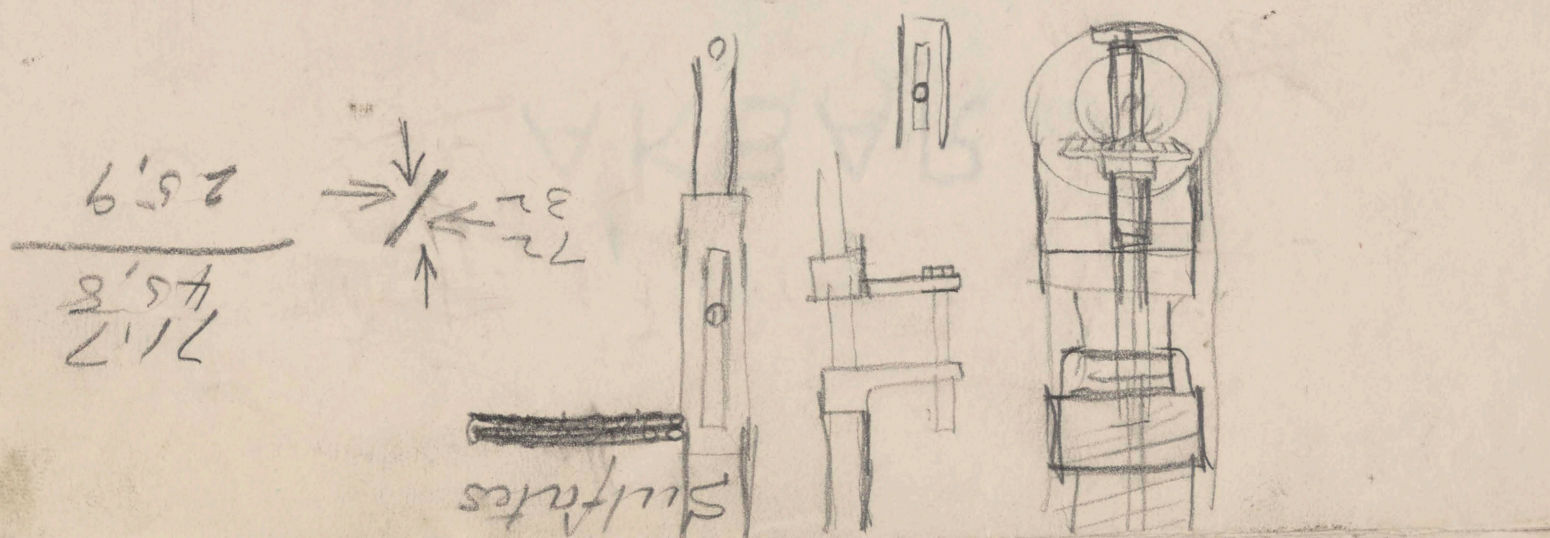
Will you not fill out the enclosed blank for the Alumni Register, and also furnish all possible assistance in locating lost alumni?

Yours for the University,

COMMITTEE ON HOME-COMING,
Louise Blaney Twaddle, Secretary.

11:50 A. Max. 71.0	71.8	71.0	72.6	+1.6	74.0	+2.2	74.0	+2.2	72.6	+1.6	74.0	+1.8	74.2	+1.6	73.0	+3.4	73.2	+3.2	73.2	+2.9	73.0	+2.5	73.0	+2.5	76.5	71.6	71.8	71.7	73.9	+2.2
0:05	72.0	72.2	72.0	+1.8	74.0	+1.8	74.2	+1.6	74.2	+1.6	74.2	+1.8	74.2	+1.6	74.2	+1.6	74.2	+1.6	74.2	+1.6	74.2	+1.6	74.2	+1.6	74.2	71.6	71.8	71.7	73.9	+2.2
0:08	72.2	72.2	72.0	+1.8	74.0	+1.8	74.2	+1.6	74.2	+1.6	74.2	+1.8	74.2	+1.6	74.2	+1.6	74.2	+1.6	74.2	+1.6	74.2	+1.6	74.2	+1.6	74.2	71.6	71.8	71.7	73.9	+2.2
5.5	71.8	71.8	71.8	+2.2	74.0	+2.2	74.0	+2.2	74.0	+2.2	74.0	+2.2	74.0	+2.2	74.0	+2.2	74.0	+2.2	74.0	+2.2	74.0	+2.2	74.0	+2.2	74.0	71.6	71.8	71.7	73.9	+2.2

70
34.5 + 4.8
71.7 - 2.1
37.2
6.9



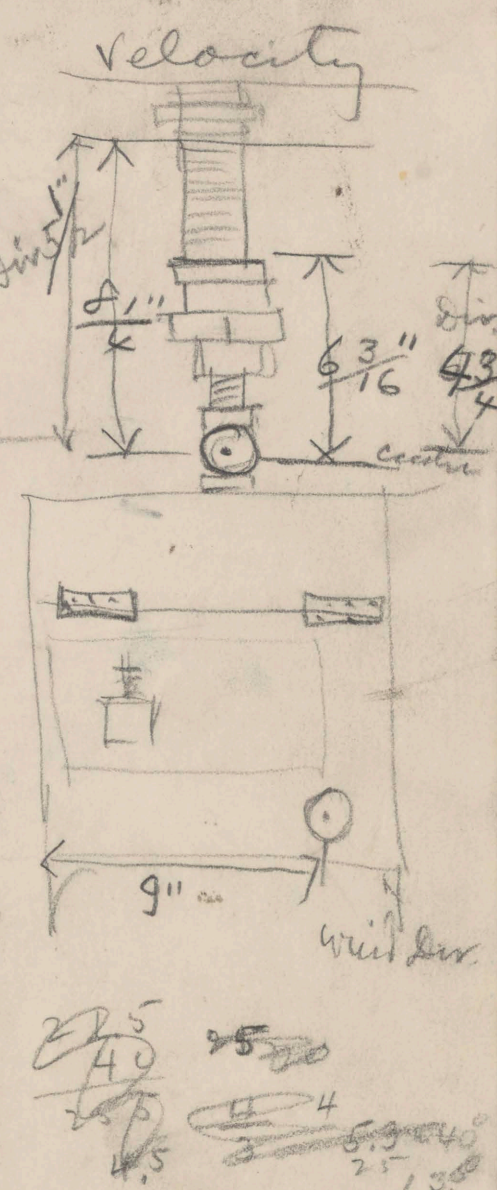
25.9
45.8
71.7

53 24
29 20

Data:

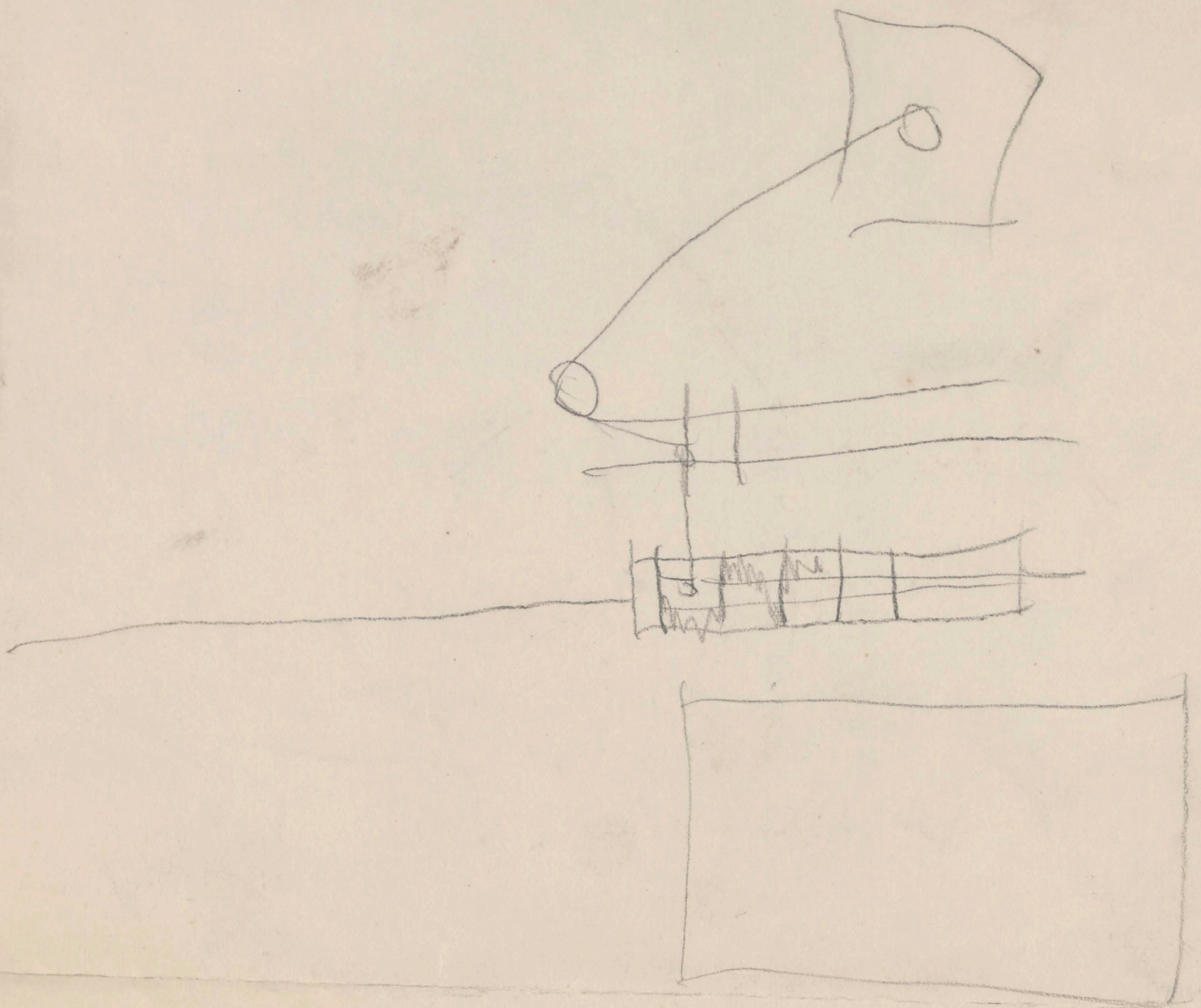
Shelter 36" wide & high inside

28th 6:40 am	32.5 at angle 34.0 level	met 29.8 -4.0
6:50	32.7 34.4	29.8 -4.6
8:15 A	45.8	42.5 - 0.3
8:25 A	45.5	43.0 - 2.5
9:00 A	53.0	51.4 - 1.6
9:30	58.0	57.5 - 0.5
9:40	59.7	59.0 - 0.7
10:00	61.5	61.7 + 0.2
10:30	63.5	64.6 + 1.1
10:31	64.0	64.8 + 0.8
11:30	67.8	68.5 + 0.7
	68.0	69.0 + 1.0
	67.7	68.8
	68.5	69.5



40
60
10

22.5
40
25
4.5
5
4
4
25
1.30



Set Car. at 4 P.M.

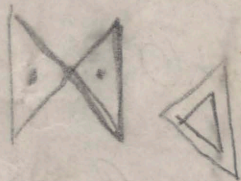
AKBAR

hard. + pol.

15 disks

3

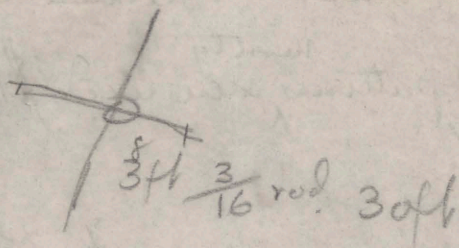
6 ft $\frac{1}{4}$ " soft rod



10 ft $\frac{5}{16}$ " steel tube

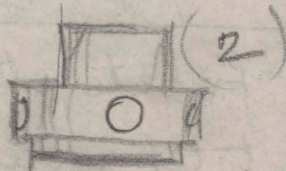
30 $\frac{3}{16}$ ft crescent rods

10 #28 ~~steel~~ ^{crescent}



16 hubs (2)

12 6" piece $\frac{1}{2}$ " tube

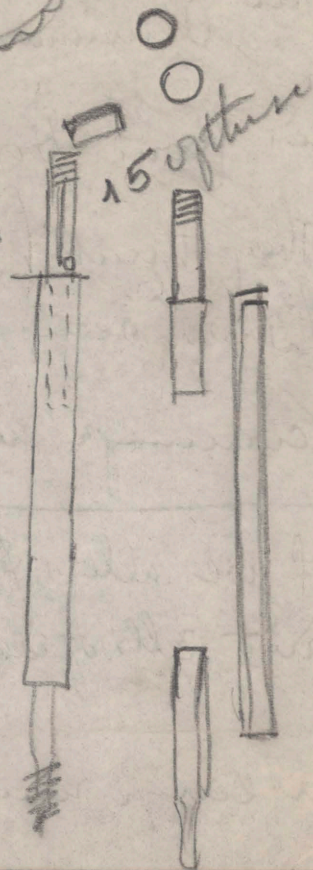
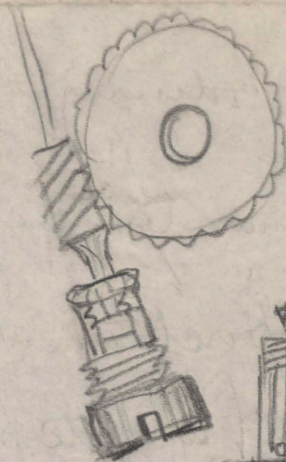



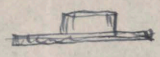
12 of the

12 pivot screws

12 100T ^{6cp} gears

12 double thin $\frac{5}{16}$ " worms



International Instrument Co
have obtained ordinary castings cups ,  flanges etc
from Aluminum Casting Co Cleveland O . 55¢ lb

and from Dorchester Brass & Aluminum Co at \$1.00 or less.

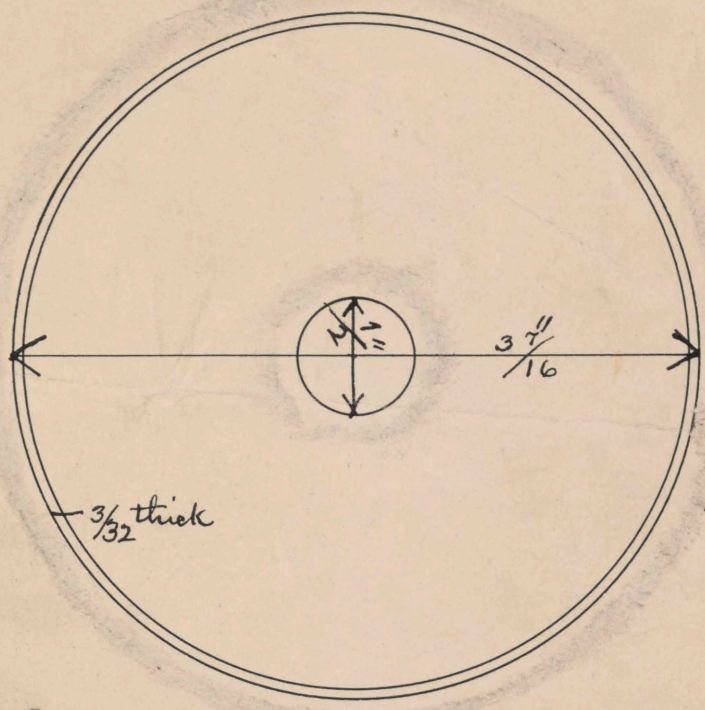
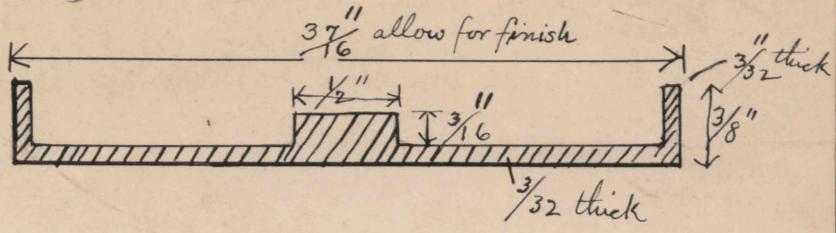
They think, if gate patterns ^{mostly} were used \$1.50 might be enough
\$3.00 ^{lb} seems high

Scrammaga makes ordinary castings at 80¢ lb.

If we allow \$1.50 lb for gate patterns and \$3.00 lb for core patterns
and 3 lbs of each the total would be \$13.50

A large number should cost less than small number.

(#4)



one
a brass casting of this pattern

LOGICAL OBSERVATORY.

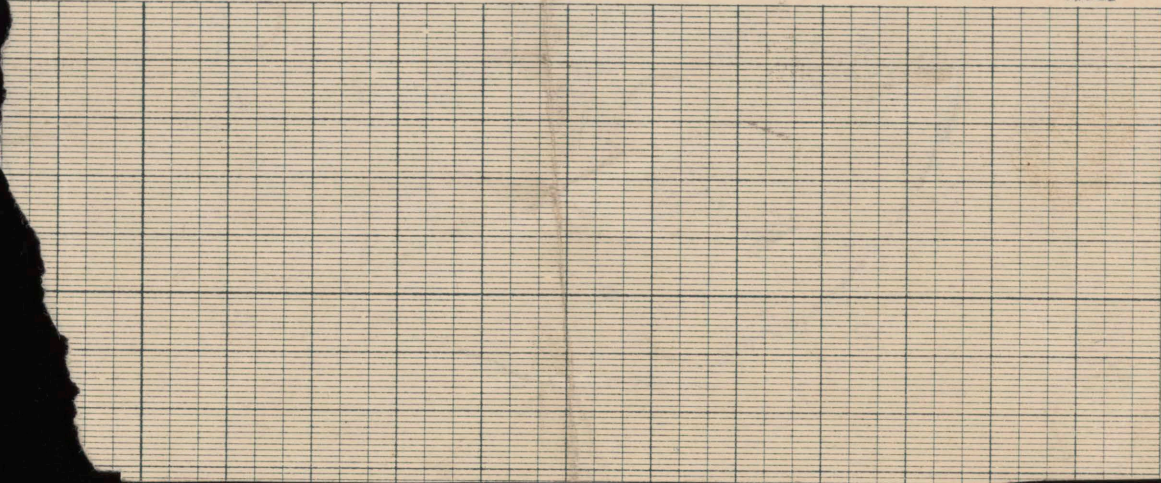
METER.

AT BLUE HILL, NORFOLK CO., MASS.

r

189

11 12 1 2 3 4 5 6 7 8 9 10 11 PM



UNIVERSITY OF NEVADA

AGRICULTURAL EXPERIMENT STATION
MOUNT ROSE OBSERVATORY

DEPARTMENT OF METEOROLOGY

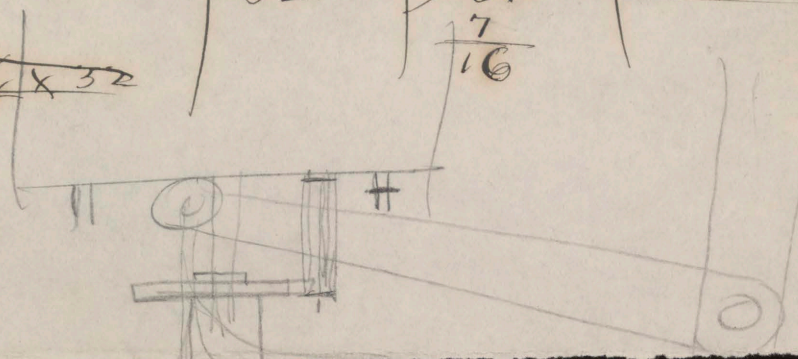
J. E. CHURCH, JR.
S. P. FERGUSSON

S. P. FERGUSSON

RENO, NEVADA, U. S. A.,

0465
644.31 ²² Sizes of drills for special taps.

No 13 x 40	$\frac{11}{32} \times 40$	$\frac{13}{32} \times 40$	$\frac{7}{16} \times 40$	$\frac{15}{32} \times 40$	$\frac{1}{2} \times 36$
Diameter	.34375	.40625	.43750	.46875	.50000
Decrement for drill	.03248	.03248	.03248	.03248	.03608
Size of drill	.31127	.37377	.40502	.43627	.46392
Size of drill	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{13}{32}$	$\frac{29}{64}$	$\frac{15}{32}$
$\frac{3}{8} \times 32$	$\frac{5}{16} \times 32$	$\frac{3}{8} \times 32$		$\frac{7}{16}$	
.3750	.31250				
.04059	.04059				
.33441	.27191				
$\frac{11}{32}$	$\frac{9}{32}$				



UNIVERSITY OF TEXAS

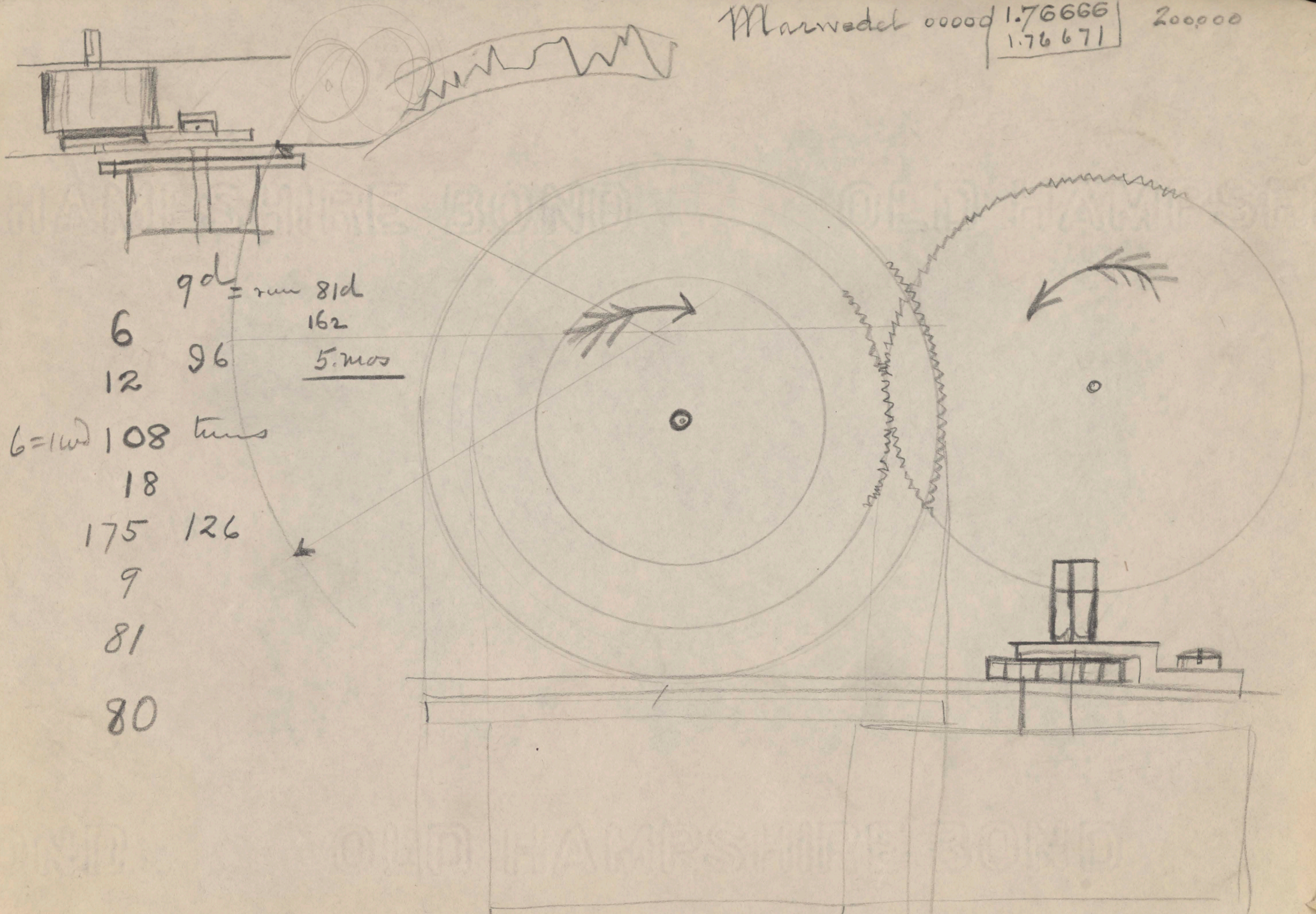
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40	Chapter 4	55	Chapter 5	75	Chapter 8
50	Chapter 5	65	Chapter 6	85	Chapter 9
60	Chapter 6	75	Chapter 7	95	Chapter 10
70	Chapter 7	85	Chapter 8	105	Chapter 11
80	Chapter 8	95	Chapter 9	115	Chapter 12
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110	Chapter 11	125	Chapter 12	145	Chapter 15
120	Chapter 12	135	Chapter 13	155	Chapter 16
130	Chapter 13	145	Chapter 14	165	Chapter 17
140	Chapter 14	155	Chapter 15	175	Chapter 18
150	Chapter 15	165	Chapter 16	185	Chapter 19
160	Chapter 16	175	Chapter 17	195	Chapter 20
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350	Chapter 35	365	Chapter 36	385	Chapter 39
360	Chapter 36	375	Chapter 37	395	Chapter 40
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410	Chapter 41	425	Chapter 42	445	Chapter 45
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450	Chapter 45	465	Chapter 46	485	Chapter 49
460	Chapter 46	475	Chapter 47	495	Chapter 50
470	Chapter 47	485	Chapter 48	505	Chapter 51
480	Chapter 48	495	Chapter 49	515	Chapter 52
490	Chapter 49	505	Chapter 50	525	Chapter 53
500	Chapter 50	515	Chapter 51	535	Chapter 54
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530	Chapter 53	545	Chapter 54	565	Chapter 57
540	Chapter 54	555	Chapter 55	575	Chapter 58
550	Chapter 55	565	Chapter 56	585	Chapter 59
560	Chapter 56	575	Chapter 57	595	Chapter 60
570	Chapter 57	585	Chapter 58	605	Chapter 61
580	Chapter 58	595	Chapter 59	615	Chapter 62
590	Chapter 59	605	Chapter 60	625	Chapter 63
600	Chapter 60	615	Chapter 61	635	Chapter 64
610	Chapter 61	625	Chapter 62	645	Chapter 65
620	Chapter 62	635	Chapter 63	655	Chapter 66
630	Chapter 63	645	Chapter 64	665	Chapter 67
640	Chapter 64	655	Chapter 65	675	Chapter 68
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920	Chapter 92	935	Chapter 93	955	Chapter 96
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940	Chapter 94	955	Chapter 95	975	Chapter 98
950	Chapter 95	965	Chapter 96	985	Chapter 99
960	Chapter 96	975	Chapter 97	995	Chapter 100

900

ROTC

Marwedel 00000 | 1.76666 | 200000
 1.76671



9d = run 81d
 162
5 mos

6
 12
 6 = 1wd 108 turns
 18
 175 126
 9
 81
 80

25.4000
25.41

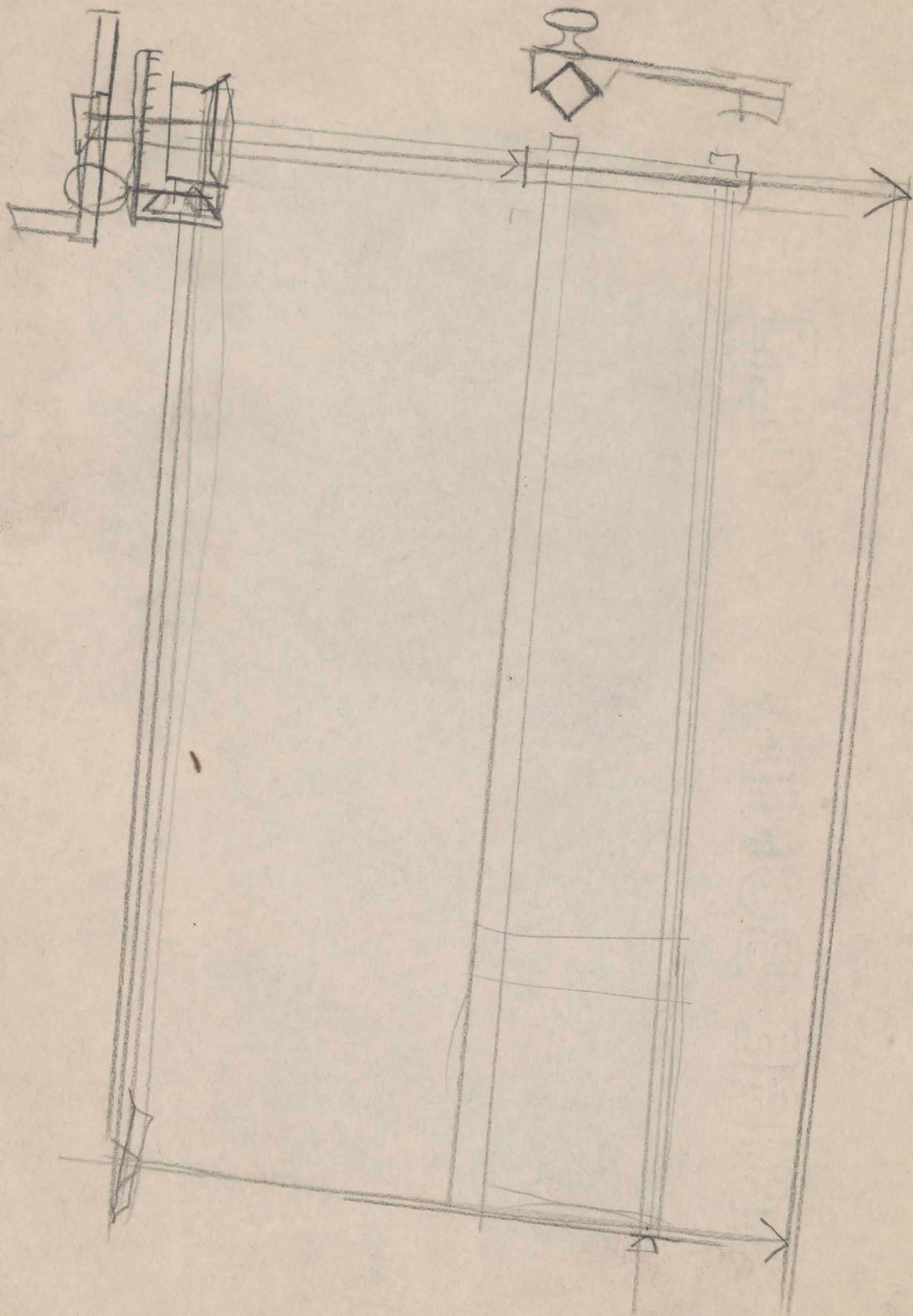
25.40008
25.41176

~~0.01176~~

.012 = .00045 in 1"

.0060 = 15

.00675



Maldie

C
(313°A) (40°)

4.85 6.47

303°A 30°

3.63 4.84

293 20°

2.43 3.24

283 10°c

1.22
 279 1.00
 5.81
 .65
 .49
 .33
 .163
 1.63
 0.

273°A (0°)

0.0 0.

10

1.22 1.63

20

2.43 3.24

1100
 90
 80
 70
 60
 50
 40
 30
 20
 10
 BAROKILLS
 1000
 990
 980
 970
 960
 950
 940
 930
 920
 910
 900

2.67

7.2
 3 2 4

1 1 1 1 1

NEVADA AGRICULTURAL EXPERIMENT STATION
SAMUEL BRADFORD DOTEN, DIRECTOR

DEPARTMENT OF METEOROLOGY
J. E. CHURCH, JR., PH.D.
S. P. FERGUSSON

UNIVERSITY OF NEVADA
RENO, NEVADA, U. S. A.

Memo - Mt. Rose
Monday

Small taps & drills

2x56

4x40

6x32

10x32

1/4" brass screws

Screw driver

2 pens for thermograph

Rubber bands

6 Biscuits

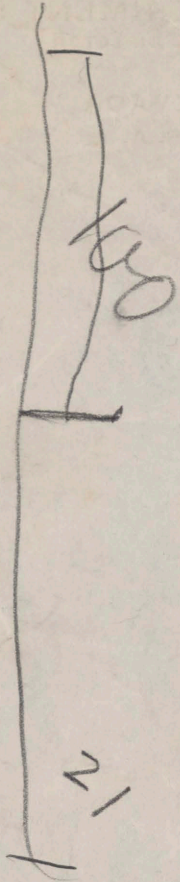
6 Eggs

1 pt coffee (in thermos bottle)

1

1 Pr. woollen drawers

1 box cigar lighters (matches)



Transfer



510 $\frac{4}{4} \cdot 1.2$.09 mm 1.002

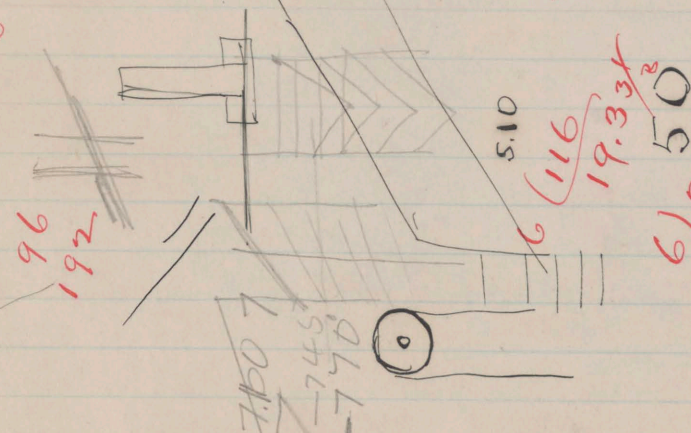
740 mm
BR

10	0.83	332	1.11
	4.0 .40		
	9 .98		
20	1.66	664	2.22
30	2.49	996	3.32
35	2.90	1160	3.87
40			

C		C
7.2 = 1.0 bar = 280		6.1
14.4	2.0	12.3
21.6	3.0	18.5
28.9	4.0	24.7
36.1	5.0	30.9
39.7	5.5	34.1
43.3	6.0	37.2
Reno		

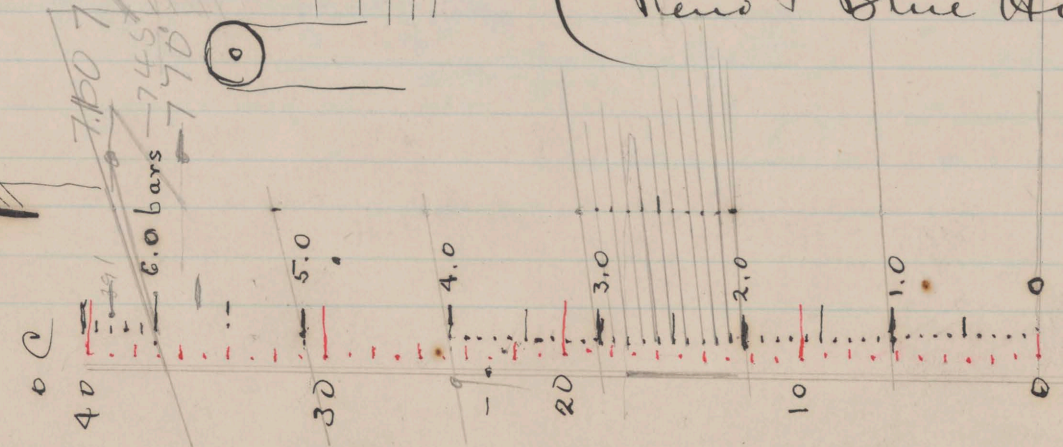
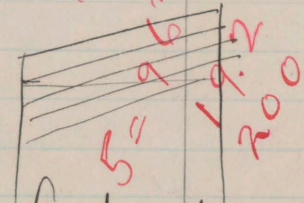
24
25
100

6.16
84



6/116
19.33
50
6/245
4

Correction for temperature
Reno & Blue Hill



NEVADA AGRICULTURAL EXPERIMENT STATION
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S. P. FERGUSSON

UNIVERSITY OF NEVADA
RENO, NEVADA, U. S. A.

Scales tested with one 8 lb and
one 16 lb weight

Scale No. 1 24 lb = 359.2 inches
Weights = 374.4 "
Error = $\frac{374.4 - 359.2}{15.2}$ "

Scale No. 2 24 lb = 375.9 "
Weights = 374.4 "
Error = $\frac{375.9 - 374.4}{1.5}$ "

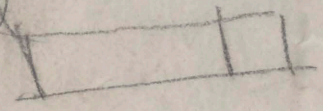
Difference between Scales = 16.7 "
in $2\frac{1}{2}$ revolutions or 376 "

Scale No. 2 is practically correct
but No. 1 should have new springs. At
present corrections can be applied, based
on above data

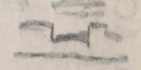
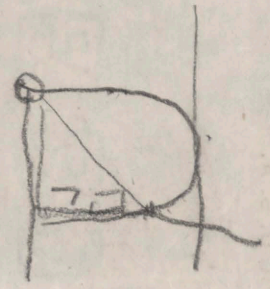
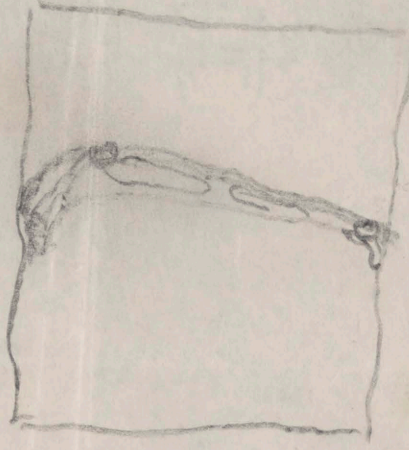
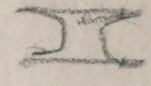
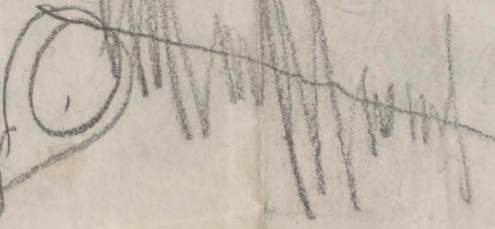
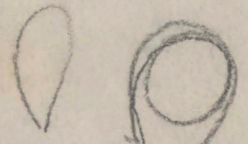
J. P. F.

Dr. Walter Riddle
Care Sterling Varnish Co
Send sketch Mayville Pa
H. W. Clayton

~~Dr. Walter Riddle~~
~~Send sketch~~
Sterling Varnish Co
Mayville Pa
H. W. Clayton



OLIVE



REPRODUCED FROM THE
PUBLICATIONS OF THE
BUREAU OF RESEARCH
NATIONAL BUREAU OF STANDARDS
WASHINGTON, D. C. 20540

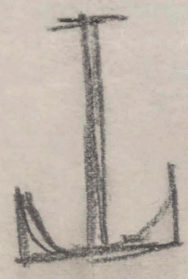
NEVADA AGRICULTURAL EXPERIMENT STATION
SAMUEL BRADFORD DOTEN, DIRECTOR



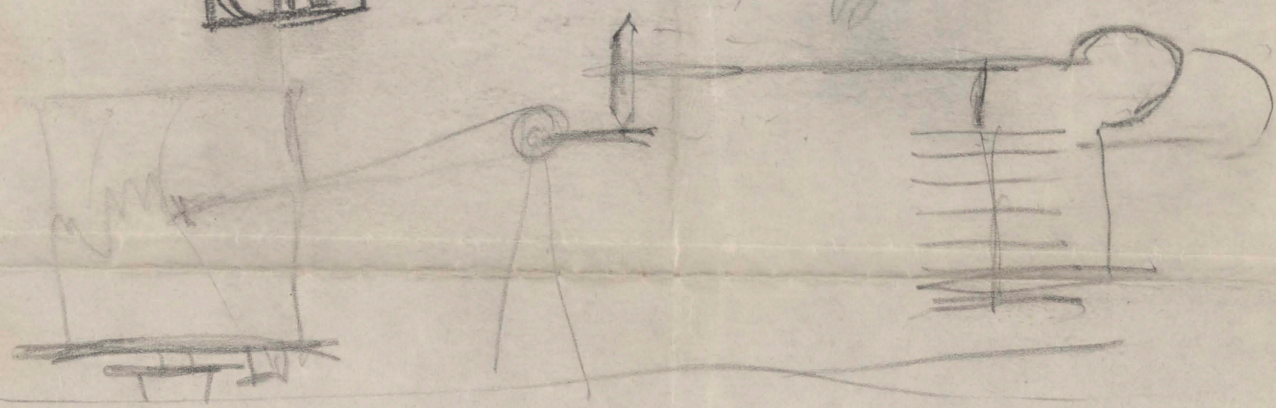
DEPARTMENT OF METEOROLOGY
J. E. CHURCH, JR., PH.D.
S. P. FERGUSSON

UNIVERSITY OF NEVADA
RENO, NEVADA, U. S. A.

V
V
V



knife edges



ADDRESS ALL COMMUNICATIONS TO THE DEPARTMENT

$$\begin{array}{r} 78.9 \\ 38.0 \\ \hline 40.9 \end{array}$$

$$\begin{array}{r} 1^{\circ} \\ 81.0 \\ 41.2 \\ \hline 39.8 \end{array}$$

$$\begin{array}{r} 78.9 \\ 38.2 \\ \hline 40.7 \end{array}$$

$$\begin{array}{r} 81.2 \\ 41.9 \\ \hline 39.3 \end{array}$$

201

Thurs

$$\begin{array}{r} 89.5 \\ 41.2 \\ \hline 48.3 \end{array}$$

$$\begin{array}{r} 87.2 \\ 38.0 \\ \hline 49.2 \end{array}$$

$$0.9^{\circ} \text{ w } 4.9^{\circ} \\ = 0.1^{\circ} \text{ w } 5^{\circ}$$

Standardizing Snow Thermograph
23d February 1915

J. E. CHURCH, JR.
S. P. FERGUSSON

RENO, NEVADA, U. S. A.

Clean-out cover & gasket

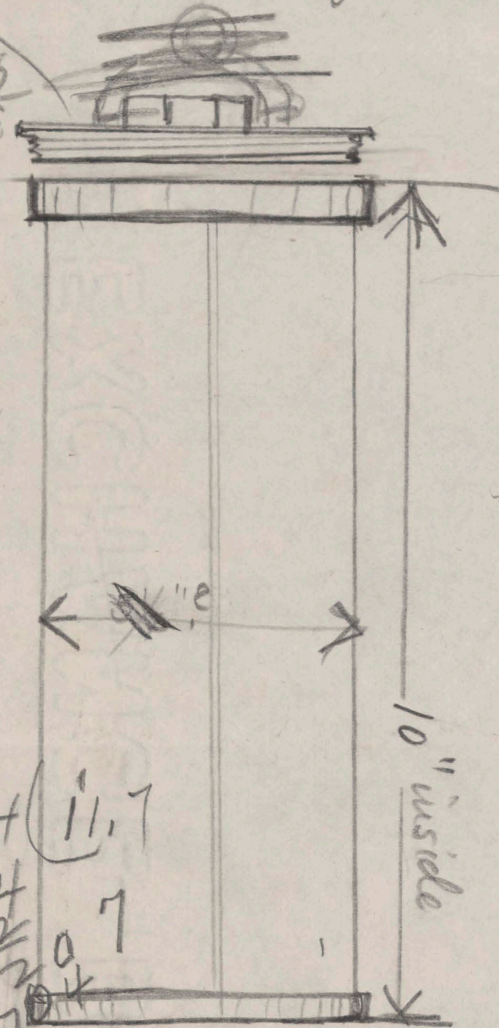
$1.00 = 1.00$
 $1.00 = 1.00$
 $1.00 = 1.00$

992.1
3.1

28
24

112
56

672



10" inside

$(672) 7874 \overline{) 11.7}$
 $\underline{672}$
1154
 $\underline{672}$
4820
 $\underline{471}$

6 - $\frac{1}{2}$ " x 3" flanges
43 - $\frac{3}{4}$ " x 3"
Copper can fitted
with screw-cap

B.H. Library ✓

Dines ✓

Melodie ✓

Bowie ✓

Peruter ✓

Shaw ✓

Hergesell ✓

W. Köpfer ✓

de Bat ✓

Abbe ✓

Marvin ✓

Fassig ✓

Launcester ✓

Drafer ✓

Ward ✓

W.G. Davis ✓

Chunck ✓

E.T. Fuld (4 copies)

Upton ✓

Pastance ✓

Walker ✓

Assmann ✓

Hellmann ✓

Rykatchew ✓

~~Upton~~
Vincent (Beale) ✓ X

H.H. Hildebrandson Upsala

Land, F.H.

Chairs ✓

Rain Gauge No _____ made
 by _____
 To go to _____

Diams.	Flask #4	#5	#
203. _____	_____	_____	_____
_____	-3.08	-6.59	-12.13
_____	30(_____)	15(_____)	8(_____)
_____	_____ %	_____ %	_____ %
Avy. _____	Av. error = _____ %		
Err. _____ %	Total error = _____ %		
_____ per cent _____ readings.			

Tested by _____

O.N.O.

Edgecumbe 1/31/15

Dear Fred:-

The barograph appears to be working O.K. This card was put on last night and as you will see by the double line the barometer has apparently gone down. But I doubt if this will show slight fluctuations, I think it better adapted for sudden changes and it should get 'em in the islands.

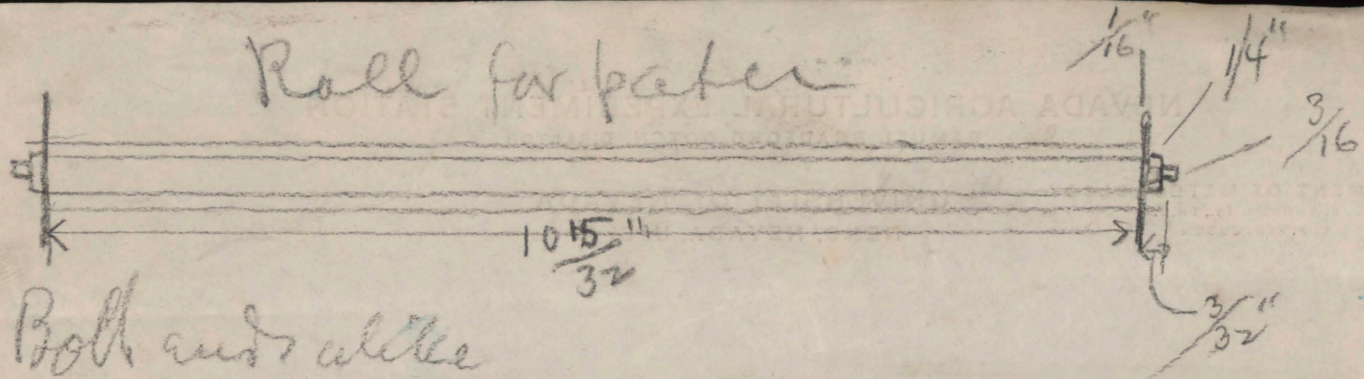
I think I got too much glycerine in my ink as the line ran today when the air was full of moisture.

If I don't see you again before you go I wish you the best of luck in wind and weather and that every plate exposed may get a perfect picture.

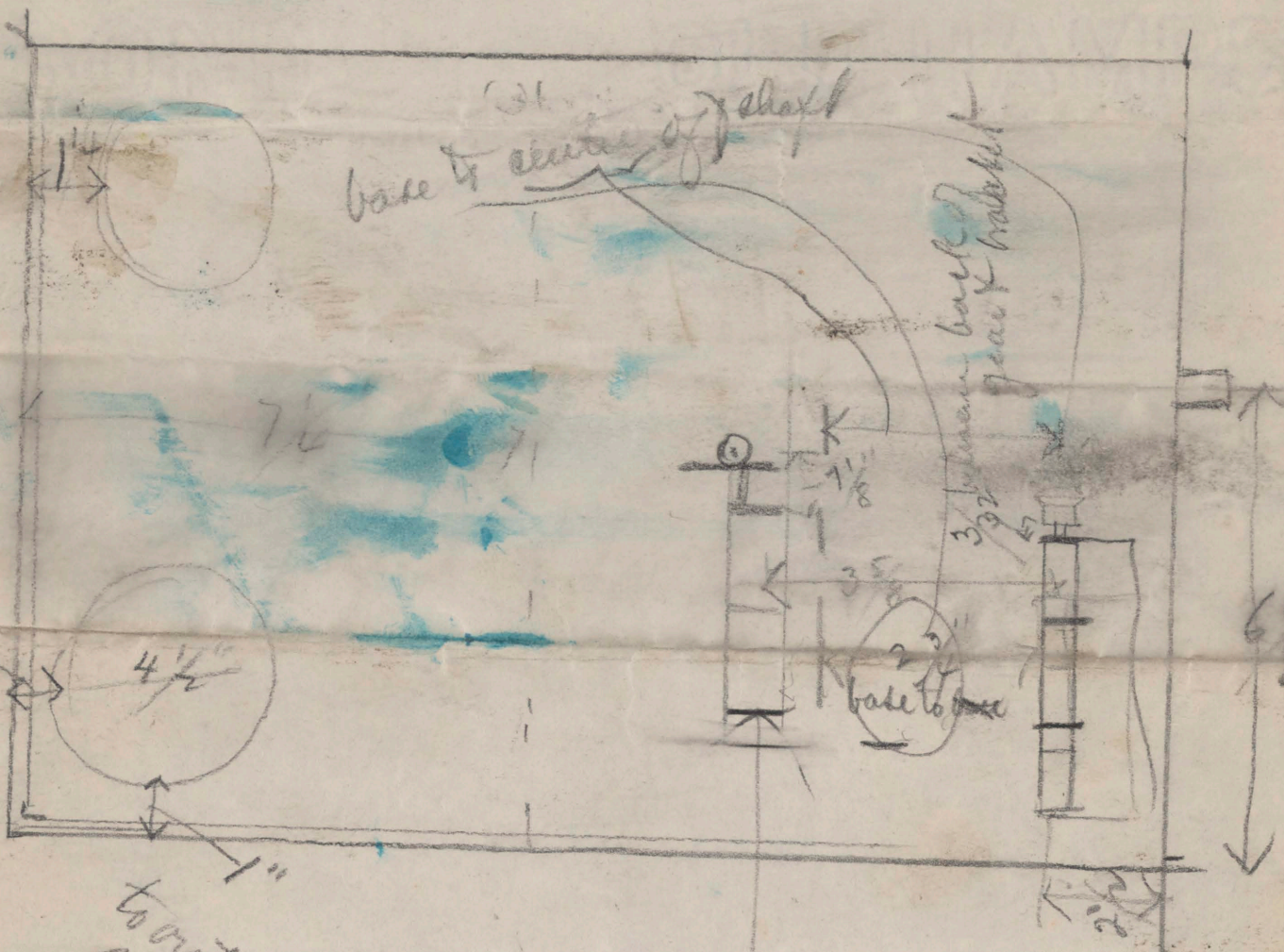
Yours sincerely,

Geo. H. Beane

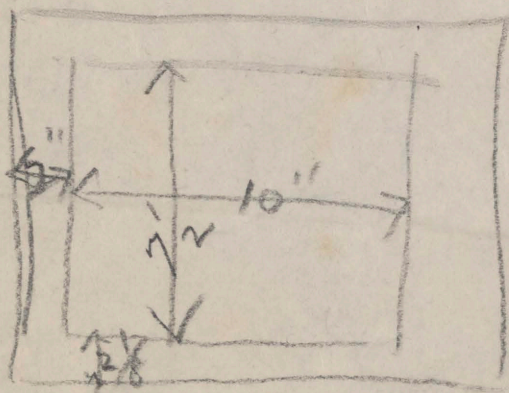
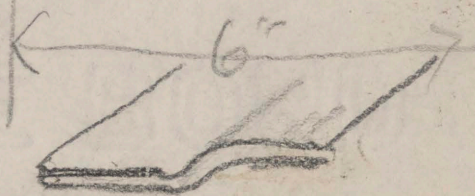
Roll for paper



Both ends alike



to outside of cavity



Open in door

NEVADA AGRICULTURAL EXPERIMENT STATION
SAMUEL BRADFORD DOTEN, DIRECTOR



DEPARTMENT OF METEOROLOGY
J. E. CHURCH, JR., PH.D.
S. P. FERGUSSON

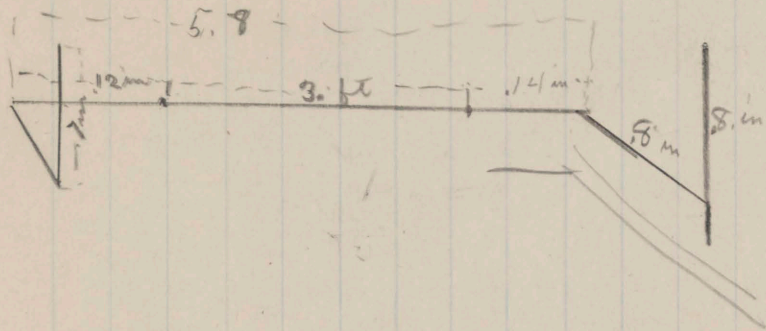
UNIVERSITY OF NEVADA
RENO, NEVADA, U. S. A.

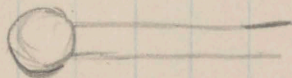
Request for quadrant

for Rudder to
Replace broken one
present one should
be wrought iron
instead of cast

Tahoe Transportation
Co Shops -

Emergency





0.5

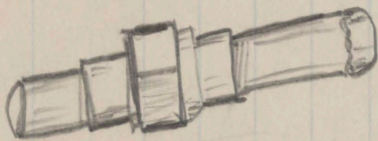
0.3

— 0.2

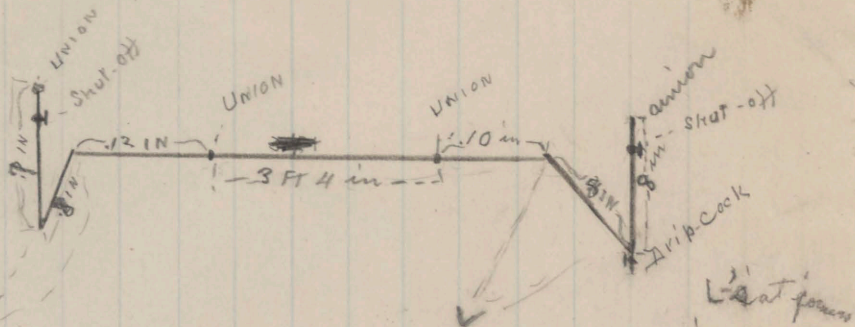
+ 0.3



Coupling



Union



$\frac{1}{4}$ in Copper - or Brass Pipe

	1 pc	7"		
4-unions	2 "	8"	24	101
2 $\frac{1}{4}$ " valve	1	12	40	
1 drip cock	1	10	61" pipe	

8

Mem.

Murphy's garage

- Clock 4.00
- Gears 1.75
- Lenses & metal .50
- Clock case .40
- Brace castings .40
- Iron .25
- Gears & chain 3.94
- Chain 1.50
- 4 Rolls 6 2.50
- Pen .50
- Clock down 2.50

18.24
 Labor 8.00

 26.24

~~7~~ $\frac{1}{4}$ 9
 9.19
 16.65

 \$25.84

Total 26.24
 Cash 26.24
 Balance 0.00

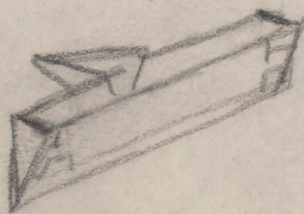
B Design for Negreth anemoscope for Tomaker & Fuller

Cam: Cut 6" of thread (2 to inch) on 1/2" rod cut off cam

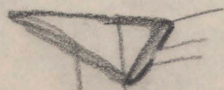
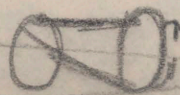
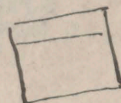
Get rod from Hartman from this

Separate adjusting cam so mounted as to cause less friction than in original apparatus.

Pen: special of large capacity



$\frac{5}{8}$



Gears:

24 Pitch 12T
or Pinion wire

32P- 24T 6" wire

24P 6" ^{steel} of rack

6h

4 1/2" 6h

190014

NEVADA AGRICULTURAL EXPERIMENT STATION

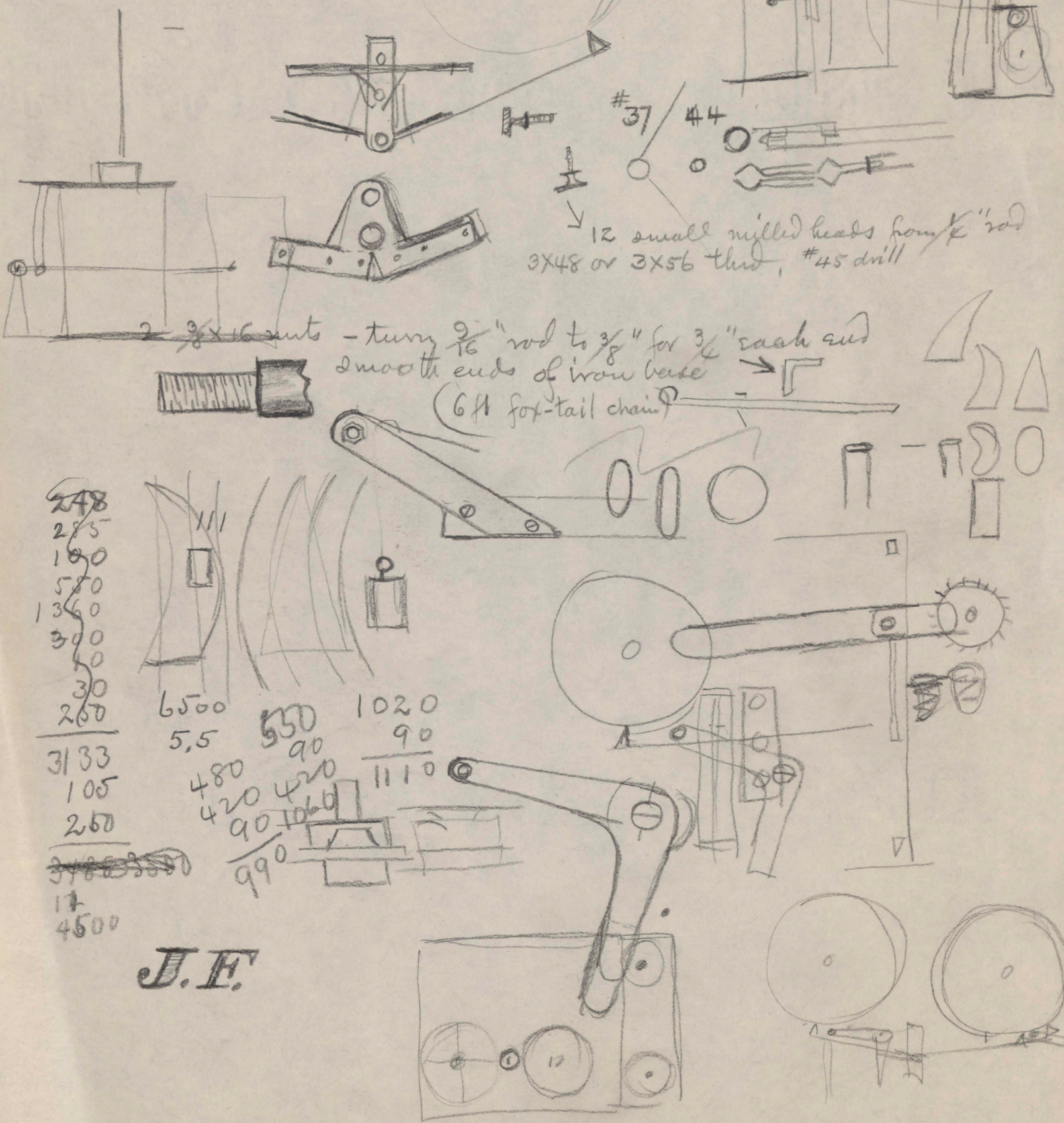
SAMUEL BRADFORD DOTEN, DIRECTOR

DEPARTMENT OF METEOROLOGY

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RENO, NEVADA, U. S. A.



248
275
180
580
1360
300
40
30
260

3133
105
260

~~3488~~
17
4600

6500
5,5
550
90
480
420
90
990

1020
90

1110

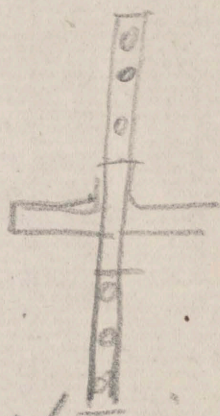
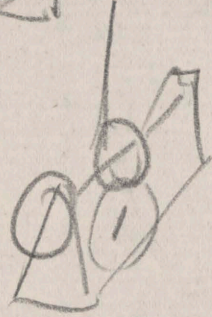
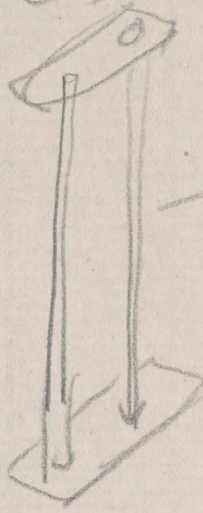
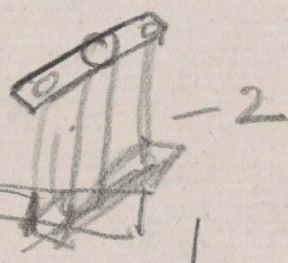
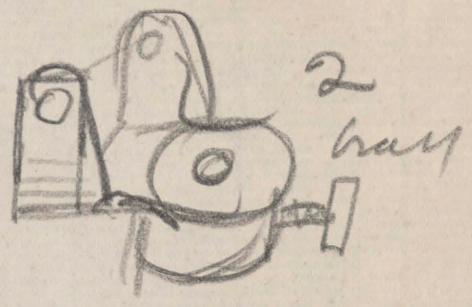
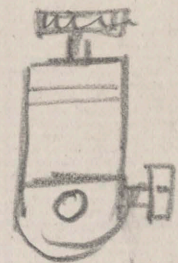
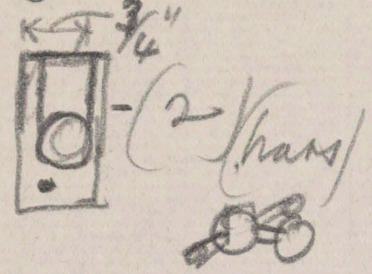
J.E.

2 - $\frac{3}{4} \times \frac{1}{16}$; one 20" one 16"

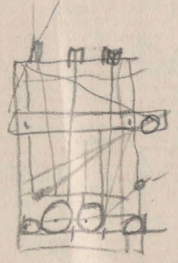
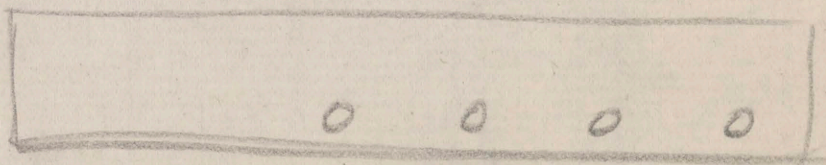
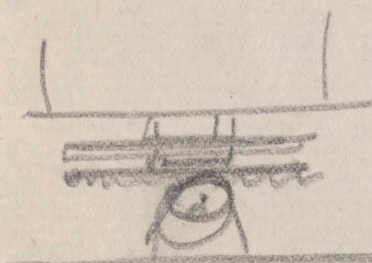
Alum

3"

One $36 \times 3 \times 1 \times \frac{1}{16}$



Plotting Machine
1913-15



75
208.33
50.
333 33

P.F.

72
37
~~54~~ 4
216
2464

38¹⁵
39⁸⁰

3996

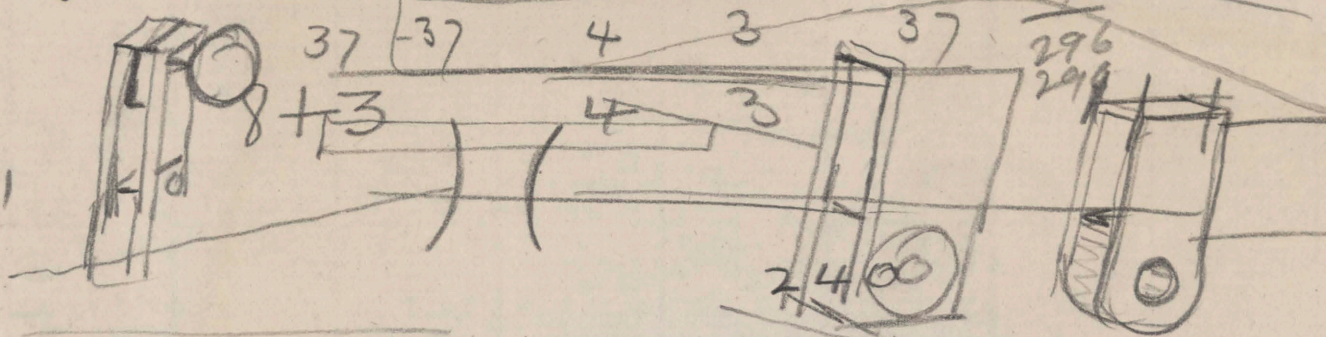
600 663.292

$$3 \left(\frac{25}{37} - \frac{1}{8} + \frac{1}{18} + \frac{13}{111} \right) = \frac{216}{2464}$$

37 8 6 37 6660 (1800)

37 -37 4 3 37 296
+3 4 3 299

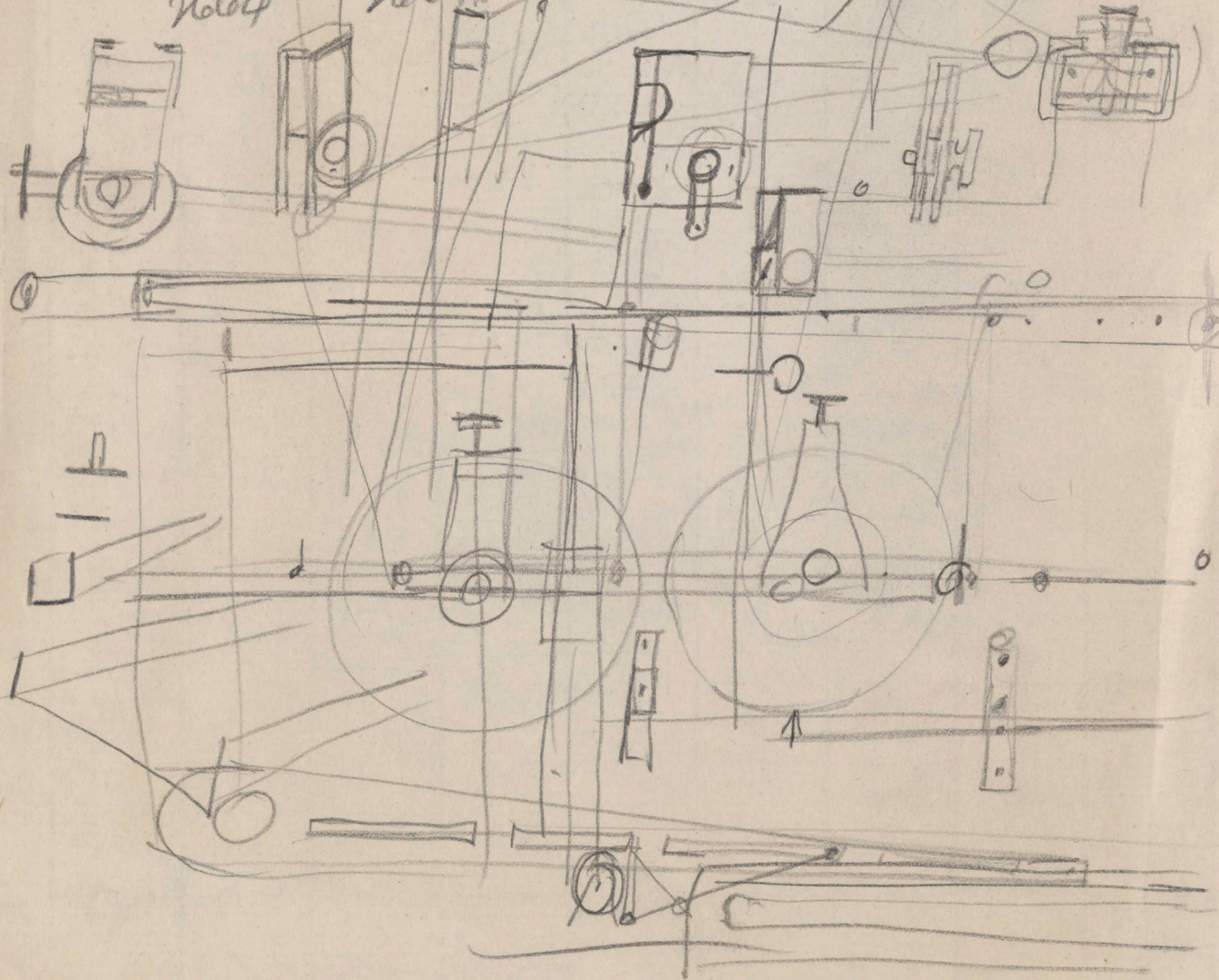
$$\frac{4}{3} \parallel$$



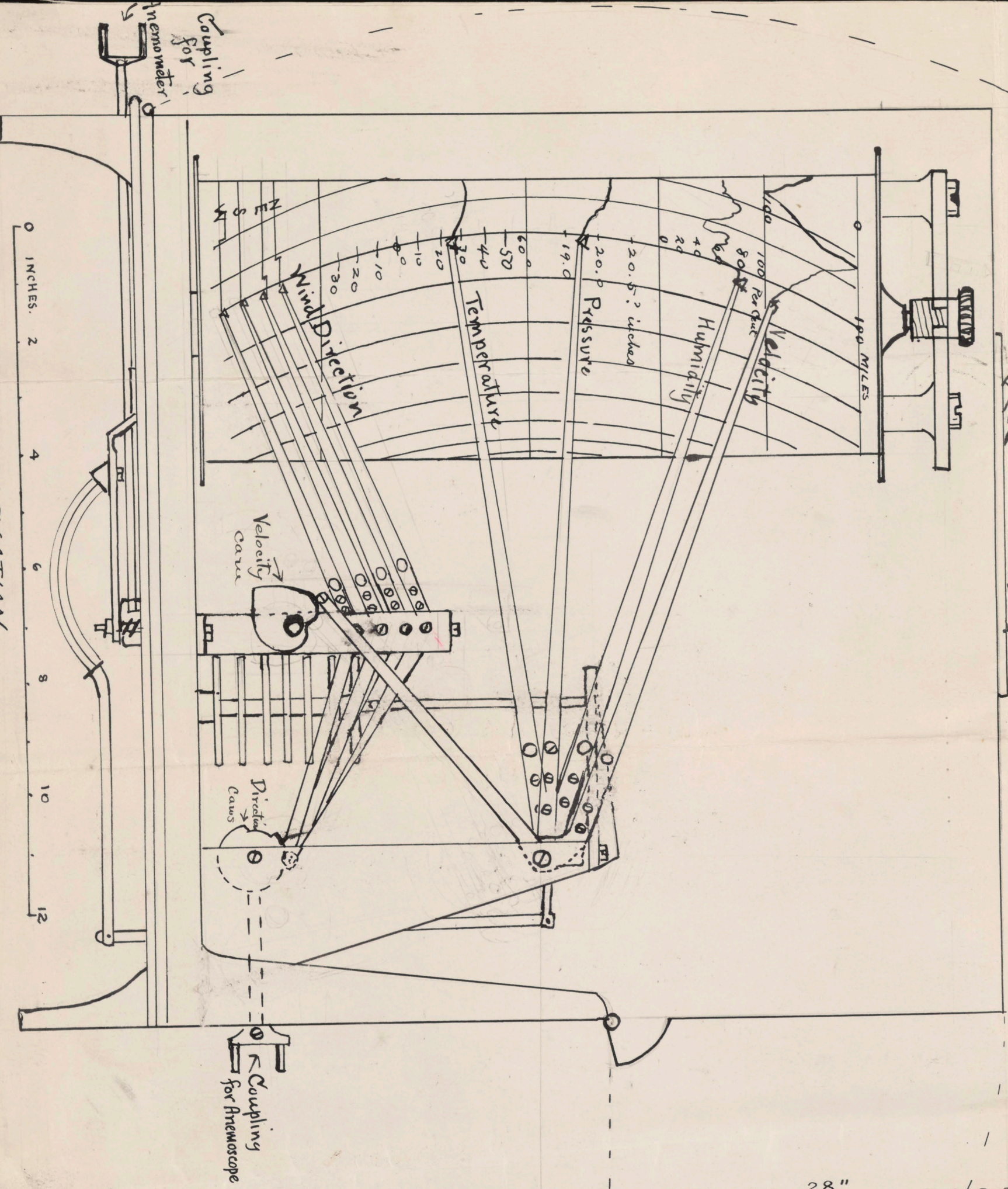
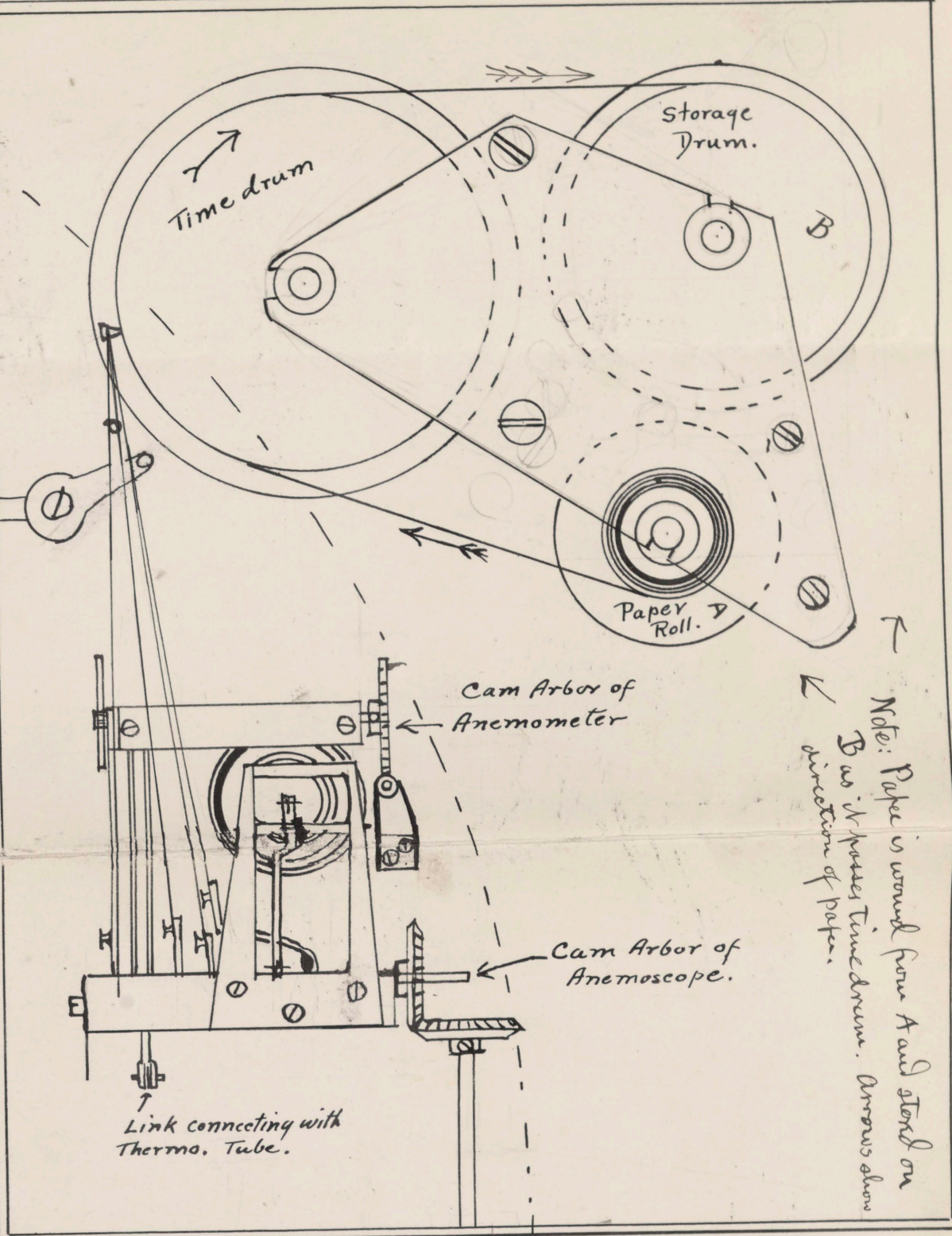
44

15

$$\frac{1800}{2664} = \frac{333}{2664} \quad \frac{148}{2664} \quad \frac{3126}{2664} \quad \frac{793}{2664} = \frac{1007}{2664}$$



METEOROGRAPH
FOR
MT. ROSE, NEVADA.



12" wide 8' 3" long 4 sides

12" x 1 1/8"

14" wide 16ft long 7/8" deep 4 sides

7/8" 15' x 14"

3' 3" x 3' 3" x 3' 3"

1 1/8" x 12"

10ft
case of drawers

Floor

Putty 1lb

1 gro. screw eyes

5 7/8" x 3' 4"

6 drawer pulls

2 7/8" 5.6"

70 ft of 2 3/8" x 3/8"

10ft 12" wide 1 1/8" thick 10ft.

2
2
2

NEVADA AGRICULTURAL EXPERIMENT STATION
SAMUEL BRADFORD DOTEN, DIRECTOR



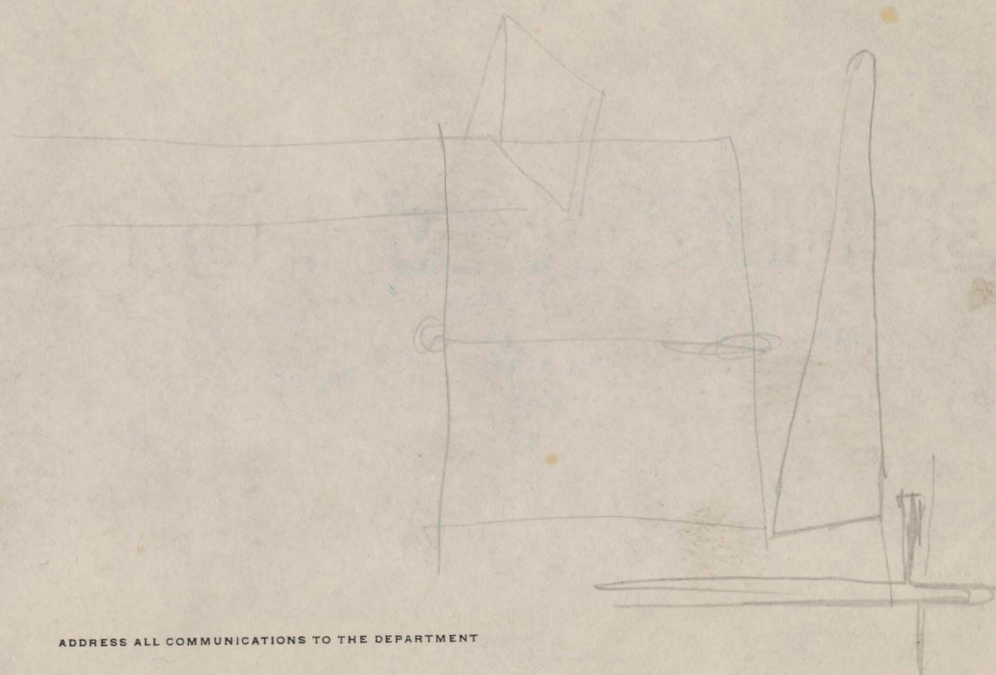
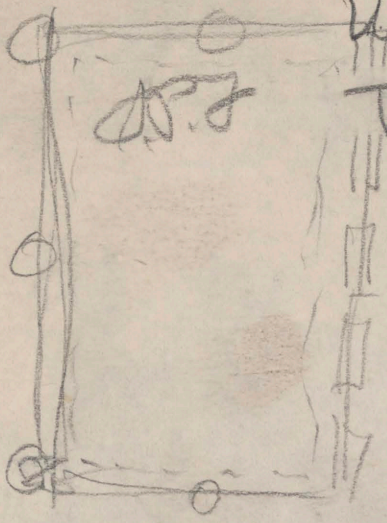
DEPARTMENT OF METEOROLOGY
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S. P. FERGUSSON

UNIVERSITY OF NEVADA
RENO, NEVADA, U. S. A.

J.P.F. 3 mos Meteorograph $\frac{1}{2}$ completed
Limes Anemometer nearly ready
Snow sampler complete to make
Boxendall anemoscope ready

J.P.F. Snow thermograph
Water Level Recorder
" Kite meteorograph
" Kite with anemometer
" Set of records Mt. Ran, + base
" Hundredal records

J.P.F. Tracing machine (J.P.F.)



Roof projects 1" on all sides

$\frac{7}{8}$ " thick

3"

9"

Roof

LOUVRES

3"

4" between roofs

87"

2"

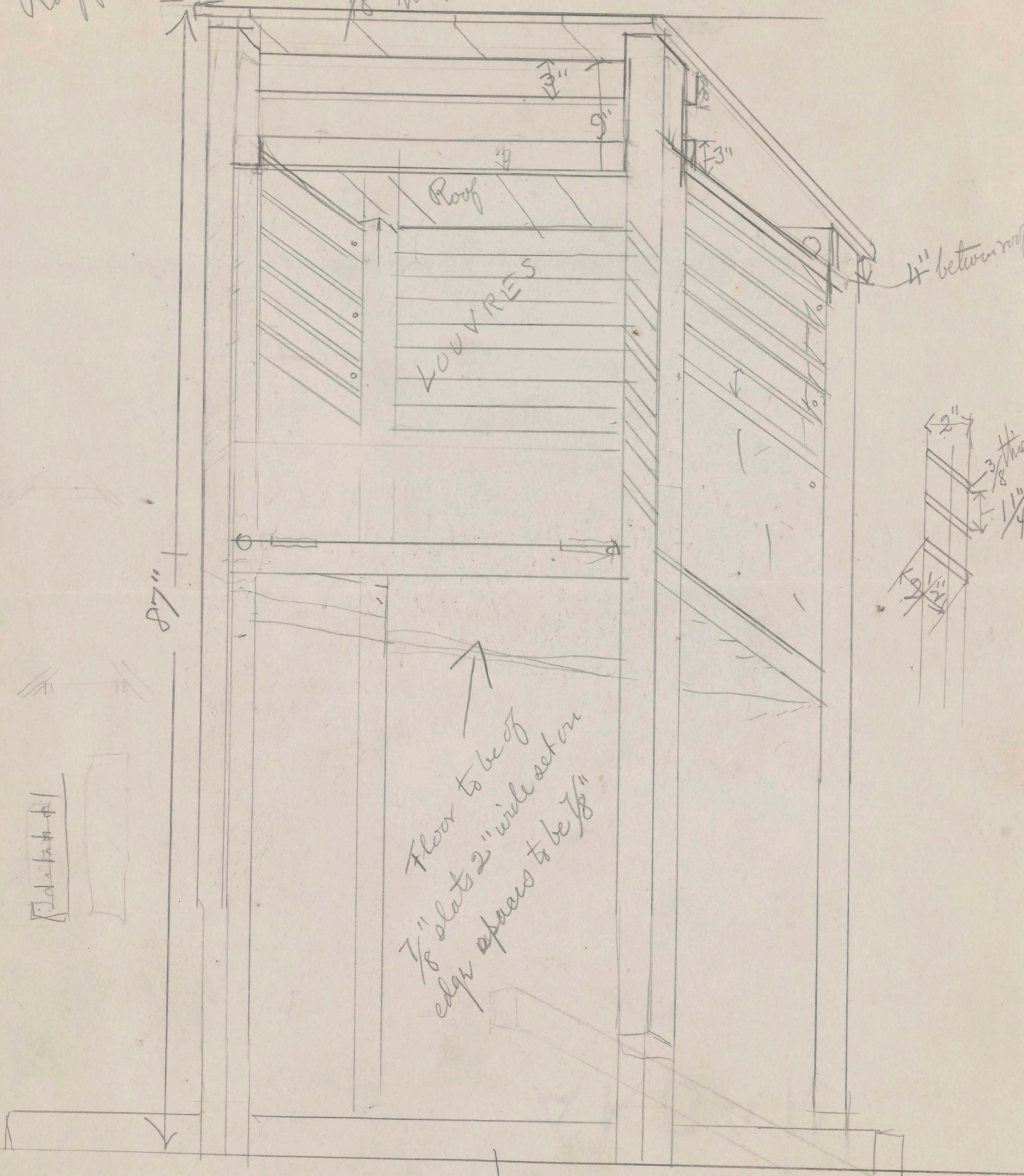
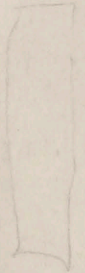
$\frac{3}{8}$ " thick

$\frac{1}{4}$ "

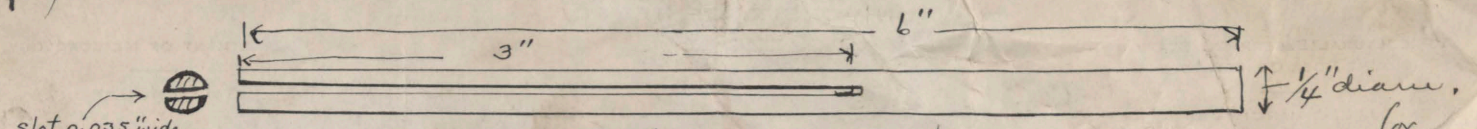
Floor to be of
 $\frac{7}{8}$ " slats 2" wide set on
edge spaces to be $\frac{7}{8}$ "

2 sills 3+3" x 5"

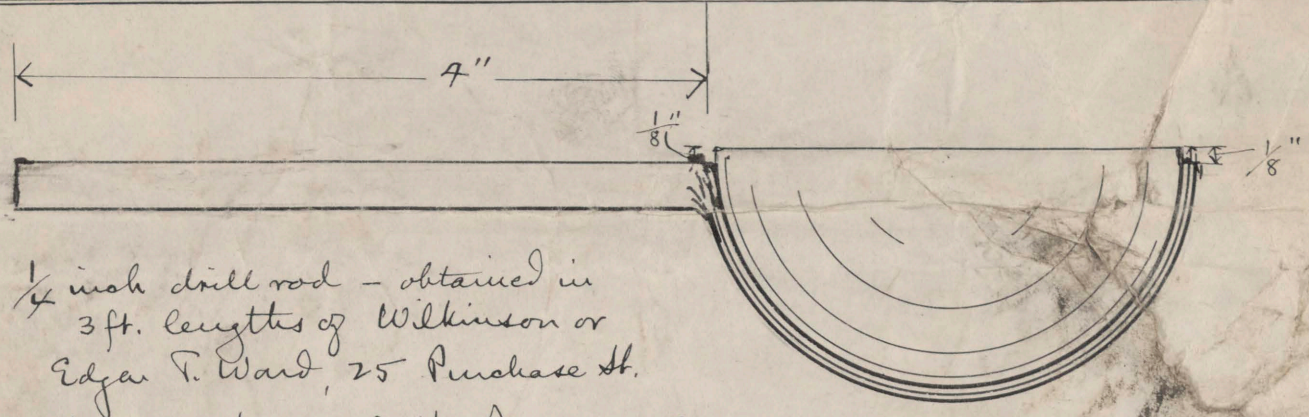
1/4" x 1/4" x 1/4"



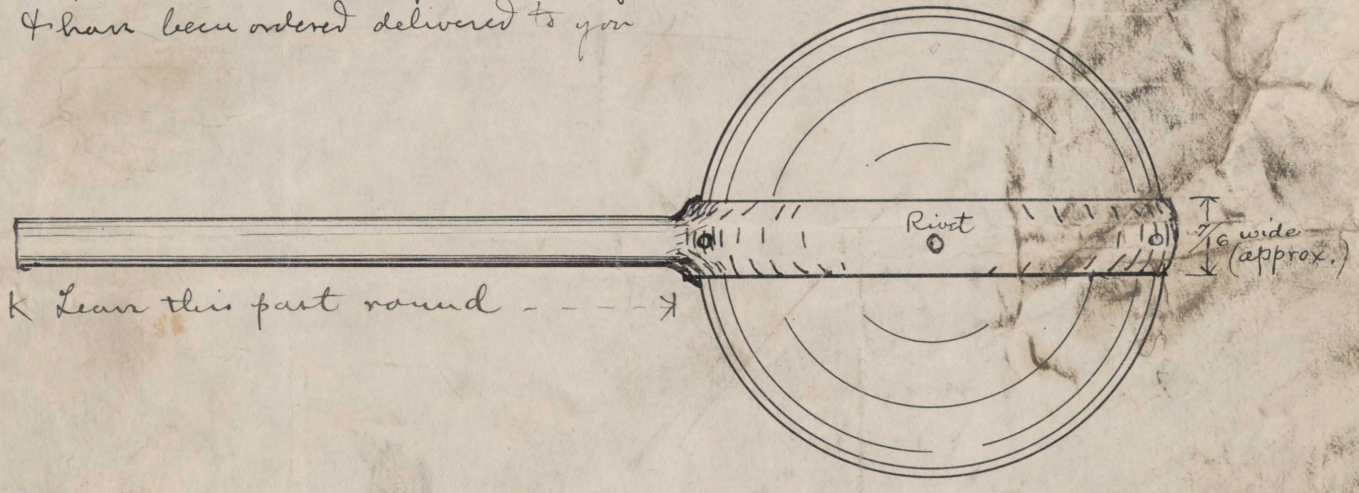
(1) Slotted rods. 12 wanted



12 soft or Bessemer ^{round} steel rods with slot about 20 gauge (or .035 inch) wide. A little wider or narrower if easier to make. Make slot straight & through centre of rod.



1/4 inch drill rod - obtained in 3 ft. lengths of Wilkinson or Edgar T. Ward, 25 Purchase St. Cups ~~can be~~ made by Serramige & have been ordered delivered to you



(2)

Anemometer cup and arm.

Arm to be made of 1/4 inch drill rod flattened & forged to fit outside of cup as shown. Flattened part to be beveled and so fastened by ^{net} solder as to make a smooth joint without angles at A A (3 ^{small} rivets will do)

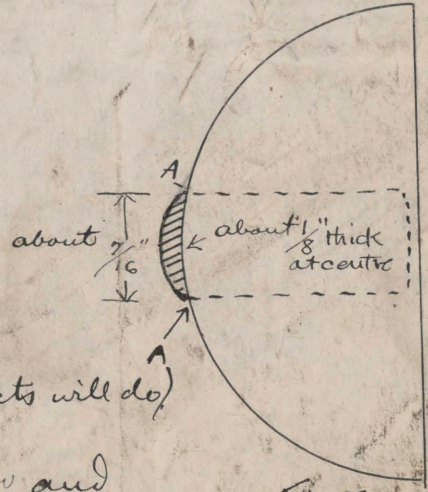


Fig. 3.

The purpose of this is to prevent snow and ice from clinging to cup by doing away with the usual central rod

Make up eight of these

UNIVERSITY OF NEVADA

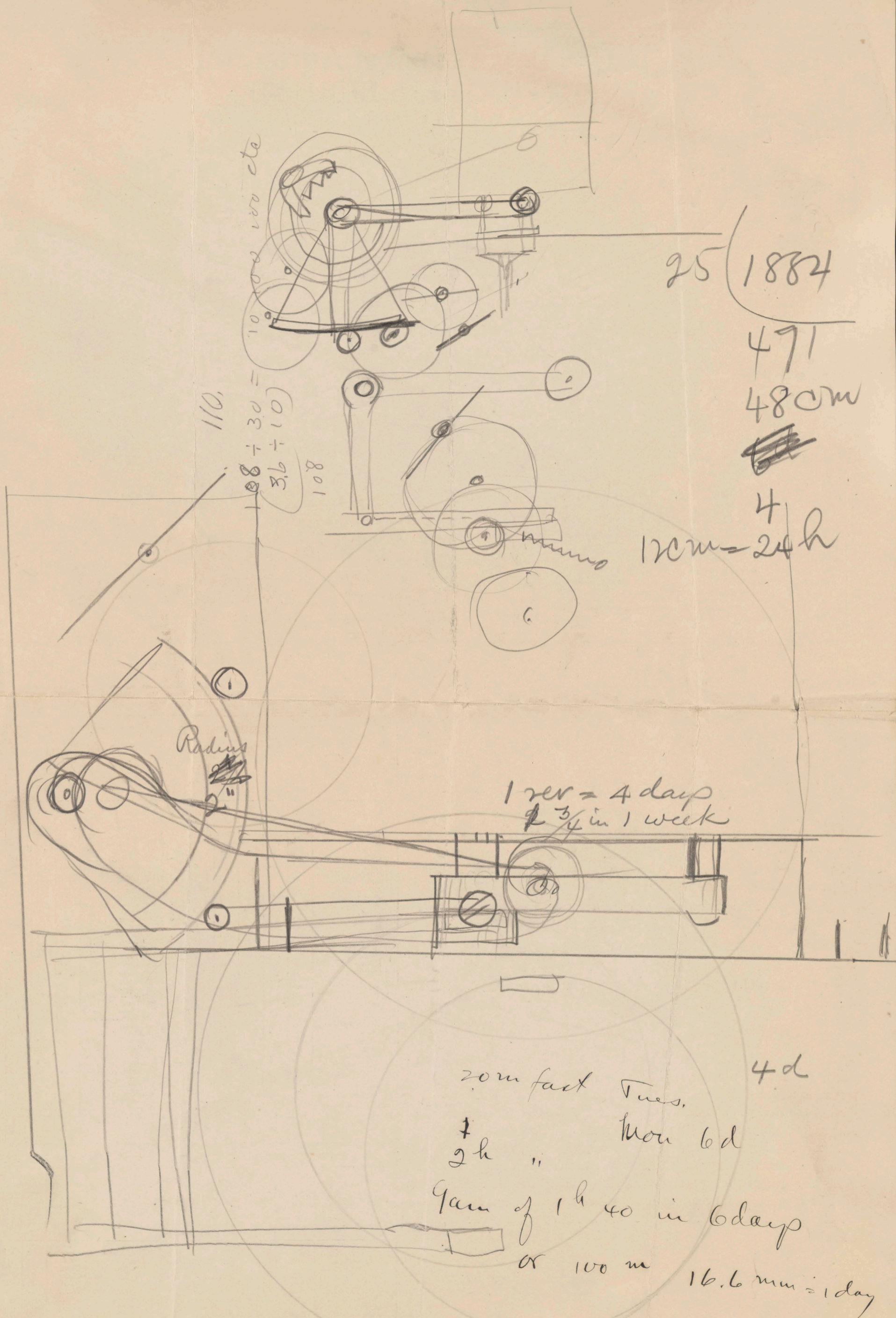
AGRICULTURAL EXPERIMENT STATION
MOUNT ROSE OBSERVATORY

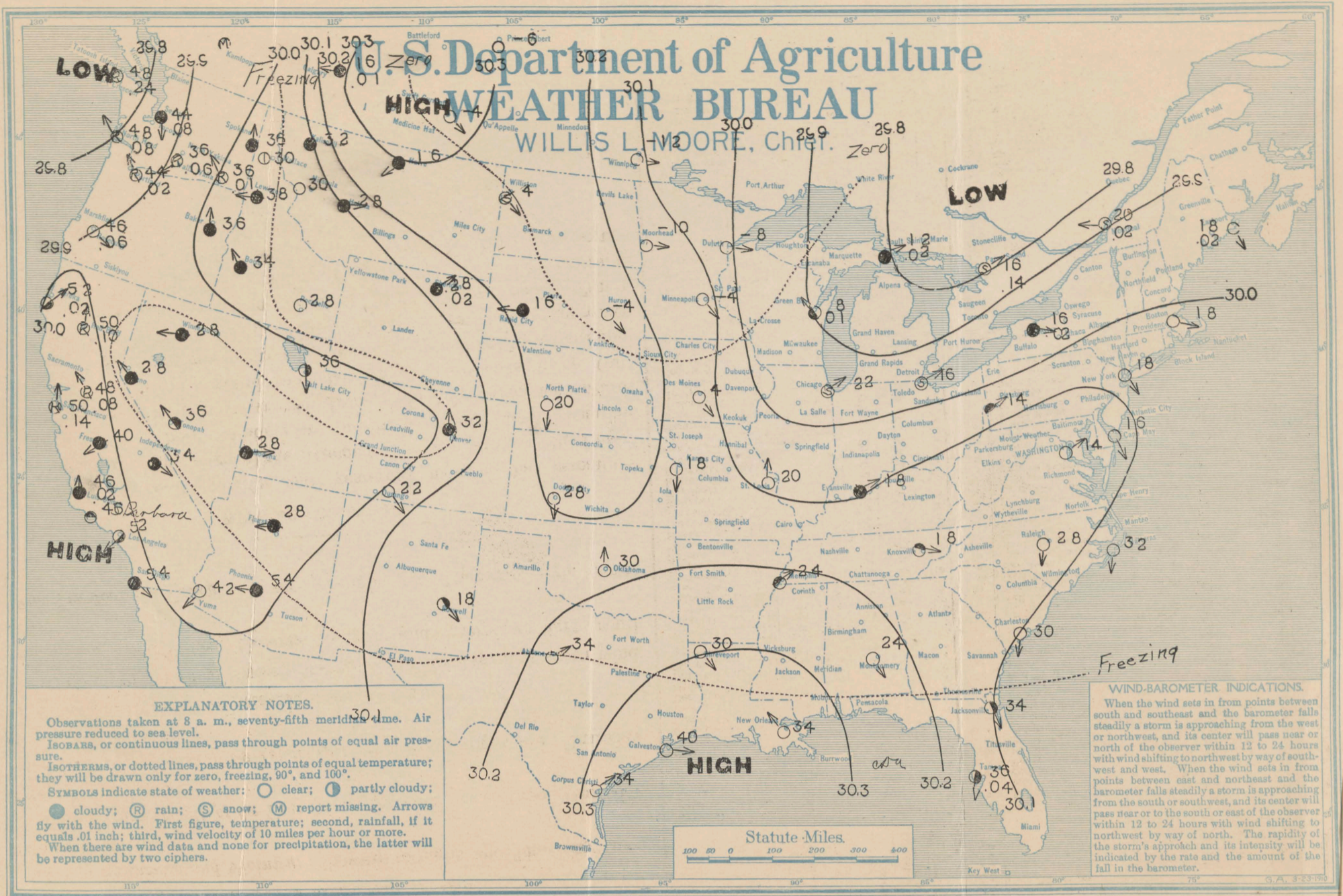
J. E. CHURCH, JR.
S. P. FERGUSSON

DEPARTMENT OF METEOROLOGY

S. P. FERGUSSON

RENO, NEVADA, U. S. A.,





SAN FRANCISCO, CAL., WEDNESDAY, FEBRUARY 7, 1912

Office Merchants Exchange Bldg., 14th Floor. Telephone Kearny 640

FORECAST TILL 5 P. M. PACIFIC TIME THURSDAY

For San Francisco and Vicinity: Showers to-night and Thursday; moderate south wind.

For California, North of the Tehachipi: Showers to-night and Thursday; moderate south wind.

For California, South of the Tehachipi: Showers to-night and Thursday; light southwest wind.

For Nevada: Rain or snow to-night and Thursday.

For Sacramento Valley: Showers to-night and Thursday; light south wind.

For Santa Clara Valley: Showers to-night and Thursday; light south wind.

For San Joaquin Valley: Showers to-night and Thursday; light south wind.

WEATHER CONDITIONS

The storm off the Washington coast yesterday morning has remained nearly stationary while a trough has extended southeastward over the Inter-mountain region. These conditions are causing generally cloudy weather west of the Rocky Mountains with rain from Point Conception northward. A ridge of high pressure extends from the British Possessions to the Gulf of Mexico causing fair weather from the Rocky Mountains to the Mississippi River, and over the south Atlantic States. The storm over the St. Lawrence Valley is causing light snow from the Lakes to the Atlantic coast. There have been no important changes in temperature. Conditions are favorable for showers in this district to-night and Thursday with moderate south wind.

G. H. WILLSON,
Local Forecaster.

OBSERVATIONS TAKEN AT 5 A. M., PACIFIC TIME.

STATIONS.	Temperature.				Wind velocity, 8 a. m., 75th meridian time.	Precipitation in past 24 hours.	STATIONS.	Temperature.				Wind velocity, 8 a. m., 75th meridian time.	Precipitation in past 24 hours.
	At 8 a. m., 75th meridian time.	Change in 24 hours.	Highest yesterday.	Lowest last night.				At 8 a. m., 75th meridian time.	Change in 24 hours.	Highest yesterday.	Lowest last night.		
Abilene.....	34	+4	50	32	8	0	New York.....	18	+2	30	18	4	0
Atlantic City.....	16	+4	26	14	4	0	North Head.....	45	-4	52	45	24	0.08
Baker.....	35	.....	.....	34	4	0	North Platte.....	20	+12	42	20	6	0
Boise.....	34	-2	48	32	2	0	Oklahoma.....	30	+10	40	30	16	0
Boston.....	18	-6	32	18	2	0	Perry Sound.....	10	.....	24	14	16	0.24
Buffalo.....	15	+6	22	16	24	0	Phoenix.....	54	.....	54	50	8	0
Calgary.....	16	-12	28	14	2	0	Pittsburg.....	14	+6	20	14	8	0
Charleston.....	30	0	38	30	2	0	Pocatello.....	44	+2	50	44	4	0.02
Chicago.....	22	+8	29	18	12	0	Portland, Oreg.....	6	-10	.....	8	0	0
Corpus Christi.....	34	.....	.....	26	18	0	Prince Albert.....	28	+10	36	20	4	0
Denver.....	32	+12	50	26	4	0	Raleigh.....	16	+4	22	16	4	0
Des Moines.....	4	-10	26	4	6	0	Rapid City.....	50	+8	56	50	4	.70
Dodge.....	28	+14	44	28	4	0	Reno.....	28	-4	56	26	4	0
Duluth.....	8	-16	20	8	10	0	Roseburg.....	47	-8	54	46	4	.06
Durango.....	22	+2	50	22	4	0	Roswell.....	18	-8	52	18	4	0
Eastport.....	18	-4	28	16	0	.02	Sacramento.....	48	+4	56	48	6	.08
Edmonton.....	.....	.....	20	.....	.....	.....	St. Louis.....	20	+4	22	20	16	0
Eureka.....	52	+6	60	48	6	.02	St. Paul.....	4	-18	22	4	12	0
Flagstaff.....	28	+4	54	26	4	0	Salt Lake City.....	36	+4	50	34	4	0
Fresno.....	40	-8	60	40	4	0	San Diego.....	54	+6	58	50	4	0
Galveston.....	40	+2	50	40	4	0	SAN FRANCISCO.....	50	+6	56	50	10	.14
Green Bay.....	8	+4	22	8	12	.01	San Jose.....	50	+8	60	50	4	.29
Hatteras.....	32	+6	34	24	10	0	San Luis Obispo.....	46	+2	54	46	4	.02
Havre.....	16	.....	22	16	4	0	Sault Ste Marie.....	12	-10	24	12	6	.02
Helena.....	28	-2	38	28	6	0	Seattle.....	44	+2	44	42	4	.08
Honolulu.....	66	0	76	.....	.....	.....	Spokane.....	36	+2	44	32	4	0
Huron.....	4	-4	14	4	8	0	Sheridan.....	28	+18	40	24	4	.02
Independence.....	34	.....	60	32	6	0	Shreveport.....	30	0	46	30	4	0
Jacksonville.....	34	-2	42	34	8	0	Swift Current.....	4	-10	10	4	12	.04
Kalispell.....	32	+6	32	32	3	0	Tampa.....	36	-4	44	34	4	0
Kamloops.....	.....	.....	34	.....	.....	.....	Tatoosh Island.....	48	+6	54	46	14	.24
Kansas City.....	18	0	32	18	18	0	Toledo.....	18	+6	26	14	4	0
Knoxville.....	18	0	32	18	4	0	Topopah.....	36	-8	54	36	6	0
Lewiston.....	38	.....	.....	36	4	0	Victoria.....	36	+2	36	34	4	0
Los Angeles.....	52	+4	62	50	4	0	Wallace.....	30	.....	36	30	.....	0
Louisville.....	18	+10	30	14	6	0	Walla Walla.....	36	+2	36	34	4	.01
Memphis.....	24	+2	30	24	8	0	Washington.....	14	+2	26	12	4	0
Missoula.....	30	-2	38	26	8	0	Williston.....	4	+6	38	2	4	0
Modena.....	28	+6	52	28	8	0	Winnemucca.....	28	-2	56	28	4	0
Montgomery.....	24	-4	44	24	6	0	Winnipeg.....	-12	-12	10	-14	14	0
Montreal.....	20	+8	20	20	.02	0	Yakima.....	36	.....	42	36	4	.06
Moorhead.....	-10	-6	8	-10	6	0	Yuma.....	42	-6	76	42	4	0
New Orleans.....	34	0	48	34	4	0							

SPECIAL CALIFORNIA REPORTS.

STATIONS.	Weather	Temperature.		Wind direction.	Wind velocity.	Precipitation.
		Highest yesterday.	Lowest last night.			
Mt. Tamalpais.....	Rain	46	43	S	23	.42
Point Reyes.....	Cloudy	58	49	SW	16	.58
S. E. Farallon.....	do	52	52	SW	10	.28
Paso Robles.....	do	54	44	.....	6	0
Pasadena.....	Clear	66	46	0	0	0
Redlands.....	Cloudy	70	46	W	0	0
Riverside.....	do	70	46	SE	0	0
San Bernardino.....	do	74	46	W	0	0
Santa Barbara.....	Pt. eldy	56	44	0	0	0

* ALASKAN AND ASIATIC STATIONS.

STATIONS.	Weather	Temperature.		Wind direction.	Wind velocity.	Precipitation.
		Highest yesterday.	Lowest last night.			
Eagle, Alaska.....	Clear	2	-20	W	4	0
Nome, Alaska.....	do	36	28	NE	16	0
Sitka, Alaska.....	Cloudy	52	36	NE	8	0
Tanana, Alaska.....	Clear	10	0	E	4	0
Valdez, Alaska.....	do	36	26	0	0	0
Unalaska, Alaska.....	.....	.....	.....	.....	.....	.....
Manila, P. I.....	.....	.....	.....	.....	.....	.....
Shanghai, China.....	.....	.....	.....	.....	.....	.....
Nemuro, Japan.....	.....	.....	.....	SW	28	.....

* P. M. reports of preceding day.

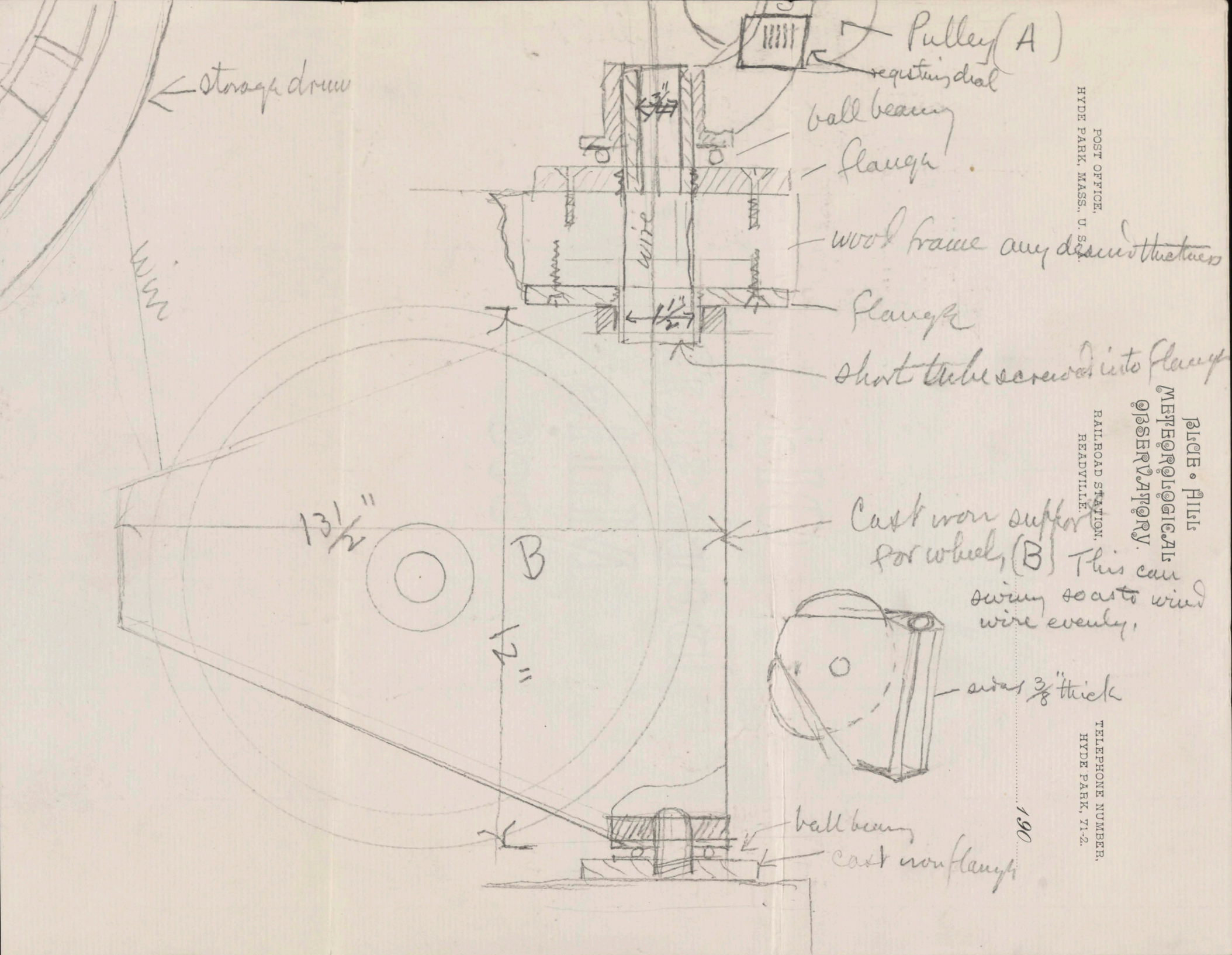
POST OFFICE,
HYDE PARK, MASS., U. S. A.

RAILROAD STATION,
READVILLE.

TELEPHONE NUMBER,
HYDE PARK, 71-2.

PLICE • HILLS
METEOROLOGICAL
OBSERVATORY.

190



Storage drum

win

Pulley (A)

regretting dial

ball bearing

flange

wood frame any desired structure

wire

flange

short tube screws into flange

13 1/2"

B

12"

Cast iron support for wheel (B) This can swing so as to wind wire evenly.

sides 3/8" thick

ball bearing

cast iron flange

2 posts $3 \times 4 \times 37 \times (\frac{?}{25})$

Bottom cross piece $2 \times 6 \times$

18"

Top piece $2 \times 6 \times 23 \frac{1}{4}$ "



Fig 1

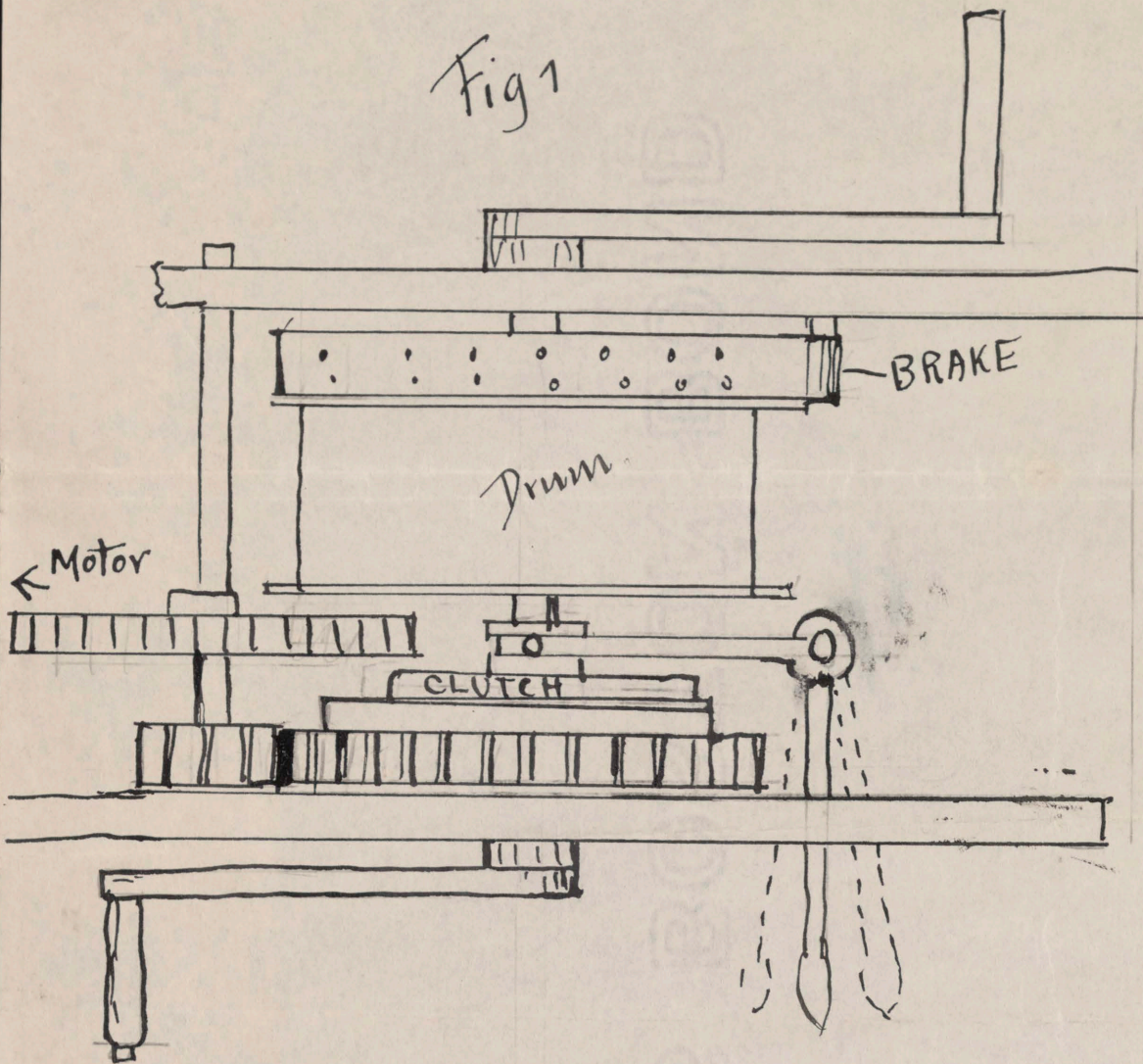
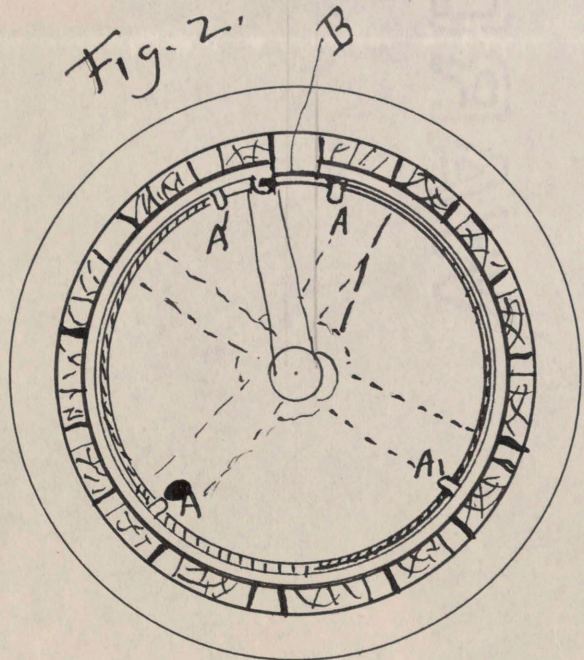
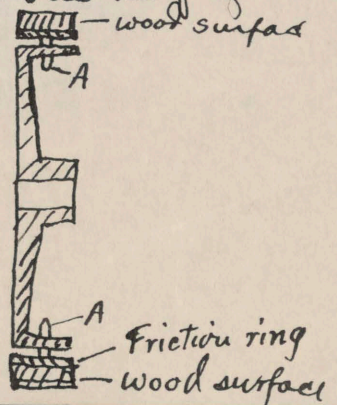


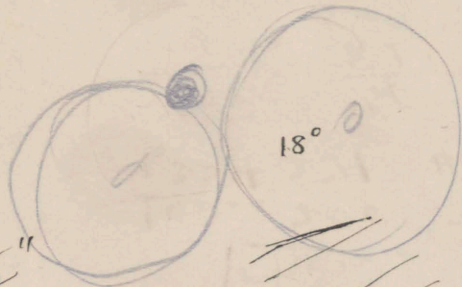
Fig-2.



The friction clutch should be attached to the gear, so that when ^{motor is} not in action the drum can be turned by the cranks ~~which~~ independently of the gears which may remain in mesh.

Will it not be necessary to provide friction ring with pins A, A, etc, working into slots in ring B so that it may have adequate support? Ring B is similar to one half of a cast iron pulley.





1 turn of cylinder in 26 hrs

6.5th

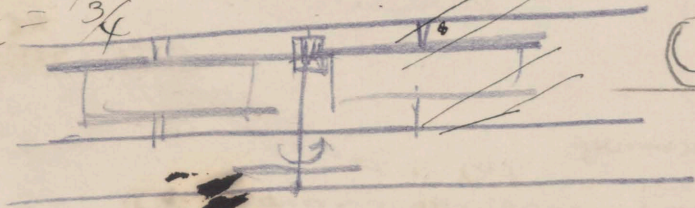
$$\frac{11}{4}$$

$$\frac{5}{4}$$

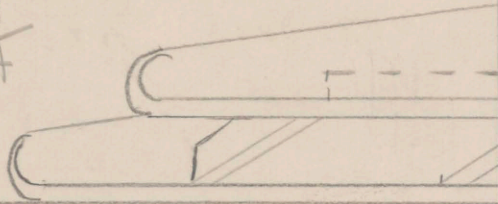
$$\frac{3}{4}$$

$$1 \text{ turn} = \frac{1}{2}''$$

$$\frac{1}{2} = \frac{3}{4}$$



26 hrs



Ferguson Clock

One turn in 26 hrs = one turn of arbor in 6.5^h

One down wheel = 80 teeth pinion on 6.5^h arbor = 16T
 = 5 to 1 Drum rotates $\frac{.5}{32.5}$ h

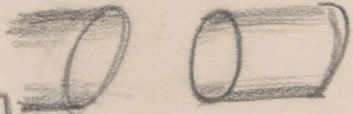
$$\begin{array}{r} 24 \ 3 \\ 32 \ = \ 4 \\ 75 \\ 9 \\ \hline 675 \end{array}$$

$$24 \overline{) 325} \left(1.354166\bar{2} \right)$$

$$\begin{array}{r} 85 \\ 72 \\ \hline 130 \\ 120 \\ \hline 100 \\ 96 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \ 9 \\ 8 \ 81 \\ 10 \ 160 \\ \hline 144 \\ 140 \end{array}$$

Pheno



$$\begin{array}{r} 100 \quad 200 \quad 3.00 \quad 24 \quad 24 \quad 800 \\ 1354 \quad 271 \quad 40.65 \quad 324 \quad 3252 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \ 8 \\ 36 \ 9 \\ \hline 60 \\ 813 \\ \hline 30 \\ 40.65 \quad 2981 \\ \hline 22 \end{array}$$

1084

60
A.P.

3.05
3.17 J.B. Jotter 2.55
4 5,00

10.00 for 2nd rules

3
4
25

47
125
172
2
372
2
172
60
12

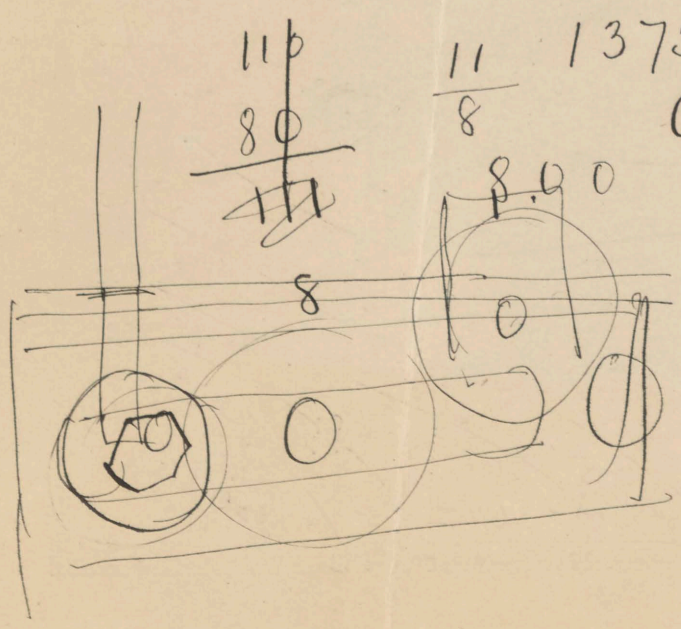
6.
4
3
2
2
17.
10

42
2125
167 100

3/4 .0039
(.0117)
.0029
003
~~003~~

5 kilos 100 500 g
30
108 3.6
360 90 72
100 25 20

Dividing Engine

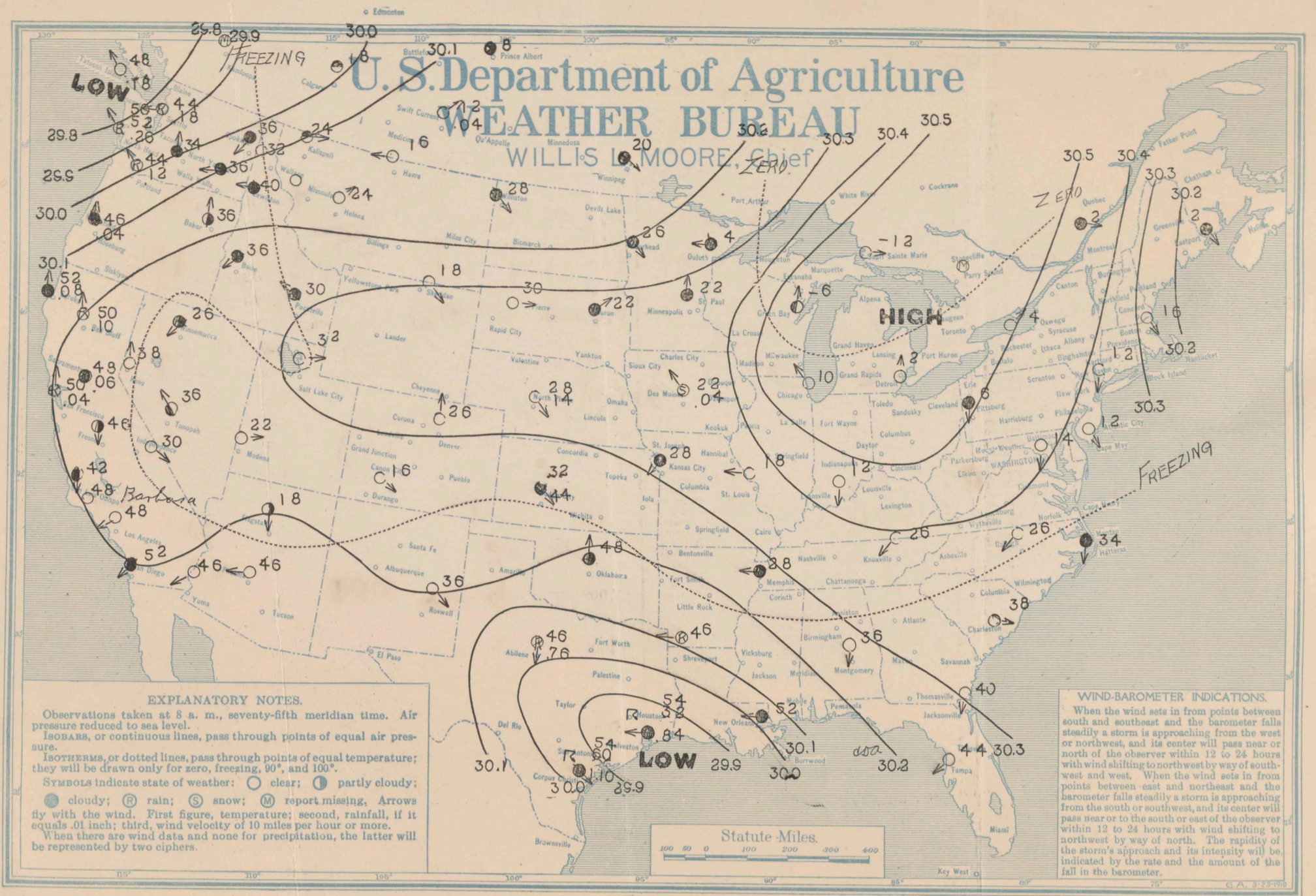


Change gears

- 1 = 1
- 1 = 1.2
- 1 = 1.5
- 0.5 = 1.0
- 0.75 = 1.0
- 0.80 110
- 1: 13/8
- 100 x 120
- 100 x 150
- 50 x 100
- 75 x 100

4 .07 28
3 .09 40
4 16
3 5.33
4 60 3.7 3187
3 8.0 3.440 15
.29
.30
3

returns .3



EXPLANATORY NOTES.
 Observations taken at 8 a. m., seventy-fifth meridian time. Air pressure reduced to sea level.
 ISOBARS, or continuous lines, pass through points of equal air pressure.
 ISOTHERMS, or dotted lines, pass through points of equal temperature; they will be drawn only for zero, freezing, 90°, and 100°.
 SYMBOLS indicate state of weather: ○ clear; ◐ partly cloudy; ● cloudy; ☉ rain; ☎ snow; Ⓜ report missing. Arrows fly with the wind. First figure, temperature; second, rainfall, if it equals .01 inch; third, wind velocity of 10 miles per hour or more. When there are wind data and none for precipitation, the latter will be represented by two ciphers.

WIND-BAROMETER INDICATIONS.
 When the wind sets in from points between south and southeast and the barometer falls steadily a storm is approaching from the west or northwest, and its center will pass near or north of the observer within 12 to 24 hours with wind shifting to northwest by way of southwest and west. When the wind sets in from points between east and northeast and the barometer falls steadily a storm is approaching from the south or southwest, and its center will pass near or to the south or east of the observer within 12 to 24 hours with wind shifting to northwest by way of north. The rapidity of the storm's approach and its intensity will be indicated by the rate and the amount of the fall in the barometer.

SAN FRANCISCO, CAL., TUESDAY, FEBRUARY 13, 1912.

Office Merchants Exchange Bldg., 14th Floor. Telephone Kearny 640

FORECAST TILL 5 P. M. PACIFIC TIME WEDNESDAY

- For San Francisco and Vicinity:* Showers to-night and Wednesday; moderate south wind.
- For California, North of the Tehachipi:* Showers to-night and Wednesday; moderate south wind.
- For California, South of the Tehachipi:* Cloudy to-night and Wednesday; light northwest wind.
- For Nevada:* Showers to-night and Wednesday.
- For Sacramento Valley:* Showers to-night and Wednesday; light south wind.
- For Santa Clara Valley:* Showers to-night and Wednesday; light south wind.
- For San Joaquin Valley:* Showers to-night and Wednesday; light south wind.

WEATHER CONDITIONS

The storm continues off Vancouver Island causing generally cloudy weather over the Pacific Slope north of the Tehachipi with rain along the coast north of Monterey Bay. The rainfall has been light in all districts. Southeast storm warnings are displayed from Eureka northward and high winds are reported from the Washington and Oregon coasts. An area of high pressure overlies the Lake region causing fair weather east of the Rocky Mountains except in Texas, Louisiana and Oklahoma where a small depression in the Gulf is causing cloudy weather with rain and thunderstorms. The temperature has risen over the Missouri Valley and fallen over the Lakes and Ohio Valley. Conditions are favorable for showers in northern California and Nevada to-night and Wednesday.

G. H. WILLSON,
 Local Forecaster.

OBSERVATIONS TAKEN AT 5 A. M., PACIFIC TIME.

STATIONS.	Temperature.					Precipitation in past 24 hours.	STATIONS.	Temperature.					Precipitation in past 24 hours.
	At 8 a. m., 75th meridian time.	Change in 24 hours.	Highest yesterday.	Lowest last night.	Wind velocity, 8 a. m., 75th meridian time.			At 8 a. m., 75th meridian time.	Change in 24 hours.	Highest yesterday.	Lowest last night.	Wind velocity, 8 a. m., 75th meridian time.	
Abilene.....	46	-2	58	46	4	.76	New York.....	12	+0	26	16	18	0
Atlantic City.....	12	-4	24	12	4	0	North Head.....	50	+6	52	46	40	.26
Baker.....	36	+12	44	34	6	0	North Platte.....	28	+0	36	28	26	0
Boise.....	36	+6	44	36	4	0	Oklahoma.....	45	+10	60	48	12	.14
Boston.....	16	+8	28	14	4	0	Parry Sound.....	12	-2	12	4	0	0
Buffalo.....	4	-4	18	4	8	0	Phoenix.....	46	-2	72	44	40	0
Calgary.....	18	-4	44	16	0	0	Pittsburg.....	6	-16	28	6	6	0
Charleston.....	38	+6	52	36	4	0	Pocatello.....	39	+2	40	26	16	0
Chicago.....	10	-4	18	10	6	0	Portland, Oreg.....	44	+4	50	44	4	.12
Corpus Christi.....	54	-4	60	52	12	1.10	Prince Albert.....	8	-8	22	8	0	0
Denver.....	26	+2	44	24	4	0	Raleigh.....	26	+10	44	26	10	0
Des Moines.....	22	+16	24	22	8	.04	Rapid City.....	30	-2	42	26	4	0
Dodge.....	32	+2	44	32	4	.44	Red Bluff.....	50	+8	54	48	6	.10
Duluth.....	4	+4	6	0	4	0	Reno.....	38	+16	52	34	4	0
Durango.....	16	-14	48	16	6	0	Roseburg.....	48	+10	46	44	4	.04
Eastport.....	12	-16	18	10	10	0	Roswell.....	36	+2	62	36	10	0
Edmonton.....	16	-16	44	10	4	0	Sacramento.....	48	+4	56	48	4	.06
Eureka.....	52	+8	60	50	6	.08	St. Louis.....	18	-2	30	18	4	0
Flagstaff.....	18	+2	50	16	4	0	St. Paul.....	22	+26	22	8	8	0
Fresno.....	46	+4	68	46	4	0	Salt Lake City.....	32	-2	42	28	4	0
Galveston.....	54	+0	56	52	20	.84	San Diego.....	52	+4	64	52	4	0
Green Bay.....	-6	+4	12	-12	6	0	SAN FRANCISCO.....	50	+0	58	48	6	.04
Hatteras.....	34	+8	40	28	8	0	San Jose.....	52	+8	66	50	6	0
Havre.....	16	-16	36	16	4	0	San Luis Obispo.....	42	-10	66	42	4	0
Helena.....	24	+2	42	24	6	0	Sault Ste Marie.....	-12	-6	16	-14	4	0
Honolulu.....	70	+2	76	70	4	0	Seattle.....	44	+2	48	42	4	.18
Huron.....	22	+16	22	20	4	0	Spokane.....	36	+6	42	34	4	0
Independence.....	30	+0	56	28	4	0	Sheridan.....	18	+6	38	18	4	0
Jacksonville.....	40	+2	58	40	4	0	Shreveport.....	16	+8	64	16	6	0
Kalispell.....	24	+0	38	22	4	0	Swift Current.....	12	+10	34	12	4	.04
Kamloops.....	36	+2	36	36	4	0	Tampa.....	44	+2	62	44	8	0
Kansas City.....	28	+6	32	26	10	0	Tatoosh Island.....	48	+4	48	42	24	.18
Knoxville.....	26	-2	46	26	4	0	Toledo.....	2	-6	14	2	10	0
Lewiston.....	40	+4	40	40	10	0	Tonopah.....	36	+8	46	32	10	0
Los Angeles.....	48	-2	72	48	4	0	Victoria.....	46	.....	44	24	0	.21
Louisville.....	12	-14	32	10	4	0	Wallace.....	32	+2	34	30	4	0
Memphis.....	28	-2	46	28	8	0	Walla Walla.....	36	-6	52	34	0	0
Missoula.....	.....	.....	.....	.....	.....	.....	Washington.....	14	-8	30	14	6	0
Modena.....	22	+0	44	20	6	0	Williston.....	26	+18	32	24	8	0
Montgomery.....	36	+2	60	36	4	0	Winnemucca.....	28	+8	48	26	4	0
Montreal.....	2	+4	10	2	.....	.....	Winnipeg.....	20	+28	18	16	16	0
Moorhead.....	26	+16	20	18	8	0	Yakima.....	34	+6	41	34	4	0
New Orleans.....	52	+14	60	48	8	0	Yuma.....	46	-14	78	46	4	0

SPECIAL CALIFORNIA REPORTS.

STATIONS.	Weather	Temperature.		Wind direction.	Wind velocity.	Precipitation.
		Highest yesterday.	Lowest last night.			
Mt. Tamalpais.....	Rain	50	40	S	22	.34
Point Reyes.....	Cloudy	55	51	SE	0	.23
S. E. Farallon.....	Foggy	54	52	SW	4	.710
Paso Robles.....	Pt. cldy	70	32	N	.....	0
Pasadena.....	Clear	74	40	W	.....	0
Redlands.....	Pt. cldy	72	40	E	.....	0
Riverside.....	Clear	76	36	N	.....	0
San Bernardino.....	do	76	34	SW	.....	0
Santa Barbara.....	do	72	46	0	.....	0

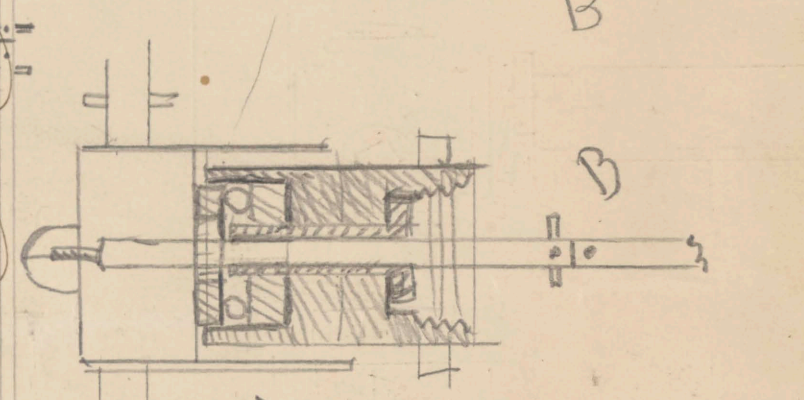
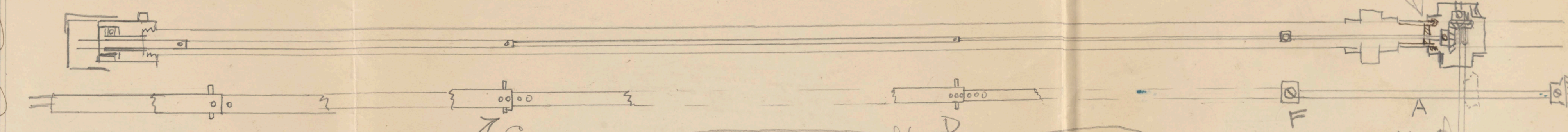
*** ALASKAN AND ASIATIC STATIONS.**

STATIONS.	Weather	Temperature.		Wind direction.	Wind velocity.	Precipitation.
		Highest yesterday.	Lowest last night.			
Eagle, Alaska.....	Cloudy	6	-2	E	4	0
Nome, Alaska.....	do	24	6	N	4	0
Sitka, Alaska.....	do	44	34	NE	8	.08
Tanana, Alaska.....	Clear	4	.....	N	4	0
Valdez, Alaska.....	Pt. cldy	36	16	0	4	0
Unalaska, Alaska.....	Pt. cldy	36	28	NE	4	0
Manila, P. I.....	.....	.....	.....	.....	.....	.....
Shanghai, China.....	.....	.....	.....	.....	.....	.....
Nemuro, Japan.....	.....	.....	.....	.....	.....	.....

* P. M. reports of preceding day.

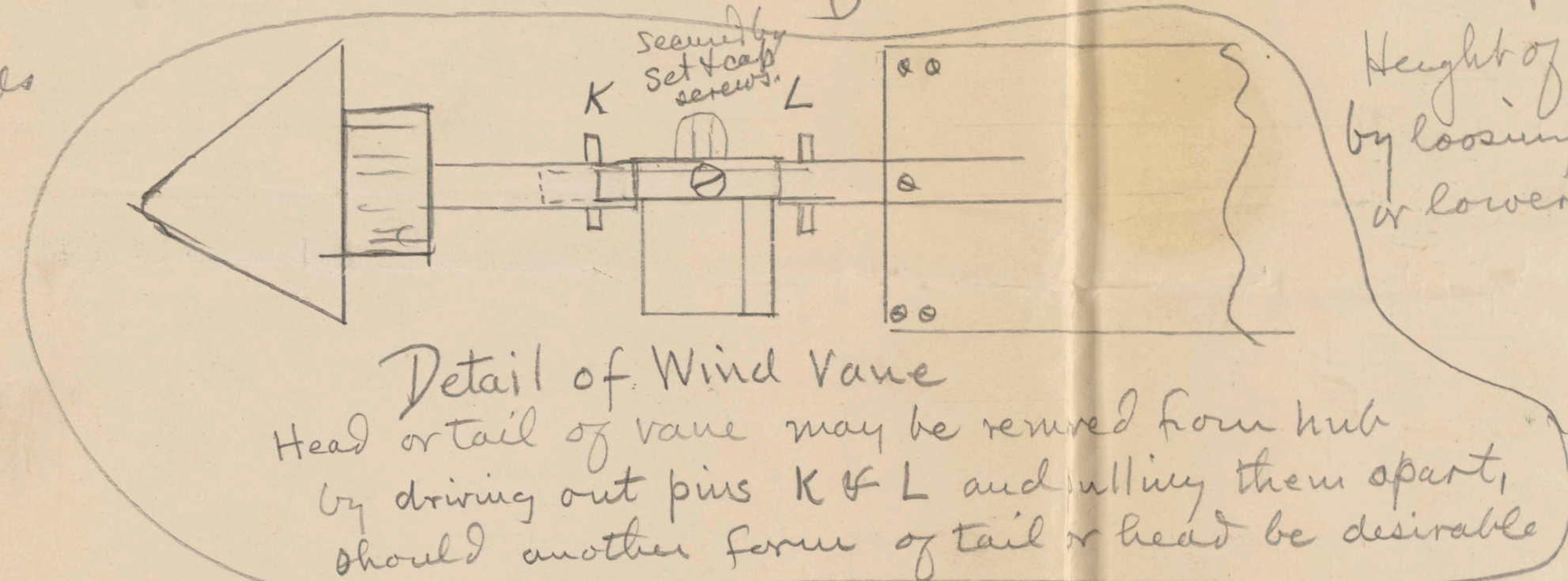
Anemoscope shaft

Anem. segments on top of standard



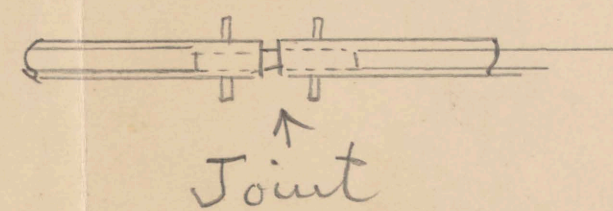
upper bearing of Anemoscope
Fill with vaseline or non-fluid oil

Drill marks show which ends fit together

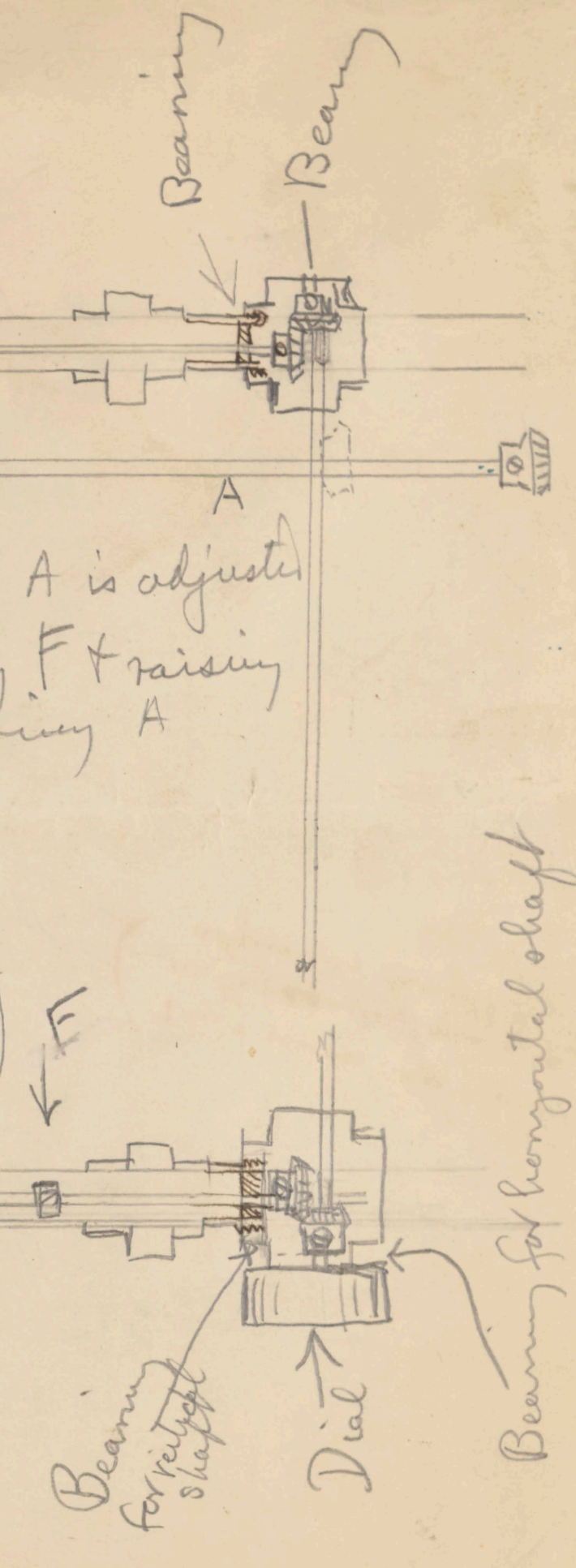


Detail of Wind Vane
Head or tail of vane may be removed from hub by driving out pins K & L and pulling them apart, should another form of tail or head be desirable

Height of A is adjusted by loosening F & raising or lowering A



Anemometer shaft



Clamp to stub shaft on base of Anem.

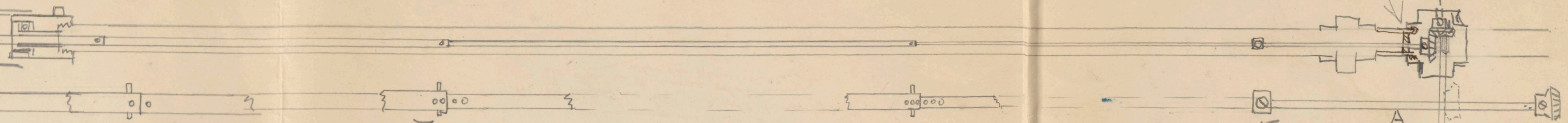
Joint

Bearing for vertical shaft

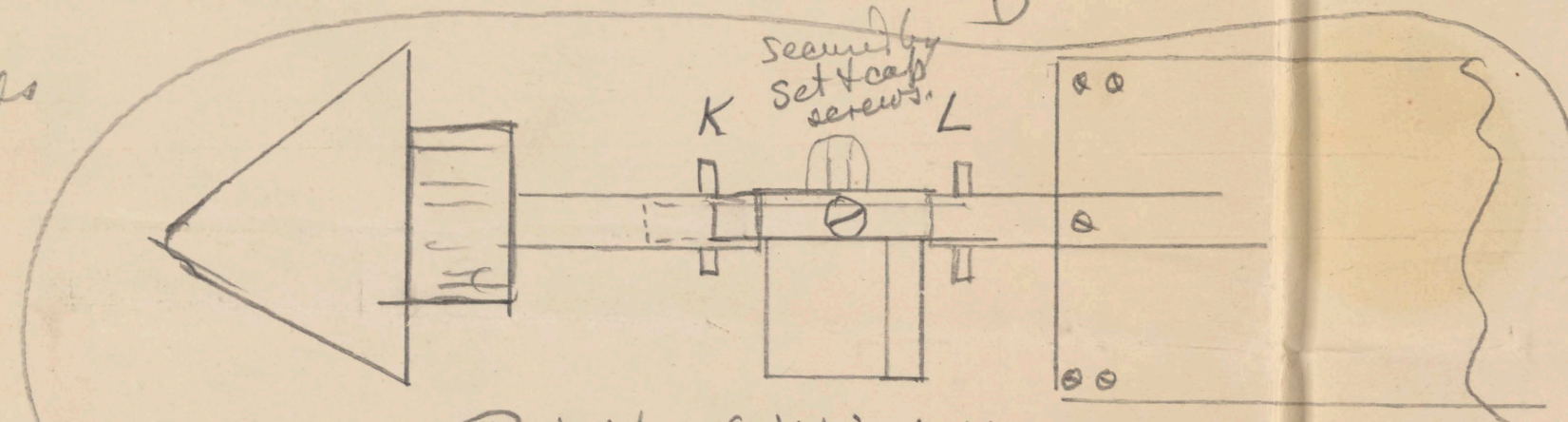
Dial

Bearing for horizontal shaft

Anemoscope shaft



Drill marks
show which ends
fit together

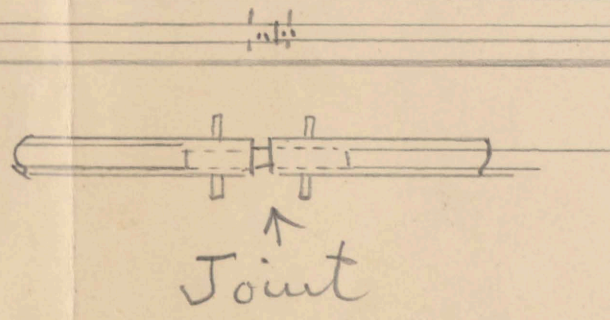


Detail of Wind Vane

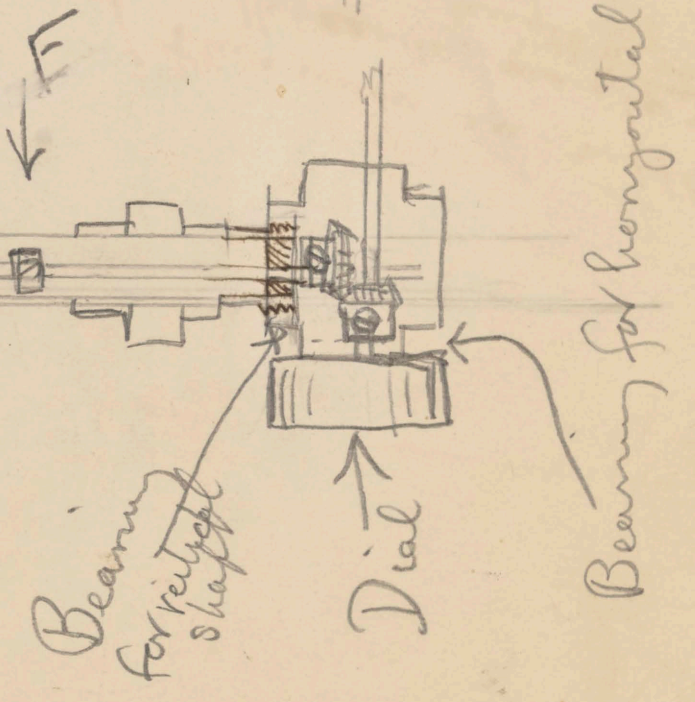
Head or tail of vane may be removed from hub
by driving out pins K & L and pulling them apart,
should another form of tail or head be desirable

Height of A is adjusted
by loosening F & raising
or lowering A

upper bearing
of Anemoscope
fill with vaseline or non-fluid oil



Anemometer shaft



Anemometer

Dial

Wall of shelter

Sliding tube to cover coupling

Fits smoothly over I which is next a bearing & must not be altered

bearing for vertical shaft

Coupling

It will be well to flatten the ends of anemoscope shaft slightly by filing, so that they will always go together in the same relative position when coupling is in place

Shafts A, B, and E, F, should be in line so as to run with as little friction as possible

Plan of shafting for anemometer

Square plug D can be removed for adjusting gear if necessary

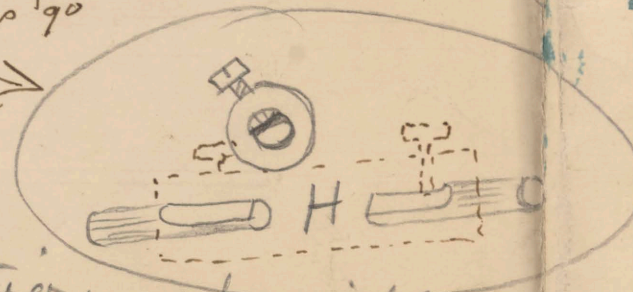
Wall of shelter

Anemoscope

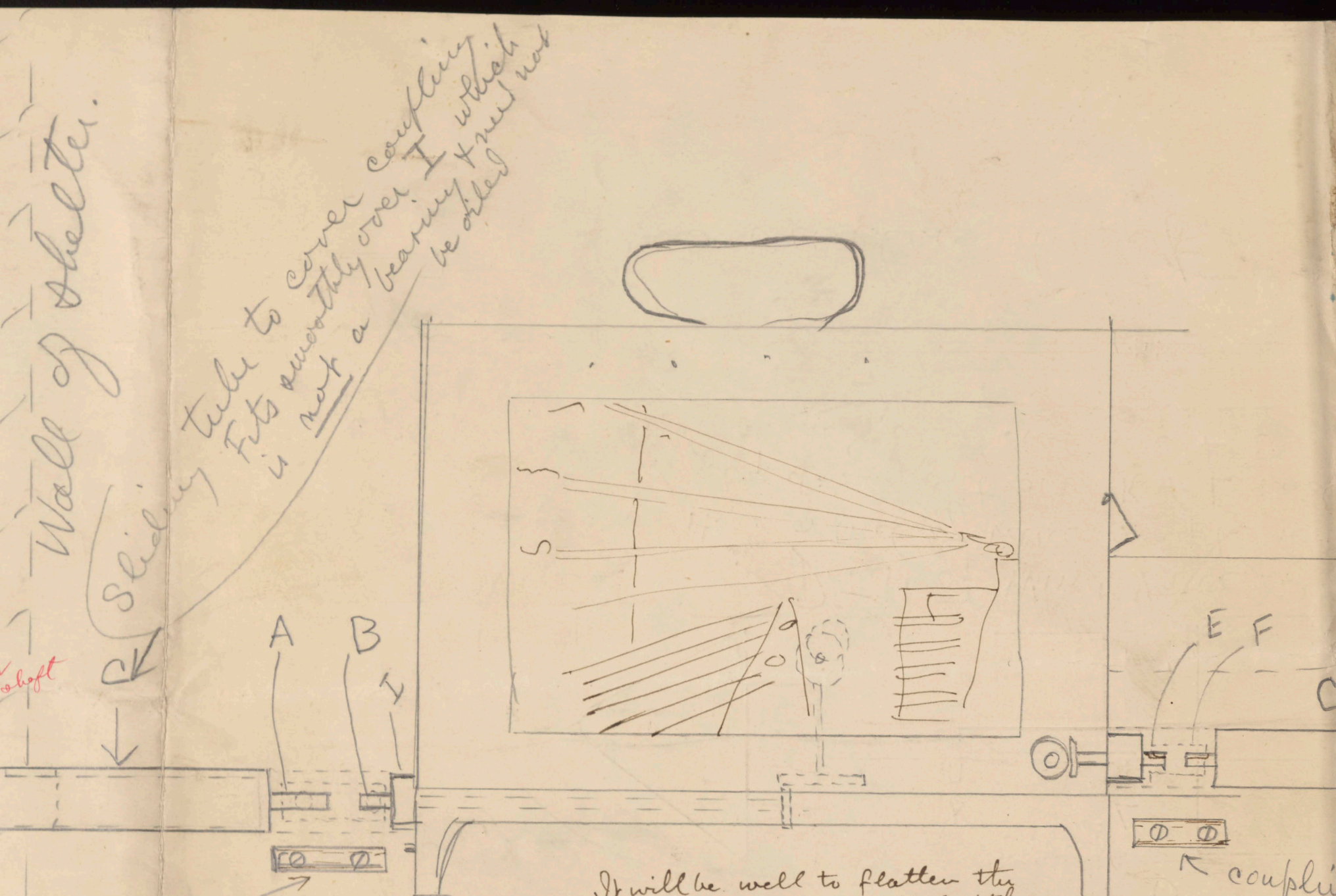
This union and nipple with bearing may be used adjusting length of shaft

Position of bevel same for both anemometer & anemoscope

Flange to be on outside



(OVER)

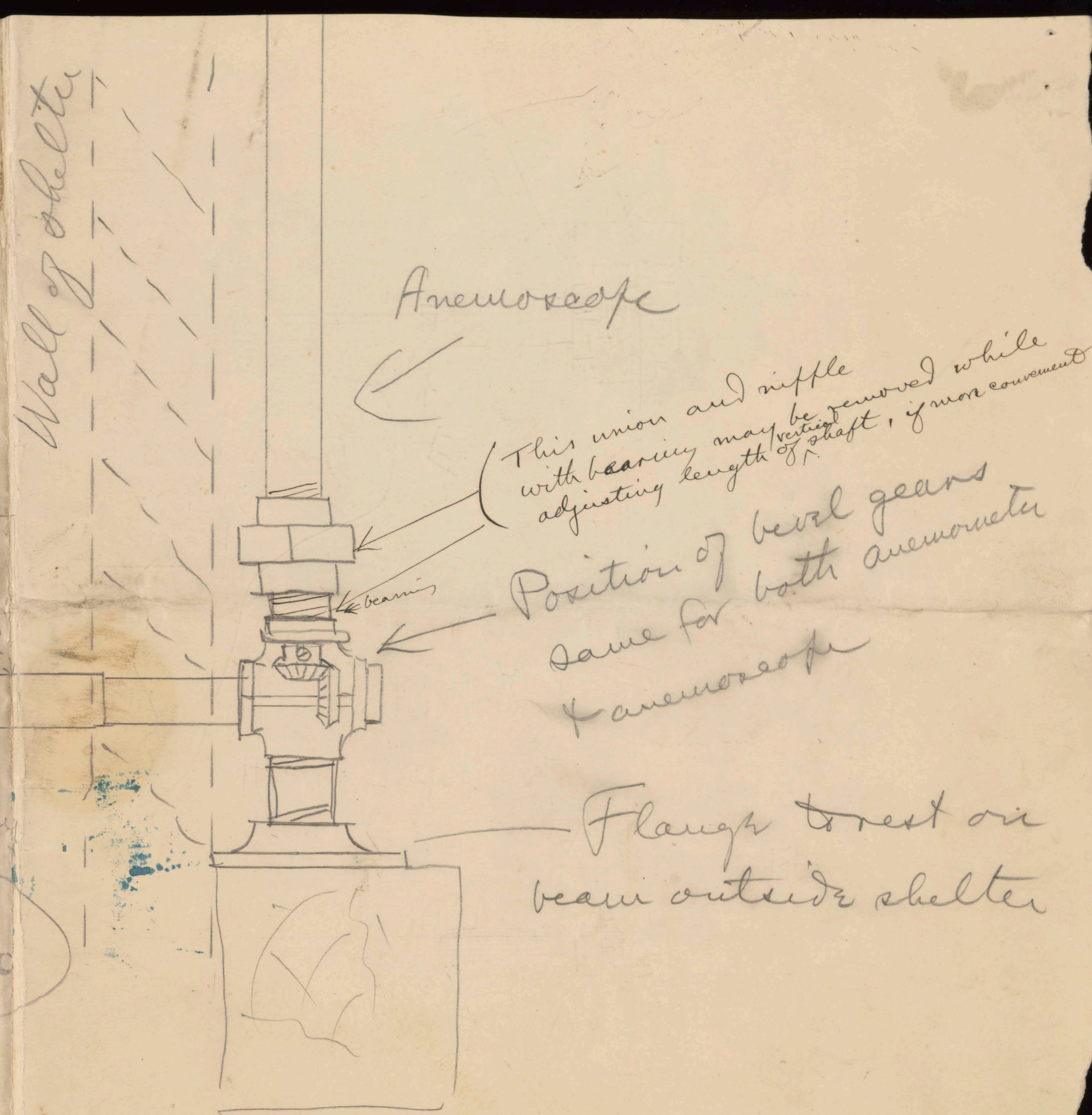


coupling

It will be well to flatten the ends of anemoscope shaft slightly by filing, so that they will always go together in the same relation when coupling is in place

Shafts A, B, and E, F, should be in line so as to run with as little friction as possible

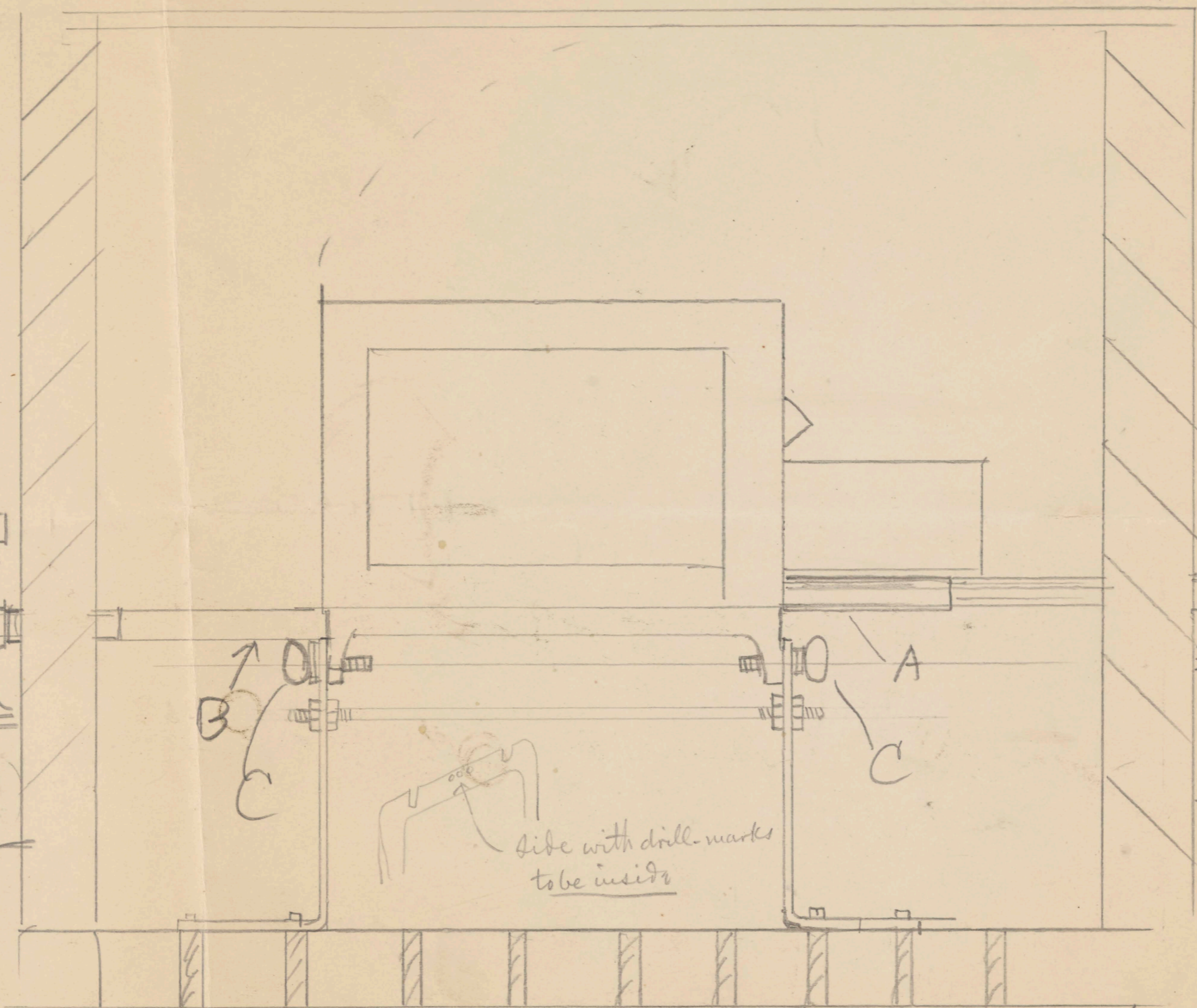
Plan of shafting for anemometer



(OVER)

Anemometer

Dial →



← *Anemoscope*

Meteorograph set up on iron brackets
after loosening couplings A, B and clamp-screws C, C

instrument may be removed
for repair

3,30

24 00
4 30

8 pm 2 33 33

7018 ~~40~~
~~8000~~ 8150
58 ~~250~~ 3333

96 cm

32.5

19.30

3:30

3 turns

48

6. 5

4 cm = 1 day

48 0

15.5

40 hrs

1859

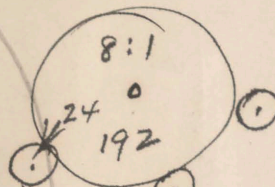
1859

1 59 5-
5 5 5 5 9

24"

108

1.5 days in 9 12.0
24



78.40

10:05 pm

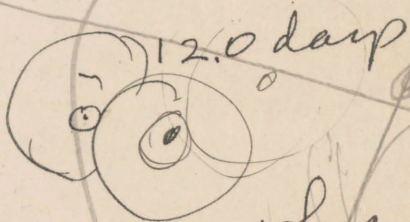
Pinions, for 1 turn in 4 days, thus 1cc in 2 days

1 turn in 3 days

2920

1 turn in 24 days = pinion on in 3 days

12 hrs



4 "

12 days

36

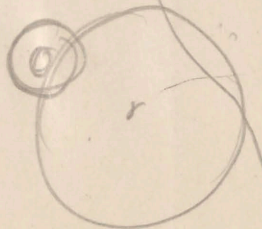
18 hrs 1 in 4 days

1 " 36 days

3:1 on 2 days

2:2

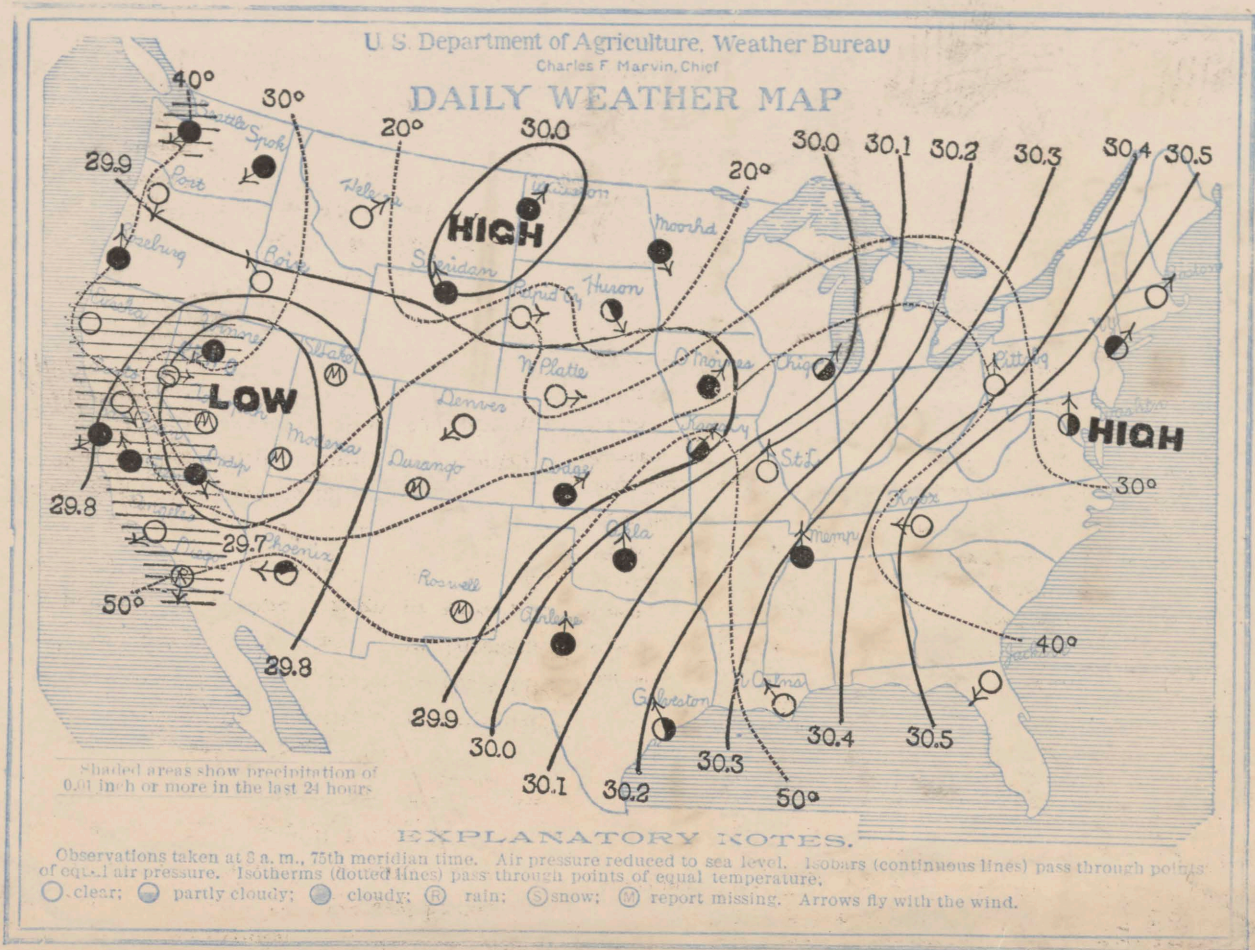
1:8



9 80
8

3
8.65 13
16
12

1152 / 104 = 11.173
1040
80
28.26



LOCAL OFFICE U. S. WEATHER BUREAU.
Reno, Nevada, February 11, 1915.
I. O. O. F. Building. Telephone 1698-J.

Forecast till 5 P. M., Friday.

For Reno and vicinity: Unsettled weather, with occasional snow to-night and Friday.

For Nevada: Unsettled weather, with occasional snow to-night and Friday.

WEATHER CONDITIONS.

The western storm continues central over Nevada, attended by snowstorms in that State and rains in the coast states. San Diego reports one inch of rain. High pressure and relatively mild temperatures prevail over the rest of the country. The temperature in Nevada ranges from 28° to 32°.

The weather in this vicinity will continue unsettled, with occasional snow to-night and Friday.

LOCAL DATA.

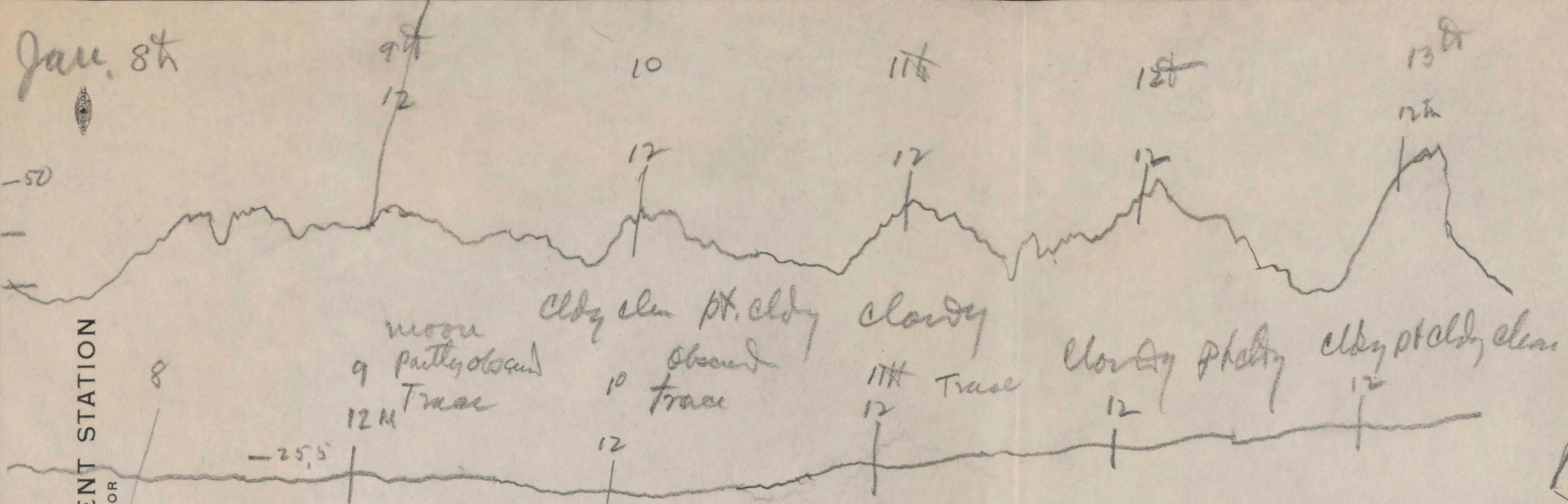
Sunrise, 7.09 a. m. Sunset, 5.03 p. m.
Highest temperature this date last year, 51°.
Lowest temperature this date last year, 31°.
Relative humidity, 5 p. m. yesterday, 96 per cent.
Relative humidity, 5 a. m. today, 95 per cent.

HENRY F. ALCIATORE,
Section Director.

OBSERVATIONS TAKEN AT 5 A. M. PACIFIC TIME.

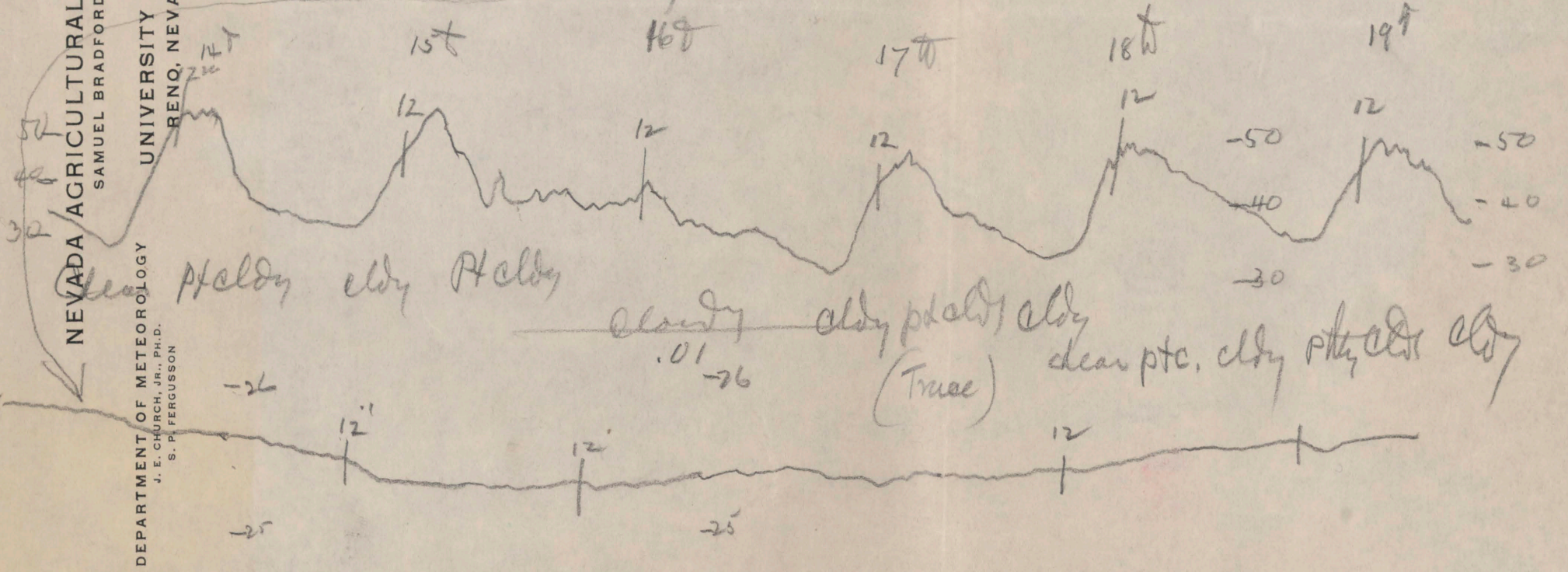
STATIONS.	HIGHEST TEMPERATURE YESTERDAY.	LOWEST TEMPERATURE LAST NIGHT.	CURRENT WIND VELOCITY.	PRECIPITATION IN LAST 24 HOURS.	STATIONS.	HIGHEST TEMPERATURE YESTERDAY.	LOWEST TEMPERATURE LAST NIGHT.	CURRENT WIND VELOCITY.	PRECIPITATION IN LAST 24 HOURS.
Boise.....	40	34	4	0	North Platte...	60	28	4	0
Boston.....	28	20	8	0	Oklahoma.....	70	56	32	0
Chicago.....	44	40	20	0	Phoenix.....	72	54	8	0
Denver.....	68	36	4	0	Pittsburg.....	36	32	16	0
Des Moines....	48	34	4	0	Portland.....	54	38	4	0
Dodge City....	74	48	8	0	Rapid City....	60	30	4	0
Durango.....	52				RENO.....	34	29	6	.32
Eureka.....		36	0	.04	Roseburg.....	44	40	4	0
Fresno.....	56	44	4	.08	Roswell.....	60			
Galveston....	64	58	4	0	Sacramento...	52	44	4	.58
Helena.....	48	24	4	0	St. Louis.....	58	46	26	0
Huron.....	30	12	4	0	Salt Lake City..	44			
Independence..	50	30	4	.02	San Diego.....	60	50	6	1.00
Jacksonville..		46	8	0	San Francisco..	52	46	8	.22
Kansas City..	62	52	18	0	Seattle.....	48	40	6	.02
Knoxville....	52	28	4	0	Sheridan.....	42	18	4	0
Los Angeles..	64	48	4	.40	Spokane.....	42	32	4	0
Memphis.....	62	48	14	0	Tonopah.....	44			
Modena.....	42				Washington....	36	26	6	0
Moorhead....	30	16	8	0	Williston.....	26	10	4	0
New Orleans..	66	48	4	0	Winnemucca..	42		8	.02

Jan. 8th



1900

W. B. station Reno
Traces from thermograph & barograph Jan 8-19, 1912



JW

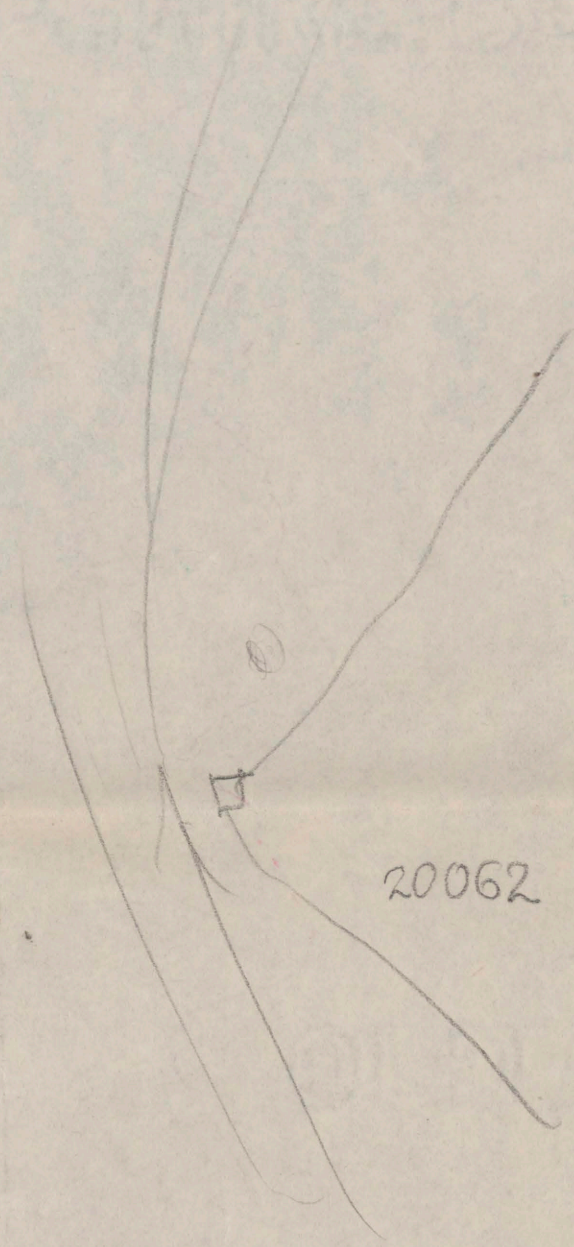
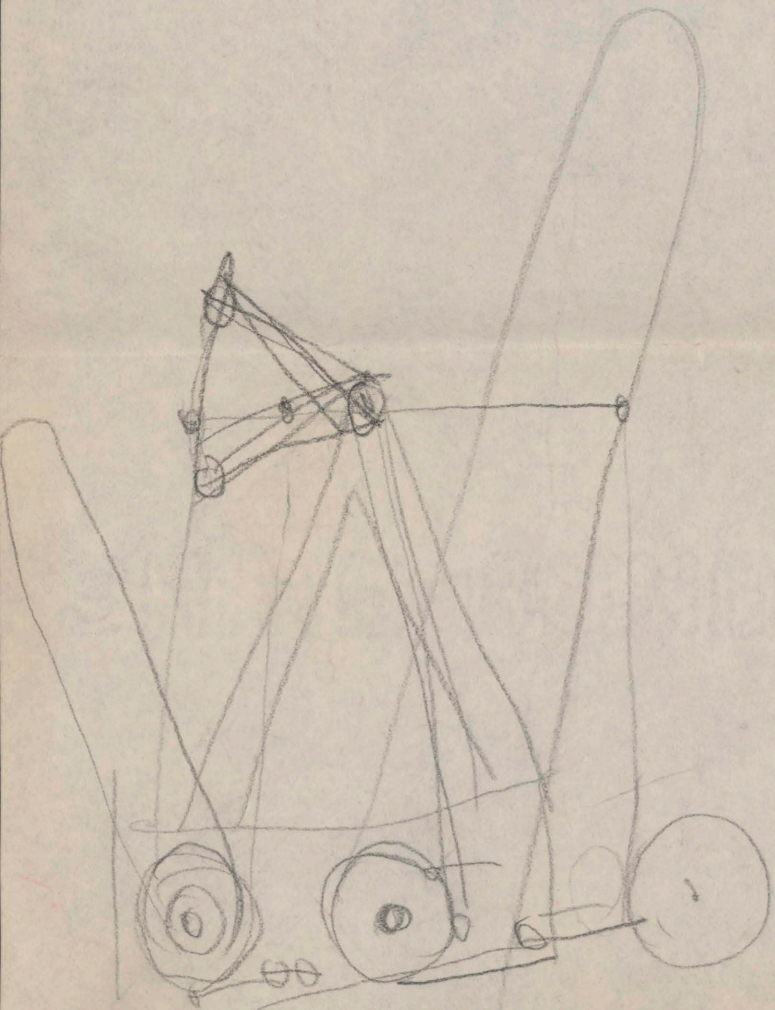
NEVADA AGRICULTURAL EXPERIMENT STATION
SAMUEL BRADFORD DOTEN, DIRECTOR

UNIVERSITY OF NEVADA
RENO, NEVADA, U. S. A.

DEPARTMENT OF METEOROLOGY
J. E. CHURCH, JR., PH.D.
S. P. FERGUSON

ADDRESS ALL COMMUNICATIONS TO THE DEPARTMENT

1962-63



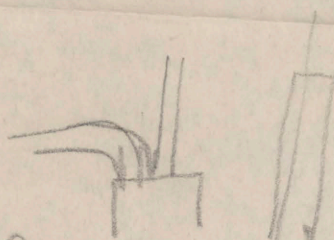
20062

W

References: Bibliography

Main - filling bar. tube M. W. R. Sept. 1908

Nor, 1906 - McLeod & Barnes on M. Royal



International met^g — ^{Bureau} Eliot (India)
Schuster England

MWR
Dec 1904 Bibliography of Kites Abbe
9.50

July 1903 cutting material for balloons

" 1898 Bar. reduced to 6.15
std Pressures

Oct 1898

Photo of tomb of Ferrel

1897

1817

70.69

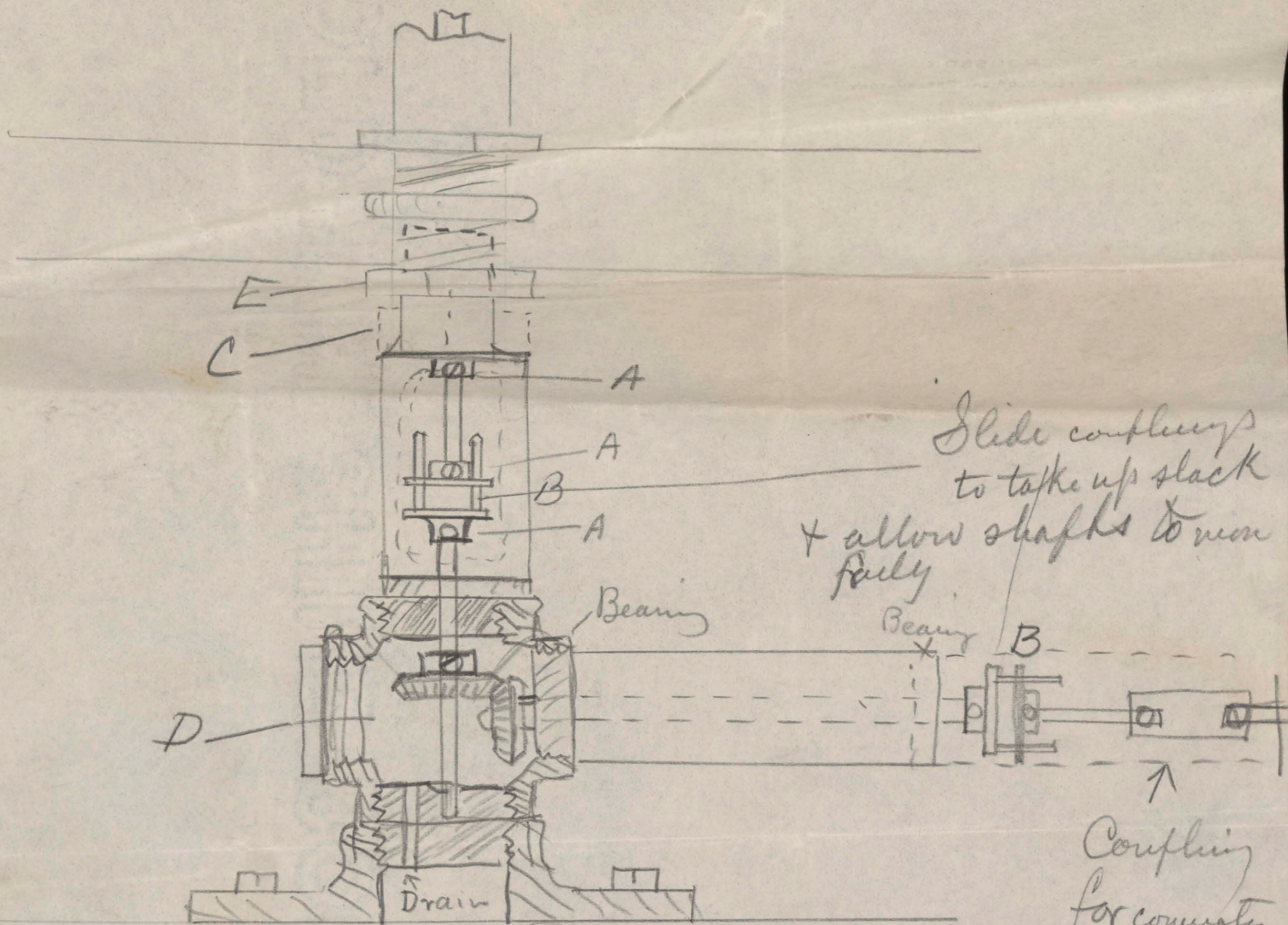
70.6
in inches

~~6.50~~

8.85

9.50

.65



C = brass tube with slot for access to coupling & set-screws A, A, & B. It slides up to end of vertical pipe & is kept water-tight by ^{packer} cap E. Slot is closed by case fitting smoothly over outside of C, & provided with corresponding slot which is made accessible or closed by turning ~~cap~~ case.

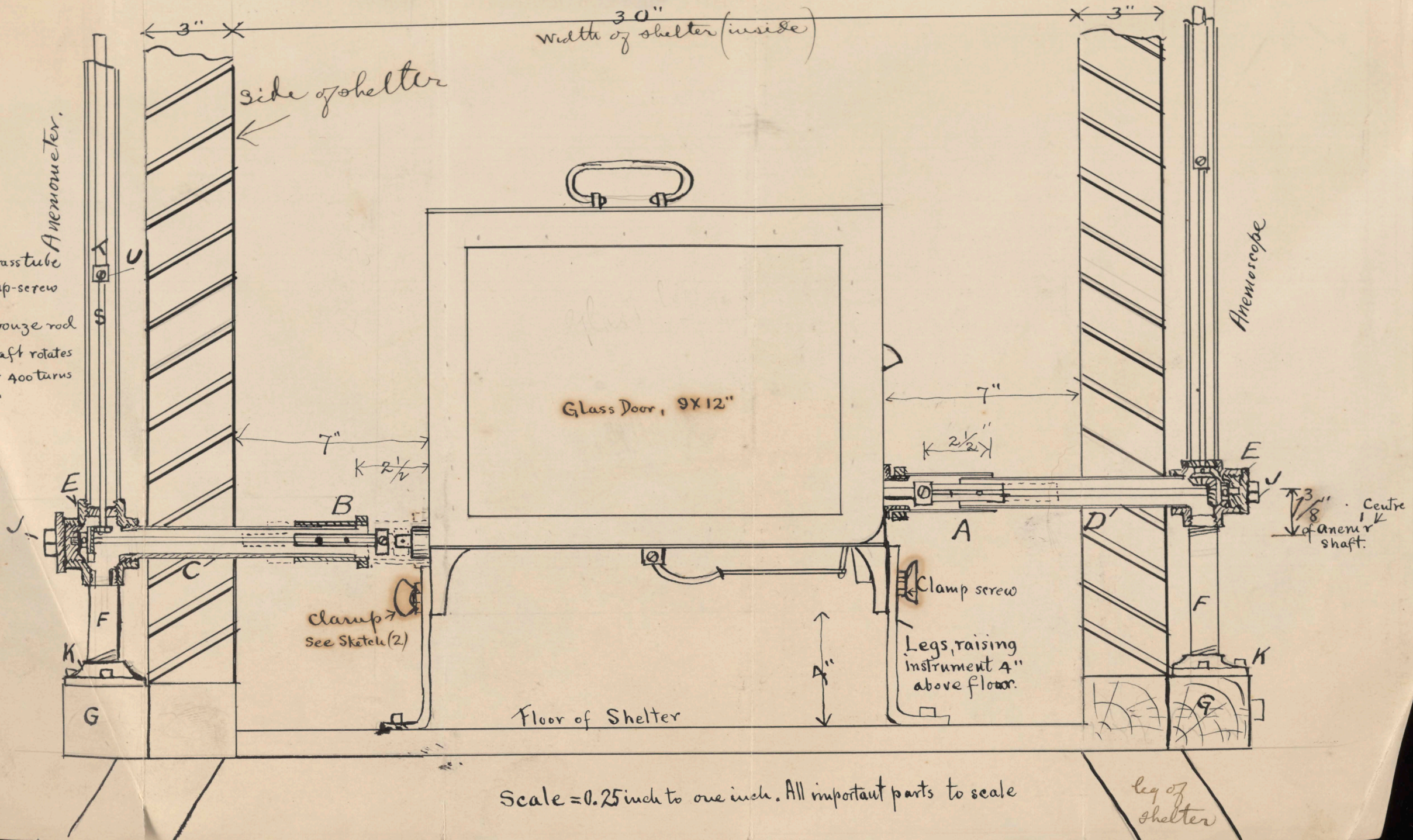
S. P. FERGUSSON
MOUNT ROSE METEOROLOGICAL OBSERVATORY
UNIVERSITY OF NEVADA

RENO, NEVADA, U. S. A.

OFFICE OF THE SUPERVISOR OF PUBLIC UTILITIES

OFFICE OF THE SUPERVISOR OF PUBLIC UTILITIES

Anemometer.
 $T = \frac{5}{16}$ " brass tube
 U = clamp-screw
 $S = \frac{3}{16}$ " bronze rod
 This shaft rotates
 once for 400 turns
 of cups.

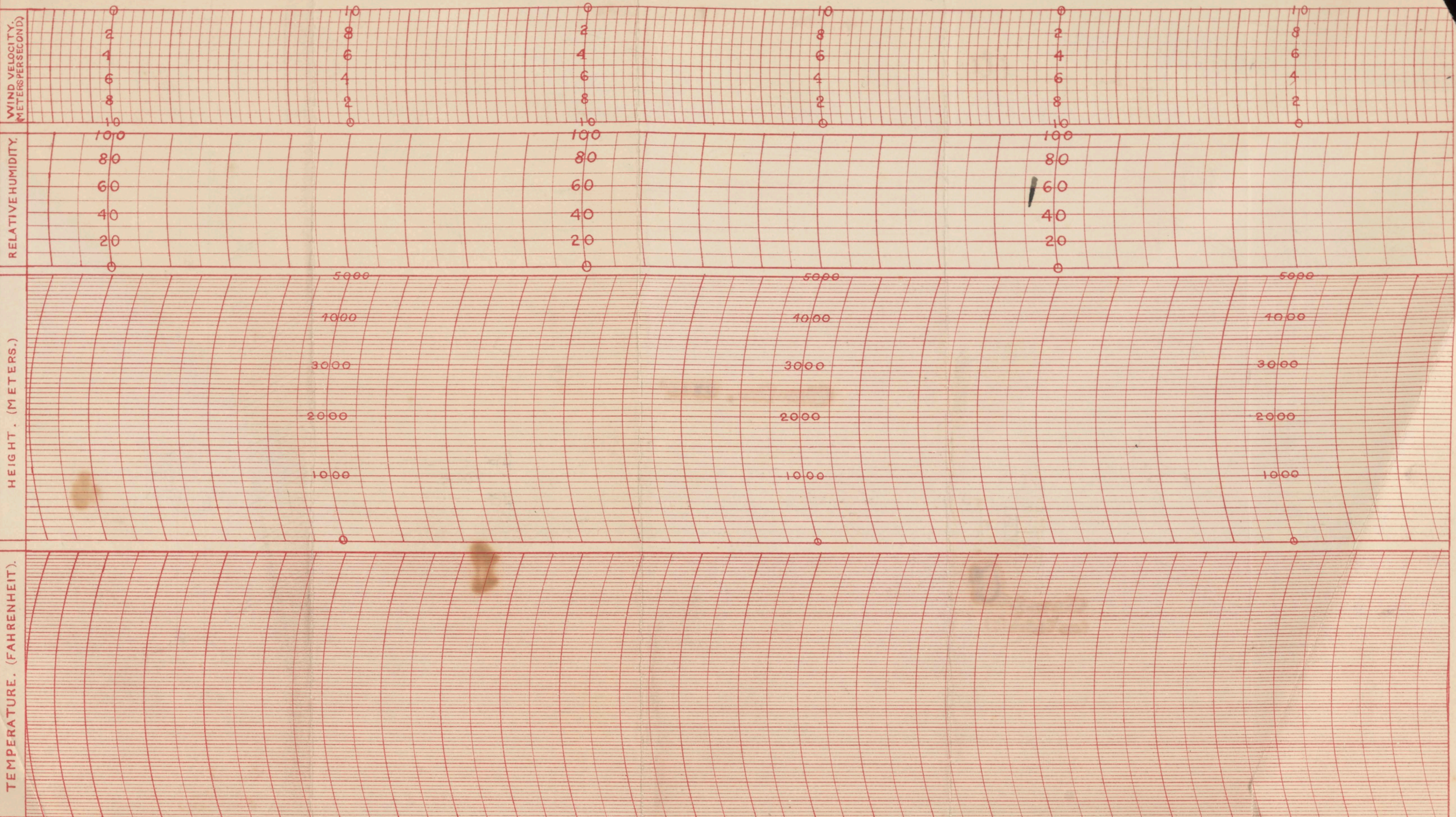


Scale = 0.25 inch to one inch. All important parts to scale

leg of shelter

KITE METEOROGRAPH.

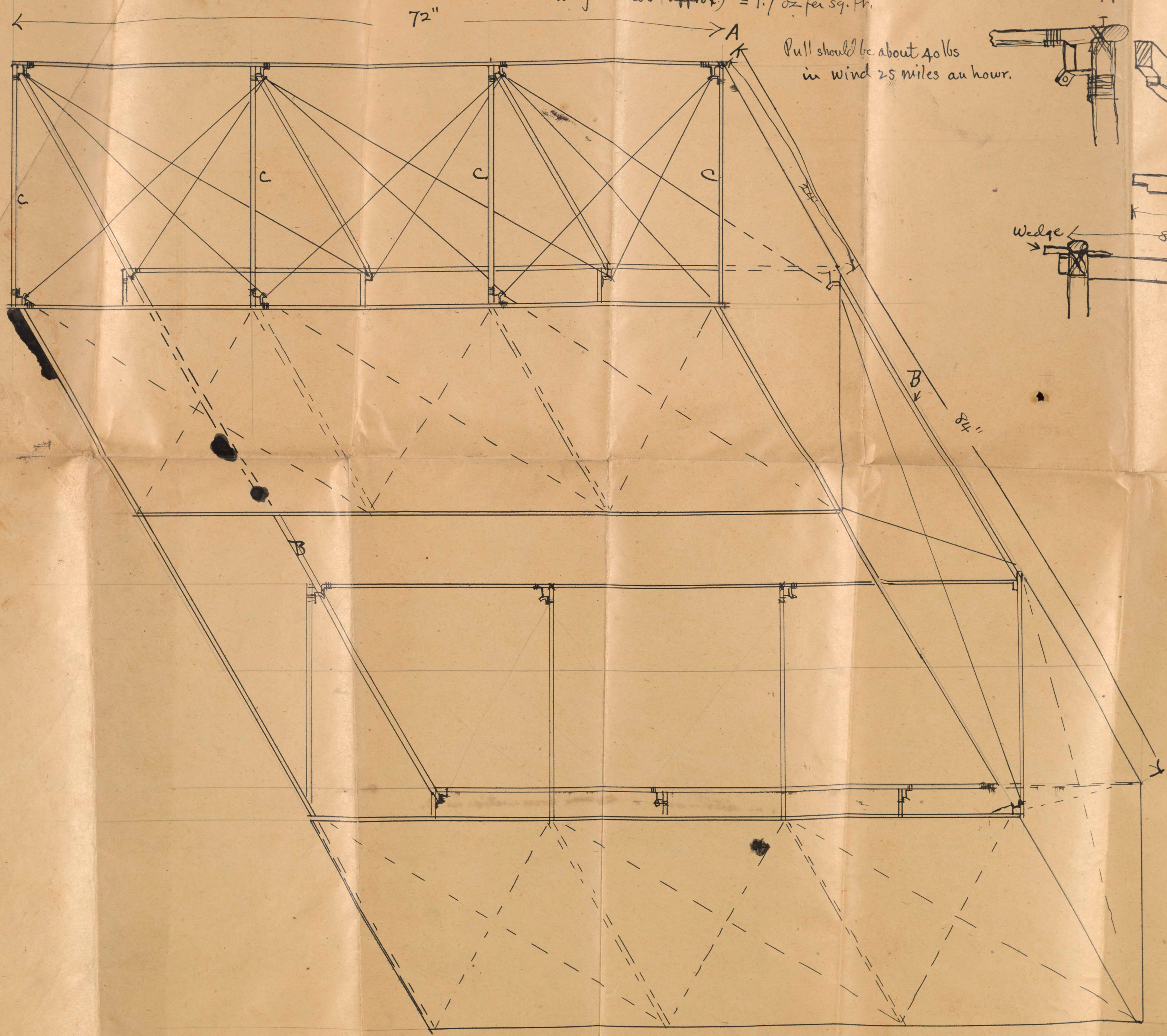
BLUE HILL METEOROLOGICAL OBSERVATORY,-----



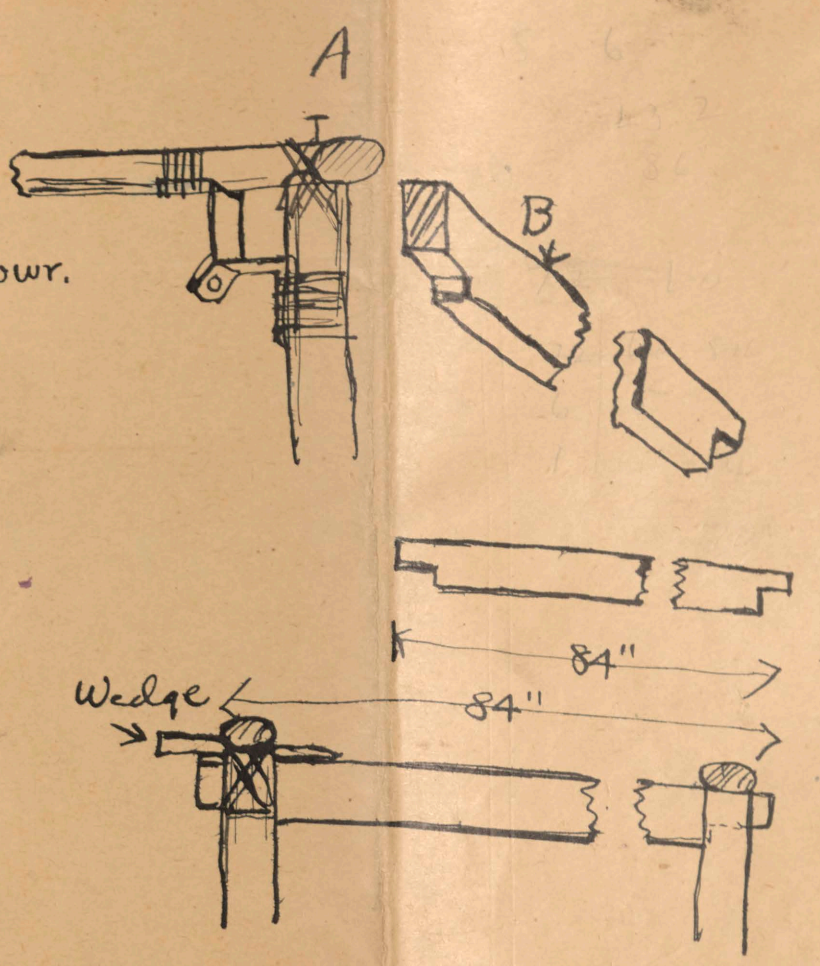
Flat-Surfaced, Clayton-Hargrave Kite, 72" wide
 84" long
 24 or 24 1/2 high

Area lifting or horizontal surface 48 sq. ft
 weight 5 lbs (approx.) = 1.7 oz per sq. ft.

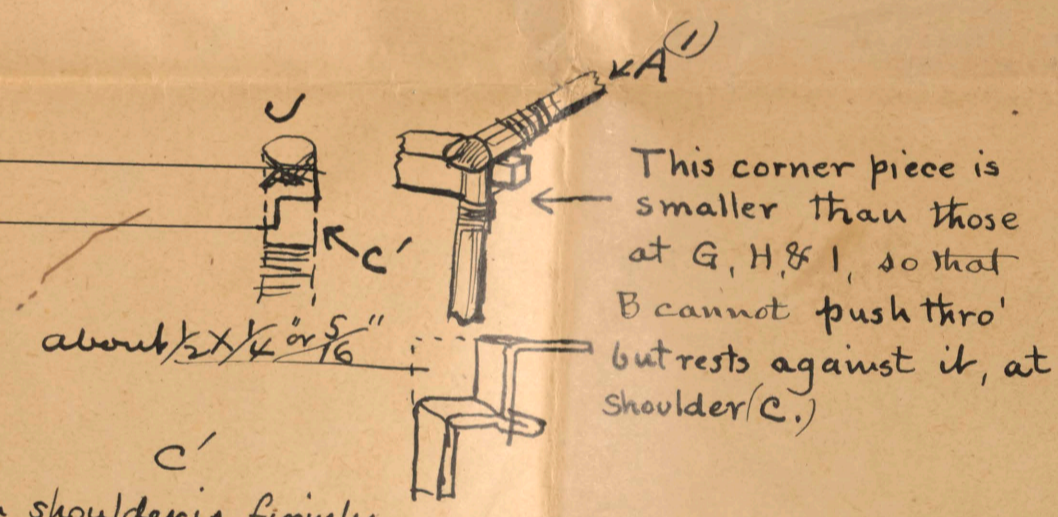
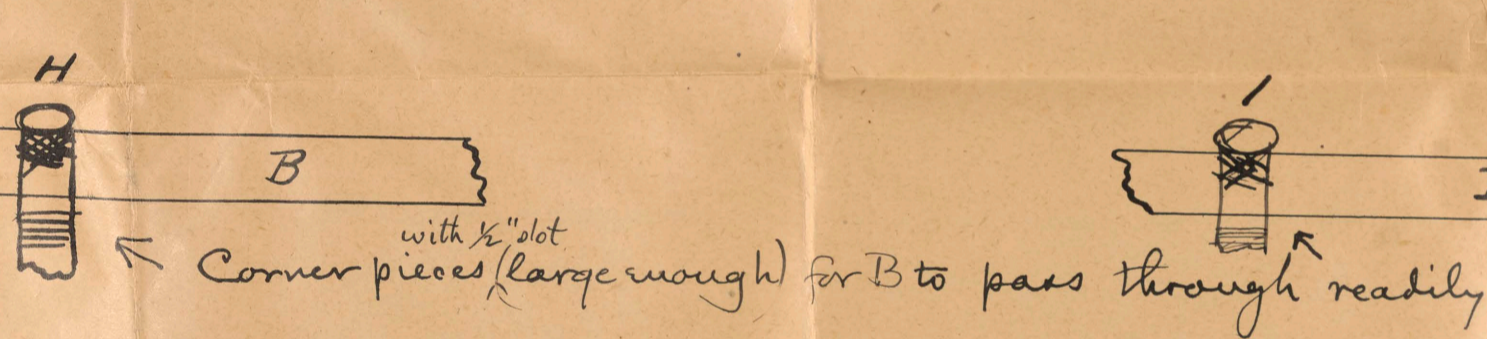
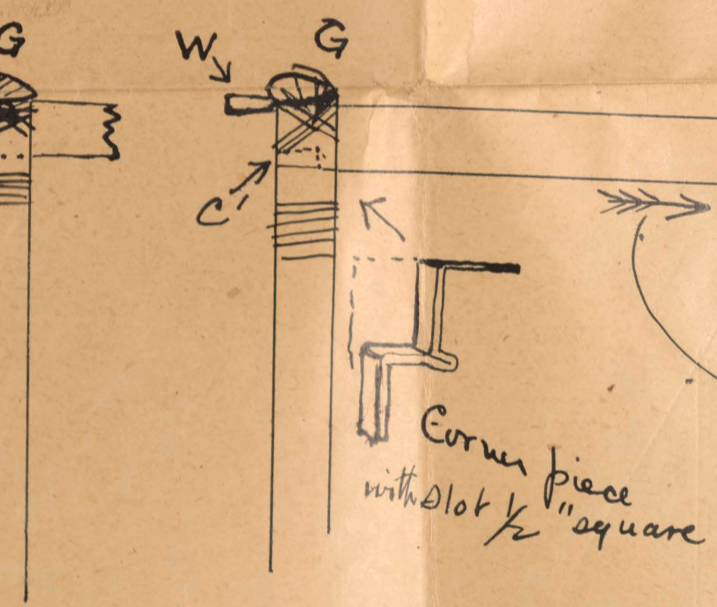
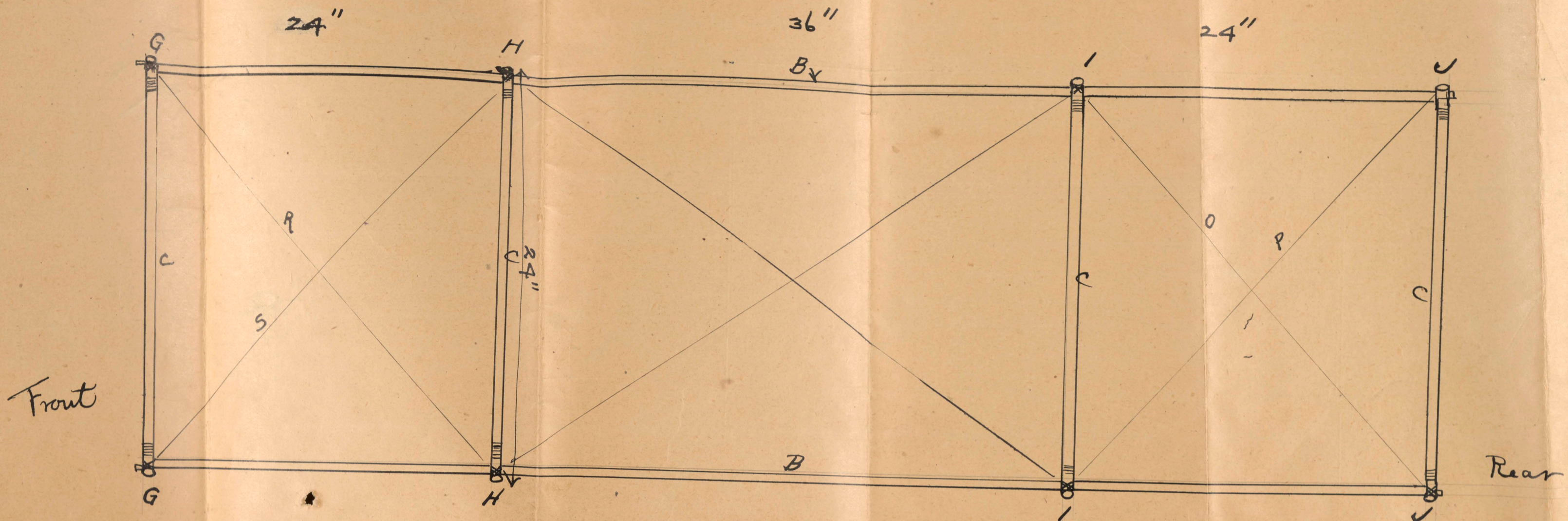
best
 sticks of spruce
 Wire guys of No 6 (or 7) music wire
 Cloth covering of nainsook or percaline.



Pull should be about 40 lbs
 in wind 25 miles an hour.



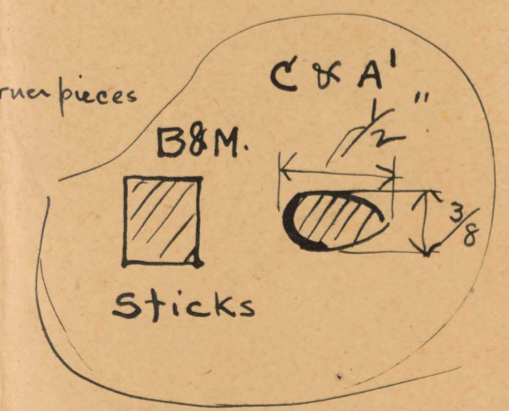
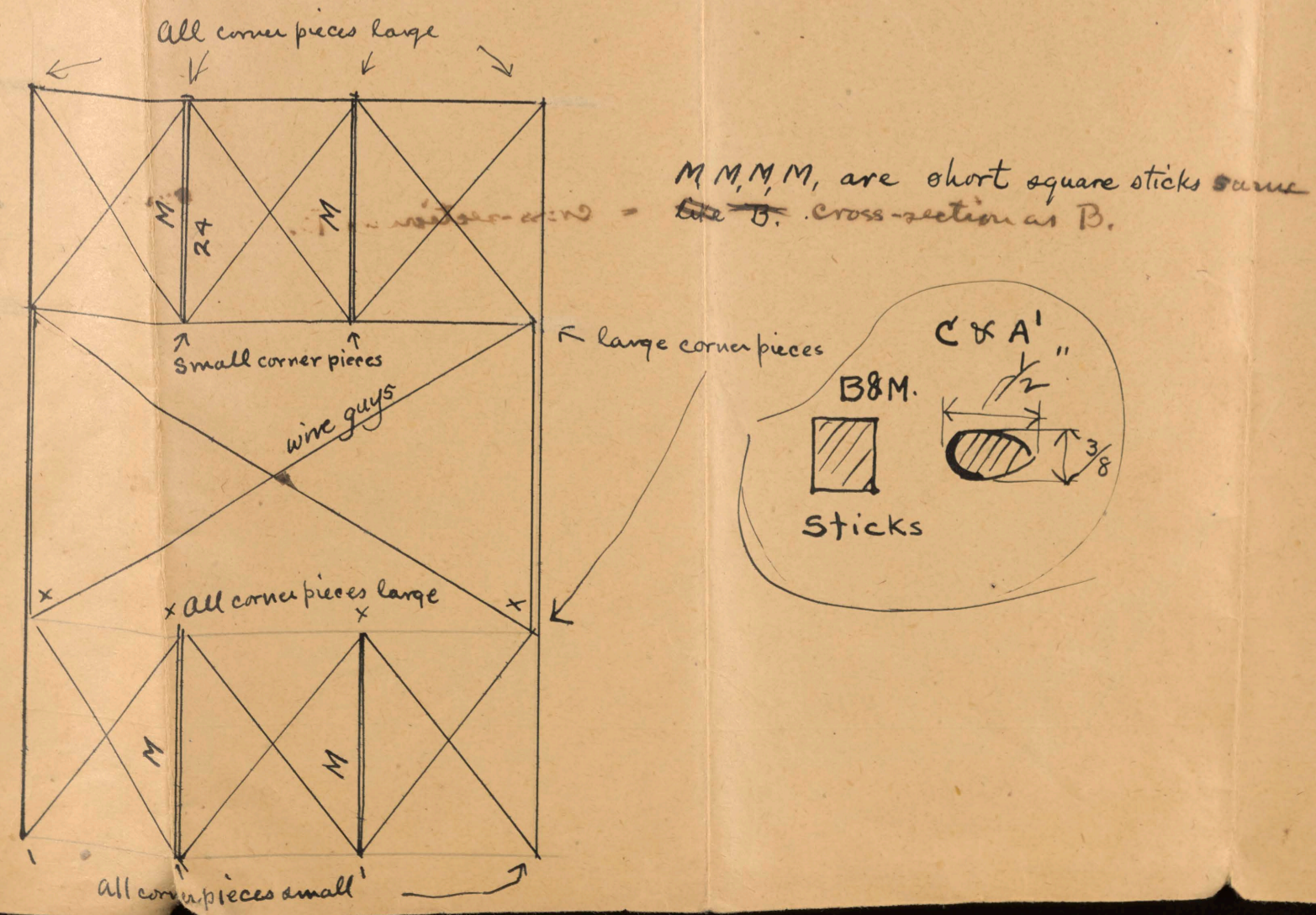
Side elevation



In setting up kite B is passed thro' corner slots from the front and when shoulder is firmly in slot at J, front end (G) is wedged in position so that shoulder rests against edge of slot formed by corner-piece.

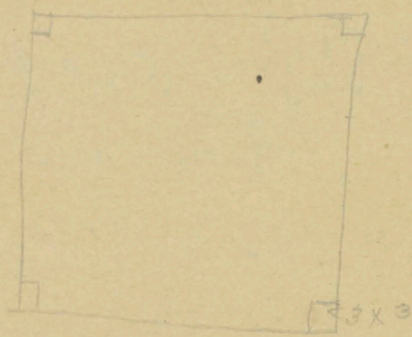
Guy's R & S and O & P are the same length. Having found the required length of these diagonals, these guys can be formed very easily by bending the ends of the wires around nails or pins driven into a board at the required distance apart.

If this is done carefully the several frames G, H, I & J will be at their proper distances apart when the longitudinal (B) are inserted. The guys in the other rectangles can be done more easily after those in the sides are in place.

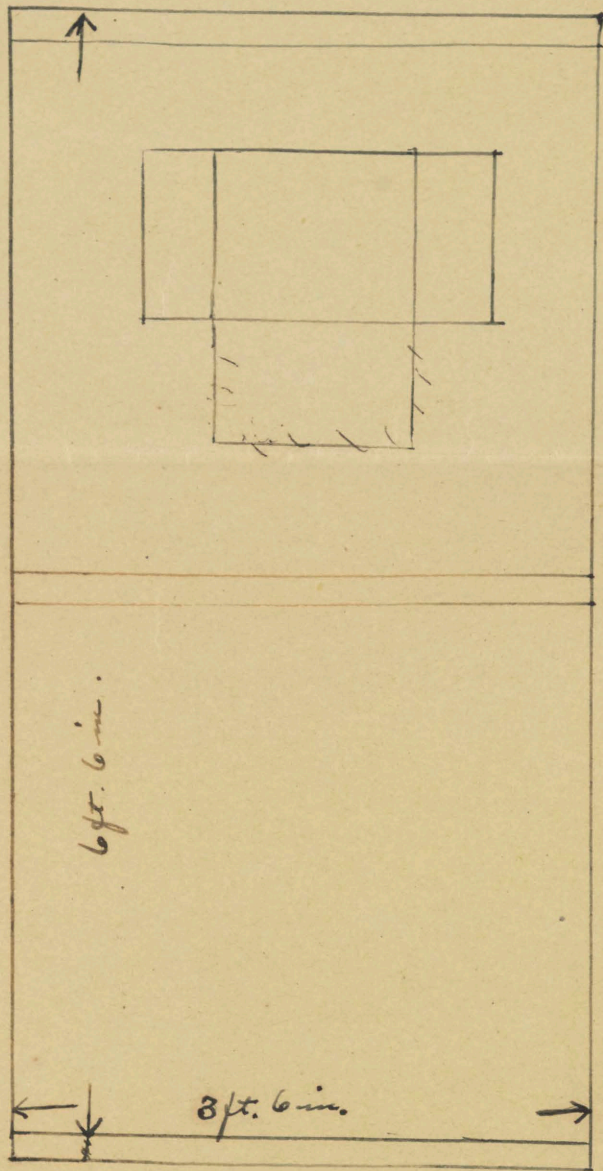


- Number of sticks, and dimensions
- Laterals A = 8, 72" long oval section
 - Longitudinals B = 4, 84" long 1/2 inch square
 - Verticals C = 16 24" oval section

- 20 large 12 small Aluminium corner pieces.
 - 1/4 lb No 6 music wire
 - 2 small brass escutcheon pins 3/4" long
 - 1 ball No 3 Grafton boat thread.
 - 12 yds cloth 25 to 27" wide
- Cloth is pasted to sticks. Use paste made of ordinary lump starch mixed with cold water and allowed to come to a boiling temperature stirring carefully a little alum will prevent paste from spoiling



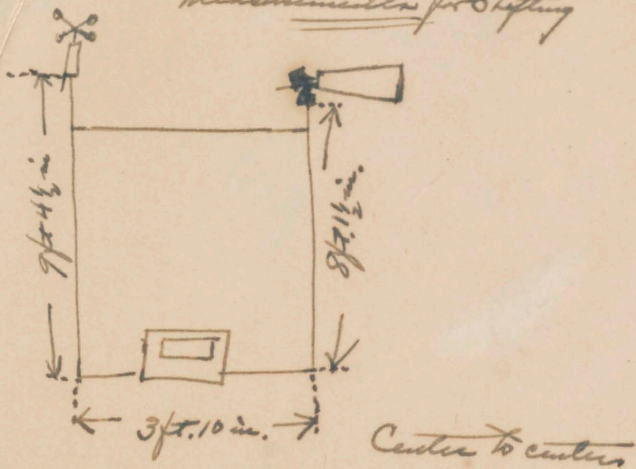
1 Box 3'-6" x 3'-6" x 6'-6" inside
 1 sash 24" x 16" 1st. Plate glass
 1 door 18" x 5'-6" 1 glass pane in top
 1 shelf 10" wide across 1 side
 height of shelf from floor 4'-8"
 walls cut side to have malthoid roofing
 floor to have malthoid
 paint 1 coat cut side white
 inside to have 1 coat oil & varnish
 1 stool
 lock & 2 hand pulls
 galvanized iron on roof



6 ft. 6 in.

3 ft. 6 in.

Auxiliary Meteorograph Wickets -
Measurements for Shifting



5.06 circum
 $\frac{1.61}{89} = 0.01809$
 $\frac{1.6100}{89} = 0.01809$

P.D 1.574
~~1.593~~
 plain
 1 Spur gear 89 teeth
 $\frac{1}{8}$ " face $\frac{1}{4}$ " hole (in brass) about 56 pitch
 1.40" pitch diameter clock teeth



One # 434
 " # 1814
 " 1.574

OD 1.61
 NT 89
 $\frac{1.61}{89} = 0.01809$
 OD 1.449
 $\frac{1.449}{89} = 0.01628$
 $\frac{1.4329}{89} = 0.01610$
 1.411

80 1.412 80 80
 80 80
 706 1.79
 358
 1.412 pd
 179 358 20
 789 179 10000 (6)
 895
 1050 5.58
 895
 1550
 1422
 80 1.40
 OD 1.5931
 P 1.5931

227.5
 $\frac{227.5}{2} = 113.75$
 455.0

4.55" Circum
 $\frac{1.114}{4.436}$

11375
 2

19
 $\frac{89}{80} = 1.1125$
 $\frac{801}{89} = 8.99$
 $\frac{1691}{89} = 18.99$
 $\frac{71}{89} = 0.7978$
 $\frac{142}{89} = 1.5955$
 40 97
 $\frac{89}{628} = 0.1417$
 $\frac{6319}{15897} = 0.3981$
 1.59

1.46
 $\frac{0.0365}{1.4235}$

40
 T OD 365, 4.5
 1.5
 $\frac{1.46}{4.564} = 0.319$
 4.0
 $\frac{4.0}{7.1} = 0.563$
 .31
 .16

Plain Brass

One Spur 1.576 pitch diam 89 teeth, $\frac{1}{8}$ face $\frac{1}{4}$ hole

One # 434

One # 1814

Order of Grant

100
90
10
200
15

One
One

* * * *

Computations

for clock gear for thermograph clock
altered for ~~5.00~~ 5 years
78 day month

36
15
35
212
186
76

535
50

1.611
1.611
No Teeth 89

14499
12888

143379
91
15756

523
455

687
637

509
453
540

112
112
80
80

2547
2264
25187
16
1574

283
89

1415

283

5.06 O. Diam 1.611

1.576
1.576
623

89
89
7

623
1.3

$$P.D. = \frac{0.0 \times T}{T + 2}$$

637
687
455
523
91

151 PEARL ST.

11411

143379
12888
14499
89

T = 1611
T = 89

5.06 O.D. cm

70.14
89
89
1.47
1.576
408