

SEWERAGE GRADES

COLUMBIA. N^W S. OF GRAPE

INDIA. N^W S. OF GRAPE

STATE S. OF JUNIPER.

JUNIPER, E. OF INDIA.

WYOMING, S. OF JUNIPER

~~ARCTIC~~ N of Grape
India / S of Grape

TRANSIT

F. B. 644

644

Table 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.....	2½	21.....	49	41.....	95½
2.....	4½	22.....	51½	42.....	98
3.....	7	23.....	53½	43.....	100½
4.....	9½	24.....	56	44.....	102½
5.....	11½	25.....	58½	45.....	105
6.....	14	26.....	60½	46.....	107½
7.....	16½	27.....	63	47.....	109½
8.....	18½	28.....	65½	48.....	112
9.....	21	29.....	67½	49.....	114½
10.....	23½	30.....	70	50.....	116½
11.....	25½	31.....	72½	51.....	119
12.....	28	32.....	74½	52.....	121½
13.....	30½	33.....	77	53.....	123½
14.....	32½	34.....	79½	54.....	126
15.....	35	35.....	81½	55.....	128½
16.....	37½	36.....	84	56.....	130½
17.....	39½	37.....	86½	57.....	133
18.....	42	38.....	88½	58.....	135½
19.....	44½	39.....	91	59.....	137½
20.....	46½	40.....	93½	60.....	140

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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

MICROFILMED

DEC 14 1964

Street	Location	Page
India	S of Grape	1-
India	N of Grape	2 = 4
Juniper	E of India	5 = 6
Columbia	S of Grape	7 =
Columbia	N of Grape	8 = 9
Columbia	S of Juniper	10 =
State	S of Juniper	11 = 12
Wood	S of Juniper	13 = 14
Columbia	Trestle S of Juniper	47
Columbia	Trestle S of Grape	48
Juniper	Trestle	49

Drain 11 - S. of Gate

Sta	Elev	Grade	em		
0	45.05	34.20	10.85	10	10 1/4
+13	45.04	35.38	9.70	9	9 3/4
+23	45.23	36.24	8.95	8	11 3/8
+33	45.36	37.19	8.17	8	2
+42	46.51	38.00	7.51	7	6 1/4 x
+52	45.70	38.13	7.57	7	6 7/8
+58	45.84	38.20	7.64	7	7 3/4
+67	45.71	38.32	7.39	7	4 3/4
+92	45.88	38.64	7.24	7	2 7/8
+117	46.26	38.95	7.31	7	3 3/4
+142	46.45	39.27	7.18	7	2 1/8
+67	46.44	39.59	6.85	6	10 1/4
+92	46.51	39.91	6.70	6	8 3/4
2+17	47.12	40.22	6.90	6	10 7/8
+42	47.18	40.54	6.64	6	7 3/4
+67	47.34	40.86	6.48	6	5 1/4
+92	47.27	41.18	6.09	6	1 1/4
3+17	47.41	41.50	5.91	5	10 7/8 x
+43	47.74	43.00	4.74	4	8 7/8 x

Total length of pipe 3+48

PCY 22 west of center of Gate

+42 S of Gate

PT

8/118
-59

NL Fir Flush tank. 48.00

India St - N of Grape

Sta	Elr	Grade	cut	
p		34.20		
+10	45.06	34.76	10.30	10 3 ³ / ₈
+20	45.15	35.35	9.80	9 9 ⁵ / ₈
+30	45.55	35.93	9.42	9 5
+40	45.40	36.50	8.90	8 10 ⁷ / ₈
+50	45.40	36.57	8.86	8 10 ³ / ₈
+56	45.47	36.61	8.86	8 10 ² / ₈
+67	45.80	36.68	8.62	8 7 ¹ / ₂
+92	45.40	36.84	8.56	8 6 ³ / ₄
1+17	45.69	37.01	8.68	8 8 ¹ / ₈
+42	45.81	37.17	8.64	8 7 ³ / ₄
+67	46.08	37.39	8.70	8 8 ³ / ₈
+92	46.00	37.50	8.30	8 6
2+17	46.16	37.66	8.50	8 6
+42	46.07	37.83	8.24	8 2 ⁷ / ₈
+67	46.17	37.99	8.18	8 2 ¹ / ₄
+92	46.26	38.15	8.11	8 1 ³ / ₈
3+17	46.21	38.32	7.89	7 10 ³ / ₄
+42	46.41	38.49	7.92	7 11
+62	46.45	38.62	7.83	7 10
+82	46.67	38.75	7.92	7 11

PC Y and Grape

0+42 N.L. Grape Y

PT

S.L. Hawthorn Grade 46.00

Hawthorn St

India St - N of Grape

Sta	Elev	Grade	cut	
4+02	46.62	38.88	7.74	7 8/8
+22	46.60	39.00	7.60	7 7/8
+47	46.67	39.12	7.55	7 6 5/8
+72	46.76	39.23	7.53	7 6 3/8
+97	46.58	39.35	7.23	7 2 3/4
5+22	46.49	39.46	7.03	7 3/8
+47	46.42	39.58	6.84	6 10/8
+72	46.92	39.70	7.22	7 2 5/8
+97	46.87	39.81	7.06	7 3/4
6+22	47.10	39.93	7.17	7 3
+47	46.87	40.04	6.83	6 10
+72	46.81	40.16	6.65	6 7 3/4
+97	47.17	40.28	6.89	6 10 3/4
7+23	47.20	40.39	6.81	6 9 3/4
+43	47.53	40.48	6.85	6 10 1/4
+63	47.61	40.58	7.03	7 3/4
+83	47.54	40.67	6.87	6 10 1/2
8+03	47.61	40.76	6.85	6 10 1/4
+28	47.54	40.88	6.46	6 5 1/2
+53	47.41	40.99	6.43	6 5 1/4
+78	47.62	41.11	6.51	6 6 1/4

0.464 = 1/2

N L Hawthorne St

S L Dry Grade 47.50

IVY ST

N L Dry

Drain ft. N of Grape

Sta	Elev	Inch	cm		
9+03	47.74	41.22	6.52	6	6 1/4
+28	47.97	41.35	6.62	6	7 1/2
+53	47.96	41.46	6.50	6	6
+78	47.96	41.58	6.38	6	4 3/4
10+03	47.89	41.69	6.20	6	2 3/4
+28	47.83	41.81	6.02	6	1 1/4
+53	48.07	41.93	6.14	6	1 3/4
+68	48.15	42.00	6.15	6	1 7/8
+79	48.06	42.09	5.97	5	11 3/4
+90	48.42	42.18	6.24	6	2 7/8
11+01	48.52	42.27	6.25	6	3
+12	48.77	42.36	6.41	6	4 1/4
+23	48.89	42.44	6.45	6	5 3/4
+34	49.16	42.53	6.63	6	7 5/8
+45	49.23	42.62	6.61	6	7 3/8
+56	53.33	42.71	10.64	10	7 1/4
+67	54.14	42.80	11.34	11	4 1/4
+78	54.88	42.89	11.99	11	11 7/8
+89		42.98			
+92	55.18	43.00	12.18	12	2 1/4

Total length of pipe 12+02

0.464

X

Grade 48.4
PC 35 South of South L Juniper St.

11+03 S L Juniper St.

11+54.6 NW L Drain at IS Latent for Juniper St.

11+79 1/2 Latent IS

P.T. 37 1/2' East of East L Drain on -
Juniper St.

Juniper Mt East of Inaia

Sta	Elv	Grade	cur		
0	53.18	43.00	12.18	12	2 1/8
+13	55.33	43.71	11.62	11	7 1/2
+38	56.60	45.08	11.52	11	6 1/4
+63	57.43	46.44	11.01	11	1/8
+88	59.13	47.81	10.32	10	5 7/8
+113	58.70	49.17	9.53	9	6 3/8
+138	59.39	50.54	8.85	8	10 1/4
+163	61.03	51.91	9.12	9	1 1/2
+178	No grade on this Plug				
2	63.53	53.96	9.58	9	7
+38	64.70	56.40	8.30	8	8 3/8
+63	61.35	57.18	4.17	4	2
+88	59.22	58.36	0.86	0	10 3/4
+113	57.33	59.54	-2.19	-2	2 1/4
+138	57.01	60.72	-3.71	-3	8 1/2
+163	55.29	61.91	-6.62	-6	7 1/2
+188	60.07	63.09	-3.02	-3	1/4
+213	63.43	64.27	-0.82	-0	9 7/8
+238	68.24	66.45	2.79	2	9 1/2
+2535	6x6 Y South for Stave St				

PT. 3 1/2' East of E.L. Inaia St
 Total 1550' East of E.L. Inaia St

64.50
 61.03
 2.97

West L Columbia St - 64.50
 6x6 Y South for Columbia St
 Columbia St
 E L Columbia St

West L. Stave 77.50

H 297.9

L 211.1

Jumper # East of Anna

No	Elev	Grade	cut-		
4+75	74.85	67.23	7.12	7	1/2
5+18	76.78	64.00	7.78	7	9/8
+38	80.90	71.30	9.60	9	7/4
+63	83.07	73.60	9.47	9	5/8
+88	84.24	75.90	8.34	4	4/8
6+13	85.90	78.20	7.70	7	8/8
+38	87.54	80.50	7.04	7	1/2
+63	89.41	82.80	6.61	6	7/4
+74	90.23	83.81	6.42	6	5'
+84	90.91	84.73	6.18	6	2/4
+94	91.53	85.65	5.88	5	10/4
7+04	92.25	86.58	5.77	5	9/4
+14	93.57	87.50	6.01	6	1/8
+24	94.48	87.92	6.56	6	6/4
+33	95.25	88.29	6.96	6	11/2
+43	96.13	88.72	7.41	7	4/8
+53	96.73	89.14	7.59	7	7/4
+63	97.60	89.56	8.04	8	1/2
+73	98.11	89.98	8.13	8	15/4
+83					
+85	98.98	90.50	7.88	7	15/4
Total length of pipe 7+90					

State St.
East of State

99.13
6.48
100.63
96.10
4.53

Grade 96.50

PC 39' West of West Lot Union St.

7+13 West Lot Union St.

7+50 Lateral Ys for S.I. gutter

7+75 Lateral Ys

P.T. 35' S. of S.I. Jumper # East Union

Columbia St - South of Grape

Sta	Elev	Grade	cur	
0	55.69	57.96	3.79	3 9/12
+10	55.46	52.06	3.40	3 4 7/8
+20	55.11	52.22	2.89	2 10 3/4
+30	55.25	52.38	2.87	2 10 1/2
+40	55.14	52.54	2.60	2 7 1/4
+50	55.07	52.71	2.37	2 4 1/2
+56	54.67	52.40	1.87	1 10 1/2
+67	53.32	52.98	0.34	0 4 1/8
+72	49.51	53.38	-3.47	-3 10 1/2
+17	49.66	53.78	-4.12	-4 1 1/2
+42	53.50	54.18	-0.68	-0 8
+67	62.07	54.58	7.49	7 5 7/8
+92	64.33	54.99	9.34	9 4 1/8
2+17	63.66	55.39	8.27	8 3 1/4
+42	63.31	55.79	7.52	7 6 1/4
+67	63.19	56.19	7.00	7 0
+92	63.19	56.60	6.59	6 7 1/4
3+17	63.11	57.40	6.11	6 1 3/4
+92	63.11	58.50	4.61	4 7 3/8
Total length of pipe 3+47				

5091

PC at Y on Grape 20' West of center

0+42 S. S. Grade

PT 15 S of Grape

0+69 = 0.0

0+47 = 0.0

At Linn's Tree Street - 63.50

Columbia N. of Cape

Sta	Elev	Beam	ent		
0	56.42	51.00	5.42	5	9 7/8 X
+13	59.57	51.64	7.93	7	11 1/8
+29	60.88	52.14	8.74	8	8 7/8
+33	61.53	52.13	8.90	8	10 3/4
+43	61.95	53.12	8.83	8	10
+52	61.79	53.57	8.22	8	2 9/8 X
+59	61.74	53.92	7.82	7	9 7/8
+68	61.99	53.99	7.95	7	11 3/8
+93	62.07	54.17	7.90	7	10 3/4
+118	62.05	54.35	7.70	7	8 7/8
+43	62.30	54.52	7.78	7	9 3/8
+68	62.69	54.70	7.99	7	11 7/8
+93	63.17	54.88	8.29	8	3 1/2
2+18	63.79	55.06	8.73	8	8 3/4
+43	64.34	55.24	9.10	9	1 1/4
+68	64.65	55.42	9.21	9	2 1/2
+93	64.84	55.60	9.24	9	2 7/4
8+18	65.19	55.78	9.41	9	4 7/8
+43	65.12	55.96	9.16	9	1 7/8
+63	65.12	56.10	9.02	9	1 1/4
+83	65.74	56.29	9.50	9	6

PC Y 8x6 22' West of Center of Columbia + Cape

st 43 N of Cape

P.T. 16 ft N of Cape

S I Hamthorn II 64.00

Hamthorn II

Columbia St - N of Grape

Sta	Elev	Grade	cut-		
4+03	64.73	56.39	8.34	8	4 1/8
+28	64.80	56.53	8.27	8	3 1/4
+48	64.30	56.71	7.59	7	7 1/8
+73	63.61	56.89	6.72	6	8 5/8
+94	62.29	57.07	5.22	5	2 5/8
5+23	63.51	57.24	6.07	6	7/8
+48	64.60	57.42	7.18	7	2 1/8
+73	64.73	57.60	7.13	7	1 5/8
+98	64.96	57.78	7.18	7	2 1/8
6+23	65.11	57.96	7.15	7	1 7/8
+48	65.19	58.14	7.05	7	5/8
+73	65.70	58.32	7.38	7	4 3/8
+98	64.85	58.50	6.35	6	4 1/4
7+23	64.86	59.50	5.36	5	4 3/8
Total length of pipe					7+28

N.L. Hawthorne

S.L. Long Street Tank 64.50

Columbia St - South of Juniper

Sta.	Elev	Grade	cut		
0	62.21	53.25	8.96	8	11 1/2
+10	60.51	53.90	7.11	7	1 3/8
+20	58.45	53.55	4.90	4	10 3/4
+30	56.65	53.70	2.95	2	11 3/8
+40	54.88	53.85	1.03	1	3/4
+50	53.05	54.00	-0.95	0	11 3/8
+56	52.22	54.04	-1.86	-1	10 3/8
+67	50.45	54.25	-3.80	-3	9 5/8
+92	50.97	54.63	-3.66	-3	7 7/8
1+17	54.84	55.00	-0.16	0	17/8
+42	56.20	55.34	0.82	0	9 7/8
+67	57.11	55.75	1.36	1	4 3/8
+92	58.70	56.13	2.57	2	6 7/8
2+17	60.41	56.50	3.91	3	10 7/8
+42	62.22	56.87	5.35	5	4 1/4
+67	63.42	57.25	6.17	6	2
+92	64.34	57.62	6.72	6	9 1/8
3+17	64.92	58.00	6.92	6	11
+42	64.87	59.50	5.37	5	4 1/2
Total length of pipe 3+47					

P.C. 6x6 Y 22' West of Center of Columbia

0+42 62 Juniper Ys

0+45 = 0.0

P.T. 14 ft south of Juniper
67 Ys

1+21

N2 Long Filish Tanks 64.50

State St - South of Juniper

Sta	Elev	Grade	cut -	
0	71.47	66.70	4.77	4 9/16
+10	74.03	66.78	7.25	7 8
+20	75.21	66.86	8.35	8 4/4
+30	75.39	66.93	8.46	8 5/12
+40	76.15	67.01	9.14	9 13/4
+50	76.39	67.09	9.30	9 35/8
+56	76.15	67.14	9.01	9 13/8
+67	75.89	67.22	8.67	8 4
+92	74.99	67.42	7.57	7 67/8
+117	73.25	67.61	5.64	5 73/4
+42	70.35	67.81	2.54	2 6 1/2
+67	67.58	68.01	-0.43	-0 5/8
+92	69.36	68.20	1.16	1 17/8
+117	70.90	68.40	2.50	2 6
+42	72.70	68.59	4.11	4 13/8
+67	76.36	68.79	7.57	7 67/8
+92	77.08	68.98	8.10	8 1/4
+117	77.64	69.16	8.48	8 5/12
+42	77.90	69.37	8.53	8 63/8
+62	77.90	69.58	8.32	8 45/8
+82	77.14	69.69	7.45	7 53/8

P.C. 6x6 Y 22' East of center of State St Juniper

+42 S.I. Juniper

P.I. 15 ft S of Juniper
Ys

N.I. Dry Grade 76.50

Dry St

518 1/2

State St South of Juniper

Sta	Elev	Grad	ent		
4+02	76.27	69.84	6.43	6	5 1/8
+22	76.38	70.00	6.38	6	4 5/8
+47	76.61	70.45	6.16	6	1 7/8
+72	77.06	70.91	6.15	6	1 3/4
+97	77.59	71.36	6.23	6	2 3/4
+5+22	78.18	71.82	6.36	6	4 3/4
+47	78.79	72.27	6.52	6	6 1/4
+72	79.17	72.73	6.44	6	5 1/4
+97	79.52	73.18	6.34	6	4 1/4
6+22	79.79	73.64	6.15	6	1 3/4
+47	80.12	74.09	6.03	6	3/8
+72	80.57	74.53	6.02	6	1/4
+97	81.01	75.00	6.01	6	1/4
7+22	81.39	76.50	4.89	4	10 3/4
Total length of pipe				7+27	

9.14
2.2
4.6

S. I. Long

N. I. Hamilton Flush tank 81.50

Union St South of Juniper

Sta	Elv	Grade	cut		
0		90.50			
0	+15	98.78	90.63	8.15	8 1/4
+1	+40	98.79	90.83	7.96	7 11/2
+2	+65	98.64	91.03	7.61	7 7/8
+3	+90	98.44	91.23	7.21	7 2 1/2
+4	+115	98.10	91.44	6.66	6 7/8
+5	+40	96.96	91.64	5.32	5 3/4
+5	+65	91.48	91.84	-0.36	-0 4/8
+6	+90	92.39	92.04	0.35	0 4/4
+9	+115	93.05	92.24	0.81	0 9/4
+11	+40	95.62	92.44	3.18	3 2 1/4
+4	+65	94.37	92.65	5.72	5 8 3/4
+6	+85	98.56	92.81	5.75	5 9
+8	+105	99.37	92.97	6.40	6 4 3/4
+2	+25	99.75	93.13	6.62	6 7/2
+1	+45	99.67	93.29	6.38	6 4 5/8
+1	+70	100.02	93.49	6.53	6 6 3/4
+1	+95	100.30	93.69	6.61	6 7 3/4
3	+120	100.31	93.90	6.41	6 4 7/8
+1	+115	100.46	94.10	6.36	6 4 3/8
+1	+70	100.68	94.30	6.38	6 4 5/8

P.T. 35' South of East Juniper
Y 50' South

NZ Bury 99.50

Bury St

NZ Bury

59.05

Union St - South of Jumper

Sta	Elev	Grade	Cut			
4+95	100.87	99.50	6.37	6	4 1/2	
5+20	101.12	99.70	6.42	6	5	
+45	101.35	99.90	6.45	6	5 3/4	
+70	101.54	95.10	6.44	6	5 1/4	
+95	101.76	95.30	6.46	6	5 1/2	
6+20	102.01	95.30	6.51	6	6 1/8 x	
+45	102.15	97.50	4.65	4	7 7/8 x	
Total length of pipe				6+50		

54908

NZ Hawthorn Flushtank 102.50

Union St. South of Ast

No	Elv	Grade	cut
9			
+17.5			
+27			
+37			
+47			
+57			
+67			
+77			
+85			
11402			
+27			
+52			
+77			
+86			

= Manhole West End of Union in Ast
P.C.

0+52 S 2 Ast

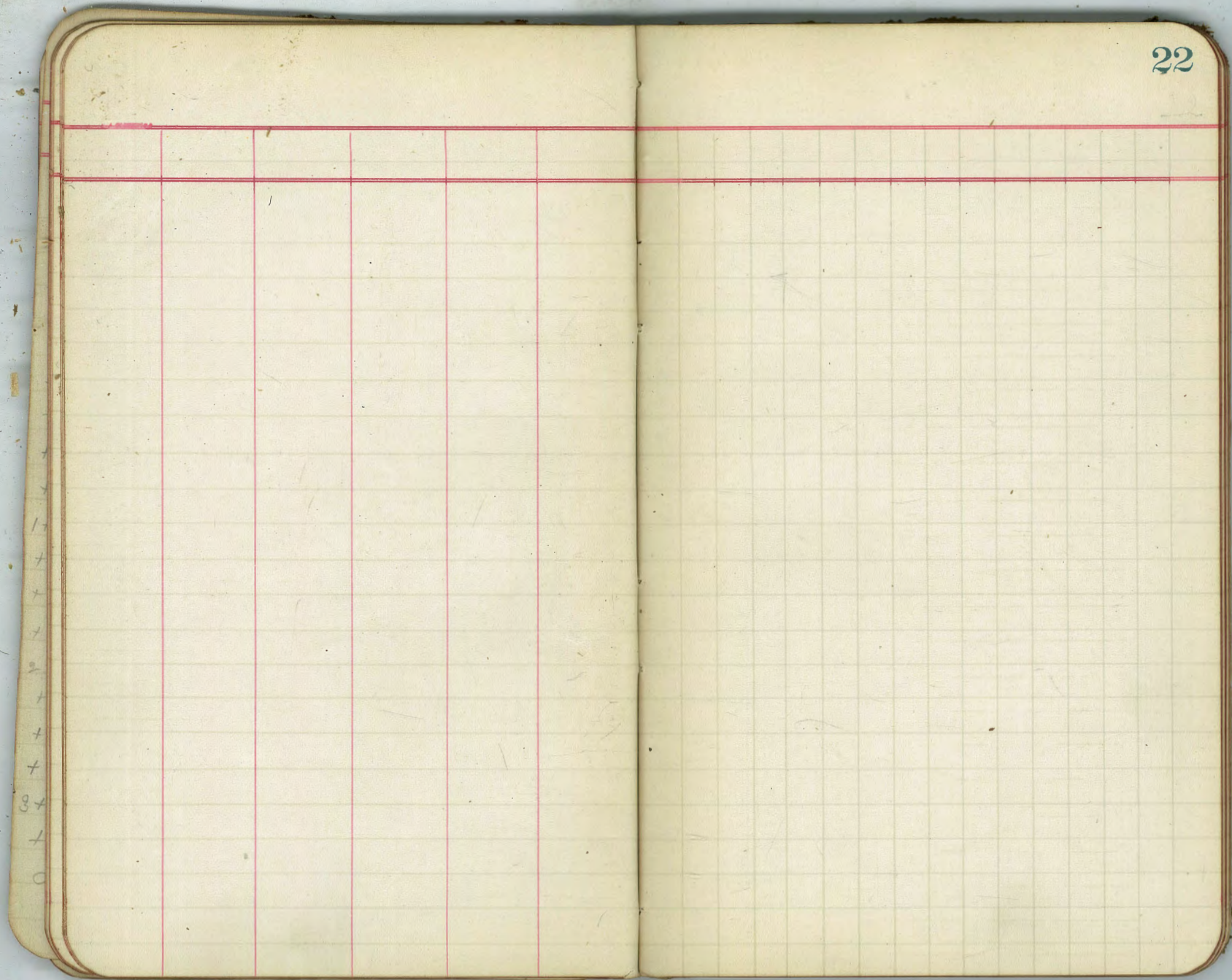
50' S 16 S 2 Ast

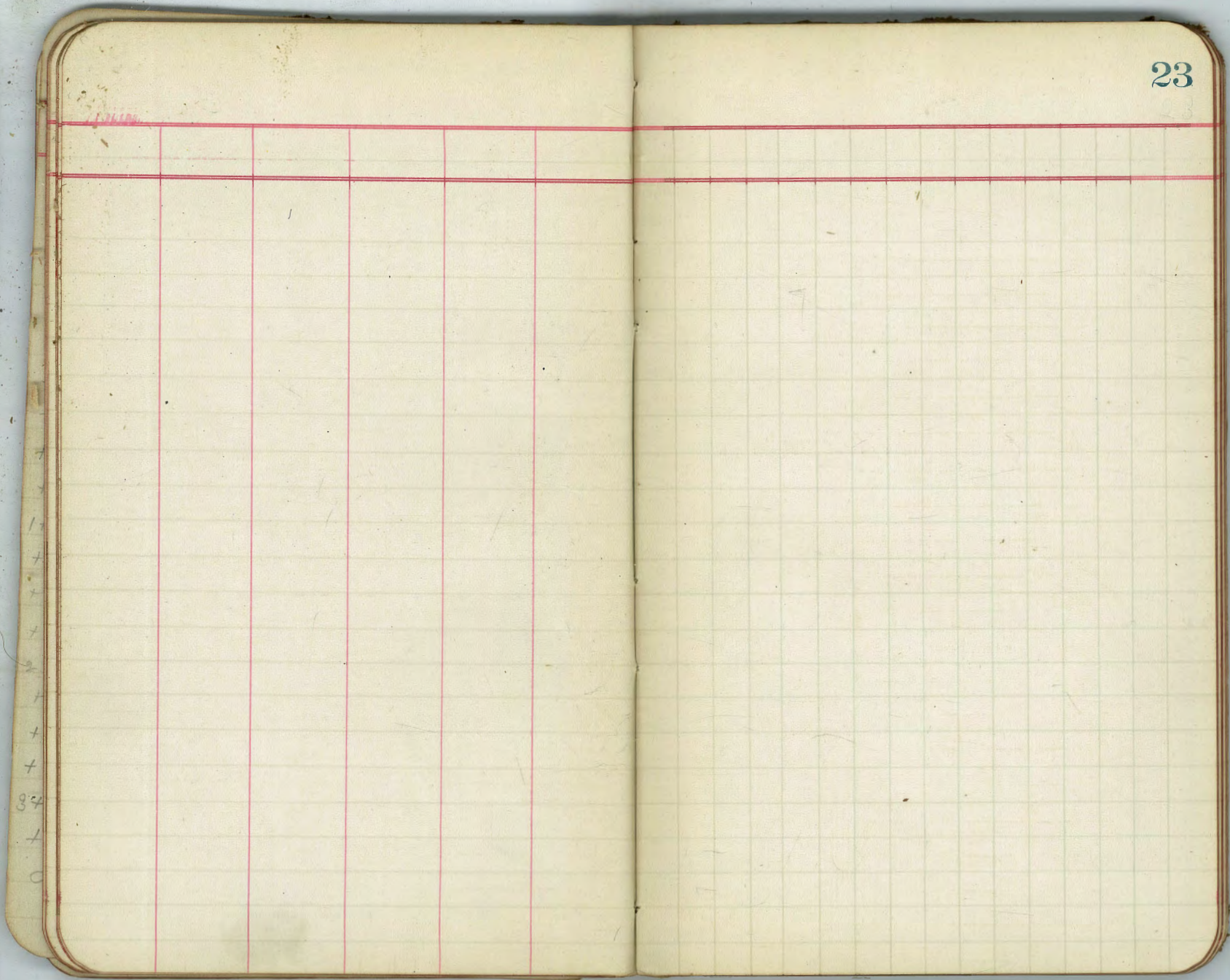
Filbert Lane

The image shows an open notebook with two pages. The left page is ruled with a grid and has a vertical margin line on the left. The right page is ruled with a grid and has the number '16' printed in the top right corner. The notebook is placed on a light-colored surface.

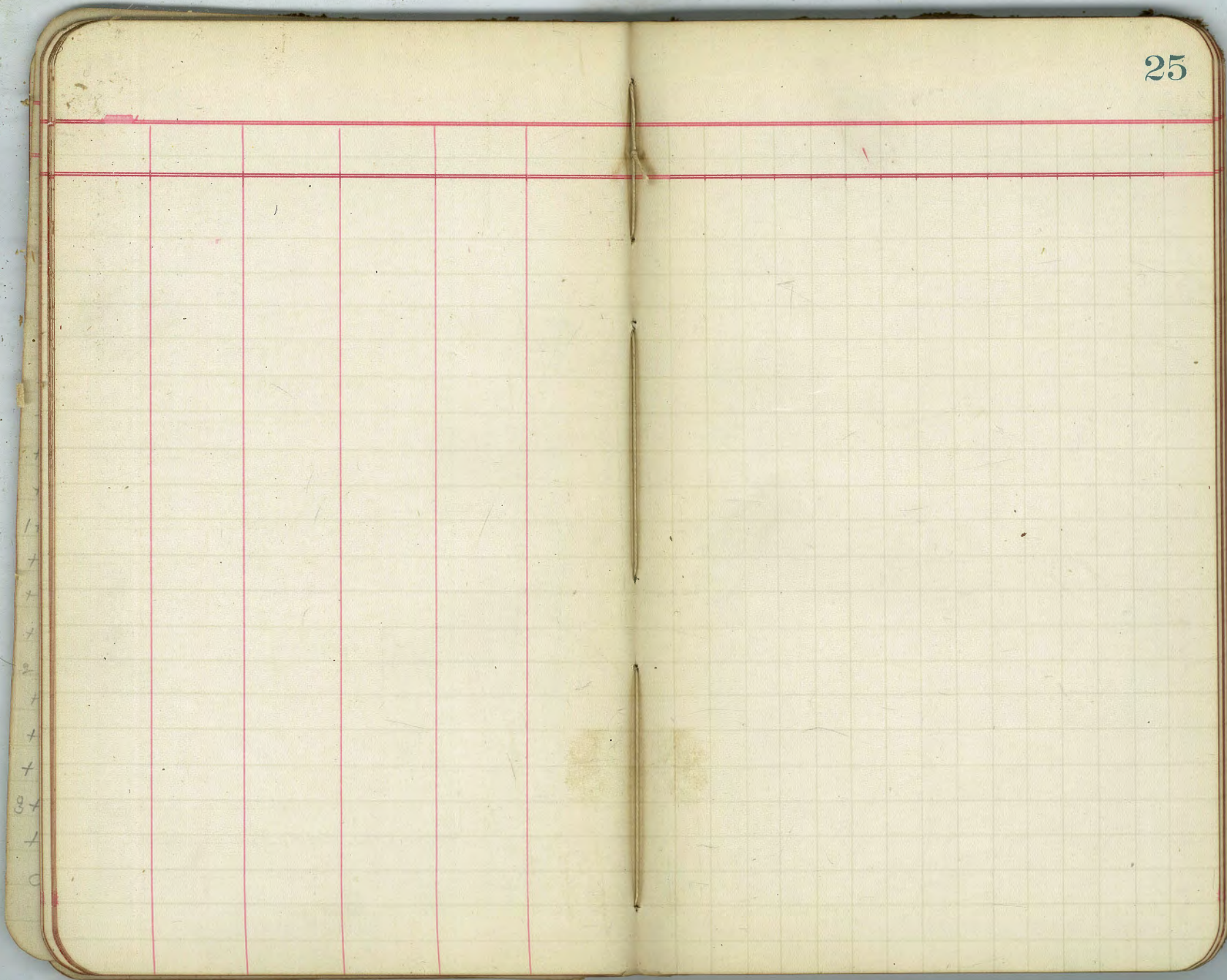
The image shows an open notebook with two pages. The left page is ruled with a grid and has four vertical red lines that divide it into five columns. The right page is ruled with a grid and has the number '18' printed in the top right corner. The notebook is placed on a light-colored surface.

The image shows an open notebook with two pages. The left page is ruled with a table structure consisting of 6 columns and 20 rows. The right page is ruled with a grid structure consisting of 20 columns and 20 rows. The number '20' is printed in the top right corner of the right page. The notebook is placed on a light-colored surface.

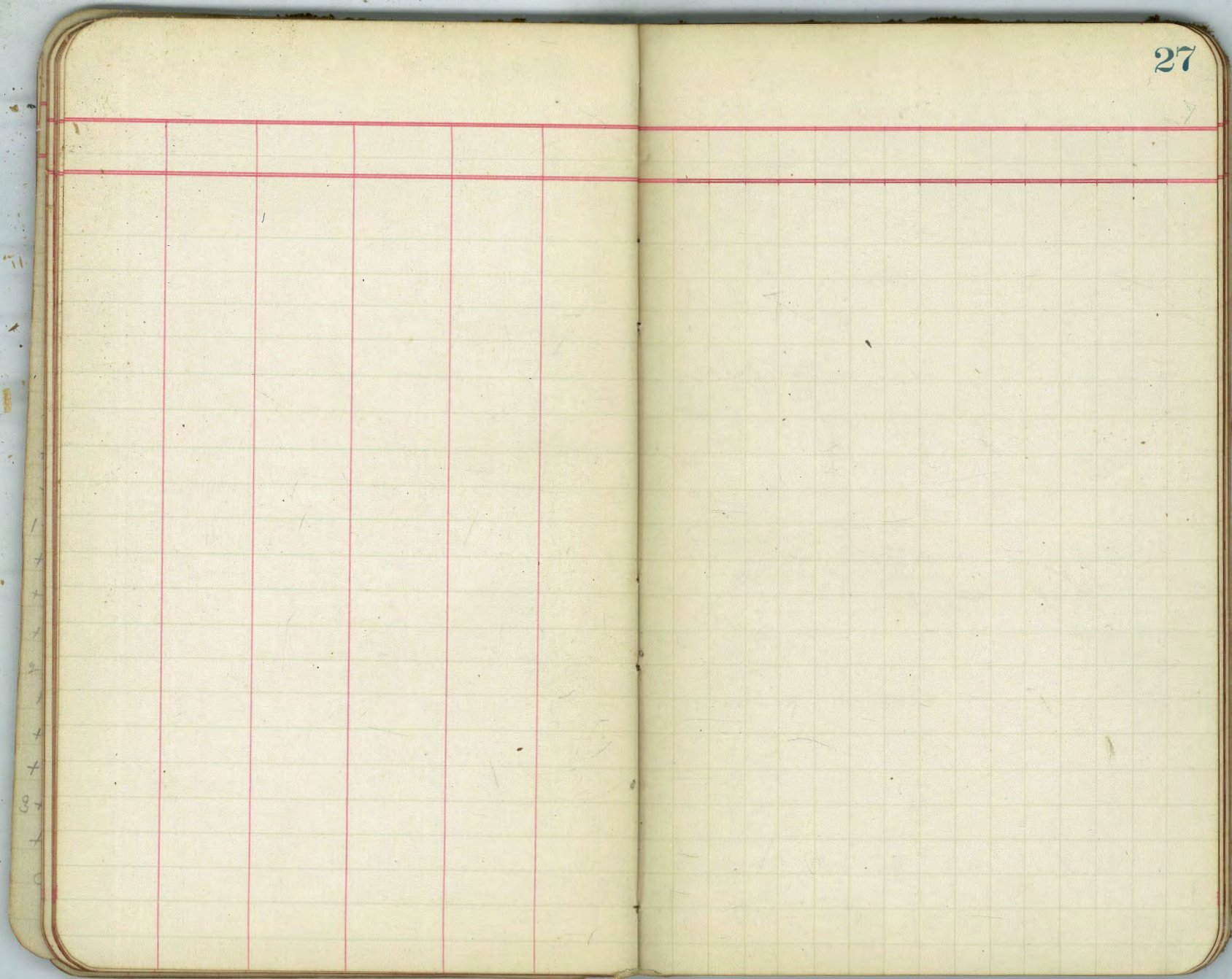


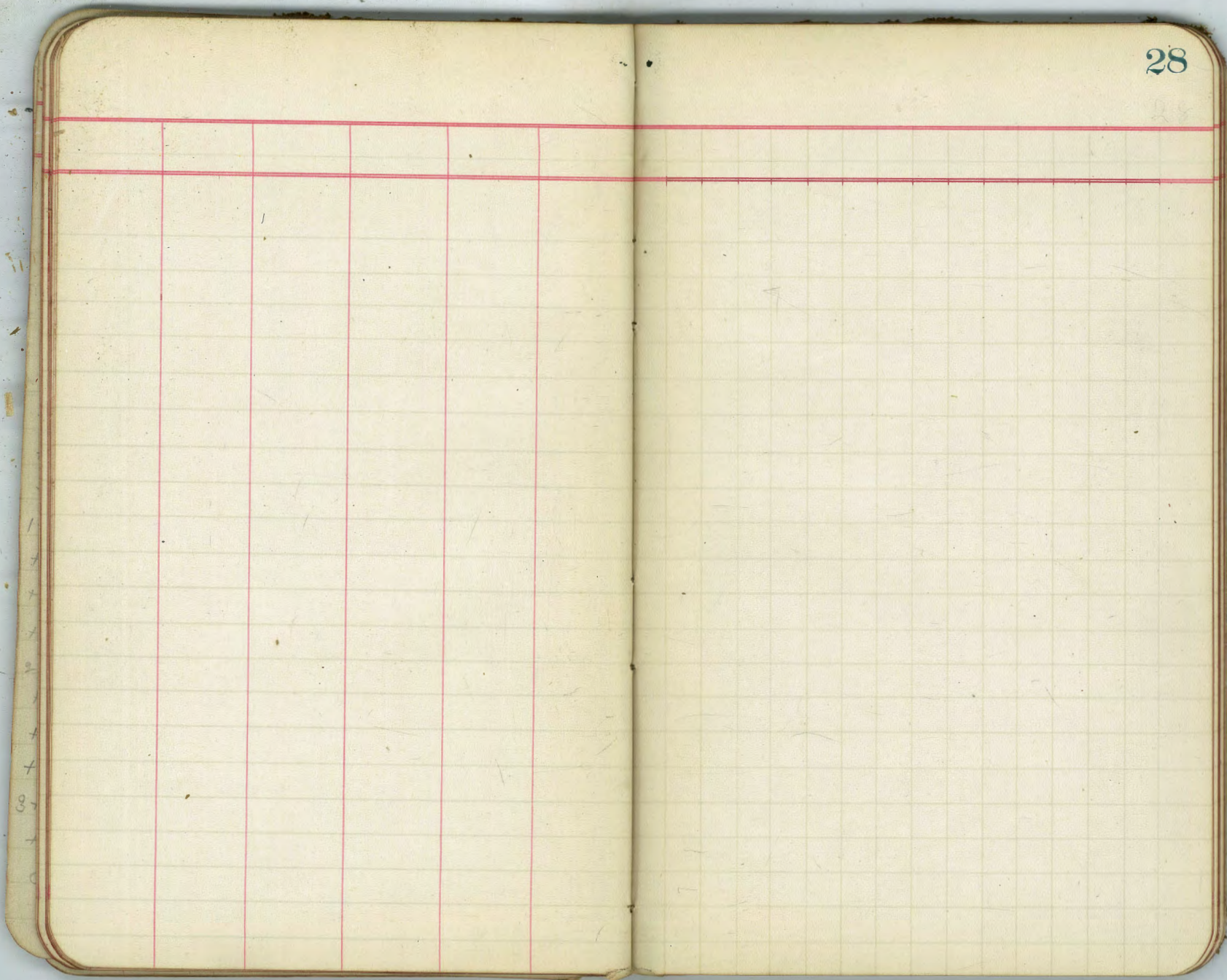


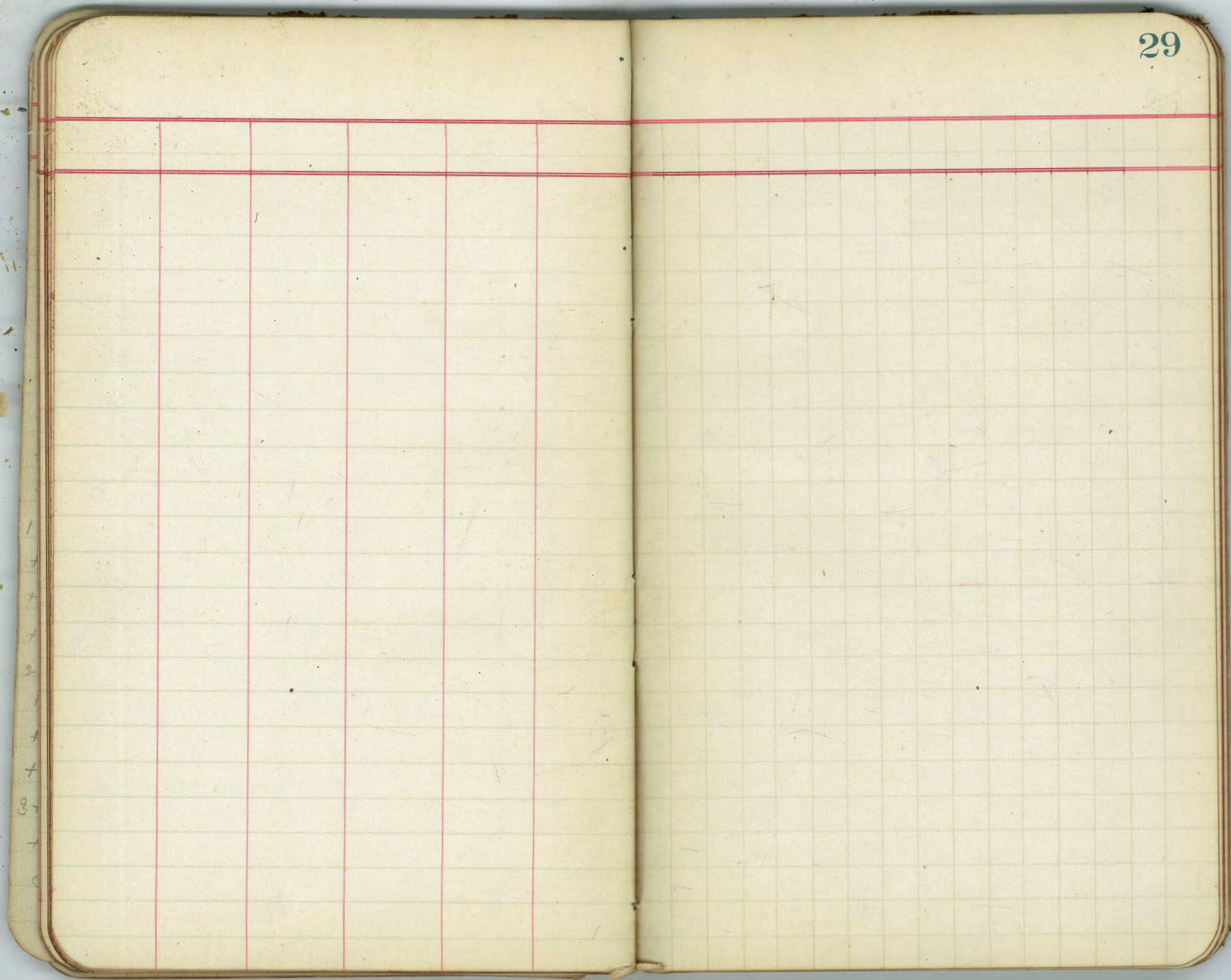
The image shows an open notebook with two pages. The left page is ruled with a grid and has four vertical red lines, creating five columns. The right page is ruled with a grid and has the number 24 in the top right corner. The notebook is placed on a light blue surface.



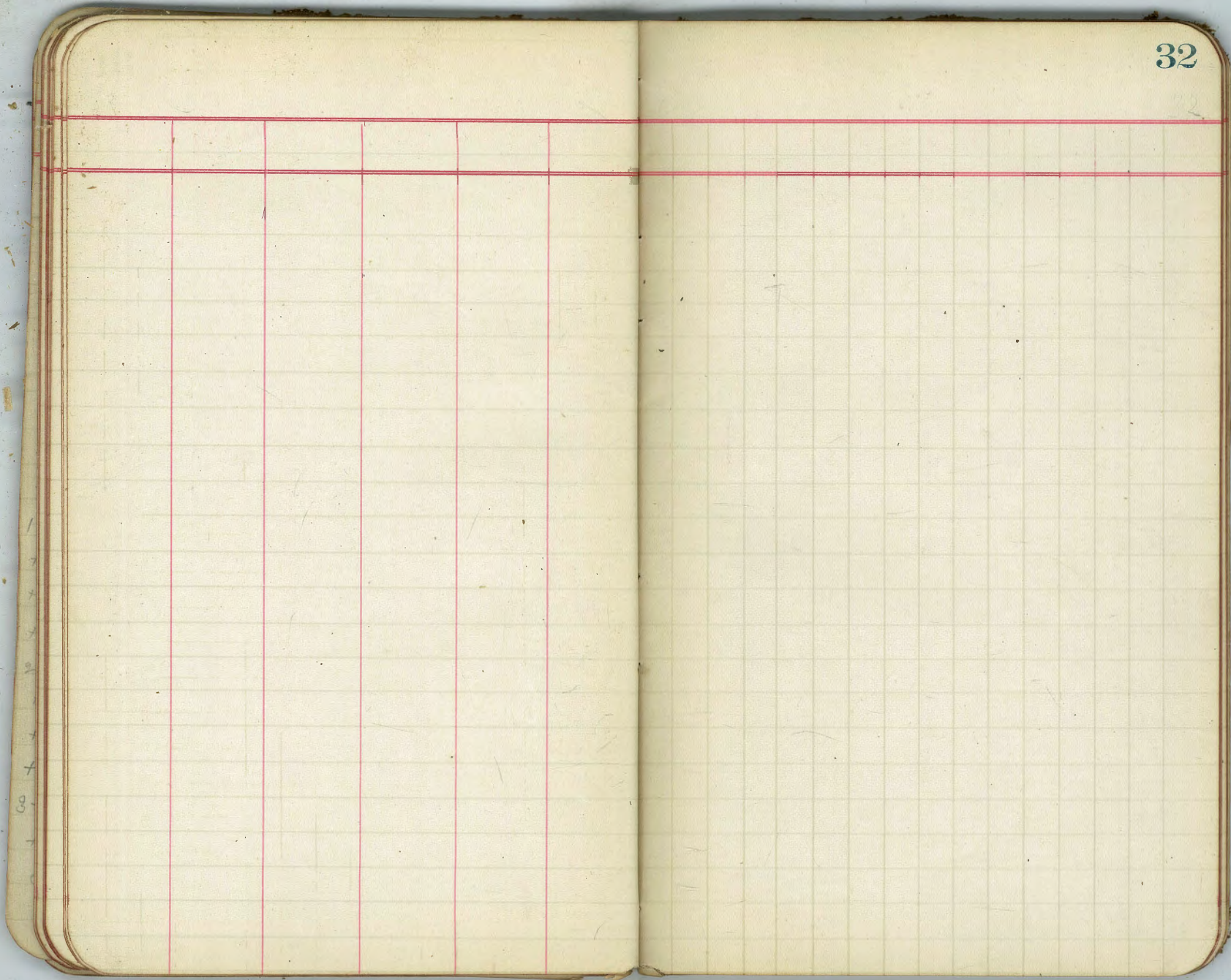
The image shows an open notebook with two pages. The left page is ruled with a grid of 6 columns and 18 rows, with the first column being significantly wider than the others. The right page is ruled with a grid of 18 columns and 18 rows. The number '26' is printed in the top right corner of the right page. The notebook has rounded corners and a dark cover visible at the edges.

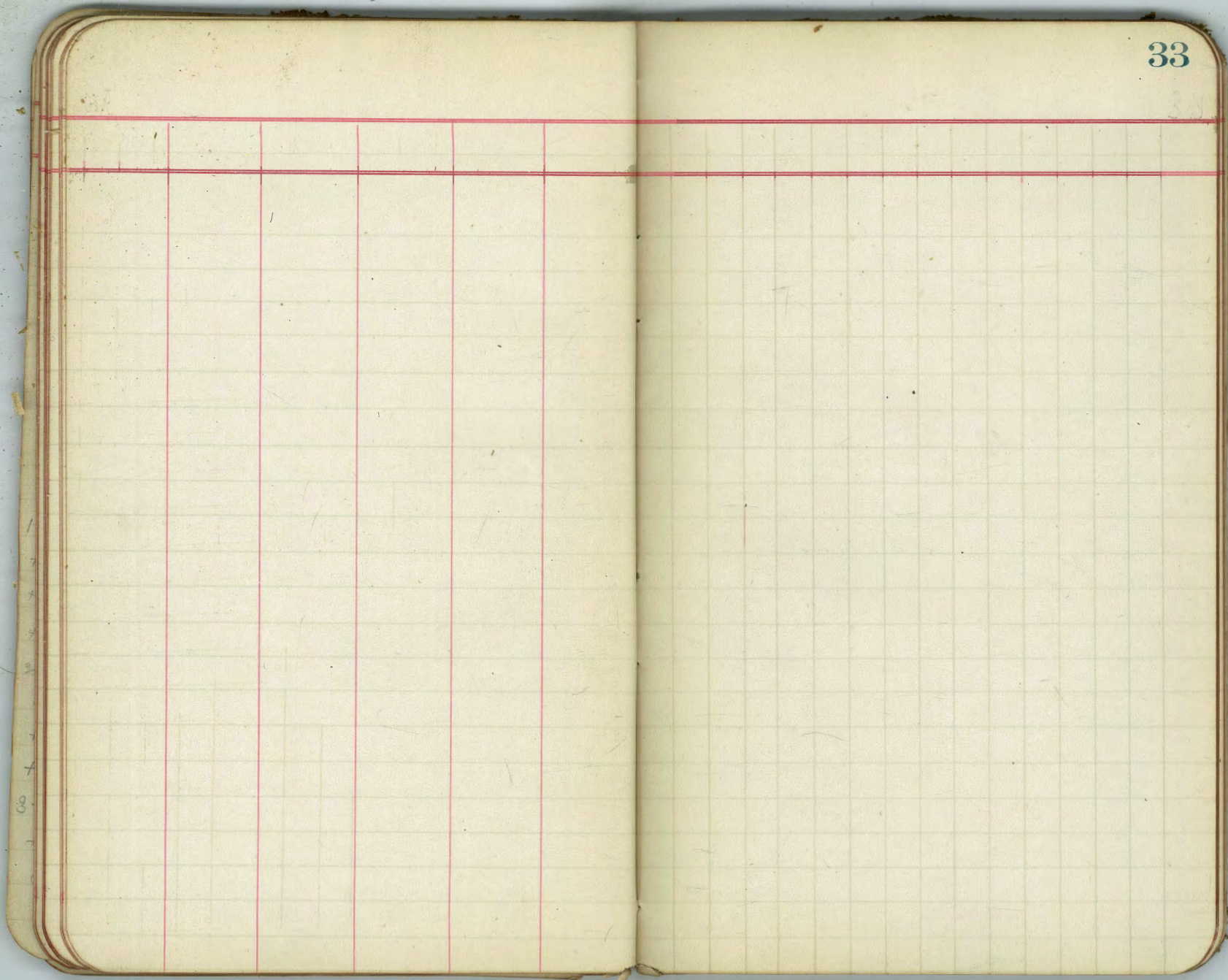




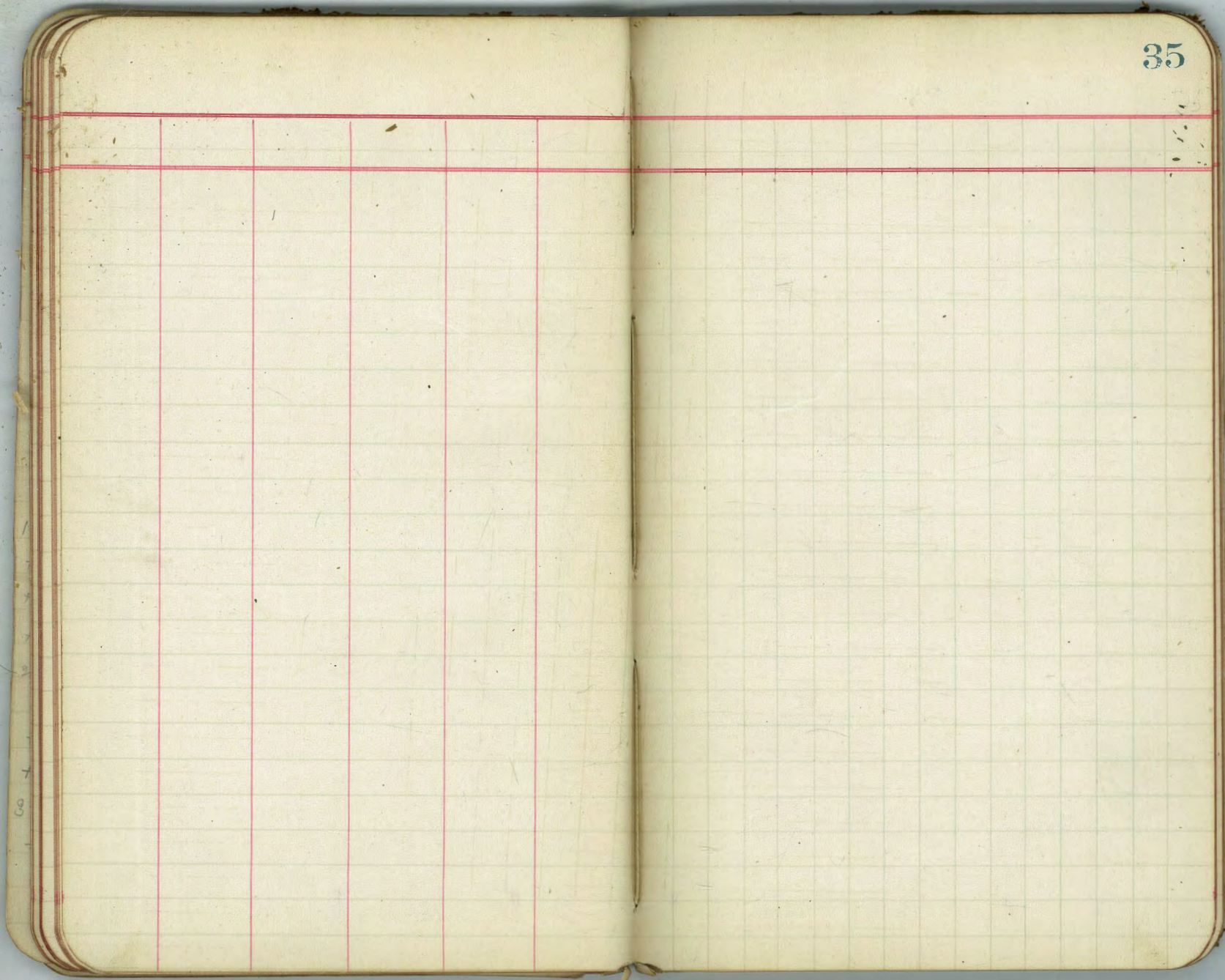


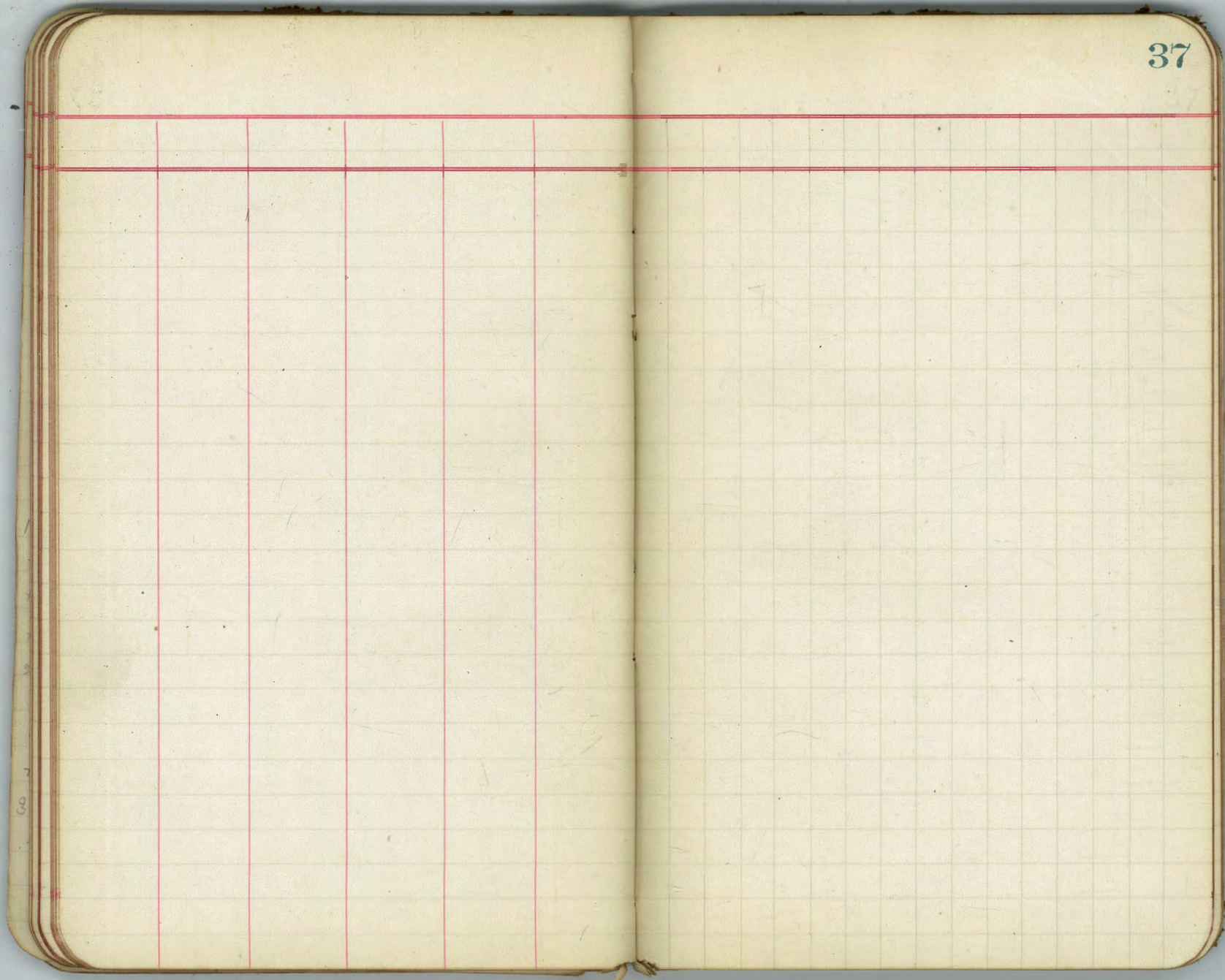
The image shows an open notebook with two pages. The left page is ruled with a grid of red lines, featuring a header section at the top and several vertical columns. The right page is also ruled with a grid of red lines and is numbered '31' in the top right corner. The notebook is placed on a light-colored surface.



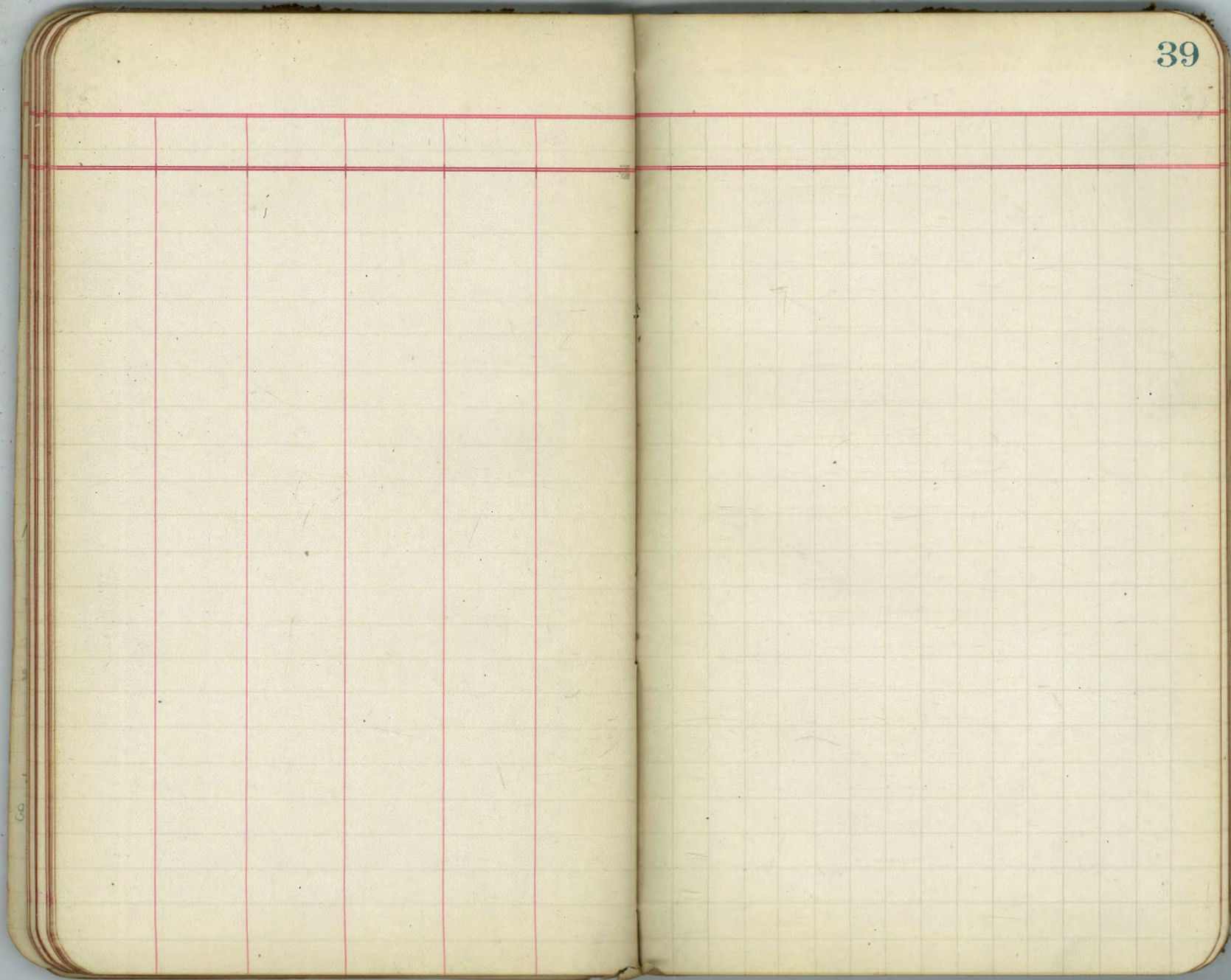


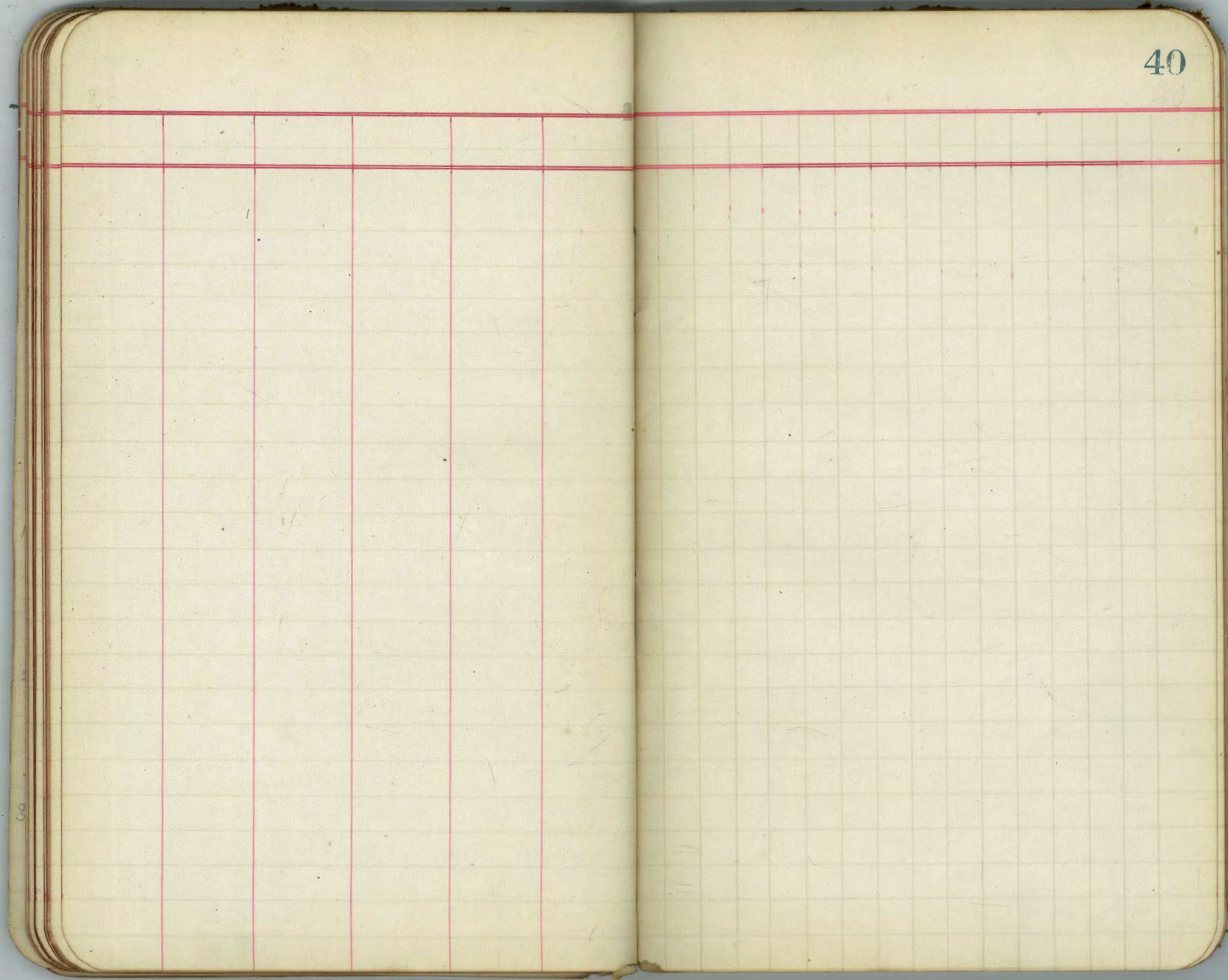
The image shows an open notebook with two pages. The left page is ruled with a grid of 5 columns and 20 rows. The right page is ruled with a grid of 10 columns and 20 rows. The number 34 is printed in the top right corner of the right page. The notebook is bound in the center, and the pages are slightly aged and yellowed.

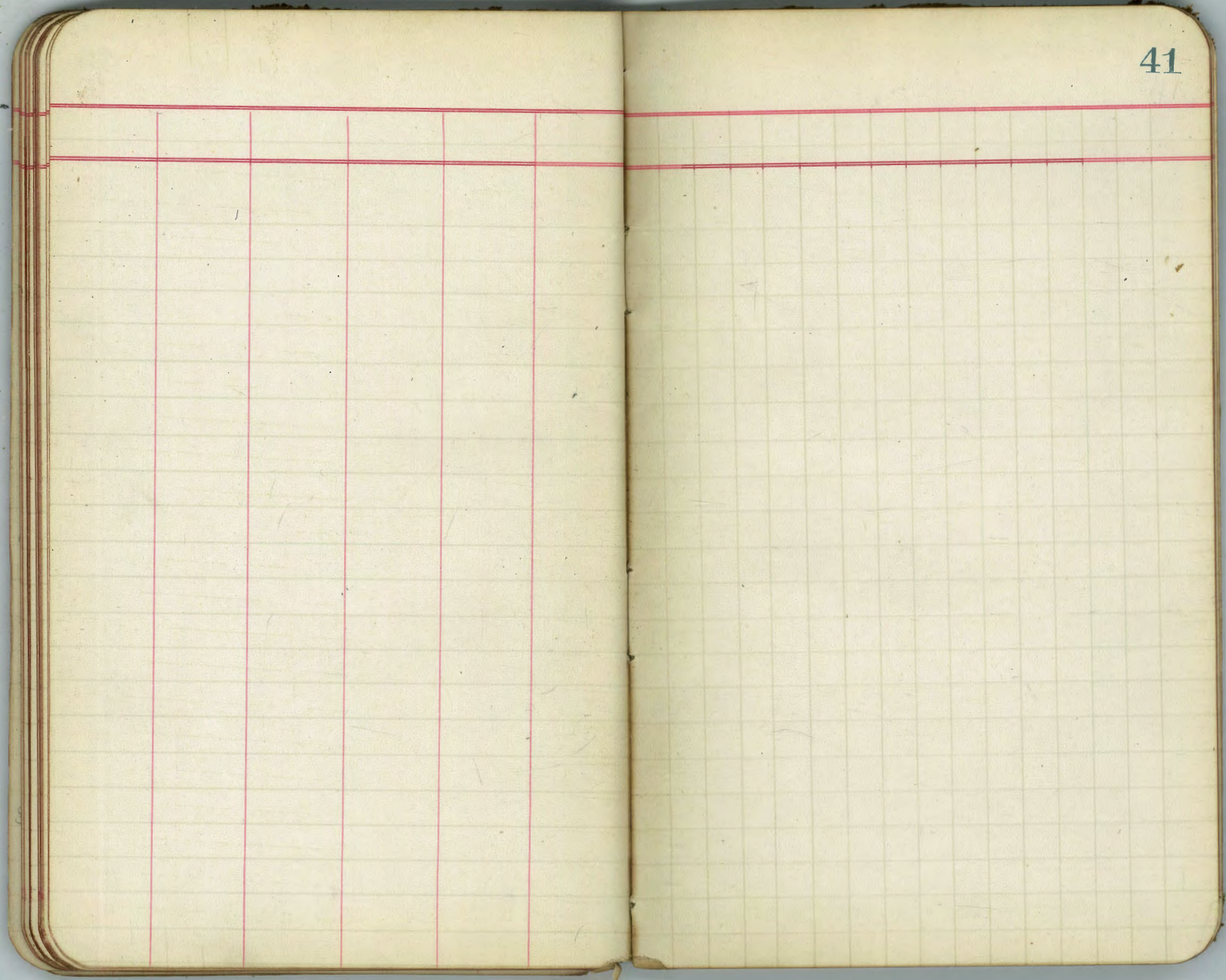


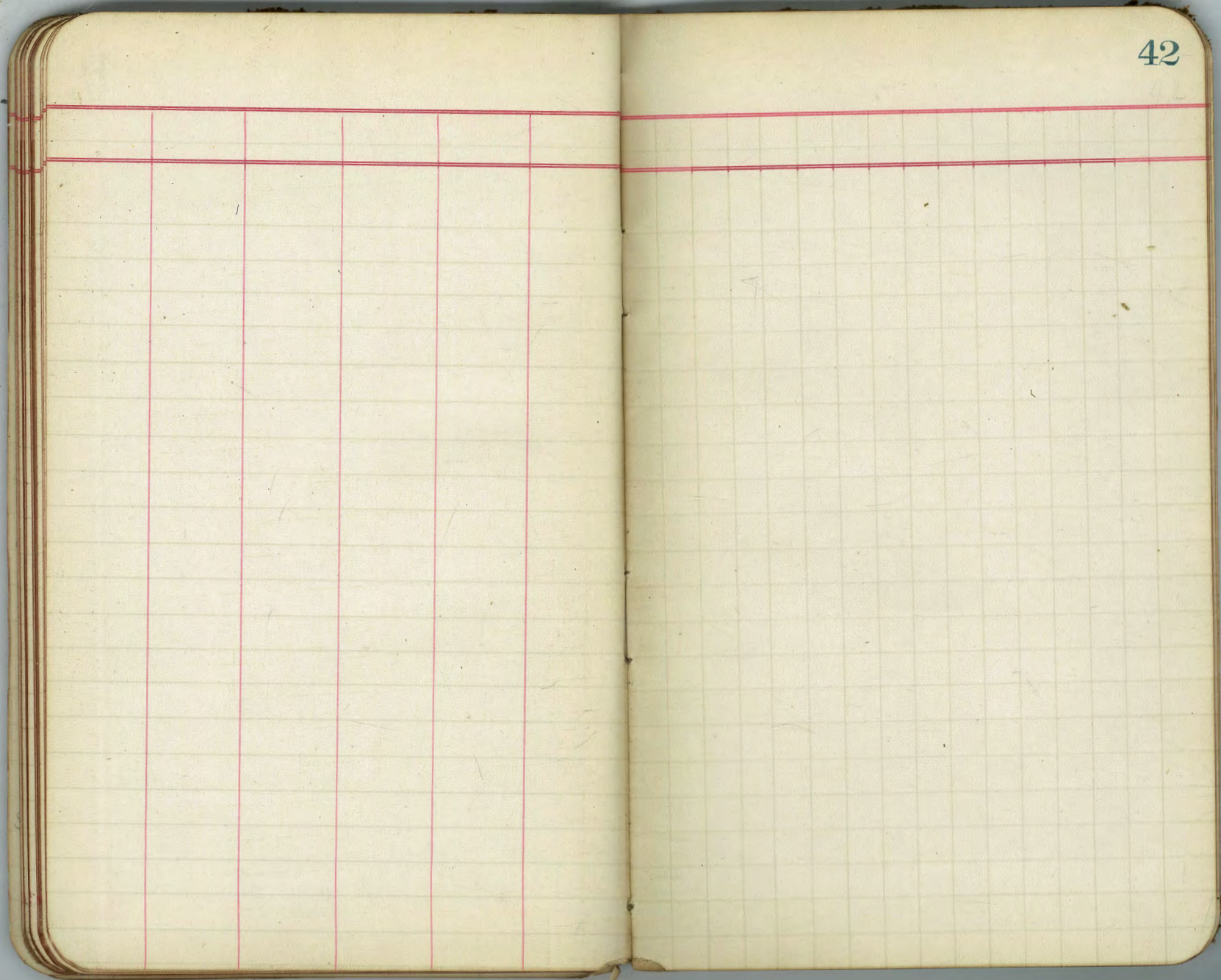


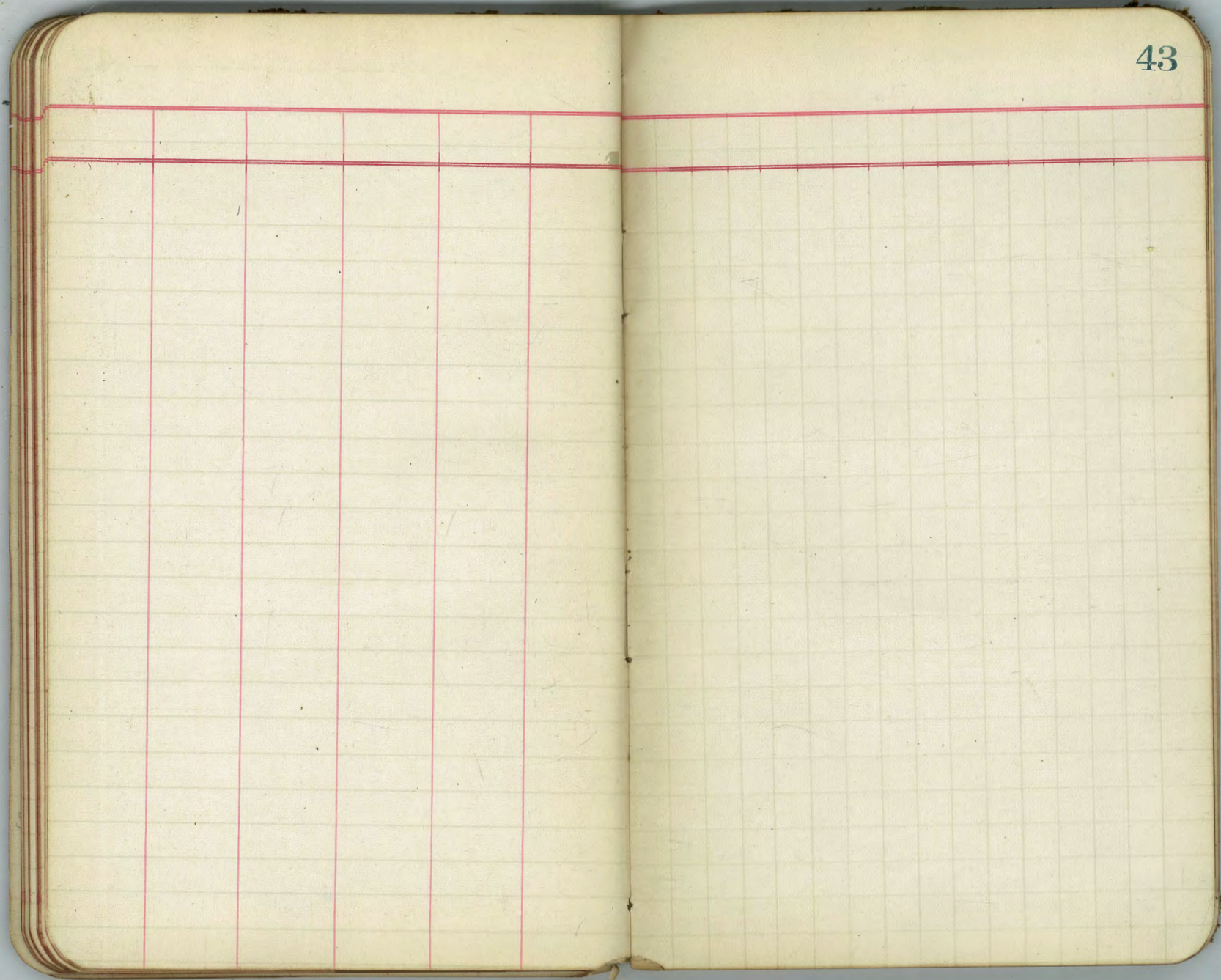
The image shows an open notebook with two pages. The left page is ruled with a grid of 5 columns and 20 rows. The right page is ruled with a grid of 10 columns and 20 rows. The page number 38 is printed in the top right corner of the right page. The notebook is placed on a white surface, and the binding is visible in the center.

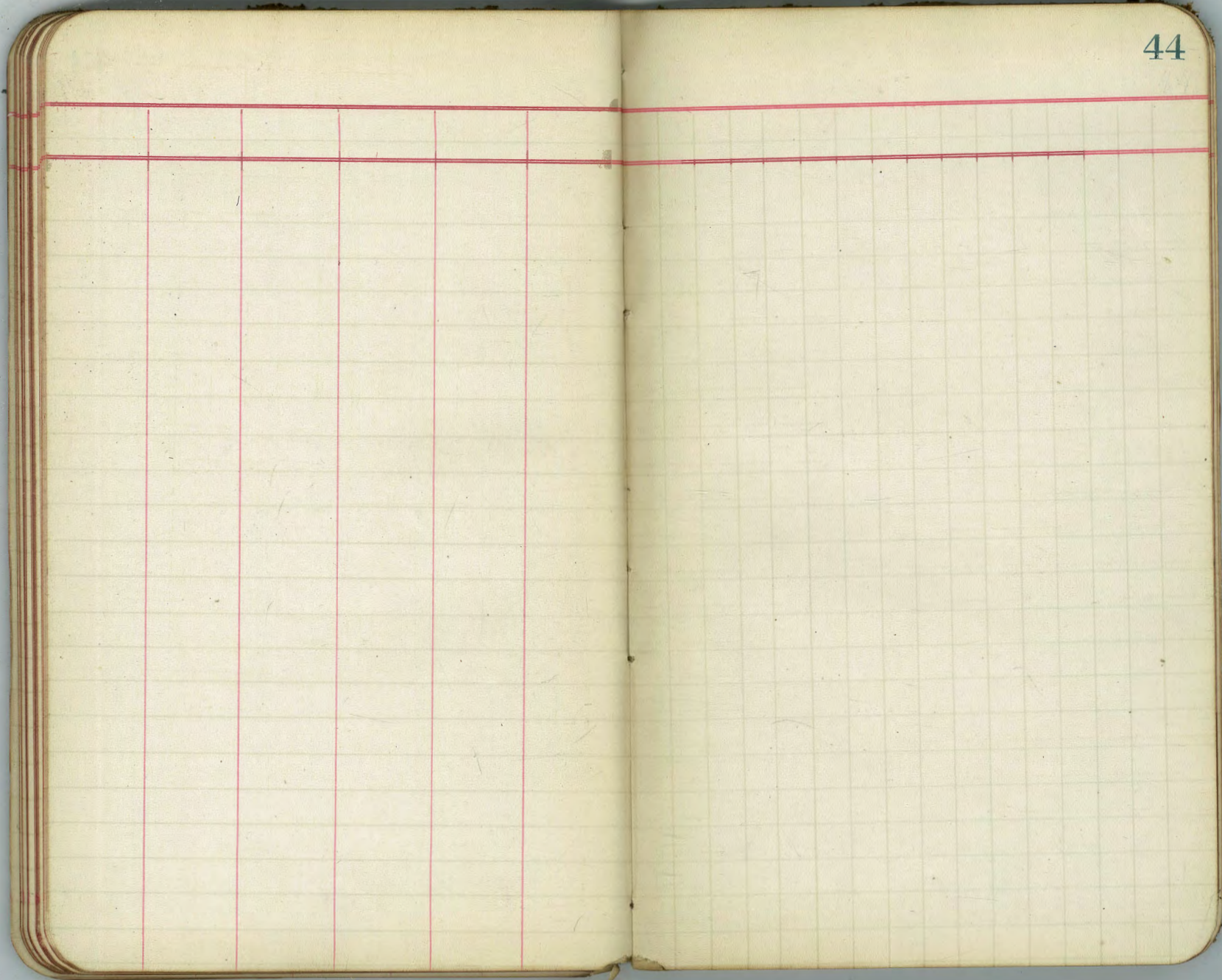


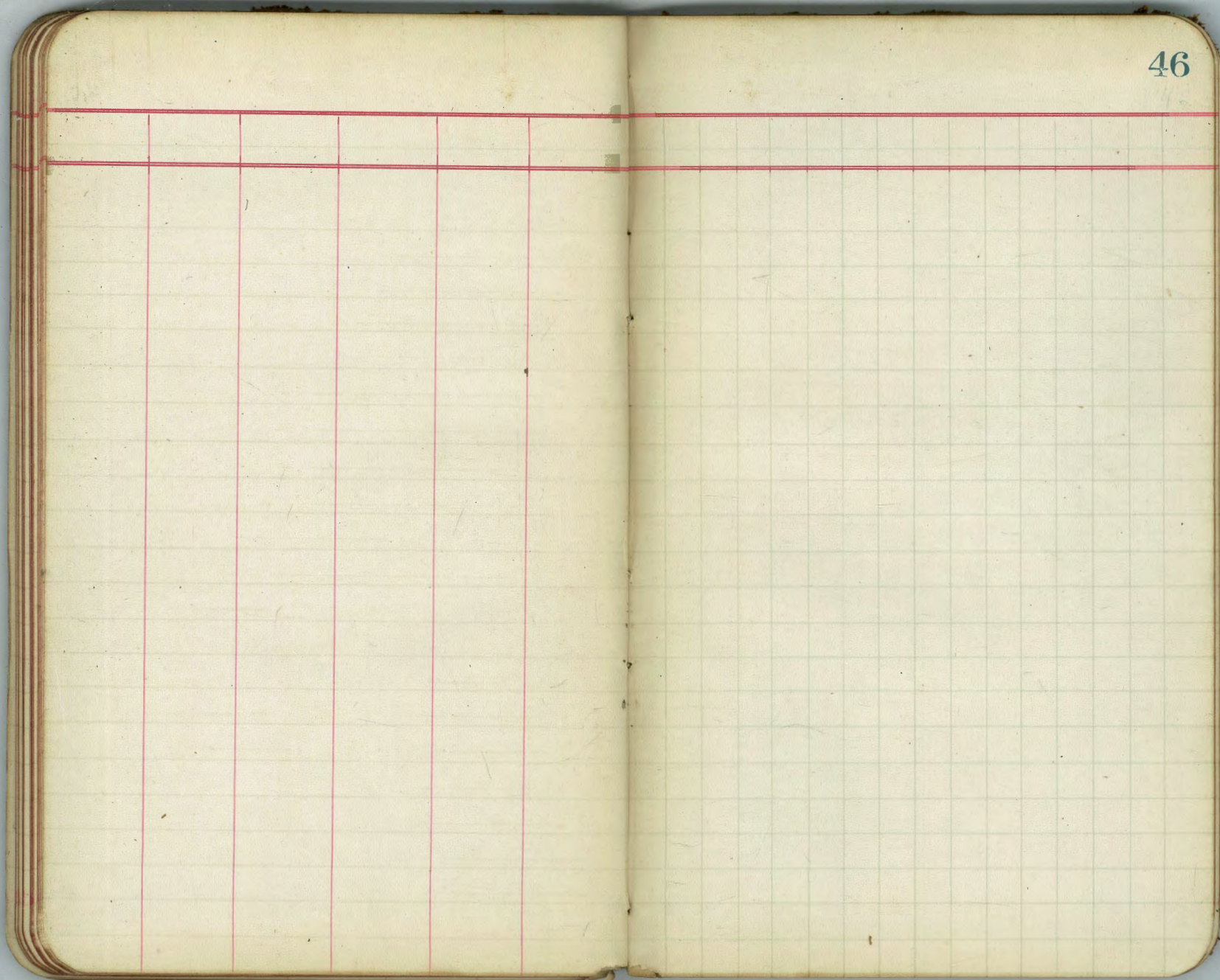












Trestle on Columbia

South of Juniper

Sta	Clear of sill	Clear of top bar	Length of posts		
0+42		53.57		Set plug at x	
+50	53.25	53.69	0.44	0	5 1/4
+58	51.93	53.81	1.88	1	10 5/8
+66	50.47	53.93	3.46	3	5 1/2
+74	48.20	54.05	5.85	5	10 1/4
+82	47.00	54.17	7.17	7	2
+90	49.81	54.29	4.48	4	5 3/4
+98	51.52	54.41	2.89	2	10 3/4
+106	52.67	54.53	1.86	1	10 3/8
+14	53.71	54.64	0.93	0	11 1/4
+22		54.76		Set plug at x	

271
 48541

grade

grade

Trestle for Columbia St.

South of Grate from Sta

Sta. Elev. Grate but

0+6.7 -- 1+47

0+6.7		52.67				
+77.5	51.76	52.83	1.07	1	7/8	
+85.5	50.38	52.96	2.58	2	7	
+93.5	49.54	53.09	3.55	3	6 5/8	
+101.5	48.97	53.22	4.25	4	3	
+109.5	49.13	53.35	4.22	4	2 5/8	
+117.5	49.69	53.47	3.78	3	9 3/8	
+125.5	50.77	53.60	2.83	2	10	
+133.5	51.56	53.73	2.17	2	2	
+141.5	52.85	53.46	1.01	1	1/4	
+149.5		53.99				

53.96

Summary of Grades for Box tracts
 these grades are for top of cap $3\frac{1}{4}$ inches below R.P. level

Sta	Elv of inverted	Grade of cap	Length of Pipes + cap	
3701	58.05	59.24	1.23	1 $2\frac{3}{4}$
+09	57.59	59.66	2.07	2 $\frac{7}{8}$
+17	57.25	60.04	2.79	2 $9\frac{1}{2}$
+25	56.88	60.42	3.54	3 $6\frac{1}{2}$
+33	56.93	60.80	3.87	3 $10\frac{1}{2}$
+41	57.12	61.17	4.05	4 $5\frac{1}{8}$
+49	56.74	61.55	4.81	4 $9\frac{3}{4}$
+57	55.09	61.93	6.84	6 $10\frac{1}{8}$
+65	55.14	62.31	7.17	7 2
+73	55.54	62.69	7.15	7 $1\frac{7}{8}$
+81	55.78	63.46	7.29	7 $3\frac{3}{8}$
+89	58.83	63.44	4.61	4 $7\frac{3}{8}$
+97	60.06	63.82	3.76	3 $9\frac{1}{8}$
4+D5	61.85	64.20	2.35	2 $4\frac{1}{4}$
+10	63.05	64.58	1.53	1 $6\frac{3}{4}$
+21	64.10	64.96	0.86	0 $10\frac{3}{4}$
+29	64.73	65.34	0.61	0 $7\frac{3}{4}$

4727
 4728

57
 24
 01

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	80
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	81
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	82
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	83
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	84
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	85
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	86
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	87
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	88
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	89
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	90
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	71
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	72
13	97.44	22.50	97.34	22.92	97.24	23.04	97.13	23.77	73
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	74
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	75
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.32	76
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	77
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	78
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	79
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	80
21	93.36	35.81	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.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		

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