Miscellaneous Notes

2

F.B. 721

721

showing the difference of latitude and departure in running 80 chains at any course from 1 to 60 minutes.

Minutes.	Lks.	Minutes.	Lks.	Minutes.	Lks.
1	2⅓	21	49	41	95⅔
2	4⅔	22	51⅓	42	98
3	7	23	53⅔	43	100⅓
4	9⅓	24	56	44	102⅔
5	11⅔	25	58⅓	45	105
6	14	26	60⅔	46	107⅓
7	16⅓	27	63	47	109⅔
8	18⅔	28	65⅓	48	112
9	21	29	67⅔	49	114⅓
10	23⅓	30	70	50	116⅔
11	25⅔	31	72⅓	51	119
12	28	32	74⅔	52	121⅓
13	30⅓	33	77	53	123⅔
14	32⅔	34	79⅓	54	126
15	35	35	81⅔	55	128⅓
16	37⅓	36	84	56	130⅓
17	39⅔	37	86⅓	57	133
18	42	38	88⅔	58	135⅓
19	44⅓	39	91	59	137⅔
20	46⅔	40	93⅓	60	140

PUBLISHED BY

EDWARD DENNY & CO.

DRAWING PAPER & MATERIAL, MATHEMATICAL INSTRUMENTS, ETC.,

STATIONERS AND PRINTERS,

SAN FRANCISCO, CAL.

Table for Running on Slopes.

In the following table the first column shows the angle, the second, the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.

Angle.	Cor. in links	Angle.	Cor. in links.	Angle.	Cor. in links.	Angle.	Cor. in links.
°		°		°		°	
4	0·24	11	1·88	18	5·14	25	10·54
5	0·38	12	2·24	19	5·76	26	11·26
6	0·55	13	2·63	20	6·42	27	12·24
7	0·76	14	3·06	21	7·11	28	13·37
8	0·98	15	3·53	22	7·85	29	14 34
9	1·24	16	4·02	23	8·64	30	15·47
10	1·55	17	4·56	24	9·47	35	22 07

End of haul 294. Roanne

16.787. N.E. Spk in tel. pole H St. & 4th
7.377 S.E. Cor. Sewer outlet for bridge K & 5th
2'5 E of 5th St. (down)
59.26 S.E. Cor. Spk in tel. pole A & 4th
38.46 S.E. hydrant N end of bridge

Alignment of College Ave. Trac. M.R.R.

Thence on Tangent to E Line of Tract
1 Sta 113+27.5 = Sta 321.+35 of
S.K. C & C. Section

58+~~81.1~~ +82.0 P.T.

T = 287.2 Δ 90°04'

19°50' = Δ

54+30.8 +27.9 P.C. 20° ~~Lft~~ Old p = 54+25.7

45+97.9 P.T. Old p = 45+94.1

T = 239.3 Δ 96°02'

~~42+22~~ 42+22.8 = P.C. 24° R Old p = 42+19.1

+18 = Break of Bank

41+31. P.T. Old p = 41+31

T = 239.2 Δ 90°

37+56 P.C. 24° R Old p = 37+55.1

Alignment of College Hill Road

M. B. B.

32+87.8 P.T. acd P = 32+84.8
tangent = 97½'
Δ = 19°18'

30+94.8 P.C. 10° Left acd P = 30+91.4

29+ P.T. = acd 29+46.5

26+79½ P.C. 10° R acd P = 26+28.7
(10' was taken out of acd curve)

+82.8 P.T. = acd (17+80.8)
17 (10' was added to the acd curve)

+18.4 P.C.C. 8°18' Left
14
15

14 P.C.C. 10° Left
13
12
11
10 ⊙ Tied in Δ 54°10' from Line of the Points

Alignment (College Ave. Zach)

Sta 7 P.C. 15° Left

6

5

4 P.T.

Δ 7 40'

3

2 P.C. 12° R. "A" Line

1

0 } = Short Sta = 51.7

Bridge of Basin

+0.8 = +65 P.C. 5° Left Tied in by Wilson 4 Plugs

1

2 Δ 6° 17' 13" Line

3

+16.3 P.T. Tied by Wilson 4 Plugs

20+55.7 P.C. 15° Left A.P 100' N. Line W.N. cor of Gross Pt on 3rd Pole from W. Line College N. to C.

22+54 P.T. = Cal 22+64.2 (Five points not corner)

Alignment for College N. Trace — M. R. R.

23+86.9 P.C. 15° R. (or sh = Old 24)

24

25

+ 86.9 P.T. = Old 26 (Old R.R.) =

28+37.2 tie
29 = 45' or 17.8 fr Short

35

~~+ 25.9 P.C. 15° Left Δ 90°08'~~

+ 47.3 P.C. 15° Δ 90°08'

30+50 ⊙

41

+ 42.1 P.T.

F. St. from Artic to 13th St.

C.

R.	E.
13.2	
7.1	6.1
6.9	6.3
6.7	6.5
6.1	7.1
5.4	7.8
4.6	8.6
4.2	9.0
3.3	9.9
2.4	10.8
1.1	12.1
0.1	13.1
22.2	
8.1	14.1
7.7	14.5
7.1	15.1
6.7	15.5
6.2	16.0

Franklin Schuler

Sta.	+	H.I.	−	Elev.
		7.06 13.16		6.10
0	East side of Artic			
+				
1				
+				
2				
+37.5	India St.			
0				
+				
1				
+				
2				
		9.03 22.18		0.01 13.15
+37.5	Columbia St.			
0				
+				
1				
+				

C.

R.	E.
22.2	
5.6	16.6
5.2	17.0
4.8	17.4
3.9	18.3
3.0	19.2
2.4	19.8
1.7	20.5
1.5	20.7
1.5	20.7
1.4	20.8
1.7	20.5
1.8	20.4
1.9	20.3
2.1	20.1
2.4	19.8
26.0	
7.2	18.8
7.3	18.7
8.2	17.8

Sta.	+	H.I	—	Elev.
		22.18		
2				
+37.5	Stah St.			
0				
+				
1				
+				
2				
+37.8	Union St.			
0				
+				
1				
+				
2				
+40	Front St.			
0				
	6.22	26.01	2.39	19.79
+				
1				
+				

Z. St.

C.

R.	E.
26.0	
9.0	17.0
8.8	17.2
8.4	17.6
7.8	18.2
7.5	18.5
7.0	19.0
6.4	19.6
6.0	20.0
5.6	20.4
4.8	21.2
3.6	22.4
2.5	23.5
1.6	24.4
1.0	25.0
0.5	25.5
37.2	
10.8	26.4
9.9	27.3
9.0	28.2

Sta.	+	H.I.	−	Elev.
		26.01		
2				
+40	1st	St.		
0				
+				
1				
+				
2				
+40	2nd	St.		
0				
+				
1				
+				
2				
+40	3rd	St.		
0				
	11.71	37.21	0.51	25.50
+				
1				
+				

Z M.
C

	R.	E			
	37.2				
	8.1	29.1			
	7.7	29.5			
	7.2	30.0			
	6.3	30.9			
	5.2	32.0			
	4.5	32.7			
	4.0	33.2			
	3.6	33.6			
	3.7	33.5			
	3.2	34.0			
	2.5	34.7			
	1.8	35.4			
	1.1	36.1			
	1.0	36.2			
	0.6	36.6			
	47.1				
	9.7	37.4			
	8.6	38.5			
	7.6	39.5			

Sl.	+	H.I.	−	Elev.
		37.21		
2				
+40 4 H		Sl.		
0				
+				-34
1			5.96	31.25
+				
2				
+40 5 H		Sl.		
0				
+				
1				
+				
2				
+40 6 H		Sl.		
0				
+	10.53	47.14	0.60	36.61
1				
+				

4 M.

C.

R.	E
	47.1
6.3	40.8
5.7	41.4
5.2	41.9
4.9	42.2
4.5	42.6
4.1	43.0
3.6	43.5
2.9	44.2
2.0	45.1
0.9	46.2
	56.9
9.3	47.6
8.2	48.7
7.2	49.7
6.3	50.6
6.2	50.7
5.5	51.4
5.0	51.9
4.5	52.4
4.2	52.7

Sta.	+	H.I.	=	Elev.
2		47.14		
+40	7½	Sl.		
0				
+				
1				
+				
2				
+40	8½	Sl.		
0				
+				
	10.11	56.94	0.31	46.83
1				
+				
2				
+40	9½	Sl.		
0				
+				
1				
+				
2				

L. M.

C.

R.	E.
	56.9
4.1	52.8
4.0	52.9
3.8	53.1
2.9	54.0
2.4	54.5
1.6	55.3
0.9	56.0
	65.4
8.5	56.9
7.7	57.7
7.2	58.2
6.6	58.8
5.9	59.5
5.6	59.8
5.1	60.3
4.8	60.6
4.5	60.9
4.6	60.8
4.6	60.8

Sta.	+	H.I.	—	Elev
		56.94		B.M.
+ 40	10 H St:			53.73
0			3.24	53.70
+				
1				
+				
2				
+ 40	11 H St.			
0	9.41	65.41	0.94	56.00
+				
1				
+				
2				
+ 40	12 H St:			
0				
+				
1				B.M.
+				62.12
2	E. Side 13 H St:		3.34	62.07

From K. St. to Prof. on 4th St.

N.		C.		S.	
R.	E.	R.	E.	R.	E.
		7.2			
		5.6	1.7		
		5.2	2.0		
		4.6	2.6		
		4.0	3.2		
		3.3	3.9		
		2.7	4.5		
		2.1	5.1		
		1.7	5.5		
		1.4	5.8		
		16.2			
		8.8	6.4		
		8.2	7.0		
		7.6	7.5		
		6.8	8.4		
		6.1	9.1		
		5.4	9.8		
		4.8	10.4		
		4.2	11.0		
		3.3	11.9		

Franklin
Hamilt
Lincoln

Sta.		+	H.I.	—	Elev.
		3.88	7.16		3.28
0	N.	Side of	K St.		
+					
1					
+					
2					
+					
3					
+40	J.	St.			
0					
+		9.38	18.16	138	5.78
1					
+					
2					
+					
3					
+40	I.	St.			
0					
+					

4.H St.

C.

R.	E.
15.2	
2.5	12.7
1.7	13.5
1.1	14.1
0.5	14.7
24.7	
9.3	15.4
8.3	16.4
8.5	16.2
7.5	17.2
6.5	18.2
5.7	19.0
4.6	20.1
3.9	20.8
3.0	21.7
2.2	22.5
2.0	22.7
0.8	23.9
35.2	
10.3	24.9
9.3	25.9

Stä.	+	H.I.	—	Ebn.
1		15.16		
+				
2				
+				
3	9.99	24.68	0.47	14.69
+50 H. St.				
0				
+				
1				
+				
2				
+				
3				
+40 G. St.				
0				
+				
1	10.99	35.23	0.44	24.24
+				

4 H St.

C.

	R.	E.		Sta.	+	H.I.	−	Elev.
	35.2							
	8.3	26.9				36.23		
	7.1	28.1		2				
	6.2	29.0		+				
	5.6	29.6		3				B.M.
	5.3	29.9		+40.	F. St.			31.06
	4.5	30.7		0			4.16	31.07
	3.4	31.8		+				
	2.5	32.7		1				
	1.5	33.7		+				
	0.4	34.8		2				
	46.2			+				
	10.5	35.7						
	10.0	36.2		3	11.40	46.25	0.38	34.85
	9.3	36.9		+40.	E. St.			
	8.2	38.0		0				
	7.0	39.2		+				
	6.1	40.1		1				
	5.2	41.0		+				
	4.3	41.9		2				
				+				

4th Sl.

C.

	R.	E.			
		46.2			
	3.5	42.7			
	2.8	43.4			
	2.1	44.1			
	1.4	44.8			
	0.7	45.5			
		53.4			
	7.3	46.1			
	6.9	46.5			
	6.6	46.8			
	6.1	47.3			
	5.6	47.8			
	5.3	48.1			
	5.0	48.4			
	4.8	48.6			
	4.5	48.9			
	4.2	49.2			
	3.8	49.6			
	3.5	49.9			
	3.1	50.3			

Sta.	+	H.I.	—	Elev.
3		46.25		
+40	b. Sl.			
0				
+				
1				
+	7.90	53.44	0.71	45.54
2				
+				
3				
+40	b. Sl.			
0				
+				
1				
+				
2				
+				
3				
+40	B. Sl.			

4th St.

	R.	E.	Sta.	+	H.I.	—	Elev.
		53.4					
	2.7	50.7	0		53.44		
	1.5	51.9	+				
	0.3	53.1	1				
		64.9					
	10.8	54.1	+	11.79	64.92	0.31	53.13
	9.5	55.4	2				
	8.1	56.8	+				
	6.7	58.2	3				
	5.8	59.1	+40	A. St.		5.62	59.30
	4.2	60.7	0				
	1.2	63.7	+				
		76.6					
	9.9	66.7	1	11.71	76.59	0.04	64.88
	6.9	69.7	+				
	4.2	72.4	2				
	1.6	75.0	+				
		88.4					
	10.5	77.9	3	11.80	88.37	0.02	76.57
	8.8	79.6	+40	Ash St.		+	BM 845.02
	6.8	81.6	0			4.34	84.03

4th St.

R.	E.
88.4	
4.9	83.5
2.9	85.5
0.7	87.7
100.3	
10.5	89.8
8.4	91.9
6.3	94.0
4.7	95.6
3.1	97.2
1.0	99.3
112.1	
10.9	101.2
9.3	102.8
7.6	104.5
6.0	106.1
4.4	107.7
3.1	109.0
1.7	110.4
0.2	111.9

Sta.	+	H.I.	−	Elev.
		88.37		
0+50				
1				
+				
2	12.01	100.29	0.09	88.28
+				
3				
+40	Beech St.			
0				
+				
1	11.79	112.05	0.03	100.26
+				
2				
+				
3				
+40	Cedar St.			
0				
+				
	12.01	123.84	0.22	111.83

4th Sta.

R.	E.
	123.8
10.4	113.4
8.6	115.2
6.8	117.0
5.3	118.5
3.8	120.0
2.6	121.2
1.4	122.4
	136.2
11.1	1241
9.3	126.9
7.4	127.8
5.2	130.0
3.2	132.0
1.1	134.1
	146.8
10.4	136.4
7.1	139.7
3.5	143.3
	158.7
13.2	145.5

probable 41.0 Mistake E.T.W.

Sta	+	H.I.	—	Elev.
1		123.84		B.M. 112.48
+			11.40	112.44
2				
+				
3				
+40	Last Sta.			
0				
+	11.36	135.16	0.03	123.81
1				
+				
2				
+				
3				
	Elm St.			
+40	11.64	146.80	0.00	135.16
0				
+	See notes in City Surveyor's Book No. Dec 23 87 To			
1	11.87	158.67	0.00	146.80

4th St.

R.	E.
158.7	
9.2	149.5
5.3	153.4
1.3	157.4
170.2	
9.2	161.0
6.9	163.3
4.9	165.3
2.1	168.1
182.0	
11.2	170.8
8.8	173.2
6.4	175.6
4.5	177.5
2.4	179.6
1.0	181.0
193.6	
11.2	182.4
9.2	184.4
7.1	186.5
5.1	188.5

Sta.	+	H.I.	—	Elev.
145.0		158.67		
2				
+				
3	11.52	170.19	0.00	158.67
+40	Fst.	St.		
0				
+				
1	11.80	181.99	0.00	170.19
+				
2				
+				
3				
+40	Grade	St.		
0	11.59	193.56	0.02	181.97
+				
1				
+				

4 H Sl.

C

	R.	E.			
		193.6			
	3.3	190.3			
	1.6	192.0			
		204.9			
	11.1	193.8			
	9.6	195.3			
	8.1	196.8			
	6.3	198.6			
	4.6	200.3			
	3.1	201.8			
	1.7	203.2			
	0.3	204.6			
		214.7			
	8.7	206.0			
	7.8	206.9			
	6.9	207.8			

Sta.	+	H.I.	−	Elev.
2		193.56		
+				
	11.65	204.90	0.31	193.25
				B.M. 197.05
3				
+40	Hawthorn St.		7.85	197.05
0				
+				
1				
+				
2				
+				
3	9.94	214.66	0.18	204.72
				B.M. 211.00
+40	Ivy St.			
0	N side Ivy St.		3.66	211.00

City Datum

Franklin
Hackett
Van Hook
Kimball

Level connecting contour lines in City Park with City levels

	+	H.I.	−	Elev.
Commenced at B.M.			S.W. Co. B.M. 19	
	5.62	66.14		60.52
	8.69	73.13	1.70	64.44
	11.93	82.67	2.39	70.74
	8.66	85.65	5.68	76.99
			2.41	83.24

Elevation of 20ft. Contour line (Park) above City datum is 83.24

Franklin

Logan Ave

Checking Grades

Sta	R	El	R	El	R	El
			(16.5)			
Cline 20 + Sta 0				9.21		
	5.5	11.0	6.2	10.3	6.9	9.6
1	5.5	11.0	6.1	10.4	6.8	9.7
+58	5.3	11.2	5.7	10.8	6.5	10.0
2	4.9	11.6	5.6	10.9	6.2	10.3
+50	4.2	12.3	4.9	11.6	5.3	11.2
3	3.2	13.3	3.6	12.9	4.1	12.4
+50	1.3	15.2	1.7	14.8	1.9	14.6
			(16.8)			
4	9.3	17.5	9.5	17.3	10.0	16.8
+50	6.4	20.4	6.6	20.2	7.1	19.7
5	4.0	22.8	4.4	22.7	4.1	22.7
+50	1.3	25.5	1.2	25.6	1.1	25.7
			(37.8)			
6	9.5	28.3	9.4	28.4	9.3	28.5
0	8.1	29.7	7.9	29.9	8.0	29.8
+50	6.3	31.5	6.5	31.3	6.5	31.3
1	4.7	33.1	4.7	33.1	4.8	33.0
+50	3.0	34.8	3.0	34.8	3.4	34.4
2	1.6	36.2	1.9	35.9	2.1	35.7

E.T.W
D.C.M -
J.G.T

+	Δ	−	El	
	7.24 16.51		9.27	Bk 16+N
on north line of 11+S added.				
# 10.58	26.83	0.26	16.25	
# 11.33	37.81	0.35+	26.48	
S 21st Street				

Bet Hawthorn & Ivy West side
Lots G. H full width curb & gutter. I & J. 5' walk
" a. B. C & D. 5' wide curb & gutter

Hawthorn to Grape no walks
Lot L. Reservoir slope within 2' of curb

Grape & Fir no walks Lots I. & J.
have wall Except 10' on South of Lot I.

Fir to Elm no walks. Lots K & L
have cobble gutter. Lots G & H side walks
are such that slope on inside would not
retain walk
High Fill on East side

Elm to D ats Lot J. sidewalk & curb 5' walks.
K & L. slope bad -

Date to Cedar Lots G & H 9' walk -

Cedar to Buch Lots D, E & H. 6' walk -

Buch to ash Lot H concrete curb gutter & wood gutter -

Ash to A - no walks west side slope bad.

A to B. Lots G. H. I. J, K & L - fine grade

B to C. no walks

C to D Lots B. E & H.

D to E. Lots B. H. G. H & I.

E to H. Lots C, D E & I Lot I.

H to G. S/r B. D E & H Lot

G to H- Lots A, B, E & F.
G. H, I. J. K & L.

H to I- Lots A & B. & D. G. H I. J. S/2 K.

I. to J. N/2 D. Lot F. Lot H 3" below ground. and nearly down

J. to K Lots E & F. G. I. J. K & L

K to L- all sidewalked

16
10.8
5.2

Bridge at Sta 0

	No. 13	El.	Grade
			0.760 +
Sta "B" B.B. +62 "A"	"B" 0+9.8	301.9	
	I	294.11	
O			301.98
	II	283.5	302.02
	III	276.6	302.14
	IV	277.1	302.26
	V	279.2	302.38
	VI	283.8	302.41
	VII	289.0	302.53
1+66.5	VIII	291.0	302.65
"A" 1+89 = B.B.	IX	299.4	
		302.7	
E			307.7

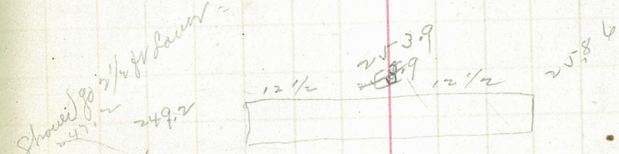
Bent I = Middle of Top of Curb

Bent 9 is middle of Top of Curb

Bridge at Sta 48 "B" Line

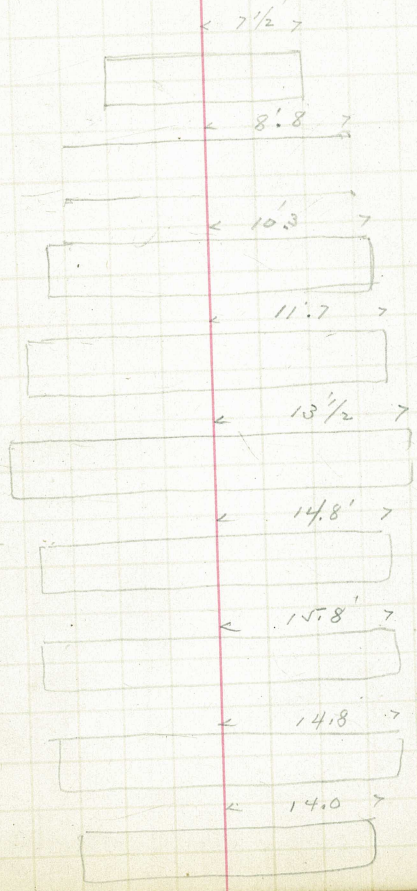
Sta	No.	Elev.	Grade
48+16	I	267.6	278.6
	II	246.0	" "
	III	264.0	" "
	IV	253.6	" "
	V	248.0	" "
	VI		" "
	VII	255.7	" "
	VIII		" "
	IX		
	IX		

Break



This Beam comes half way up top of Bank / Bank about 4' deep

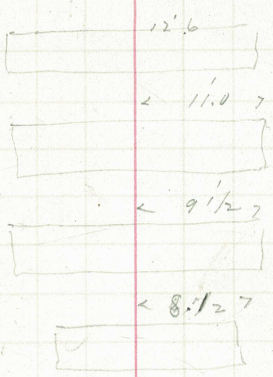
STA	No BENT	Grade	Pier	Diff
76+01.4	BREK OF BANK.	779.0		
76+17.4	I	779.0	768.9	10.1
+33.4	II	779.0	763.35	15.6
+49.4	III	779.0	757.6	21.4
+65.4	IV	779.0	751.92	27.1
+81.4	V	779.0	744.58	34.4
+97.4	VI	779.0	739.27	39.7
77+13.4	VII	779.0	735.5 737.45	43.5
+29.4	VIII	779.0	739.33	39.7
+45.4	IX	779.0	743.13	35.9



Hor. Constant = 5.66 for
Vertical 3.00 "

Bridge or Str No "B" Line

STA-	No Bent.	Grade		
274+61.4	X	279.0	248.1	30.9
277+4	XI	279.0	254.96	24.0
279+3.4	XII	279.0	260.74	18.3
280+09.4	XIII	279.0	266.76	12.7
280+37.2 = To 29 = 45' or 17.8' Short		279.0		



BREAK OF BANK-

"B" Line College Ave. N.R.R.

	Ele.	Grade				
25						283.97
26						
27						
28						
29	277.5					
+44	273.6	279.40				
29	277.2	279.41				
30	277.4	279.52				
31	277.7	279.63				
+39		279.70				
+41		279.73				
32	277.8	279.74				
33	278.6	279.85				
34	277.7	279.96				
35	279.4	281.46				

See Grade Book

Nr.	Grade	+	97.9	−
45	92,0			
+97,9	92,0			
46	92,0			
47	92,0	Rasmus Sum Grade 47		
48	92,0			
49	92,0			
50	92,0			
51	92,0			
52	92,0	⊙		
53	92,00	⊙		
54	93,00	⊙		
+30 8				

B.M. = 307.11

"B" Line, College St. to M.B.R.

El. 301.35 T.P.

Sta	Grade	+	H.I. 303.19	−
34	304.00			
36	301.32			
7	299.98			
P.C. +56	299.46			
8	298.64			
+50	297.97		assumed 0.4' on rod	
9	297.30			
+50	296.63			
40	295.96	1.333		
+50	295.29	297.99	296.49	1.50
41	294.62			
P.T. +31	294.21			
+81	~~293.88~~ 293.55		assumed 0.3' on each side	
42	293.28			
+18 P.C.	~~293.13~~			
2+22.8	292.98			
+50.	292.61			
43	292.30			
+50	292.00			
44	292.00			
+50	292.00			
45	292.00			

33 1/2
16
17.1/2

.45 - 2.9 = 2.00 − 33 1/2

16 A 11

BB = 1+89

T.S. = 1+46.1/2

+ 33 1/2 = 2

8 Rents

.15.7

= PC 5.6 = P.P.

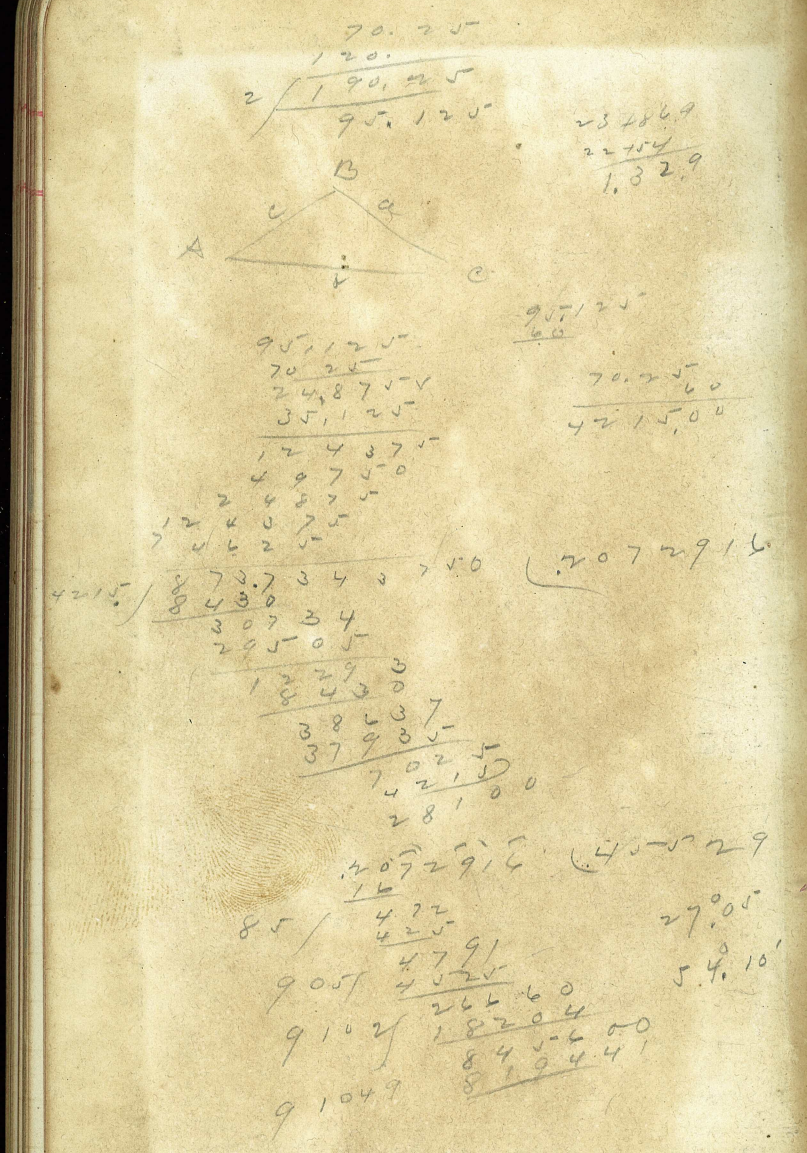
PC

15.7 − 5.6.8 = 5.2.2/3

6.5
5.5.2
10.8

14
9
1.4.4
1.6
1.60

Bench of bank



TRAVERSE TABLE FOR TRANSIT BOOK,

From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91 18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90 26	43 05	90.07	43.44	64
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49 24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82 66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78 26	62 25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73 43	67 88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

Published by Edward Denny & Co., Stationers, Drawing Materials, Mathematical Instruments, Etc., San Francisco.