

**BARRETT DAM**

*Contours, Upper Dam site  
West side of Cañon.*

TRANSIT

398  
17

W20

# H. S. CROCKER COMPANY

DRAWING MATERIALS AND  
SURVEYING INSTRUMENTS

SAN FRANCISCO

## TABLES FOR EXCAVATIONS AND EMBANKMENTS

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING

Roadway 18 Feet Wide. Side Slopes 1 to 1.  
For Single Track Excavation.

"Copyright, 1895, by Kueffel & Esser Co."

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	0
1	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	1
2	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	2
3	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	3
4	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	4
5	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	5
6	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	6
7	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	7
8	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	8
9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	9
10	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	10
11	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	11
12	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	12
13	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	13
14	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	14
15	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	15
16	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	16
17	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	17
18	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	18
19	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	19
20	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	20
21	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	21
22	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	22
23	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	23
24	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	24
25	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	25
26	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	26
27	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	27
28	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	28
29	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	29
30	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	30
31	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	31
32	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	32
33	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	33
34	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	34
35	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	35
36	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.

MICROFILMED

JAN 6 1965

MICROFILMED

TAB  
D

	0
0	9
1	10
2	11
3	12
4	13
5	14
6	15
7	16
8	17
9	18
10	19
11	20
12	21
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22	31
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27	36
28	37
29	38
30	39
31	40
32	41
33	42
34	43
35	44
36	45

JAN 6 1965

## Index

	Page
Barrett Dam Contours - upper site	1-36
azimuth of Harris Stadia Base and T axis	76
Job 105 - location of ctrs & grades Portal to #1 in roof	77
Connection Between Job 105 and Harris Stadia Base	78-80

Barrett Dams.  
Contours. upper dam site

350' Contour West.

0+76 A	1	19° 12' R	12.69	1280.7
	2	18° 31' R	12.50	1261.5
	3	16° 56' R	12.28	1239.3
	4	15° 33' R	12.45	1256.4
	5	11° 56' R	12.19	1230.2
	6	10° 26' R	11.94	1205.
	7	9° 05' R	11.85	1195.8
	8	7° R	12.13	1244.1
	9	2° 30' R	11.91	1202
	10	1° 35' R	11.85	1196
	11	0° 13' L	12.00	1211
	12	1° 12' L	12.15	1224
	13	2° 44' L	12.27	1238
	14	5° 16' L	12.25	1236
	15	8° 33' L	12.17	1228
	16	10° 34' L	11.96	1207
	17	11° 52' L	11.77	1188
	18	13° 58' L	11.86	1197
	19	15° 17' L	12.01	+6.0 1218

340' Contour

0+76 A	1	15° 08' L	11.95	1206
	2	13° 50' L	11.75	1186
	3	11° 25' L	11.63	-5.0 1169
	4	9° 44' L	11.90	1201
	5	8° 40' L	11.89	1200
	6	7° 52' L	12.10	1221
	7	5° 44' L	12.13	1224

West Side of Conroy Feb. 25. 1907  
1.20 P.M.

F.L. 3+52.7 A

Corp. {  
Will J. King  
Eml. Lockman  
Al. H. Allen  
M. S. Watson  
Zook

Trail.

F.L. 3+72.5

Feb. 25, 1907

Sta.	Def.	Vert. ang.	Rod	Horizontal	Corrected Horizontal
8	3°53' L		12.14		12.25
9	1°50' L		12.07		12.18
10	0°27' R		11.82		11.93
11	2°32' R		11.85		11.96
12	3°17' R		11.62		11.73
13	4°49' R		11.94		12.05
14	5°30' R		11.80		11.91
15	6°46' R		11.99		12.10
16	7°36' R		11.75		11.86
17	10°42' R		11.79		11.90
18	11°46' R		12.00		12.11
19	12°14' R		12.14		12.25
20	15°35' R		12.26		12.37
21	16°31' R		12.10		12.21
22	18°43' R		12.08		12.19
Δ	20°05' R		12.32		12.43
23	20°36' R		12.36		12.47
24	21°31' R		12.79		12.90
<b>330' Contour</b>					
0+76A	23°36' R		12.53		12.65
2	22°34' R		12.39		12.50
3	20°13' R		11.99		12.10
Δ	19°57' R		12.00		12.11
4	18°46' R		11.88		11.99
5	16°28' R		11.82		11.93
6	15°25' R		12.06		12.17
7	14°09' R		11.92		12.03

Trail (Sta. L of reading)

276.7  
20°06'  
5°35'

2.442009  
9.535783  
1.011917  
2.989709 = 976.6

276.7  
25°40'  
5°35'

X  
2.442009  
9.636623  
1.011917  
3.090549  
977.3 = 1231.8

Sta. 13+30A

3+52.7

152.20  
20.05  
5.35'  
180.00

3+52.7

152.20  
19.47  
5.43  
180.00

X  
276.7 = 2.442009  
19.47 9.535783  
5.43 1.011917  
2.976719 =  
947.8

352.7  
76  
276.7

F.L. 3+52.7

Sta. 13+00A

276.7  
20°05'

276.7  
19°57'

0+76

0+76

13+30 ✓

13+00

1330  
352.7  
977.3

X  
276.7 = 2.442009  
25°40' = 9.636623  
5°35' = 1.011917  
3.085532 =  
1203.2

13+30 ✓

X

25°40'

3+52.7

X

152.20

19.47

5.43

180.00

3+52.7

X

276.7 = 2.442009

19.47 9.535783

5.43 1.011917

2.976719 =

947.8

152.20

19.47

5.43

180.00

3+52.7

X

276.7 = 2.442009

19.47 9.535783

5.43 1.011917

2.976719 =

947.8

152.20

19.47

5.43

180.00

3+52.7

X

276.7 = 2.442009

19.47 9.535783

5.43 1.011917

2.976719 =

947.8

152.20

19.47

5.43

180.00

3+52.7

X

276.7 = 2.442009

19.47 9.535783

5.43 1.011917

2.976719 =

947.8

152.20

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5.43

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3+52.7

X

276.7 = 2.442009

19.47 9.535783

5.43 1.011917

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947.8

152.20

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947.8

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5.43

180.00

3+52.7

X

276.7 = 2.442009

19.47 9.535783

5.43 1.011917

2.976719 =

947.8

152.20

19.47

5.43

180.00

3+52.7

X

276.7 = 2.442009

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3+52.7

X

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5.43 1.011917

2.976719 =

947.8

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19.47 9.535783

5.43 1.011917

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180.00

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947.8

152.20

19.47

5.43

180.00

3+52.7

X

276.7 = 2.442009

19.47 9.535783

5.43 1.011917

2.976719 =

947.8

152.20

19.47

5.43

180.00

3+52.7

X

276.7 = 2.442009

19.47 9.535783

5.43 1.011917

2.976719 =

947.8

Feb. 25, 1907

8	12° 35' R	11.93	- 4.0 1200
9	10° 47' R	11.54	1165
10	8° 47' R	11.62	- 2.0 1171
11	6° 52' R	11.80	1191
12	4° 56' R	11.78	1189
13	2° 28' R	11.63	1174
14	0° 8' L	11.74	1185
15	2° 47' L	11.99	1210
16	3° 07' L	12.00	1211
17	5° 55' L	11.97	1208
18	7° 20' L	11.92	1203
19	7° 57' L	11.75	1186
20	8° 45' L	11.80	1191

on pt. of ledge. unlooked

22	14° 49' L	11.79	1190
----	-----------	-------	------

## 320' Contour

0+76 a	1	12° 33' L	11.68	1179
	2	12° 08' L	11.50	+ 3.5 1165
	3	8° 28' L	11.66	+ 4.0 1181
	4	7° 51' L	11.68	1179
	5	7° 05' L	11.75	1186
	6	5° 36' L	11.72	1183
	7	2° 56' L	11.80	1191
	8	0° 50' L	11.62	1175
	9	2° 43' R	11.56	1167
	10	3° 28' R	11.64	1175
	11	12° 34' R	11.69	1180

Met tank Trail

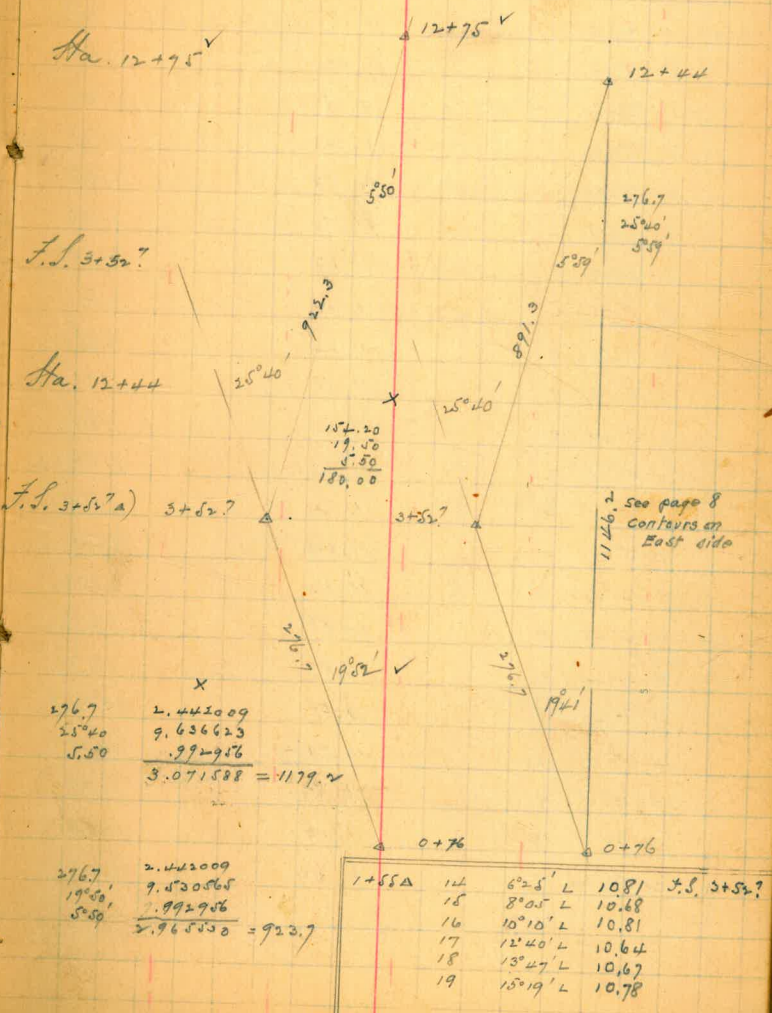
6. " "

Feb. 30-07

12	15°11' R	11.85	1196
13	15°58' R	11.64	1175
14	18°24' R	11.61	1172
15	19°52' R	11.67	1178
15	20°29' R	11.71	1182
16	23°10' R	12.05	1216
17	24°30' R	11.72	1183
370'			
0+76	A 1 25°09' R	11.66	1177
	2 23°12' R	11.74	1185
	3 21°28' R	11.86	1167
	4 19°41' R	11.39	1149.4
	4 19°20' R	11.36	1146
	5 17°05' R	11.41	1151
0+97A	6 15°37' R	11.29	1139
	7 15° R	11.40	1150
	8 13°37' R	11.25	1135
	9 5°46' R	11.28	1138
	10 3°04' R	11.26	1136
	11 0°21' L	11.41	1136
	12 1°03' L	11.34	Trail 1151
	13 2°39' L	11.39	1144
	14 6°05' L	11.38	1149
	15 7°40' L	11.27	1148
	16 9°40' L	11.39	1137
	17 12°03' L	11.24	1149
	18 13°06' L	11.27	1134
			1137

very windy

Feb. 26, 1907  
 Raining, Showers.  
 Work on line from 3 P.M. To 5.30  
 Very strong wind.



Feb. 26, 1907

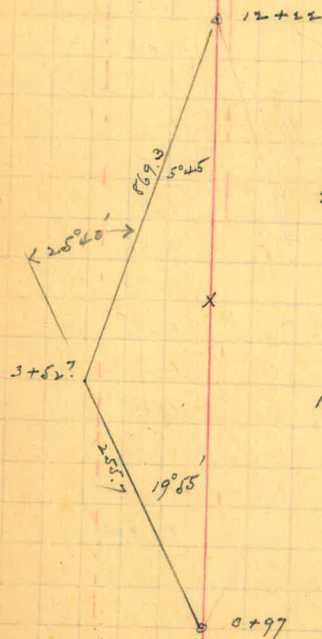
19	14° 30' L	11.26	1146
<b>300'</b>			
0+97A	1	14° 08' L	11.15
	2	13° 50' L	11.13
	3	11° 35' L	11.15
	4	9° 30' L	11.23
	5	7° 09' L	10.98
	6	6° 10' L	11.16
	7	3° 40' L	11.17
	8	1° L	11.26
	9	1° 54' R	11.24
	10	3° 40' R	11.01
	11	5° 49' R	11.11
	12	9° 15' R	11.04
	13	12° 20' R	11.03
	14	15° 38' R	11.04
	15	14° 50' R	11.12
	16	16° 45' R	10.88
	17	17° 42' R	10.87
	18	19° 47' R	10.79
	A	19° 55' R	10.79
	19	21° 18' R	10.87
	20	24° R	11.19
	21	26° 30' R	11.12

Very Windy

F.L. 3+52.7 A		1+55A	1	14° 53' L	10.61
			2	14° L	10.55
			3	12° 13' L	10.58
			4	9° 01' L	10.77
			5	7° 33' L	10.46
			6	6° 30' L	10.62
			7	3° 54' L	10.62

Trail

Trail  
+1.7



$$\begin{array}{r}
 255.7 \\
 19.55 \\
 5.45 \\
 \hline
 255.4 = 2939227
 \end{array}$$

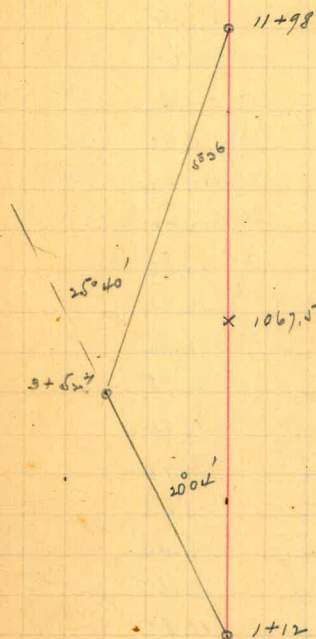
$$\begin{array}{r}
 X \\
 2.407.731 \\
 9.636.623 \\
 \hline
 .999.184 \\
 1105.4 = 3.0 + 3538 \\
 362 \\
 176
 \end{array}$$



290'

1+14 Δ	1 27° 04' R	10.68	1078
	2 26° R	10.62	1072
	3 24° 50' R	10.72	1082
	4 23° R	10.61	1071
	5 21° R	10.39	1048
	Δ 20° 04' R	10.40	1049.4
	6 19° 05' R	10.42	1051
	7 17° 35' R	10.55	1065
	8 16° 20' R	10.57	1067
	9 15° 18' R	10.85	1095
	10 14° 09' R	10.68	1078
	11 12° 45' R	10.74	1084
	12 10° 31' R	10.97	1107
	13 9° 46' R	10.88	1098
	14 6° 51' R	10.88	1098
	15 5° 10' R	10.73	1083
	16 2° 04' R	10.91	1101
	17 2° L	10.94	1104
	18 2° 52' L	10.95	1105
	19 6° 46' L	10.83	1093
	20 8° 52' L	11.02	1112
	21 12° 32' L	10.84	1095
22	omitted		

Very Windy



1+55 Δ	18 5° 06' L	10.51
	19 7° 02' L	10.47
	20 9° 19' L	10.62
	21 13° 04' L	10.42
	22 14° 40' L	10.41

280

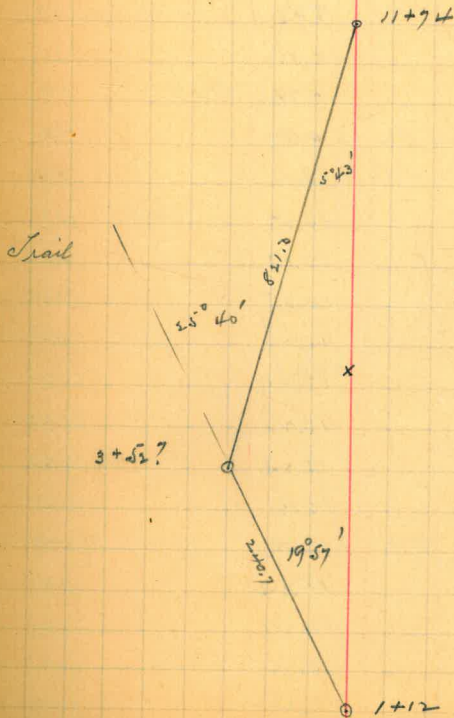
280'

1+12A	16° 18' L	10.83	1093
2	14° 50' L	10.77	1090 +3.
3	11° 40' L	10.67	1077
4	9° 32' L	10.81	1091
5	8° 58' L	10.90	1100
6	6° 44' L	10.76	1084
7	3° 12' L	10.71	1084 +3.
8	1° 48' L	10.86	1094
9	1° 18' R	10.74	1084
10	3° 10' R	10.56	1066
11	7° R	10.78	1088
12	8° 12' R	10.66	1076
13	10° 14' R	10.72	1082
14	12° 45' R	10.48	1058
15	13° 53' R	10.44	1054
16	15° 24' R	10.65	1075
17	16° 20' R	10.57	1067
18	17° 16' R	10.51	1061
19	18° 43' R	10.36	1045
20	19° 57' R	10.33	1042.3
21	20° 20' R	10.31	1040
22	21° 58' R	10.37	1046
23	24° 13' R	10.69	1079
24	26° 24' R	10.61	1071
25	27° 35' R	10.65	1075

Tape line



1+55A	16° 58' L	10.44	1053
2	18° 02' L	10.35	1047 +3.0
3	12° 12' L	10.20	1029
4	9° 52' L	10.41	1050
5	9° 19' L	10.45	1054
6	6° 59' L	10.30	1039
7	3° 21' L	10.35	1047 +3.0



821.3	2,914,502
502.3	8,998,299
19.57	466,991
	<hr/>
	2,579,792
	X
	2,914,502
	9,636,623
	466,991
	<hr/>
1043.	= 3,018,126

52.3
19.57
<hr/>
180.00

Sta.	Def.	Vert. Ang	Rod	Horizontal
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## 270' Contour

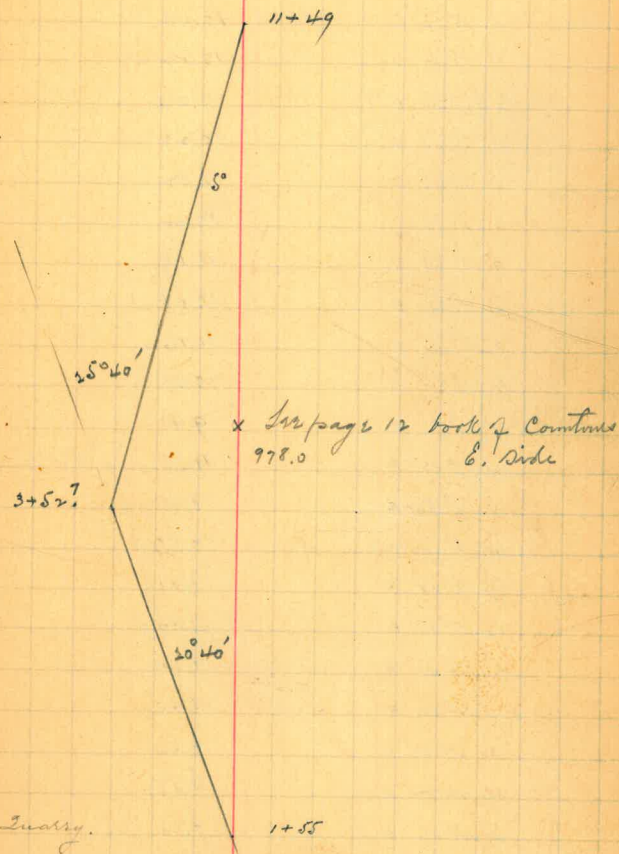
1+55A	30° 12' R		10.18	1027
2	28° 31' R		10.15	1024
3	28° 16' R		10.26	1035
4	24° 05' R		10.01	1010
5	21° 25' R		9.77	986
Δ	20° 40' R		9.67	975.7
6	19° 25' R		9.74	983
7	17° 54' R		9.95	1004
8	17° 13' R		9.93	992
9	16° R		10.02	1011
10	14° 14' R		9.87	996
11	13° 02' R		9.87	996
12	10° 54' R		10.11	1020
13	9° 20' R		10.07	1016
14	8° R		10.17	1026
15	5° 52' R		10.05	1014
16	3° 55' R		10.20	1029
17	2° 52' R		10.20	1029
18	0° 45' R		10.21	1030
19	3° L		10.24	1033
20	3° 49' L		10.16	1025
21	6° 27' L		10.19	1028
22	8° 02' L		10.34	1043
23	9° 34' L		10.27	1036
24	11° 48' L		10.12	1021
25	12° 13' L		10.28	1037

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9.30 a.m.

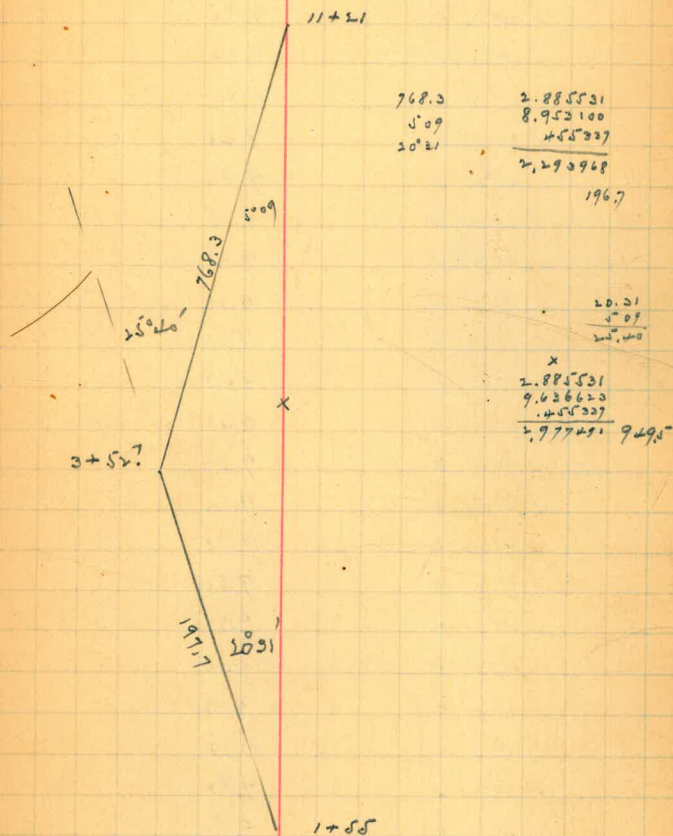
F.S. 3+52.7

Trail



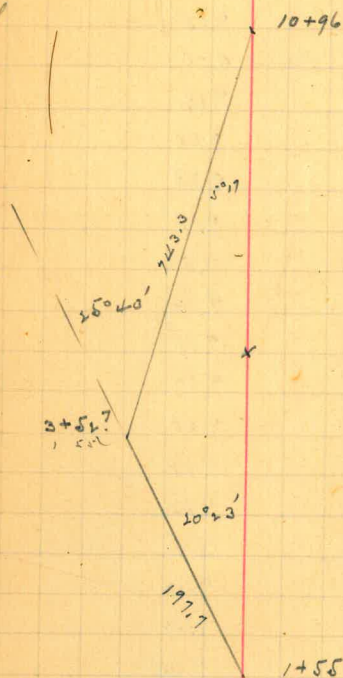
	26	16°36' L	10.27	1036
			260'	
1+55Δ	1	16°02' L	10.09	1018
	2	13°19' L	10.12	1021
	3	11°58' L	10.04	1013
	4	7°22' L	10.22	1031
	5	5°23' L	10.02	1011
	6	2°35' L	10.02	1011
	7	0°59' L	10.09	1018
	8	2°28' R	10.08	1017
	9	4°08' R	10.16	1025
	10	6°32' R	10.05	1014
	11	10° R	9.91	1000
	12	13°11' R	9.65	974
	13	16°50' R	9.66	975
	14	16°24' R	9.85	994
	15	18°22' R	9.61	970
	16	19°50' R	9.45	958
	Δ	20°31' R	9.46	954.4
	17	21°13' R	9.45	953
	18	23°30' R	9.50	959
	19	24°52' R	9.58	967
	20	26°06' R	9.76	984
	21	28°04' R	9.97	1006
	22	31°09' R	9.88	997

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250'

1+55 A	1	31° 54' R	9.62	971
	2	29° 12' R	9.63	972
	3	27° 18' R	9.74	983
	4	26° 42' R	9.77	986
	5	25° 05' R	9.48	956
	6	23° 36' R	9.30	938
	7	20° 35' R	9.18	926
	Δ	20° 23' R	9.18	926.2
	8	19° 16' R	9.23	929
	9	16° 47' R	9.61	970
	10	14° 27' R	9.40	948
	11	13° R	9.41	949
	12	11° 28' R	9.60	969
	13	10° 26' R	9.70	979
	14	9° 32' R	9.78	987
	15	8° 15' R	9.82	991
	16	6° 16' R	9.94	1003
	17	4° 26' R	10.00	1007
	18	3° 42' R	9.94	1003
	19	0° 0' R	9.95	1004
	20	1° 52' L	9.82	991
	21	4° L	9.81	990
	22	6° 54' L	10.07	1006
	23	8° 36' L	10.02	1011
	24	11° 55' L	9.96	1005
	25	12° 44' L	10.02	1011
	26	16° 08' L	9.97	1006

F. S. 3+52?  
Trail

743.3	2.871164
5° 17'	8.964170
20° 23'	.458047
	2.4933812
	196.8

X
2.871164
7.636623
.458047
2.965834
924.3

N. End of Survey  
Trail

		240'	
1+55A	1 15° 38' L	9.78	987
	2 14° 11' L	9.85	994
	3 12° 30' L	9.75	984
	4 7° 25' L	9.65	974
	5 7° 52' L	9.91	1000
	6 6° 36' L	9.98	1007
	7 3° 15' L	9.75	984
	8 1° 08' L	9.69	978
	9 0° 59' R	9.84	993
	10 2° 46' R	9.77	986
	11 5° 41' R	9.77	986
	12 6° 38' R	9.68	977
	13 7° 55' R	9.65	974
	14 9° 33' R	9.54	963
	15 11° 08' R	9.45	953
	16 12° 49' R	9.22	930
	17 14° 53' R	9.22	930
	18 16° 35' R	9.34	942
	19 17° 56' R	9.21	929
	20 19° R	8.98	906
	A 20° 15' R	8.96	904.0
	21 20° 56' R	8.97	905
	22 22° 14' R	9.05	913
	23 25° 04' R	9.26	934
	24 27° 08' R	9.50	962
	25 29° 43' R	7.41	949

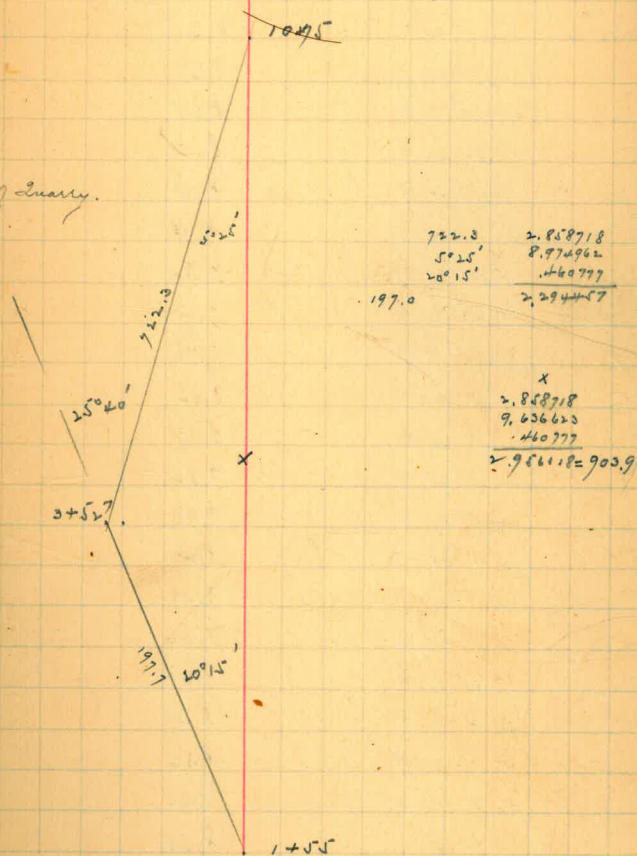
Feb. 27, 1907

F. S. 3452?

N. End of Quarry.

Trail.

Trail.



26	32° 50' R	9.48	956
27	33° 30' R	9.54	963
		230'	
2+67A	37° 42' R	8.31	838
	36° 04' R	8.28	835
	34° 15' R	8.28	835
	33° 02' R	8.37	844
	31° 34' R	8.39	846
	28° 20' R	7.98	805
	26° 10' R	7.80	787
	23° 32' R	7.67	774
	20° 21' R	7.73	780
	19° 35' R	8.04	811
	18° 10' R	8.07	814
	16° 28' R	7.92	799
	14° 09' R	7.93	800
	11° 28' R	8.28	835
	9° R	8.38	845
	5° 42' R	8.46	853
	4° R	8.53	861
	2° 46' R	8.48	855
	1° R	8.53	861
	1° L	8.44	851
	2° 54' L	8.53	861
	14° 24' L	8.59	867
	19° 20' L	8.55	863

Feb. 27, 1907.

F. S. 3+57. A  
Trail

Trail

N end of Quarry.

220'

2+67a	16°48' L	8.45	852
	13°27' L	8.45	852
	11°27' L	8.38	851
	8°20' L	8.32	850
	5°10' L	8.50	859
	2°13' L	8.59	846
	0°25' L	8.32	839
	0°54' R	8.39	846
	3°31' R	8.39	846
	5°28' R	8.31	838
	7°09' R	8.31	838
	7°45' R	8.86	813
	8°24' R	8.19	826
	10°26' R	8.11	818
	13°03' R	7.74	781
	15°20' R	7.63	770
	17°26' R	7.69	776
	19°	7.75	782
	19°57' R	7.54	761
	21°47' R	7.49	755
	22°52' R	7.55	761.5
	23°29' R	7.57	764
	26°21' R	7.63	770
	30°	7.96	803
	31°40' R	8.25	832
	32°40' R	8.14	821

Feb. 27, 1907.

F.S. 3+52.7

+6.0

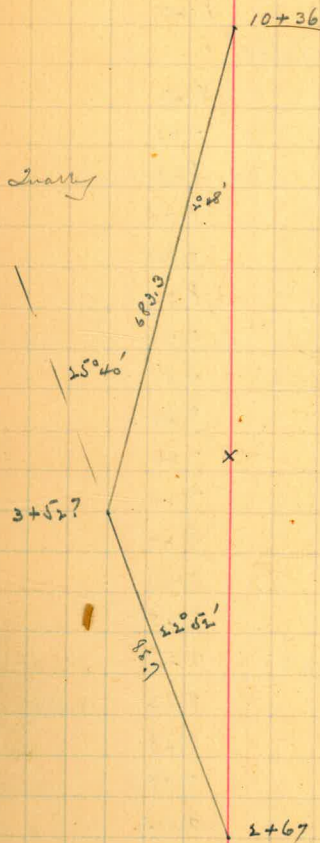
+11.7

+1.0

N. Edge of Quarry

Trail

Trail



$$\begin{array}{r}
 683.3 \\
 2^{\circ}20' \\
 22^{\circ}52' \\
 \hline
 85.90
 \end{array}
 \qquad
 \begin{array}{r}
 2.834611 \\
 9.636623 \\
 4.105711 \\
 \hline
 1.933985
 \end{array}$$

$$\begin{array}{r}
 X \\
 2.834611 \\
 9.636623 \\
 4.105711 \\
 \hline
 761.6 = 2.881744
 \end{array}$$



26	35° R	8.15	822
27	37° 27' R	8.09	816
28	39° 37' R	8.20	827
210'			
2+67Δ	40° 50' R	8.10	817
	39° 15' R	9.93	800
	38° 21' R	8.06	813
	35° R	7.98°	805
3	34° 20' R	-7.94	801
4	32° 22' R	8.03	810
	30° 55' R	7.90	797
5	30° 23' R	7.81	788
6	26° 52' R	7.42	748
7	23° 27' R	7.26	732
Δ	22° 46' R	7.22	728.2
8	20° 49' R	7.20	729
9	18° 53' R	7.36	742
10	18° 20' R	7.57	763
11	15° 53' R	7.44	750
12	13° 20' R	7.46	752
13	11° R	7.58	765
14	10° 17' R	7.89	796
15	8° 30' R	8.04	811
16	5° 17' R	8.04	811
17	3° 41' R	8.17	824
18	1° 08' R	8.20	827
19	0° 20' L	8.18	825

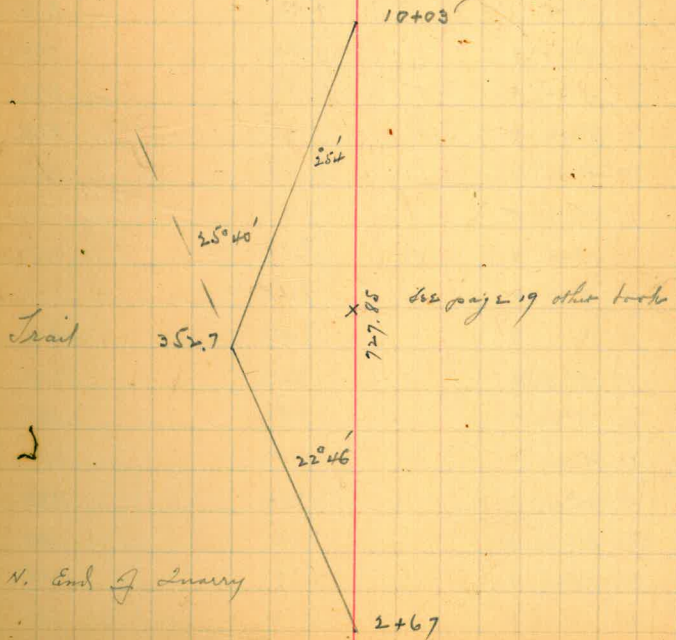
Feb. 27, 1907

Trail

F. S. 3+52'

N. W. cor. of Excav. for Office  
N. edge " " "

Center of E. side of Public Library



Feb. 27, 1907.

20	5° 22' L	8.45	852
21	8° 40' L	8.40	847
22	10° 50' L	8.31	838
23	14° 05' L	8.26	833
24	16° 46' L	8.31	838

200'

2+92A	1	16° 02' L	7.93	800
	2	13° 33' L	7.97	800
	3	11° 11' L	7.96	803
	4	9° 26' L	7.91	798
	5	7° 20' L	8.11	818
	6	3° 48' L	8.03	810
	7	0° 57' R	7.82	789
	8	2° 52' R	7.83	790
	9	6° 03' R <sup>1/2</sup>	7.65	772
	10	8° 36' R	7.59	766
	11	10° 11' R	7.38	744
	12	11° 48' R	7.13	719
	13	13° 22' R	7.12	718
	14	16° R	7.04	710
Feb. 28	15	17° 30' R	7.07	713
7° A.M.	16	19° 50' R	6.82	688
	17	26° 03' R	6.87	693
	18	28° 26' R	7.02	708
	19	31° 12' R	7.26	732
	20	33° 06' R	7.50	757
	21	34° 28' R	7.54	761

S.S. 3+827A

- 4.0

Fair

Feb, 28, 1907

	Def.	Rod	
	22 36° 13' R	746	752
	23 37° R	743	749
		751	758
	24 40° 15' R	747	753
	25 42° 22' R	771	778
	26 43° 47' R	795	802
		190'	
3+18a	1 47° 10' R	761	768
	2 45° 08' R	717	723
	3 42° 44' R	696	702
	4 33° 52' R	683	689
	5 32° 22' R	673	679
	6 31° 16' R	683	689
	7 27° 48' R	671	677
	8 20° 54' R	647	652
	9 19° R	644	649
	10 17° 52' R	660	666
	11 16° 23' R	649	654
	12 14° 50' R	653	659
	13 12° 29' R	667	673
	14 10° 33' R	674	680
	15 8° 28' R	711	717
	16 5° R	722	728
	17 2° 50' R	742	748
	18 3° 20' L	761	768
	19 6° L	764	771
	20 8° 20' L	760	757

N.E. Cor. porch of Office

F.S. 3+52' A

Trail

N. Edge of Quarry

Feb. 28, 1907

41	12° 33' L	767	774	
42	15° 46' L	762	769	
	180'			
3+41A	15° 55' L	727	733	F.S. 3+41?
2	12° 48' L	737	738	-5.0
3	9° 35' L	717	723	
4	7° 17' L	727	733	
5	4° 33' L	724	730	
6	1° 29' L	722	728	
7	2° 03' R	718	724	N. Edge of Quarry
8	5° 15' R	687	693	
9	8° 06' R	678	684	
10	10° 45' R	627	652	+10.0 West bank of road
11	14° 22' R	623	628	" "
12	19° 20' R	618	623	" "
13	17° 40' R	596	601	East "
14	20° R	581	586	
15	26° 20' R	578	583	
16	29° 36' R	596	601	
17	33° 57' R	639	644	
18	37° 18' R	657	663	
19	39° 20' R	653	659	
20	43° 30' R	658	667	
21	49° R	717	723	

Feb. 28, 1907.

170'

3+65A	1	25° 06' R	6.81	687
	2	23° 26' R	6.45	680
	3	20° 04' R	6.23	628
	4	17° 55' R	6.16	621
	5	17° 25' R	5.96	601
	6	14° 23' R	6.07	-612
	7	12° 12' R	6.23	628
	8	9° 20' R	6.02	609
	9	4° 30' R	5.86	561
	A	0° 0'	5.47	551.5
	10	0° 29' L	5.40	544
	11	6° L	5.47	551
	12	8° 21' L	5.60	565
	13	10° 43' L	5.64	569
	14	16° 04' L	5.94	599
	15	17° 14' L	6.13	618
	16	20° 30' L	6.35	640
	17	22° 50' L	6.50	656
	18	24° 30' L	6.68	674
	19	26° 45' L	6.93	699
	20	31° 54' L	6.96	702
	21	39° 06' L	6.96	702
	22	48° 45' L	7.10	716

F. S. 13+30 A

9+16<sup>+</sup> A

By chain 551.4

E. edge of road  
N. " "

160'

3+87A	1	42° L	6.84	690
	2	42°20' L	6.67	673
	3	40°12' L	6.57	663
	4	38°26' L	6.53	659
	5	37°12' L	6.41	646
	6	30°58' L	6.46	651
	7	25°40' L	6.27	632
	8	20°42' L	6.04	609
	9	17°15' L	5.60	565
	10	15° L	5.46	550
	11	12°26' L	5.28	532
	12	8°25' L	5.28	529
	12	5°31' L	5.14	518
	14	0°55.5' L	5.08	509
	15	3° R	5.10	514
	16	5°16' R	5.20	524
	17	9°32' R	5.65	570
	18	12°50' R	5.89	594
	19	18°10' R	5.64	569
	20	20°05' R	5.83	588
	21	22°20' R	5.91	596
	22	24°07' R	6.12	617
	23	26°56' R	6.38	643
	24			

West bank of road  
East .. ..

F.S. 13+300

150'

4+13A	1	30°18' R	6.30	635
	2	27°02' R	5.94	599
	3	25°46' R	5.63	568
	4	23°20' R	5.47	551
	5	21°09' R	5.42	546
	6	18°25' R	5.22	526
	7	13°45' R	5.47	551
	8	10°20' R	5.16	520
	9	6°05' R	4.80	484
	10	3°24' R	4.70	474
	11	0°48' L	4.66	470
	12	3°20' L	4.71	475
	13	7°06' L	4.78	482
	14	9°28' L	4.88	492
	15	12°40' L	4.84	489
	16	15°05' L	4.90	494
	17	16°50' L	5.10	514
	18	19°09' L	5.29	533
	19	22°15' L	5.70	575
	20	24°20' L	5.71	576
	21	28°12' L	5.95	600
	22	30°53' L	6.04	609
	23	33°08' L	6.13	618
	24	38°25' L	6.10	615
	25	41°12' L	6.27	632
	26	44°30' L	6.42	647

F. L. 13+30A

140'

1	46° 14' L	6.13	618
2	44° 20' L	6.05	610
3	41° 35' L	6.04	609
4	39° 15' L	5.81	586
5	34° 19' L	5.81	586
6	31° 40' L	5.70	575
7	29° 16' L	5.63	568
8	26° 41' L	5.47	551
9	24° 23' L	5.38	542
10	20° 52' L	4.98	502
11	18° 49' L	4.81	485
12	18° 45' L	4.44	447
13	13° 04' L	4.23	446
14	10° 47' L	4.57	461
15	8° 23' L	4.42	445
16	1° 09' L	4.27	441
17	1° 43' R	4.36	439
18	6° 46' R	4.33	436
19	9° 50' R	4.56	460
20	12° 45' R	4.87	491
21	12° 51' R	6.04	508
22	20° 42' R	4.77	481
23	21° 25' R	4.96	500
24	25° 46' R	5.16	520
25	Lines in tray		
26	32° 31' R	6.19	624

Feb. 28, 1907

F.L. 13+30 Δ



130'

4+56A	1	35° 12' R	6.17	622
	2	33° 02' R	5.63	568
	3	32° 44' R	5.08	512
	4	26° 54' R	4.77	481
	5	23° 54' R	4.64	468
	6	22° R	4.38	441
	7	17° 30' R	4.60	464
	8	13° 53' R	4.26	429
	9	11° 20' R	4.00	403
	10	6° 34' R	3.95	396
	11	2° 16' R	3.97	400
	12	8° 03' L	4.06	409
	13	10° 55' L	4.17	420
✓	14	15° <sup>1</sup> L	4.10	413
	15	21° 20' L	4.22	425
	16	21° 26' L	4.50	454
	17	22° 55' L	4.63	467
	18	26° 13' L	5.05	509
	19	30° 55' L	5.14	518
	20	31° L	5.27	531
	21	34° 36' L	5.47	551
	22	39° 54' L	5.48	552
	23	42° 40' L	5.73	579
	24	44° 08' L	5.76	581
	25	46° 26' L	5.76	581
	26	49° 24' L	5.91	596

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1. P. M.

f. S. 13+30A

120'

4+90A	1	52°47' L	5.62	567
	2	50°46' L	5.44	548
	3	47°06' L	5.43	547
	4	46°07' L	5.35	539
	5	44°10' L	5.40	544
	6	41°17' L	5.16	520
	7	36°52' L	5.06	510
	8	33°46' L	4.93	497
	9	31°32' L	4.67	471
	10	28°32' L	4.58	462
	11	25°18' L	4.22	426
	12	23°55' L	4.07	411
	13	22°07' L	3.84	388
	14	15°24' L	3.78	382
	15	10°23' L	3.71	374
	16	7°08' L	3.55	358
	17	6° R	3.46	348
	18	9°21' R	3.43	345
	19	12°52' R	3.47	349
	20	16°32' R	3.59	362
	21	17°30' R	3.82	385
	22	20°10' R	4.07	410
	23	23°48' R	4.00	403
	24	26°49' R	4.20	423
	25	29°55' R	4.35	438
	26	32°52' R	4.62	466

February 28th. 1907.

F. S. 13+30A

11

27	35° R.	4.70	474
28	36°50' R	5.35	539

110'

S+11A

1			
2	38°50' R	4.62	465
3	36°36' R	4.32	435
4	33°34' R	3.96	399
5	28°05' R	3.83	386
6	26° R	3.74	377
7	22°35' R	3.74	377
8	20°25' R	3.49	351
9	17°05' R	3.21	323
10	9° R	3.09	310
11	0°0' 0	3.11	313
12	6°40' L	3.22	324
13	13° L	3.33	335
14	21°20' L	3.50	353
15	26°20' L	3.73	374
16	29°25' L	4.04	407
17	33°40' L	4.34	437
18	36°50' L	4.67	471
19	41°40' L	4.83	487
20	45°10' L	5.13	517
21	48°08' L	5.05	509
22	53°35' L	5.16	520
23	55° L	5.28	532

Feb. 28, 1907.

S. S. 13+30'A

100'

5+42A	1	58°53' L	4.96	500
	2	56°20' L	4.83	487
	3	53°25' L	4.89	491
	4	52°04' L	4.73	477
	5	49°13' L	4.71	475
	6	46°56' L	4.76	480
	7	43°30' L	4.23	426
	8	40°22' L	4.33	436
	9	38°03' L	3.96	399
	10	34°56' L	3.74	377
	11	31° L	3.39	342
	12	28° L	3.17	319
	13	21°34' L	3.06	308
	14	8° <sup>5</sup> L	2.75	277
	Δ	0°0'	2.54	255.5
	15	1°12' R	2.67	269
	16	13°10' R	2.58	266
	17	21°05' R	2.69	271
	18	25°05' R	3.10	312
	19	28°09' R	3.34	336
	20	34°25' R	3.33	335
	21	38°20' R	3.64	367
	22	42°40' R	4.00	403
	23	44°42' R	4.53	457
	24	46°20' R	4.96	500
	25	50°10' R	5.30	524

2/28/07

F.S. 13+30A

257

Sta. 8+00

by chain 257.

90'

5+65 Δ	1	55°17' R	2.6	4.84	488
	2	49°55' R		4.60	464
	3	50°15' R		4.23	426
	4	48°30' R		3.81	384
	5	44°25' R		3.49	349
	6	37°53' R		3.08	310
	7	30°35' R		2.95	297
	8	18°26' R		2.65	267
	9	23° R		2.34	235
	10	13°55' R		2.23	224
	11	11°10' R		2.12	213
	12	22°32' L		2.70	272
	13	29°50' L		2.81	283
	14	36°15' L		3.07	309
	15	38°53' L		3.42	344
	16	42°15' L		3.73	376
	17	43°30' L		4.04	407
	18	46°05' L		4.07	410
	19	50°02' L		4.37	440
	20	52°10' L		4.43	446
	21	55°35' L		4.54	458

2/28/07

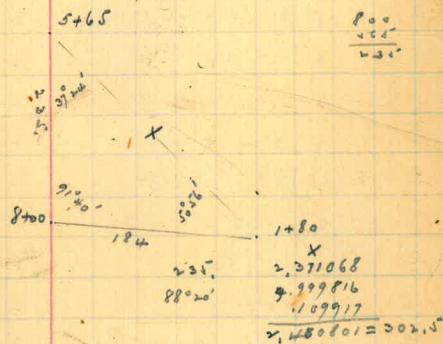
F.S. 13+30A

Trail

		80'		
5+65 A	56°50' L	4.27	437	440
2	52°06' L	4.28	428	431
3	48°37' L	4.08	408	411
4	44°45' L	3.87	387	390
5	44°05' L	3.40	340	342
6	41°34' L	3.32	332	334
7	39°35' L 2°10'	2.98	298	300
8	37°24' L	3.00	300	302.0
8	32° L 3°	2.71	270	272
9	25°32' L 2°40'	2.47	247	249
10	22°28' L 2°40'	2.49	249	251
11	12°10' L 3°	2.31	230	231
12	21°25' R 2°50'	2.15	215	216
13	17° R 2°50'	2.21	221	222
14	31°37' R 2°40'	2.43	243	244
15	32°54' R 2°20'	2.80	280	282
16	39°10' R 2°10'	3.01	301	303
17	43°30' R 2°	3.30	330	332
18	49°50' R	3.40	340	342
19	50°43' R	3.74	374	377
20	52°50' R	4.26	426	429
21	53°50' R 2.48	4.52	452	456
22	57°10' R 2.4	4.74	474	478
23	60°06' R 1.0	5.02	502	508

F.S. 13+30A

1+84 Δ of four lines

$$\begin{array}{r} 9140 \\ 3724 \\ \hline 12904 \\ 5056 \end{array}$$


Trail

70'						
5765A	1	60°52' R	2°40'	4.60	459	463
	2	56°10' R	2°50'	4.47	446	449
	3	54°40' R	3°	4.07	406	409
	4	53°22' R	3°20'	3.70	369	372
	5	49°10' R	3°20'	3.34	333	335 328
	6	48° R	3°50'	3.18	316	318
	7	41°10' R	4°	2.95	294	296
	8	36°05' R	4°30'	2.73	271	273
	9	33°20' R	5°	2.39	237	238
	10	27°20' R	5°10'	2.13	211	212
	11	2°24' R	6°10'	2.07	204	205
	12	7°40' L	5°	2.16	214	215
	13	14°25' L	5°	2.36	234	235
	14	30°50' L	5°	2.47	245	246
	15	42°35' L	4°20'	2.89	287	289
	16	44°40' L	4°20'	3.25	323	325
	17	47°45' L	3°40'	3.35	334	336
	18	46°20' L	3°	3.54	353	356
	19	48°40' L	3°20'	3.87	386	389
	20	52°40' L	3°20'	4.07	406	409
	21	57°30' L	3°10'	4.07	406	409
	22	62°25' L	3°	4.37	436	439

2/28/07

F. S. 13+300

-7.0

		60'			
5+65 Δ	63°38' L	4°10'	4.39	437	440
	60°38' L	4°20'	4.16	414	417
3	58°10' L	5°10'	4.00	397	400
4	54°42' L	4°40'	3.93	390	393
5	48°15' L	3°40'	3.62	361	364
6	48°05' L	6°30'	3.29	335	337
7	45°52' L	6°	3.01	298	300
8	43°56' L	6°40'	2.76	272	274
9	33°20' L	8°	2.37	232	233
10	12°42' L	9°	2.04	199	200
11	2°53' L	9°	2.06	201	202
12	8°20' R	9°	2.03	198	199
13	29°55' R	10°40'	2.09	202	203
14	35°20' R	7°40'	2.28	224	225
15	37°08' R	7°	2.26	252	254
16	42°24' R	7°	2.70	266	268
6+33 Δ	17 55°42' R	4°	2.58	257	259
	18 60°10' R	3°40'	2.79	278	280
	19 62°17' R	3°20'	3.00	299	301
	20 65°40' R	3°	3.24	323	325
	21 66°16' R	2°40'	3.66	366	369
	22 66°20' R	2°40'	3.92	392	395
	23 69°20' R	2°30'	4.10	409	412

Feb. 28, 1907  
 Mar. 1, "

F.S. 13+30 Δ

+2.0

F.S. 13+30 Δ



March 1, 1907.

50'

6+33a	71°20' R		3.88	388	391
7	68°34' R		3.73	373	376
8	70°50' R		3.29	329	331
9	68°34' R		3.06	306	308
10	63°15' R		2.88	288	290
11	60°20' R		2.76	276	278
12	58° R		2.38	238	239
13	57°50' R		2.17	217	218
14	53°20' R		2.02	202	205
15	50°15' R		1.89	189	190
16	30°17' R	2°30'	1.32	132	133
17	15°17' R	2°40'	1.18	118	119
18	7°34' R	2°20'	1.23	123	124
19	2°30' R	2°40'	1.24	124	125
20	1°11' R	2°40'	1.20	120	121
21	25°40' L		1.28	128	129
22	46°40' L	2°	1.67	167	168
23	56°40' L		2.05	205	206
24	58°37' L		2.26	226	227
25	60°17' L		2.99	299	301
26	65°32' L		3.41	341	343
27	68°54' L		3.63	363	366
28	72°17' L		3.87	387	390
29	73°15' L		4.04	404	407

F.S. 13+30a

+3.0

R.M. on 50' contour

40'

6+33A

Clock face in way

2	70°27' L	2.56	359
3	67°30' L	3.39	341
4	64°15' L	3.08	310
5	63°28' L	2.69	271
6	60°32' L	2.50	252
7	61°30' L	2.27	228
8	61°57' L	2.17	218
9	28°52' L	1.25	126
10	10°35' R	1.13	114
11	33°03' R	1.17	118
12	45°04' R	1.39	140
13	52°25' R	1.63	164
14	58°04' R	1.94	195
15	61°40' R	2.02	203
16	61°30' R	2.25	226
17	64°13' R	2.28	229
18	63°56' R	2.71	273
19	67°46' R	2.97	299
20	71°35' R	3.14	316
21	True		
22	74°23' R	3.99	402

Mar. 1, 1907

F. S. 13+30'A

30'

6+33 Δ	1	77°15' R		2.90	390	393
	2	75°15' R		3.60	360	363
	3	72°40' R	2°20'	3.34	334	336
	4	70°10' R	3°30'	3.08	307	309
	5	67°49' R	2°20'	2.76	276	278
	6	66°26' R	2°40'	2.39	239	240
	7	62°25' R	3°	2.13	212	213
	8	60°25' R	↓°	1.87	186	187
	9	55°40' R	↓°	1.62	161	162
	10	51°05' R	4°40'	1.36	135	136
	11	45°16' R	5°20'	1.18	117	118
	12	21°50' R	5°20'	1.06	105	106
	13	4°49' L	5°20'	1.04	103	104
	14	18°54' L	6°50'	1.04	103	104
	15	28°07' L	8°	1.10	108	109
	16	35°40' L	6°	1.31	130	131
	16	65° L	2°50'	2.30	230	231
	17	62°22' L		2.58	258	260
	18	68°15' L		3.20	320	322
	19	72°26' L		3.53	353	356

F.S. 13+300

+3.0

B.M. on 30' contour

20'

6+33A	6	41°40' L	12°	1.27	127	123
	7	31°48' L	12°	1.12	107	108
	8	19°40' L	12°30'	0.90	86	87
	9	4°52' R	12°	1.00	96	97
	10	26°44' R	11°	0.96	93	94
	11	44°30' R	8°20'	1.17	115	116
	12	54°12' R	8°00'	1.35	132	133

	1	70°55' L	4°	5.23	321	323
	2	71°30' L	5°10'	2.87	285	287
	3	65°05' L	3°30'	2.60	259	261
	4	67°25' L	4°50'	2.43	241	242
	5	68°25' L	7°	2.24	221	222

F.S. 13+30'A

West end of cut off wall, (Elev. of cut off wall = 21.0)

10'

Δ 6+33	1	48° 10' R	11° 40'	1.23	118	119
	2	48° 07' R	13°	1.03	98	99
	3	5° 14' R	17° 20'	0.91	83	84
	4	21° 45' L	10° 50'	0.85	78	79
	5	42° L	9° 40'	1.27	124	125
1+84 Δ	6	85° 10' R	21°	2.10	183	184
	7	91° 20' R	15° 40'	2.84	263	265
	8	98° 52' R	15°	3.43	326	328
	9	96° 31' R	11° 40'	3.78	363	366
	10	95° 35' R	10°	4.43	430	433

2+67

21	26° 54' L	2° 40'	8.76
22	30° 06' L	2° 40'	9.06
	240'		
6	26° 03' L	2° 20'	8.64
7	23° 58' L	2° 20'	8.66

250' contour, check on previous

Reading 3  
F.S. 3+52? ΔSta 0 - 10' on east side  
56° 56' L 11° 40' 1.07

F.S. 6+33 Δ

3/18/77

	Def	Vert A	Rod	Cor Rod
1+84 A	44° 57' L	7° 20'	6.65	654
"	47° 55' L	9° 10'	5.23	510
3	43° 40' L	10° 50'	4.34	419
4	43° 5' L	13° 0'	3.64	346
5	46° 15' L	8° 0'	6.02	590
6	51° 40' L	9° 20'	5.09	496
7	55° 8' L	10° 30'	4.46	431
8	57° 28' L	21° 50'	2.31	199
9	106° 38' L	31° 30'	1.79	130
10	130° 56' L	24° 20'	1.96	157
11	130° 10' L	25° 0'	2.01	165
12	137° 57' L	20° 10'	2.36	208
13	143° 0' L	19° 40'	2.46	218
14	143° 50' L	18° 40'	2.57	231
15	146° 32' L	18° 30'	2.56	230
16	149° 12' L	15° 0'	3.05	285
17	154° 6' L	15° 0'	3.08	287
18	156° 20' L	13° 50'	3.33	314

## 80' Contour

1+84 A	1° 30' L	2° 20'	1.83	183
"	8° 55' L	1° 15'	2.66	266
"	14° 16' L	1° 55'	3.30	330
"	24° 24' L	0° 50'	4.34	434
"	30° 20' L	0° 40'	5.00	500
"	32° 38' L	0° 46'	5.51	551

8/29/07

Hally  
Kant.

B. S. 800 Stream level at toe wall lower site

N. Bank

" "

" "

E. Bank

" "

" "

" "

" "

" "

" "

" "

" "

" "

" "

" "

" "

Under overhanging rock.

B. S. 800

= \*1

## Contour 110

1+84 Δ	26° 39' L	2° 40'	5.35	534	535
	20° 50' L	3° 0'	4.66	465	467
	14° 10' L	3° 40'	3.80	378	382
	8° 40' L	4° 0'	3.18	316	320
	1° 15' R	5° 15'	2.56	254	

## Contour 30

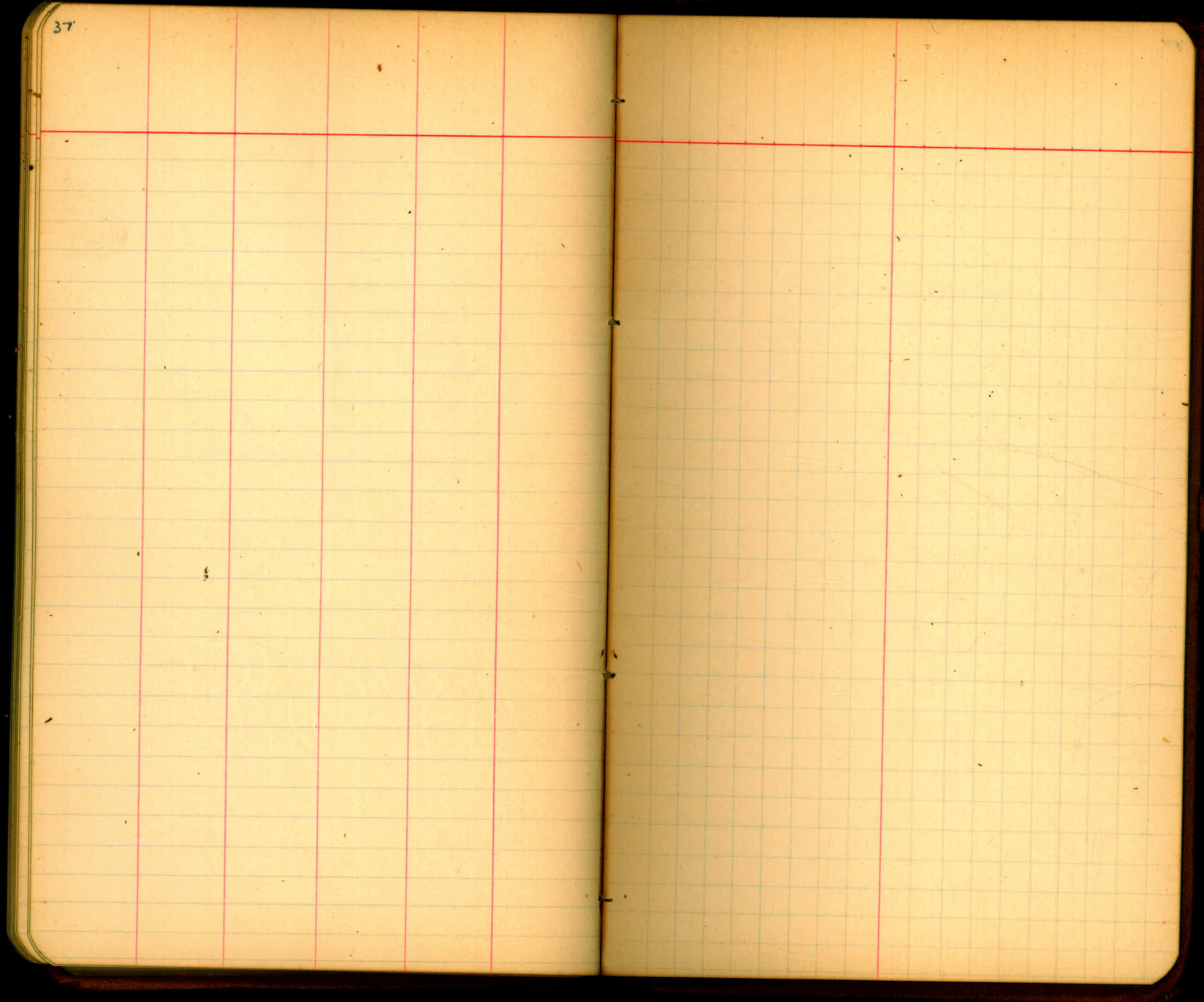
1+84 Δ	38° 35' L	6° 40'	4.70	464	
	28° 54' L	9° 35'	3.26	317	
	27° 34' L	14° 20'	2.38	223	
	52° 54' L				

B.S. 8+00

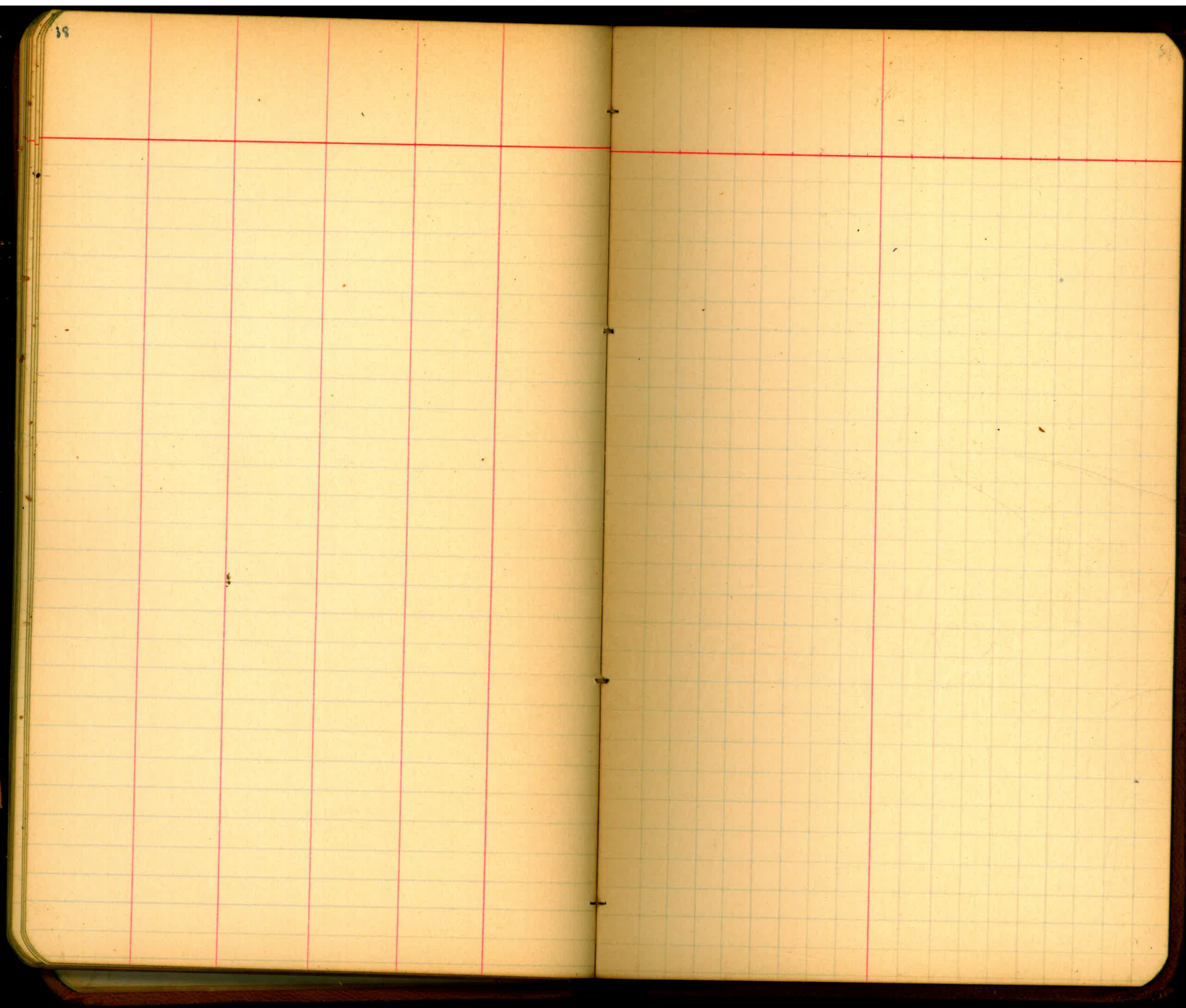
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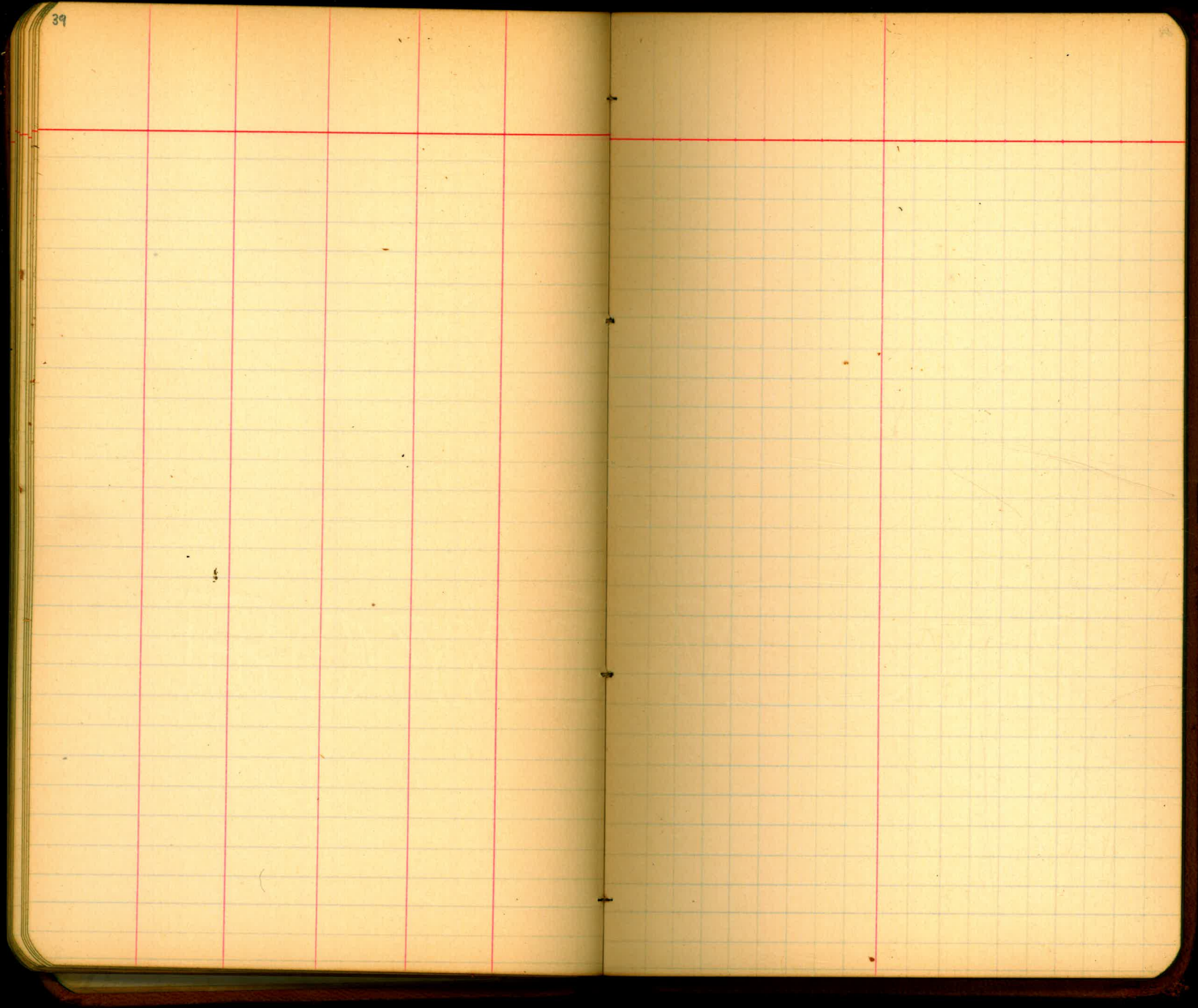
B.S. 8+00

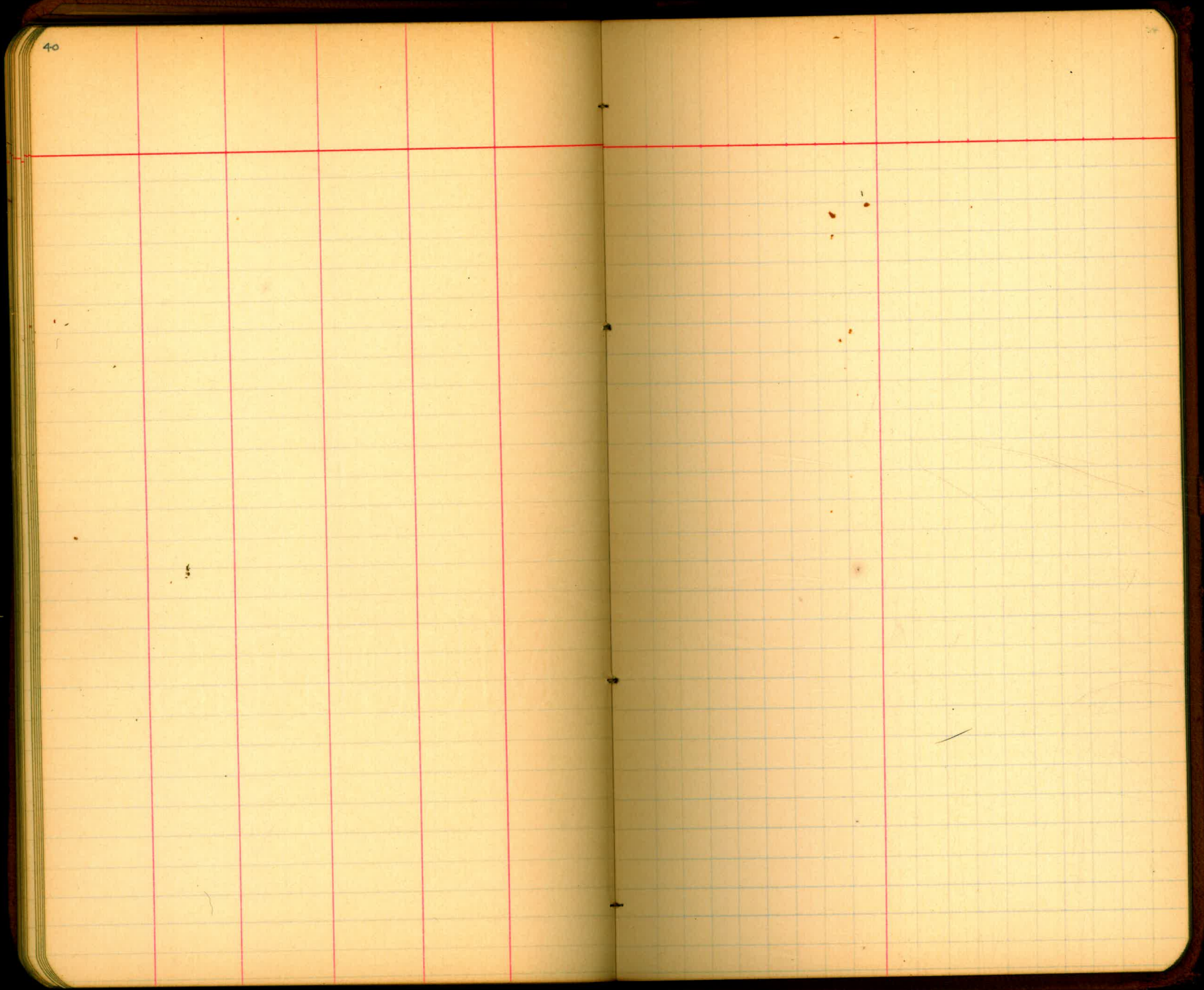
N.W. cor of engine shack lower site.

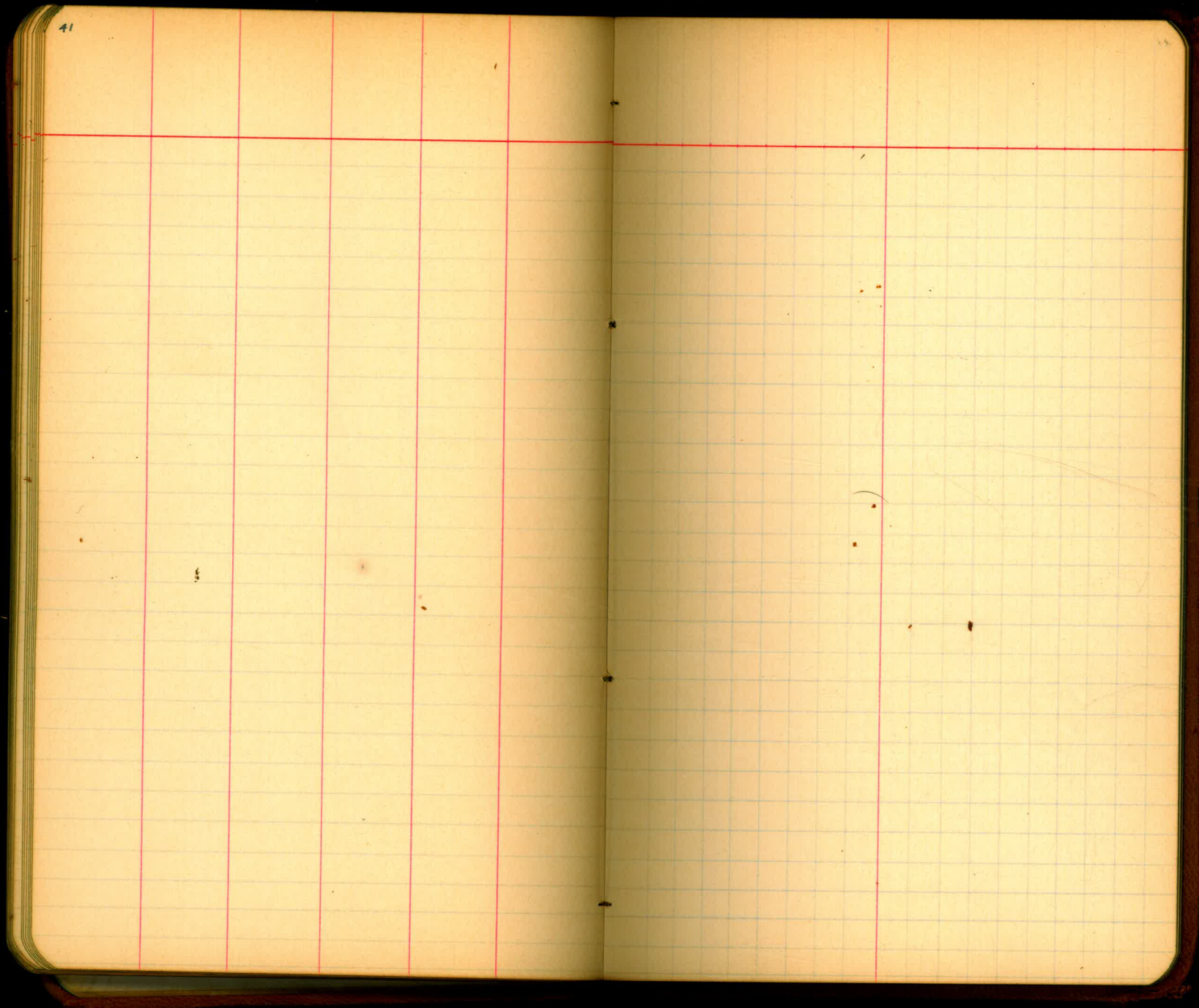


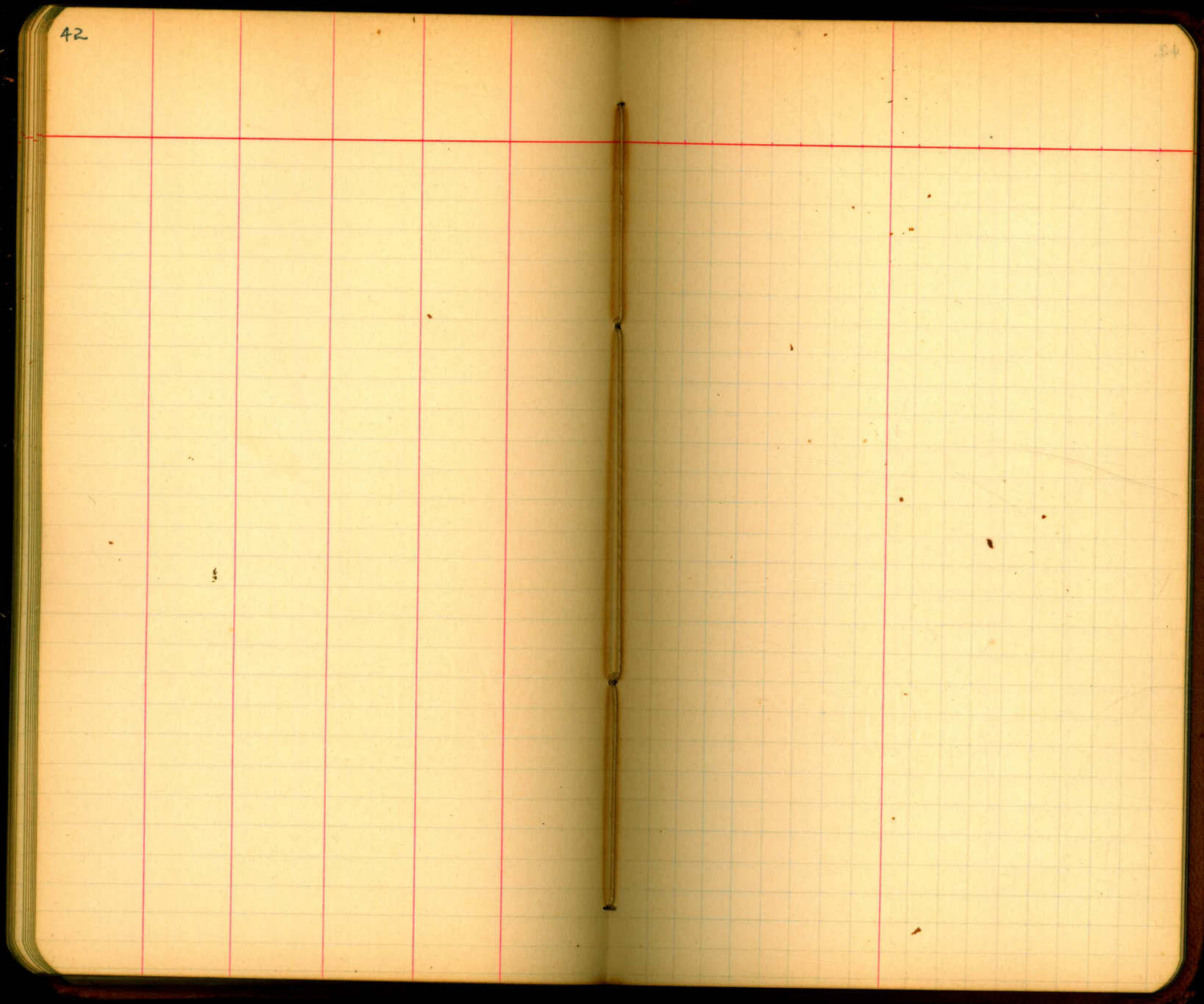


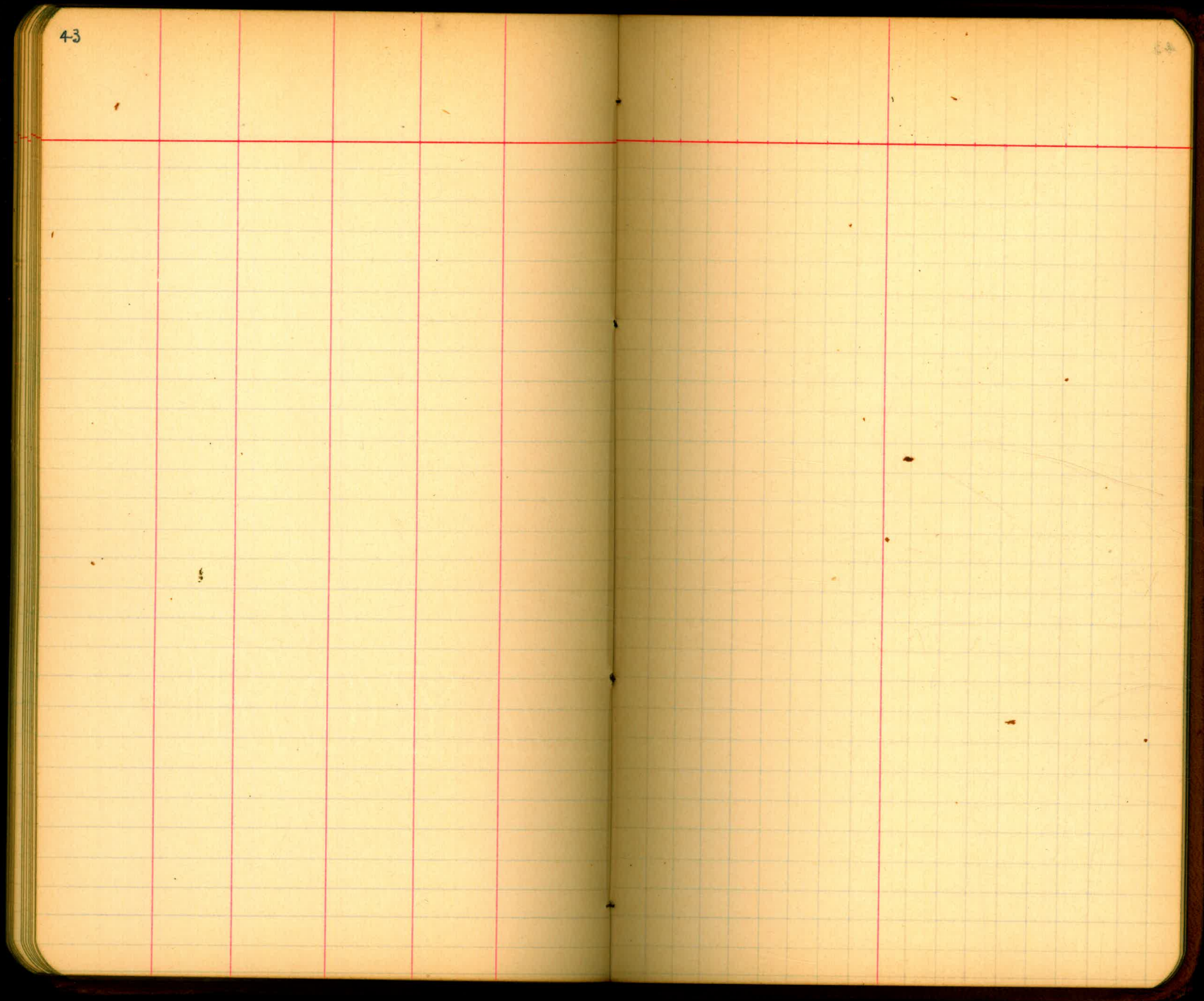


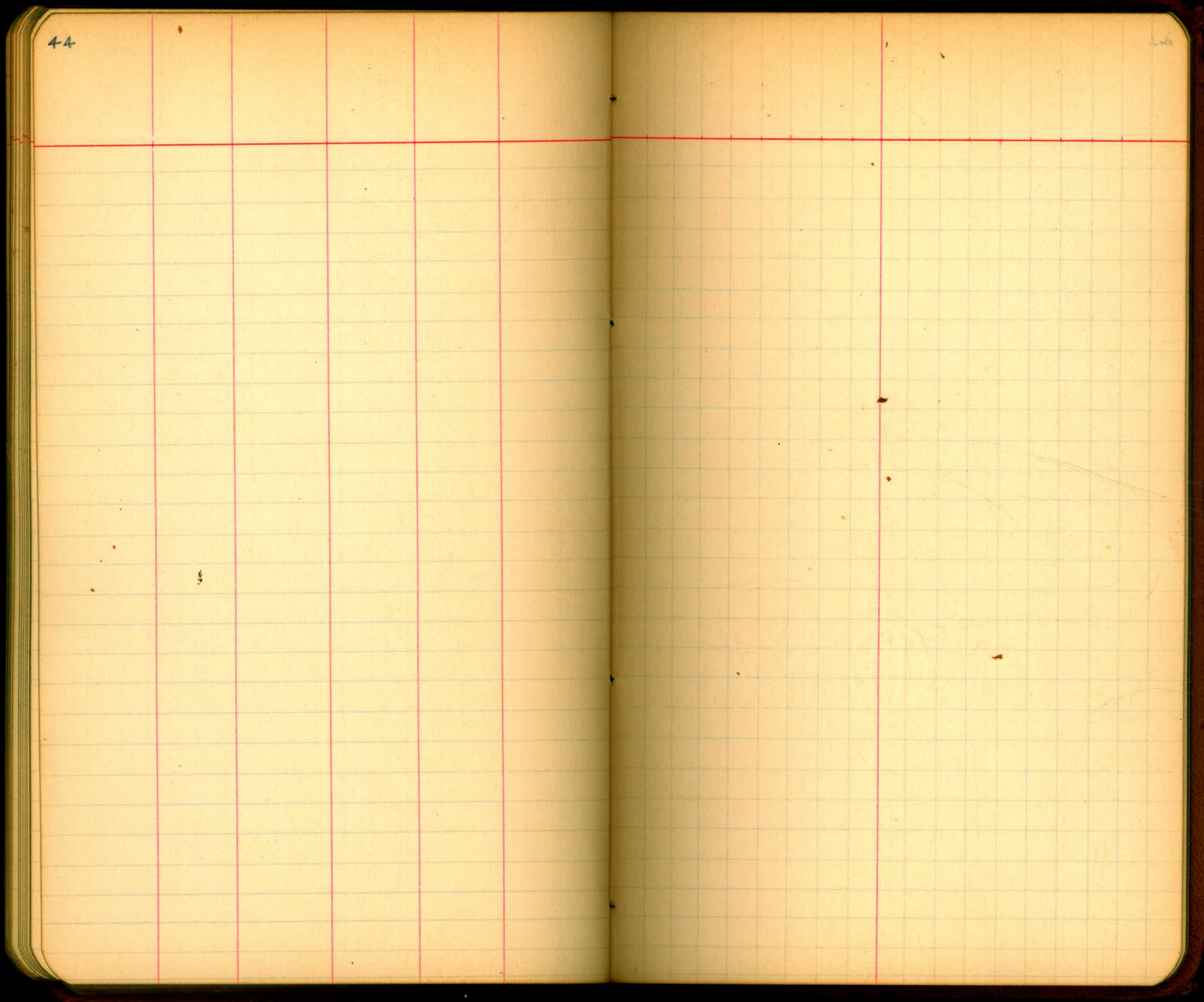


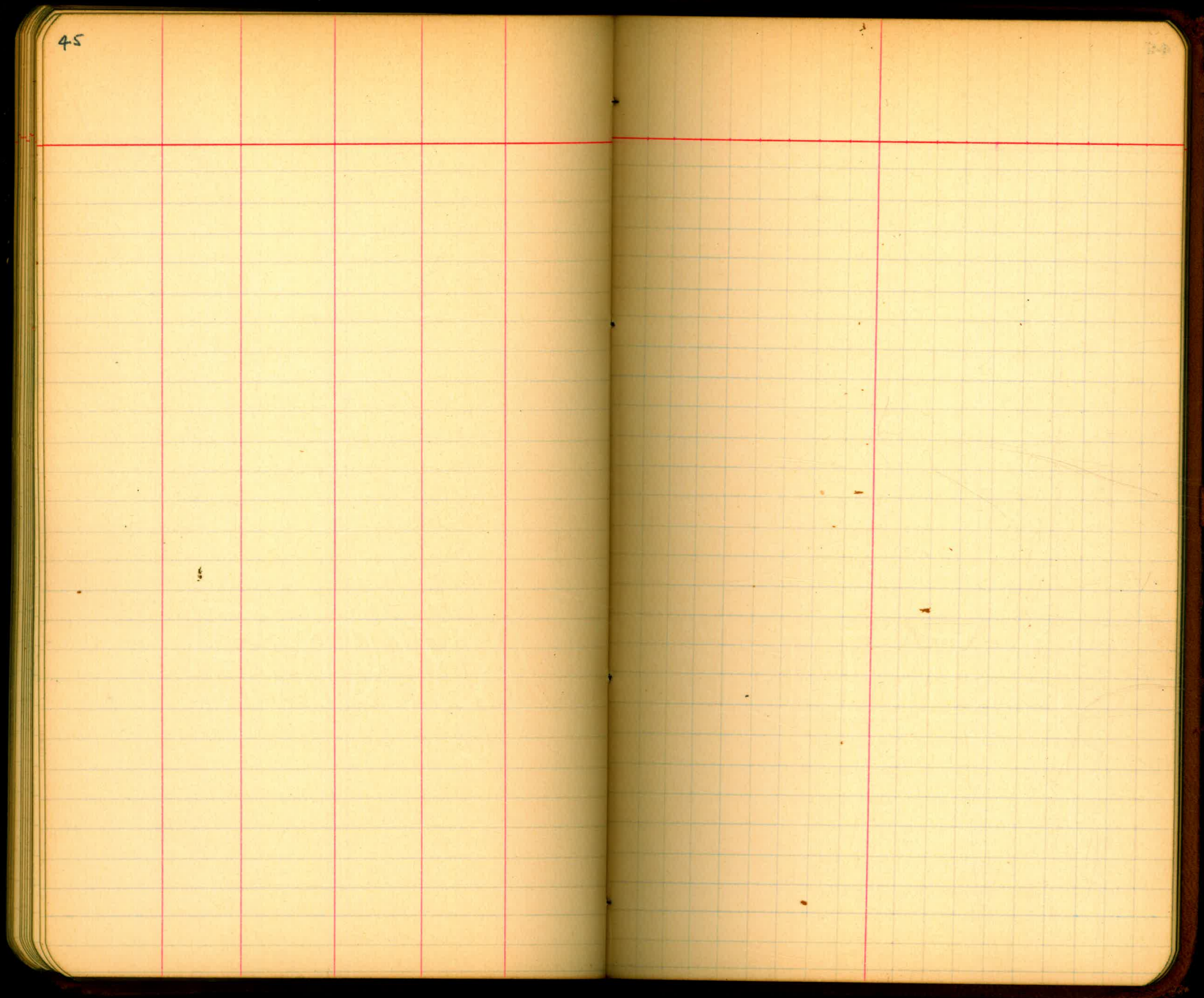




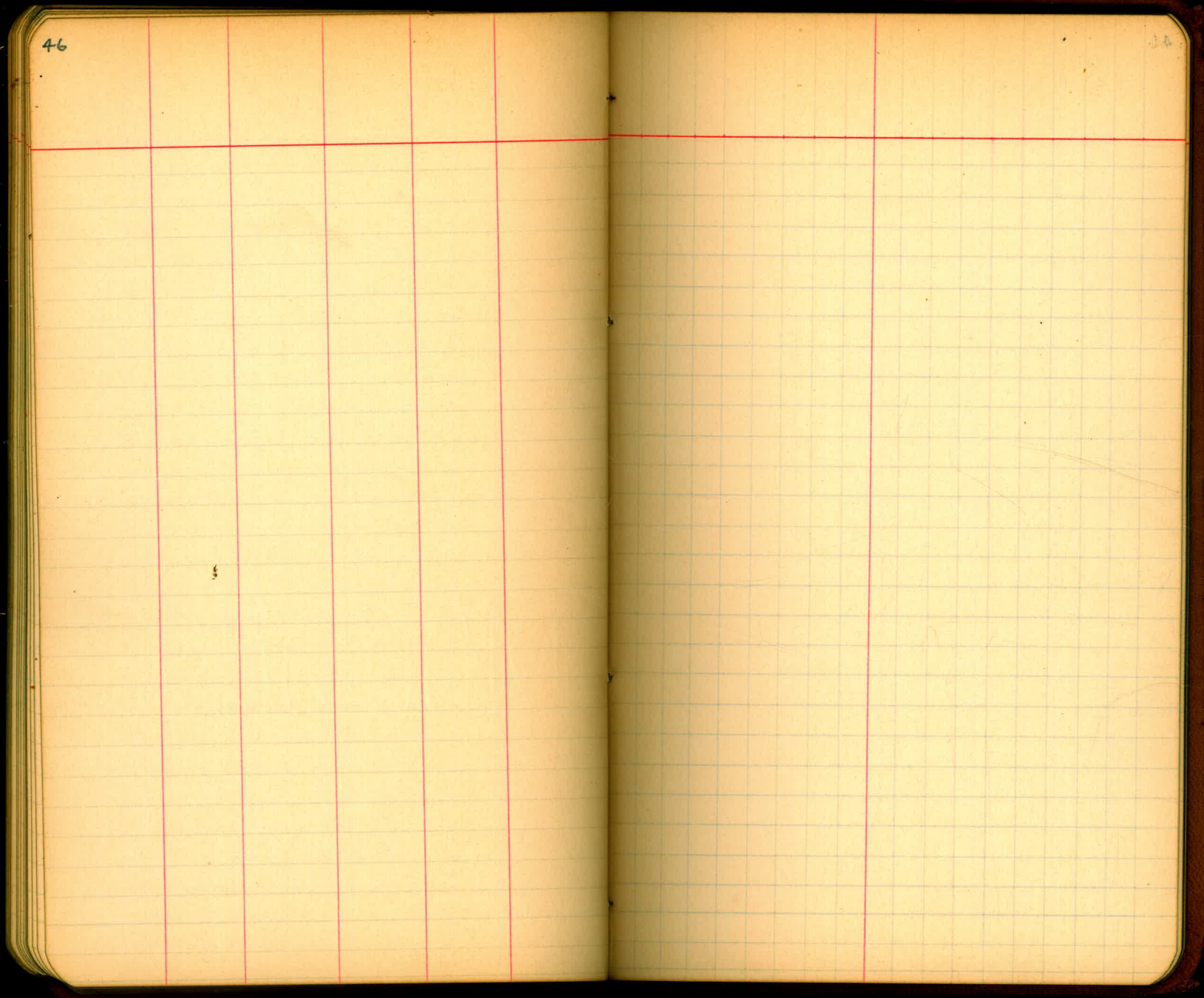


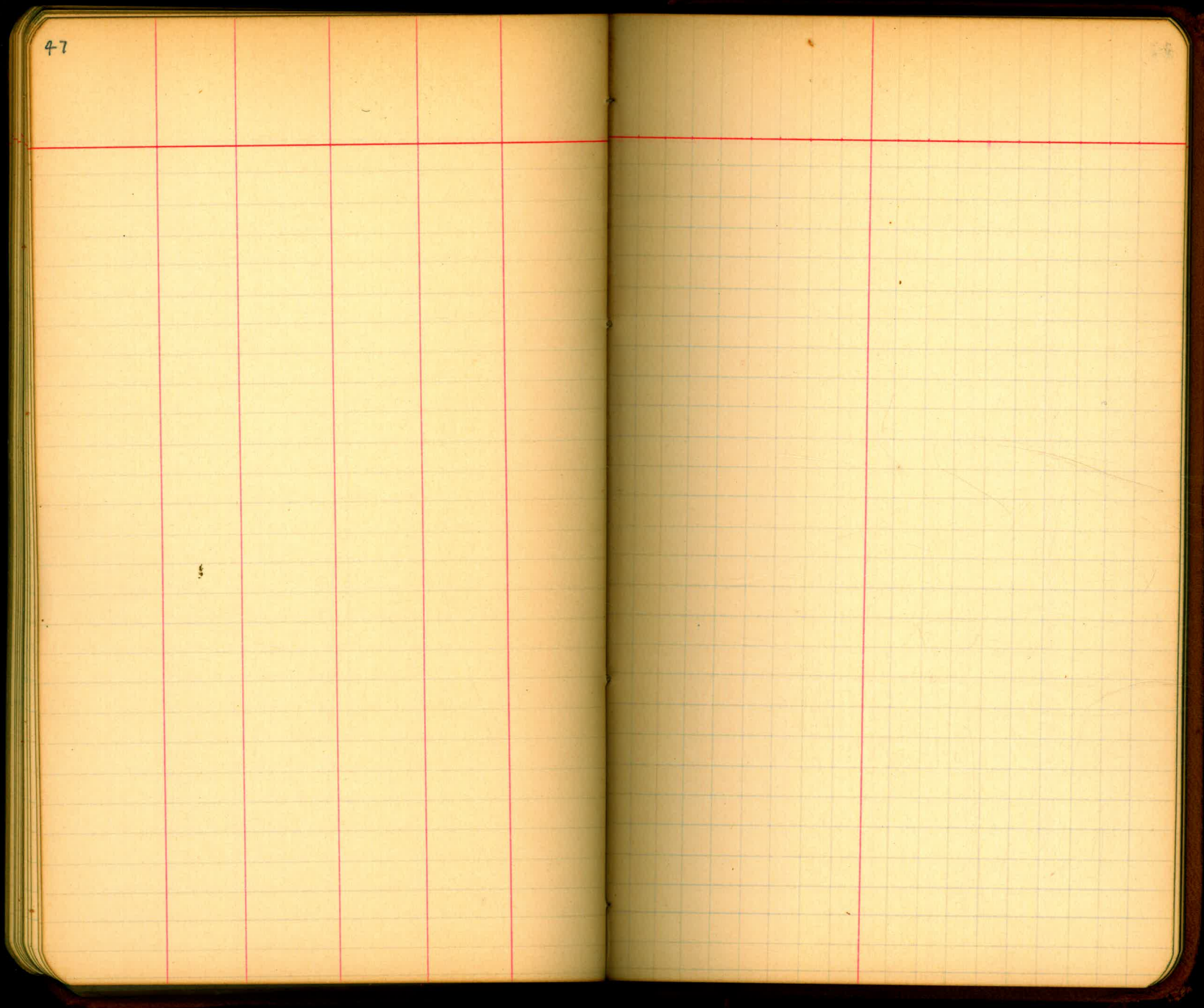




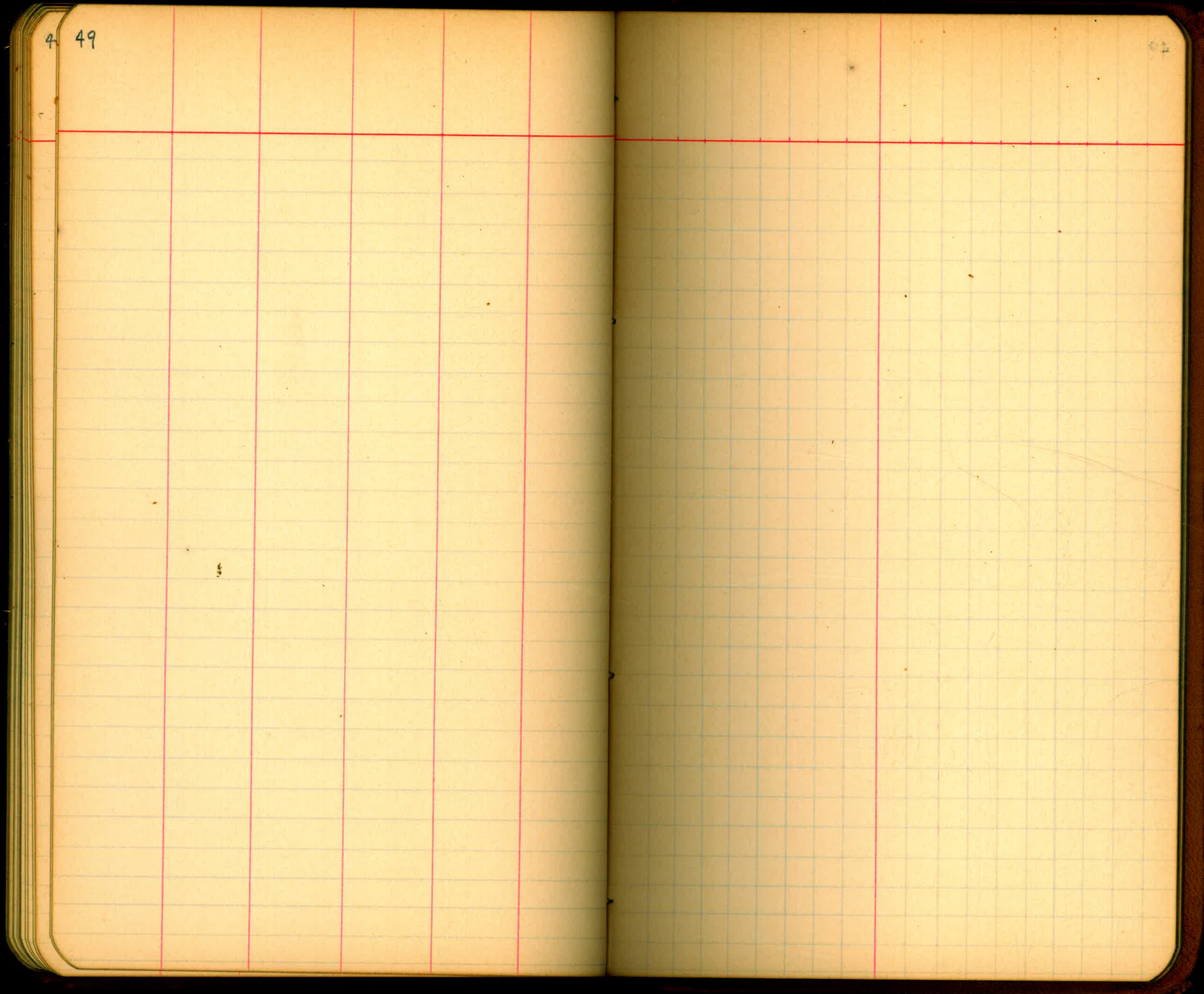








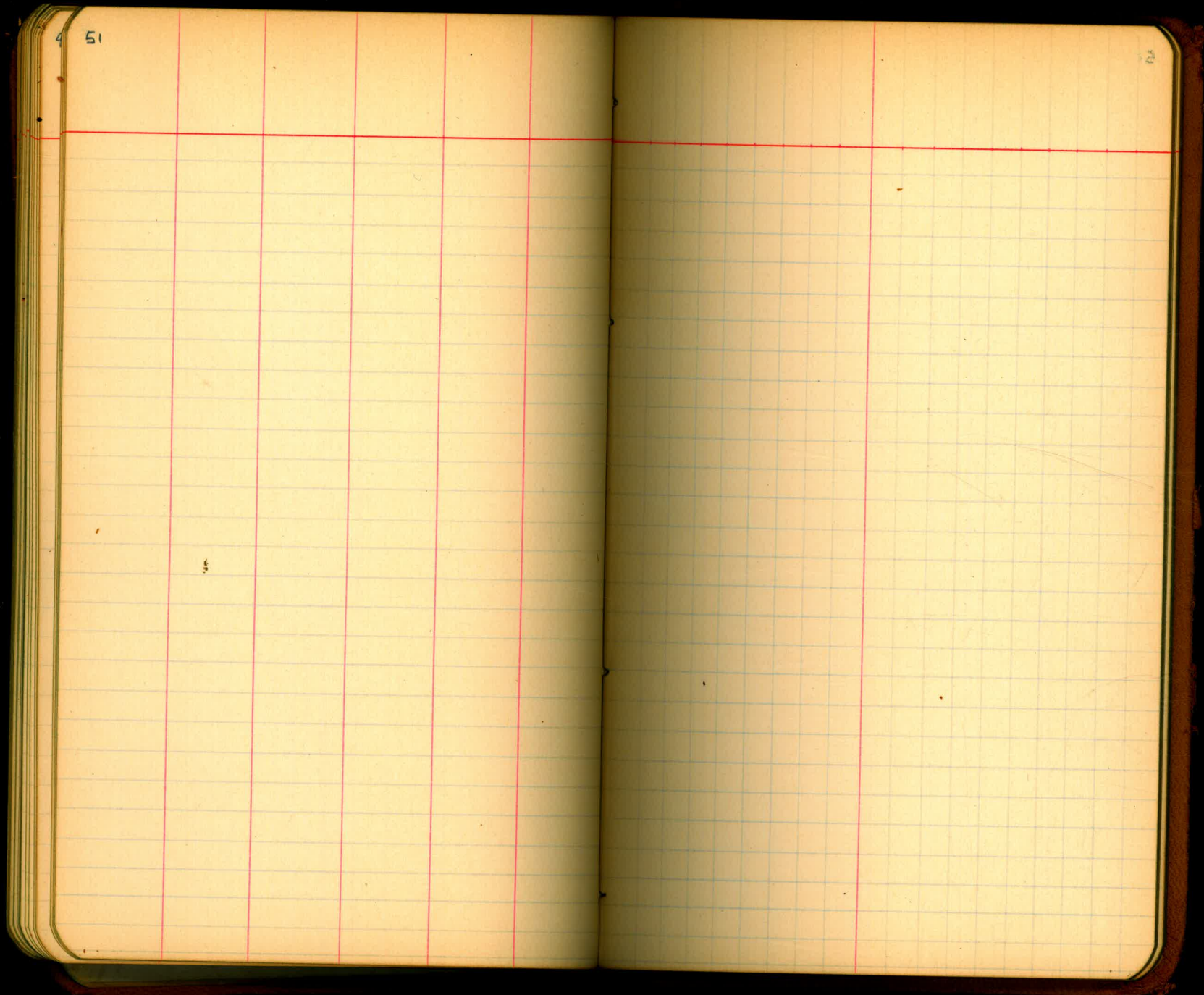


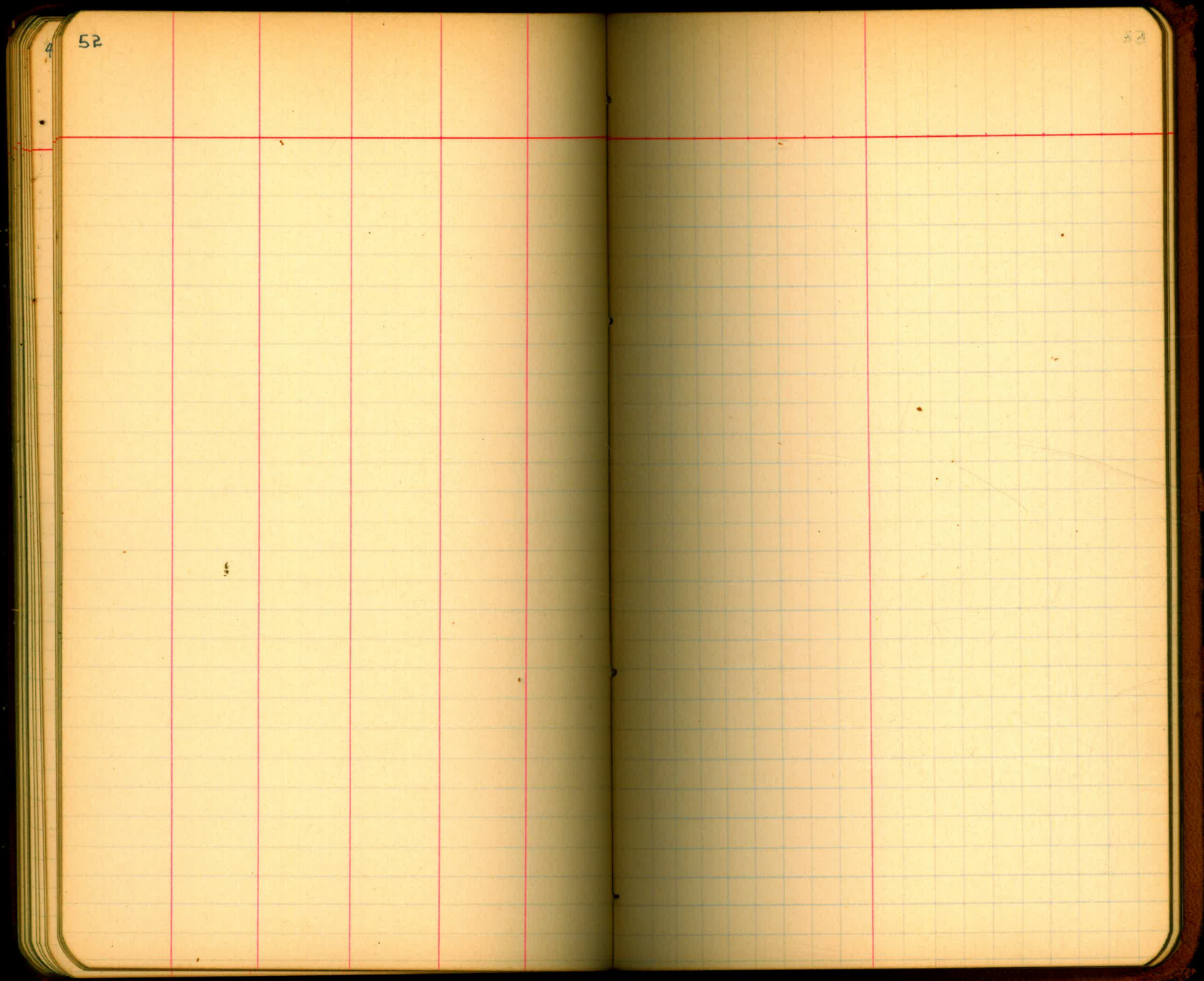


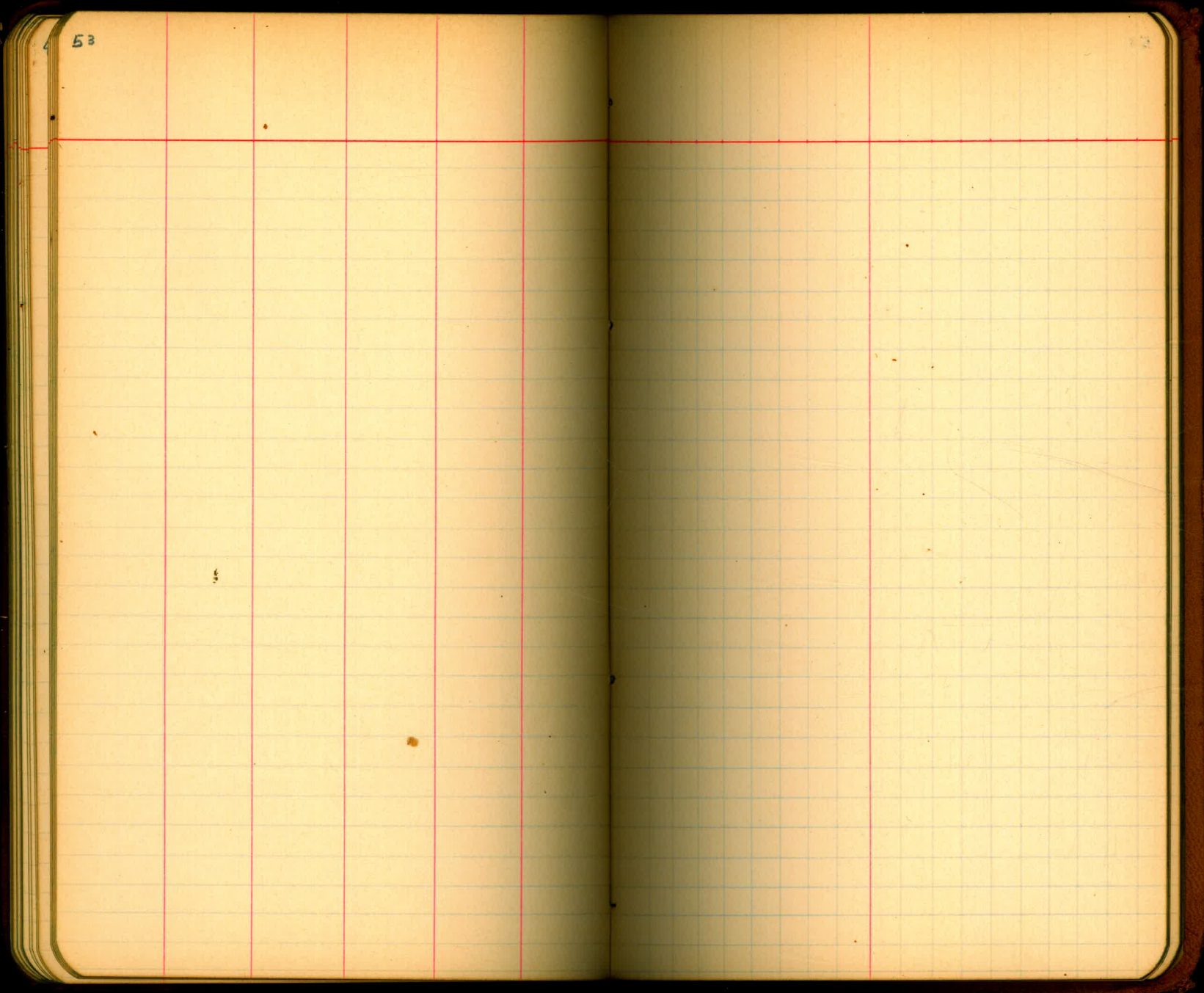
4

50

72

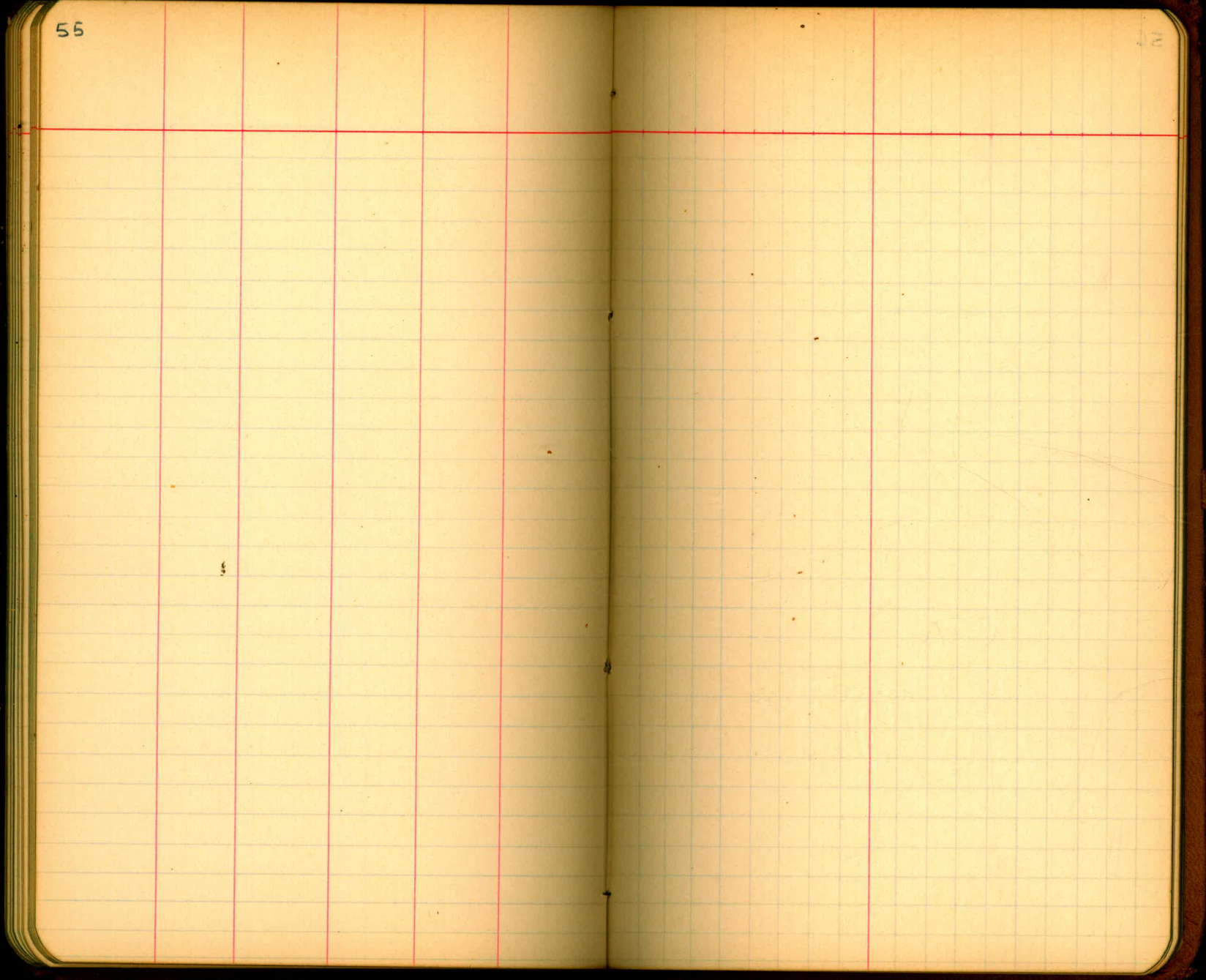




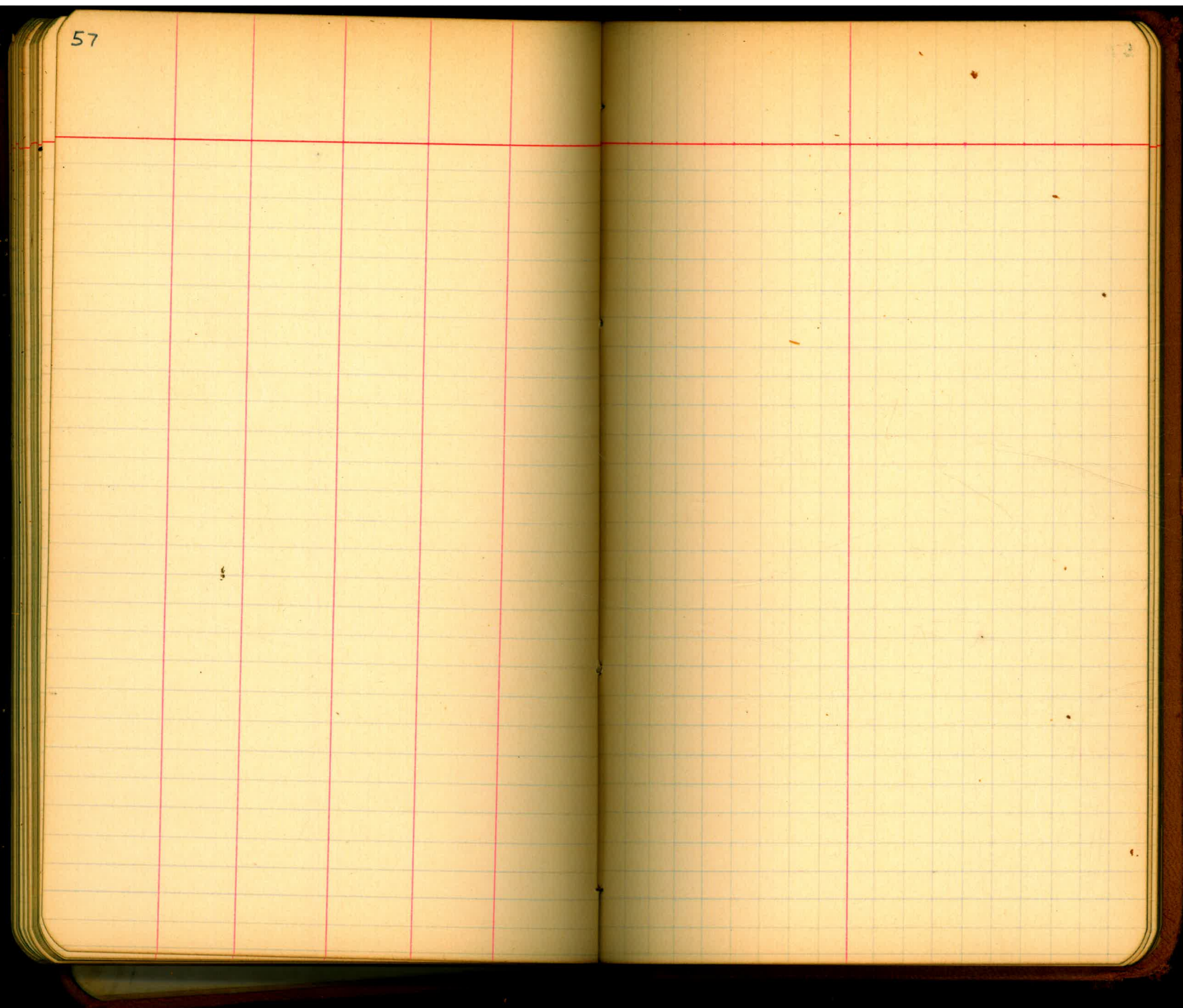














59

59

60

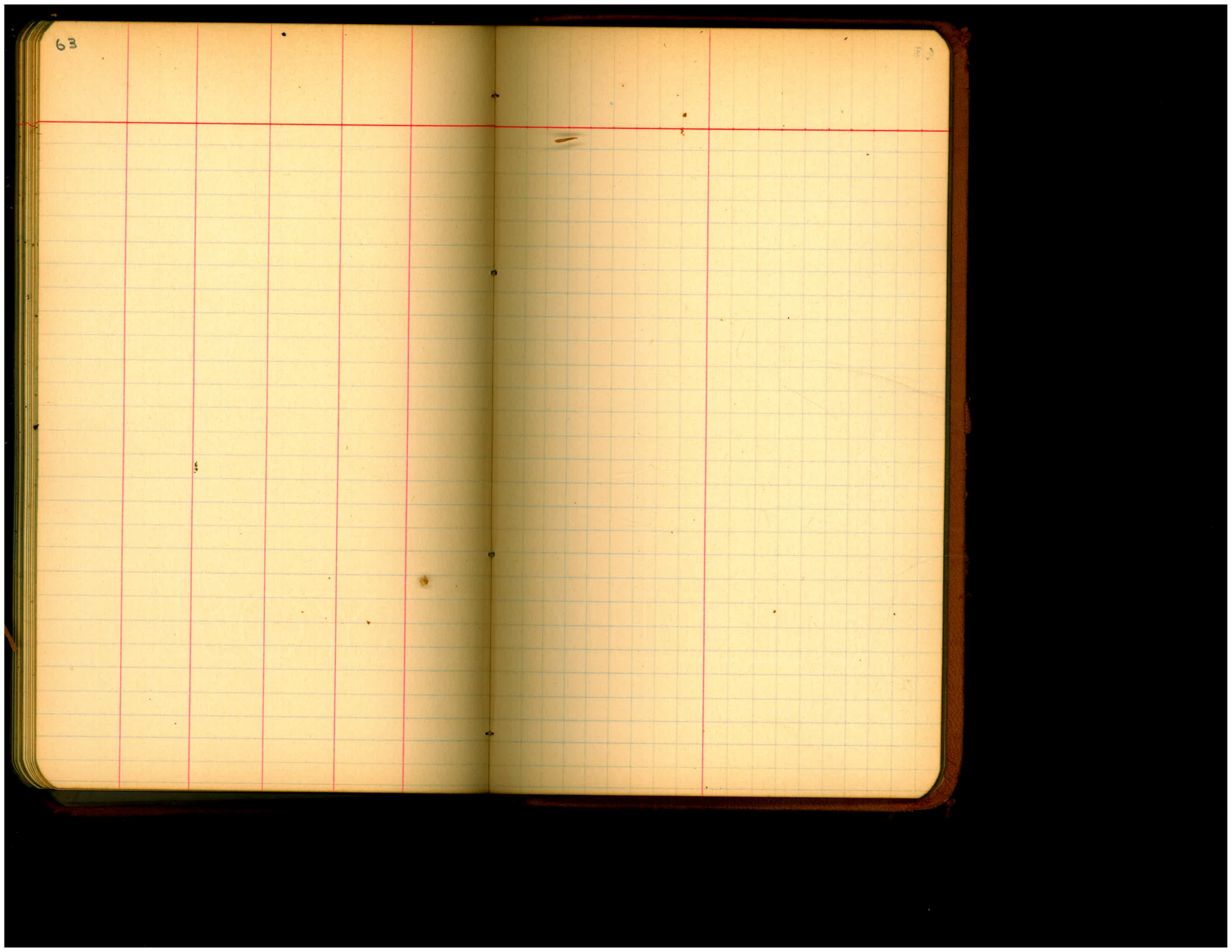
61





62

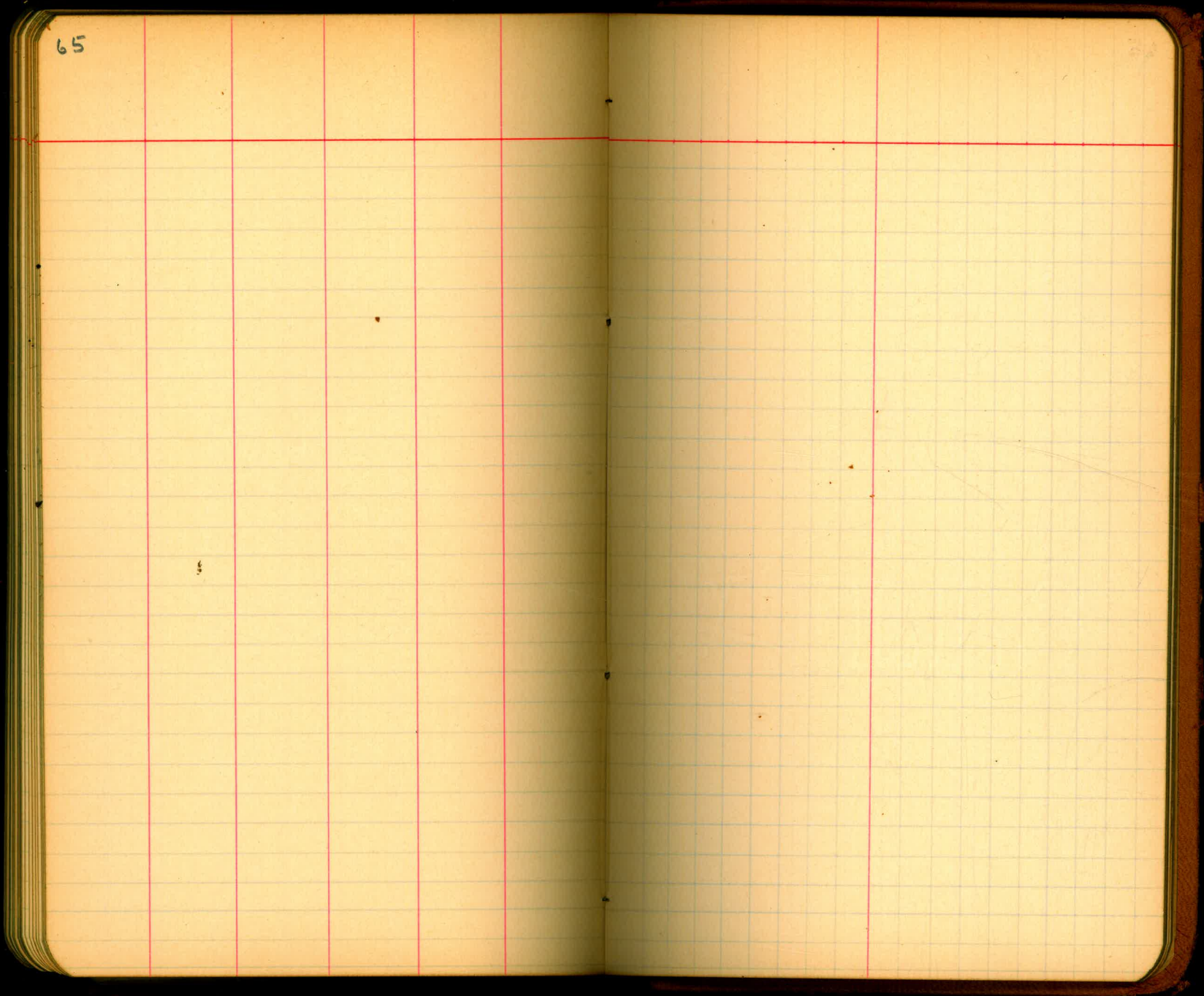
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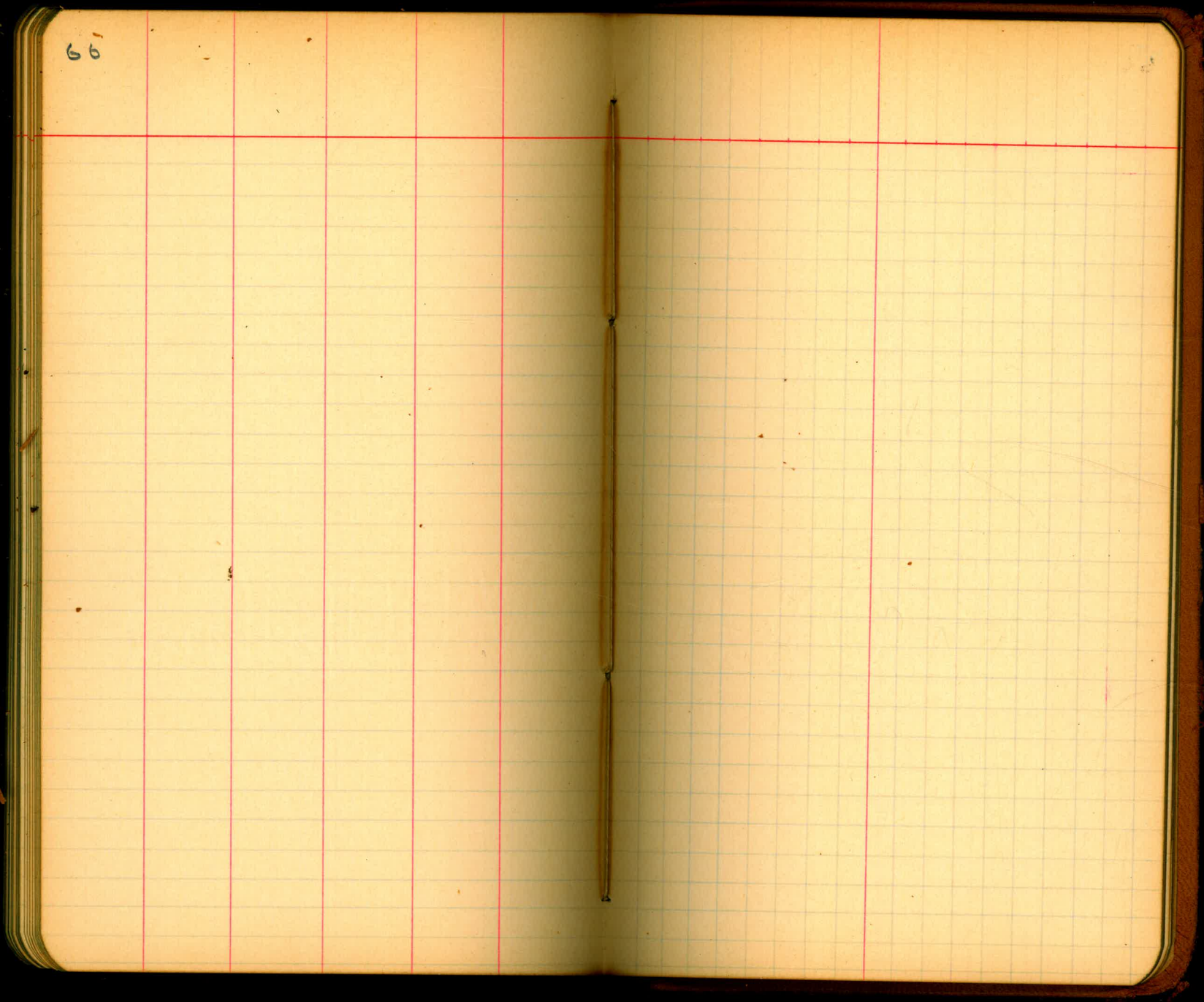
64

65

65



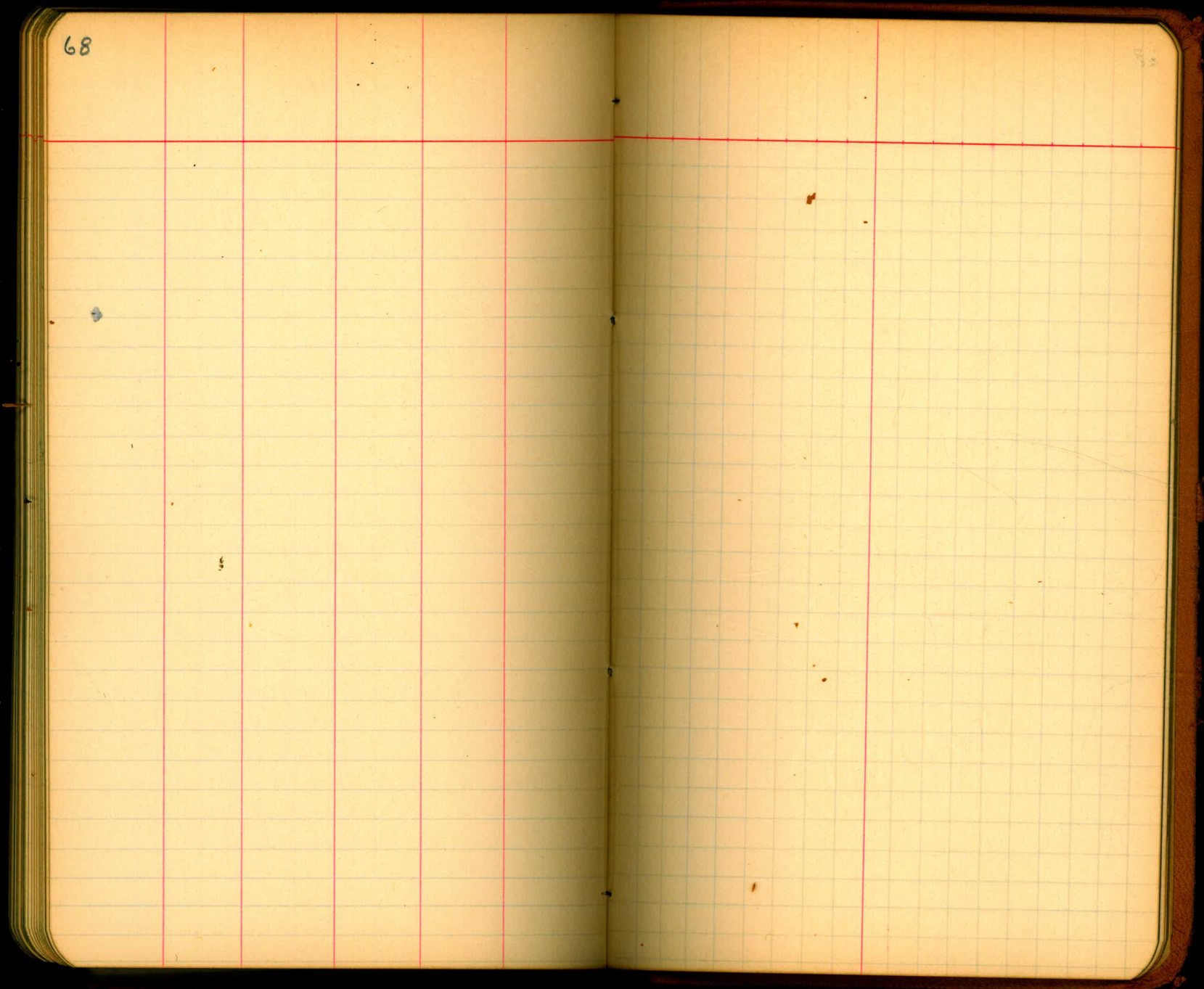
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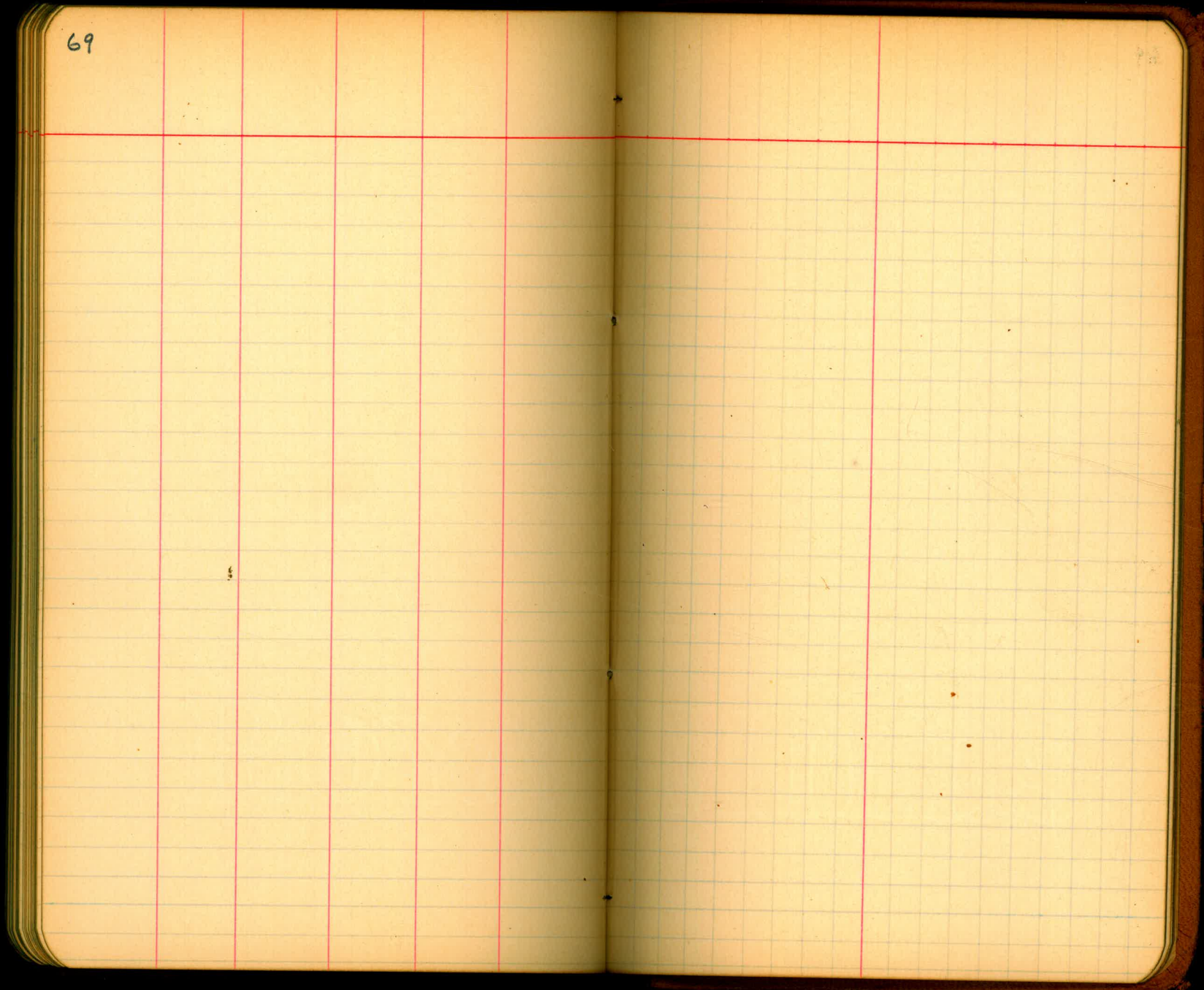
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73

68

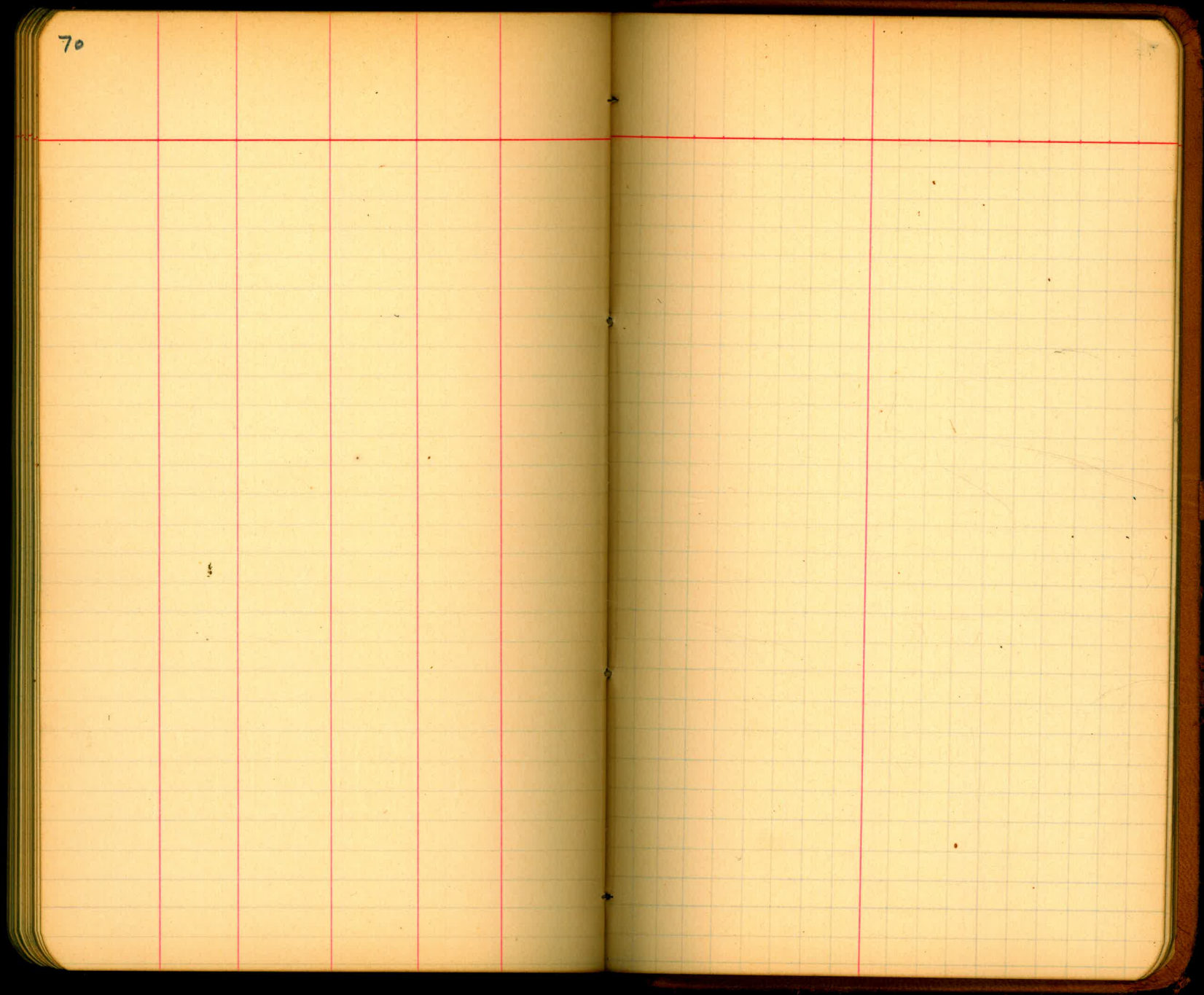


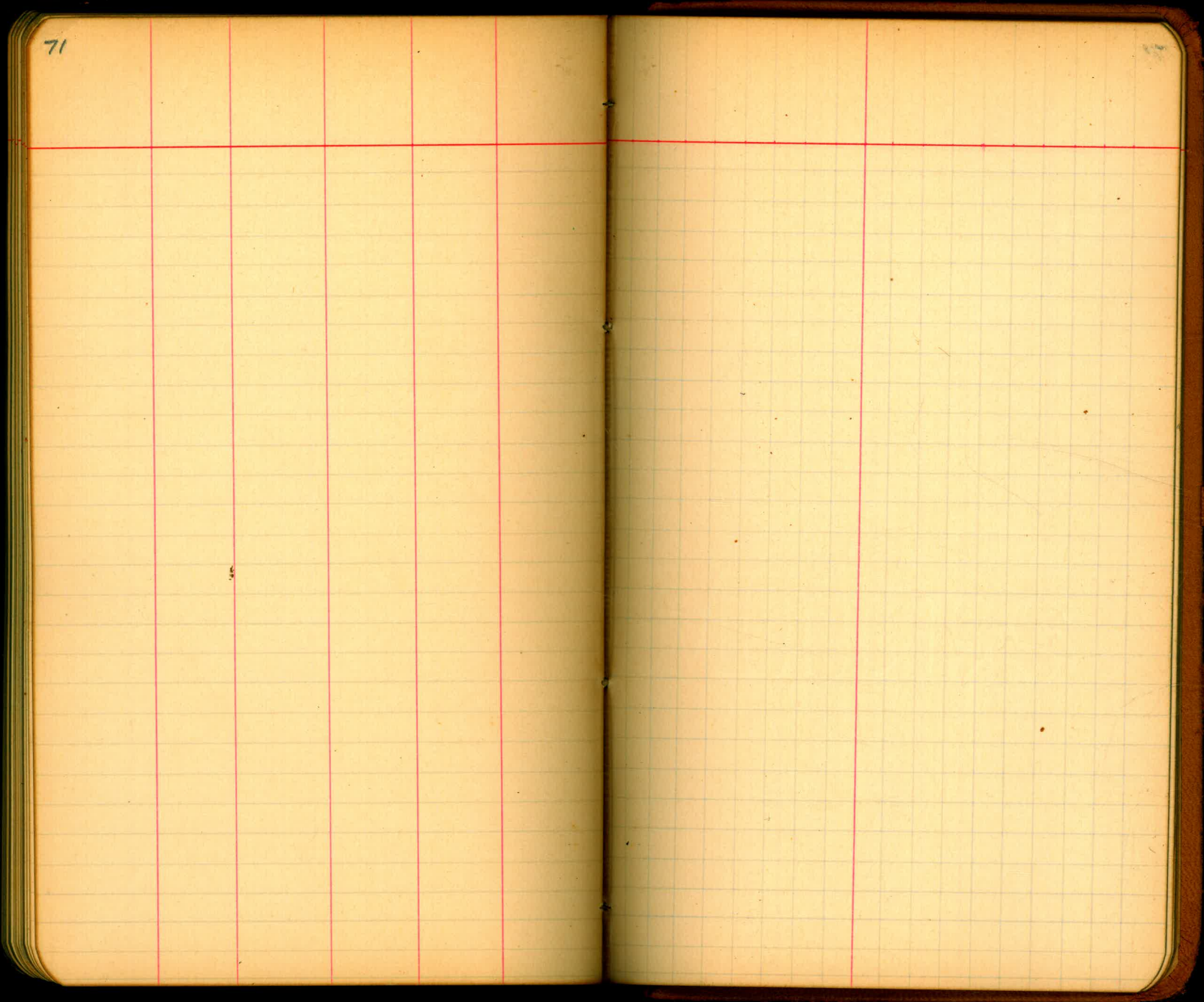
69

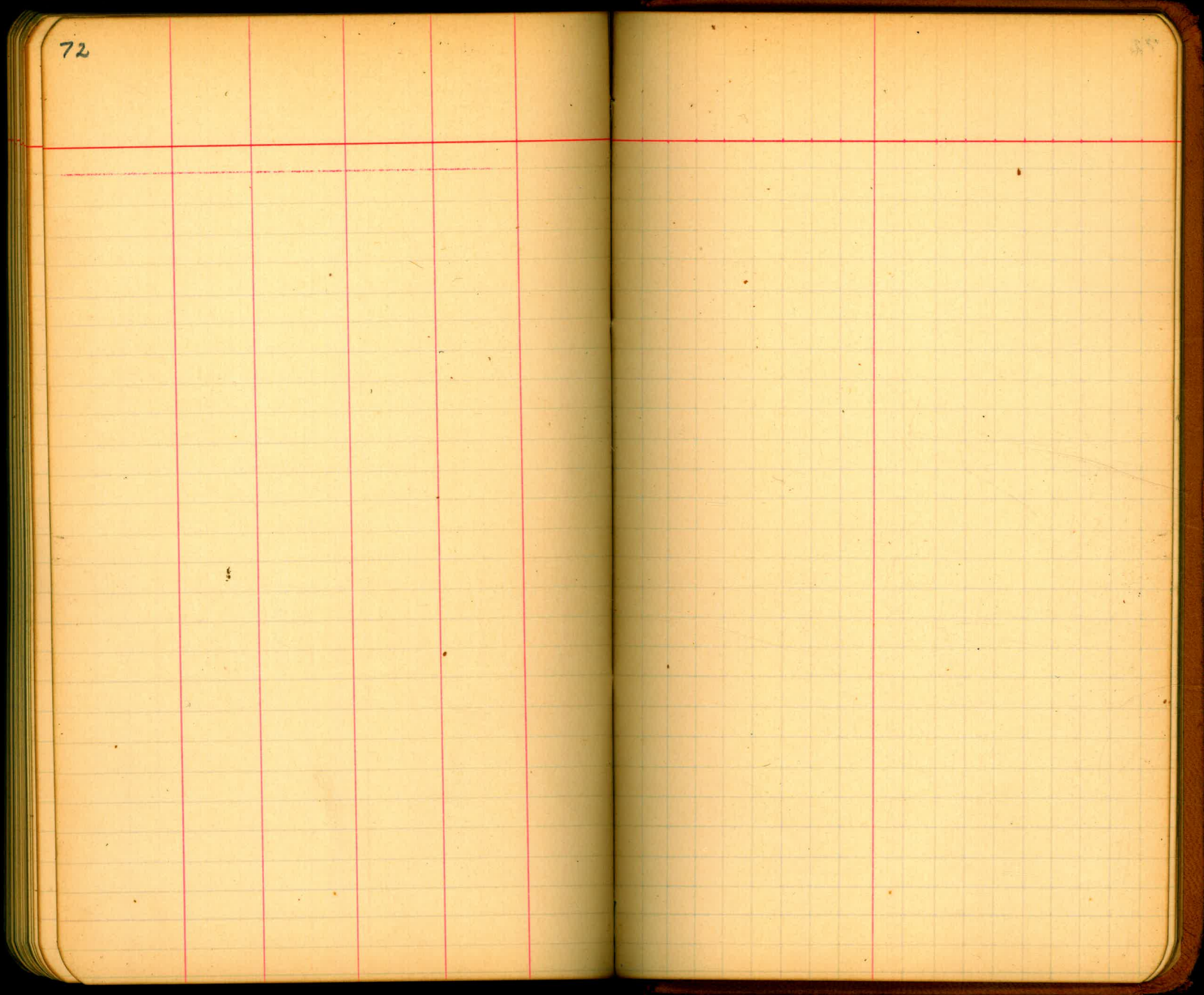




70



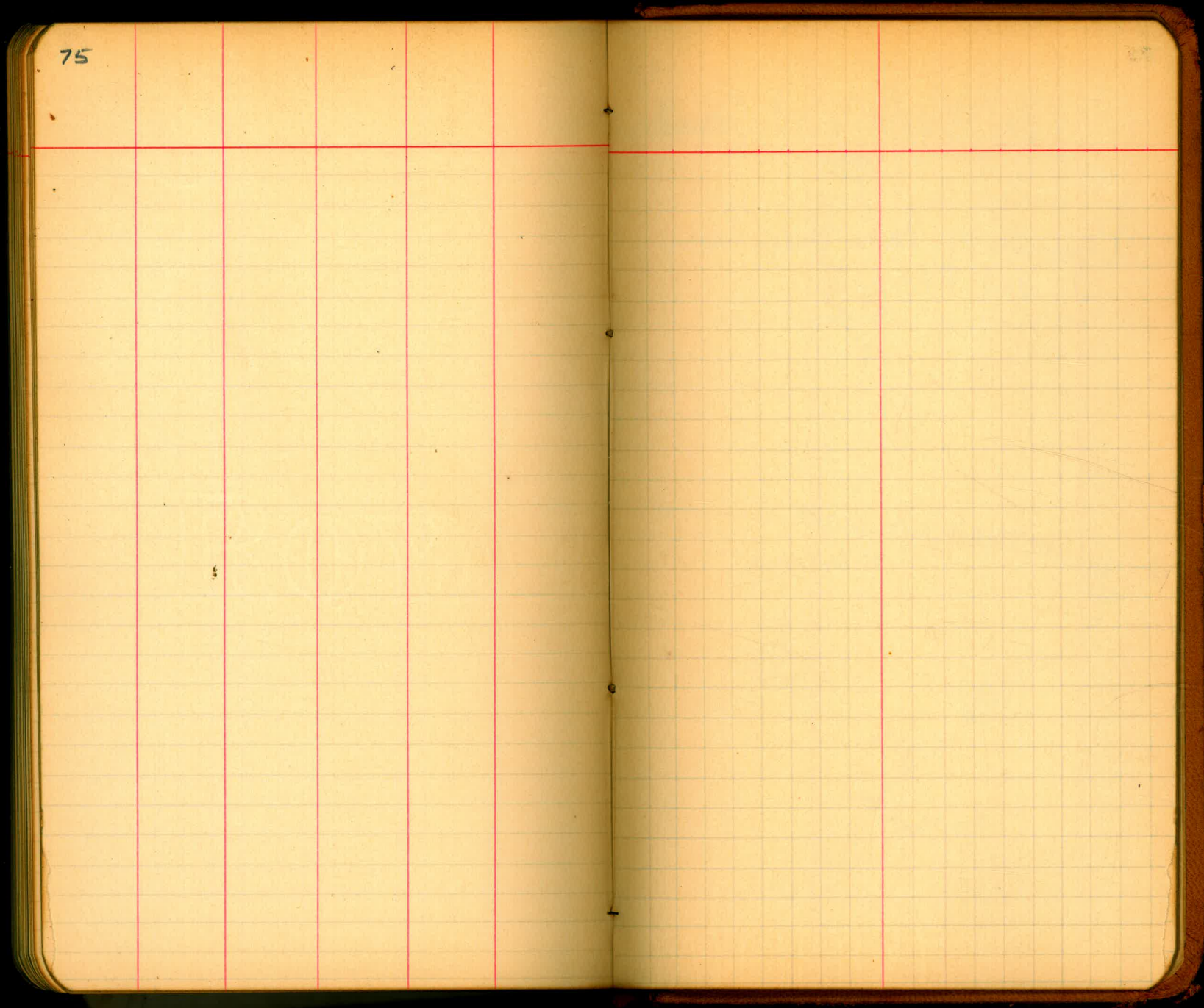






74

38



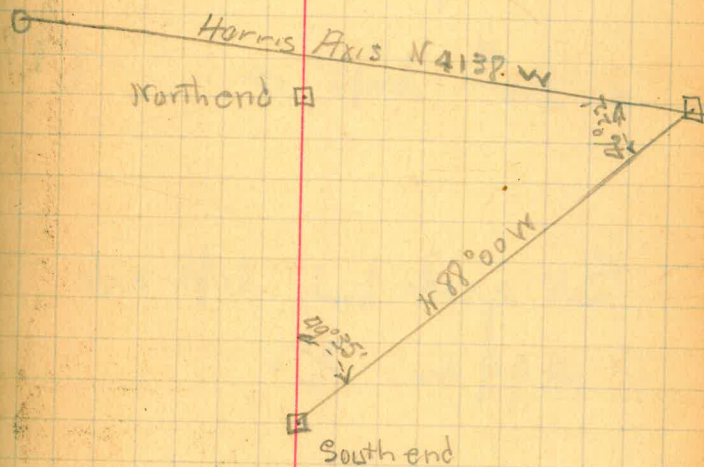
Dec 13 1912 West. Mendoza

Sopuz.

Azimuth of Harris Station Base  
and Axis.

N 42° 25' E

Barrett Standard  
Azimuth.



Job 105 Nov 25 1942

Location of cross grade

Portal to #1 in roof

1745

#1 in roof to #2 in roof

3609

#2 in roof to breast

8±

= Depth drift =

61.54

Set grade hubs left side

499 in  $\frac{1}{2}$ .



connection between job 105

Sta

FS

□ 5	Rpt 1 = Hario Song	thru a stadia base
□ 3	□ 2	68° 09' N 51° 30' W
		64° 12' R N 20° 30' W
□ 2	□ 1	132° 58' R N 56° 30' E
□ 1	Trunk base	344° 0' R 57645 E

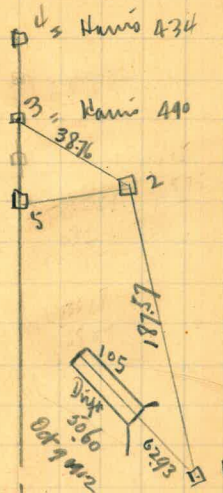
and Hario stadia base

Oct 9 1962

cross = □

2988	3698
1480	2595
754	6293 = 169 mtd
697	
797	1745 Hario 503
355	
797	
950	3315
442	5060
476	Total to B point
832	
1498	
738	
816	
1332	Dist
1253	162
1081	
1481	= hub
	7.57

about Smiley mndoga



□ 5 = hub

32.64  
612 38.76  
Dist 1 to 3

□ 4	
14.4	
14.7	
13.7	uphill 55.9
13.1	
□ 3	
14.15	
12.7	downhill 52.95
201	
60	
□ 5	

Vert. A.

4+13 10 59L N 40 25W 12° 20  
 R.P. #2 10° 59L

R.P. #1 77° 9' S 40° 35E ✓  
 R.P. #2 77° 9' R S 36° 30' W 174.9'  
 W

R.P. #2 91 53R N 43 25  
 4+13 91 53R S 51 30E OK  
 R.P. #3 96 15E S 47 10E ✓  
 W

F.S. on R.P. #1

R.P. #3 F.S. R.P. #1 to R.P. #2 = 174.9'  
 R.P. #1 = 13 33.73 - Base line.

F.S. #1

South

15°30' L S 15°30' E

6°40' L S 22°10' E

45°00' R S 22°50' W

64°32' L S 41°29' E course of Long Chord

267984

33.7

24.9

30.8

21.85

111.25

4935

29910

4632

15815  
32 45 135

K 4145w

300  
480  
213

13221

4407

22  
13 30  
13 30

13  
119  
181  
362

### DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

FOR SINGLE TRACK EMBANKMENT.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1½ TO 1.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.