

E. K.

Botany.

FIELD NOTE BOOK

CROCKER LAND EXPEDITION

1913 - 1915

NO. 33

Milk 4
Peas 2
Chowder 8+2
Tomatoes 4
Hash 8
Sugar 2
B.W. Flour
Meal
Butter 3
Corn 1
Beans
Oatmeal

August 17.- Left at noon for
C. Alexander, I to botanize
the rest to hunt walrus. Mac,
Etukichoo, Jot, Arklis, Nuka-
pingwa, Coblayah, Okpuddy-
shaho, Sammie and I comprised
the party. I was cook, as I had
to rise early to get breakfast.
We towed Sip-oo, his family, and
his boat, and his worldly goods
beyond Sukkroaddy. There we
left him to proceed on to Nerbre.
We saw several walrus en route,
great numbers of rabbits, and
woksookootu, some ptarmigan, and
many duck. We came back
to the little cove south of
Sutherland Island, where once
Hayes and his party stopped
on their way south, and there in
a beautiful comfortable little
spot, pitched our tent, safe from
all winds but northwester,
with water and a good land-
ing place convenient

Soil Sample No. 2

From plateau just north of the Falls
of Fall Creek. Apparently a wet place
until about two weeks or three ago
but probably early bare of snow.
Rather craggy and though generally
quite free from large rocks. Ledges of
metamorphosed sediments and
diabatic intrusions outcrop
within fifty feet. Resort of Ptarmigan

Arnica alpina

Papaver radicatum

Potentilla emarginata?

" *nivalis*

Alopecurus alp.

Festuca ovina

Cerastium

Agrostis

Ellyna Bellardii

Salix

Androsace

Melandrum agrest.

Carex rupestris

" *capitata*

Luzula multiflora

Saxifraga cernua?

Picrochloa

Glyceria dielsii

Draba hirta

Draba nivalis

Draba

Polygon. vivip.

at mouth of ravine 575
 at junction of Jals
 and Lank streams 750
 Top of plateau 1562
 " " butte 1870

Davis' small.
 Bar¹ then Bar² 7 fms.

10:34 80 -14 830

11:04 550 +5F 400
 600ft -150 450

At mouth of ravine

740 +7 1390 11:07 1/2
 11:34 790 -14 440 610-560

At junction of Lank & Jals streams

1630 -13 11:27
 12:04 1680 -18.5 2375 1545-1495

Top of plateau

2025 -4 12:00
 12:34 2000 -20 2520 1690-1715

Top of butte

1090 -3.4 12:28
 1:04 970 -19 440 610-660

At #3

900 -3.9
 1:34 850 -19.5 1300 970 520

At #2

450 -3.4 1:45
 2:104 400 -19. 810 -20+30

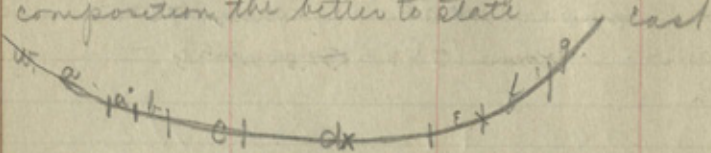
At #1

1.57

2:34

3:04

A Description of a cross section of
 Curling Brook ravine, the floristic
 composition the better to state



In a, a sunny, dry warm area, on the
 lee side of the valley, the windward
 side of the slope no snow, very little on
 b, more on, c, d and e, least to have on 2nd
 f, and on g progressively. In a

a - scattered *Pap. rad.*, *Sax. tris.*, *Dryas*, *Salix*
fr. vir. - *Carex rug.* - *Ell. bell.* - *Pot. Val.* - *Pot*
niv. - *Mel. apert.* and *antri.*

a' - where damper because more depression
 like - *Androm. tet.* - *Vac. ulm.* - *Dryas* almost
 exclusively, with some *Carex rug.* and some *Fest*
ovina.

a' - where dry - same as a with occas. *Sax. opp.*

b. - All of a + camp. unif. *Vac. ulm.* - more
Carex rug. and *Fest. vir.* - occ. *Draba hirt.* and
divalis and *Sax. opp.*

c - Much moss, *Salix*, and preponderance of
Carex sp. and *Polyg. vivip.* with *Poa* of and *Glycer*
with Ligula multiflora

d - dominantly *Graminae* & *Cyperaceae* & *Pap.*
Festuca ovina, *Hierochloa alp.* & *Polyg. vivip.* with
Alopecur. *Carex sp.* *Poa sp.* occas. *Pot. emar.*,
Ped. hirsut., *Stelaria longipes*, *Salix*,

Carex alp., *Ranunc. sulf.* *Enoph. ~~hale~~ poly.*

at x the stream *Saxifraga cernua*, ^{*invalis*}
~~*comosa*~~ - *Ror. nigra* & *Ran. pygmaeus*, *Draba*
flodi

e - dominantly *Salix*, *Junce. bglus*, *luz.* (*unif.*)
 Some *Oxyria*, *alop.* *Pot. niv.* + *run.* *Ped. hirs.*
 Much moss

f - Moss dominant, *Luzula unif.* some
Ran. fgg. *Carex alp.* Some *Fest. ovina* some *Poa*
 Much *Oxyria* Some *Sax. atell.* var. *com.* some
Sax. cern. some *alop.* Much *Ran. pygmaeus*

g - either dominantly *Luzula* some *Salix* & *Pap.*
 g - dominantly *Androm. tet.* " " "

Soil Sample No 4.

At foot of rock ledge overlooking
Purling brook. On south-west side - warm
sunny dry. Resort of ptarmigan. Almost
unweathered pebbles abundant as
see sample No. 5. No snow

Arnica alpina

Camp. unif.

Pap. radica (L. var.)

Sax. tricus

Glyceria sp.

Fest. ovina

Anten. nictitans

Potent. nivalis

Silene acaulis

Polyg. vivip.

Hier. alp.

Leuz. mult.

Salix herb.

Ellyna bellard

Dryas

Carex sup.

" *marit.*

Poa

Stell. longi.

Soil Sample No 5 - Almost new soil
derived from the igneous rocks of the region
but not so certainly a pure derivation as
Soil Sample No. 8

Soil Sample #6.

From opposite slope from No. 4th 5 where snow lies, soil creeps and water constantly saturates. Almost only vascular plants are *Saxifraga* ^{reticulata} ~~mutabilis~~ ^(?), *Cernua*, and *Skottlin*. A few *Juncus biglumis* and *Luz. mult.*

Soil Sample No 7.

From sunny, rather damp swale on south side of this Ridge in region of rock ledges and weathering talus. Rather dry on surface but seepage comes down the swale. Preponderantly filled with *Androm. tetr.* *Salix* are ^{Fr.} *Salix* herb. Occasional plants - *Pyrola*, *Oryza*, *Lycopodium*, *Luz. mult.*, *Pedicularis*, *Asplen. adnigrum*, and *Green acaulis* and *Sax. hypn.*, *Olig. viv.* *Carex men.*

Soil taken in *Andromeda*, *Pyrola* and *Lycopodium*.

Photograph to show *Andromeda* preponderance.

Soil Sample No 8.

Pure disintegrating rock from South
side of Uni Ridge.

Soil Sample No 9.

From sunny, rocky, deadlake depression
on south slope of University Ridge.

Rhododendron lapponicum

Carex micnura

Claytonia Bellardi

Dryas

Papaver rad.

Gray fungus or moss

Scaglion moss

Polyp. vivip.

Oreas alpi.

Agrostis nivalis

Salix

Vacc. uligin.

Soil Sample #10.

From west slope of Arnica gorge
among large rock fragment talus.
Great place for tarragon.
Rather loose light warm soil.
Sunny shelf-like place.

Arnica alpina

Antennaria

Melandrium affine

Campanula unif.

Theraclops

Salix

Potentilla nana

" *emarg.*

Laxifraga lucida

Glyceria dictans

" *tinella?*

Poa glauca (?)

Carex nuphetoides

" *capitata*

Ellyna Bellardi

Alumina stricta

Calanog. purp.

Papaver radicatum.

Soil Sample #11.

From little plateau at N.E. end of
the barrier at beginning of University
Ridge.

Ground covered with slabs of
shingle of sedimentaries here devoid
of their usual cap of igneous. An
outcropping igneous ledge along the
southeast side forms a lee for the
accumulation of much snow and
in early spring the resultant drift
extends across the plateau. Gradually
as the snow melts back from the edge
the plateau dries. Because the plateau
is so level considerable soil has accu-
mulated, and it is in this soil among
the sedimentary slabs and boulders
that *Woodia glabella* grows. It is a
warm sunny spot.

Woodia glabella

Polygonum viviparum

Carex ustulata *Ellyna Bell.*

" *capitata* *Draba niv.*

Salix arct. " *sp. (small yellow)*

Luzula multif. *Alumina stricta*

Helina aculeis *Oxyria digyna*

Saxif. opposit.

Papaver radicatum

Oryza sativa

List of additional plants on
plateau of Soil Sample # 11.

Draba pleurizensis

Melampy. spet.

Ernoph. polyph.

Cross. alp.

Carex rupestris (on dry places).

Pedicularis In damp self-shading crevices.

Carex sp.

Juncus triglumis

Arctostaphylos latifolia

Poa glauca.

List of plants in so-called solifluction
mounds on sedimentary talus plateau for 200 ft.

Dryas

Diapra

Salix

Glyceria dist.

Papaver

Saxif. oppos.

In damper place *Pedicularis* now developing

Entire absence of *Andromeda* + *Vacc.*

Carex rupestris

Polyg. vivip.

L. of p. in depressions on top of Univ.
Ridge where snow accumulates and
soil forms from great disintegrated boulders
of the gneiss rock.

Andromeda tetrag.

Salix

Dryas

Calam.

Saxif. opp.

Polyg. vivip.

Glyceria dist.

Papaver

Lycop. Sel.

Luz. vivip.

Silene acaulis

Junc. triennis

Salix ovata

Potent. nivalis

Cross. alp.

Hieracium.

L. of p. on moraine portion of crest of
Univ. Ridge

Dryas

Urtica

Carex rupestris

Pap. radica.

L. of p. in sol. lines on clayey, sedimentary
slope above Arica gorge 300 feet

<i>Salix</i>	<i>Carex</i> var.
<i>Tetrag.</i>	" not.
<i>Rhynchos</i>	<i>Elyna</i> Bell.
<i>Papaver</i>	<i>Carex</i> caput.
<i>Glyceria</i>	<i>Sax.</i> spp.
<i>Fest ovina</i>	<i>Luz</i> var.

L. of p. on Arica ledge, Arica gorge

<i>Campanula</i> unif.	<i>Potentilla</i> mura
<i>Melandrum</i> affine	<i>Sax. tricus</i>
<i>Salix</i>	<i>Stal. long.</i>
<i>Papaver</i>	<i>Carex</i> ruf.
<i>Rhynchos</i>	" var.
<i>Glyceria</i> tenuella	<i>Elyna</i> Bell.
" angus	<i>Drab. nival</i>
<i>Hierochloa</i>	<i>Potent.</i> Vahl.
<i>Luzula</i> mult.	<i>Fest ovina</i>
<i>Antennaria</i>	<i>Calam. purpu.</i>
<i>Tris spic.</i>	

List of p. on Arica ledge first found
in Arica gorge. *Arica alpina*

<i>Campanula</i> unifera	<i>Festuca ovina</i>
<i>Antennaria</i>	<i>Papaver</i>
<i>Glyceria</i> tenuella	<i>Carex</i> rufes
angus	" rican.
<i>Poa</i>	<i>Elyna</i> Bellarde.
<i>Melandrum</i> affine	<i>Luzula</i> mult.
<i>Salix</i>	<i>Papaver</i>
<i>Potentilla</i> Vahl.	<i>Saxif. tricus</i>
" riv.	<i>Silene acaulis</i>
<i>Hierochloa</i>	<i>Calamagrostis</i>

Soil Sample # 12 -

From northwest end of Arnica Gorge on slope where soil from disintegrating diorite has formed. Sunny warm slope. See list of plants on preceding page
Aug 11, 1914.

Soil Sample # 13

From east side of gorge of stream near igloo Sonntag Bay where *Arnica alpica* and *Erigeron erioccephalus* grow in profusion. Collected August 25, 1914.

The plants of Sutherland Island visited August 18, 1914.

This island is entirely sandstone deposited in massive beds and fractured and parted by joints perpendicular to the bedding planes. Great blocks of sandstone lie about and form the rocky talus slopes, and great ledges that characterize the island. The entire island to the top has at one time been submerged and the sandstone impregnated with salt, which now is precipitated on the outside of the stone forming an incrustation composed of (to be determined by analysis of Sample S. I. #1). The presence of this saline incrustation is evidence of the impregnation of the rock by salt.

This salt renders all the water on the island that I tasted quite saline and unfit to drink.

Great numbers of *Alle alle* nest in the rocky talus slopes and the *Pomateria mollissima* borealis and *Larus hyperboreus* nest on the ledges, the former where grass is growing, the latter on

the rockier ledges. Thus in places there is considerable guano, and also where the water flows down through the guano and over the slopes the sand soil becomes more or less fertilized.

The basis of all the soil on the island is sand, and apparently no other constituent except silicon dioxide occurs in the rock or the its derivatives. Few if any lichens or mosses grow on the sand and the nutrient matter appears to be derived entirely from the guano, either directly or by transportation by water.

The island is windswept and bears the brunt of all winds and all seas, so characteristically stormy about Cape Alexander.

The plants found were:
See Herbarium

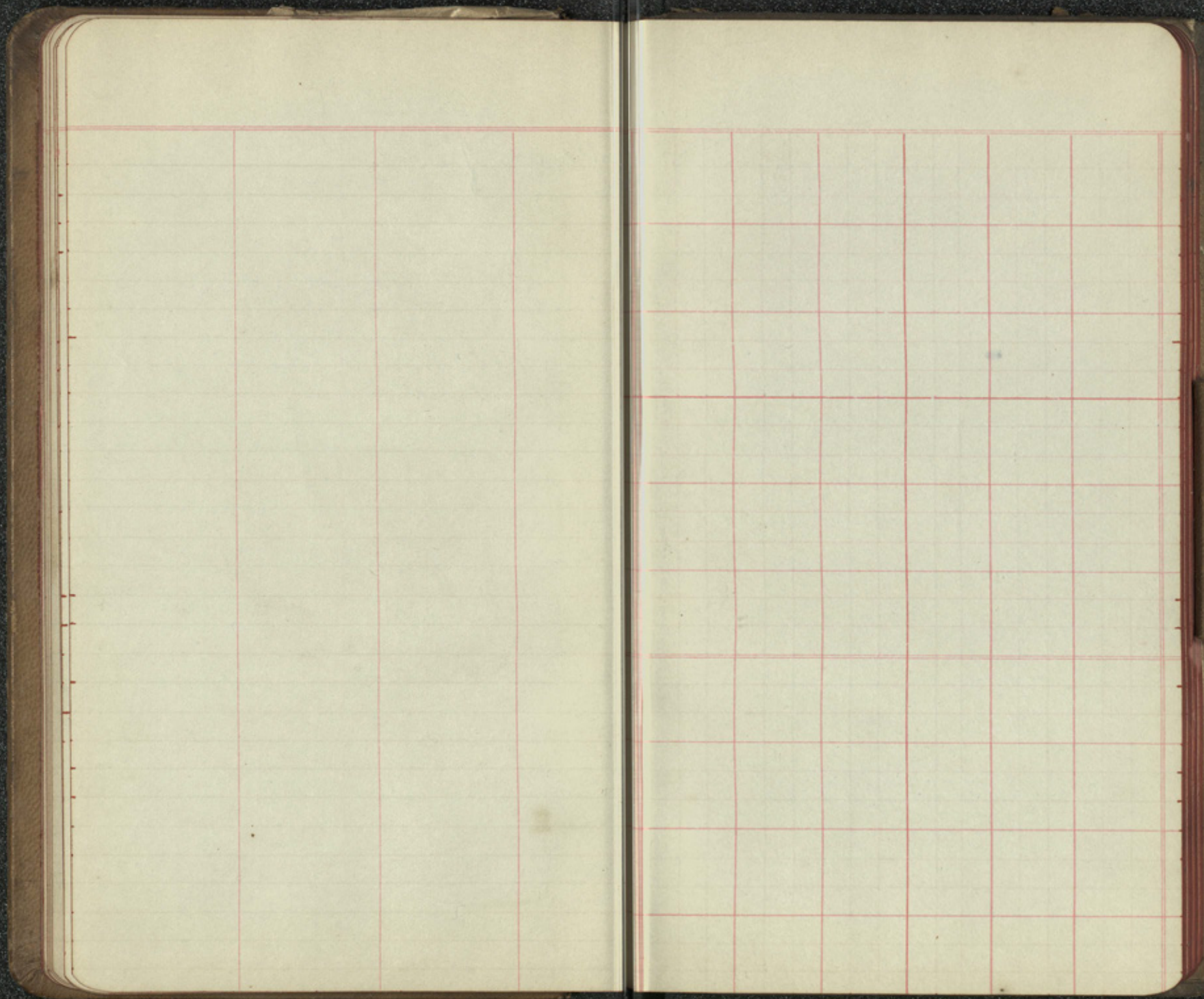
Plants of Hayes Harbor, studied
and collected August 19, 1914.

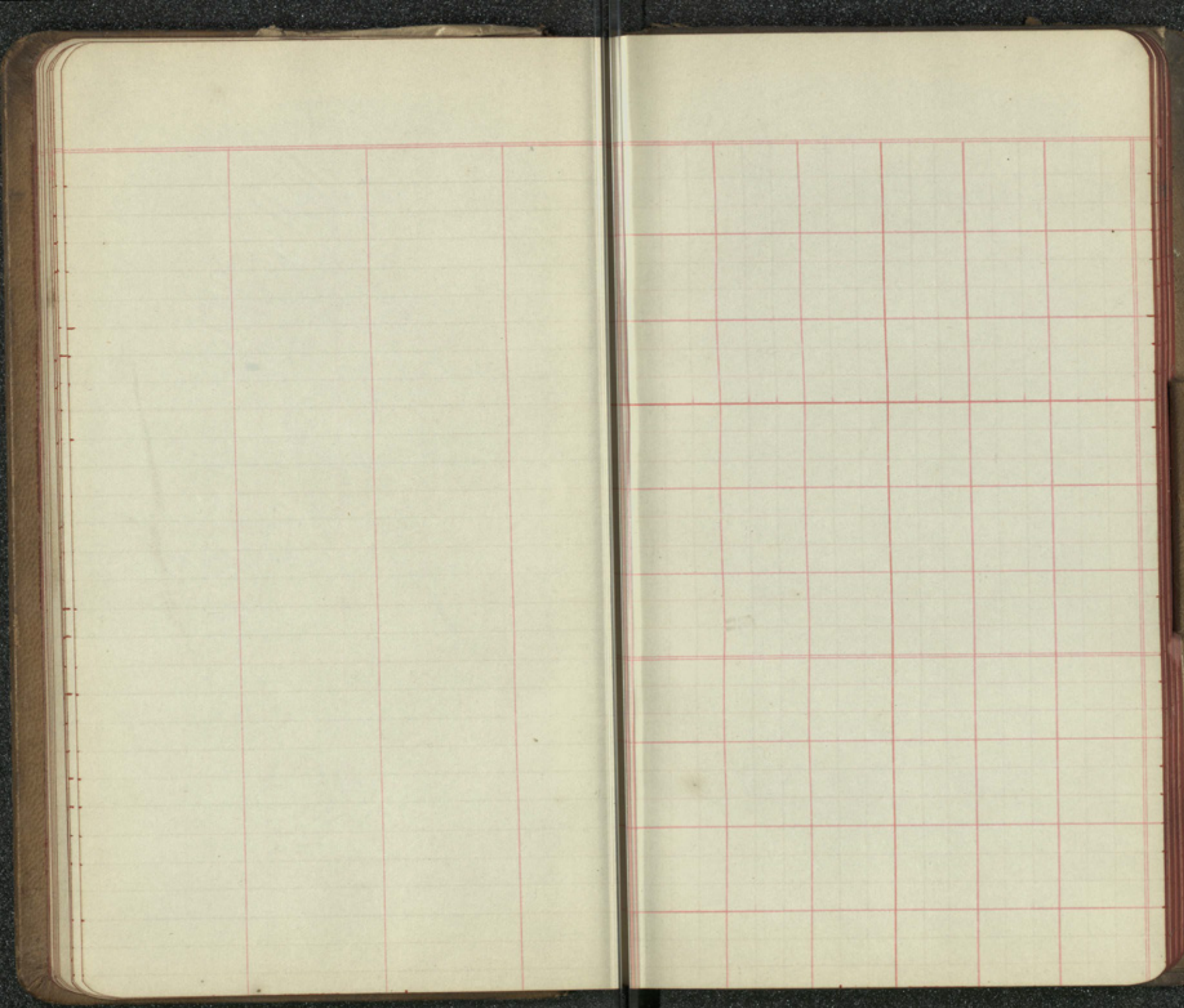
This little cove of the mainland
lies perhaps $1\frac{1}{2}$ or 2 miles south of
Sutherland Island. The rock up to
800 or 900 feet is all sandstone
but above that it is capped by
about 200 or 300 feet of igneous
diorite. The slopes are very
steep, but in the talus a rich
well watered soil, manured by
abundant bird guano, has
formed, on which a lush and
varied vegetation has developed.
In two hours collecting there
I found 35 species - of which the
gramineae and cyperaceae
formed only a small portion.
The plants found were

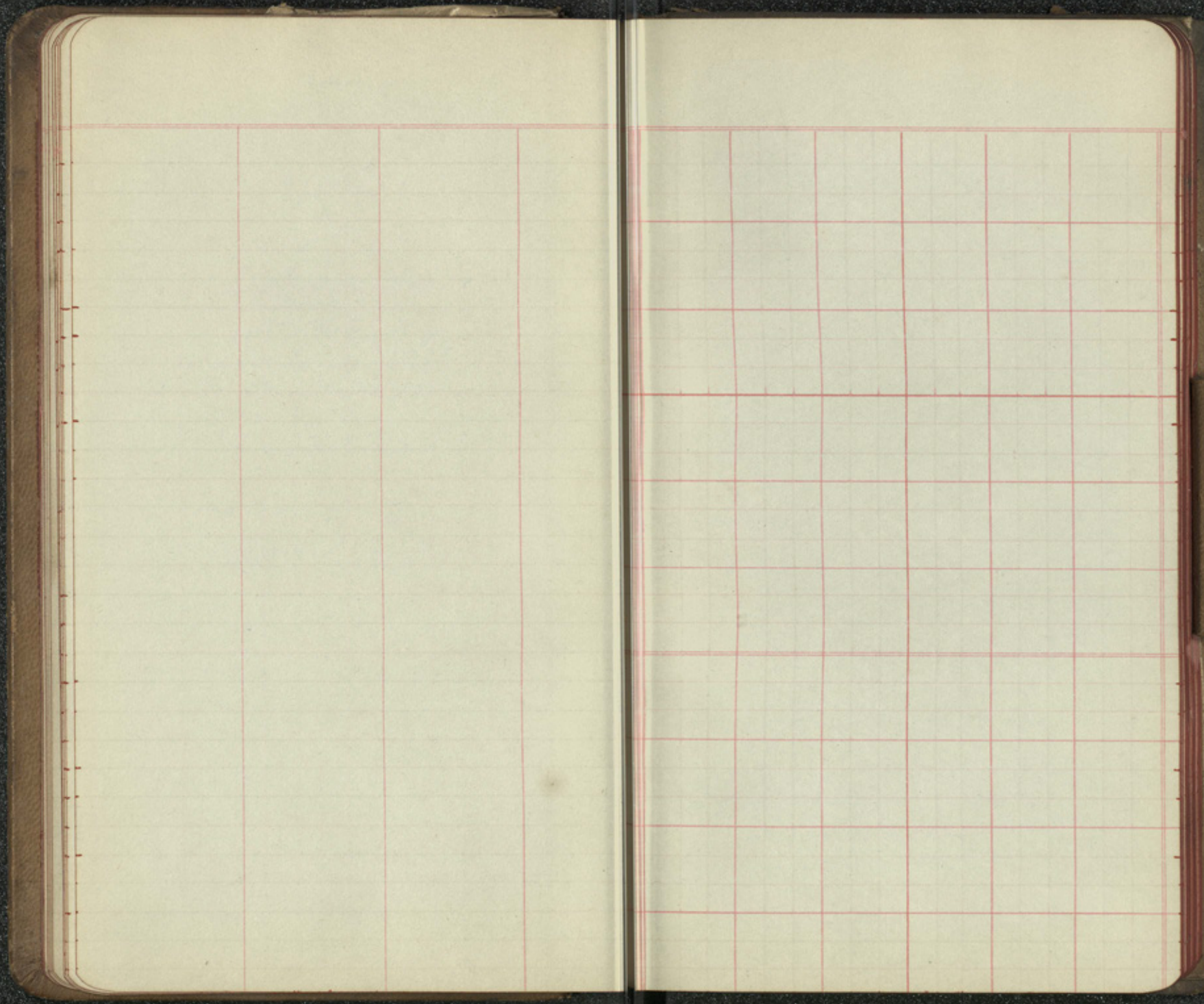
(See Herbarium)

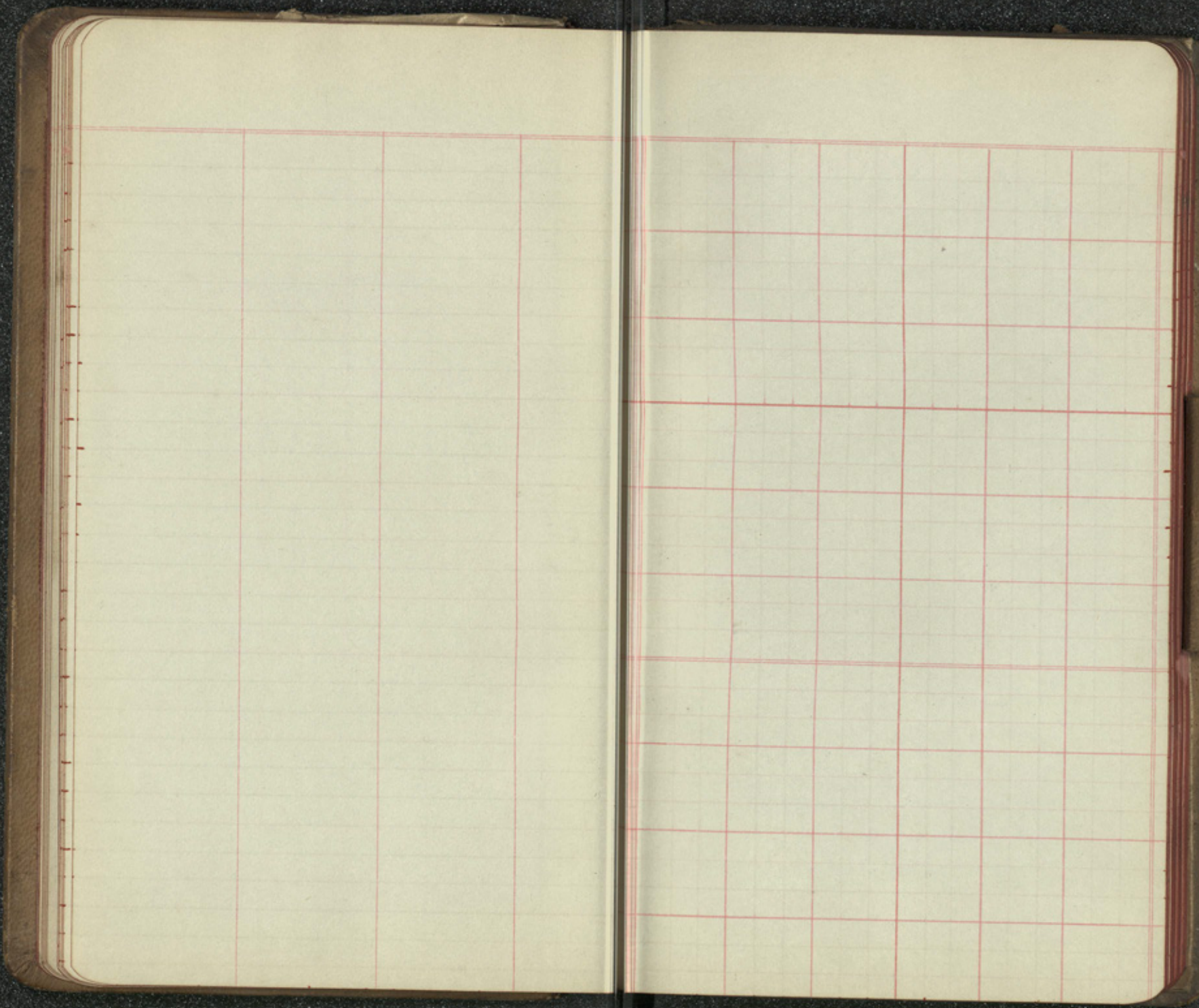
The proximity of these slopes to
Sutherland Island gives a distinct
emphasis to the paucity of life on
the latter, as compared with the
mainland. What is the cause of
this paucity?

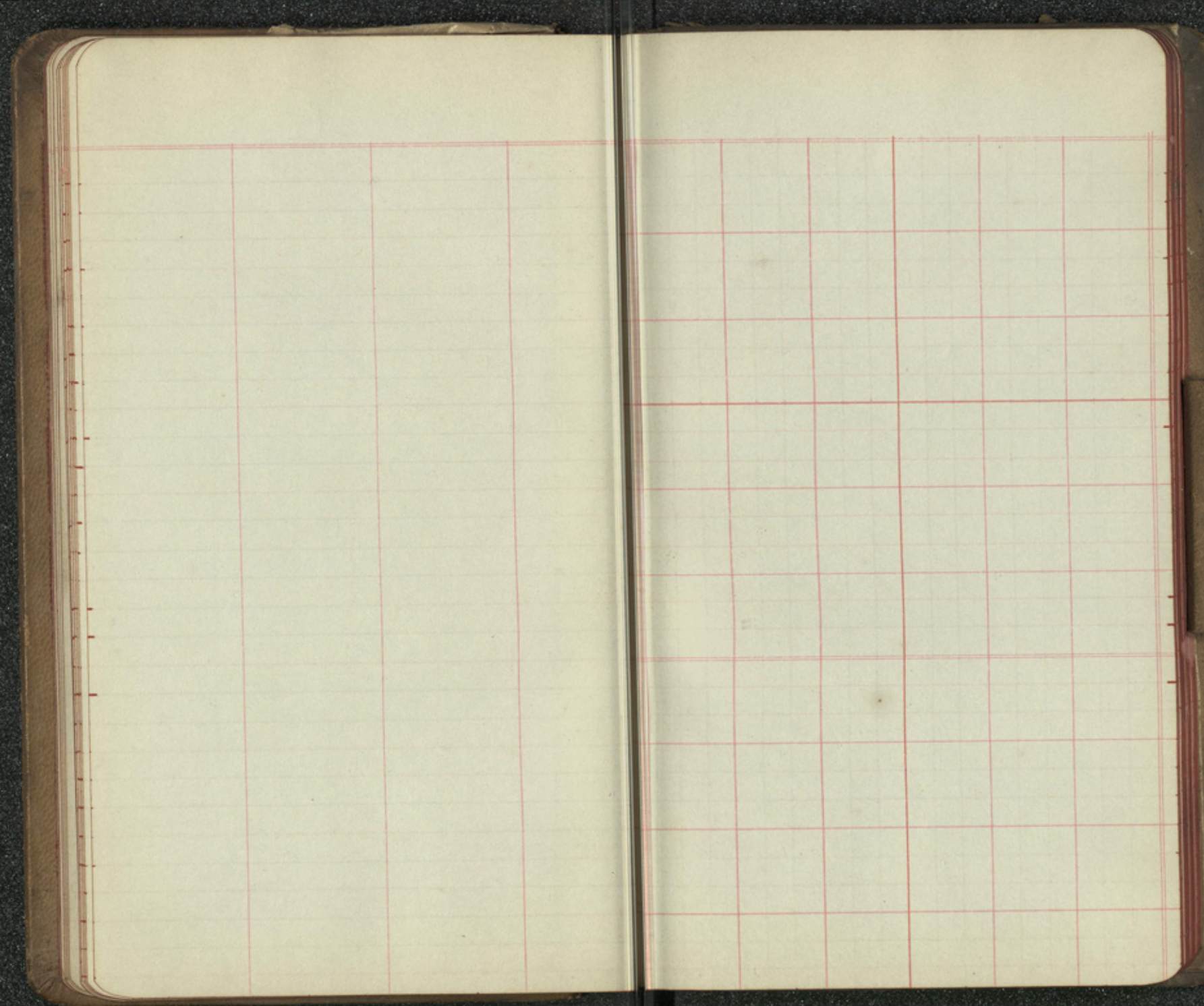
Plants of

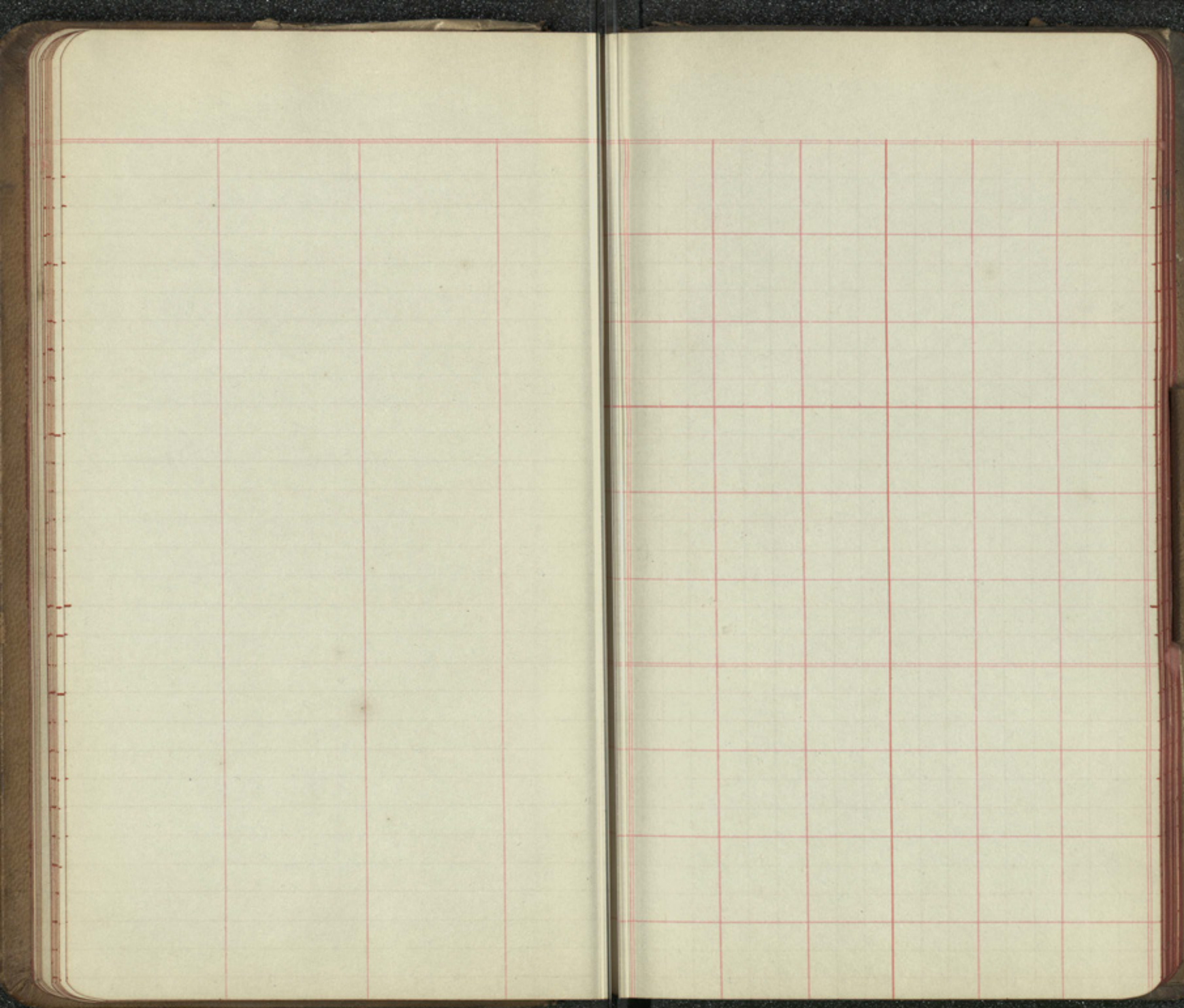


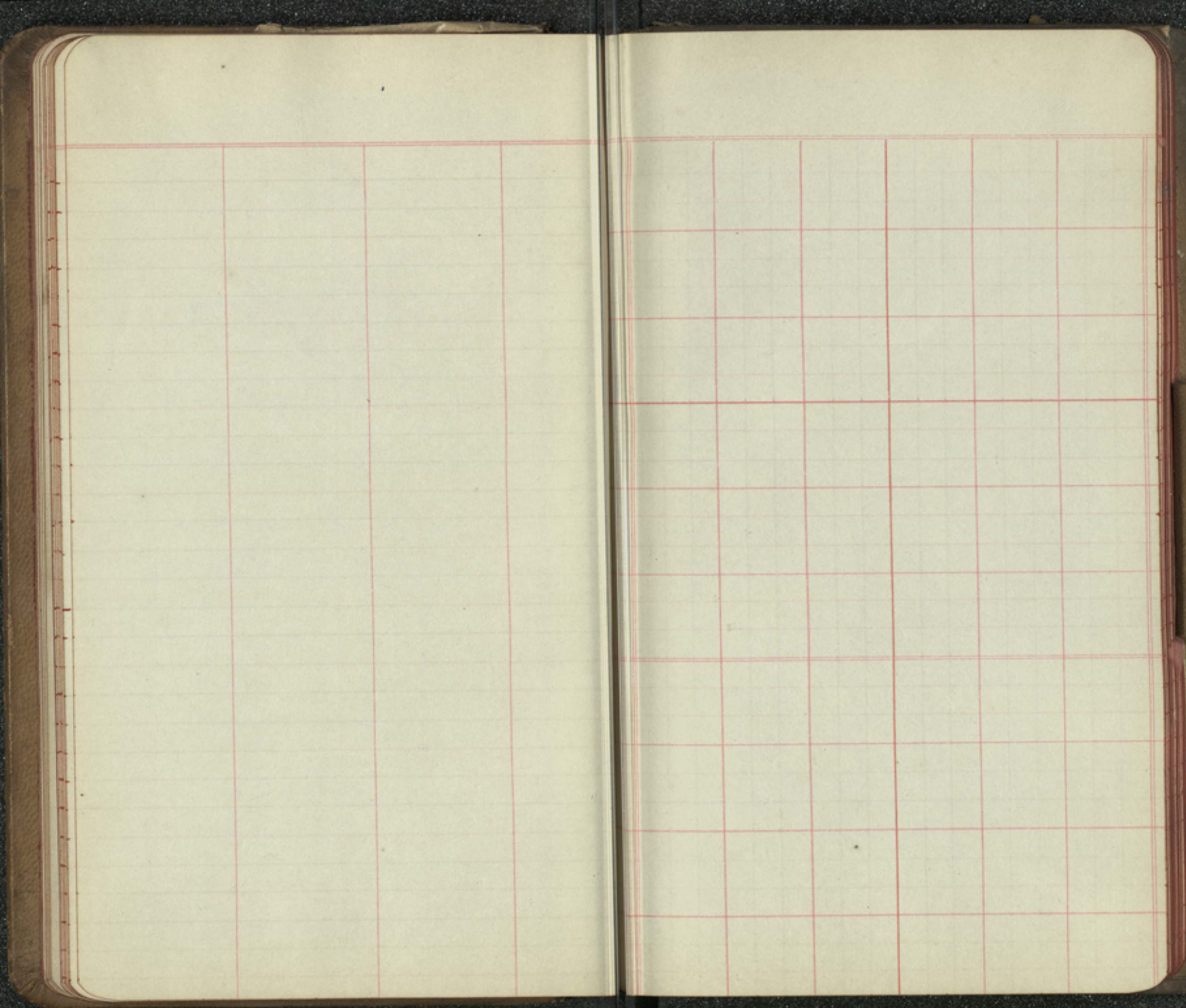


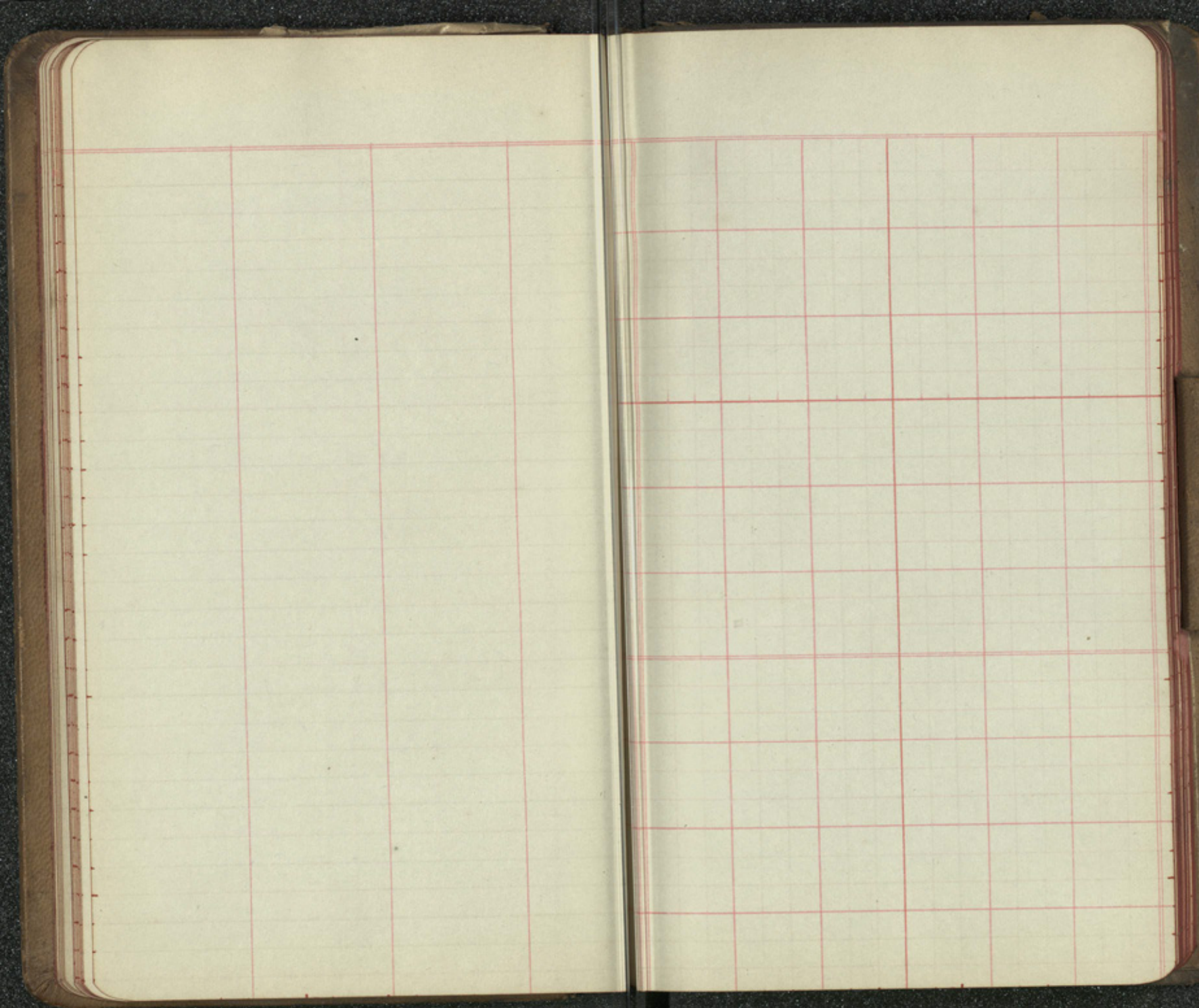


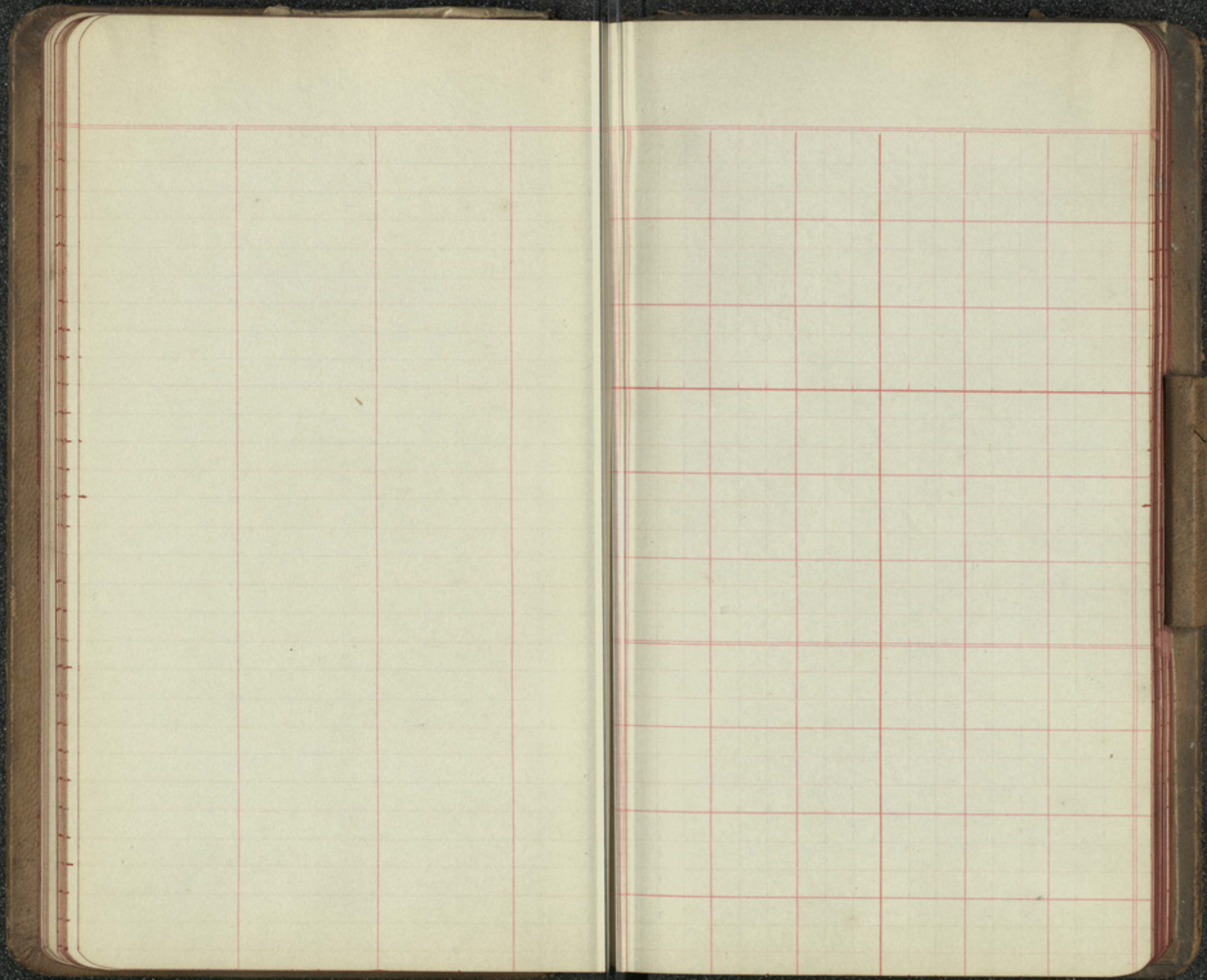


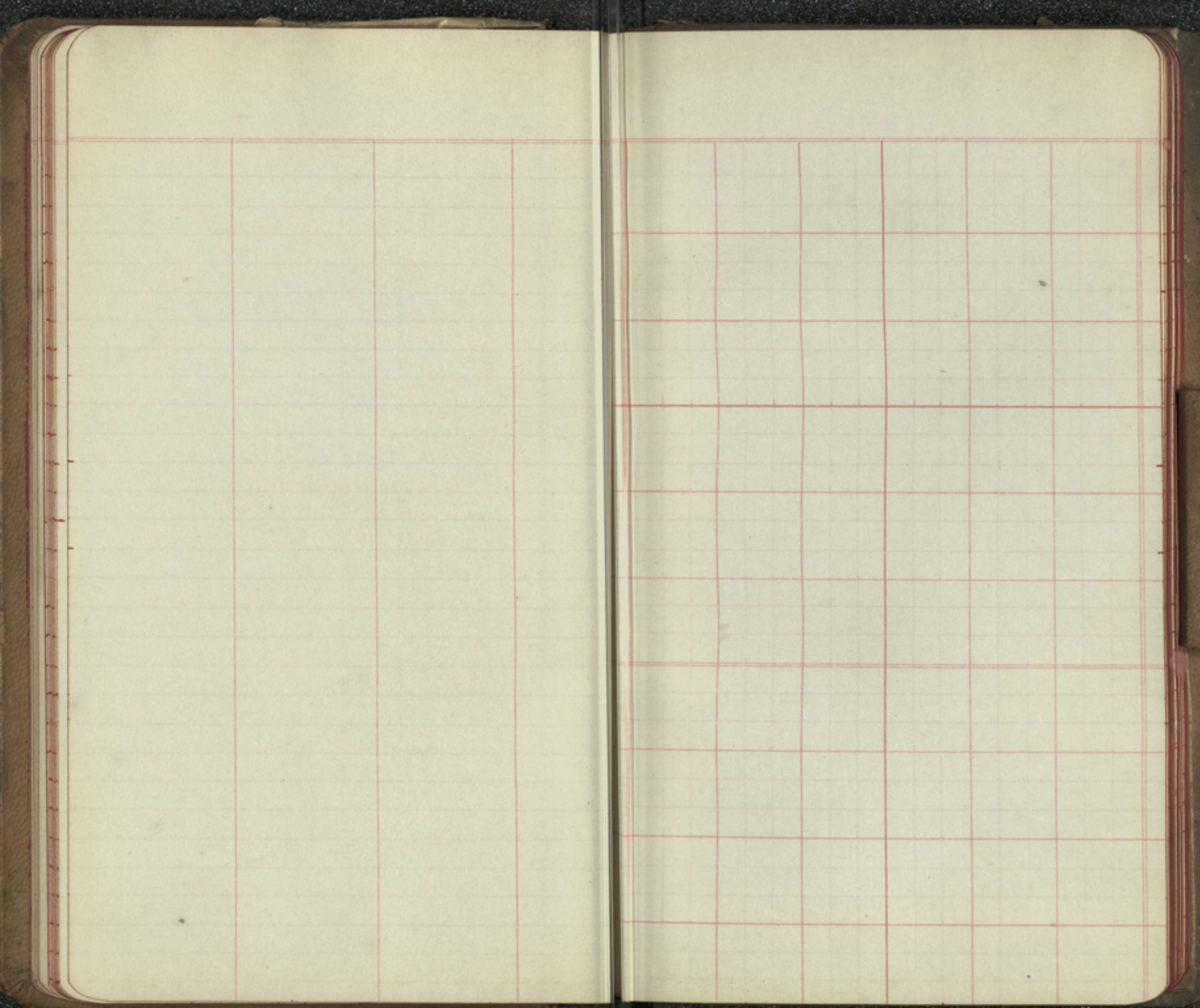


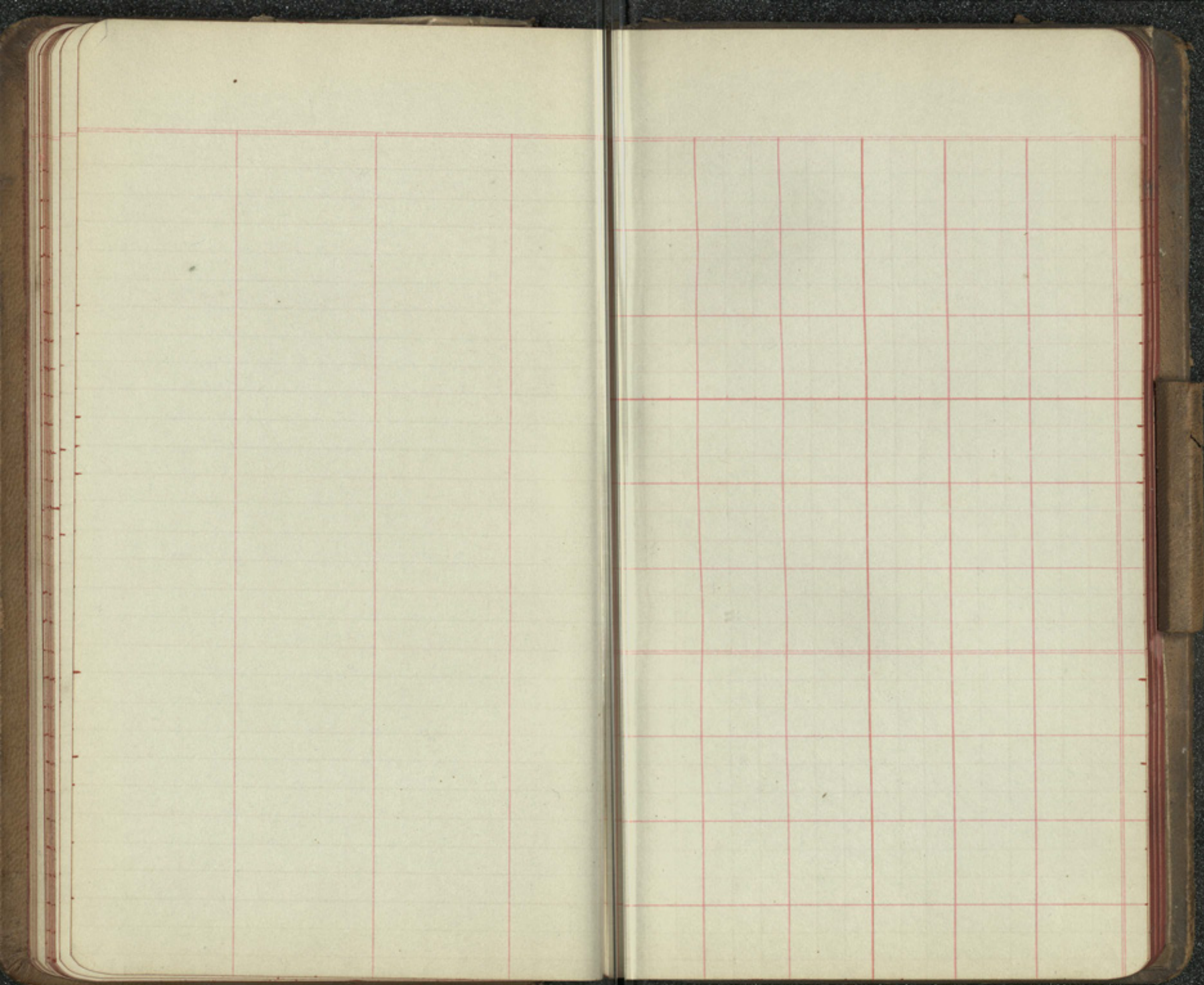


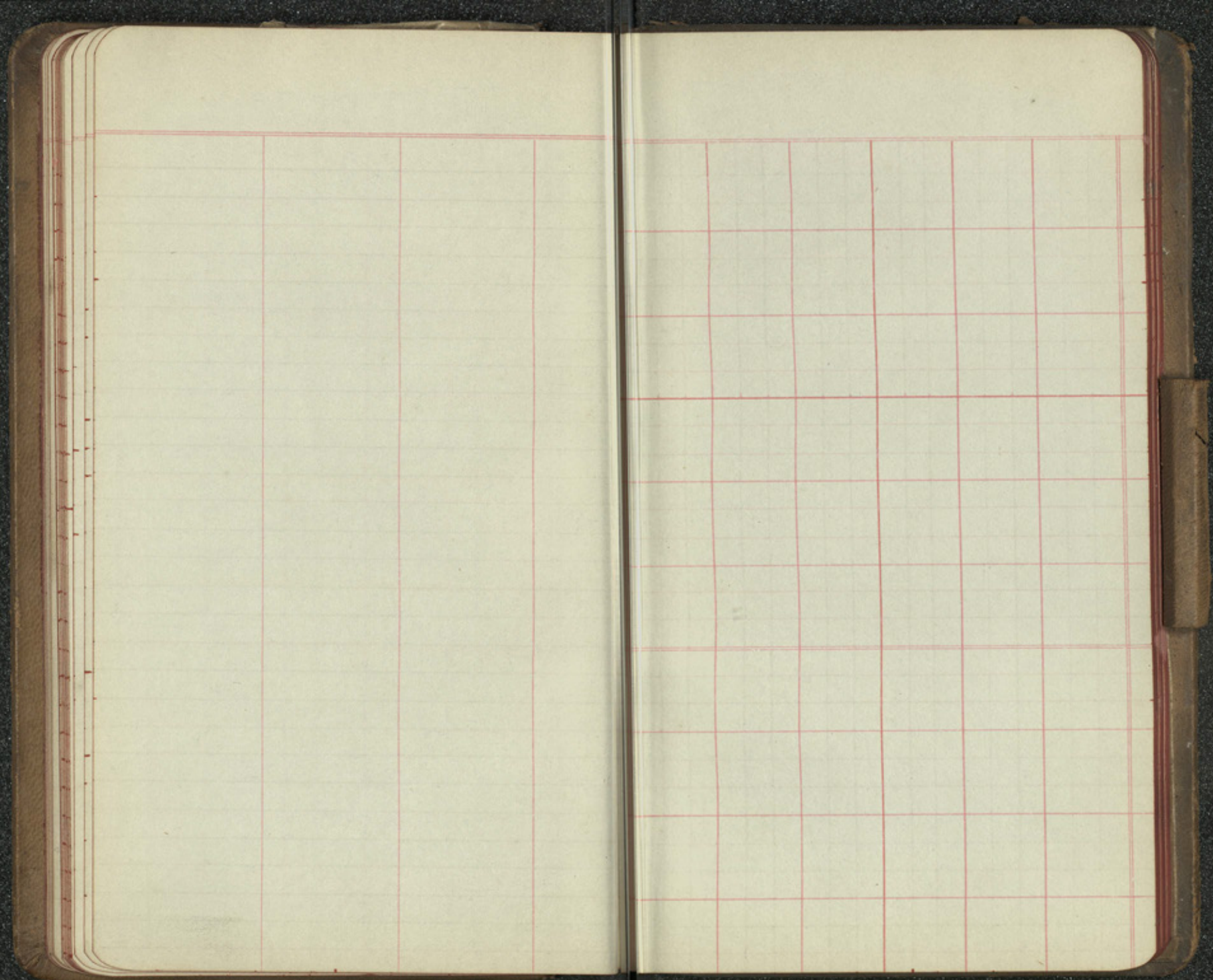


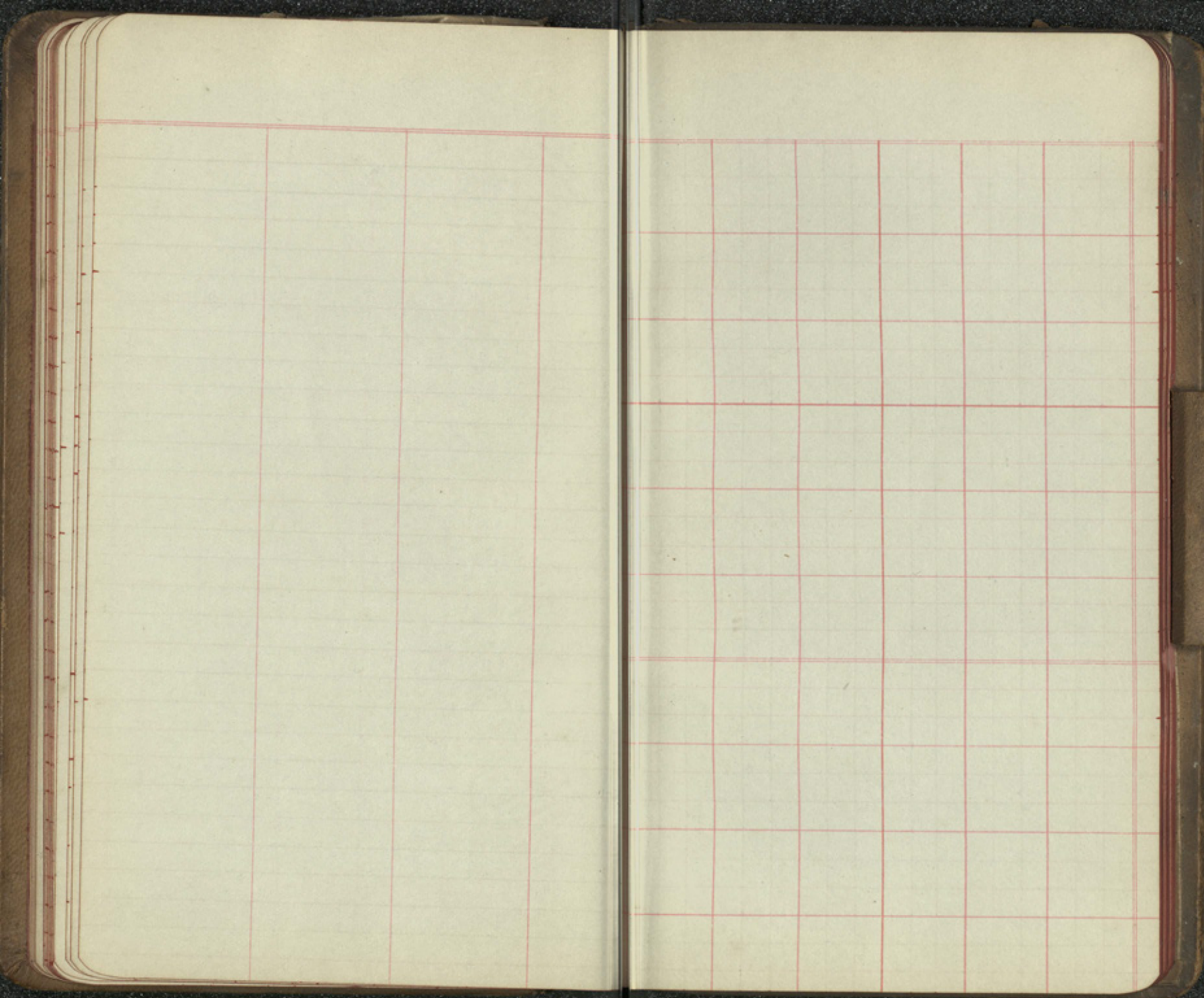


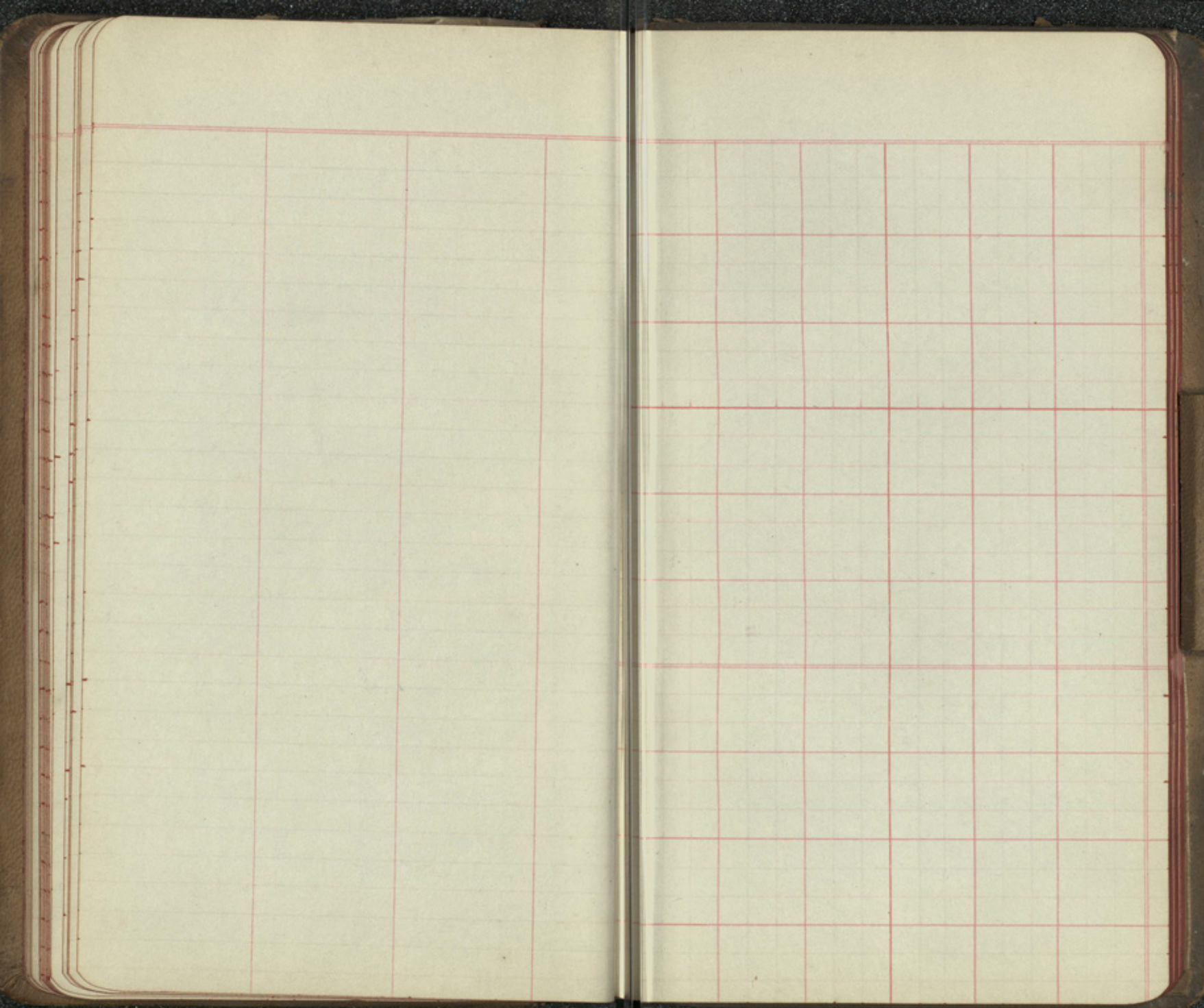


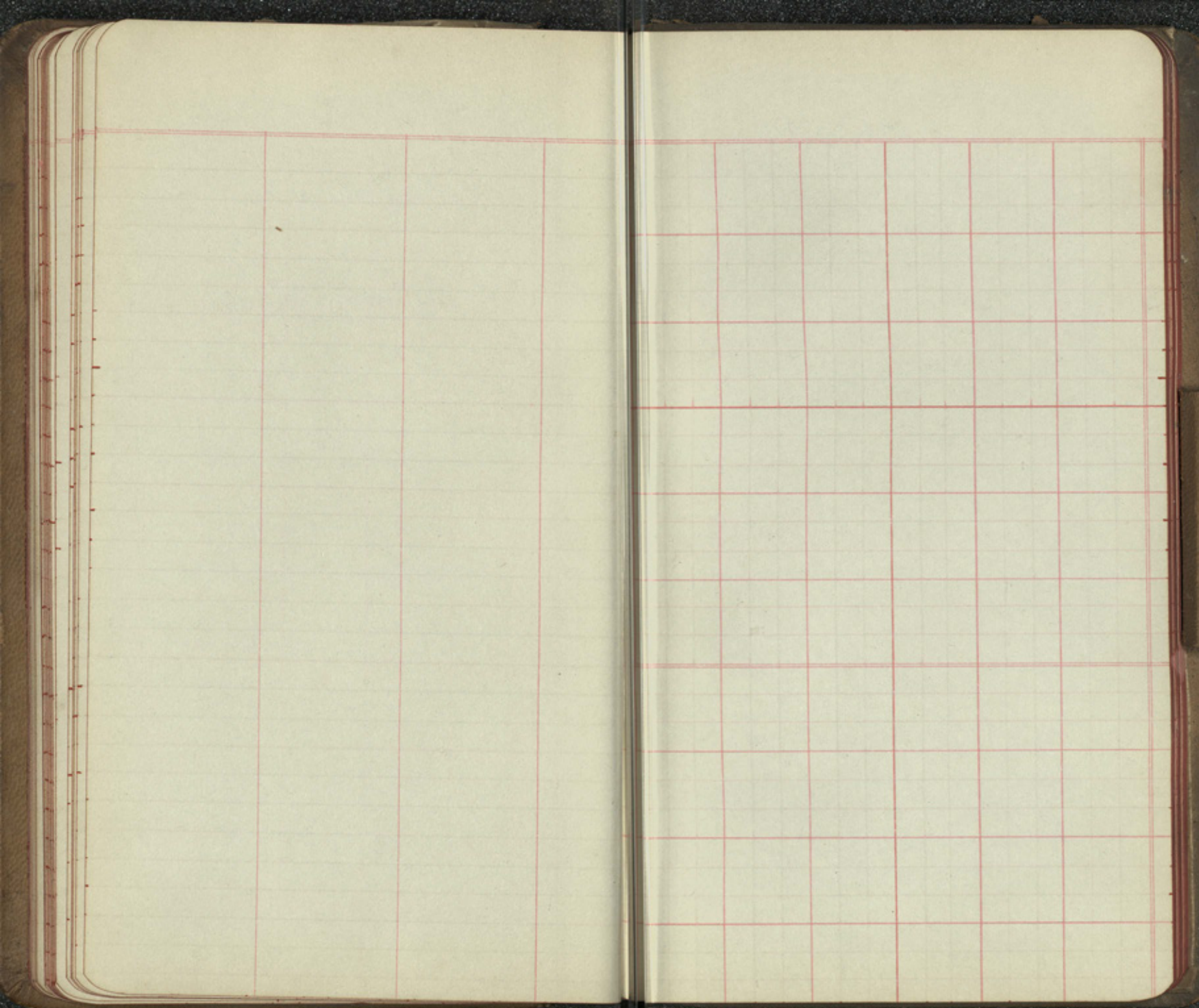


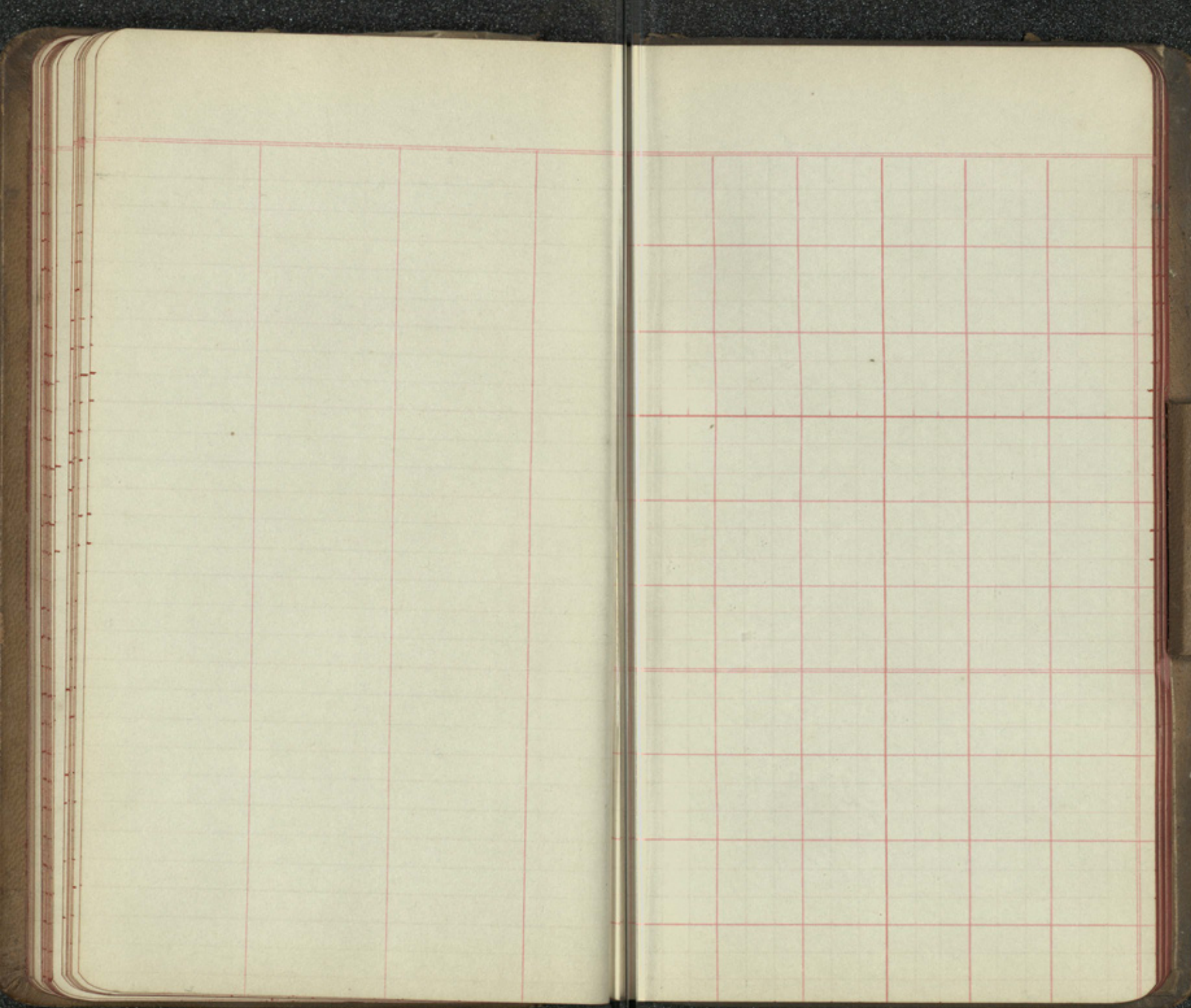


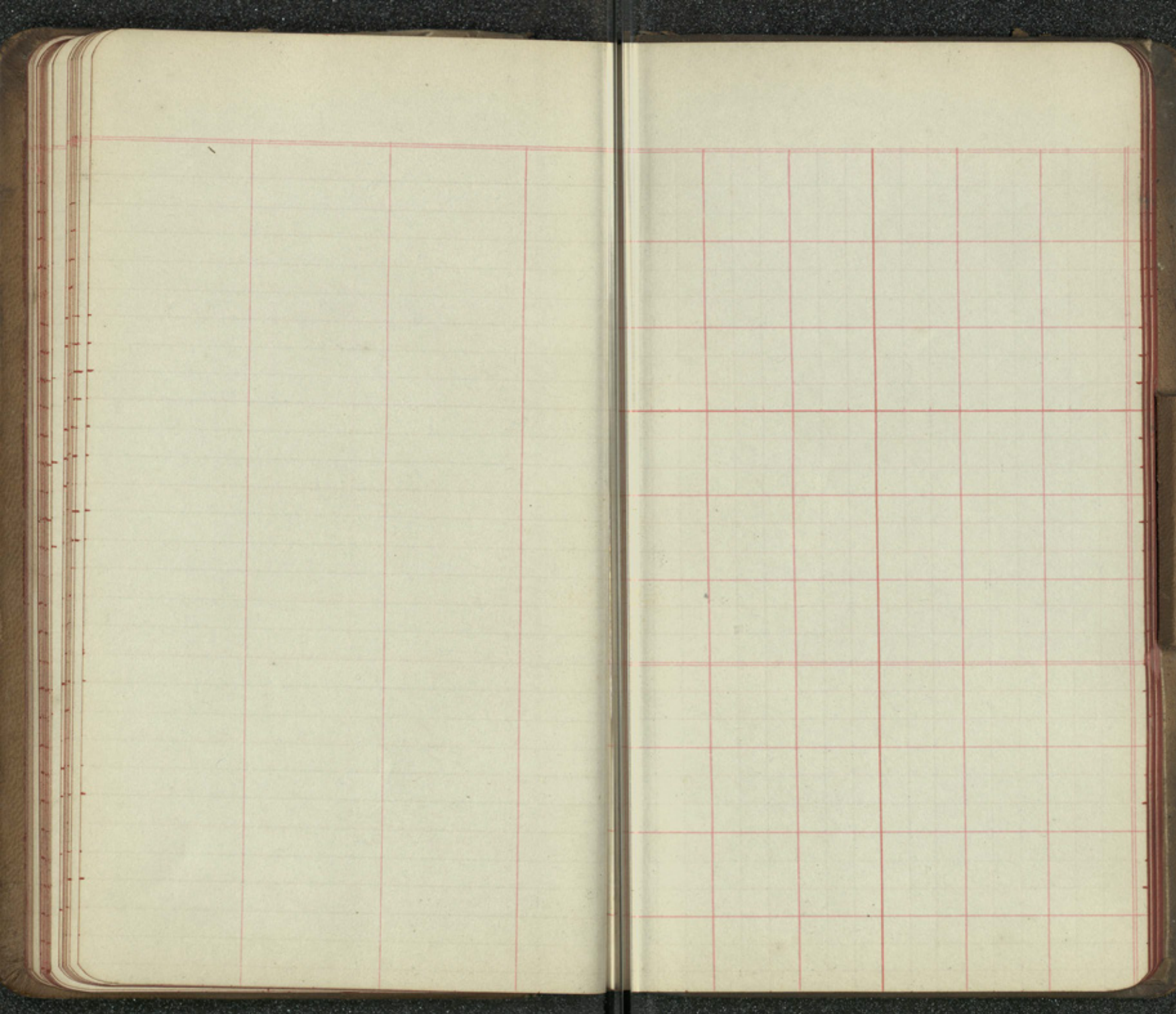


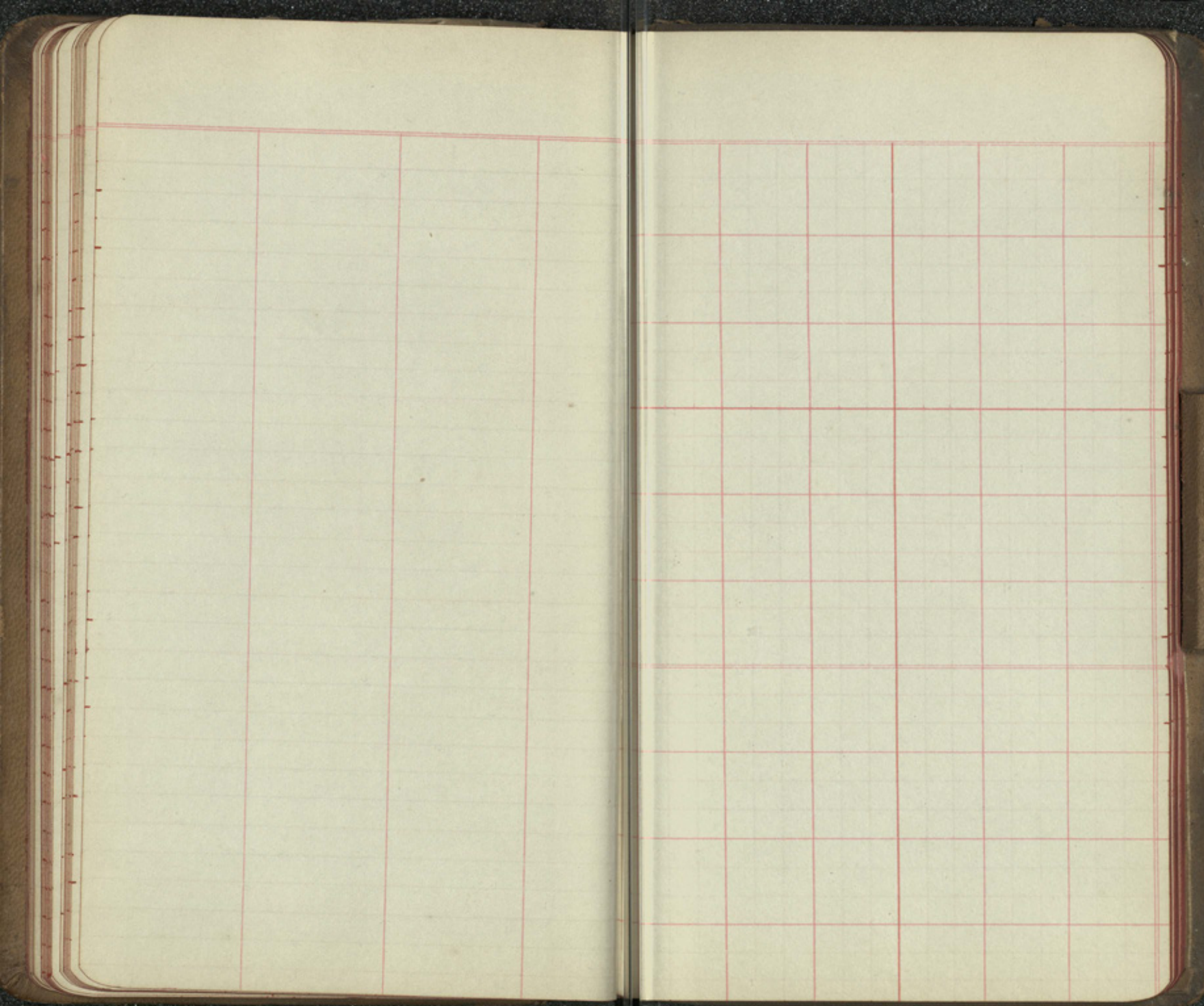


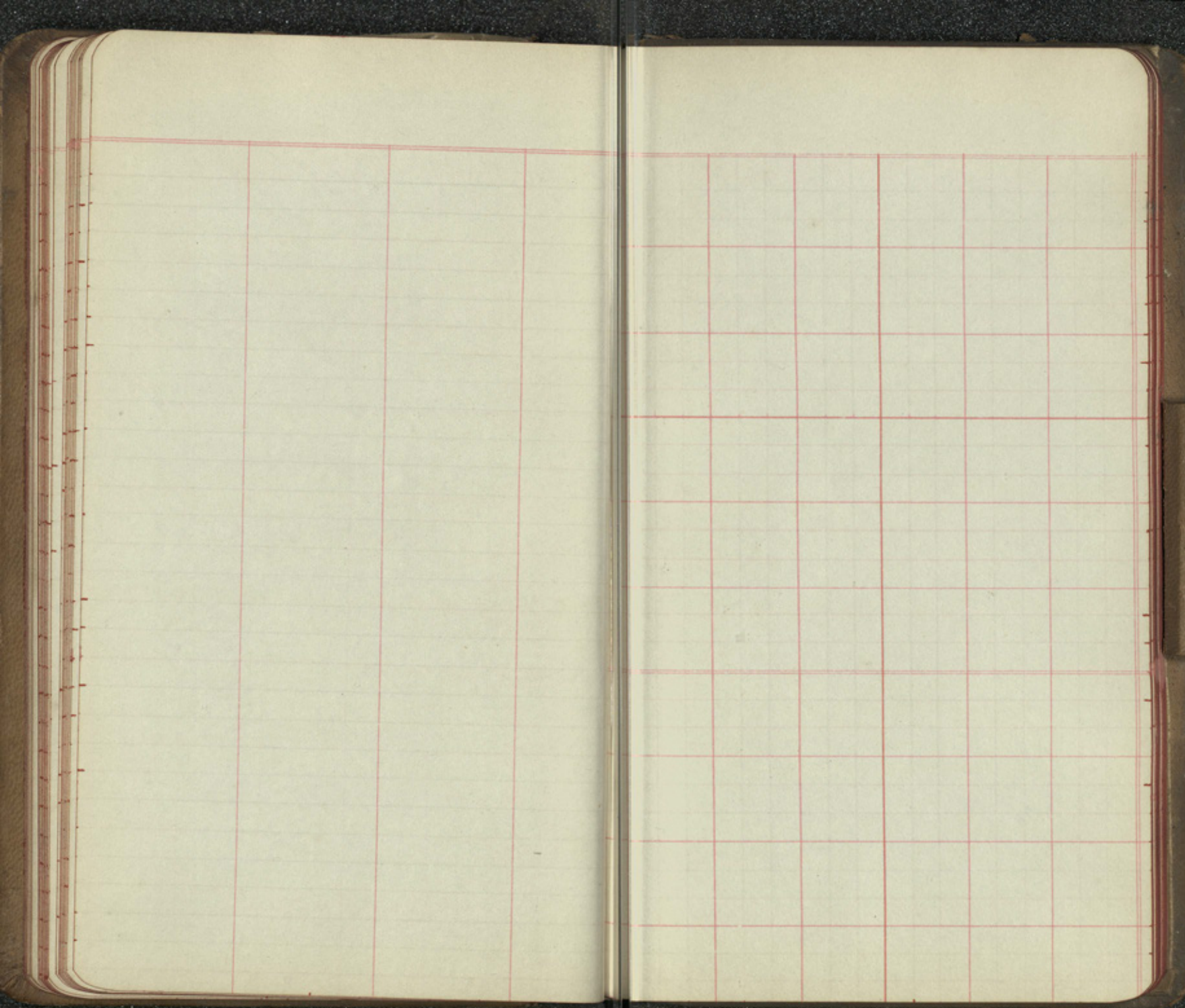


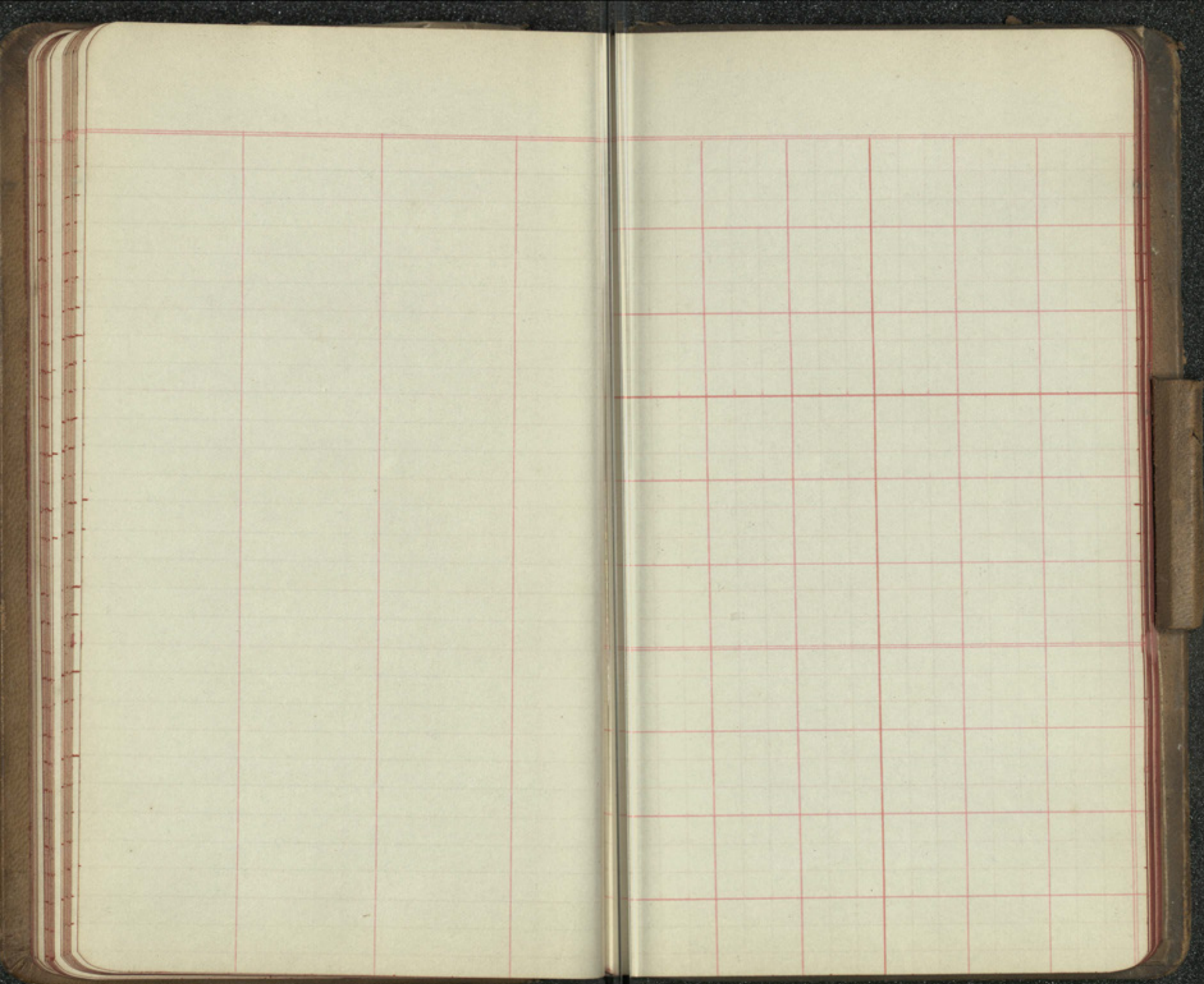


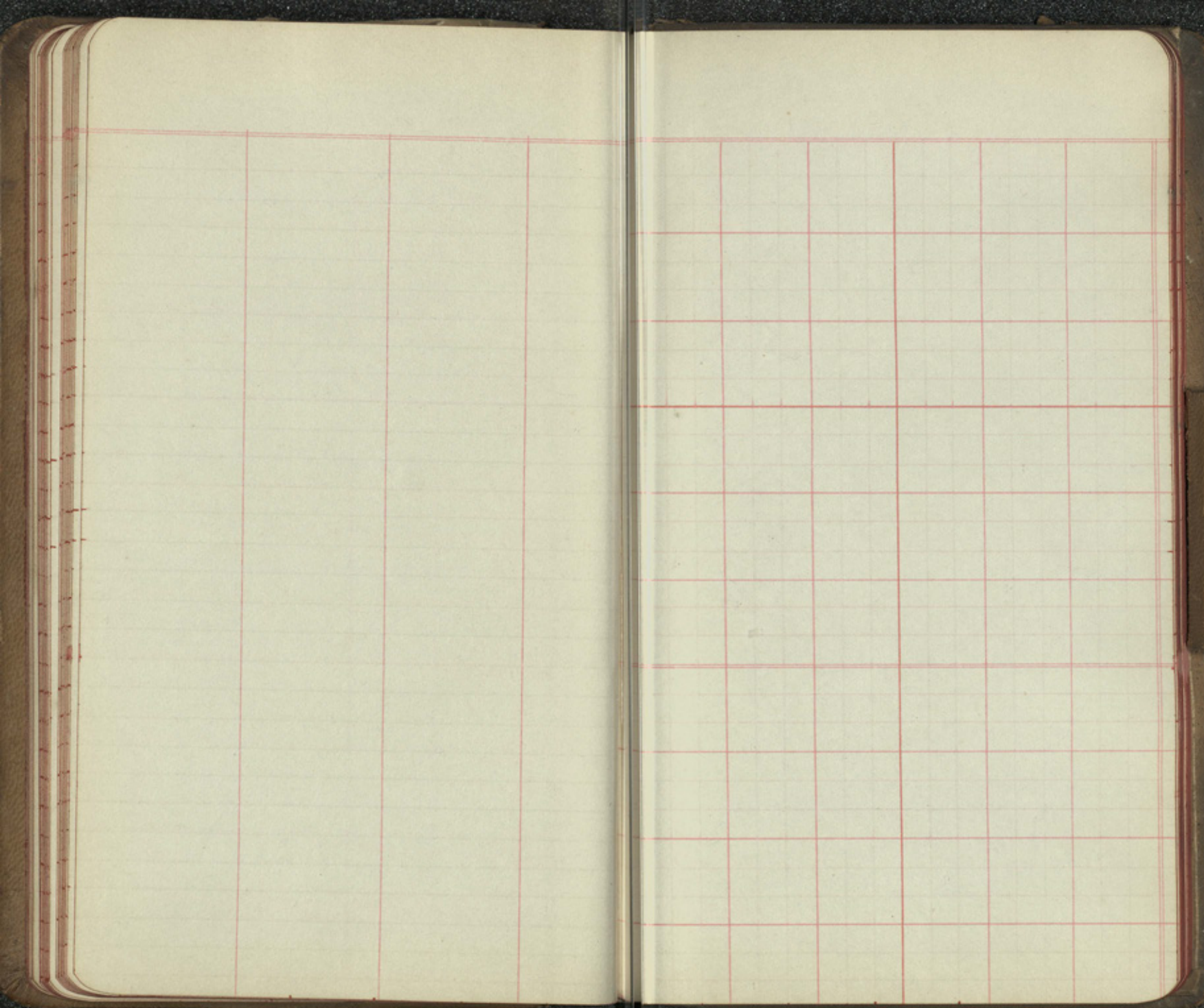


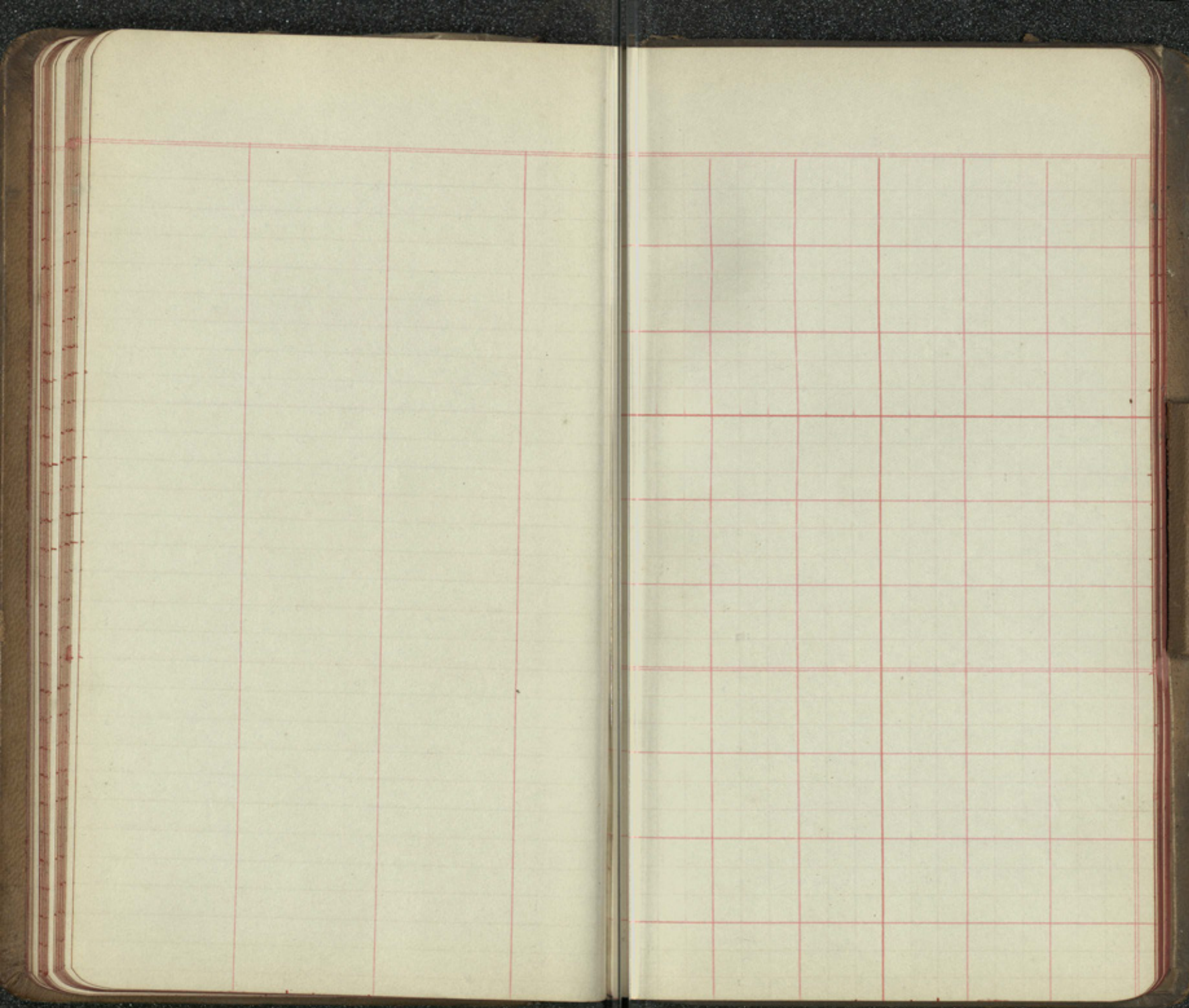


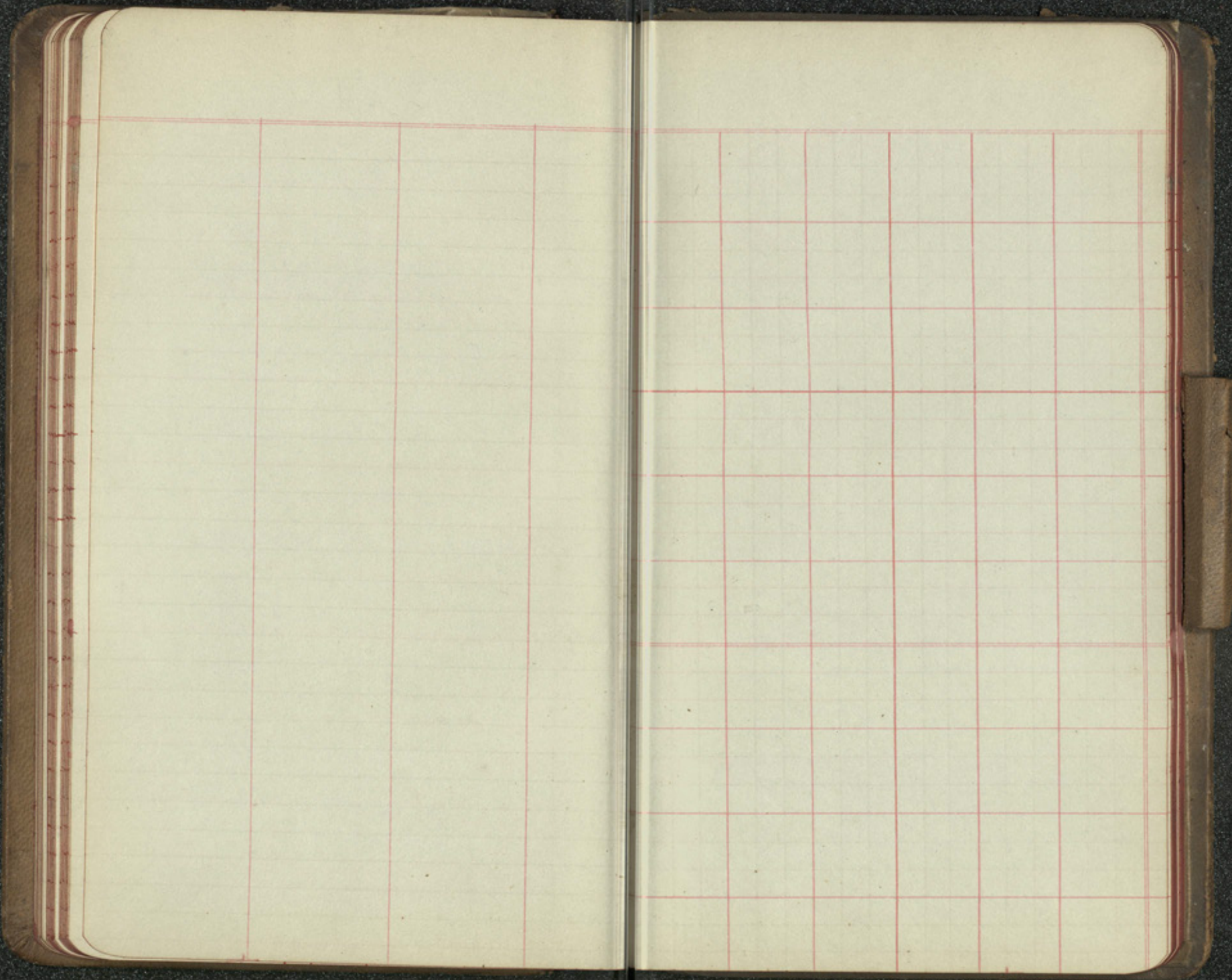


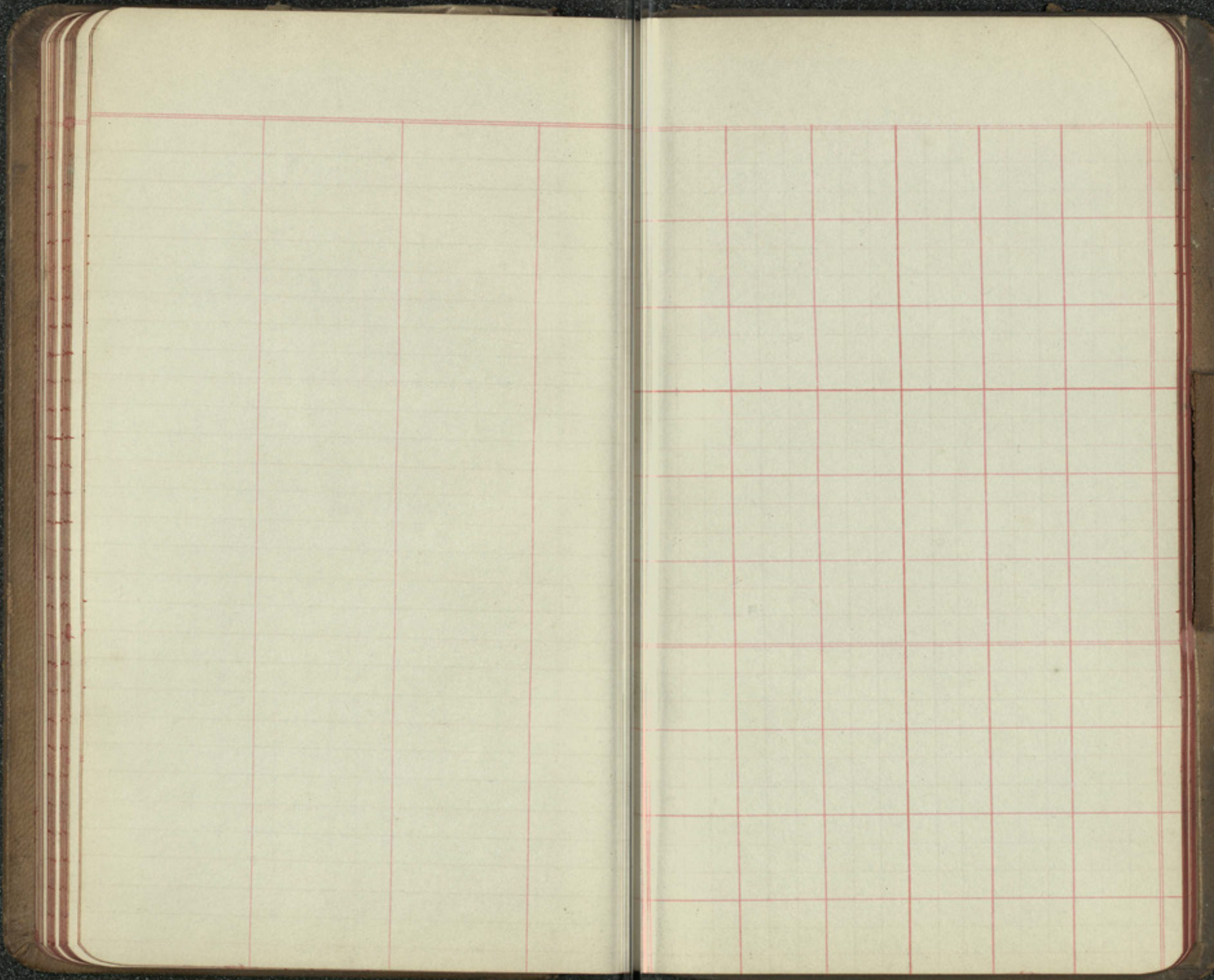


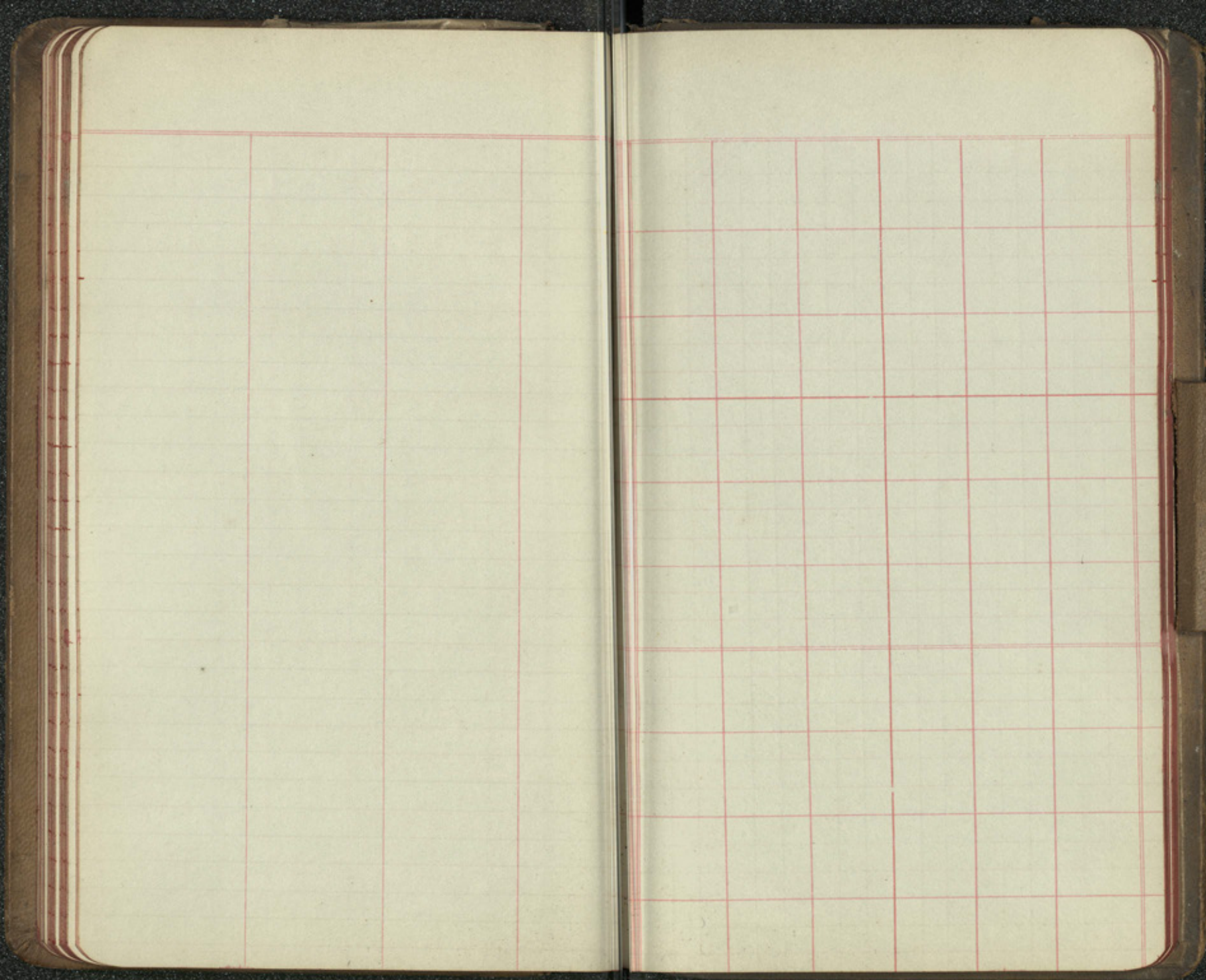


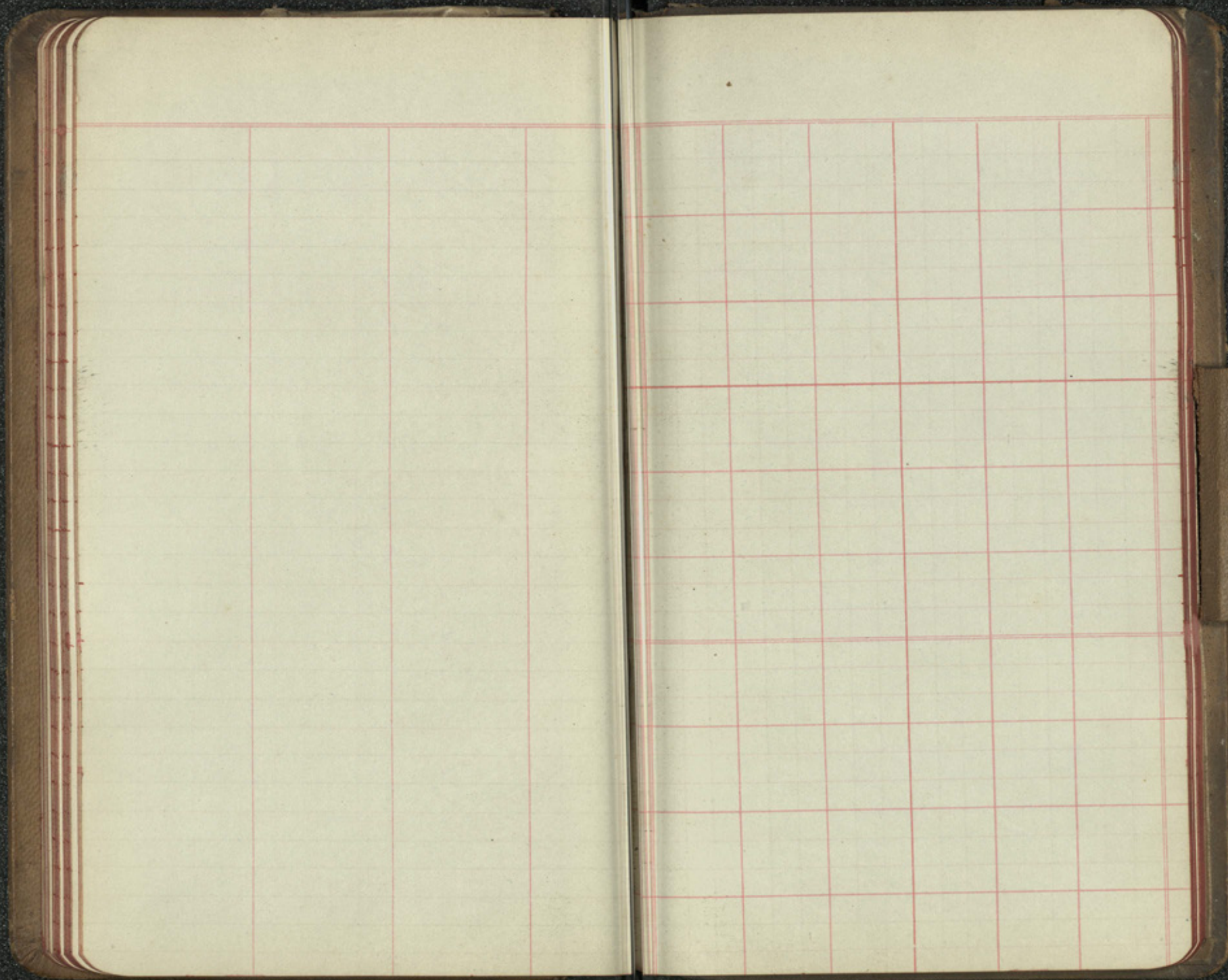


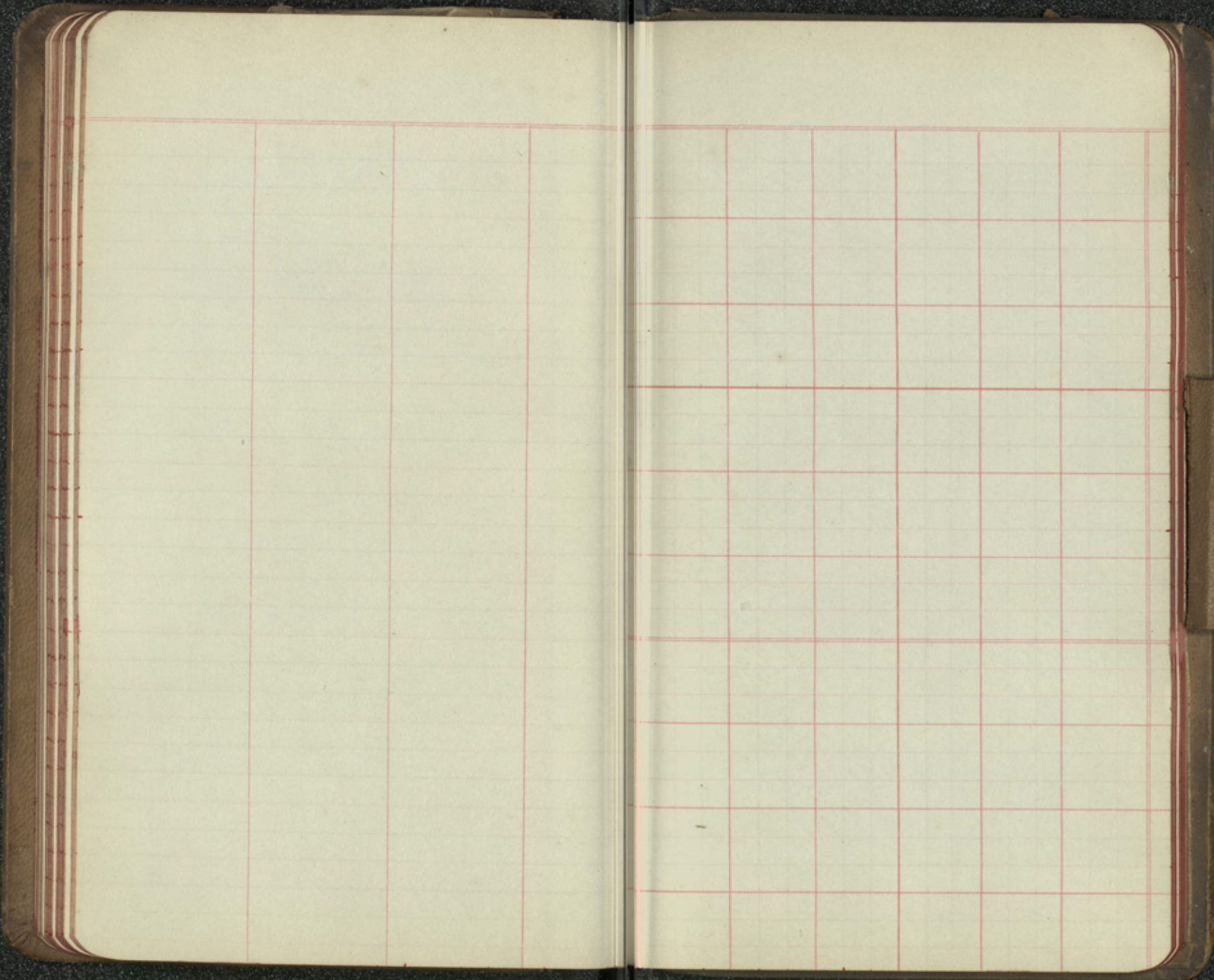


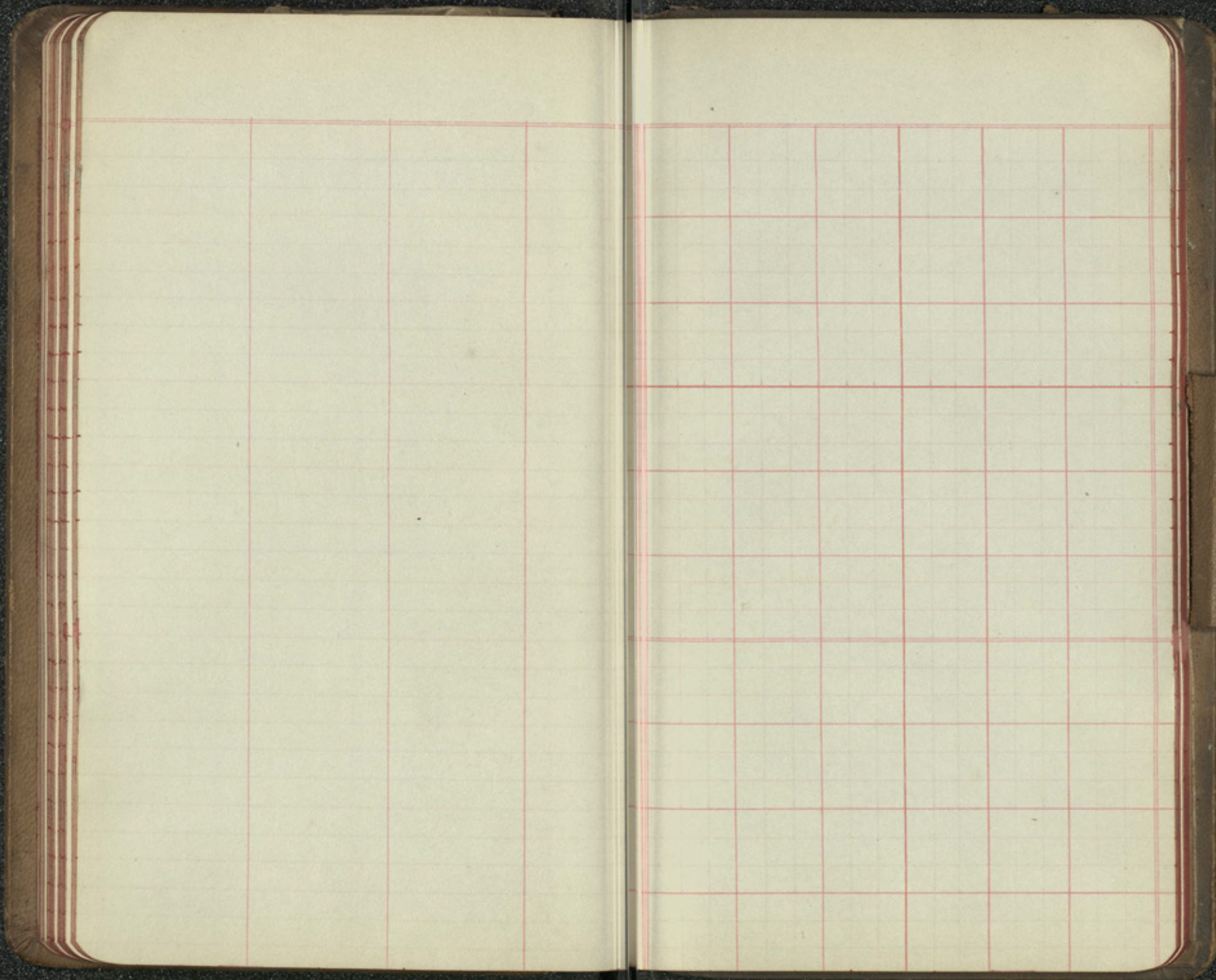


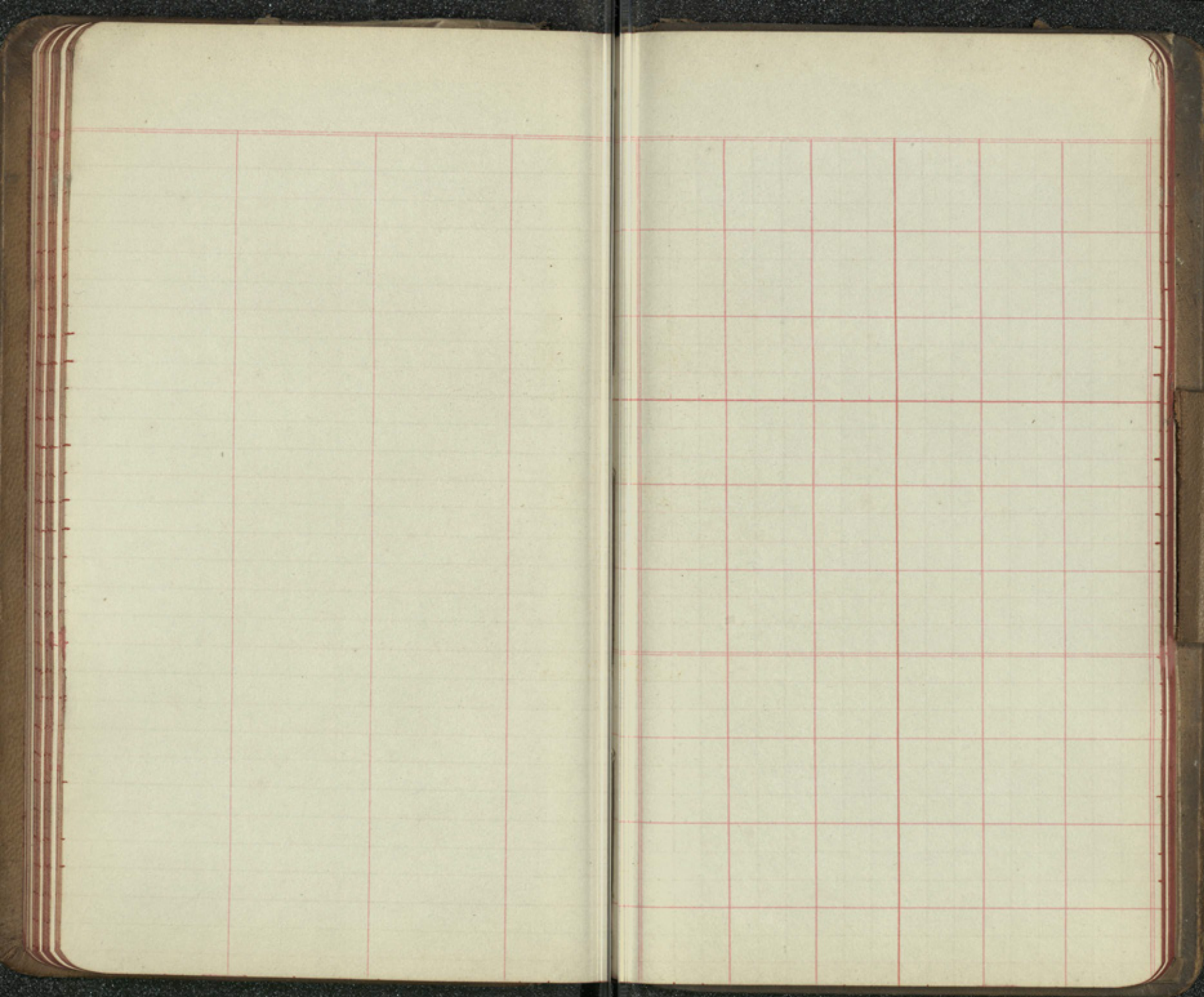


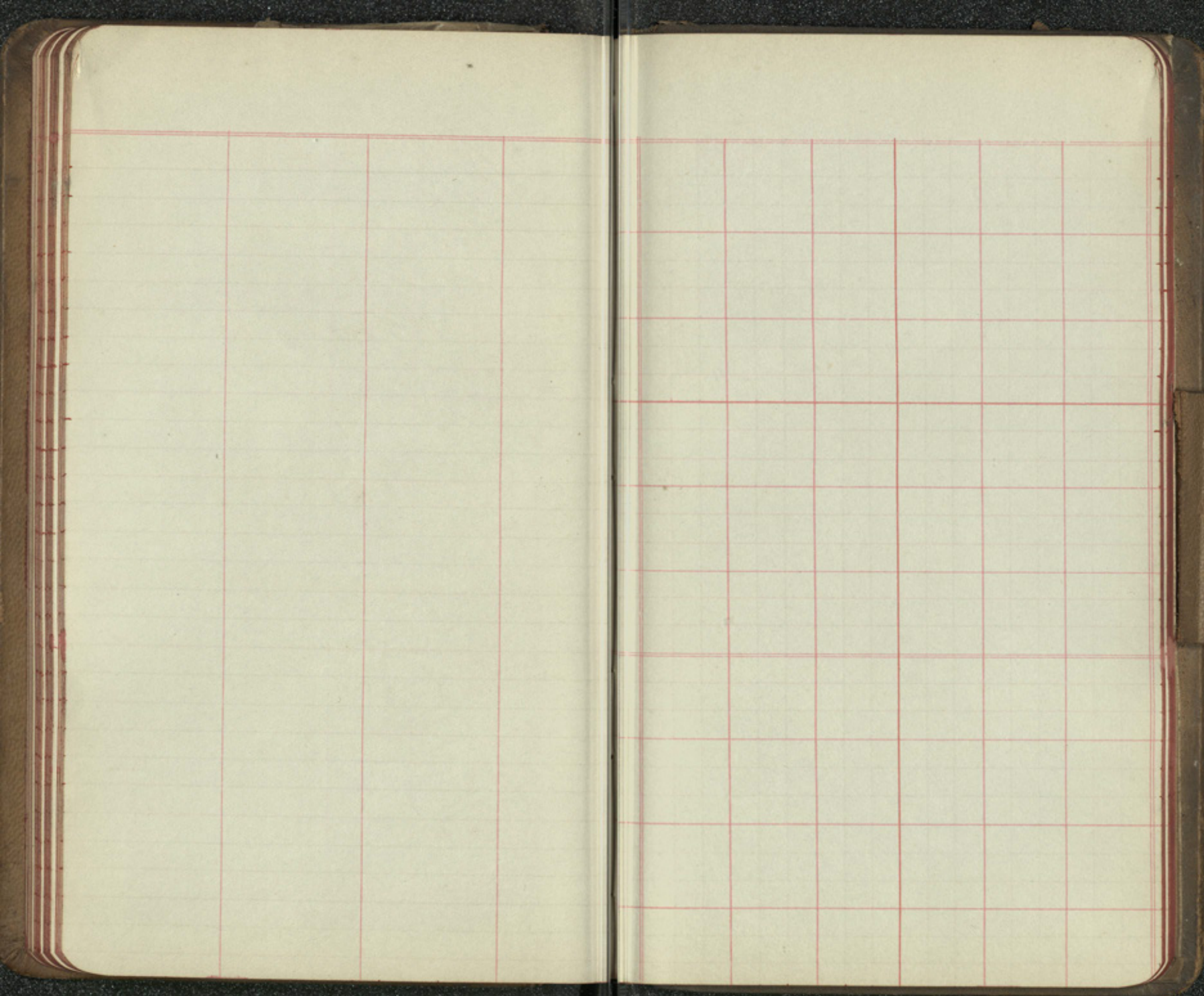


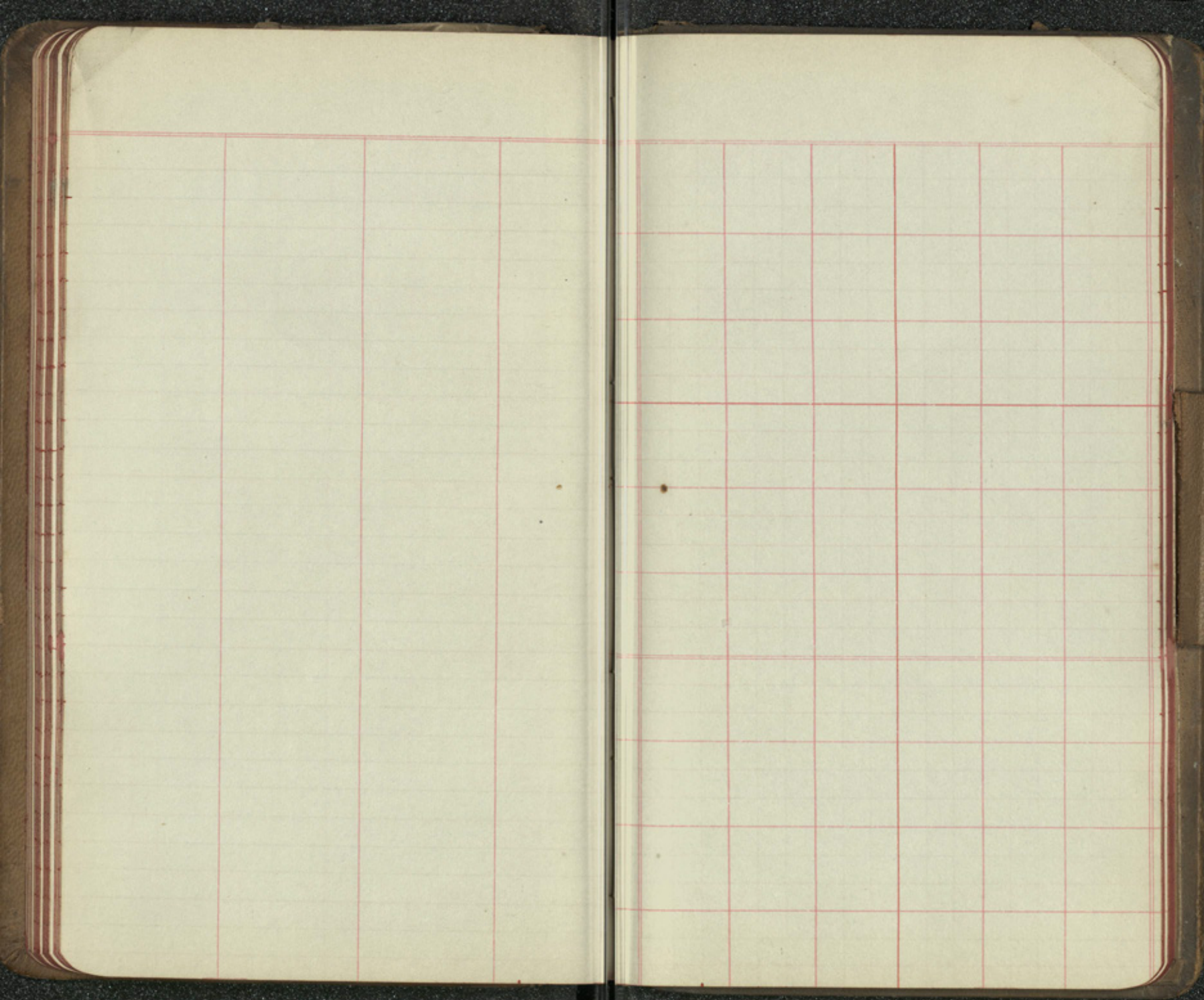


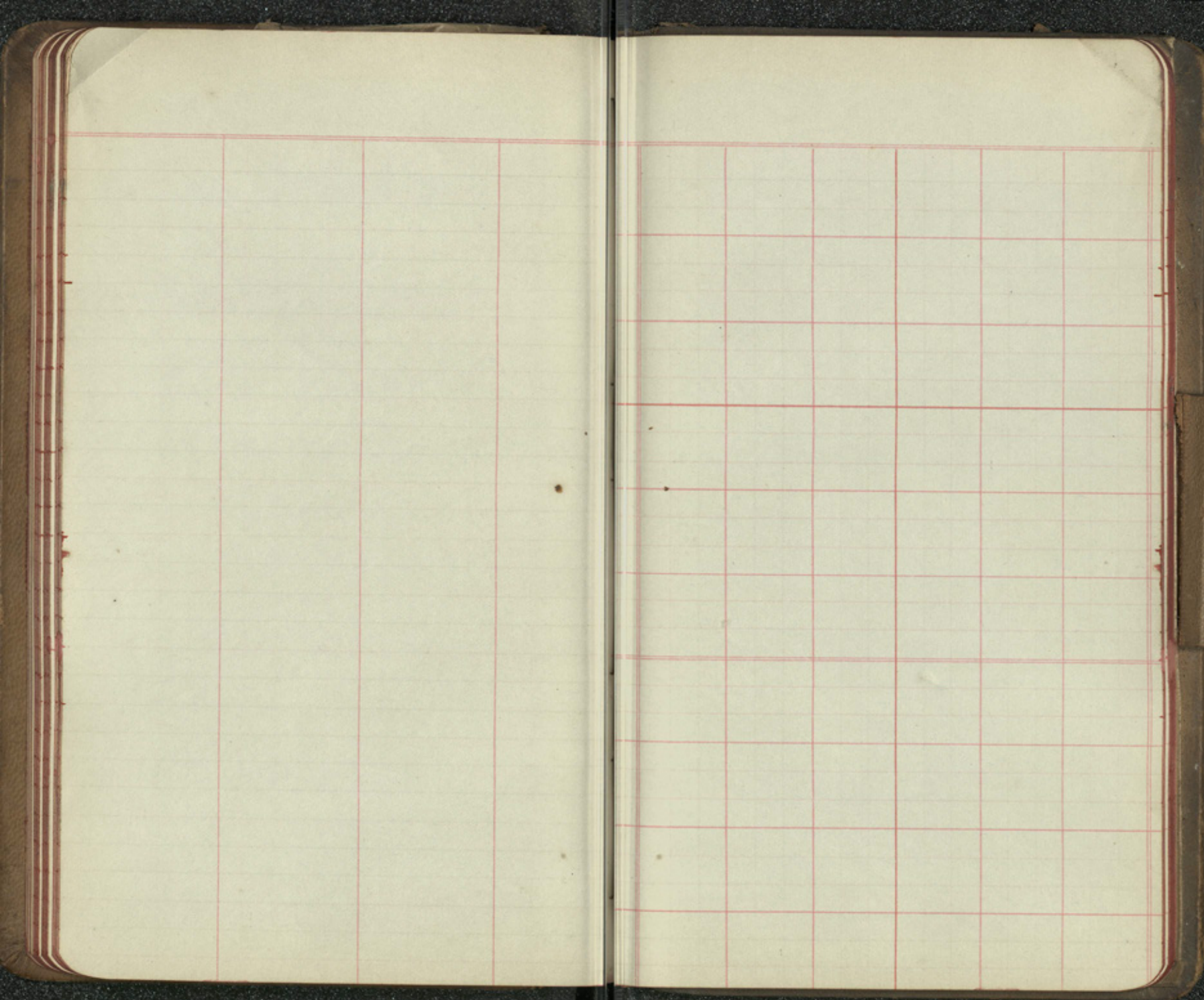


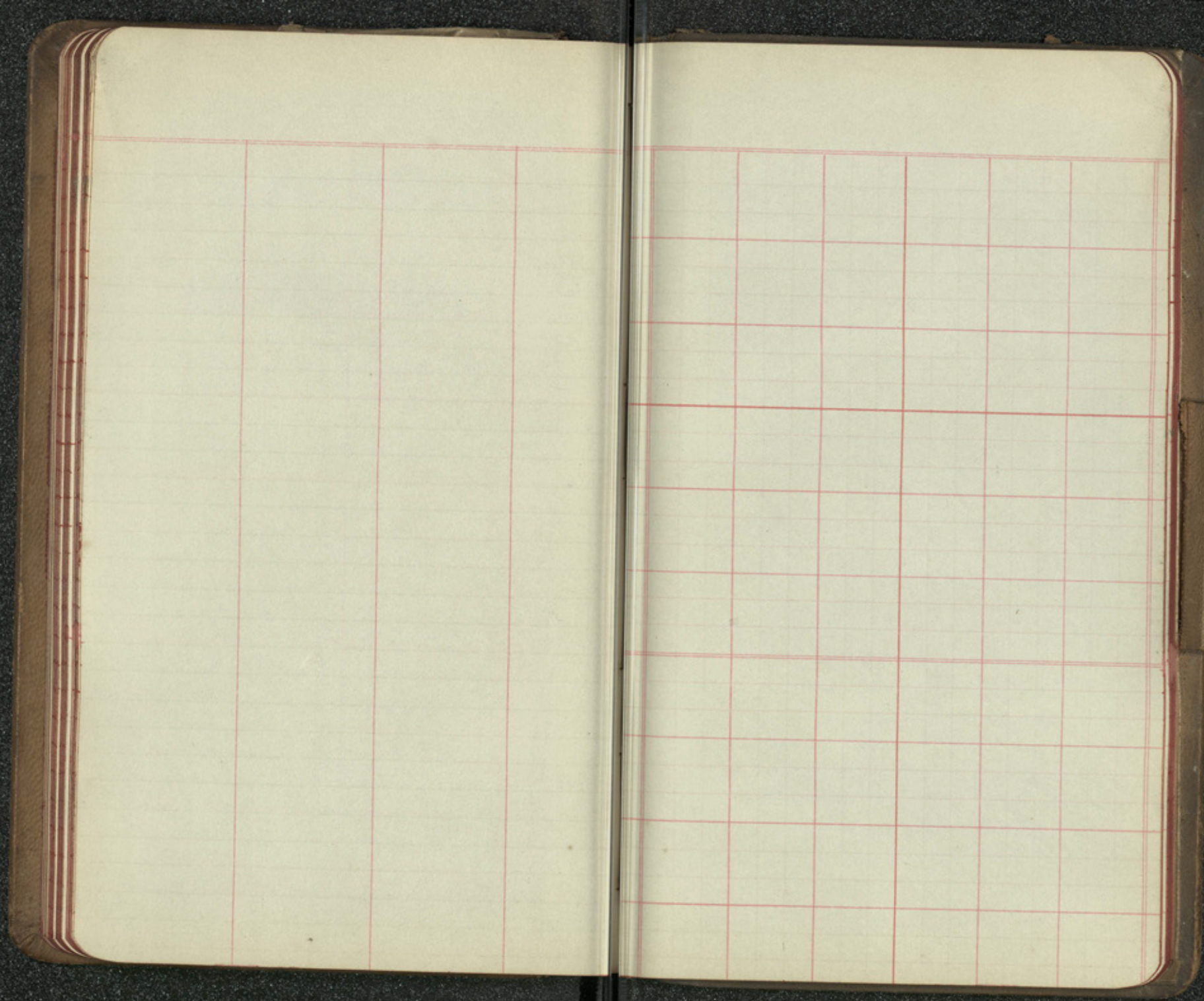


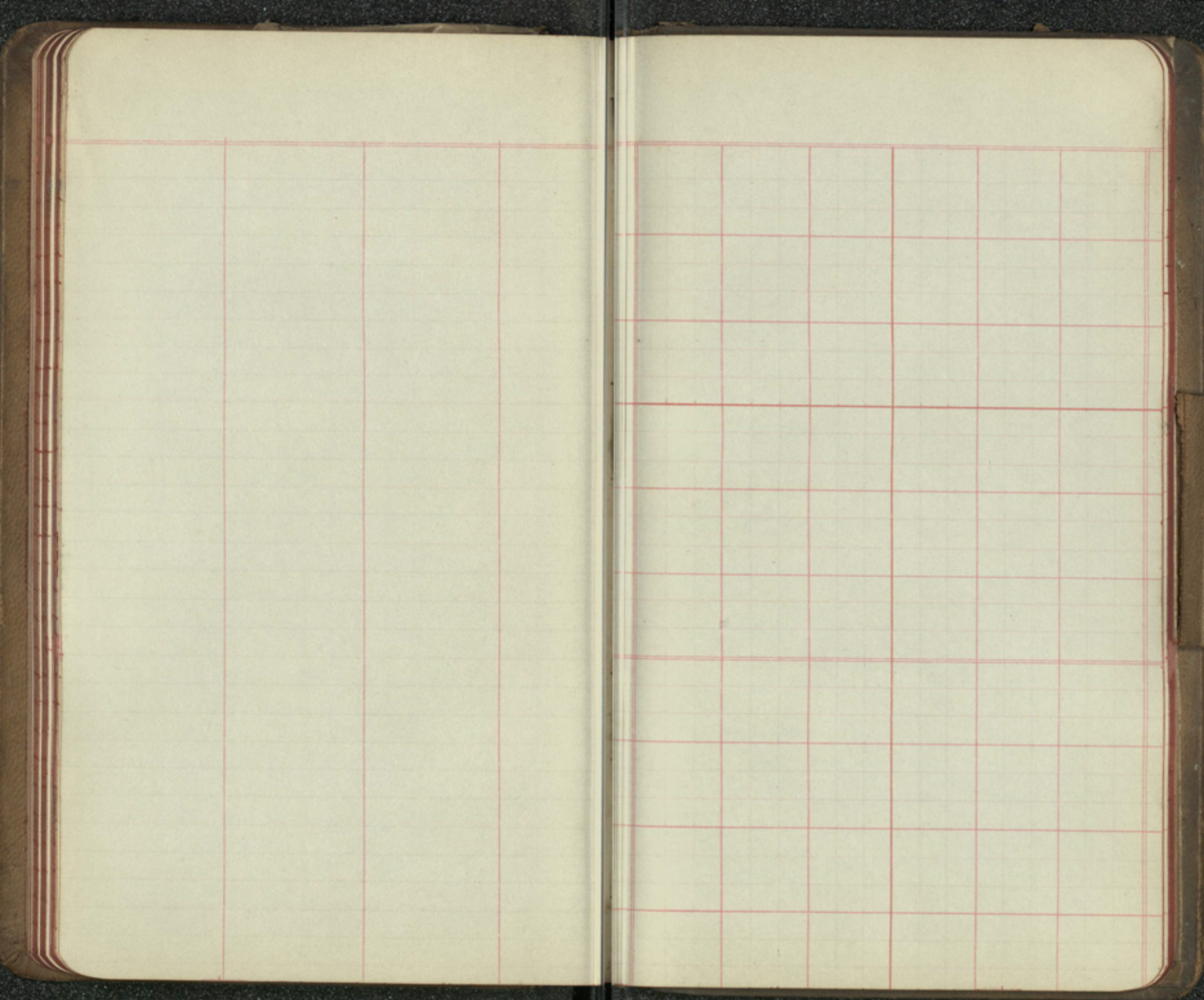


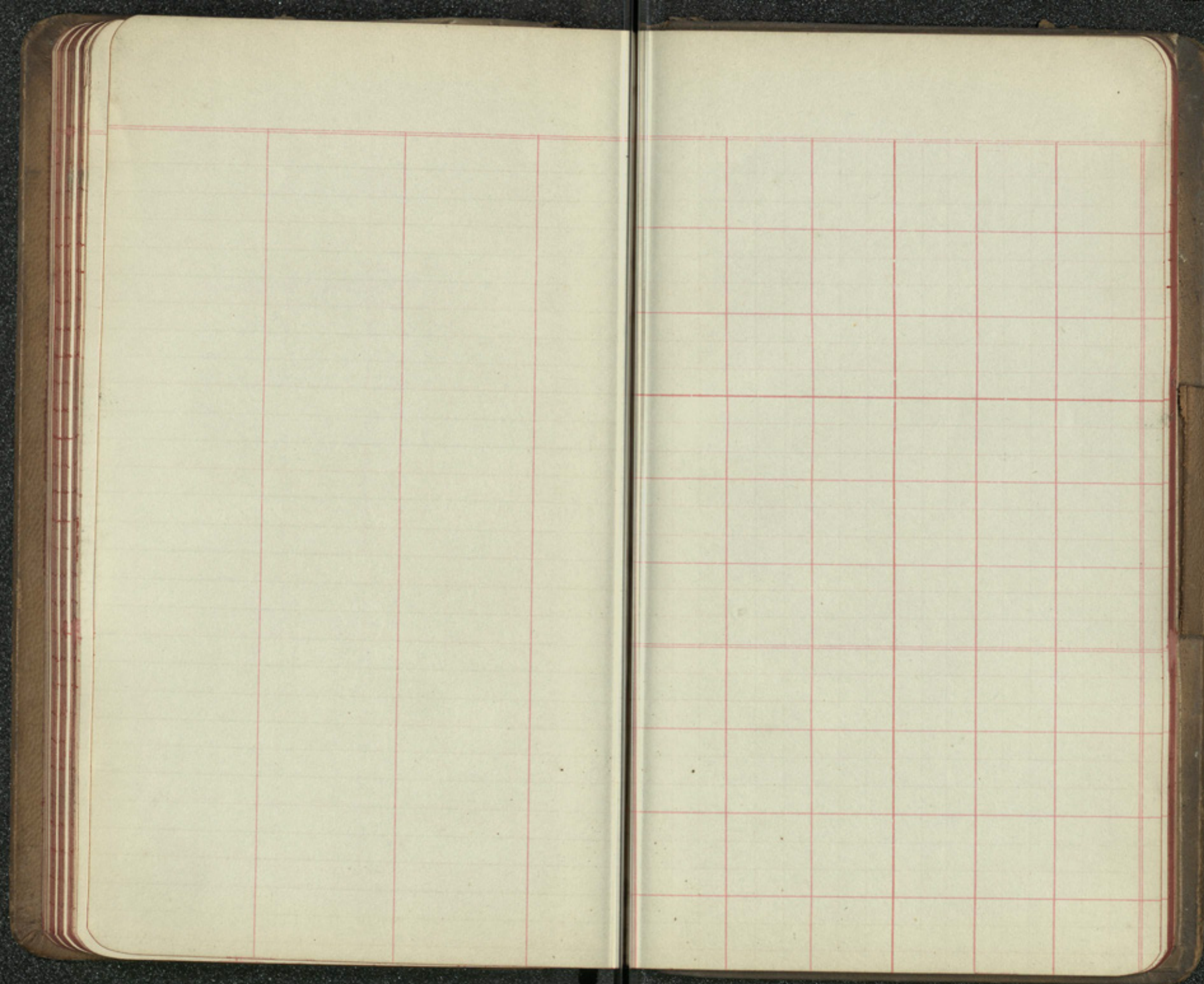


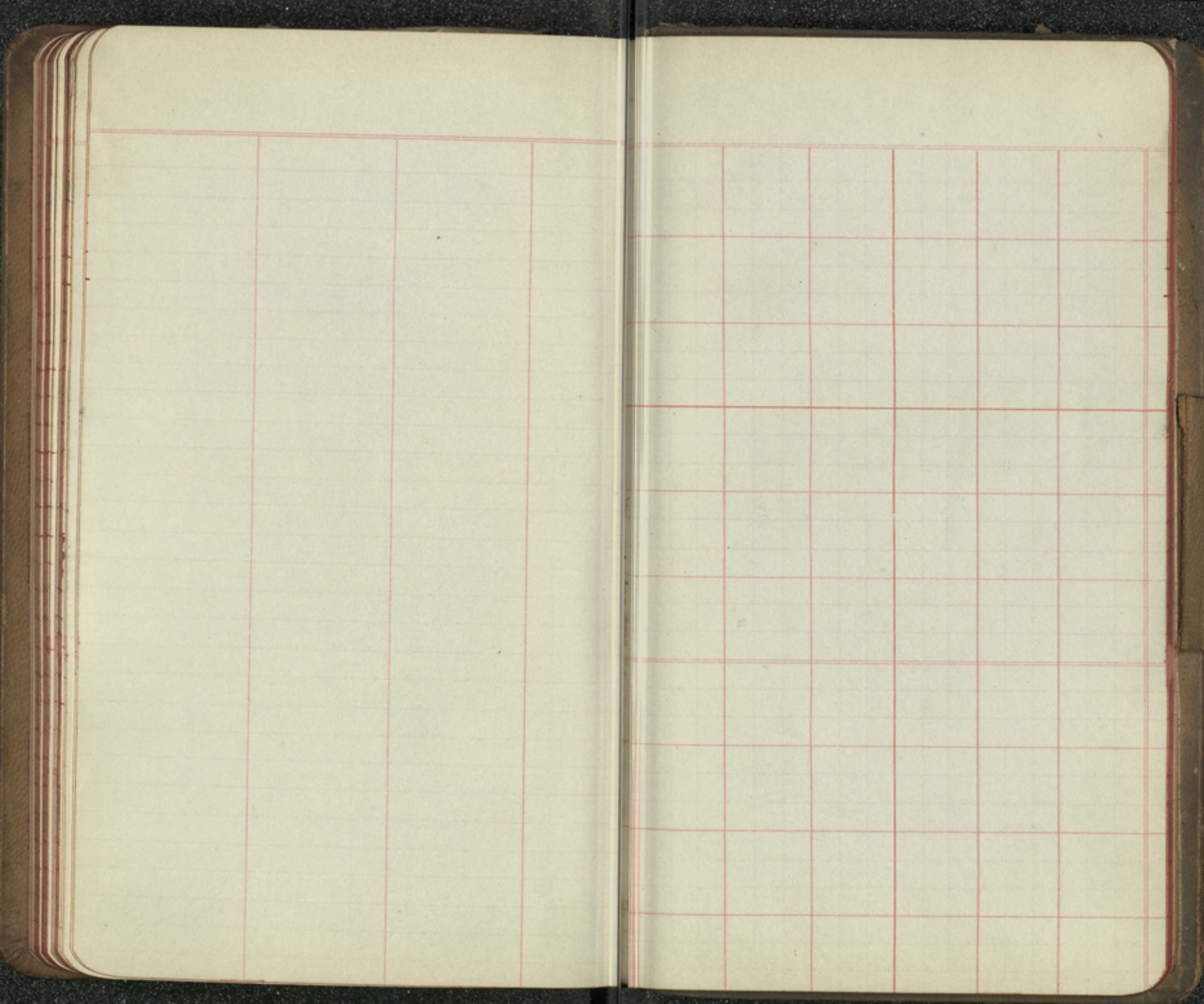


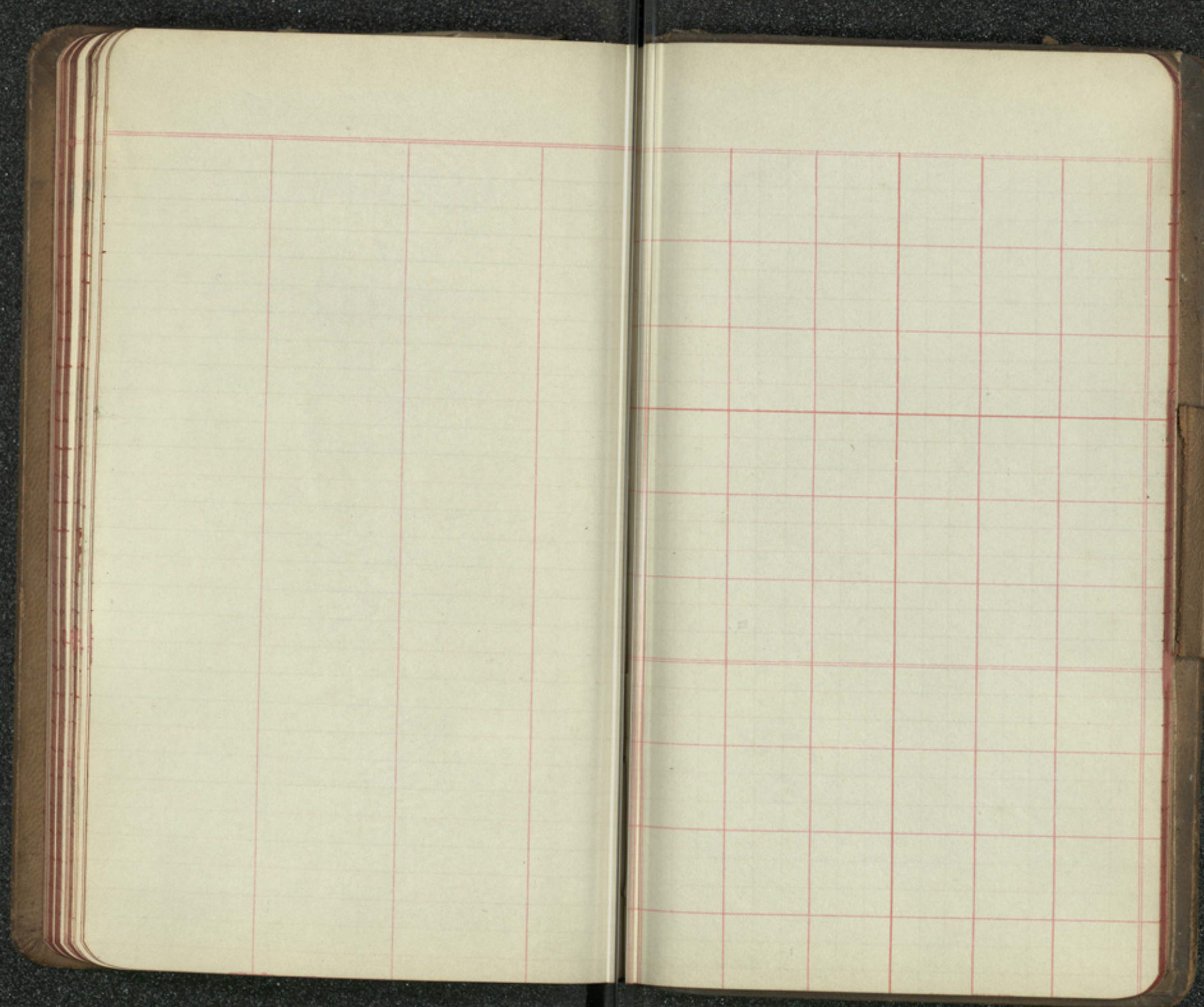


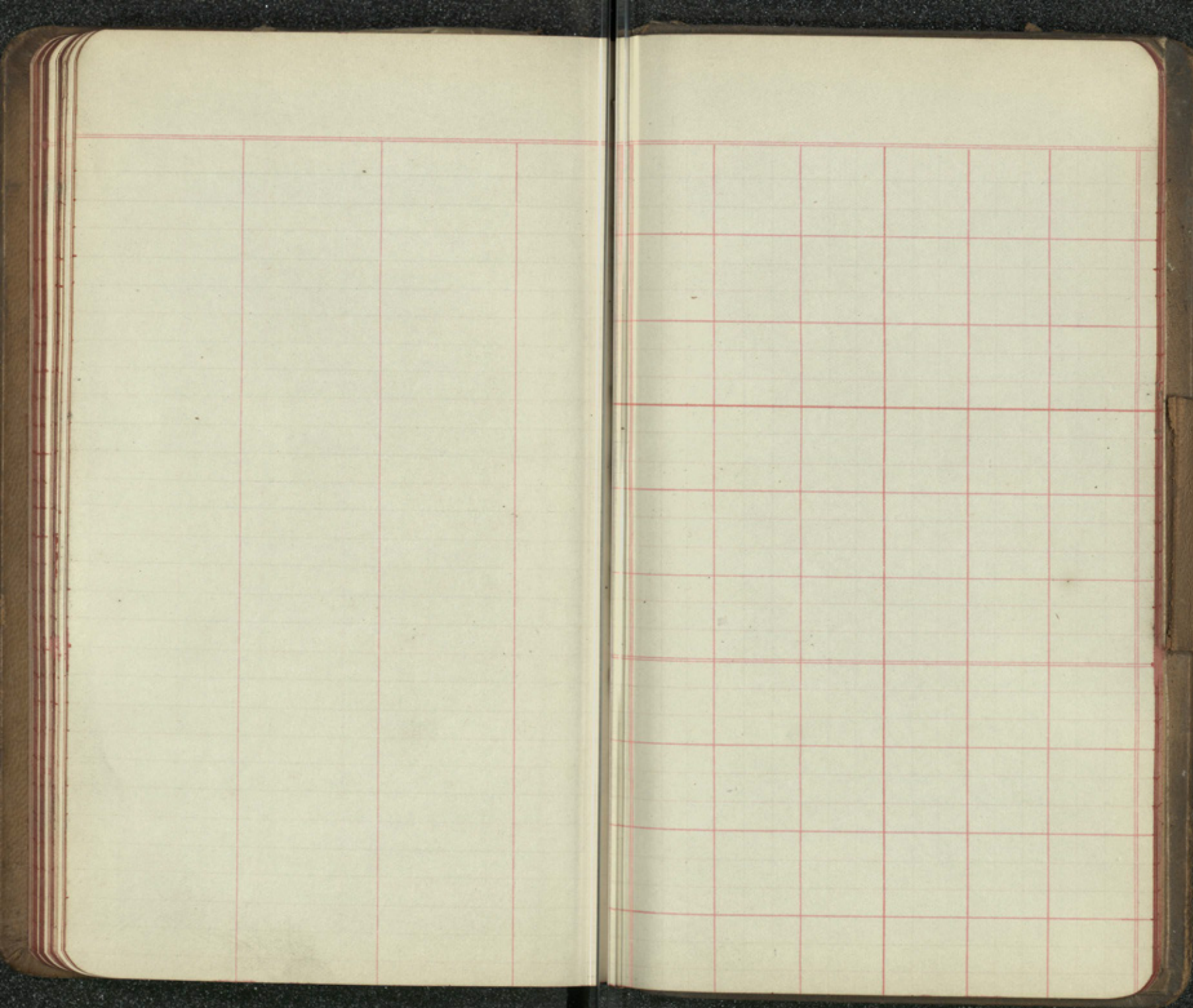


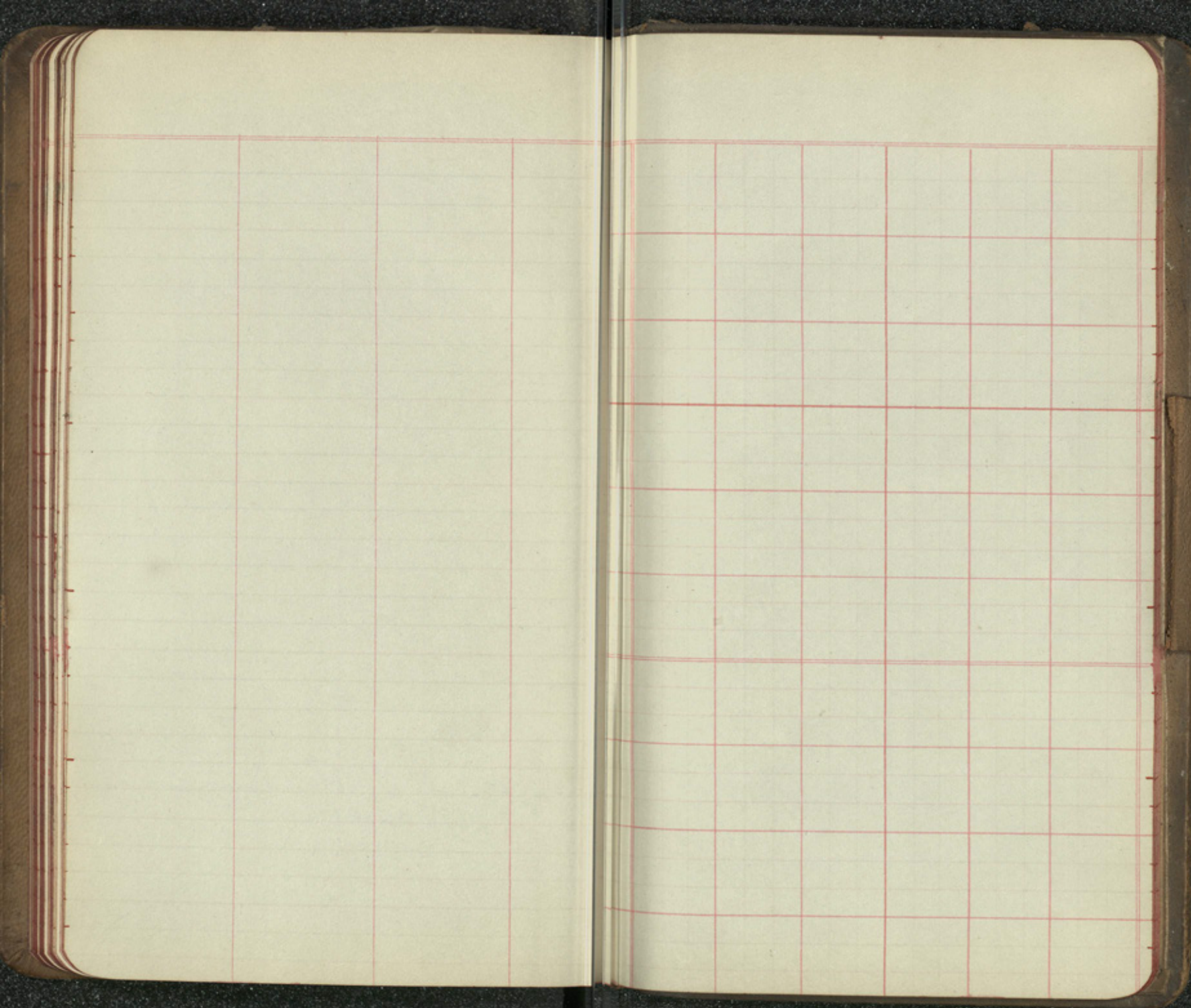


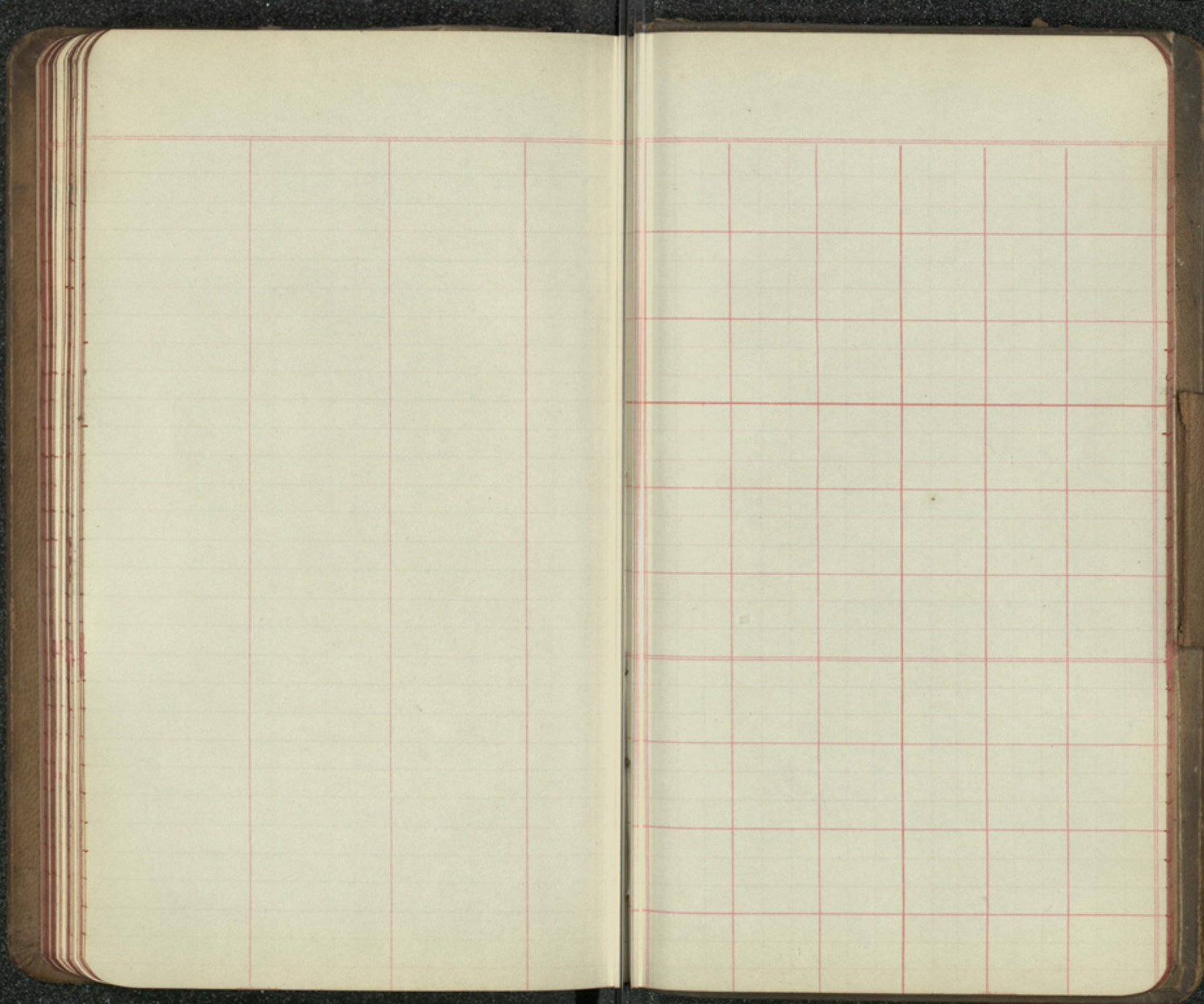


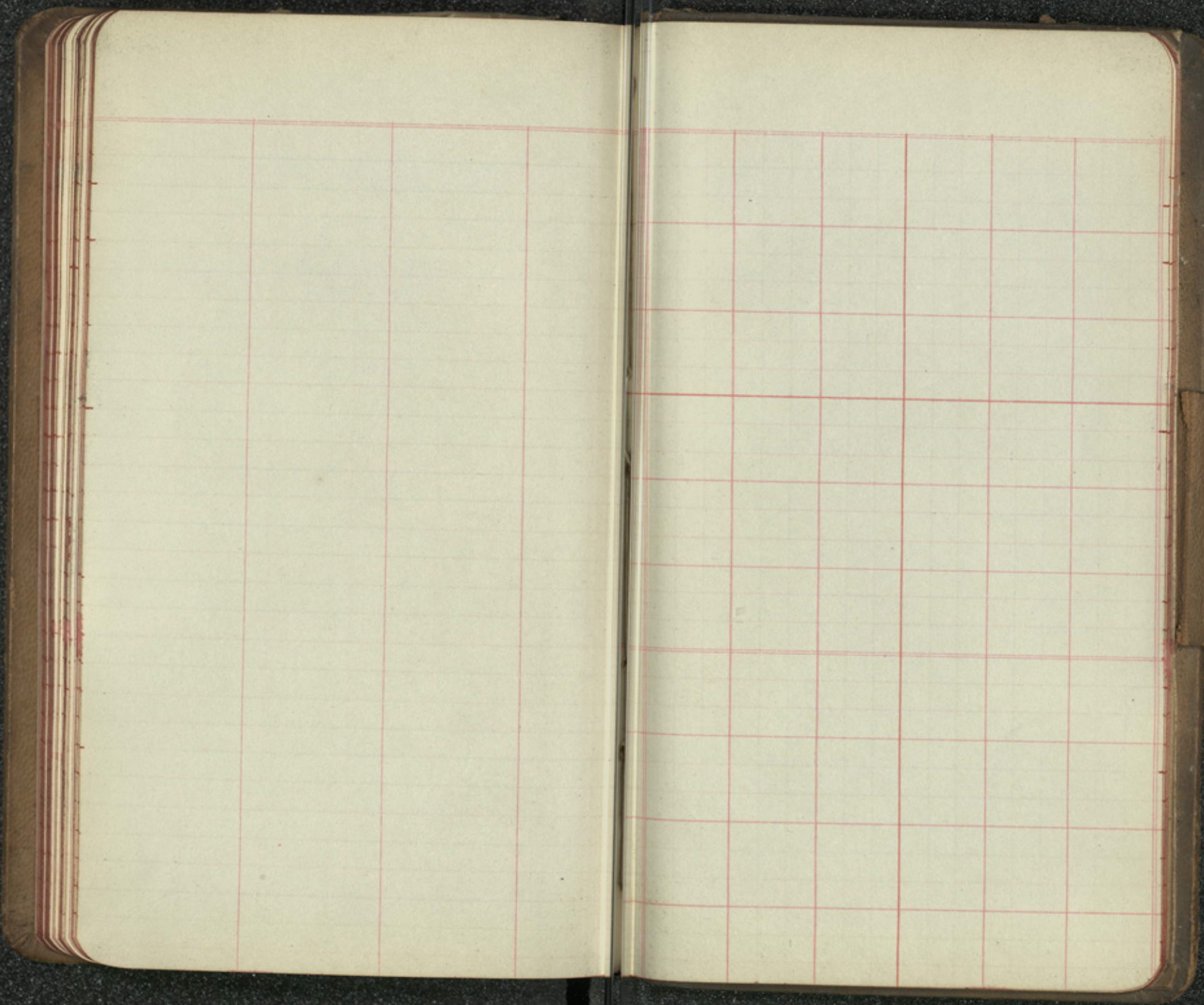


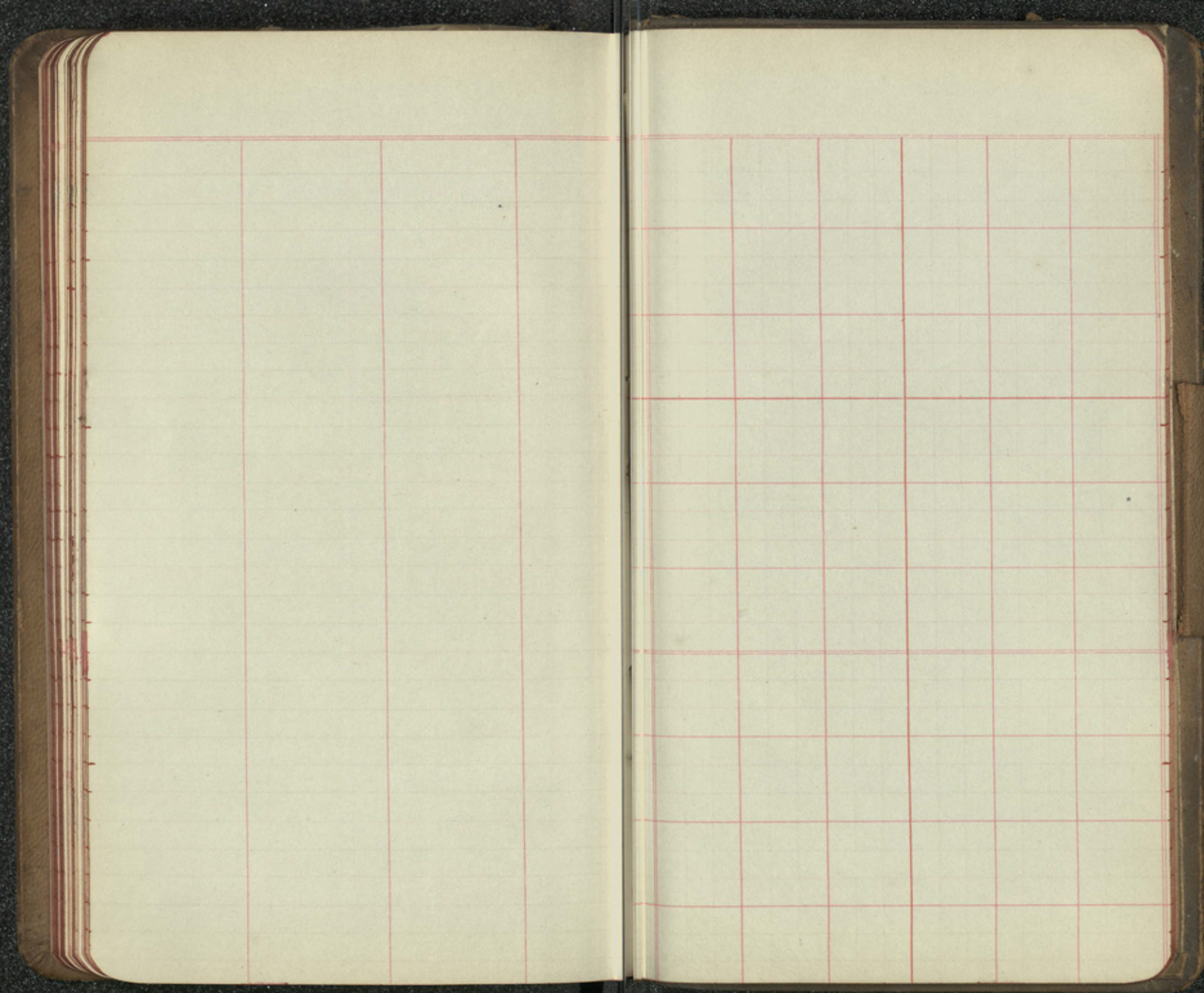


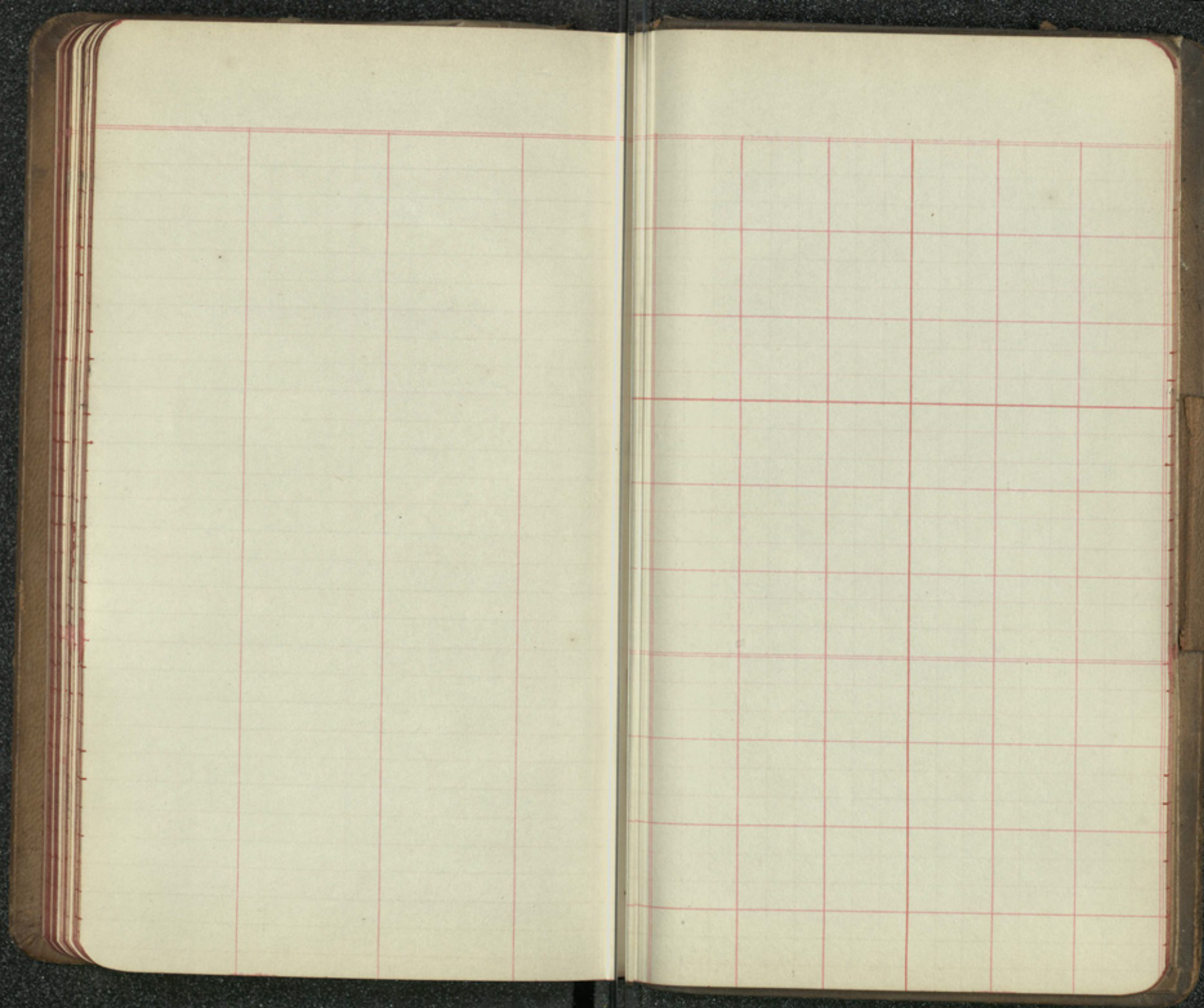


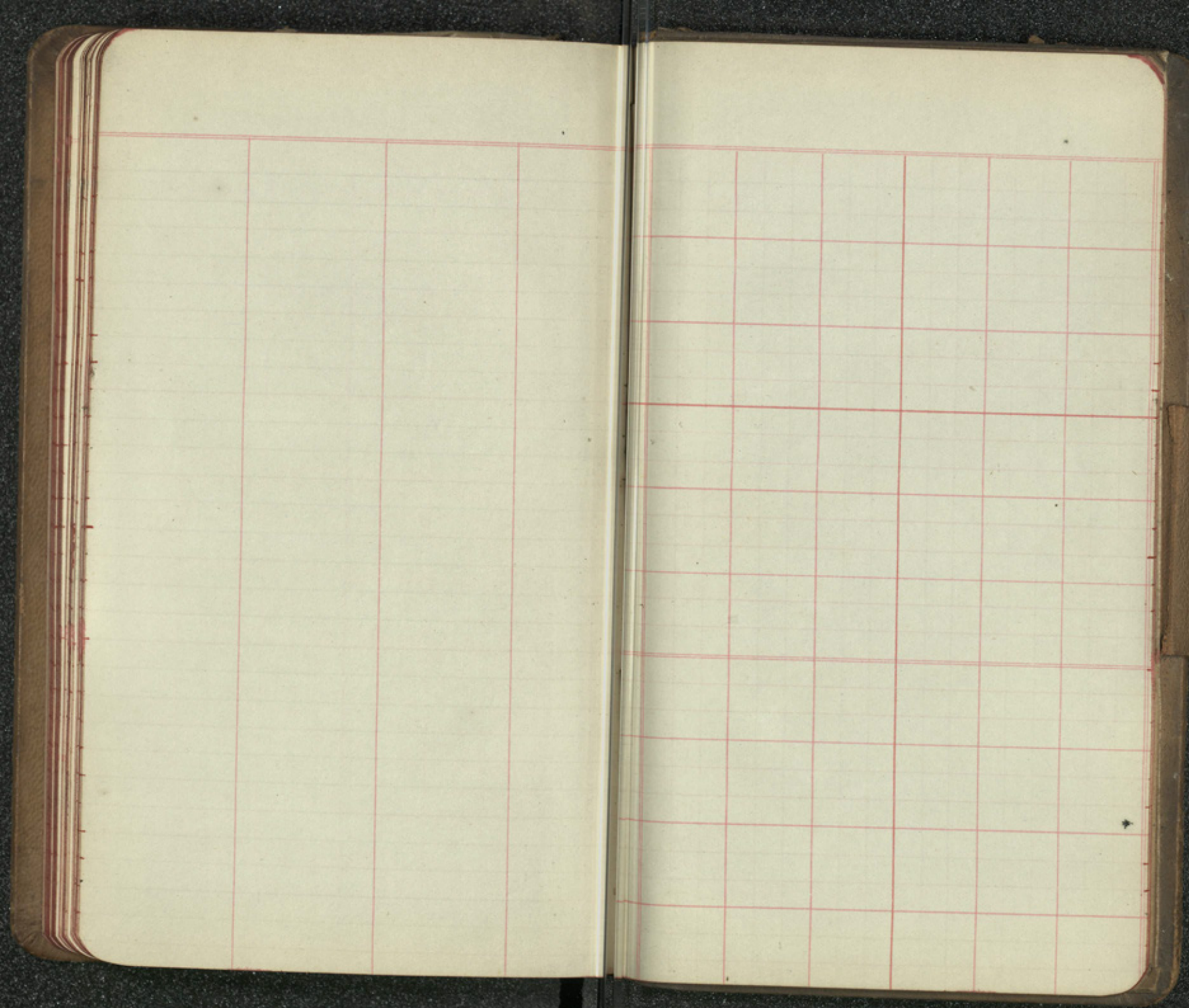


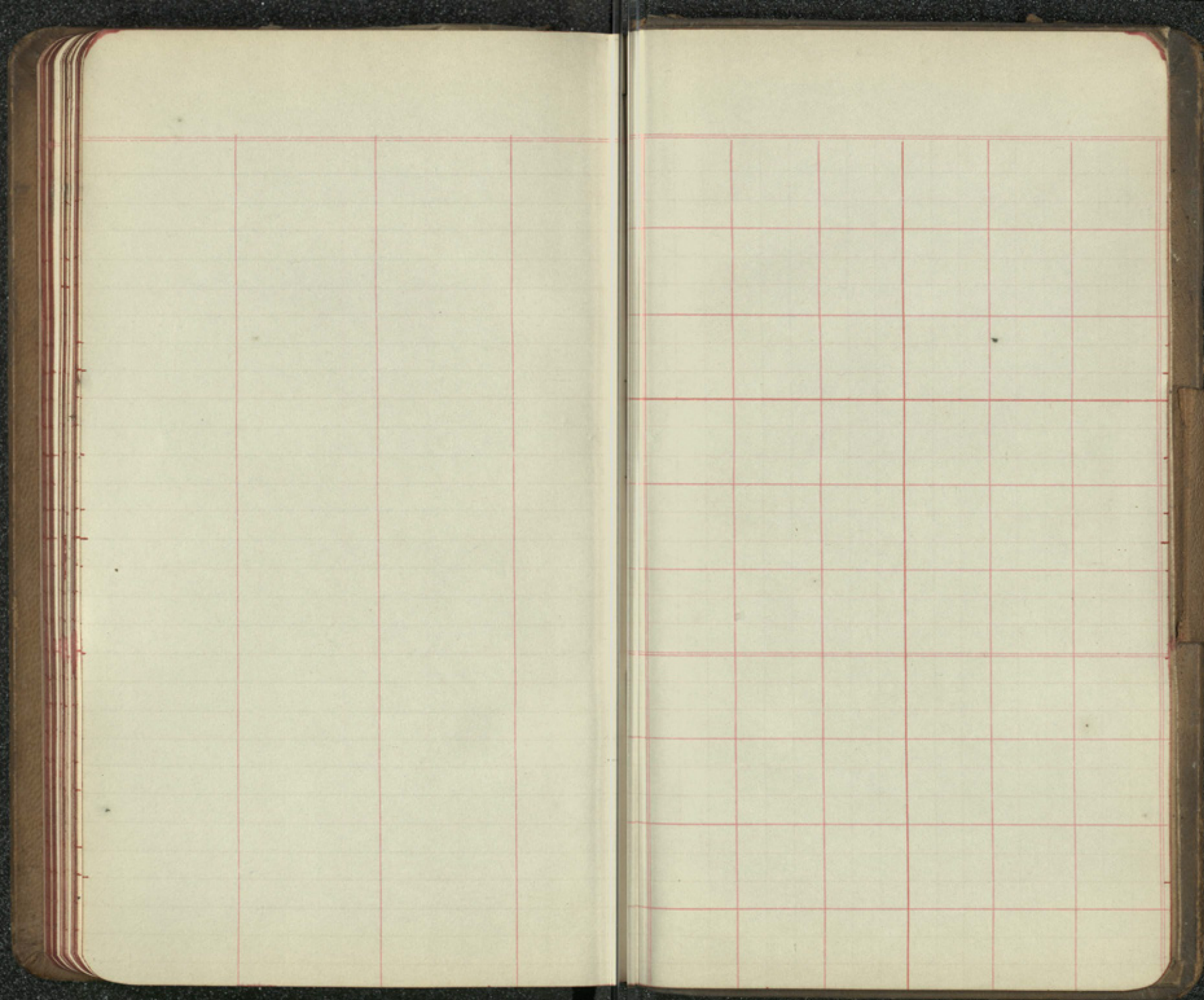


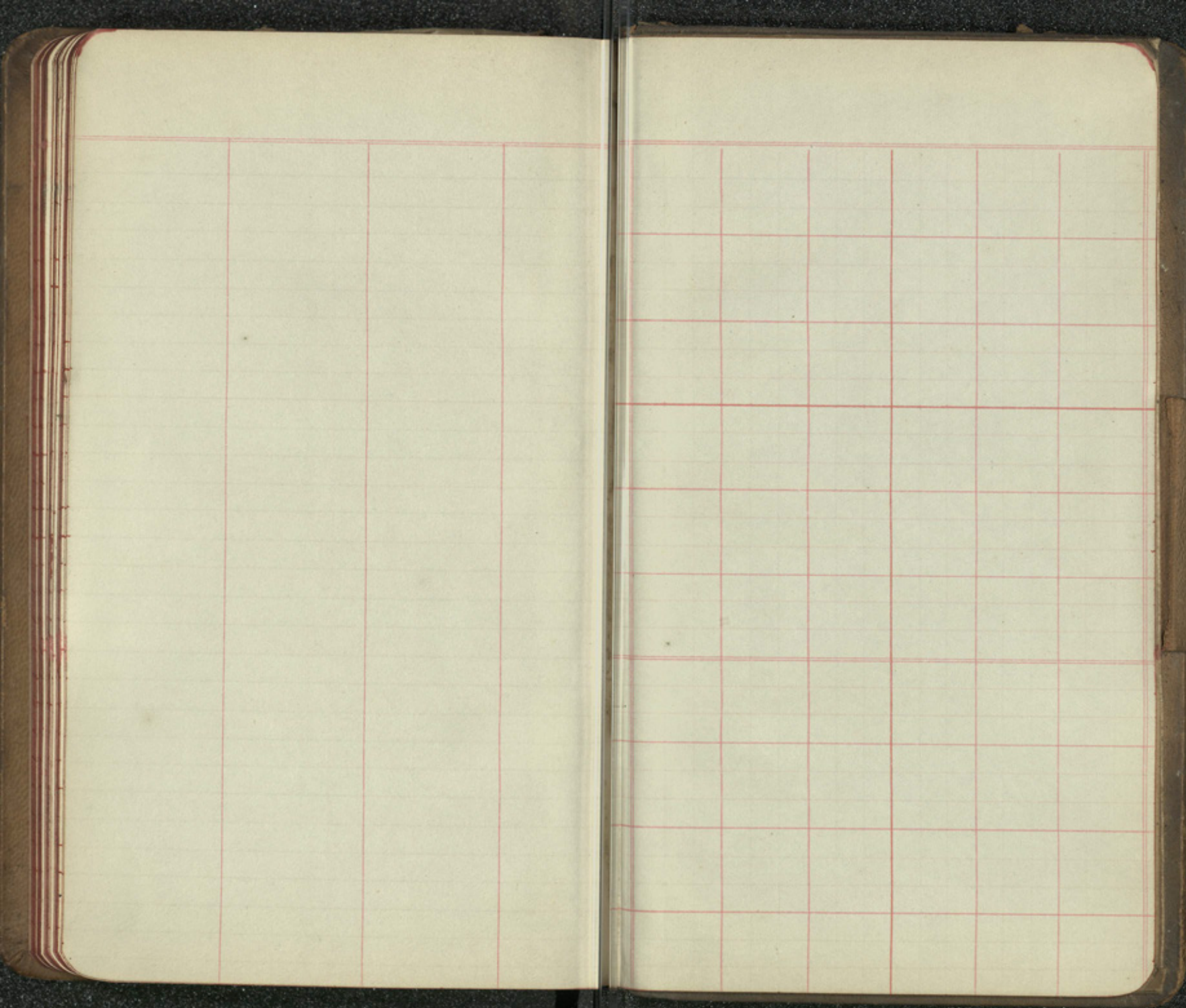


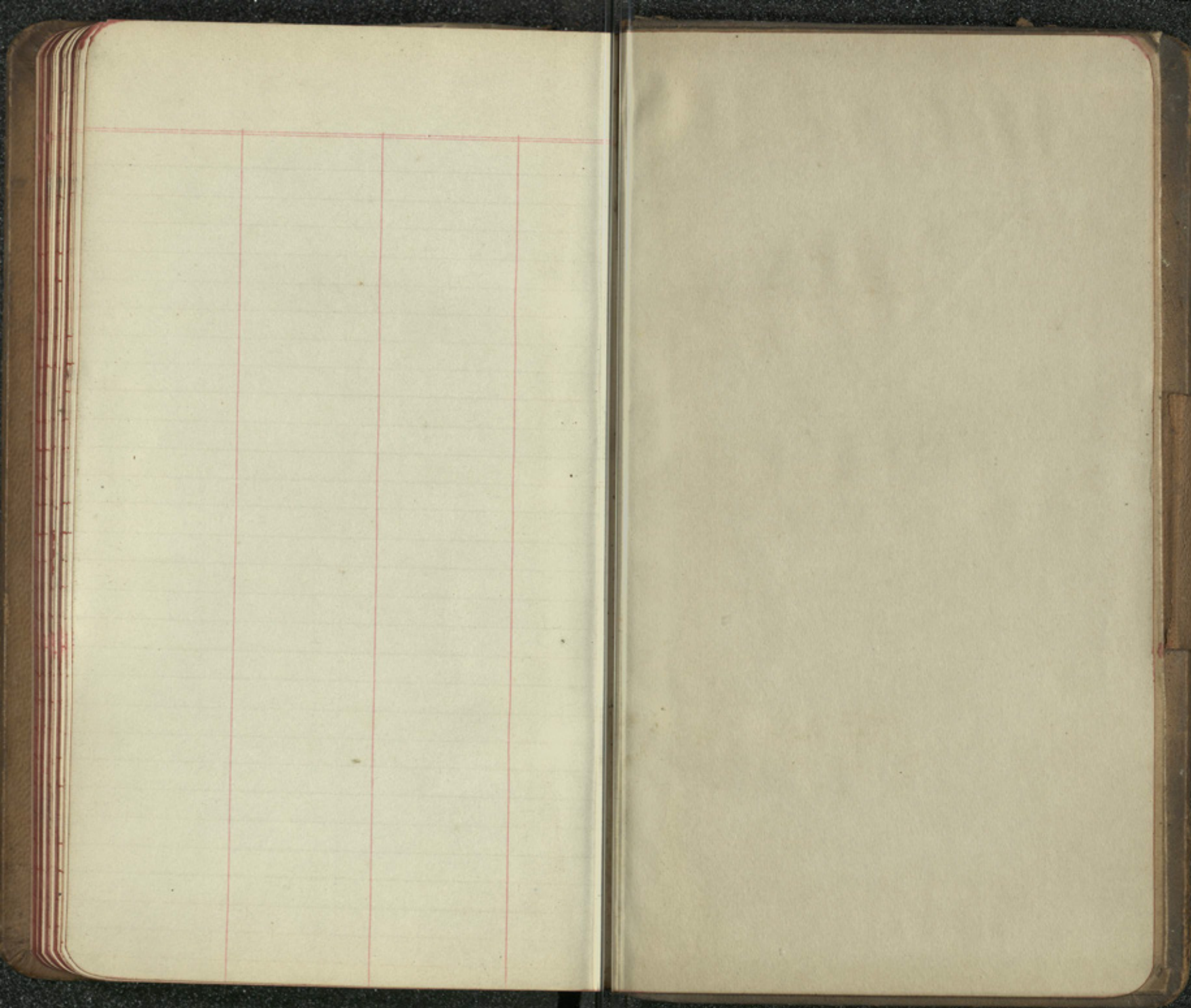


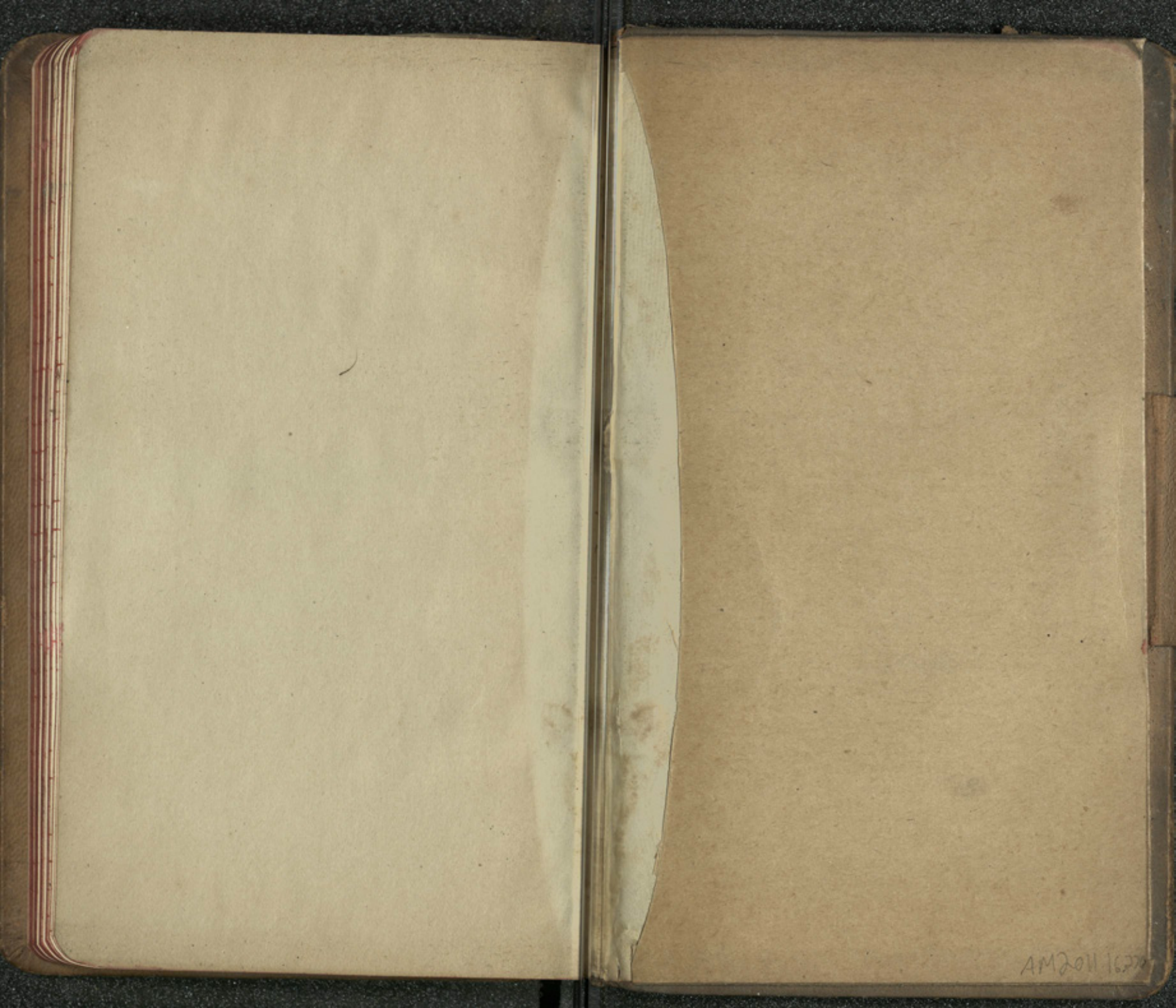












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