

W 455

MICROFILMED
JUN 10 1965

455

EL CAPITAN

~~1000 ft~~ Preliminary Road Location }
City Camp to Top Dam S. end } 1-3
1000 ft in center of existing road }
1000 ft east of City Engine camp }

E of City Camp. to S. end Dam Axis.

B line for road south of

Reservoir

8+00 P.I. 60°02R+

6+69.3 P.O.T

6+18.3 P.I. 47°16L+

4+78.5 P.O.T

3+14.6 P.I. 24°15L+

1+50.2 P.I. 30°30L+ 30°30R+

0+00.2 P.I. 6°00R+

*Line relocated in 1935 by G.M.C.
and being constructed
in new location*

P.O.G Moore
Harper
Thurston
Salgado

12-6-33 1

P.P.

0+13.5

7+87

6+00 large gulley

5+20

o on right

3+75 small gulley

Harper

0+00

-1+00

-2+00

Edge City Camp to S. end Dam Axis
B line for road on south side

of El Capitan Reservoir

17+10⁰ P.O.T.
P.I.

11+98⁵ P.I. 38°36L+

10+80¹ P.O.T

alternate line

12+56⁵ P.I.

78°56R+

12+20⁷ P.I.

68°50R+

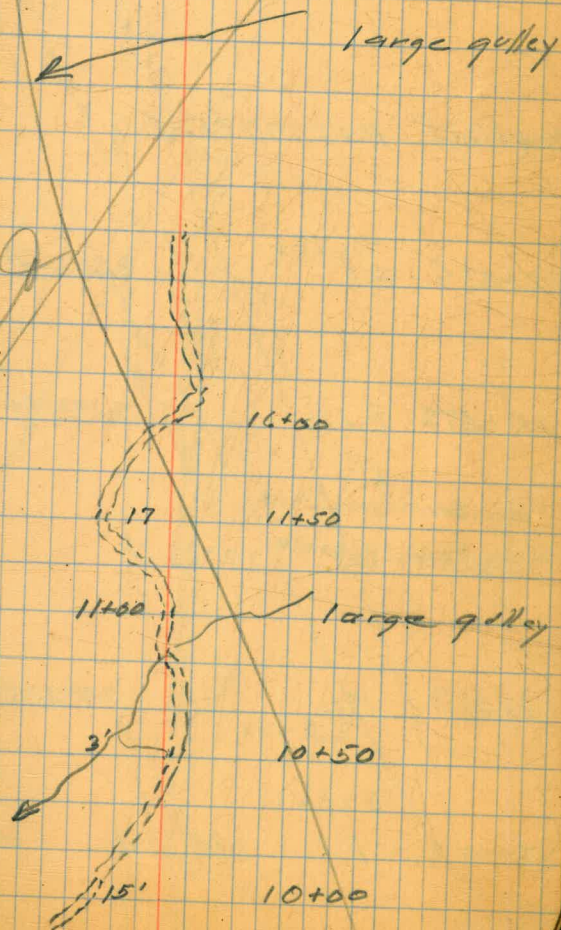
11+50⁰ P.O.T

10+80¹ P.I. 72°41L+

P.O.G. Moore
Harpen
Thurston
Salgado

12-6-33

12-7-33



E of City Camp to S end Dam Axis.
B line location for road

around El Capitan Reservoir

27+65.4 = tie to Dam Axis 102°44' Lt
N 29°00' =
E 50000'

26+53 = P.I.

9°51' Rt

24+70 = P.I. 27°12' Lt

22+47.5 = P.I.

34°31' Rt

crossing south of Flume

20+69 = P.I.

21°31' Rt

20+00 = P.I.

27°22' Lt

18+08.3 = P.I.

34°40' Rt

17+10 = P.I.

26°31' Lt

on Flume bench 12 ft wide ±

P.O.S. Moore
Harper
Thurston

12-7-33

3

DAM AXIS

102°44'

23+60 large gulch

22+55

Flume (not edge)
about 3' to Rt of line

17+96.5

17+38.2

8'

8/20/36

FMM

Copied from FMM Notes

12+4⁶~~7~~ 4" PAV+Y.Y.
6'-2" of 30" 10 Gauge Pipe.

12+92 6'-0" " 20" 12 " "

13+12 5'-3" " 20" 12 " "

13+49.7 4" Air. Valve.
50. 6-7" of 30" 10 Gauge Pipe.

23+05.4 4" Blowoff.
9'-0" of 20" - 12 Gauge Pipe
includes 6" for notch at bottom

30+94.88 4" P.A.V. + Y.Y.
+97.88 " " "
31+00 2x 3'-4" of 30" - 10 Gauge Pipe

53+5⁰~~4~~ 2" PAV
3'-6" of 20" 12 Gauge Pipe

Standard make up for 4" Corrib 4
PAV + 7. Valve is 27" from top of Pipe.

68+50.78 6" Blowoff.
3'- of 12" - 14 Gauge Pipe

72+53.55 4" PAV + Y.Y.
+46
2x 4'-6" of 30" - 10 Gauge Pipe.

72+56.55 4" PAV + Y.Y.

90+00 3'- of 12" - 14 Gauge Pipe
89+99.36 4" B.O.

98+21.52 4" PAV + Y.Y.
+24.5 " "
+25 2x 3'-4" of 30" - 10 Gauge Pipe.

103+54
3x 3'-0" of 20" - 12 Gauge Pipe.
on 30" Pipe above, 4" was added to
length for cut at bottom to fit top of 48" pipe

7/23-24-25

5

7/27/36 Clary Foreman
 2 Carpenters
 6 Men
 building outside forms for
 Chamber Sta 13+00 and set
 Reinforcing Steel.
 Galv. Sash received.
 No Concrete placed.

7/28/36 No Concrete placed.
 Set Outside forms for Valve Cham Sta 13
 and inside forms for bottom 6 ft
 of Chamber and placing rein
 Steel.
 1 Foreman
 3 Carpenters
 5 - Helpers.

7/29/36 Placed Conc. in bottom 6 ft. of Walls
 of Valve Cham Sta 13+00.

45 Sx Cem. ^{used.}
 Mix
 2 Sx Cem.
 5.3 cuft Sand.
 2.0 " 3/8"
 2.5 " 3/4"
 4.8 " 1 1/2"
 1 Batch Good
 1 Foreman, 2 Carpenters Night 28-29.
 1 " day
 9 Men placing
 4 Tamping
 1 Unload
 2 Load.
 2 Wheelbarrowmen.
 1 Mixer man
 3 Men.
 1 Truck Driver
 Start at 9 A.M.

Made Test Cyl
 #21, 22, 23
 Hudson shut work down on account
 no foreman on job when he arrived.
 Clary had gone to other part of job.
 Resumed operations 9:15 A.

M. S. Clary - Foreman.
 1 Truck haul Lumber + Steel
 from Valve Sta 17+00 to 13+00.
 Driver E.R. Reeder.
 R.C. Reitman helper 7/25.
 F. A. Rennick Carpenter 7/24-25.
 Rex Huffman helper 7/24.
 Harold Dent 7/24-25.
 L. Downes Carpenter 7/24-25
 C. W. Nichols helper 7/25

Steel bottom 6' of Chamber.

N. Side wall.
 6 - $\left[\begin{array}{|c|} \hline 16' + \\ \hline \end{array} \right] 3'$ hor 3/4" ϕ
 8 - $\left[\begin{array}{|c|} \hline 3' \\ \hline \end{array} \right]$ Vert " "
 5 - $\left[\begin{array}{|c|} \hline 10' - 6" \\ \hline \end{array} \right]$ " " under windows

S. Side
 6 - $\left[\begin{array}{|c|} \hline 16' + \\ \hline \end{array} \right] 3'$ Hor. 3/4" ϕ
 4 - $\left[\begin{array}{|c|} \hline 3' \\ \hline \end{array} \right]$ Vert " "
 7 - $\left[\begin{array}{|c|} \hline 13' - 9" \\ \hline \end{array} \right]$ " " "

E. End.
 4 - $\left[\begin{array}{|c|} \hline 2' \\ \hline \end{array} \right]$ Vert 3/4" ϕ
 2 - Circ around pipe + lapped.
 2 Vert 5'
 1 vert 10'

3 Hor $\left[\begin{array}{|c|} \hline 11" \\ \hline \end{array} \right]$
 3 - 4' bars each side pipe Hor.
 W. end. $\left[\begin{array}{|c|} \hline 3' \\ \hline \end{array} \right]$ - 2 - 3/4" ϕ 2 Bands around pipe
 1 - 3/4" ϕ Hor 12" ϕ

7/29/36

9 AM	1 Batch Groat	12 00	1 Batch Conc.
9 20 AM	" " Corro	12 10	" " "
9 30 "	" " "	12 18	" " "
9 45 "	" " "	12 30	" " "
9 50 "	" " "	12 43	" " "
10 08 "	" " "	12 50	" " "
10 15 "	" " "	1 06 PM	" " "
10 25 "	" " "	1 15	" " "
10 45 "	" " "	1 35	" " "
11 30 "	" " "	1 50	" " "
11 40 "	" " "	2 15	1/2 " "
11 50 "	" " "		45 sec

7/29/36 2 Carps + 1 Helper on forms runways at night.

7/30/36 Set forms for Sections of Yabre Chamber Sta 13 6 ft to 11 ft from

Used 2 2x4 Corro floor. Placed Steel + poured Conc. Start at 9 45 AM. + Complete 3 PM.

Mix Same as 29
12.5 Gal water

1 Foreman, 1 Carpenter, 1 Mixer man

1 Batch Groat
20 " Conc.

1 Truck Driver, 3 men at Mixer.

2 Load w/ barrows. 4 Tampers.
2 wheel " 1 Unload w/ b.

Measured aggregate in wheel barrows and concrete runs uniform.

Lost time in starting cleaning forms

9 45	1 Batch Groat	1 30	1 batch
9 50	1 " Corro	1 45	" "
10 05	1 " "	2 02	1 " "
10 18	1 " "	2 20	1 " "
10 26	1 " "	2 45	1 " "
10 32	1 " "		
10 45	1 " "		
11 00	1 " "		
11 12	1 " "		
11 25	1 " "		
11 38	1 " "		
11 50	1 " "		
12 35	1 " "		
12 54	1 " "		
1 03	1 " "		
1 20	1 " "		



Pipe Line

El Cap to Lakeside

6

7/31/36 - out at 6 30 AM in at 5 PM.
Set forms for Sections of Yabre Chamber Sta 13 too 11 ft from floor to top and end sections of roof.

Placed Steel + Concrete in Same Started Conc 9 45 AM. Completed " 1 25 PM.

Used 26 Sax Cement Mix Same as 29 12 Gal H₂O. 1 1/2 batch Groat 11 1/2 " Concrete.

Made Set Test Cylinders.

7 Foreman 2 Carps + helper at night
1 Carp. 1 Mix Man. 1 Truck Driver.
3 men at mixer.

9 men placing.

9 45	1 Batch Groat	12 40	1 Batch Conc
9 53	1 " Corro	1 00	1 " "
10 05	1 " "	1 25	1/2 " "
10 18	1 " "		
10 30	1 " "		
10 46	1 " "		
10 58	1 " "		
11 12	1 " "		
11 27	1 " "		
12 15	1/2 " Groat		

26 Gal H₂O
for roof

8/21/36
2174
Conc Supports for Balance Valve

Sta 13+00

Down Stream end

2 Piers.

- ✓ 16" wide. (11 pipe)
- 16"± Rt angle to pipe alignment
- ✓ 26" length total
- 24" Average Lt due to valve bulge

Upstream end

1 Pier.

- 16" wide " pipe align
- 26" length
- 4'-6" Length at Base
- 2.0 average length due to pipe bulge
- 4-0' average length top

1 Pier Support 30" Valve.

14" Width ✓

- 4'-8" length at base
- 27" rest height.
- 24" Average height due to valve
- 4-0" 24" up. length.

7
Valve Support Sta 17+00

2 Piers.

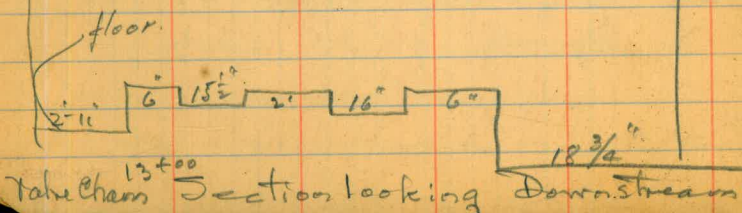
- Av. Width 1-8" ✓
- Length 4-0 bottom
- rest height 2'-6"
- Average " 2'-3"
- Length 1-9" at Top 2'-3" up

1 Pier across End.

- Top width 18"
- rest height 2'-6"
- bottom width 2'-8"
- " length 6-0"
- top " 4-0"
- Average height 2'-0"

8/1/36 No work.
 Clary raters Concrete
 Pumpman " "
 8/2/36 No work Sunday.
 Pumpman ratered Conc.
 8/3/36 Clary foreman
 1 Mx man + 3 men.
 1 Carp Helper.
 1 Truck + Driver
 5 men placing Conc.
 Place Conc in Anchor Sta 11+50
 12+30 1st load Conc.
 12+45 " "
 12+52 " "
 1:00 pm. " "
 1:10 " "
 1:20 " "
 1:39 " "
 1:47 " "
 1:57 " "
 2:05 " "
 2:13 " "
 2:23 " "
 2:31 " "
 2:38 " "
 2:46 " "
 3:00 " "

Used 34 Sax Cement.



8/4/36 Piers in Vatre Chamber Sta 13+00.
 Remove forms
 Backfill. 1 Foreman, 1 Mx man
 6 men placing 3 " at mixer.
 1 Truck + Driver.
 155 - 1/2 batch grout 2 Carpenters
 207 1 " Conc. 1 " helper.
 235 1 " " form rater sup.
 300 1/2 " "
 330 1 " "
 345 1 " "
 400 1 " " 1/2 Sax Cement
 Beams 6x12" - 1 1/2" dapped into Sidewall
 6 - 3'-6" Dowels.
 6 - 10'-3" Hor Rads. 3/4" φ
 Messrs Dennis, Scandland, Foster on
 work at 3:30 P.M.
 8/5/36 No Conc Placed.
 1 Foreman, 2 Carp. 1 Carp helper
 1 Mx man. Tr + Driver. 8 men.
 Backfill Sta 11+50 to 12+50 Set forms
 at 17 + Steel. Clean up Vatre Box 13.
 Piers Sta 17. " " Pier A.
 4- 3'-6" + 4" on ends = 4'-4" ^{over all} hook on ends
 7- 2' + 3" " " = 2'-10"
 10- 2'-6" + 4" on " " = 3'-7"
 4th Remove forms from Anchor Sta 11+50
 5th Cleaned up Vatre Chamber Sta 13.
 13 Sax Cement used Paired Vatre Supports
 + Beam Chamber Sta 13+00

8/6/36 1 Foreman 2 Carpenters 1 Mixer
Used 16 Sack Cement 1 " helper

Placed Core Supports for Balanced
Valve Sta 17. Backfill Trench Prepare
forms + Clean up footings

Concrete mix slightly modified
on acc of difficulty of placing
in Piers $\frac{1}{2}$ barrow $1\frac{1}{2}$ " Stone left out
& replaced with $\frac{3}{8}$ " $\frac{3}{4}$ " Rock + Cement
increased to 7 Sack to 7yd.

Started Pour 10:15 + finished 1:30 PM.

Dressed Piers + removed forms 1:40.

8/7/36 No Concrete placed.

1 Foreman 1. Carpenter 2 laborers $\frac{1}{2}$ day

Built forms for Pier A 3 " " "

Cleaned footing A + 1

Set Reinforcing Steel Pier A

Sprinkled Concrete.

8/8/36 1 Foreman 2 Carpenters + helper
1 Mixerman 1 Truck Driver 8 Laborers.

Used 26 Sack Cement.

Completed forms for Pier A Cleared +
Poured Conc. in same after Steel was placed.

Began placing Core 11:30 AM in Pier A.

Mix $\frac{2}{3}$ Sack Conc 1st load modified
5.3 cuft Sand. to include gravel.

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

2.5 " " $\frac{3}{4}$

4.8 " " $1\frac{1}{2}$

11 Batches
wasted $\frac{1}{2}$ batch

Completed pour 5:45 PM.

Due to hoist skipping link in chain
bale on skip broke and dropped skip
with batch of concrete to invert of tunnel
at Sta 2+75. Struck Pipe but no
damage could be observed
except slight damage to pipe
wrapping.

Concrete was clean and was
recovered.

11:30 1st Load.

12:10

1 PM

1:30 PM

1:55

2:50

3:25

3:53

4:25

4:50 5:45.

8/9/36 Sunday. No work.
Concrete watered by Pumpman.

8/10/36 No Concrete placed.
1 Foreman 2 Carp + helper.
1 Mix man 1 Truck Driver 8 Laborers
Stripped forms Pier A. and
start removing forms from
Valve Chamber. 13-
Build forms; Clean Surfaces
and Steel for Completion of
Piers 1, 10, 23 + 35.

8/11/36 1 For. W.S. Clary L Davers, Carp.
FA Renwick Carp. H.R. Huff man
R. Frizell Mixerman E.R. Reeder Tr Driver
R. Remey Tr Dr. P.M.
Laborers H. Horn, R. McKinney, Elmer H. H. J.A. Gravelle
A. Nelson, A. Phillips, G. Charrell, D. Garrett.
Placed concrete in balance of
Piers 1 + 10 begun 9:30 + Complete
at 4 P.M.

waste $\frac{1}{2}$ batch
Stripped some forms at 13+00
+ cleaned up piers to be poured
+ placed steel in same.

8/12/36 Same Labor.

Complete piers 23 + 35
12:30 P.M. to 4 P.M.
Stripped forms inside Cham 13+00
Complete forms piers 23 + 35 Clean
up same + place steel + pour
Used 22 Sax Conc.
9 $\frac{1}{2}$ batches modified.

8/13/36 Form top of Valve Cham
+ pour. Same Sta 13+00 placed
Remove forms + Strip Piers 1 + 10
Same men as 11th

12:35 1st batch Gr. may trouble

1:45 " Con.

1:55 " "

2:05 " Great

2:20 " Con.

2:30 " "

Steel 11' long - $\frac{3}{4}$ "
3 in each slab.

2'-3" bars 12" o.c.

Long Steel should have been

4" longer

watered Conc.

8/14 Gen work

8/15 " " off Dist Cont. See Reports
in -

12:30
1:00
1:30
1:50
2:00
2:30
2:45
2:55
3:05
3:25
3:45
10
8'-8"
228
248
305
325
345
Sax

8/22/36

Work remaining to be done

✓ Install Elec lighting System
in Tunnel

At Tunnel Plug 2-3"

✓ Valves & nipples to be placed
in Manifold at Plug.

✓ Install Tunnel Closure

✓ Install Walkway

✓ Complete Back fill to Pier 38

Valve Cham Sta 13+00

✓ Drain to be put in
Screen & frame $\frac{1}{4}$ " Mesh
Lights

Clean & Paint Iron appor.

Lock for Trap door.

✓ Remove forms from Beam.

& Clean up Chamber

Paint Valve & pipe 12+90.

Pipe over dammer

11
Bel Valve Replace Globe Valve
on Drain with Stem Gate "

37+00

3" Valve Assembly
to Police Camp.

41+50

" " " " " "
to City Camp.

Action should be Com
immmediate with Co Lead
Eng Cole to increase cover
over Pipe where we
have only 1 ft cover.

200+40 End Pipe

390' on side Trench 13 Sec

10/6/36-5000

Notes

No lid on Blow off Stand pipe
over Valve at Sta 23+
end of Blow off pipe covered

Sta 17+00 Slight seep from
Nozzle opening end valve
on Drains old valve
still on + slight leak on same

Drain pipe not painted
+ Bal valve not cleaned
up.

No covers on Stand pipe
next to Valve Charn 13
above + below cham.

13+00 Clean + paint ladder rungs

13+00 Remove block under Balance

1700 Valve

? Forms on inside
around window frames

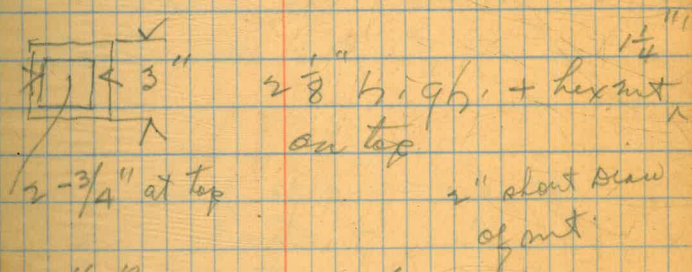
Screen Drain opening

Paint window frames

Chamber is clean + no leaks
not even drip evident

in Sprinkling go is around
Trap door.

No wheel on Gate Valve



No wheel on Bypass

$1\frac{3}{16}$ " at top per P 128 TP 121

$1\frac{15}{16}$ " at Bottom

$1\frac{3}{8}$ " high

$1\frac{1}{8}$ " diam short way hex nut
on top

1" stem

11/2" P 128

13
Paint Trap top & hinges
" lifting 1" bars in
Roof Slabs.

Furnish lock to Valve Chain.

Paint Cat walk. See P 148.

" Ladder Rungs at
Tunnel Closure.

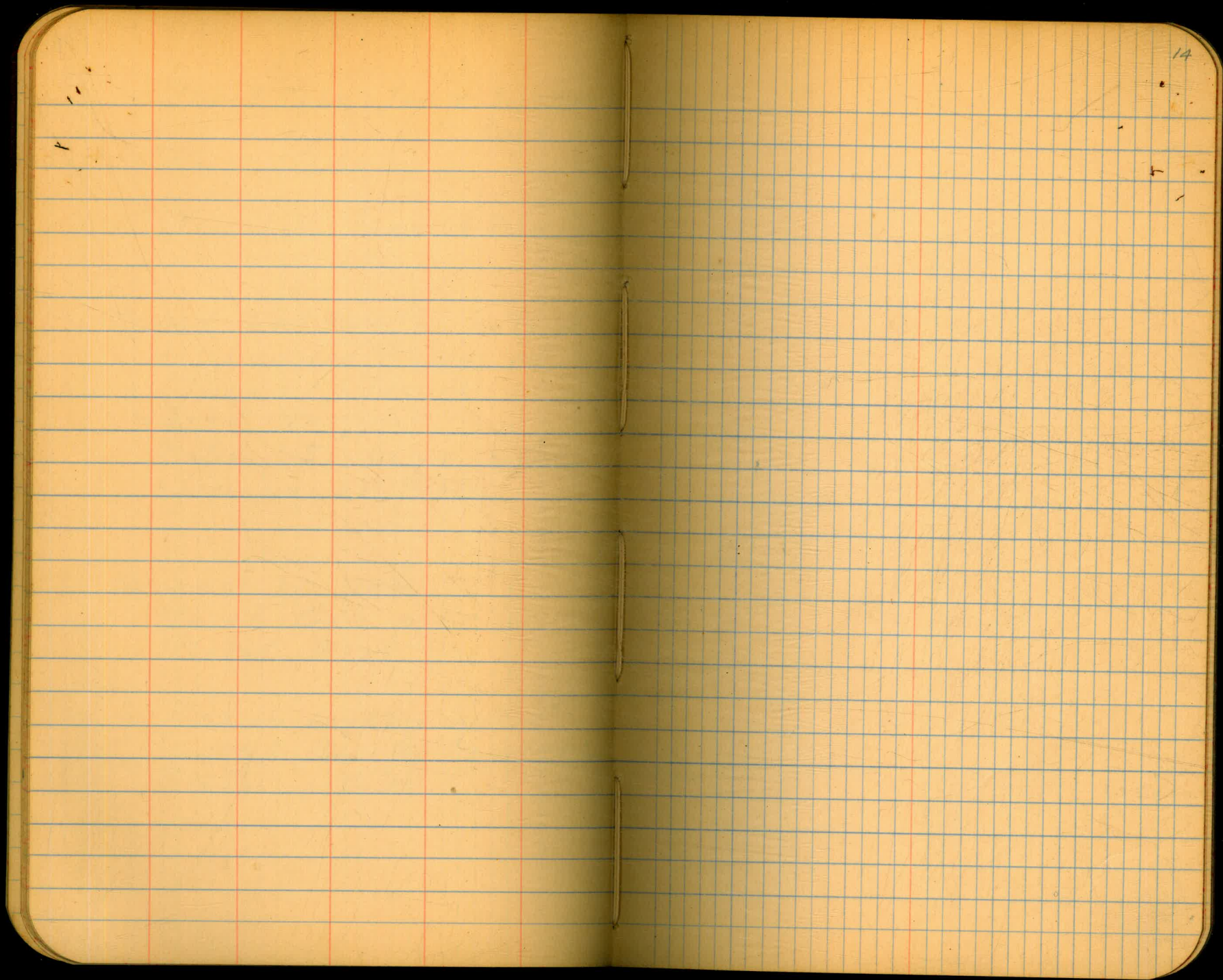
- See P 172 -

water 1.5' below bottom
of pipe at Portal.

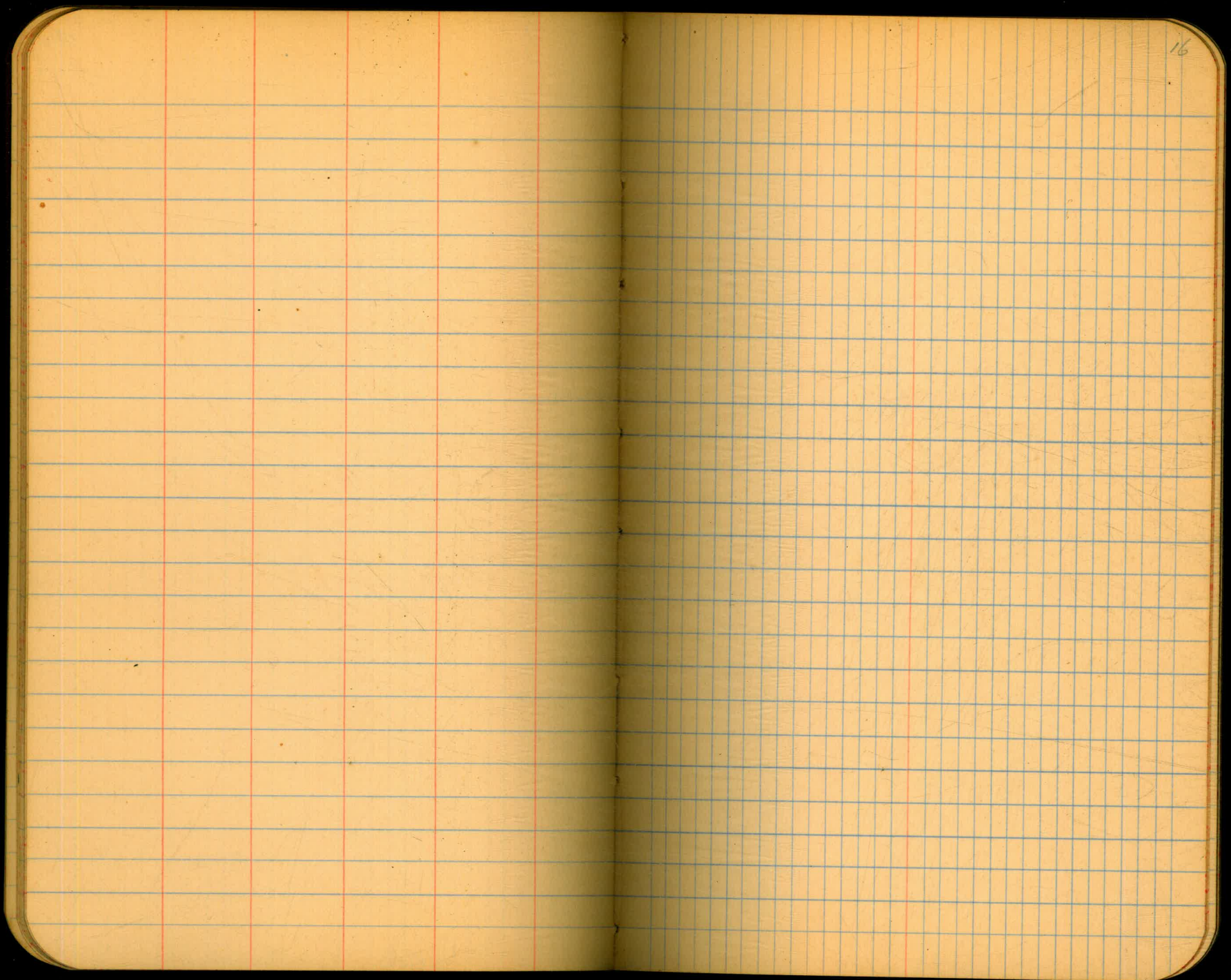
No Lock on gate

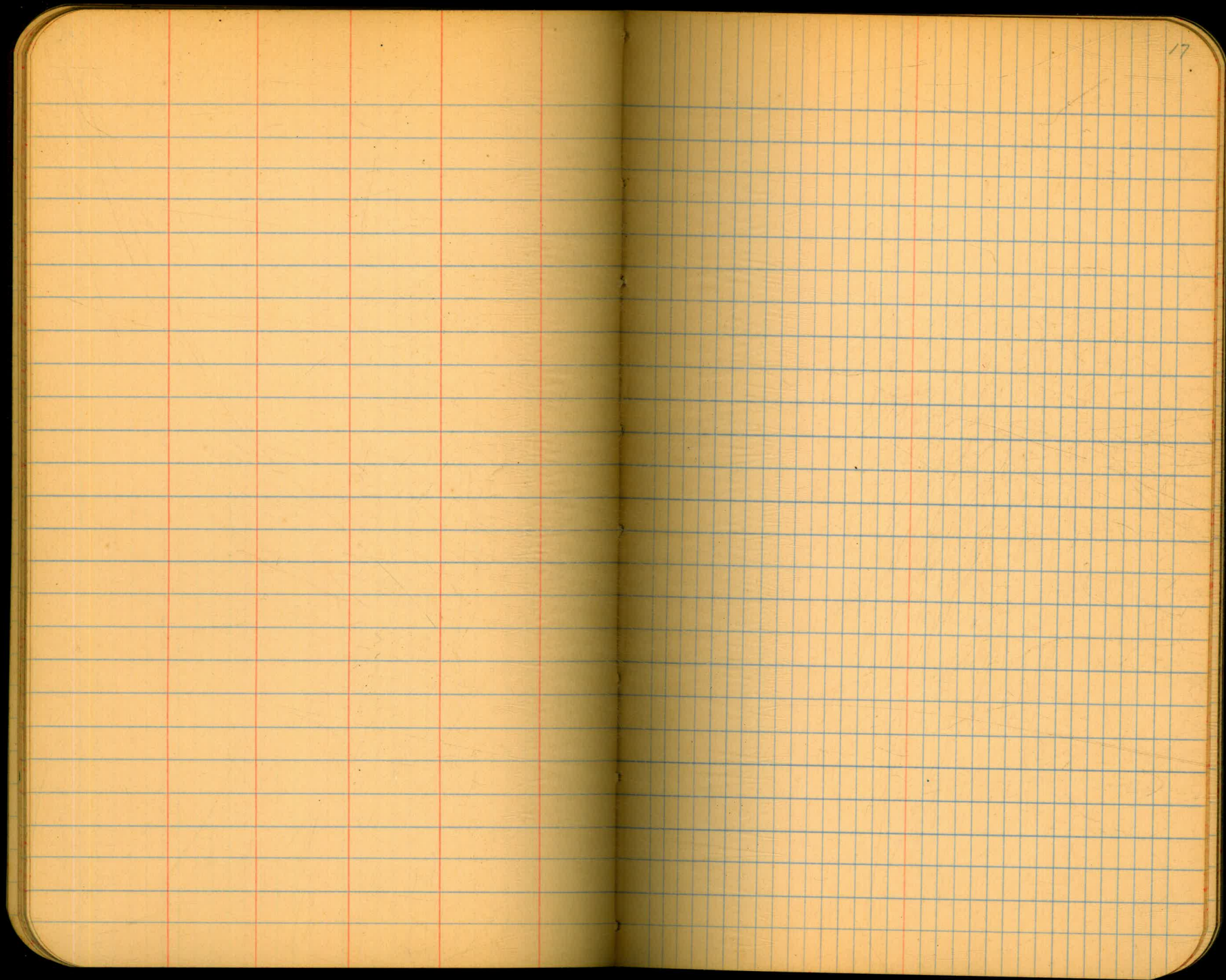
Paint Galv. pipe at
Portal TP 173.

? Lock on Lighting System
Switch Box See Page 149 Spec
? metering fixtures.

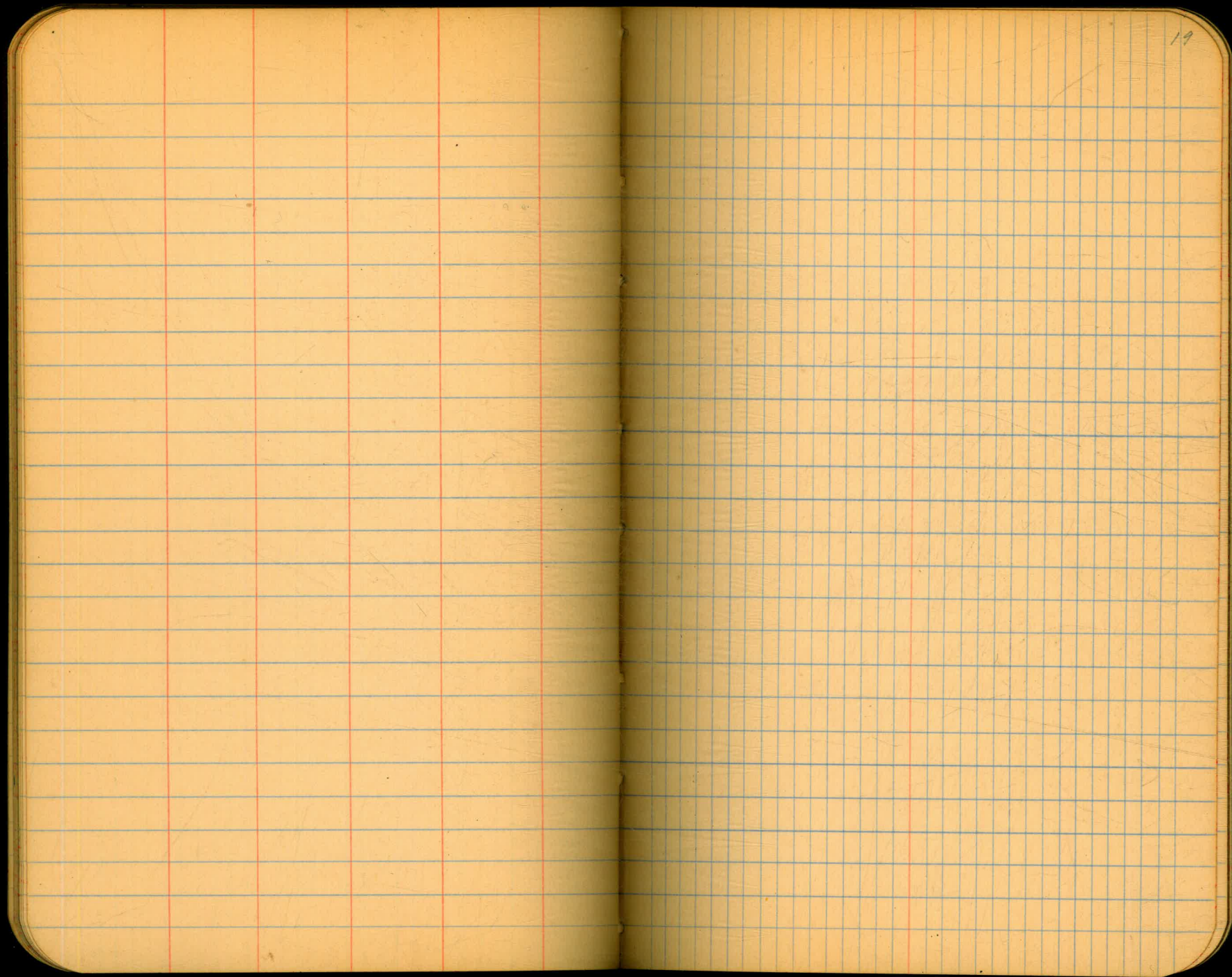


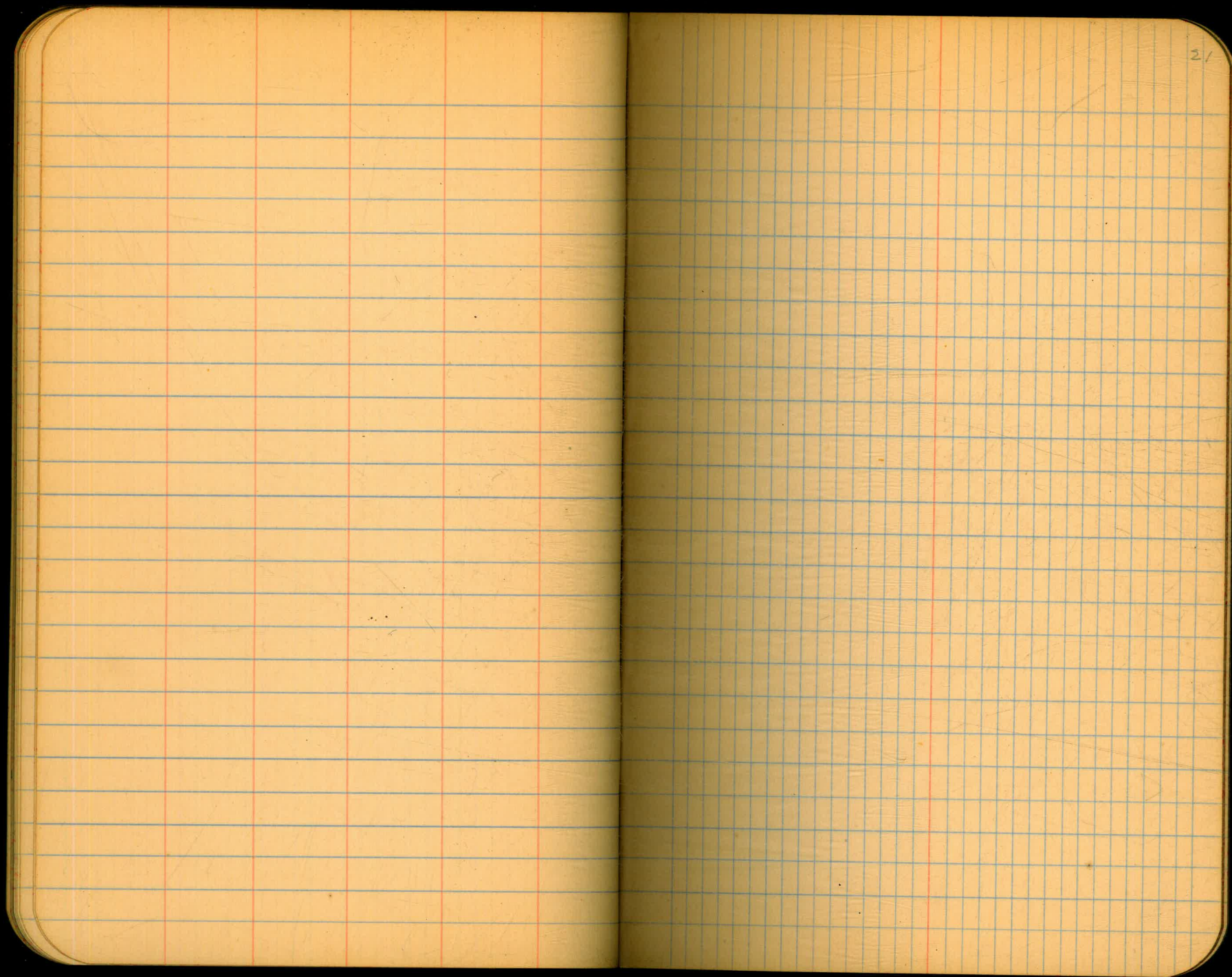
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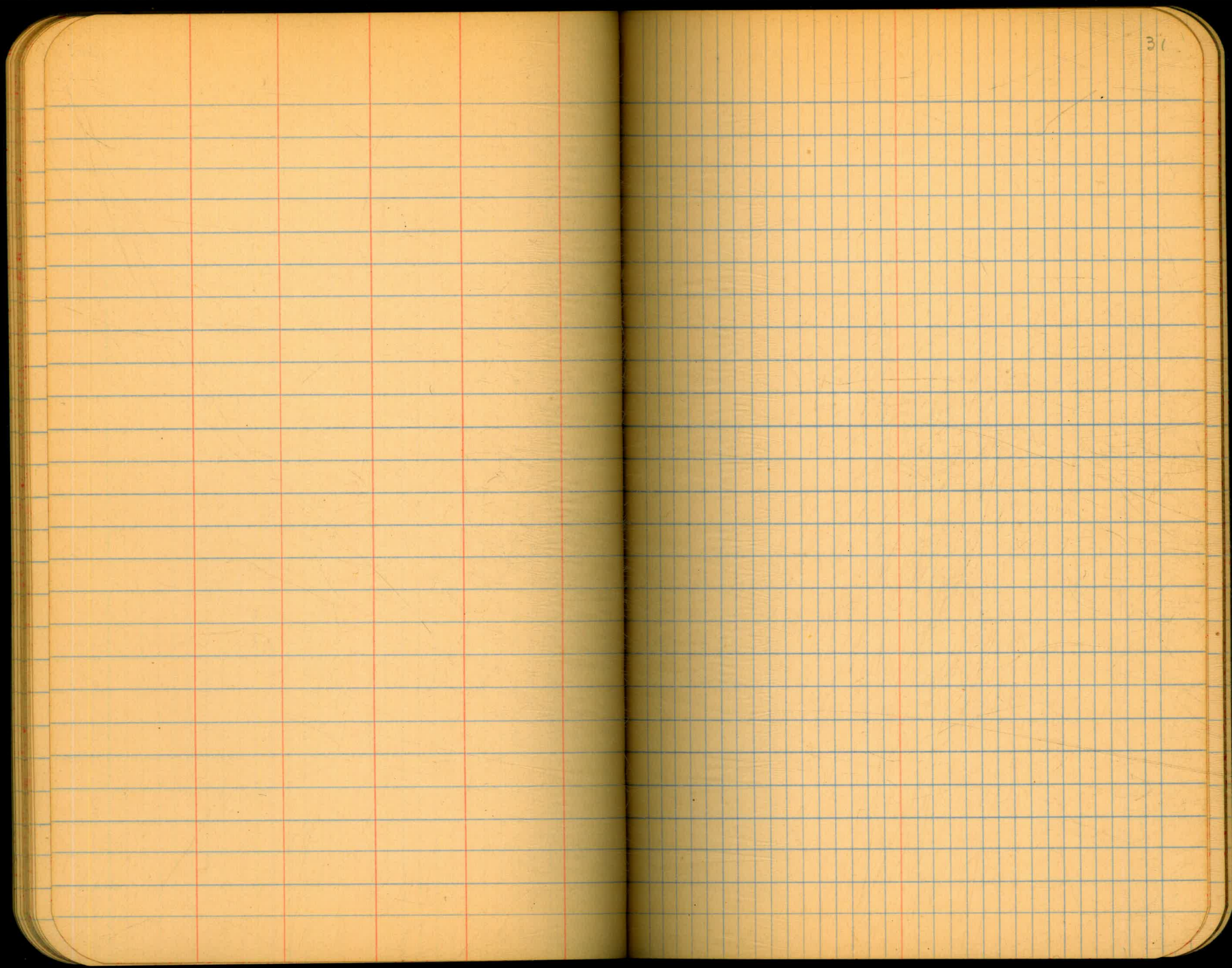


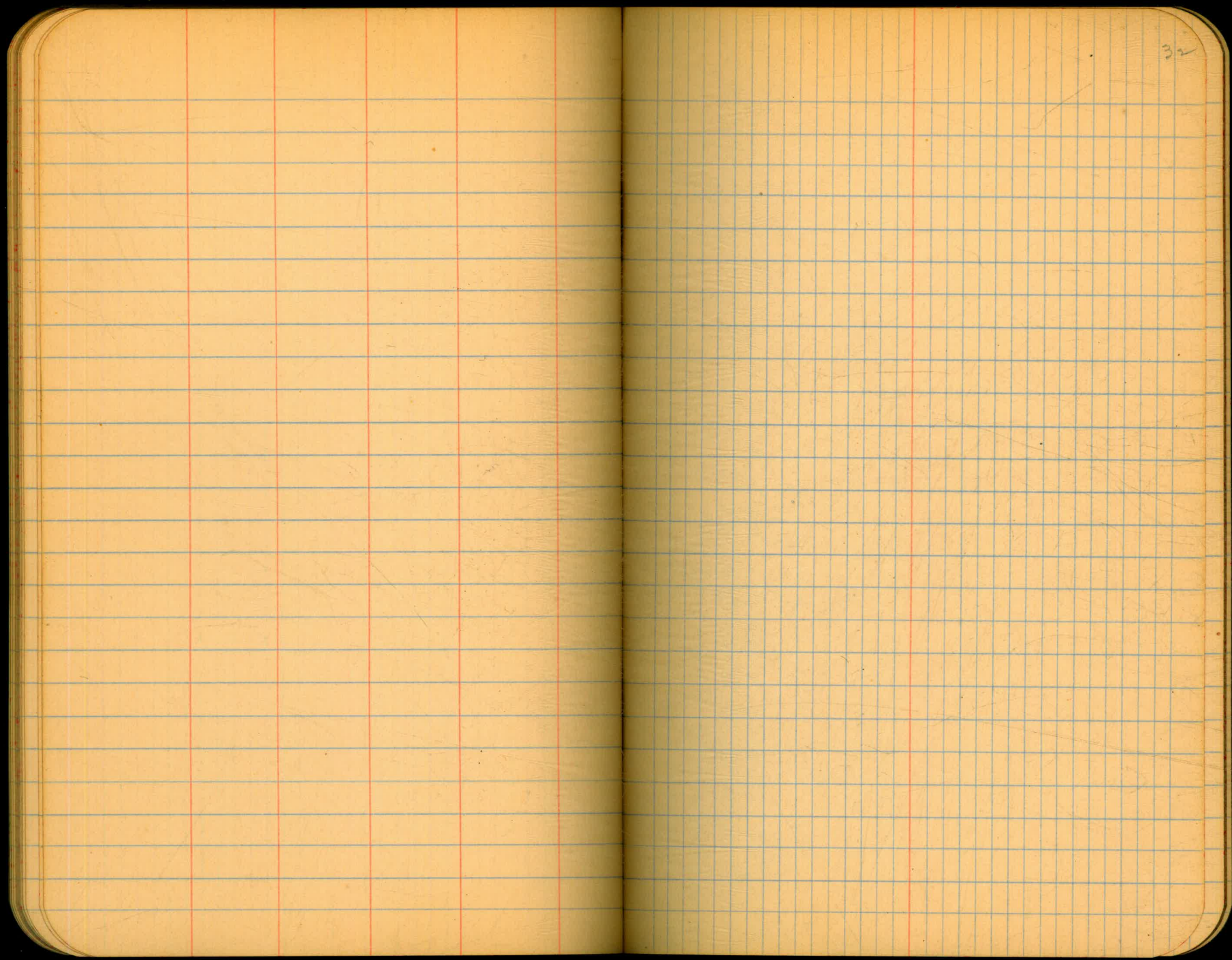






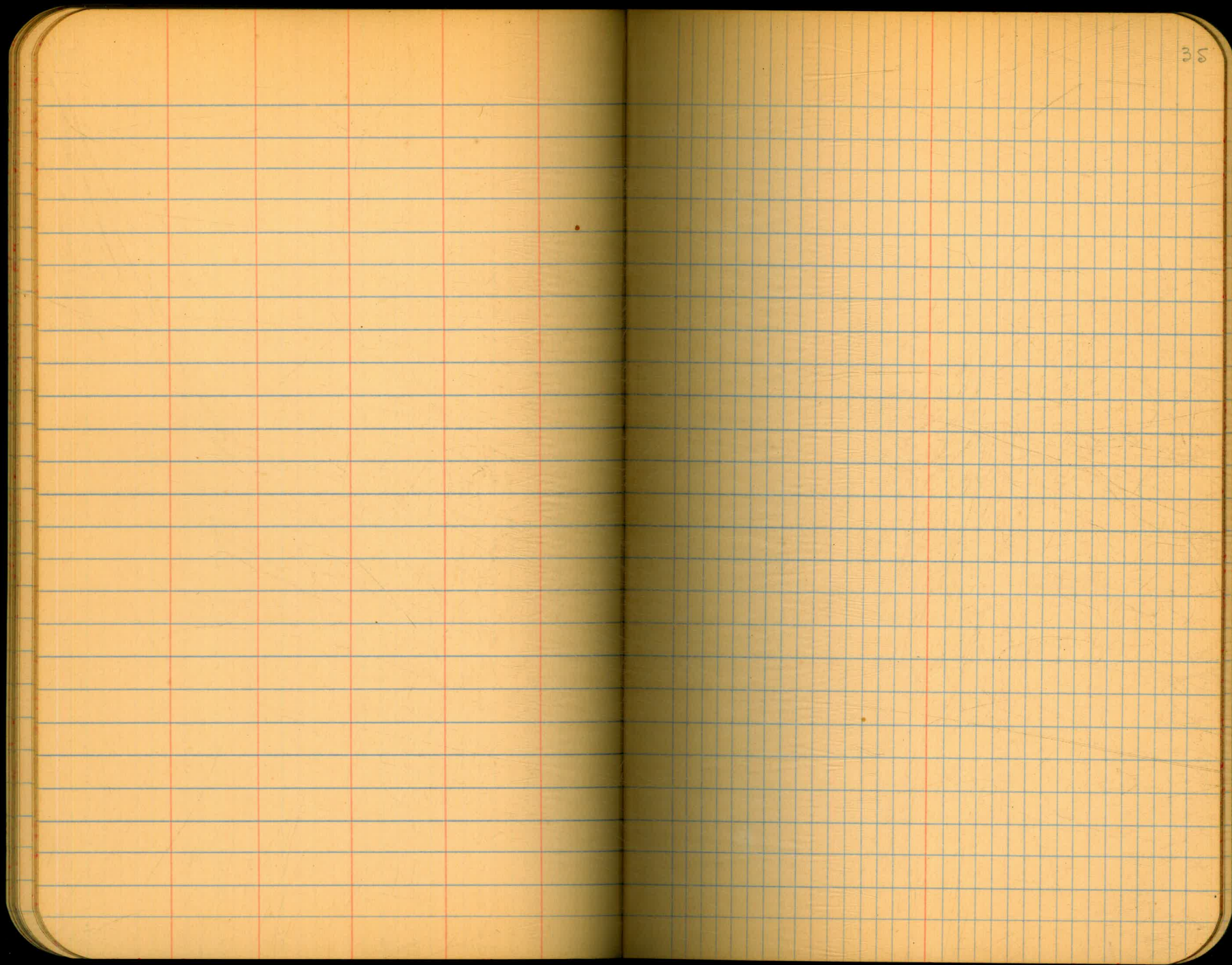




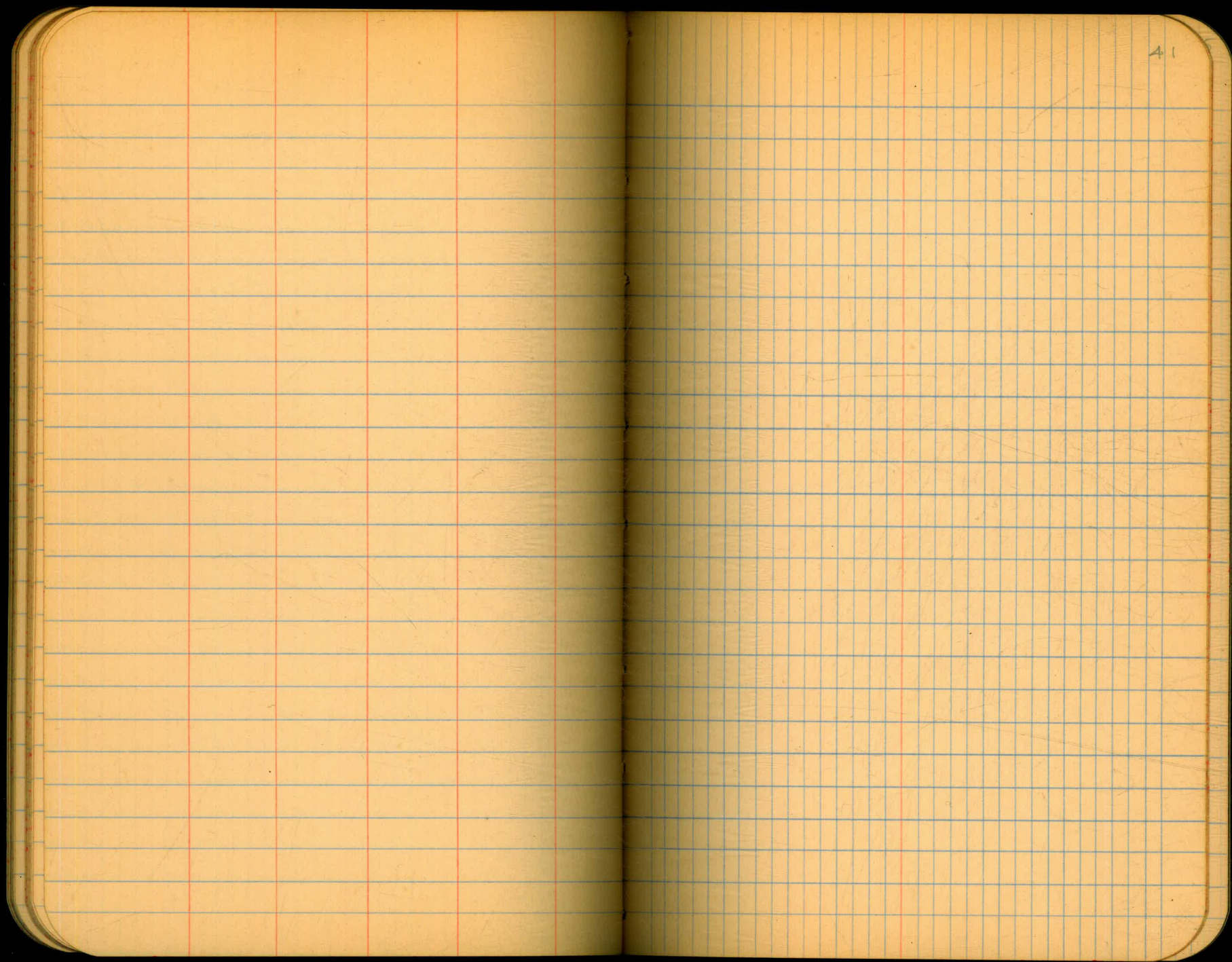


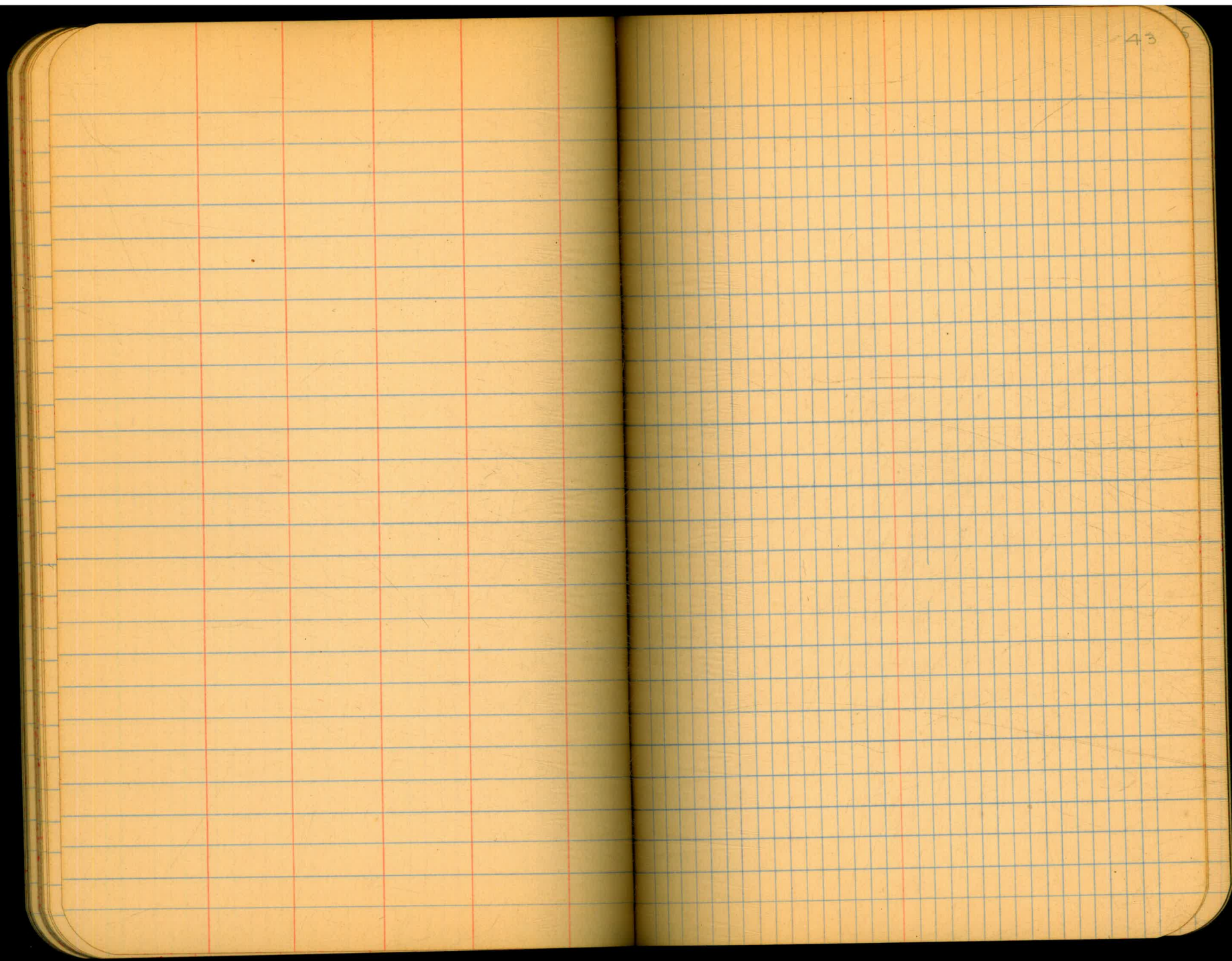
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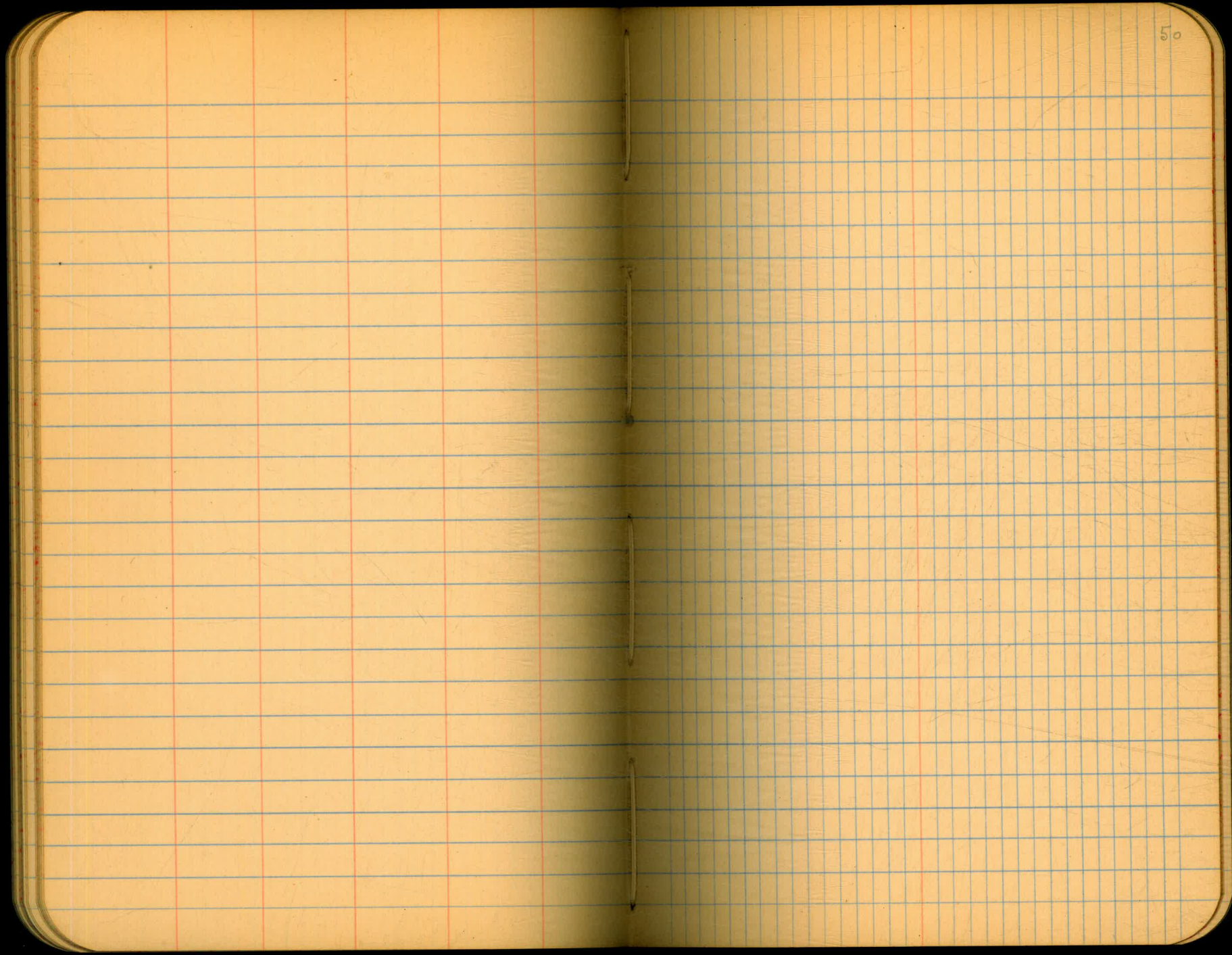


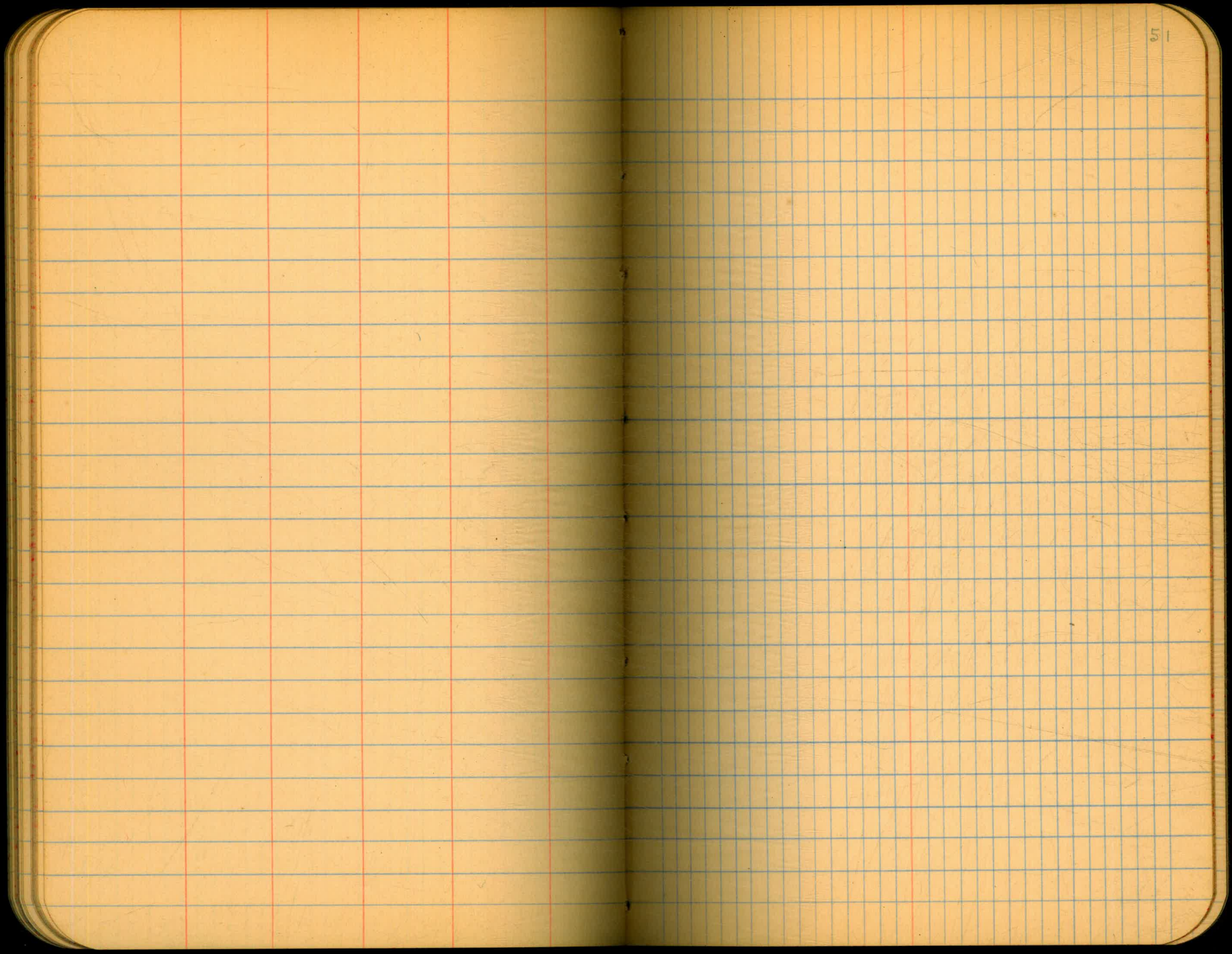


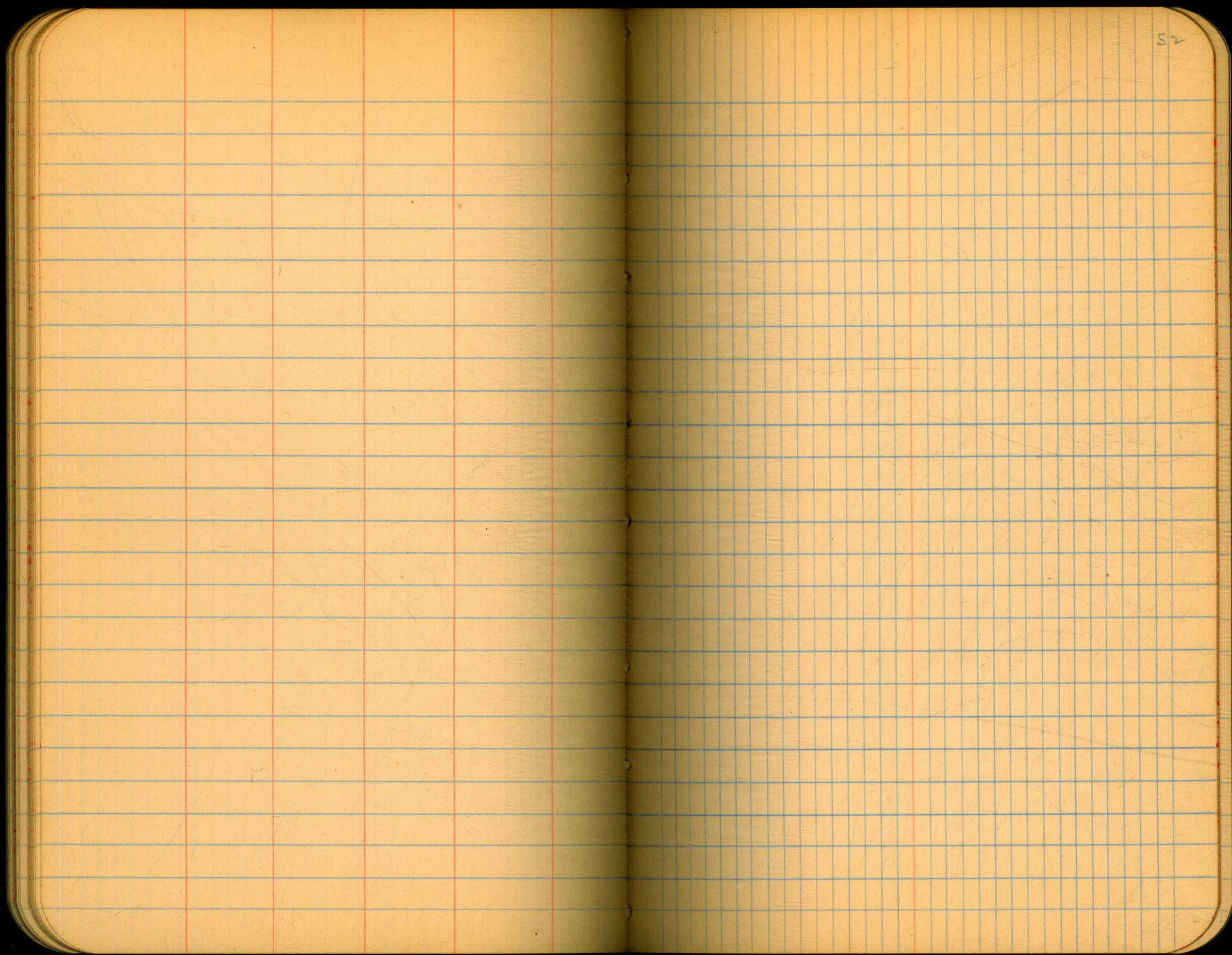
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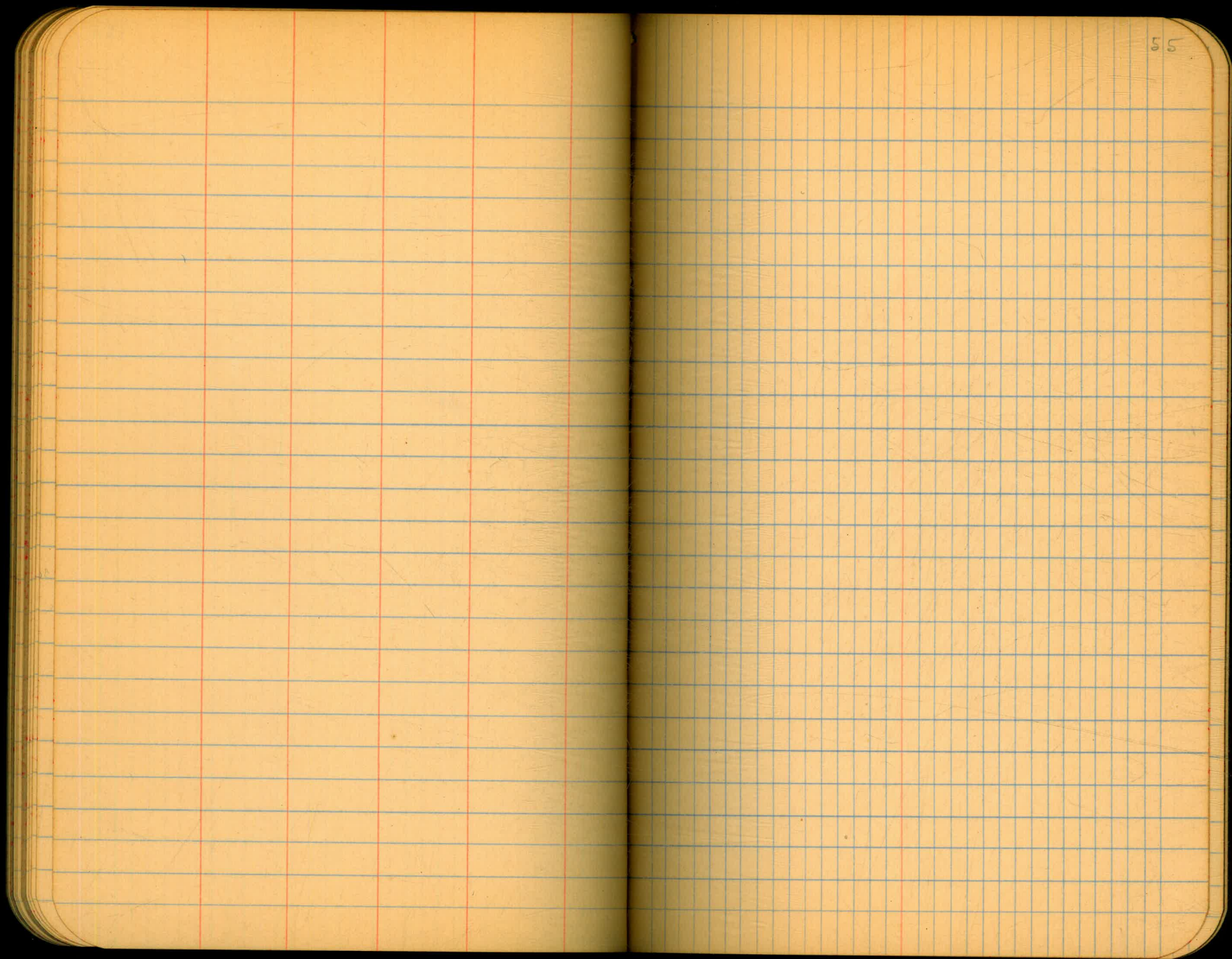




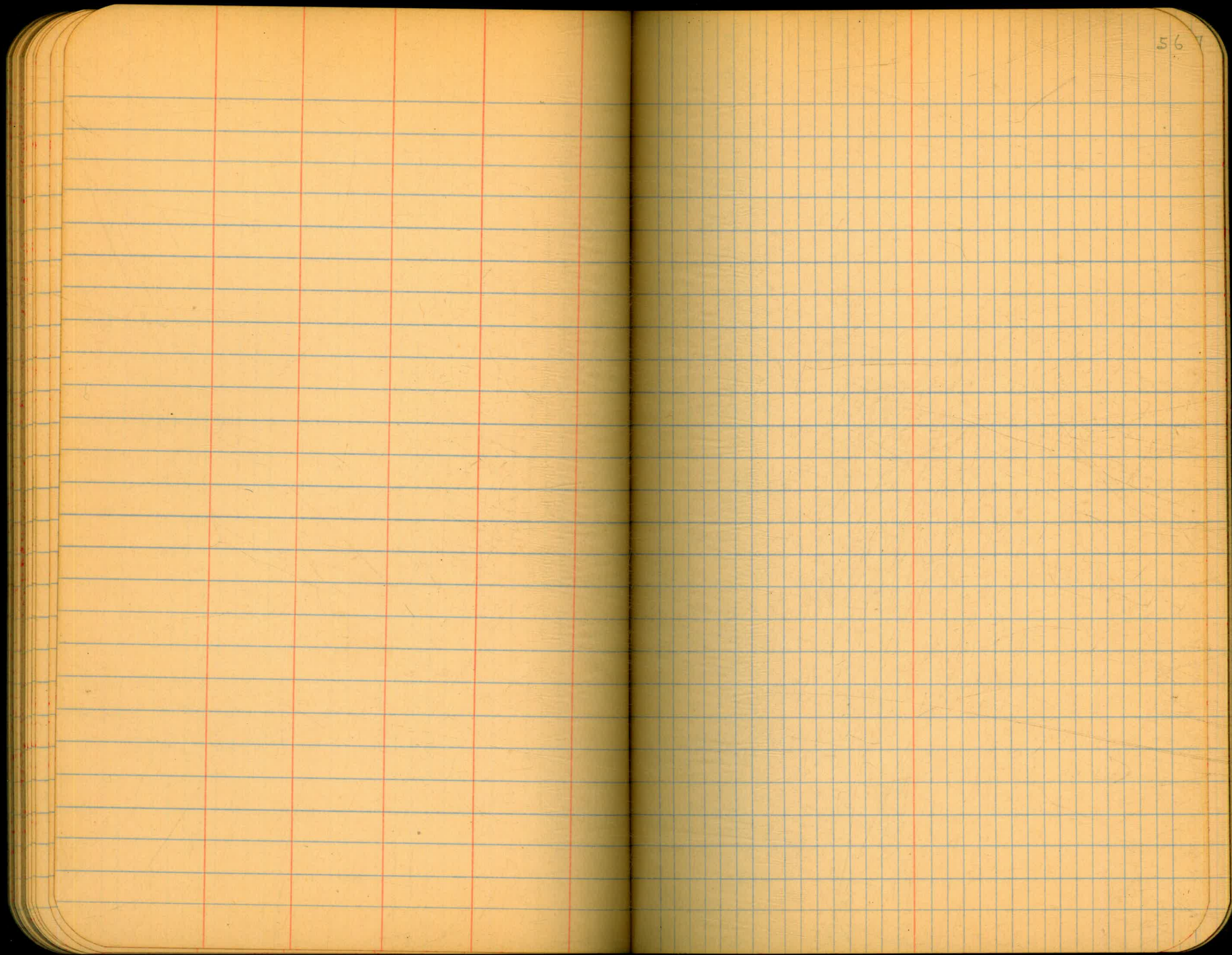


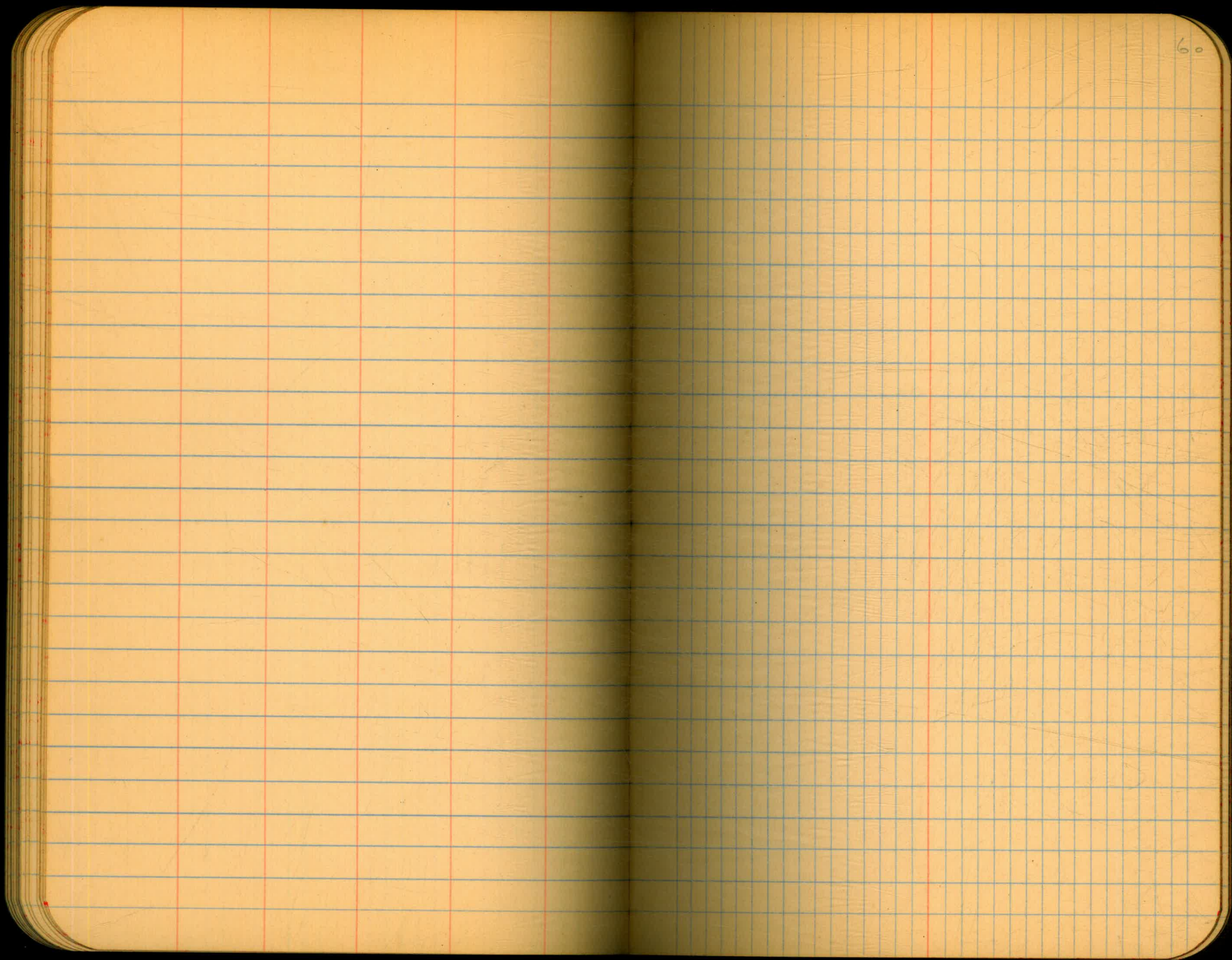


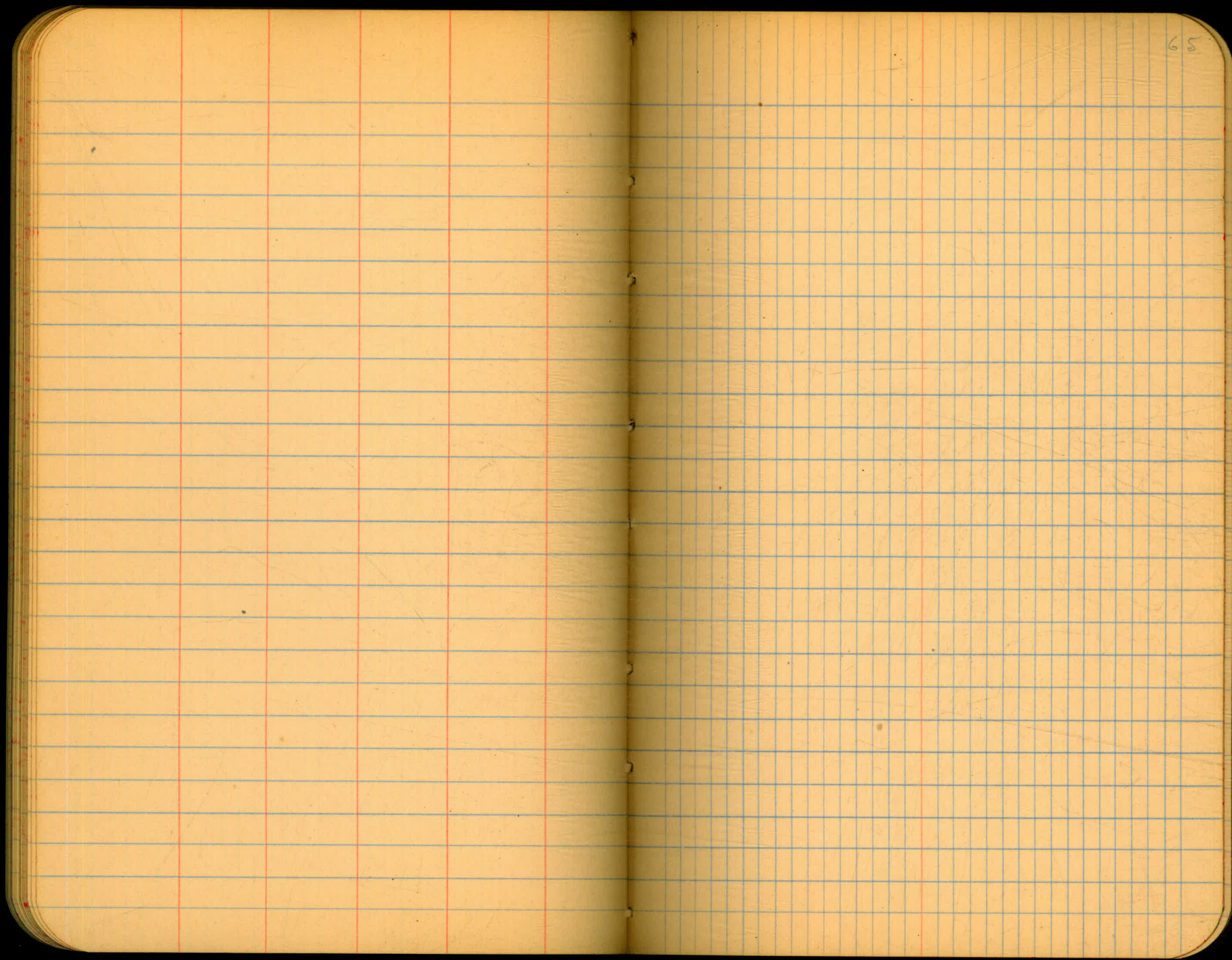
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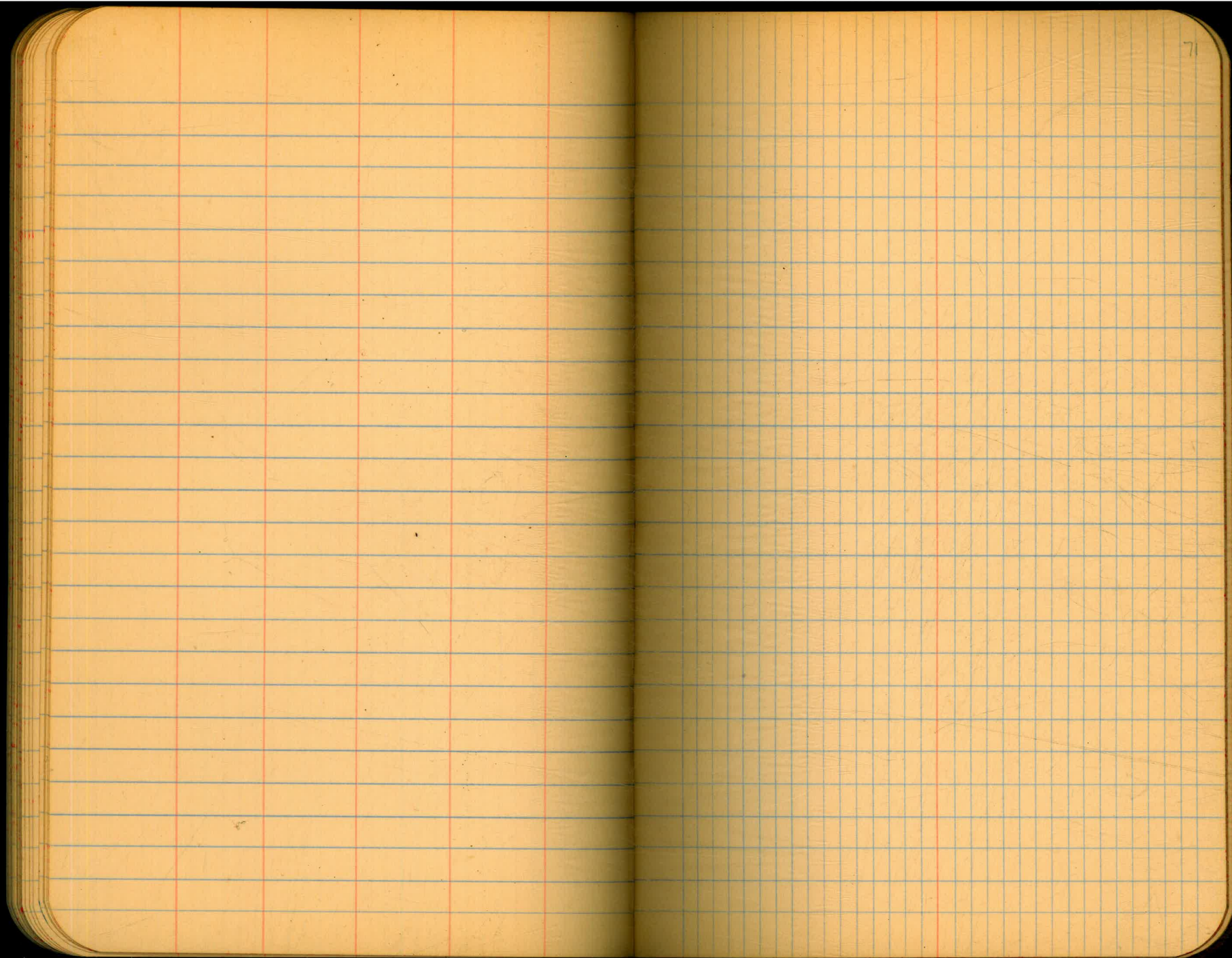
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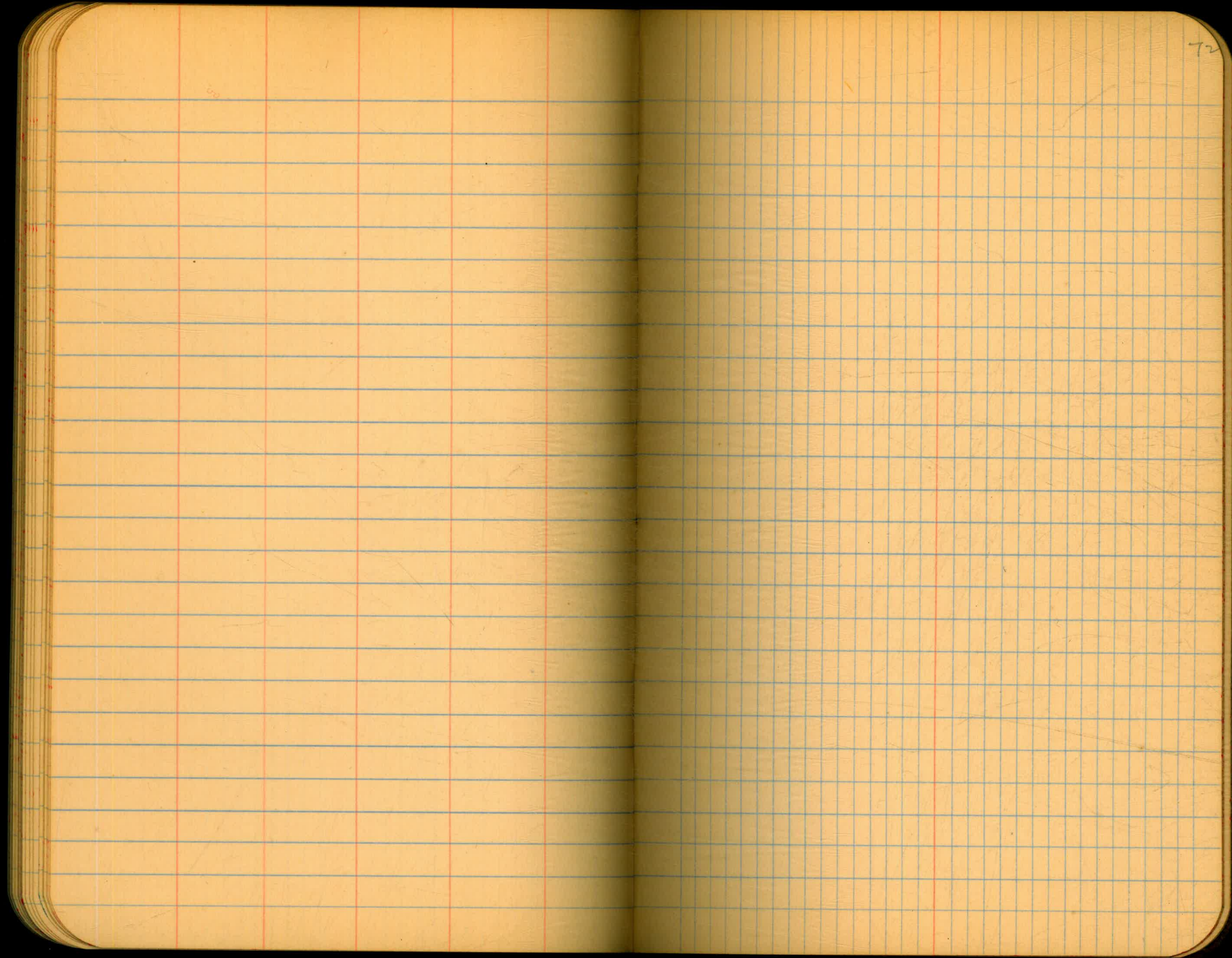






6





DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder
stake for any width roadway, slope 12 to 1.
If ground is nearly level, the cut or fill at the
stake is located by the double entry method in
left column and top row. The number in both

IMPROVED TABLES

AND

INFORMATION

To find T tangent and E level for curve of
any other degree divide by degree of curve and
add correction found in column of correction.
Degree of curve with a given T may be found
by searching tangent (or E level) opposite T by
given tangent (or E level).

The distance from a point on the tangent to
the curve is very nearly the square of the tangent
length divided by twice the radius.

1936.		Cement
		Sax
7/29	Bottom Valve Charn 13+00	45
7/30	" " "	42
7/31	" " "	26
8/3	Anchor 11+50	34
8/4	Valve Supporter beam 13+00	13
8/6	" " 7 of 17+00	16
8/8	Pier A = (26) 1 masted	25
8/11	" 1 + 10 (23) 1 "	22
8/14	" 23 + 35	22
8/13	Roof Valve Charn 13+00	17

2 Sax Cement		barrows
5.3 cu ft	Sand	2 marked on barrow
2.0 "	3/8"	1 " "
2.5 "	3/4"	1 " "
4.8 "	1 1/2"	2 " "

