

Scales, Francis Shillington (1866-1927)

Contributors

Scales, Francis Shillington, 1866-1927

Publication/Creation

1910-14

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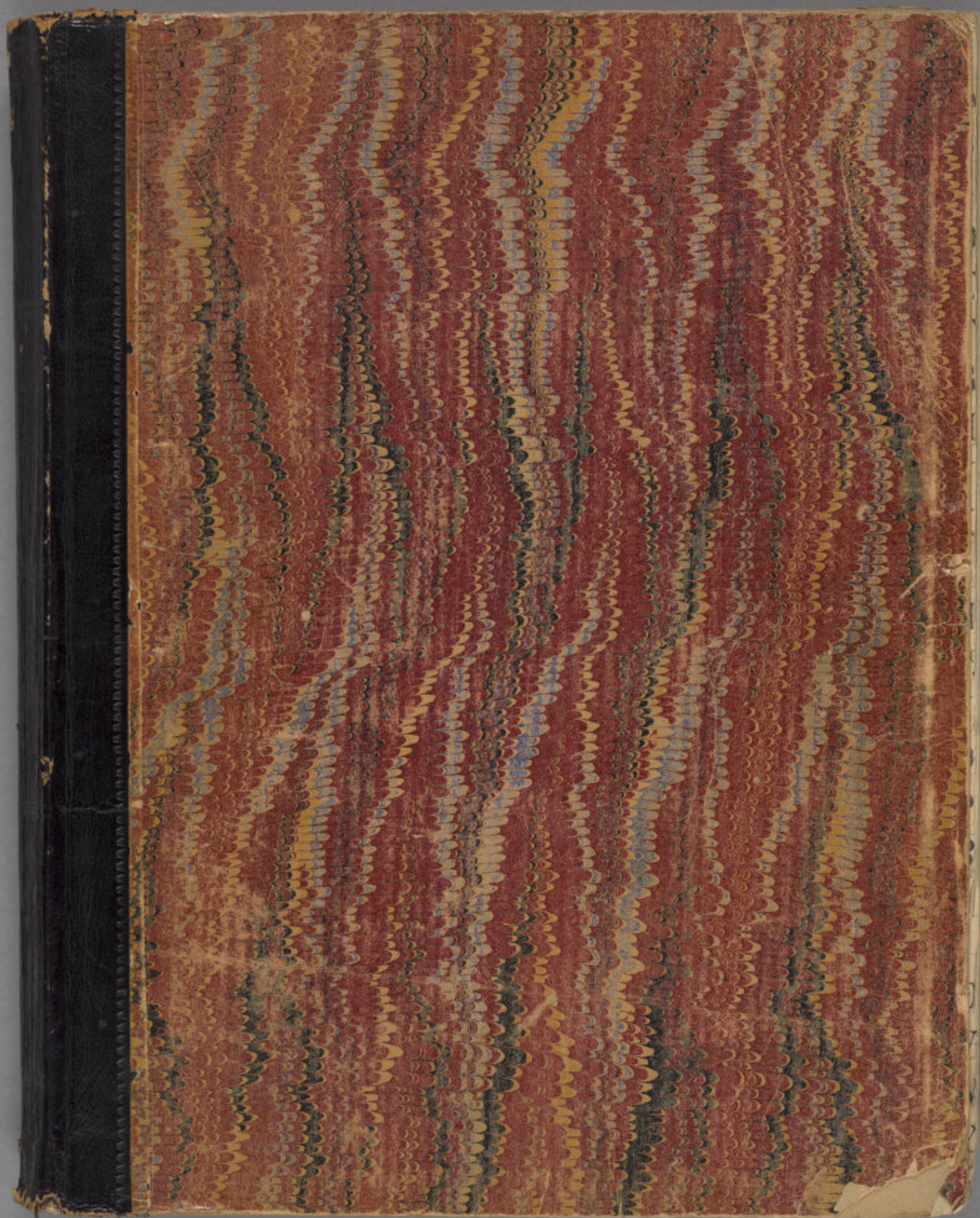
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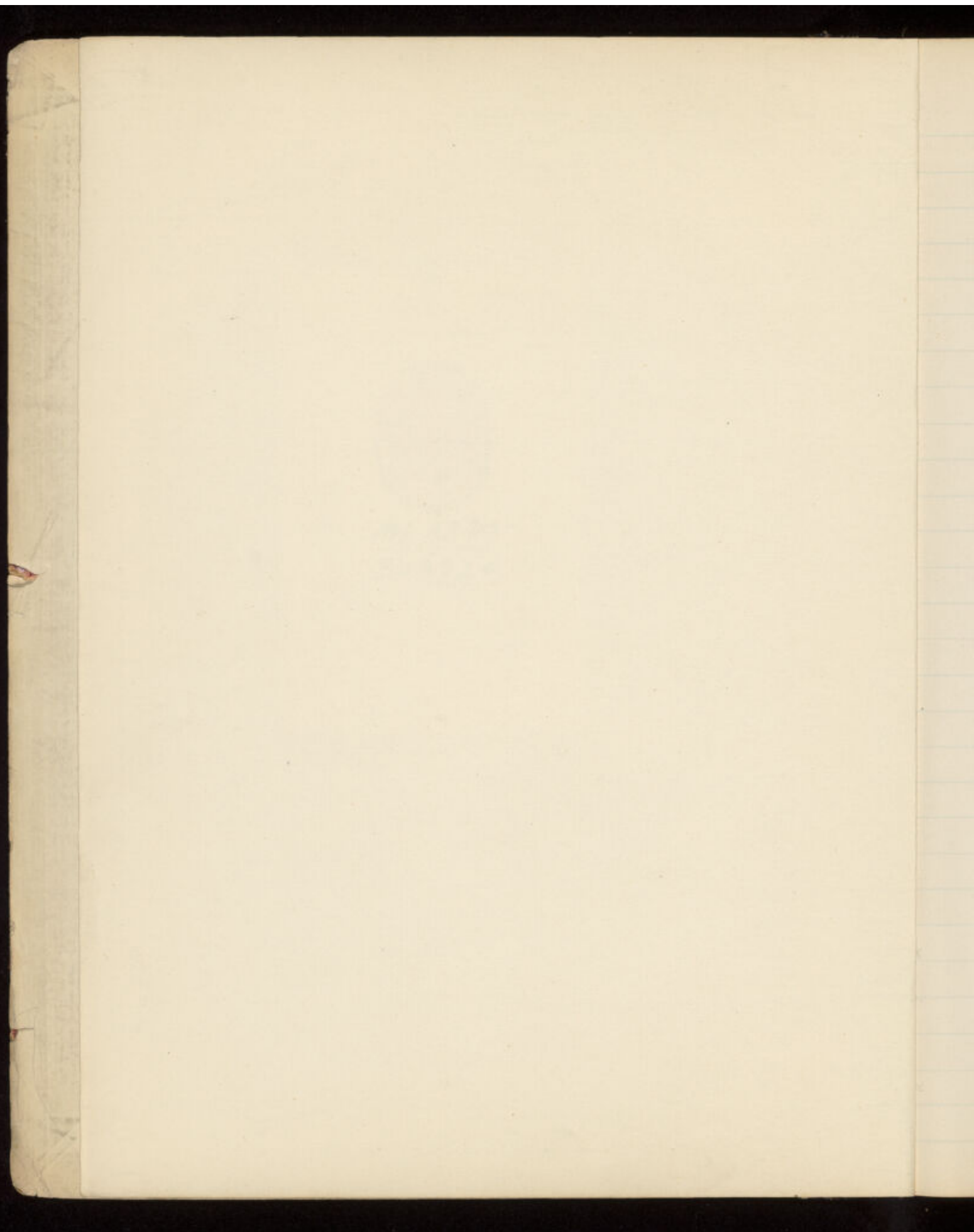




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James Williams - Ann. Jnl. of Med. Sciences. Sept. 1910 (p. 408)

Wallu. Jnl. Phys. 1887. viii. 229-234. "A demonstration on Man of Electrotonic Changes accompanying the Heart's Beat".

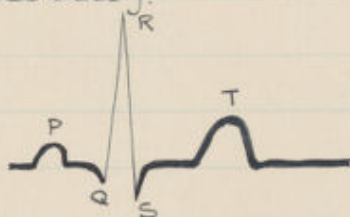
Wallu. "The Electrocardiogram of Man & of the Dog, as shown by Einthoven's String Galvanometer". Lancet. 1909. clxxvi. 1448

G.H. Bush. "On a method of determining the value of rapid variations of a difference of potential by means of the capillary electrometer". Proc. Roy. Socy. 1890. xlviii. 89. "On the time relations of the excursions of the capillary electrometer". Phil. Trans. Roy. Socy. 1892. clxxxiii. 81.

J. B. Sanderson. "The electrical response to stimulation of muscle". Jnl. Physiology. 1899. xxiii. 325.

German silver electrodes that salt solution. Resistance 2.8 ohms per pair. Difference of potential $\frac{1}{2}$ mv. Body resistance 200-500 ohms.

Time vibrations about 50 per sec (Pip) due to tremor of muscles (Einthoven).



A downward may be initial contraction of apical fibres. & variations in this wave in individual cases due to variations in distribution of fibres in bundle of this. Q in health always small & often absent.

Capillary muscles system contracts before apical muscle

mass (Hering. über die beginn des Papierenmuskulatur
und seine beziehung zum atrioventrikulärbrüdel,
Pflügers Archivs, 1909 cxxvi. 225). Earliest & most
extensive distribution of fibres of bundle of His is to
papillary muscles (Tawara - das Reizleitungssystem
des Säugetierherzens, Jena, 1906.)

Fotch. The succession of events in the contracting
ventricle, as shown by electrometer records.
(Toronto Rabbit), Heart, 1910, i. 3.

Interval between R & T does not indicate cessation
of muscular activity, but that all parts of muscle
are equally active, & potential of base takes the same.
T usually upward, probably due contraction of
basal fibres not yet brought into play (see Fotch. loc. cit.)
in neighbourhood of ventricular mass near aorta
(or pulmonary artery), corresponding to wave
of excitation following route of original primordium
cardiac tube of lower animals & of embryo. &
therefore remains of original peristalsis. T therefore
homologue of final contraction of bulbus arteriosus
in the lower animals.

Height of R varies with respiration, being lower in
deep inspiration. T is increased by any agency
which increases the force of ventricular systole,
as exertion or increased blood pressure. Increased
force frequently shortens diastolic interval, &
approaches T to following P, which may reach a
point where they occur together.

James Williams. Ann. Jnl. of Med. Sciences. Nov. 1910. p. 644

Excursion only of electrical charges due to muscular activity. Movements of blood or mechanical disturbances of valves no direct effect on record.

Character of curve varies with points of body surface from which current is led off. Variations in position of heart cause marked changes in electro-cardiogram (Einthoven, *Writings über das Elektrokardiogramm* - Pflügers Archiv. 1908, cxvii, 533). Similarly, marked changes in muscle mass affect curve. Still more striking variations caused by contraction originating in abnormal situations and pursuing abnormal course through muscle.

Hypertrophy of right ventricle - R I very small in extent upward, & may be downward, usually the latter in well-marked cases; R III directed upward & relatively of greater magnitude than in normal subjects. (Einthoven & Wilson's work on this)

Hypertrophy ~~of right ventricle~~ of left ventricle, opposite condition obtains, R I being directed upward, & often of enormous height, while R III is directed downward, frequently 2 cm (2 mV)

A very considerable displacement in position of heart in chest & lesions of one limb of auriculo-ventricular bundle produce similar electro-cardiograms to Hypertrophy.

Hypertrophy of left auricle - in certain cases of well-marked mitral stenosis with good compensation a decided increase of magnitude of wave P has been noticed.

Cardiac irregularity may result from variations in intensity of vagus innervation. Mackenzie (*Study of the Pulse*, London & Edinburgh, 1902) points out that this is most frequently

takes the form of an occasional slowing of the pulse, often occurring at times of inspiration, as though it were a reflex increase in vagal innervation. Electrocardiogram in such cases shows only lengthening of diastolic interval between T + P, without other change.

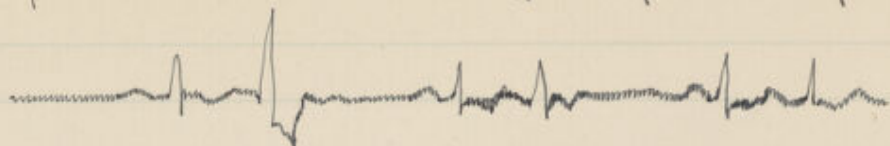
Irregular acceleration of auricular rhythm usually ascribed to occurrence of auricular extra-systoles. The Mackenzie taking origin other than in sinus region (regular place of origin of rhythm). ? Why should not sinus region originate premature beat. Well known that vagal control chiefly affects auricles. If occasional increase in strength of vagus tone causes delayed beat, reverse may be true?

Auricular extra-systole may merely increase height of T, rendering it perhaps also more sharply peaked, or bifid. Or P may be reversed in premature beats, indicating origin of premature beat at a point nearer ventricles than site of normal rhythm, resulting in increased T wave.

In ventricular extra-systoles atypical contractions very generally give greater magnitude of contractions. In complete heart-block sinus are normal in ventricle. Extra-ventricular systoles ineffective in propelling blood due to heart being empty.

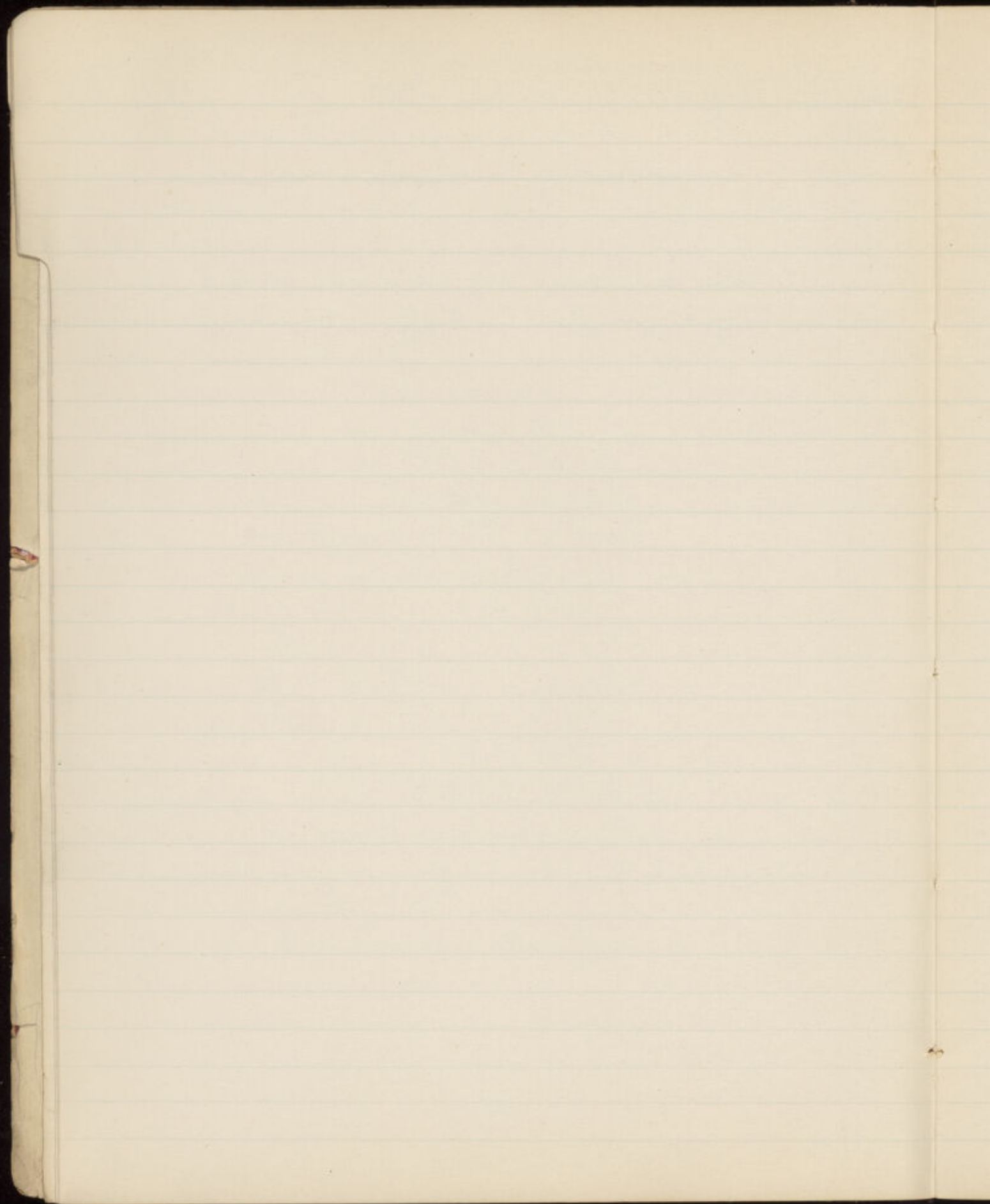
Characteristic of ventricular extra-systoles that they are followed by compensatory pause which with extra beat amounts to time of two normal cycles, due to dependence of normal ventricular rhythm on auricular rate. The auricular beat following an extra-systole finds the ventricle refractory.

Bipenninal pulse - each alternately ^{beat} heavy extra systole.

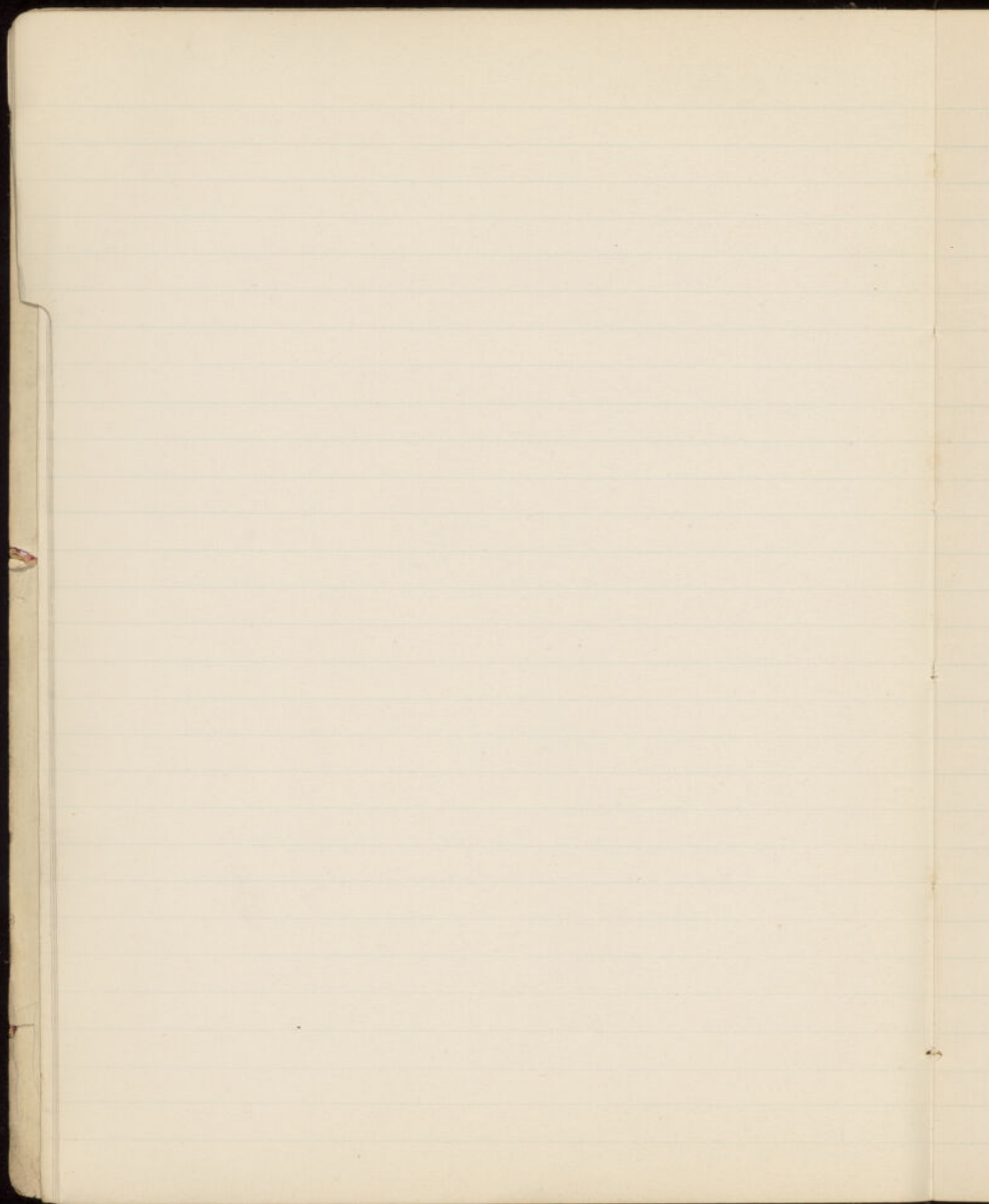


Differences in height of large curves scarcely likely to be due to summation. On account of unusual length of following pauses. Possibly origin in different parts of ventricle.

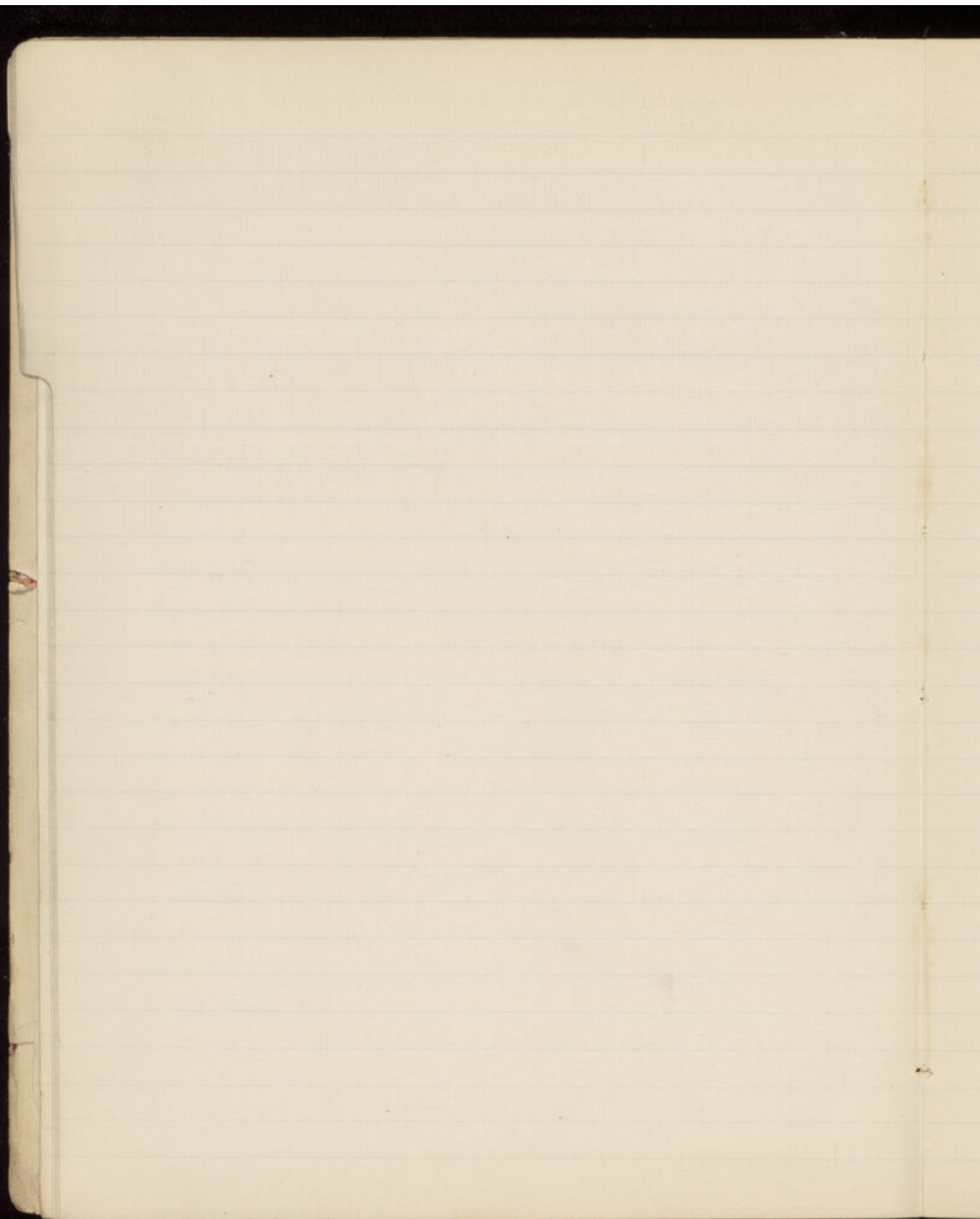
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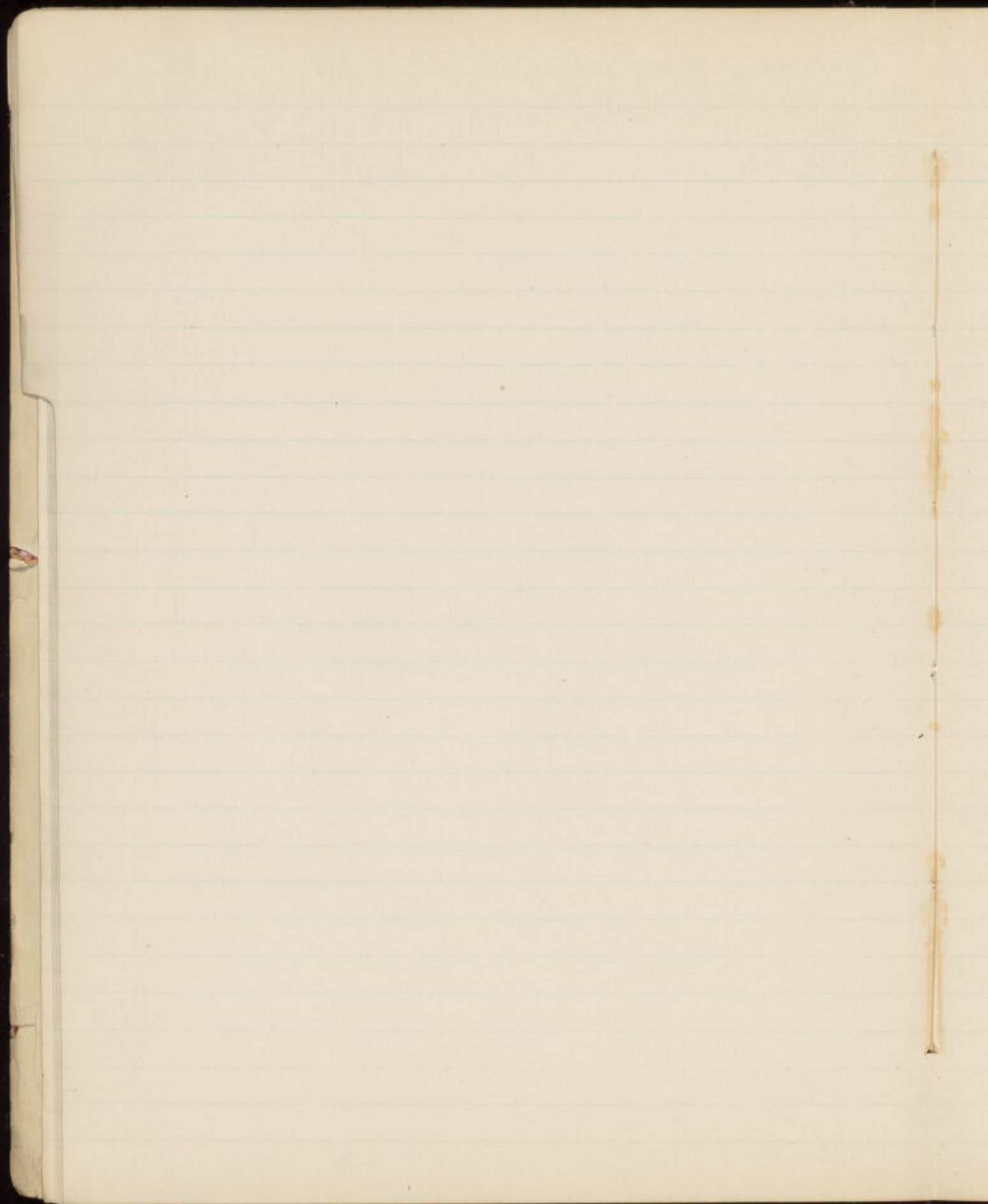
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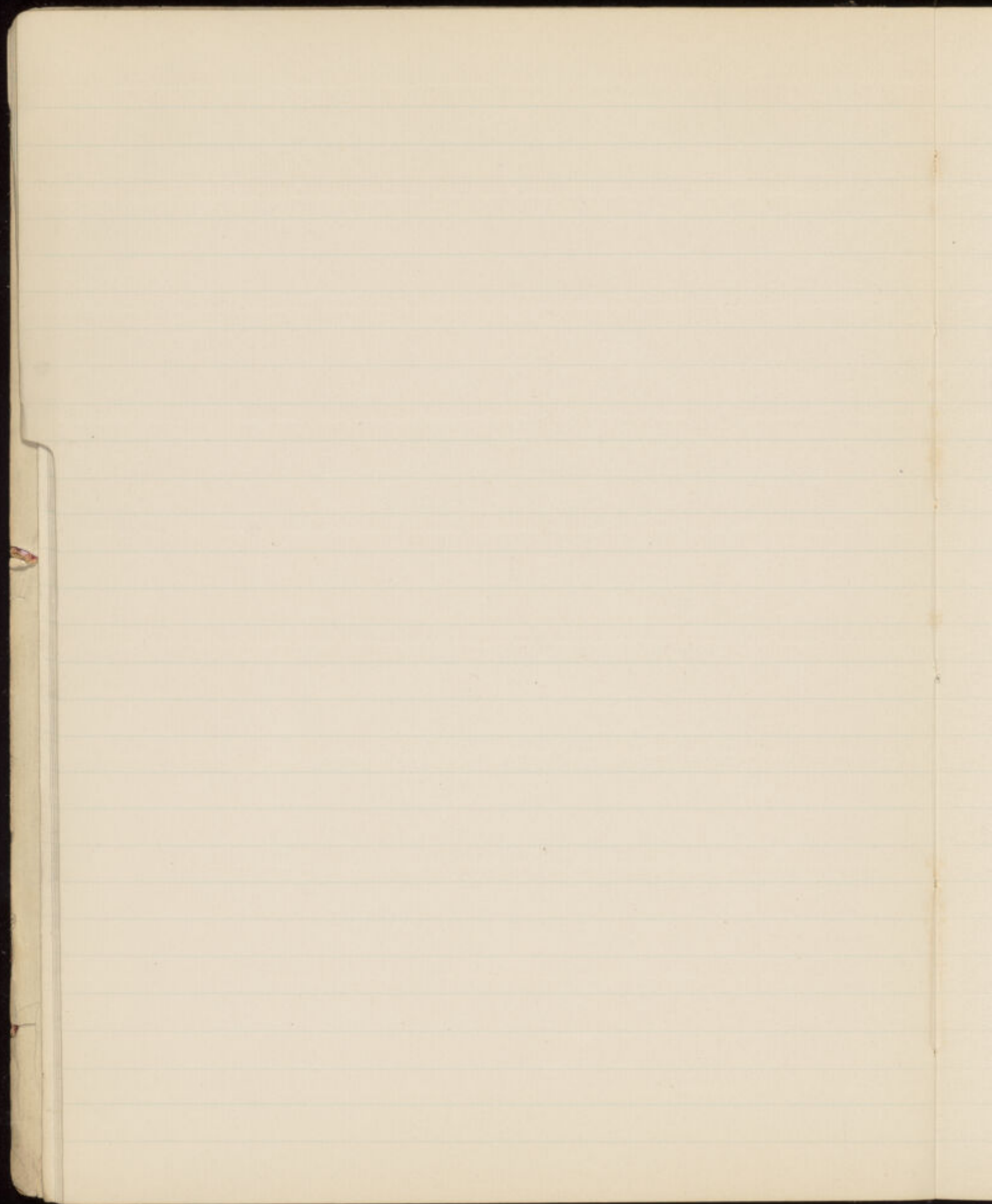
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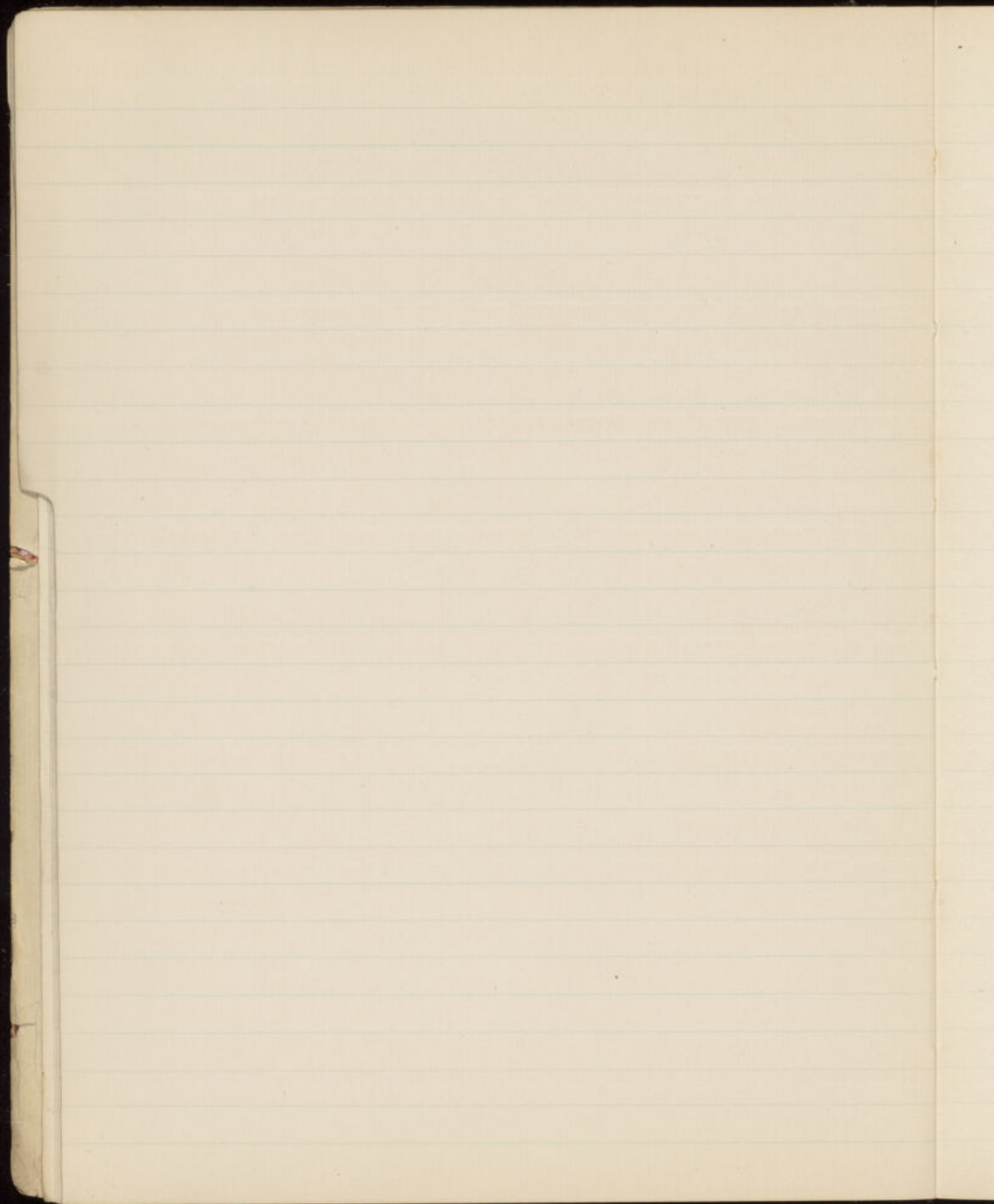
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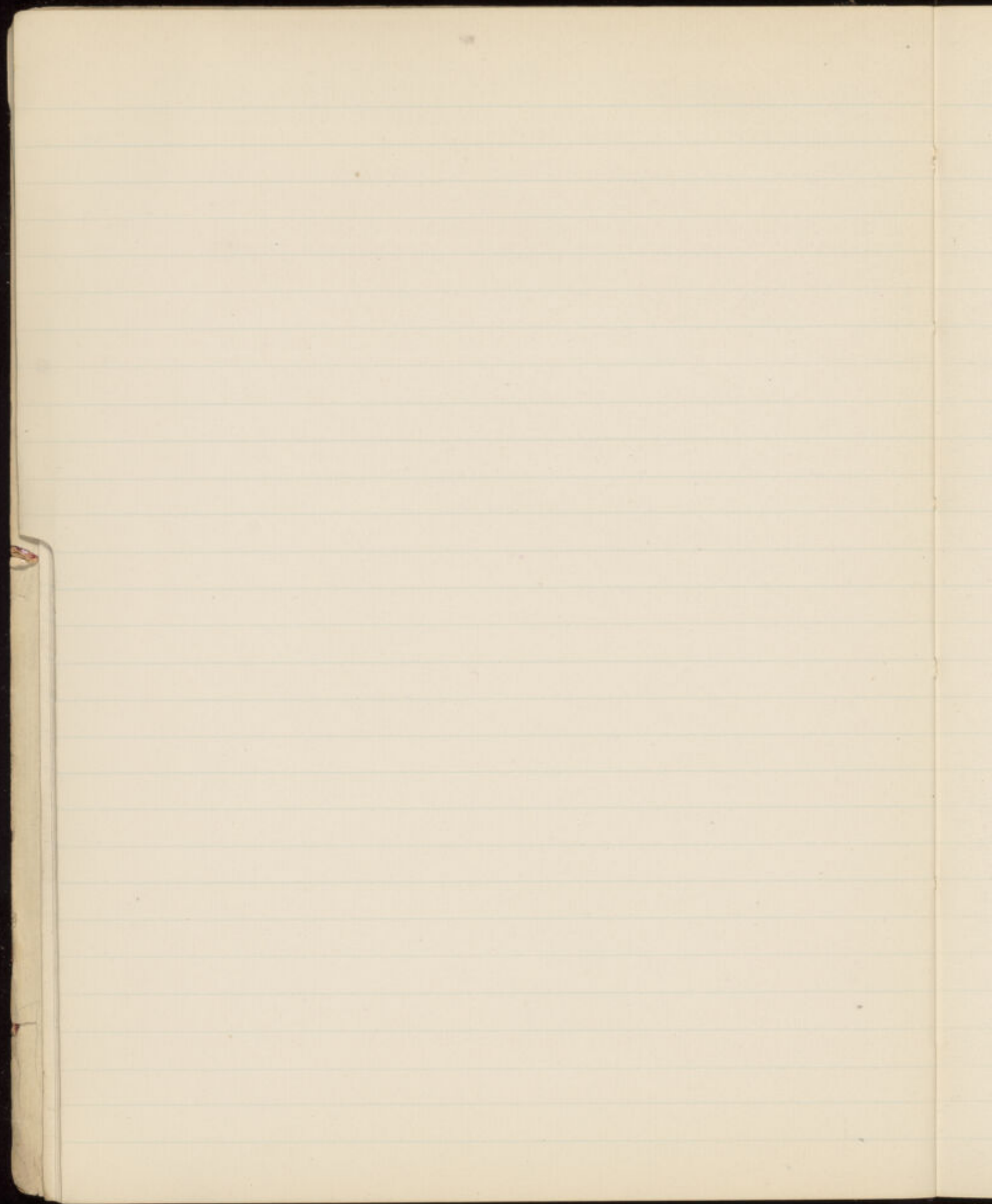
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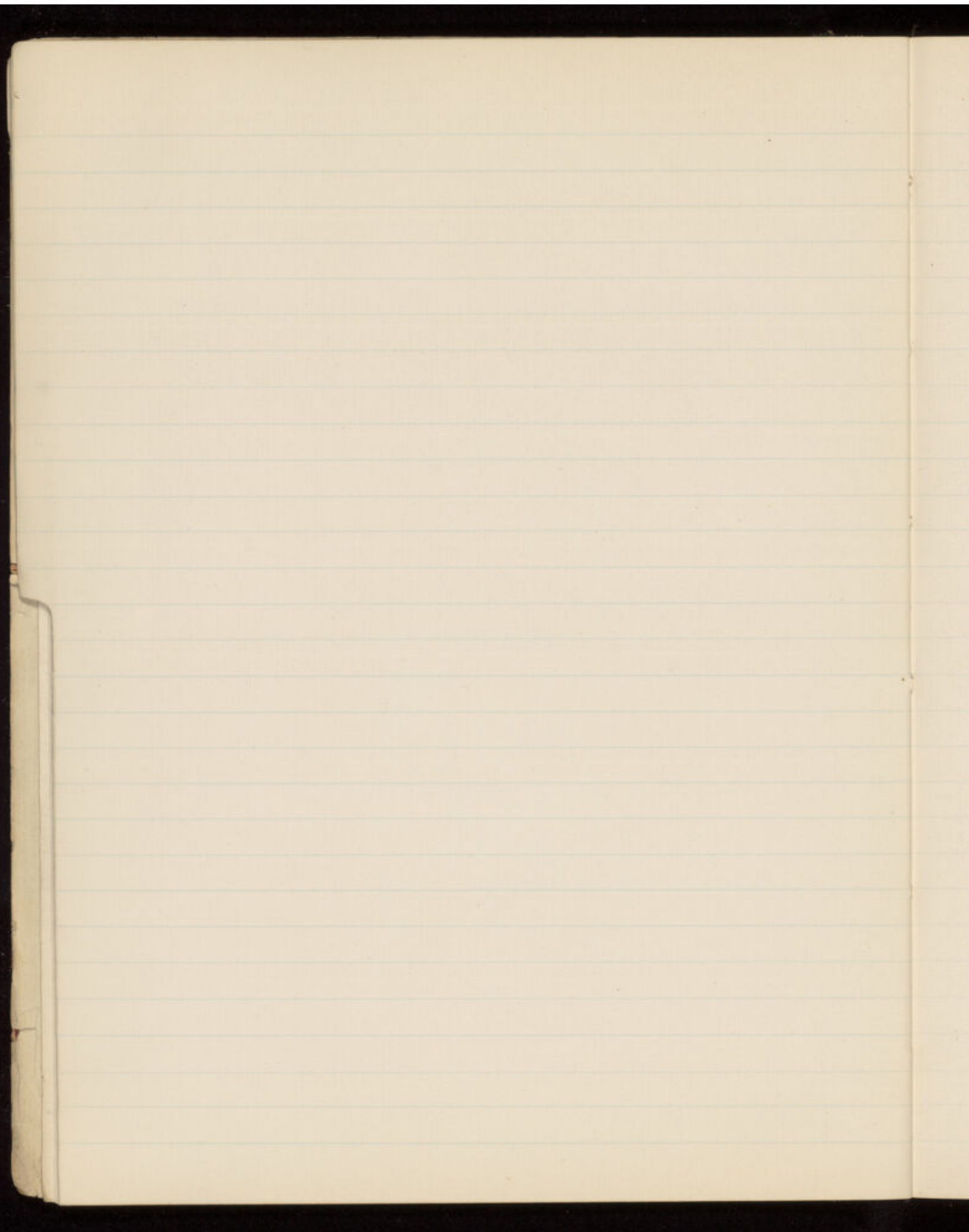
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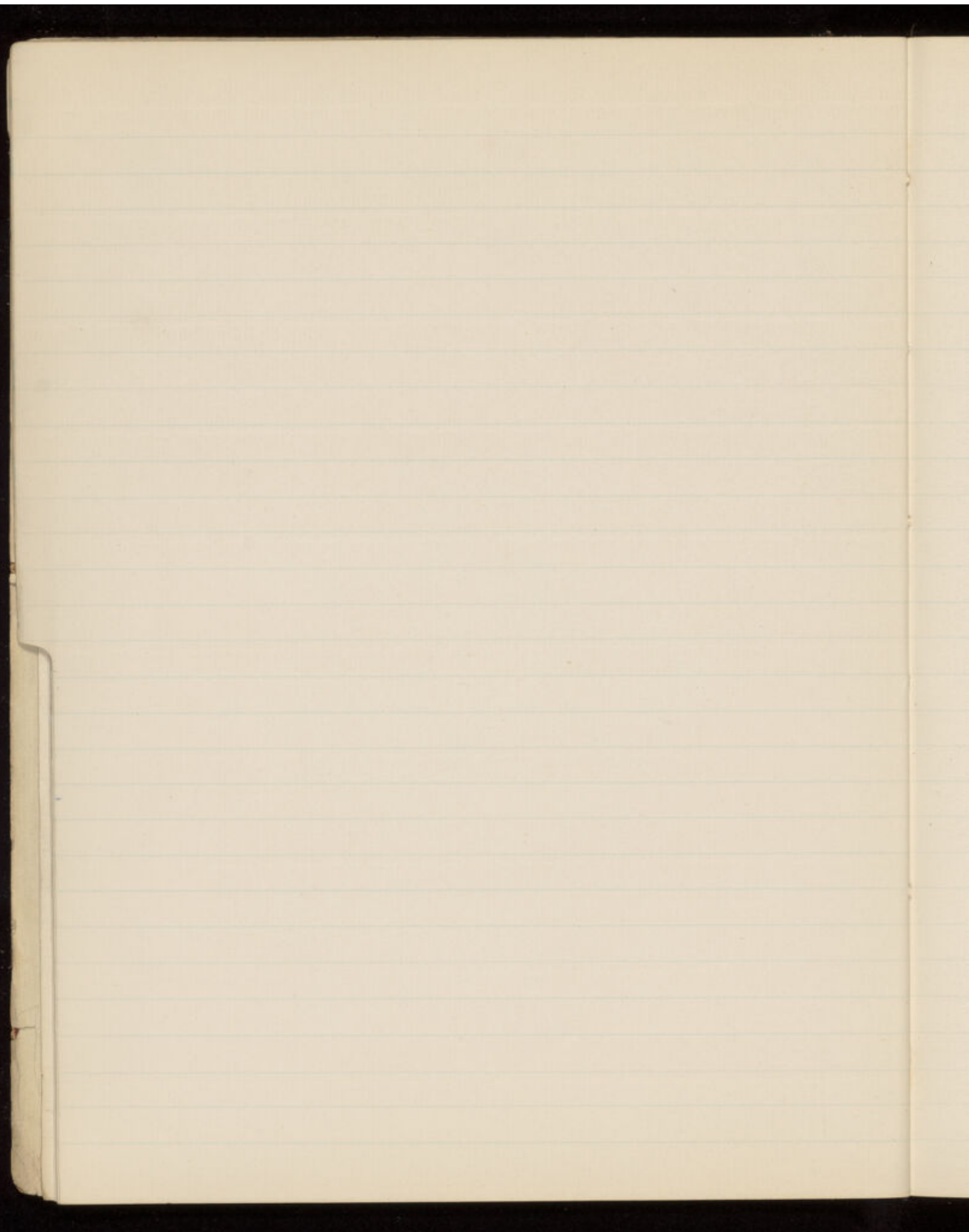
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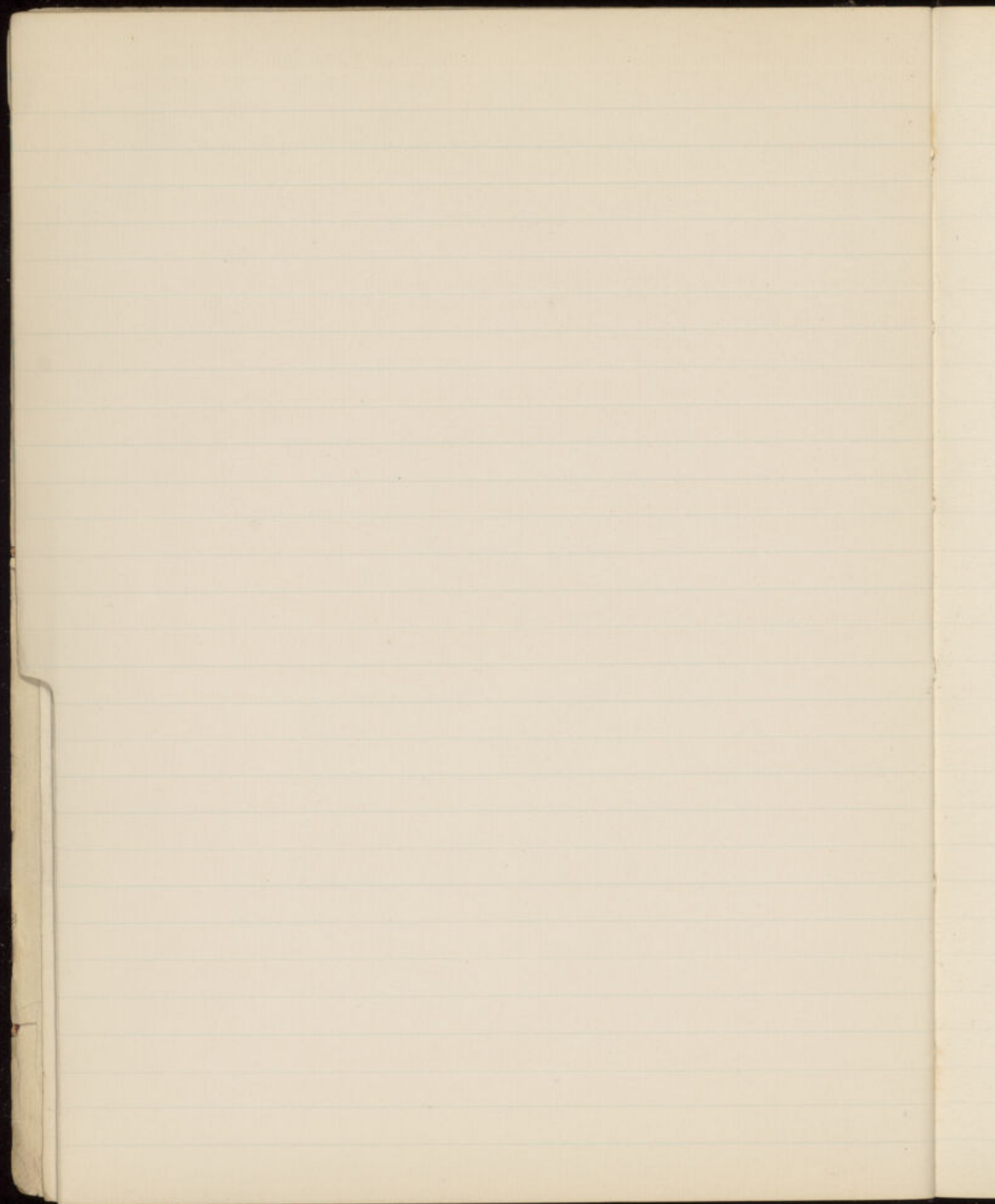
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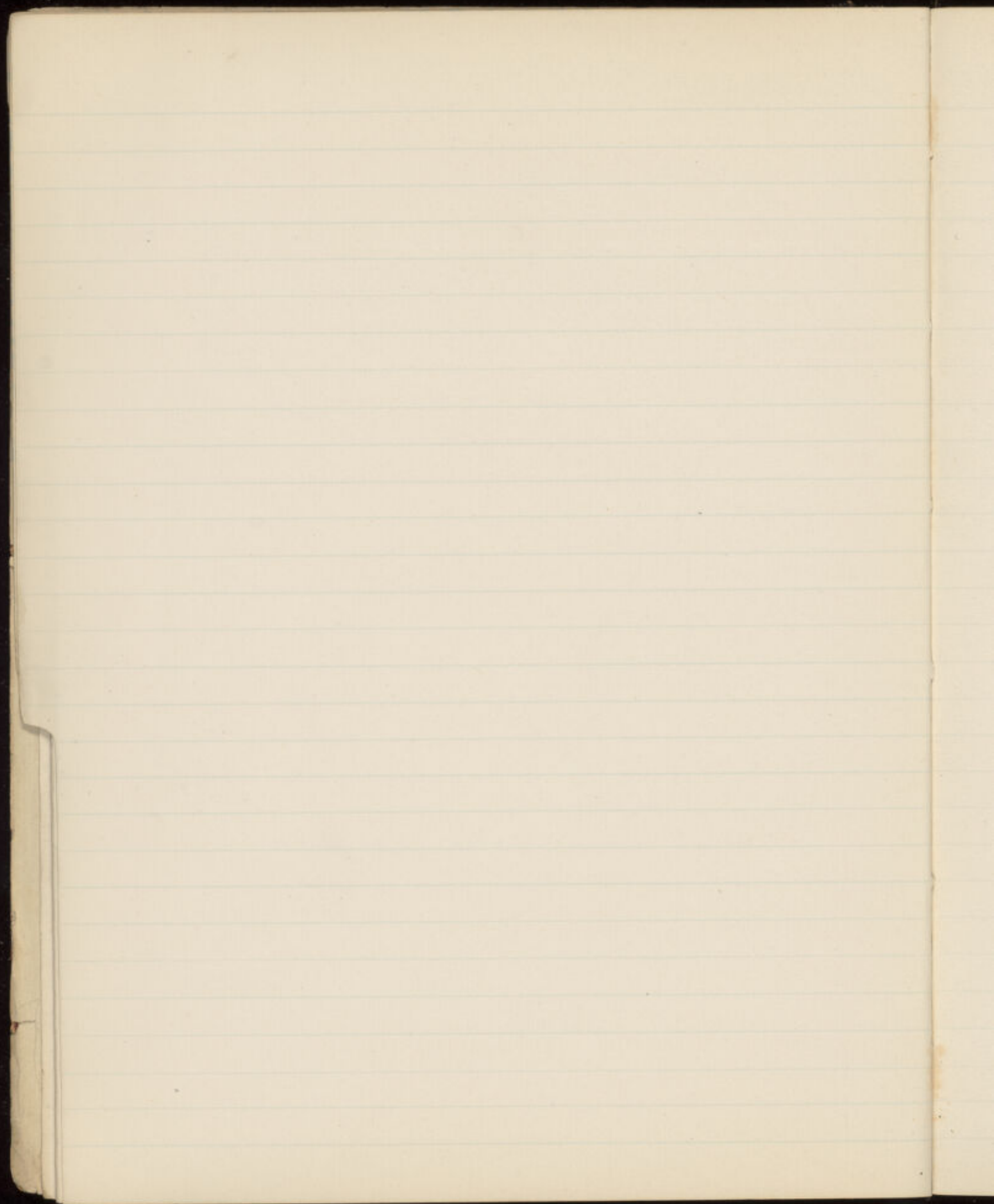
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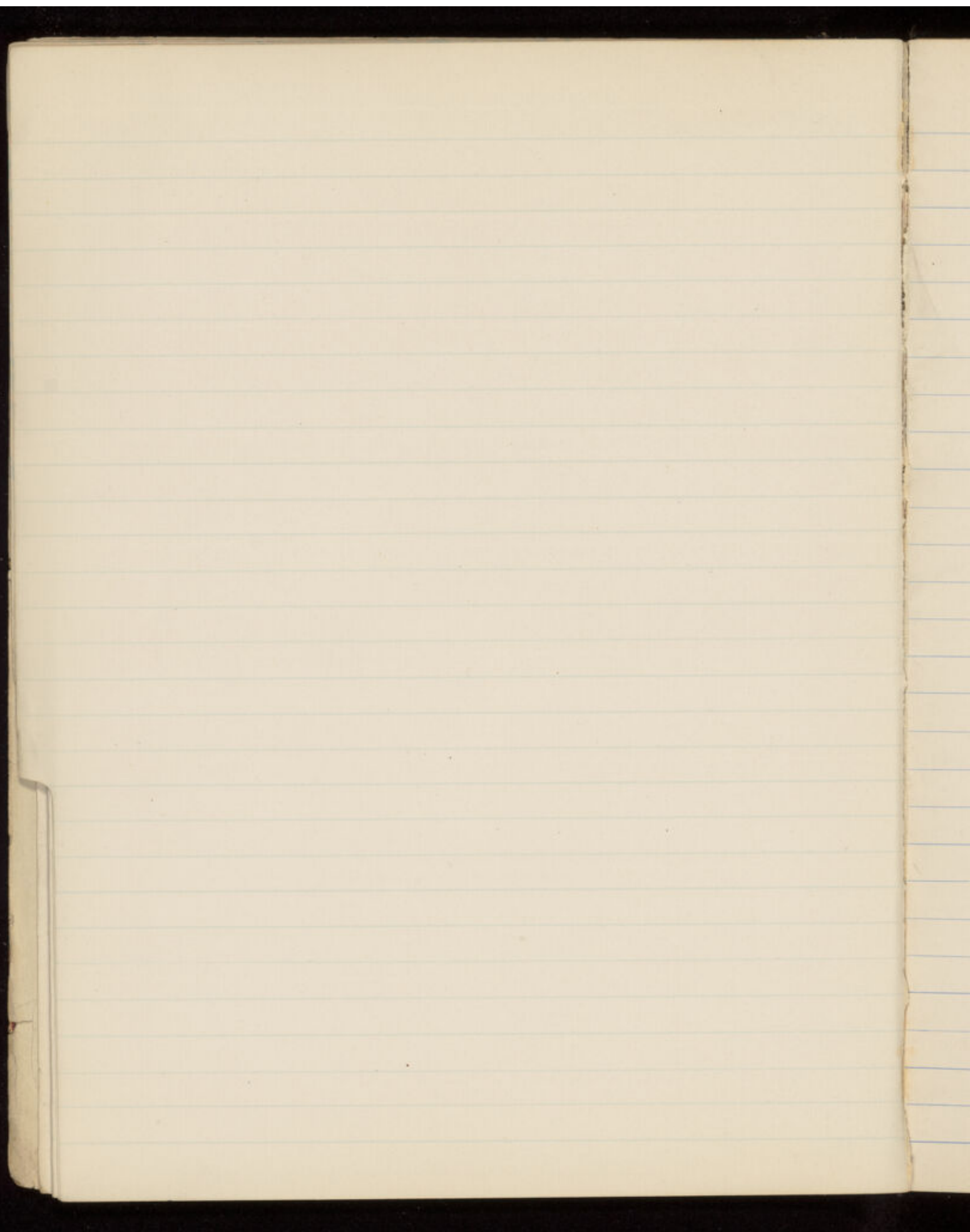
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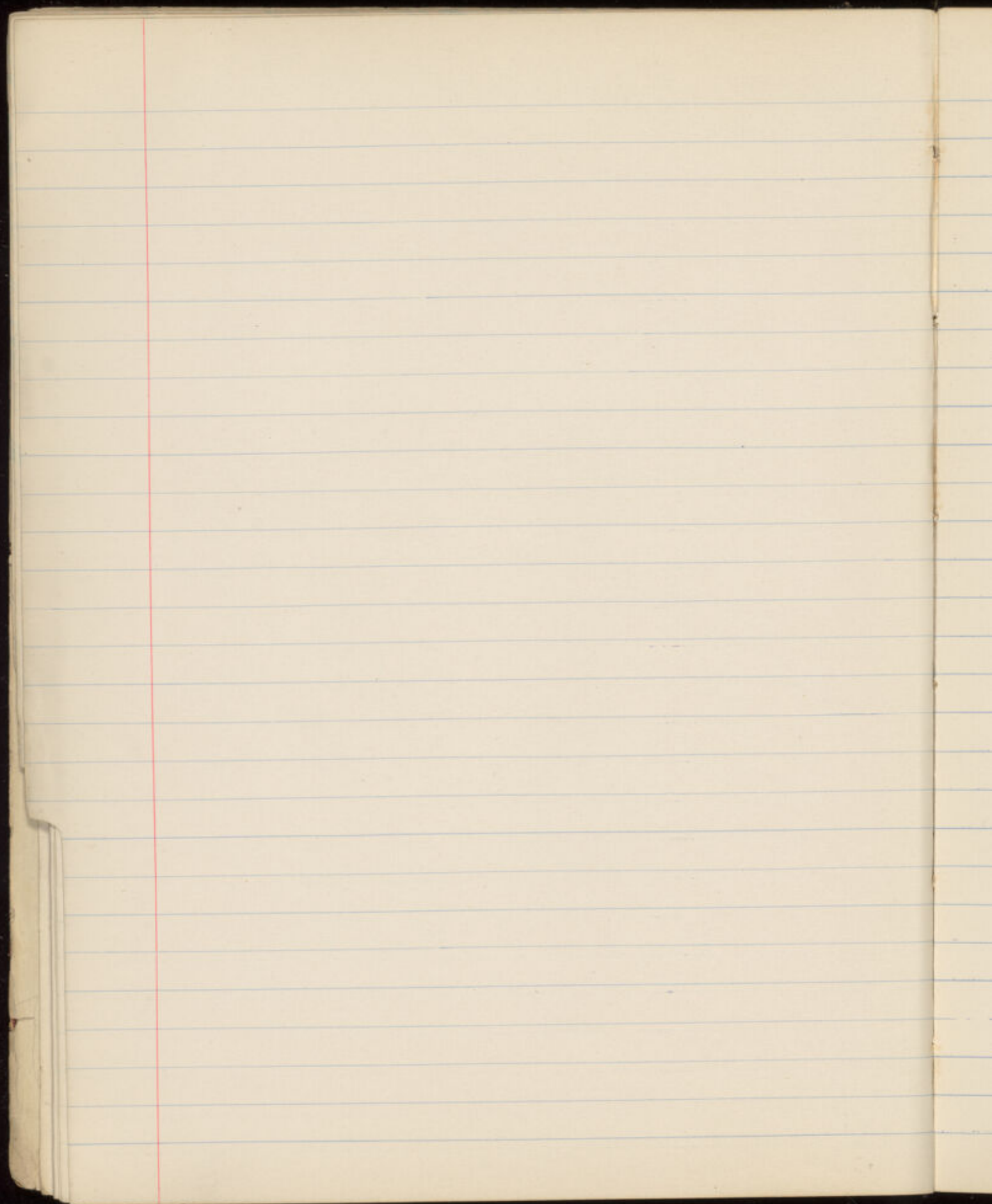
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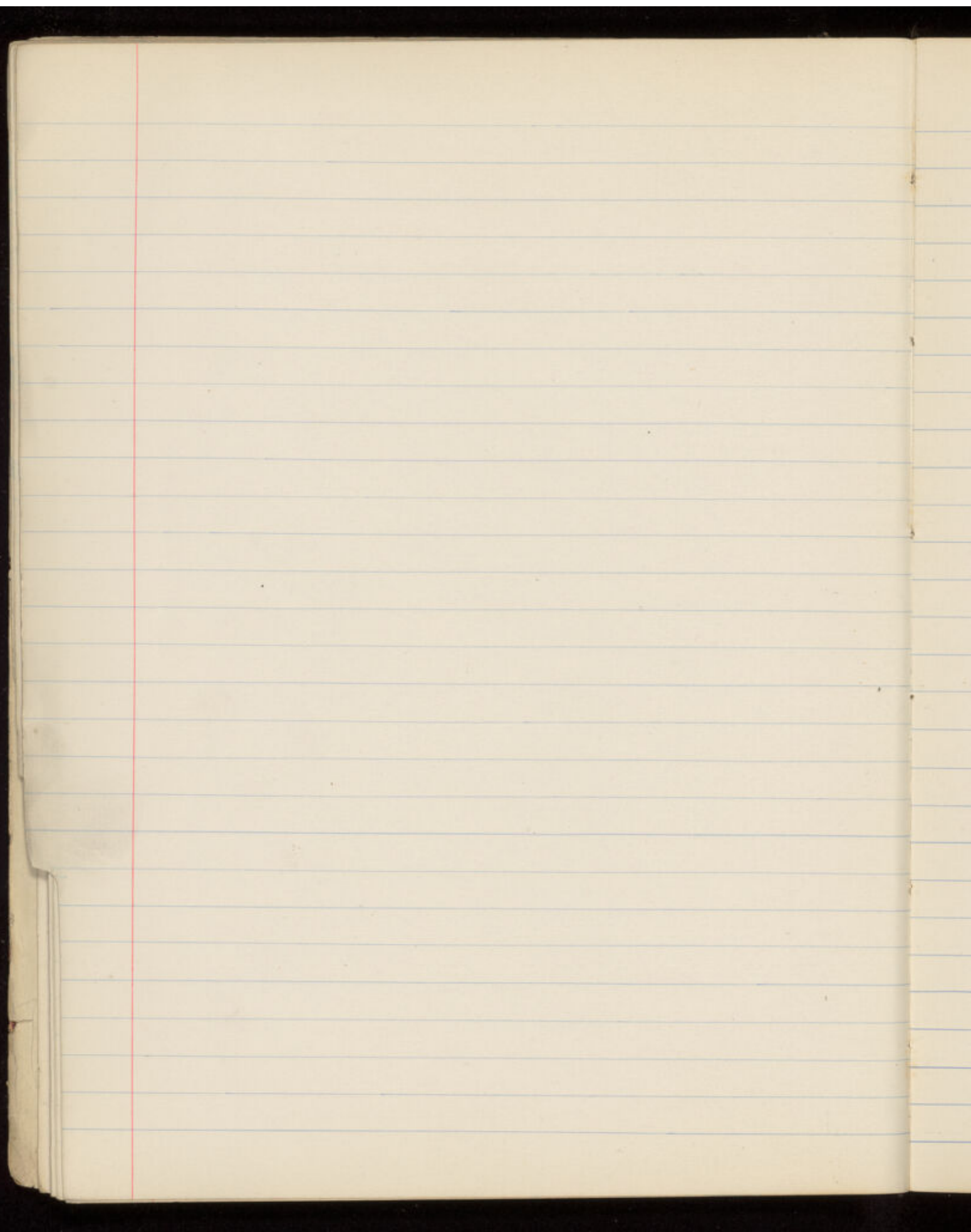
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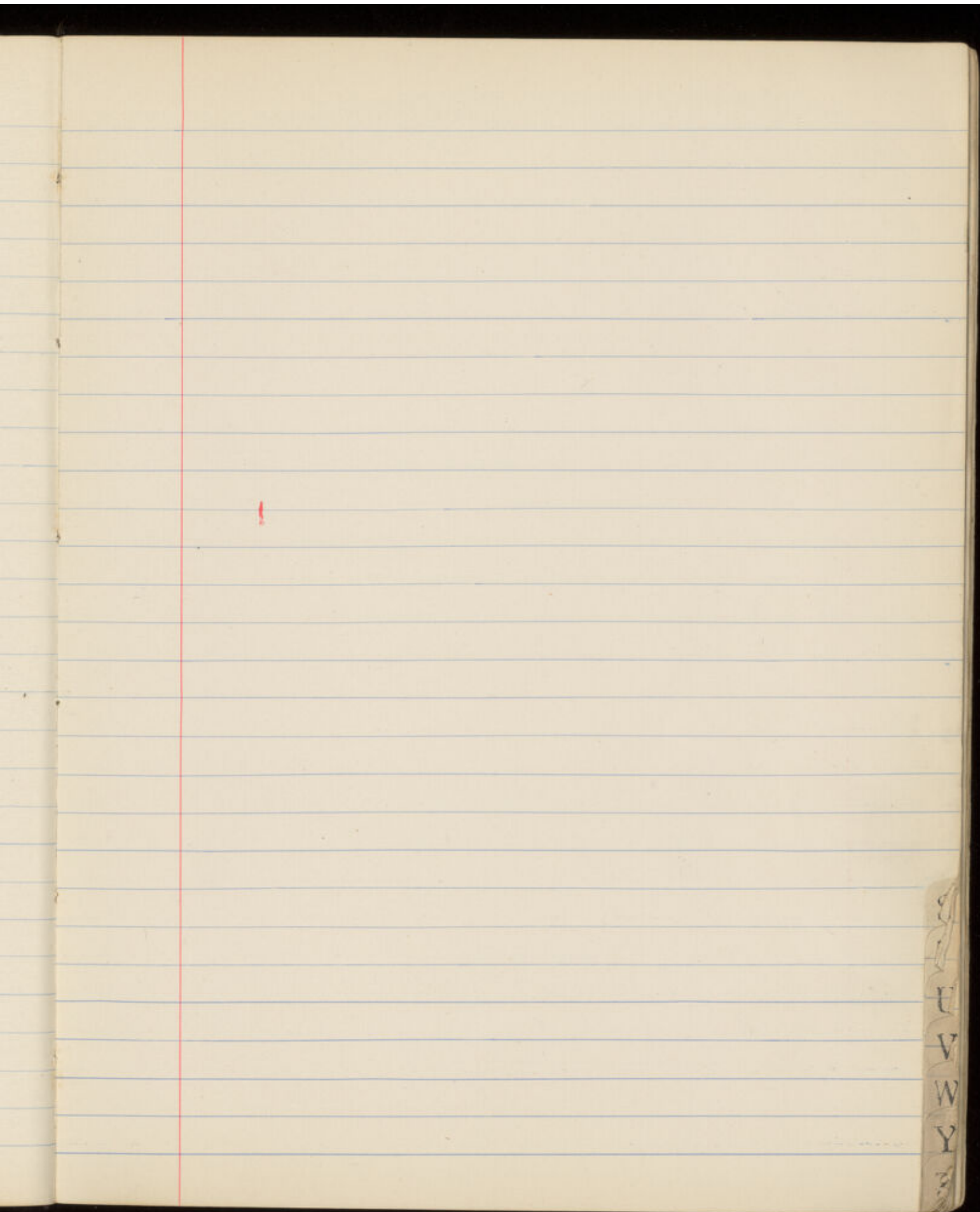


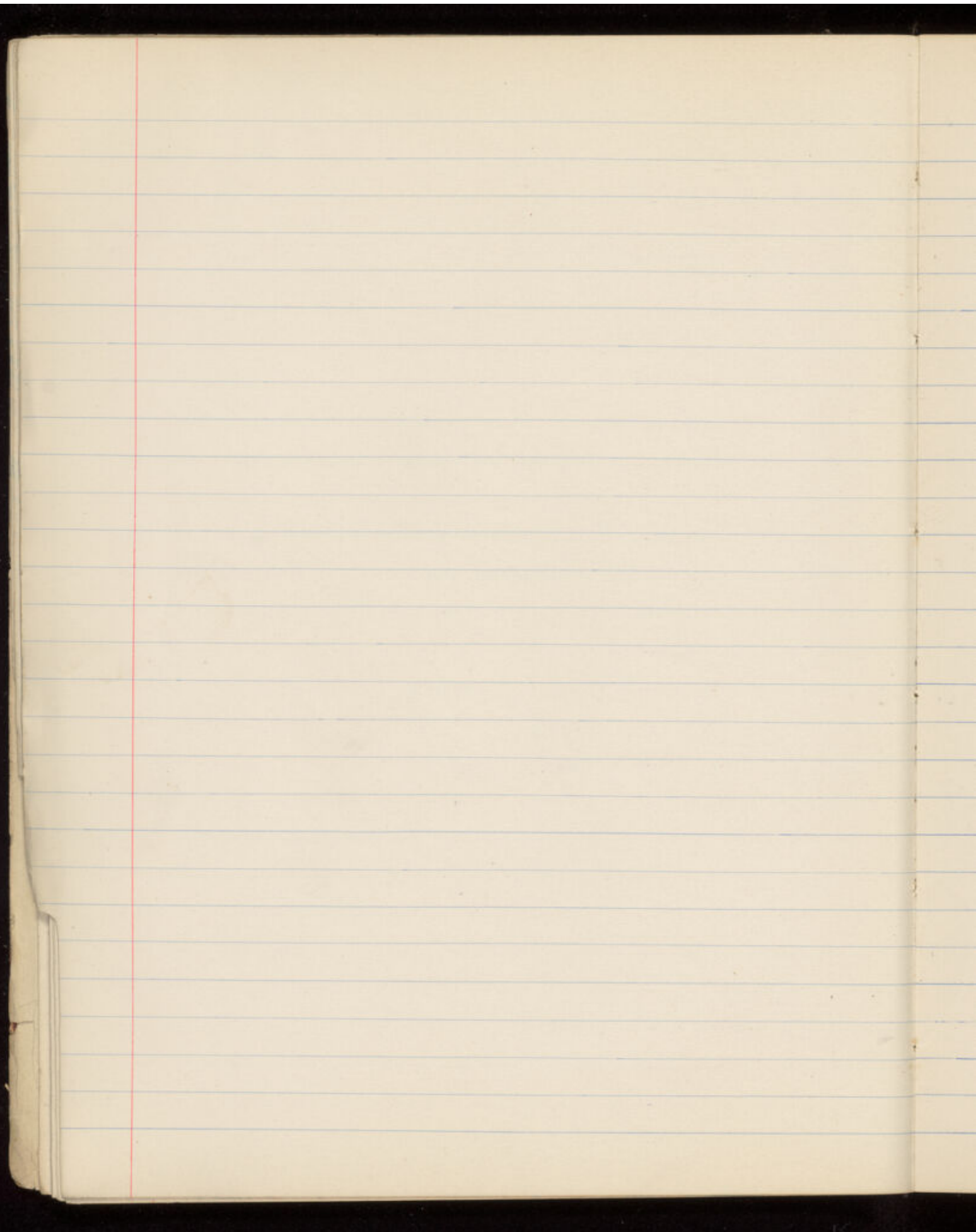
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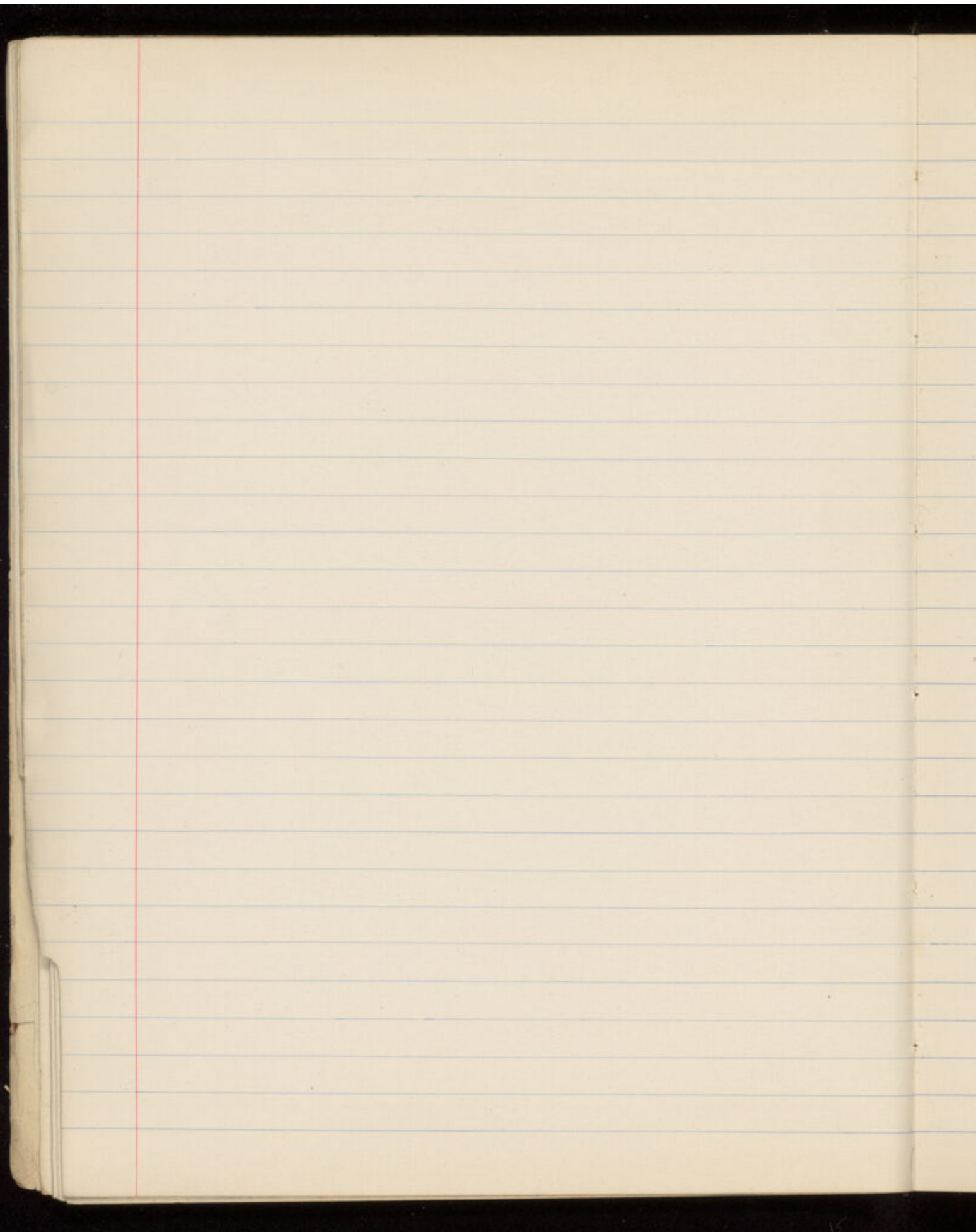
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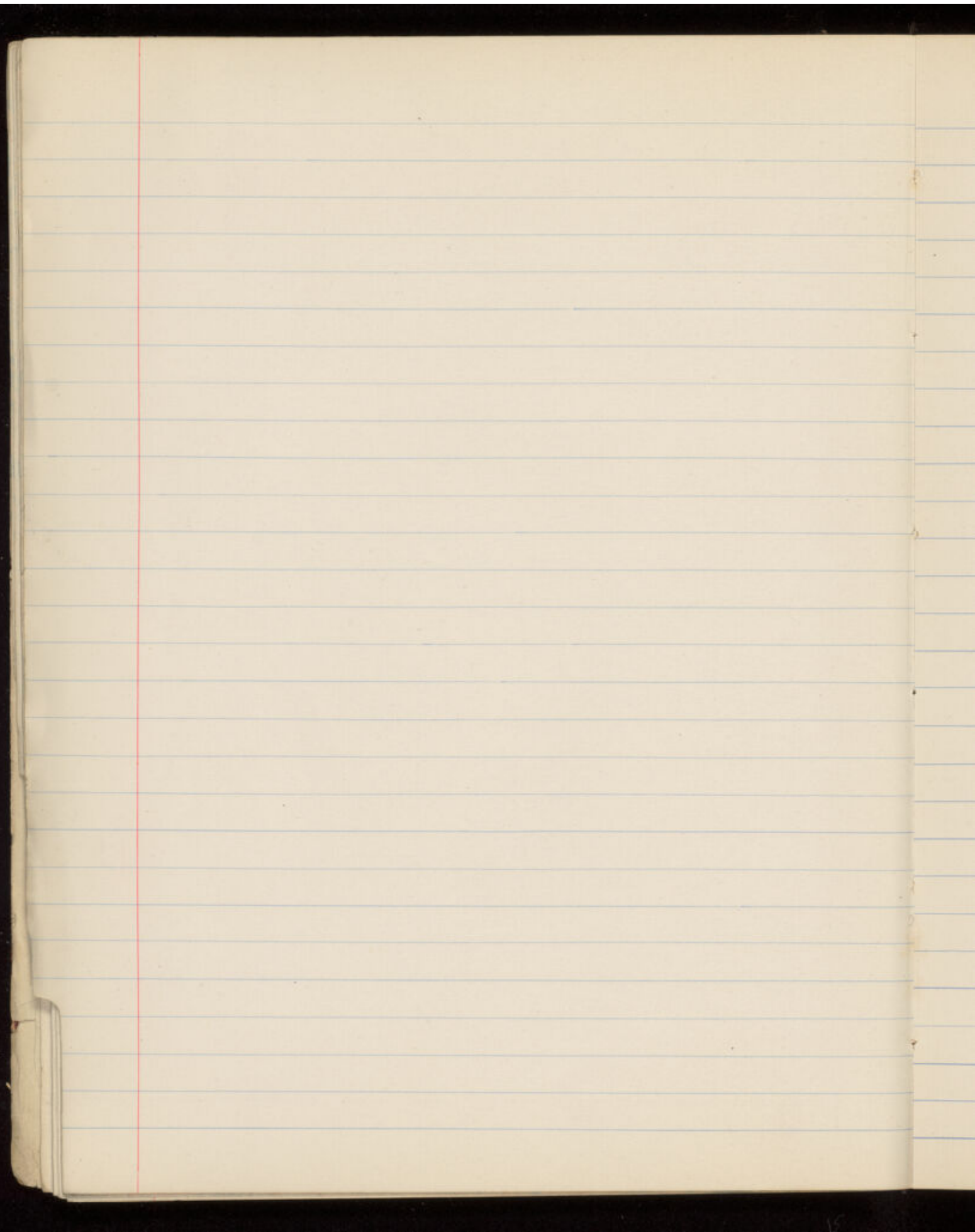




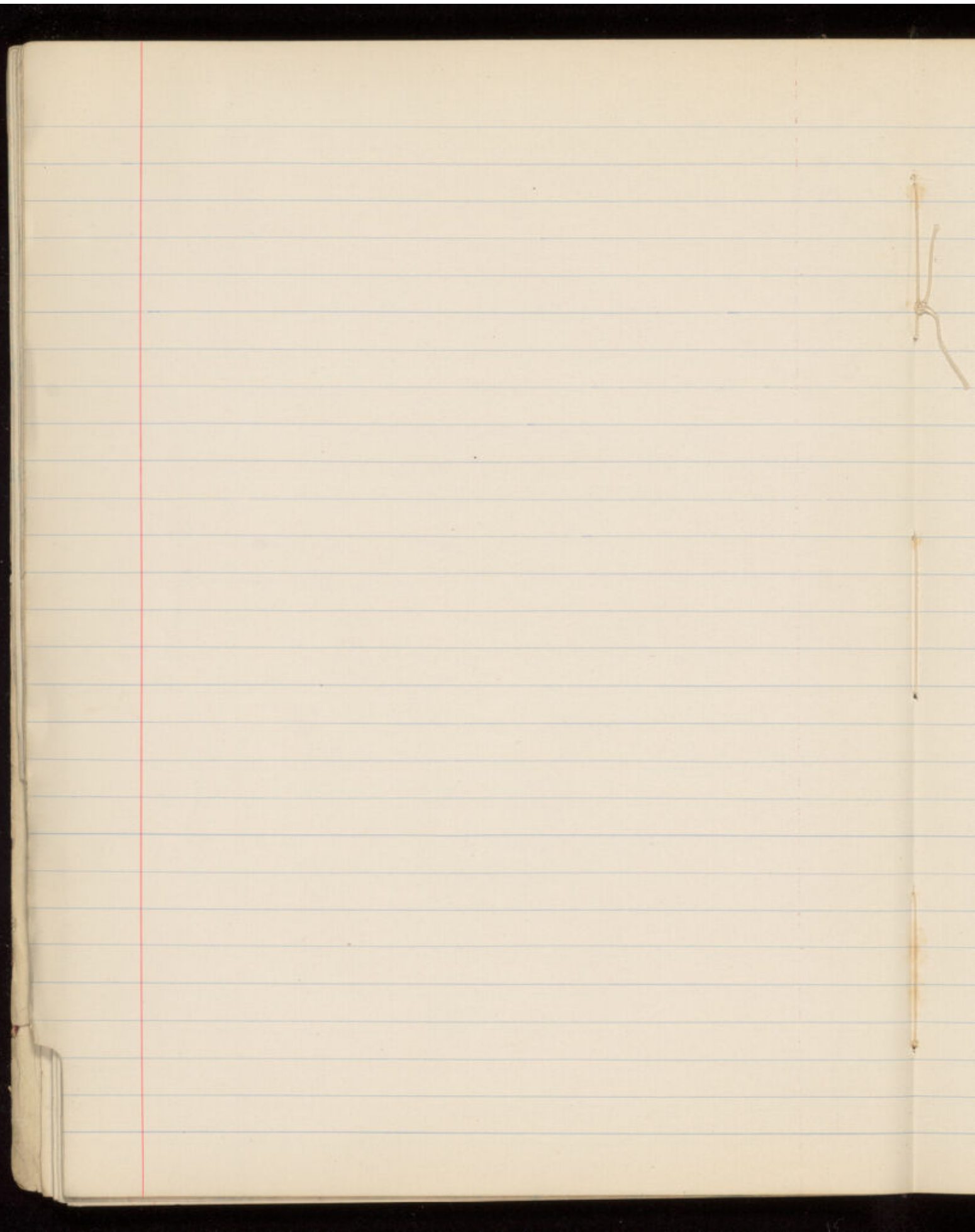
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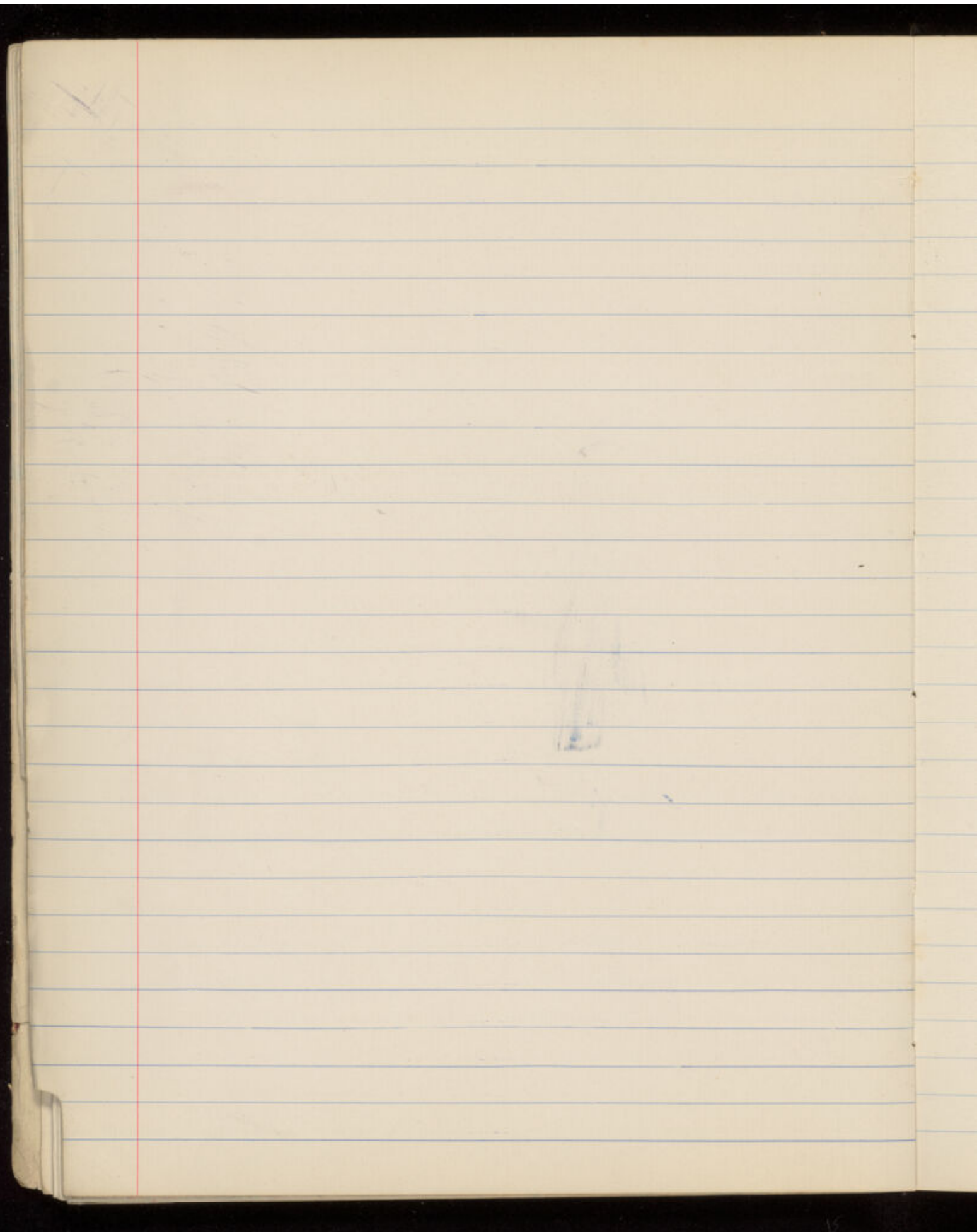
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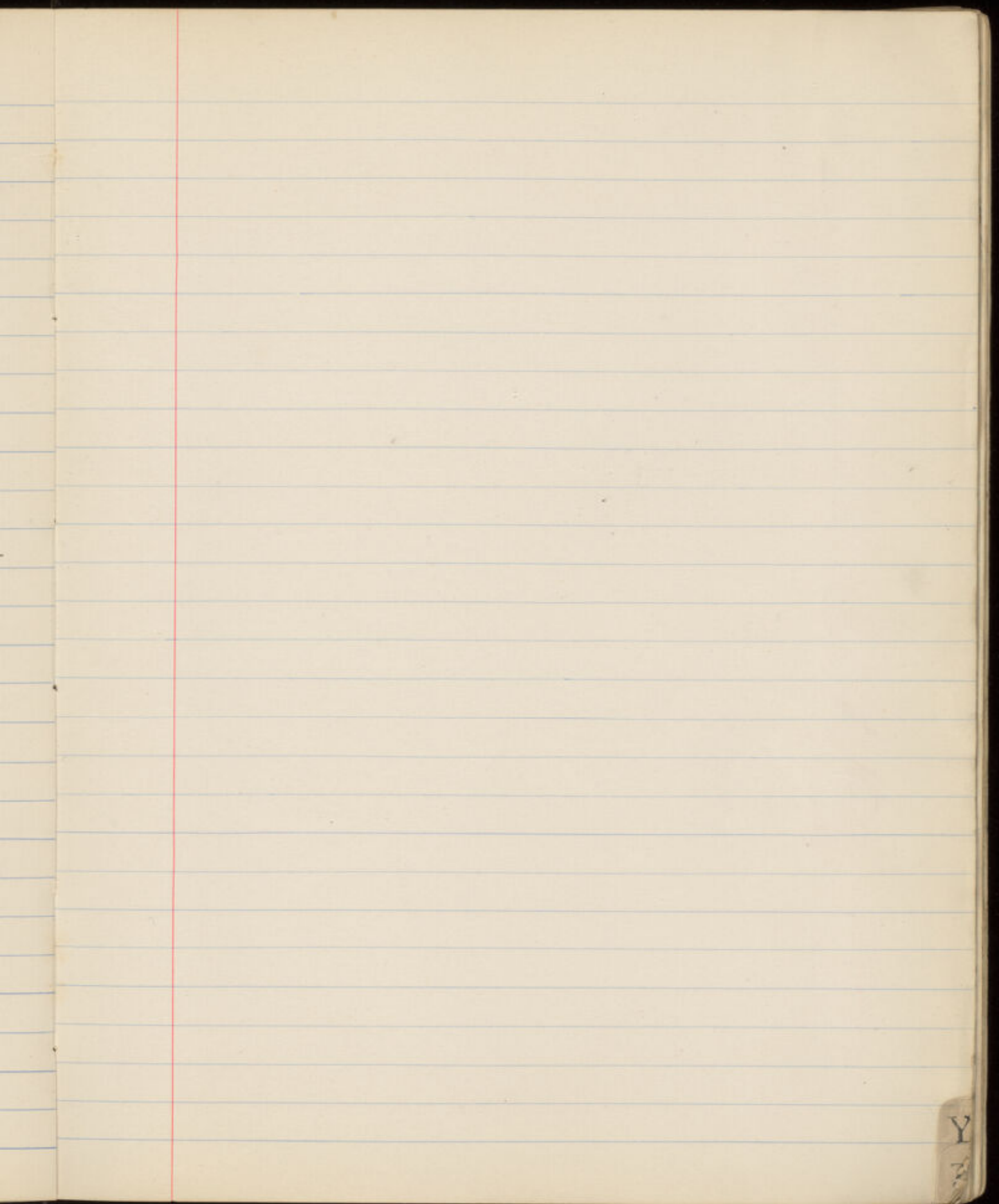


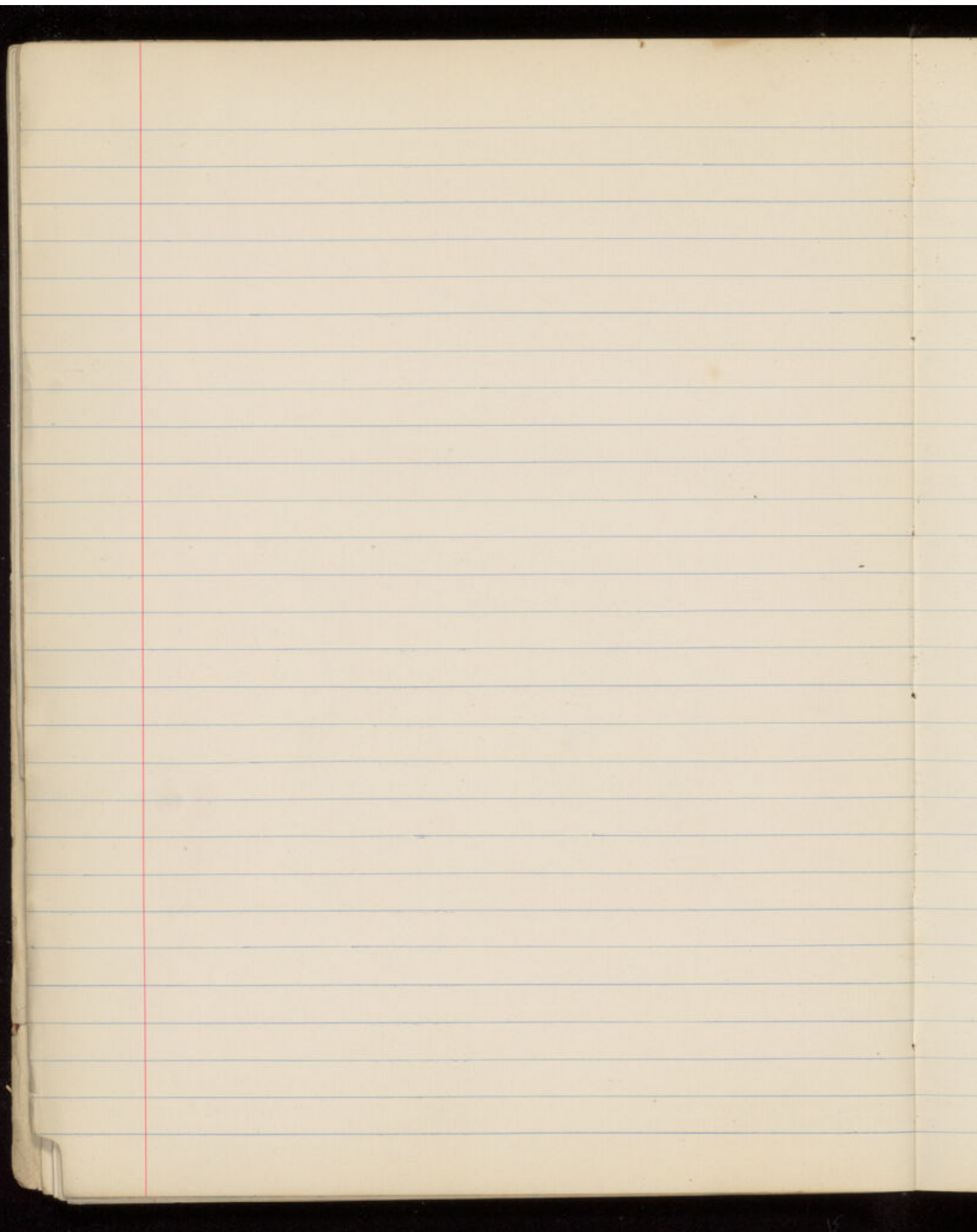
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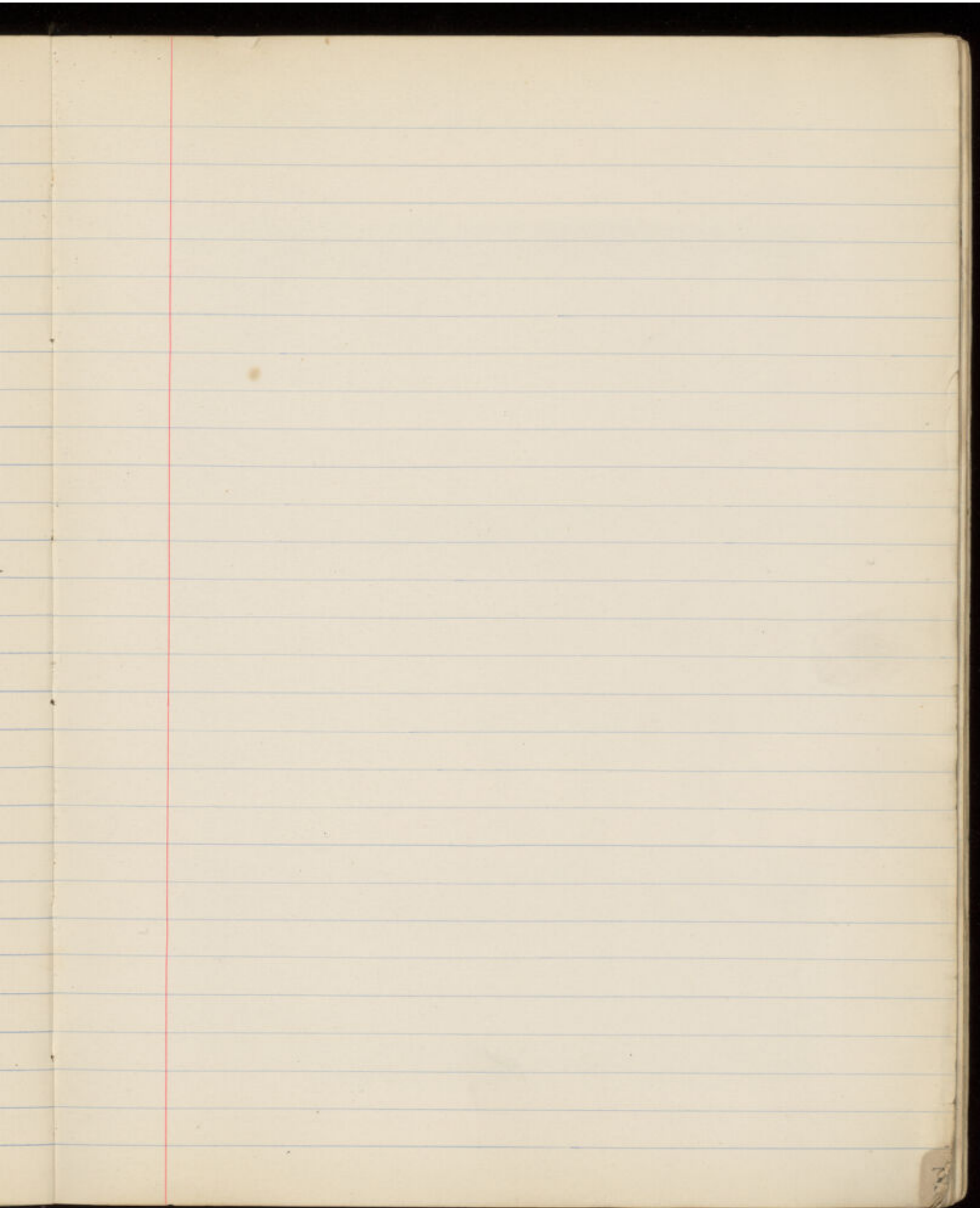


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Dec 13 I II III
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Einthoven String Galvanometer.
Electro-cardiogram - preliminary.

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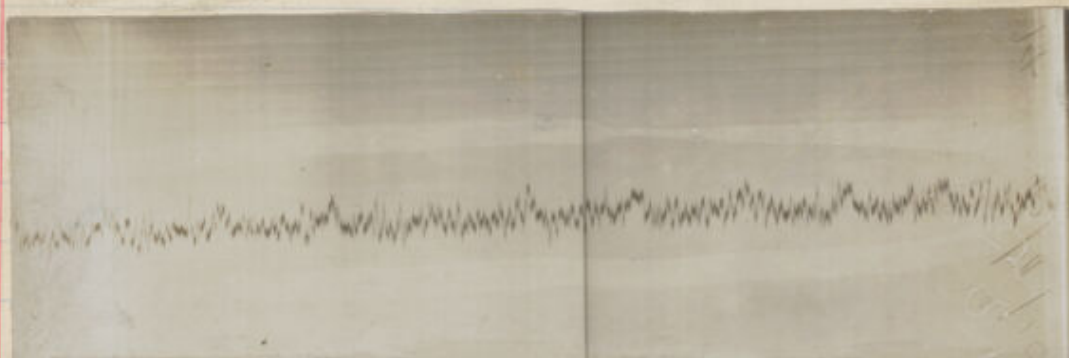
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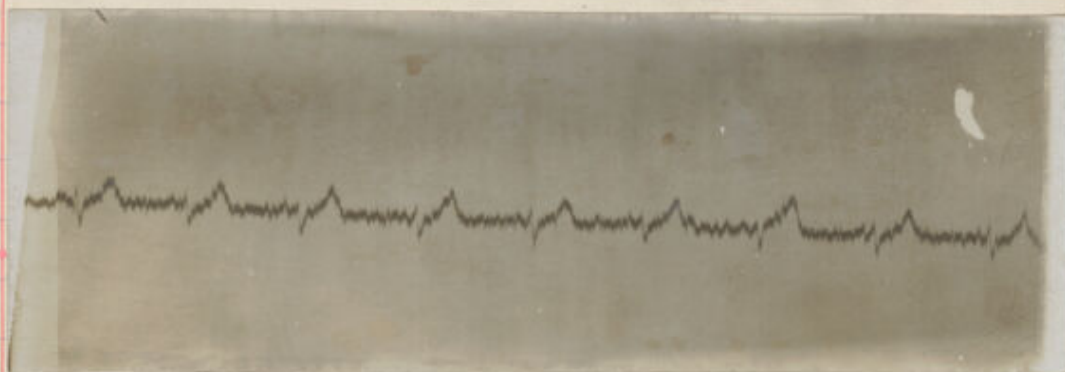
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Lead I

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Lead I

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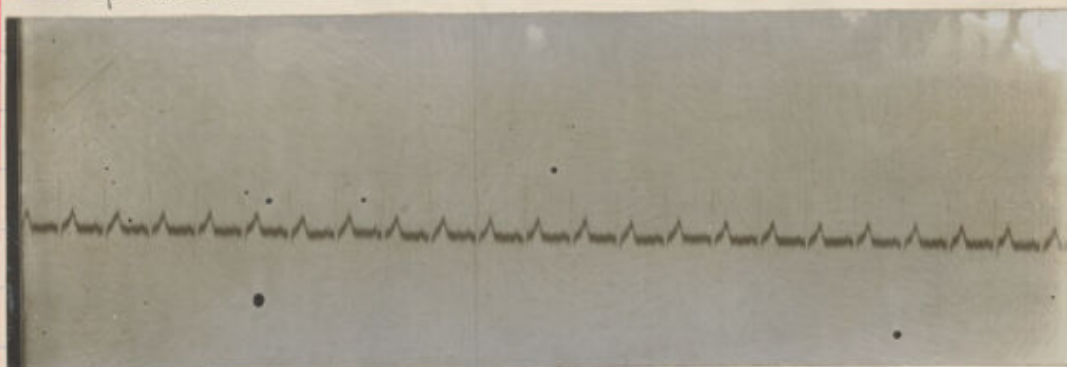
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Carpus I

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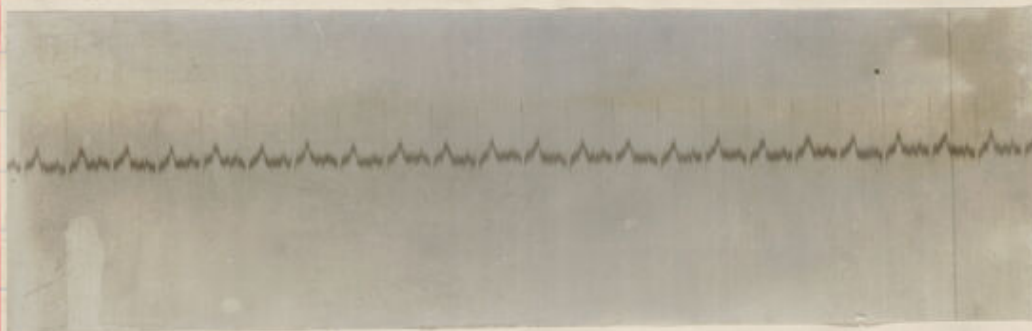
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Woodhead I

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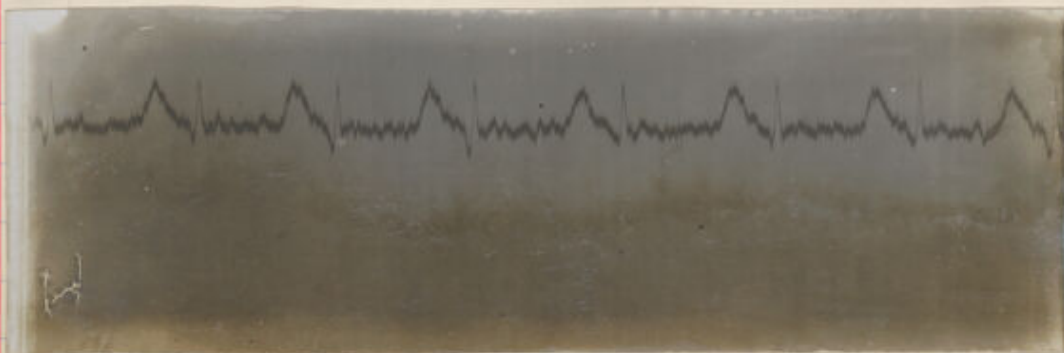
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Scales I.

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C. Bignell I.

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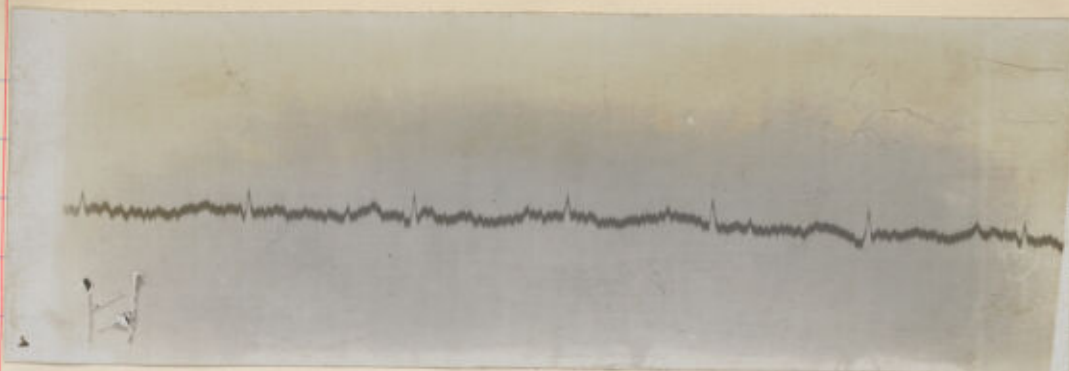
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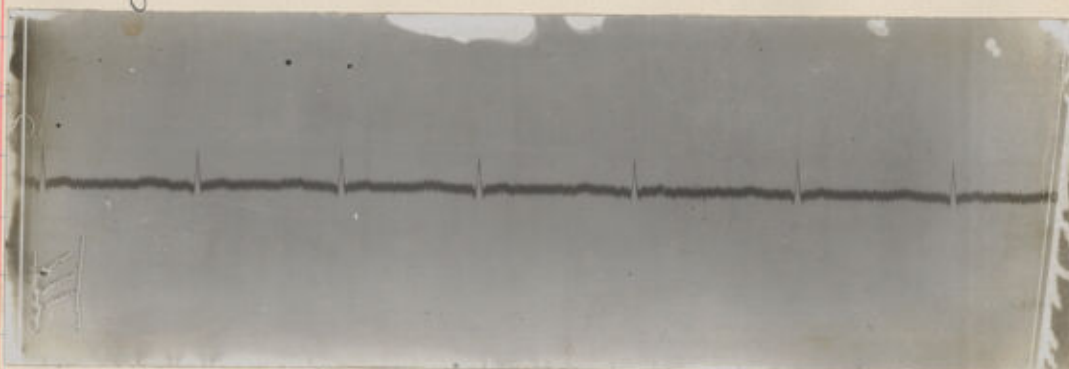
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C. Signell II

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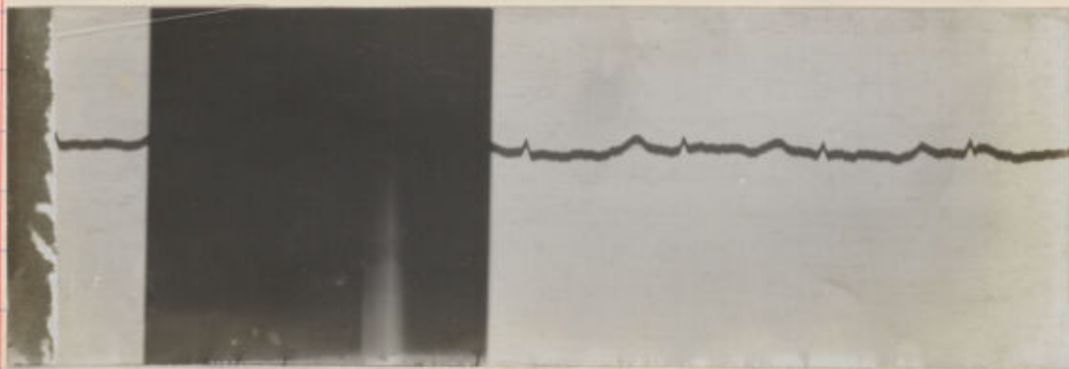
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C. Signell III

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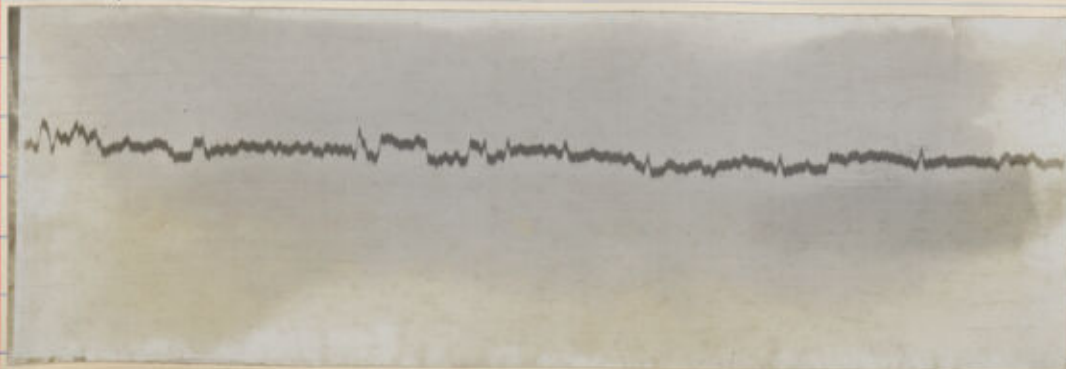
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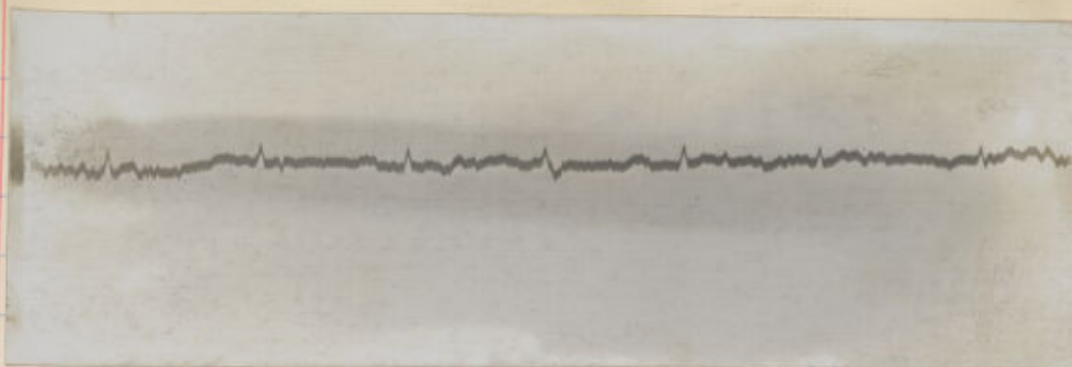
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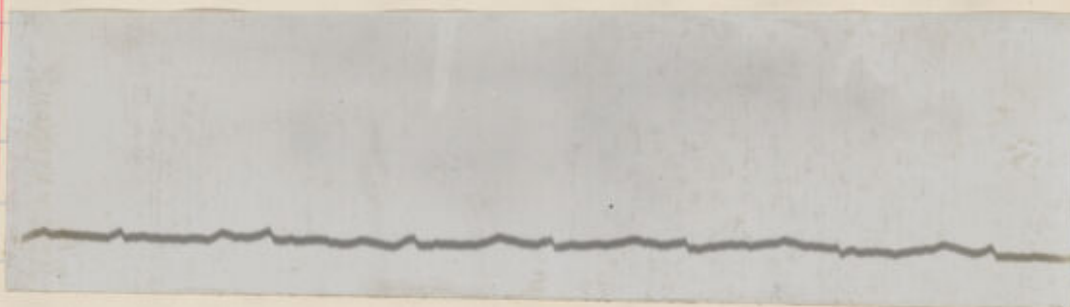
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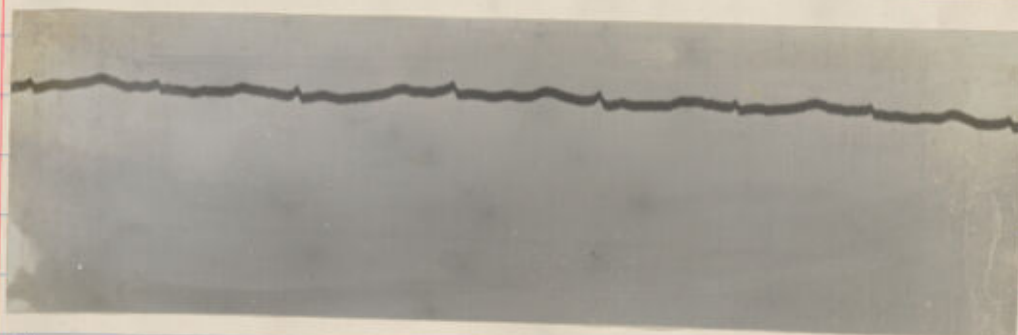
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Fred. No. 1. I

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Fred. No. 1. II (No III spool)

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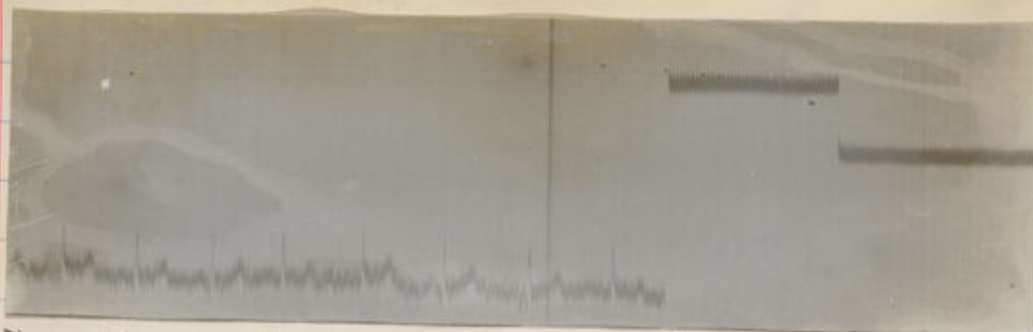
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Fred. No. 2. I

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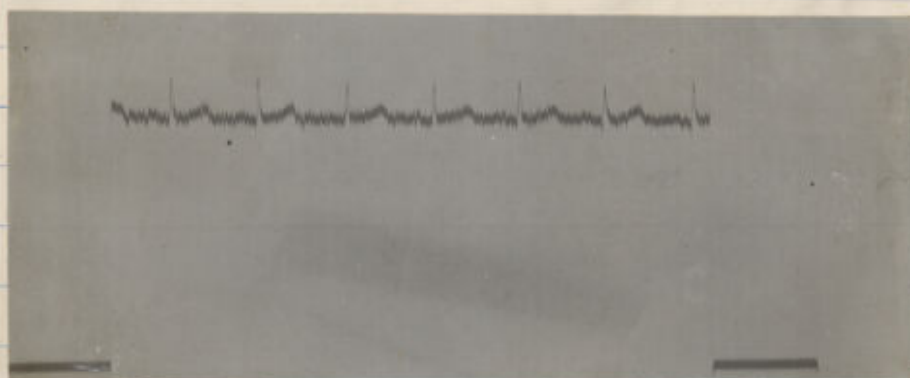
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Fed. (1) I

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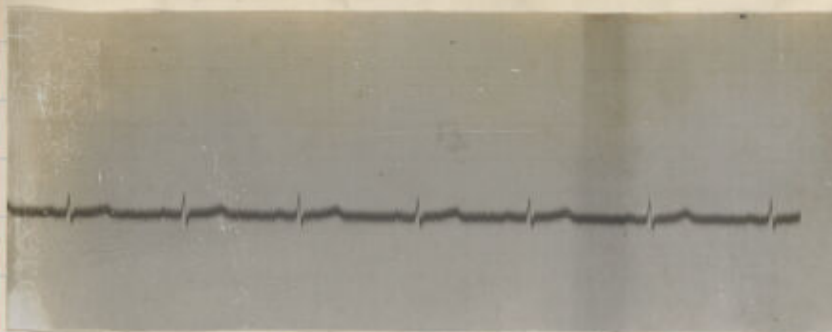
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Fed. (2) I

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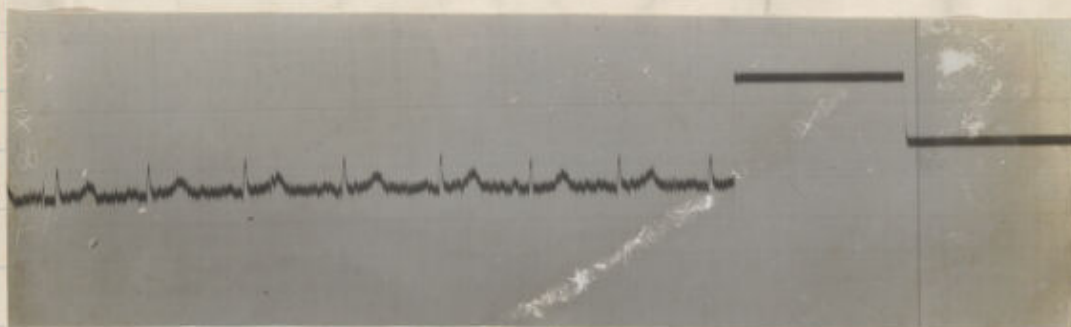
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Lead (2) II

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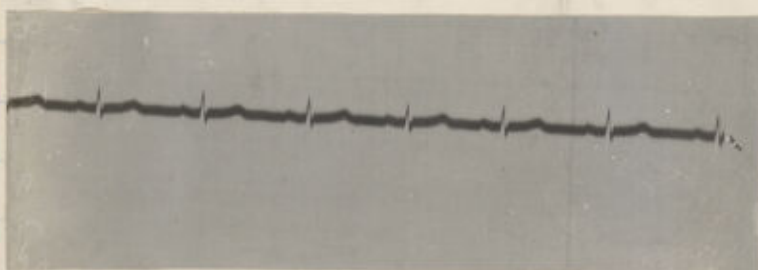
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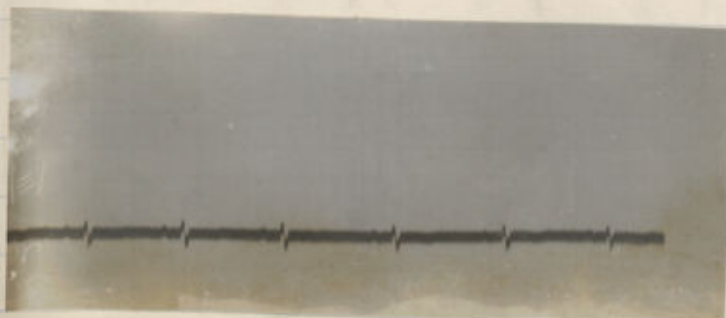
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Lead (2) II

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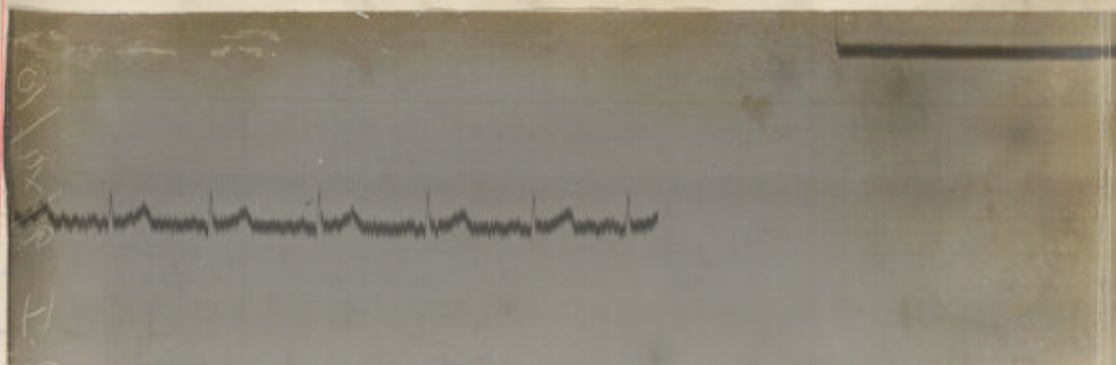
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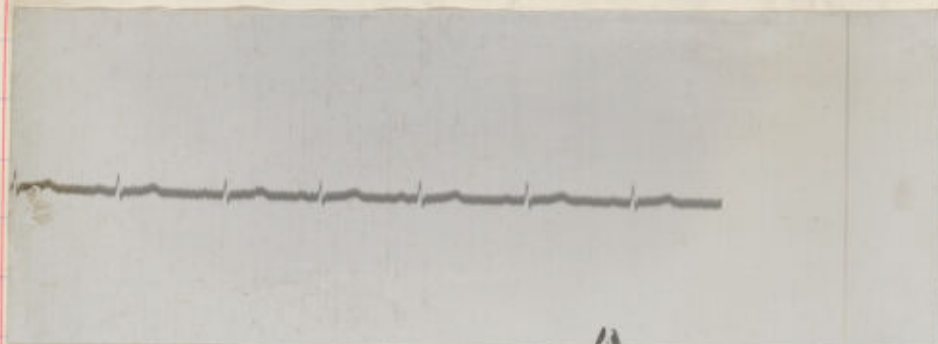
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Fred. I

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Fred. II

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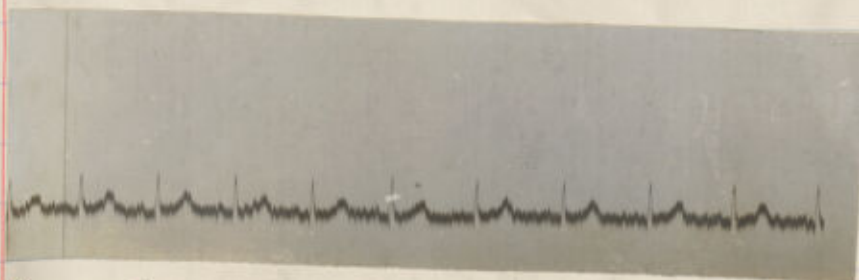
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Fred. III

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Fred. I

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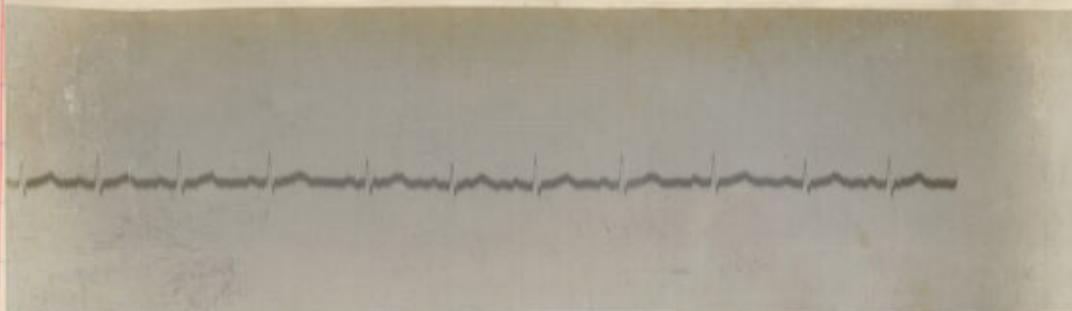
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Fred: II.

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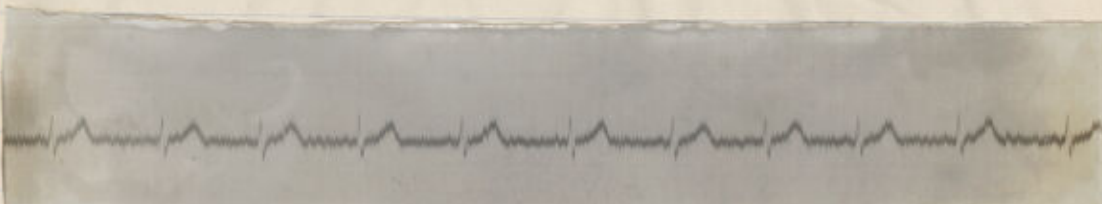
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Fred III.

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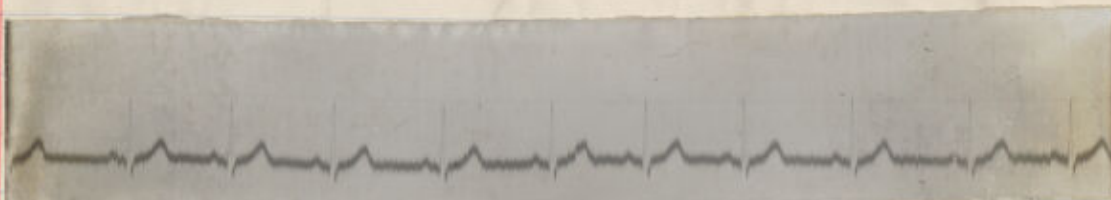
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C. Signell I

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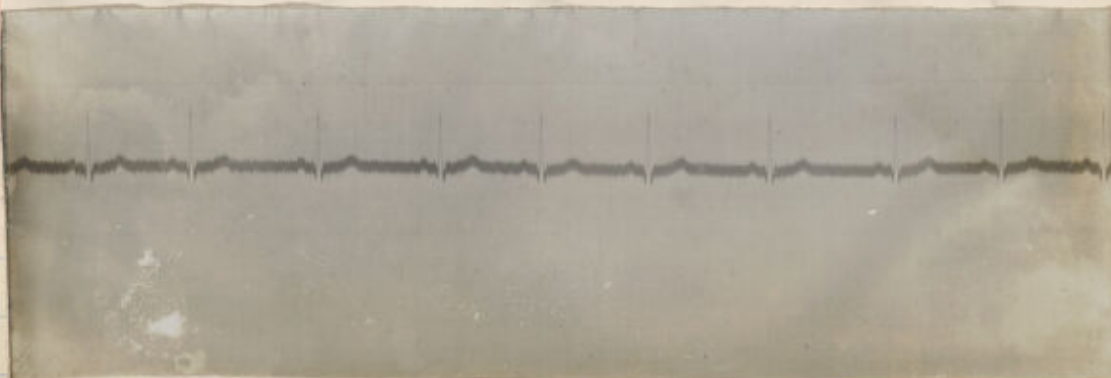
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C. Signell II

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C. Signell III

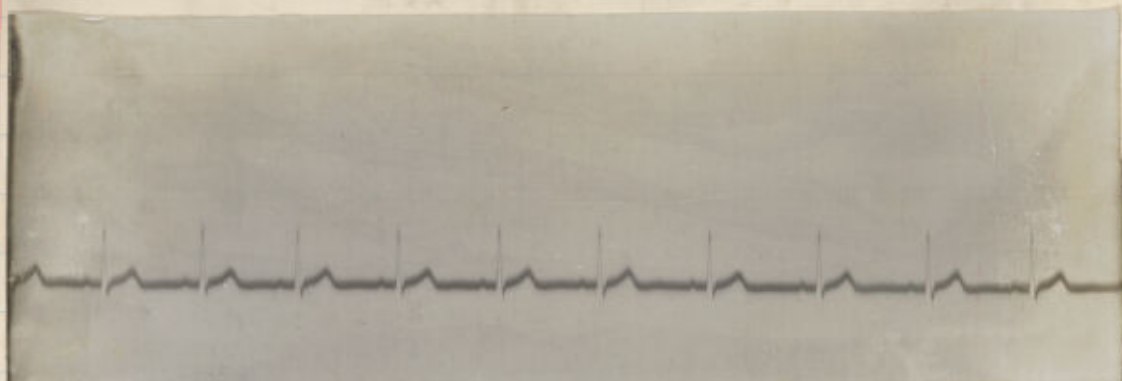


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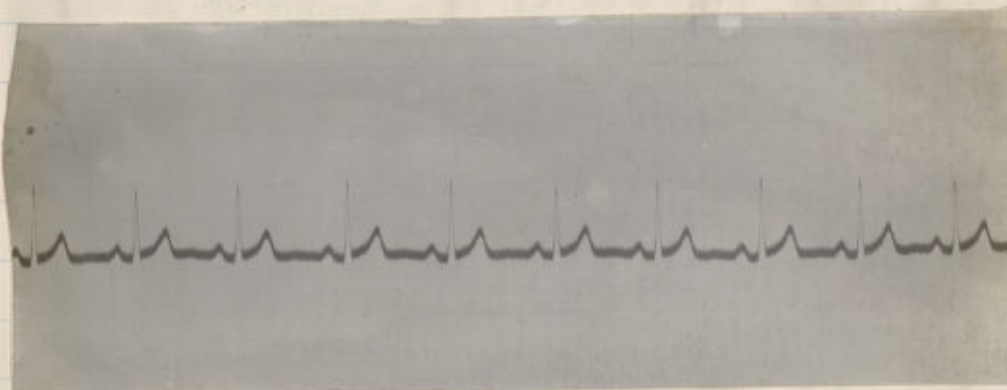
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A.H. Nielsen I

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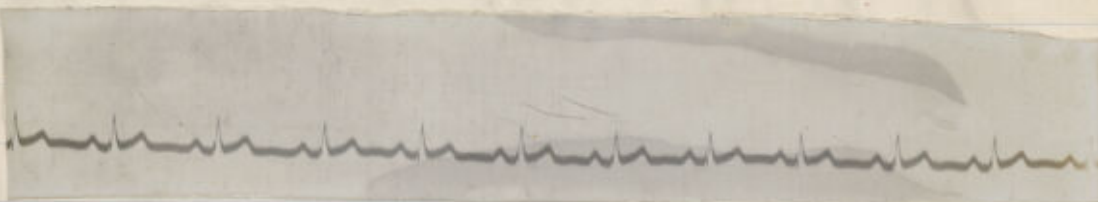
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A.H. Nielsen II

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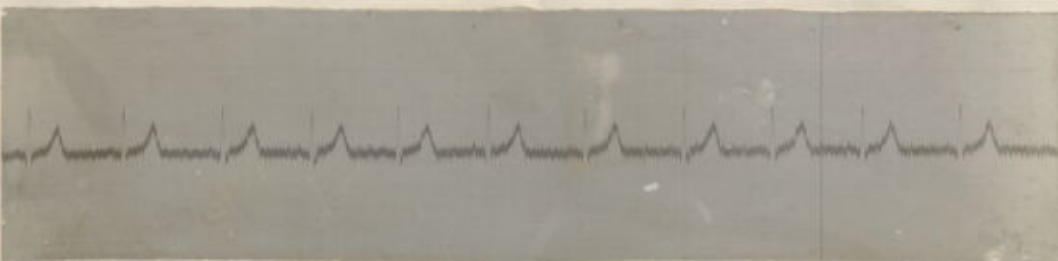
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A.H. Nielsen III

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22.XI

(39)

22.XI

(40)

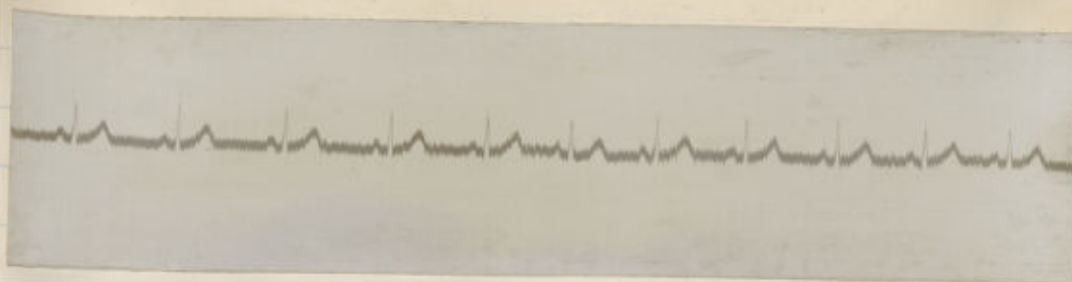
22.XI

(41)

22.XI

(37)

22.XII.10



L.V.S.S. II

(38)

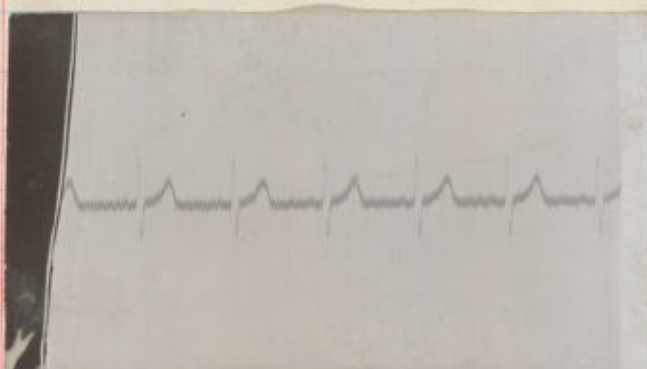
22.XII.10



L.V.S.S. III

(39)

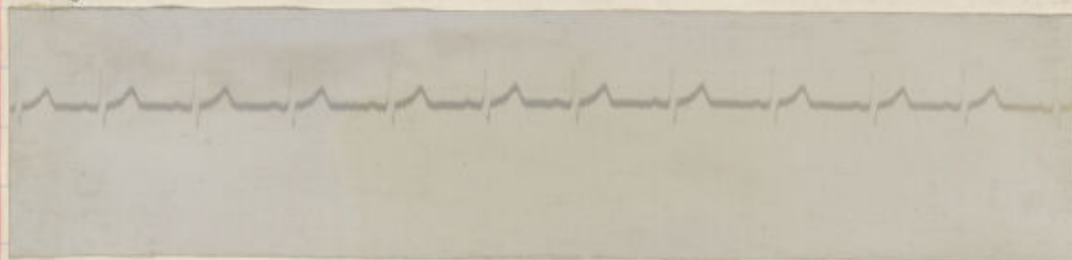
22.XII.10



L.V.S.S. I

(40)

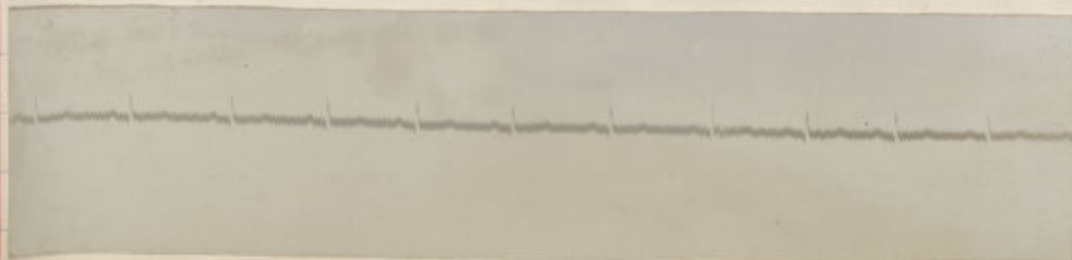
22.XII.10



L.V.S.S. II

(41)

22.XII.10



L.V.S.S. III

23. XII. 10

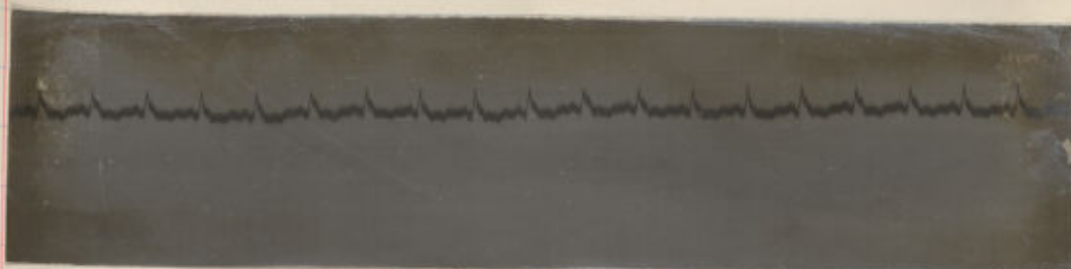
Clinical Notes. ^{ael. 26} J. C. / ~~Dr. C. J. C.~~, gallop bruit at base, systolic haemic bruit at base - pericardial anaemia apparently extra ventricular systole very frequently. Gallop bruit. first two sounds coincided with systole, & possibly small pre-systolic period - possibly might be due to aortic and ventricular sound. or ~~are~~ a divided between the first sound. Reduplication of second sound occasionally.

30. XII. 10

Clinical Notes. ^{Hallor} Agnes Ward / ael. 18. mitral stenosis. Regurgitation, & aortic regurgitation. (notes taken June 1911 on removal to hospital for exams.) Chorea at 7. May 1904. Heart disease. Deep cardiac dulness starts 2nd rib. & extends 6 1/2" to left in 7th space & 1" to rt. of sternum. Loud mitral bruit all over cardiac area. aortic back, mid diastolic rumble at impulse. Aortic diastolic bruit at base. Soft to H's murmur in 3rd & 4th rt. intercostal spaces. Mitral stenosis Regurgitation, aortic regurgitation, hiemifid regurgitation. adherent pericardium.

(42)

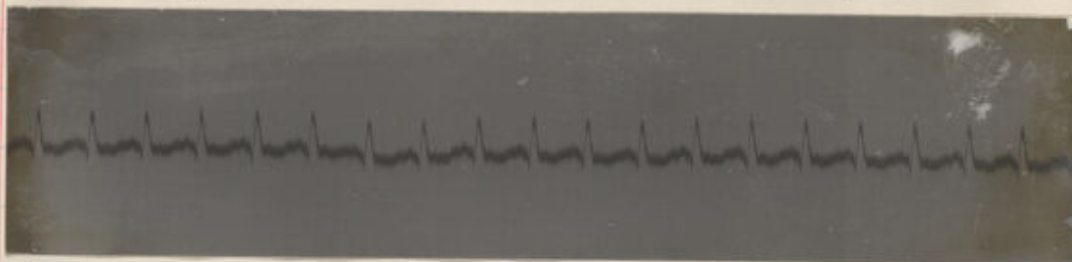
23.XII.10



Geo: Coc. (Addenbrooke's) I (Beltmanphus)

(43)

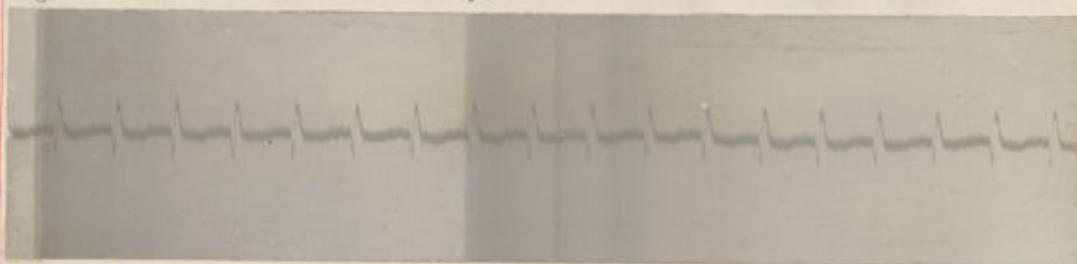
23.XII.10



Geo: Coc (Addenbrooke's) II

(44)

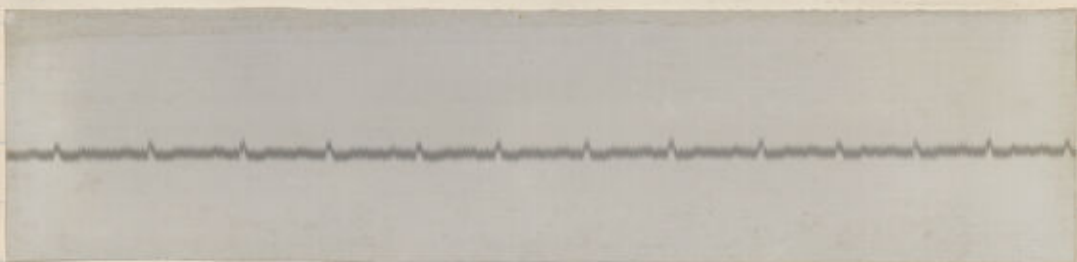
23.XII.10



Geo: Coc (Addenbrooke's) III

(45)

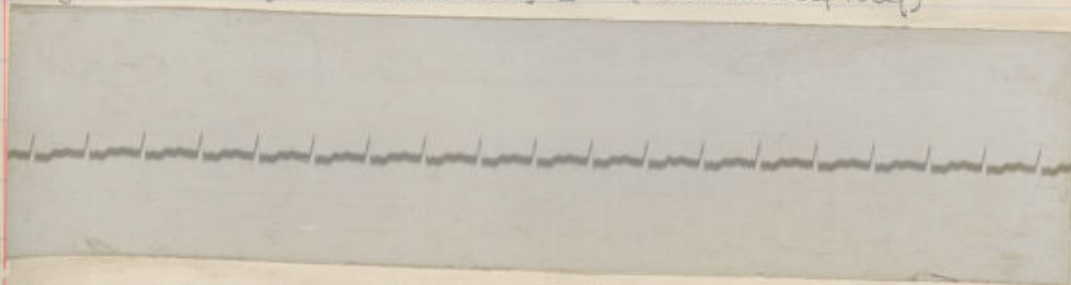
30.XII.10

affiliated
sensitized
by light

Agnew's (Addenbrooke's) I (Beltmanphus)

(46)

30.XII.10



Agnew's (Addenbrooke's) II

6.1.11

(48) Morphology 6.2. ~~Spent~~ only on tip of eschene.
ischaemic fingers & aortic regurgitation

10.1.11

Hq. 50. 51. 52. 7 S.S. ~~49~~ 49. Bay 2. I; 50. 51. Bay 2. II;
51. 52. Bay 6. III

12.1.11

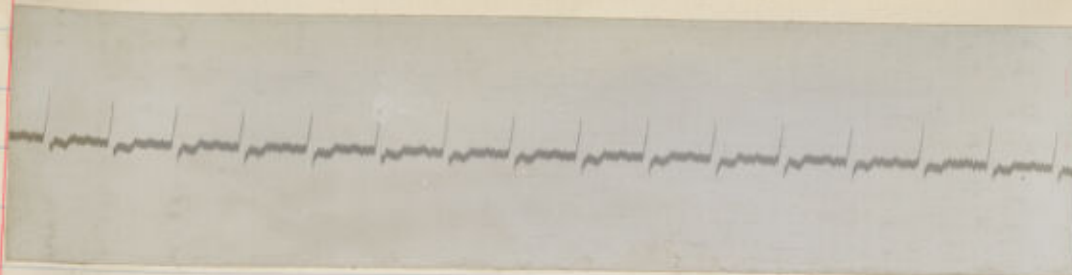
52. 53. 54. 9 S.S. ^{Hq 1 2 3} I II III 5.15 + 20 min after ^{upright} ~~glucose~~ 7.55
55. 56. 57. 7 S.S. ^{Hq 4} I II III 1 hr after above.

58 59. 60

x ray l.f. m. showed enlargement of aorta.

(47)

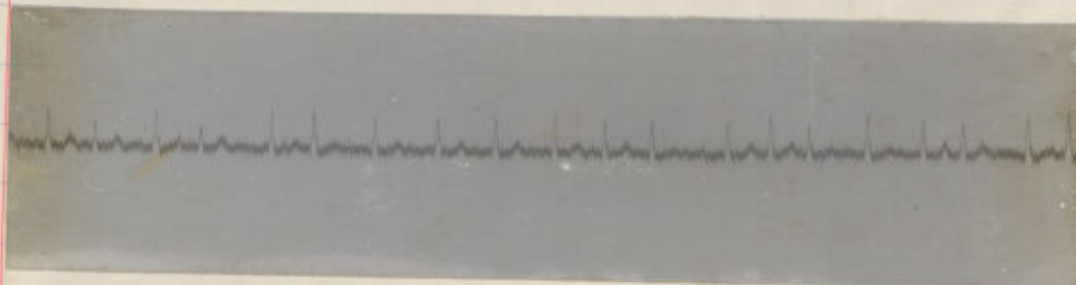
30.XII.10



Agnes Sand. III

(48)

6.I.11



Mr. Sørby (detrundering) I

(49)

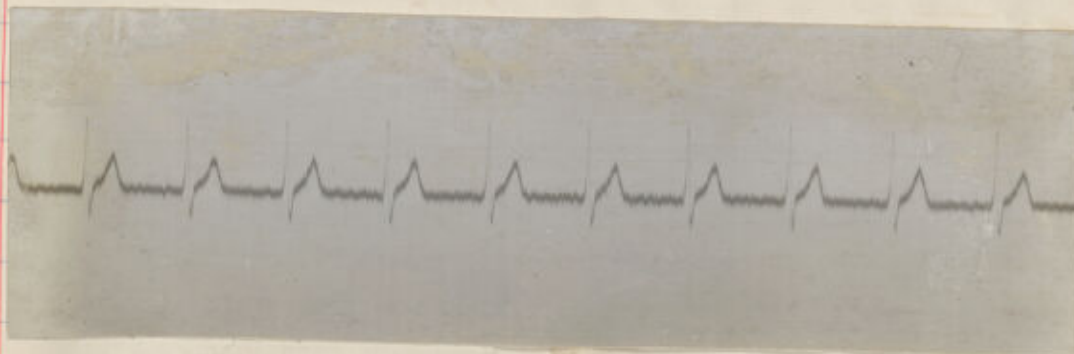
10.I.11



F.S.S. I. Normal. forenoon

(50)

10.I.11



F.S.S. II. Normal. forenoon.

12. I. II

7 S.S.

17. I. II

Days 1. 2. 3. 4. 5. 6. 1. 2. 3. J.S.W. 58. 59. 60. ^{normal up to 3} ~~5 min after 3~~
 Lead I II III I II III I II III
 Nos. 1 2 3 4 5 6 7 8 9 " 61. 62. 63. ^{5 min after 3} ~~whisky~~
 Nos. 58. 59. 60. 61. 62. 63. 64. 65. 66 " 64. 65. 66 1 hr " "

18. I. II

Nos. 67. 68. 69.

I II III

Days 1. 2. 3

J.S.W. same as above - before
 dinner, but 24 hrs. after
 alcohol.

X

(51)

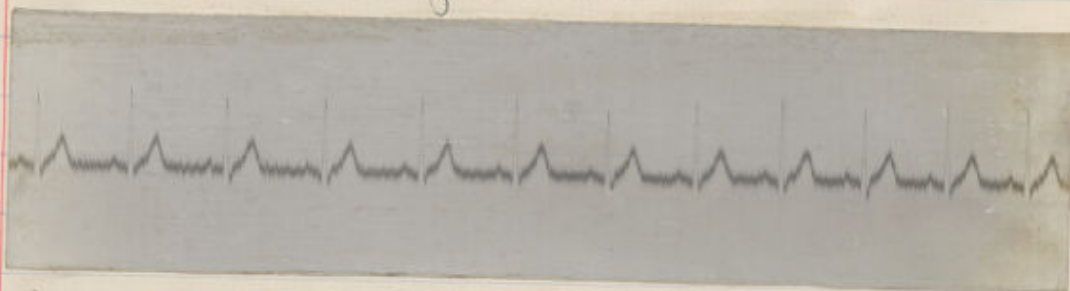
10.1.11



F.S.S. III. Normal forenoon.

(52)

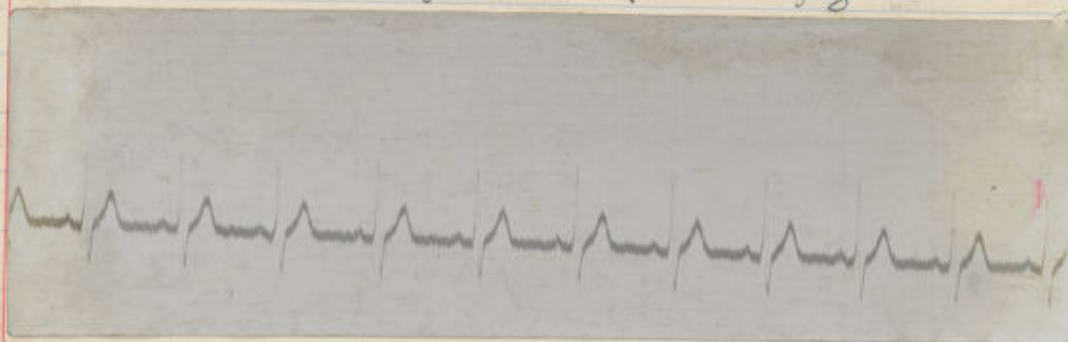
12.1.11



F.S.S. I. 5 mins after whisky (diluted) 3i

(53)

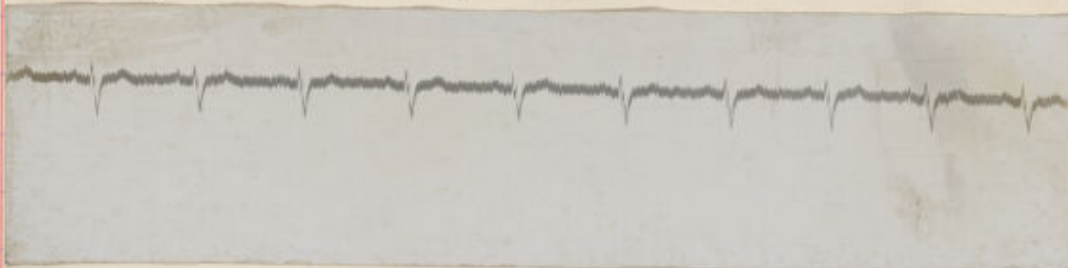
12.1.11



F.S.S. II. 15 mins after above.

(54)

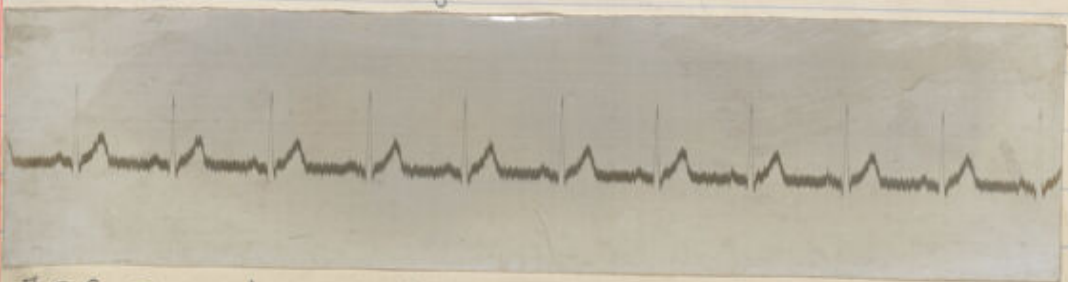
12.1.11



F.S.S. III. 20 mins. after do

(55)

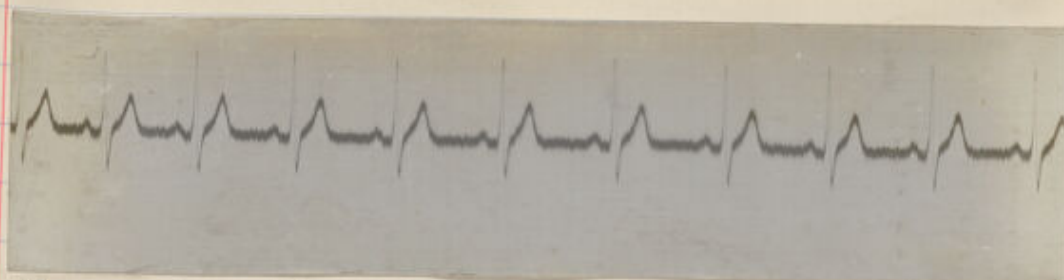
12.1.11



F.S.S. I. 1 hr. after do

(56)

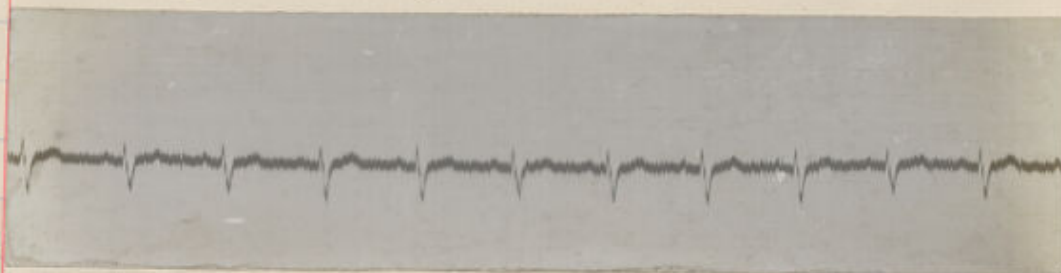
12.1.11



Y.S.S. II 1 hr. after do.

(57)

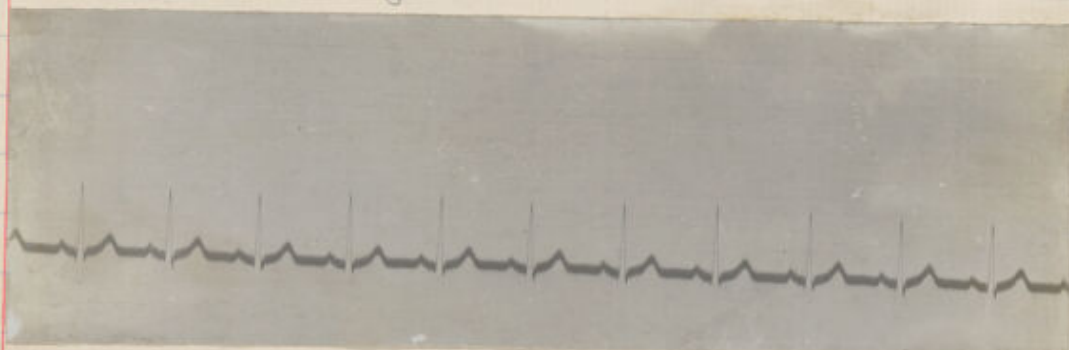
12.1.11



Y.S.S. III 1 hr. after do.

(58)

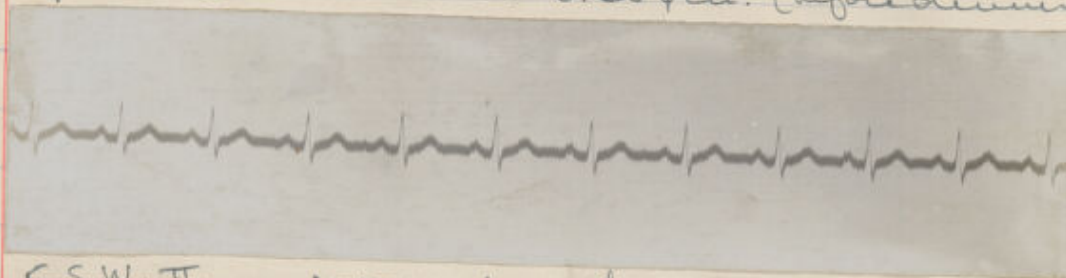
17.1.11



G.S.W. I normal - 6.15 pm. (before dinner)

(59)

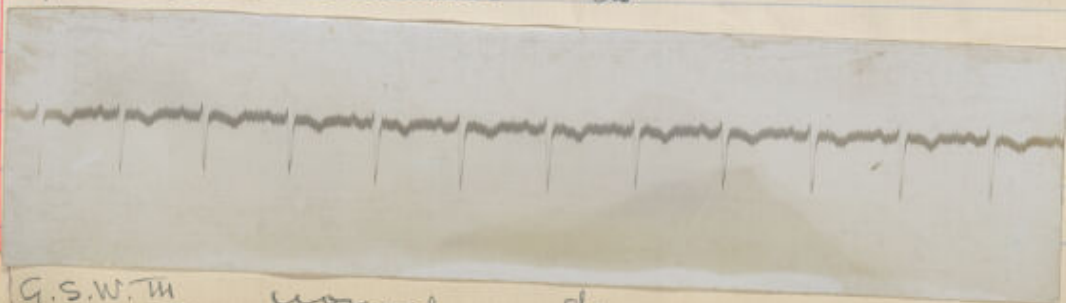
17.1.11



G.S.W. II normal do

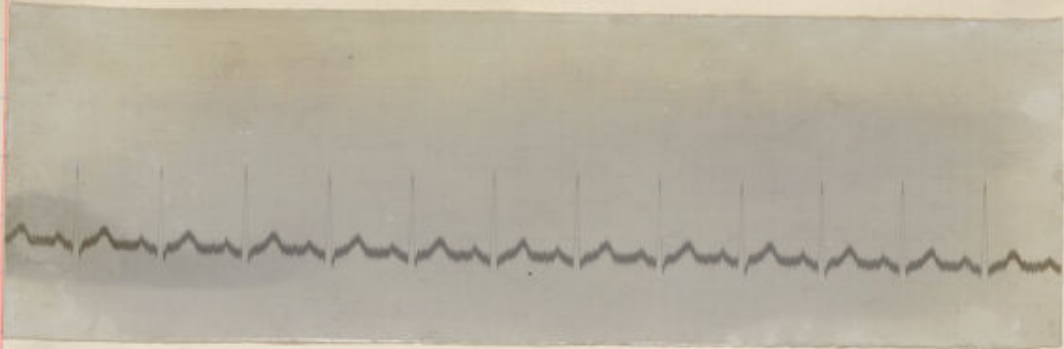
(60)

17.1.11



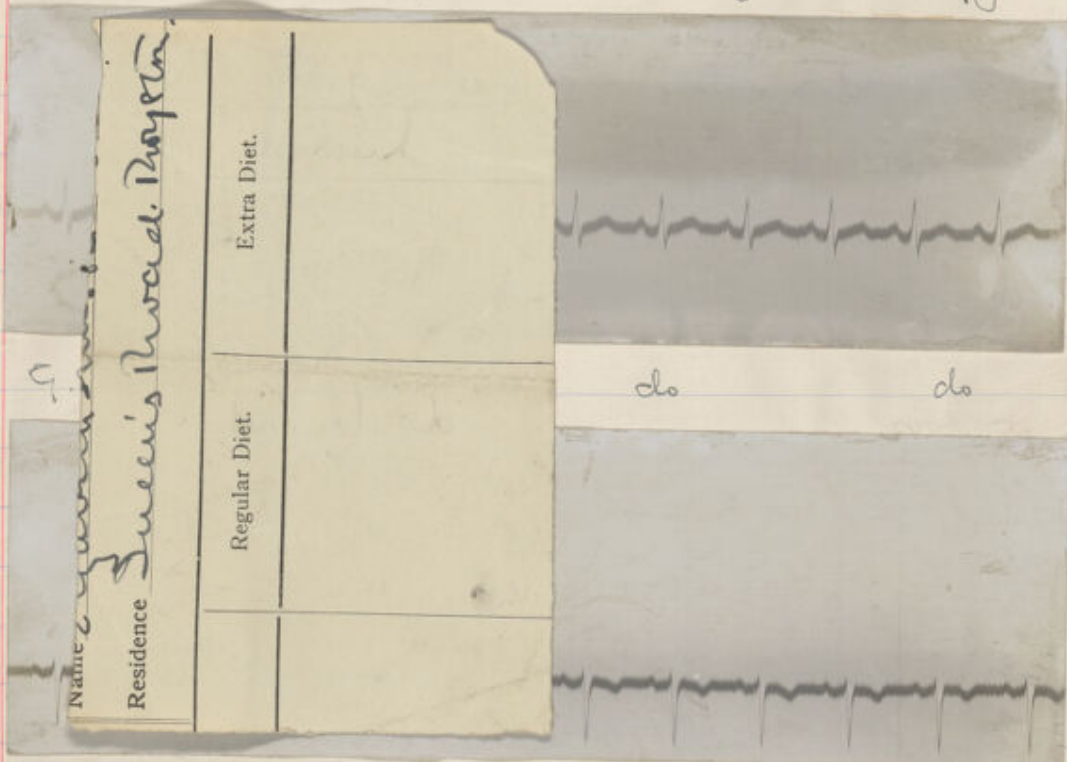
G.S.W. III normal do

(61)
17.1.11



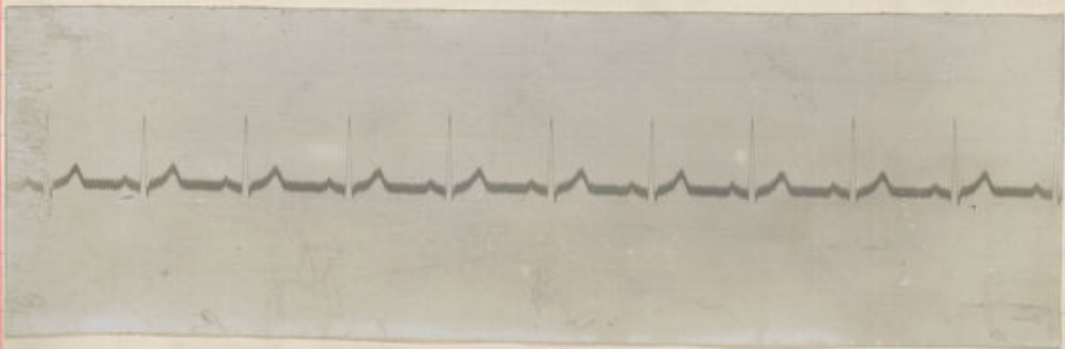
G.S.W. I . 6.30 pm. 5 mins after Whiskey 3i - empty stomach

(62)
17.1.11



G.S.W. II . 6.30 pm. do do

(64)
17.1.11



G.S.W. I 7.30 pm 1 hr after above

Mar. 24/14
Viola Hubbard 17

chennratic

(1)	1100	+82
(2)	"	+85
(3)	"	+12

Mabel Bentley 13.

double mihal

(4)	1100	-8
(5)	"	-05
(6)	"	-05

Name

2 Gabriel...

Residence

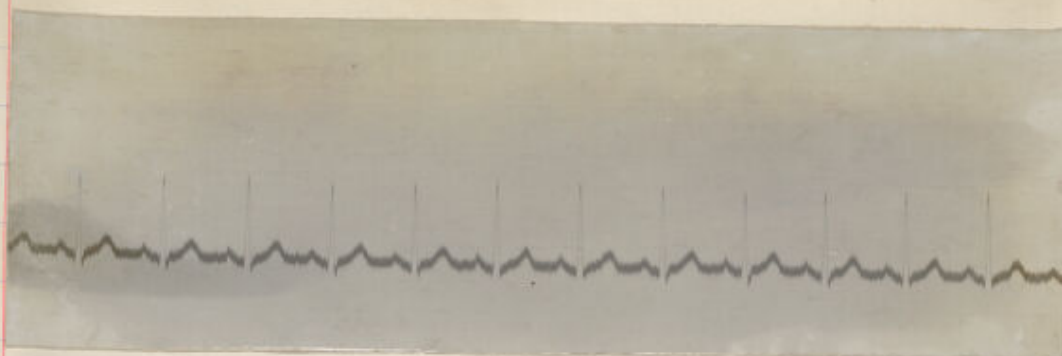
Sueen's Road. Proyetin

Regular Diet.

Extra Diet.

⑥1

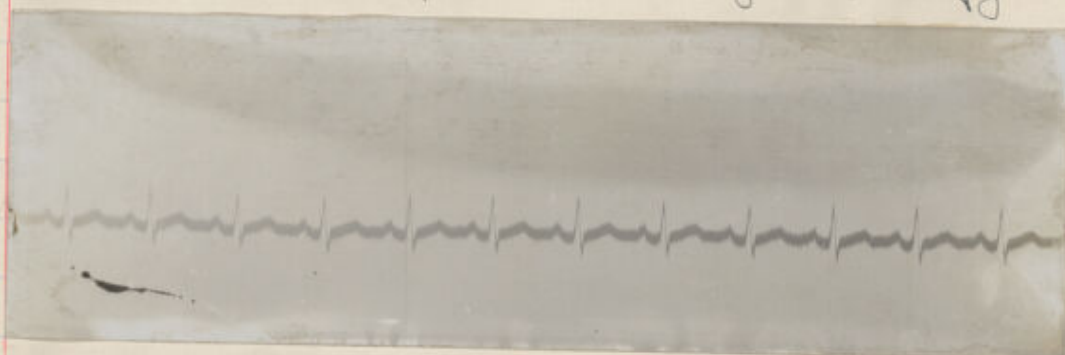
17.1.11



G.S.W. I . 6.30 pm. 5 mins after Whiskey 3i - eufly alone

⑥2

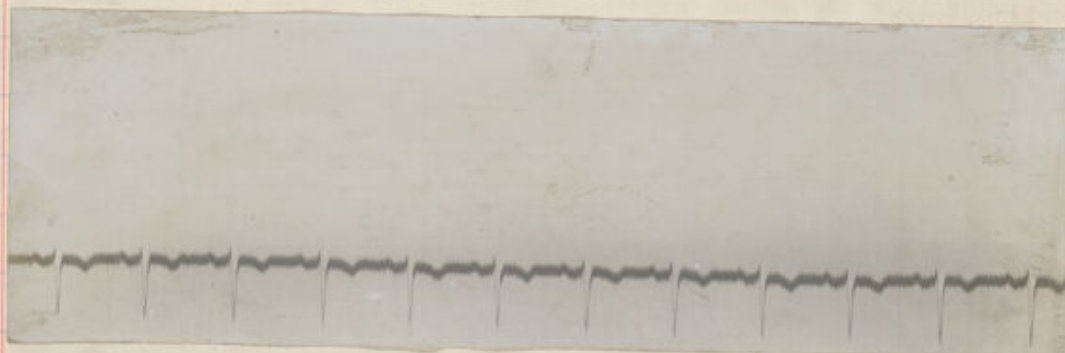
17.1.11



G.S.W. II 6.30 pm. do do

⑥3

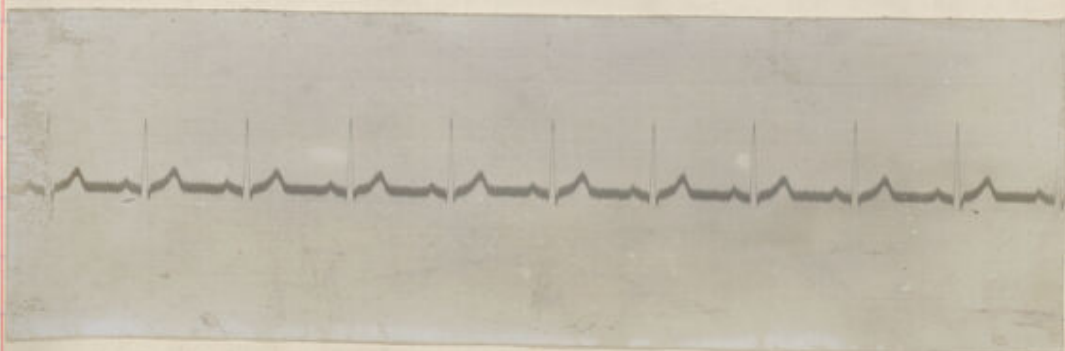
17.1.11



G.S.W. III . 6.30 pm. do do

⑥4

17.1.11



G.S.W. I 7.30 pm 1 hr after above

(6)

17.

(6)

17.

(6)

18.

taken

G.S.

(6)

18.

taken

G.S.

(6)

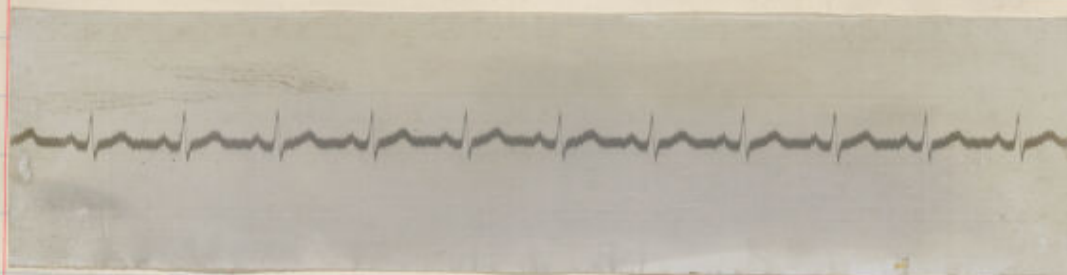
18.

taken

G.S.

(65)

17.1.11



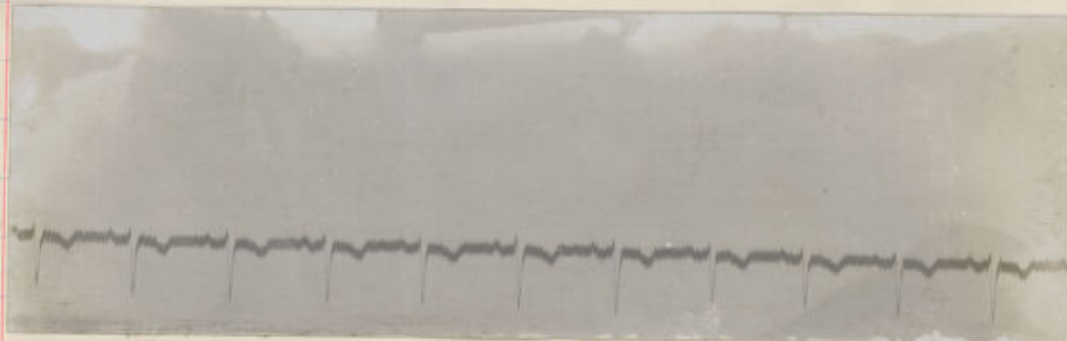
(66)

17.1.11

G.S.W. II 7.30 pm.

do

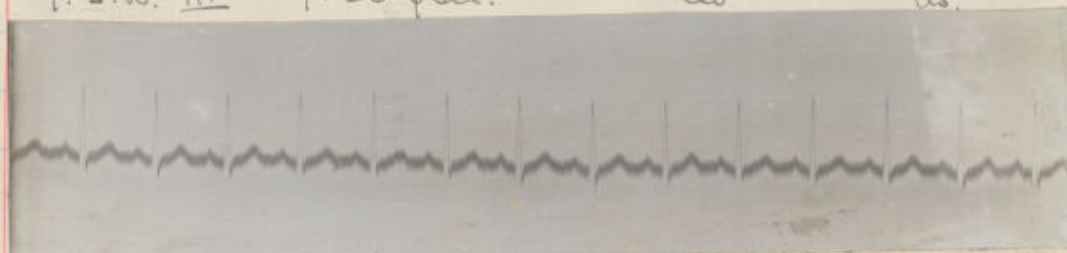
do



G.S.W. III 7.30 pm.

do

do.



(67)

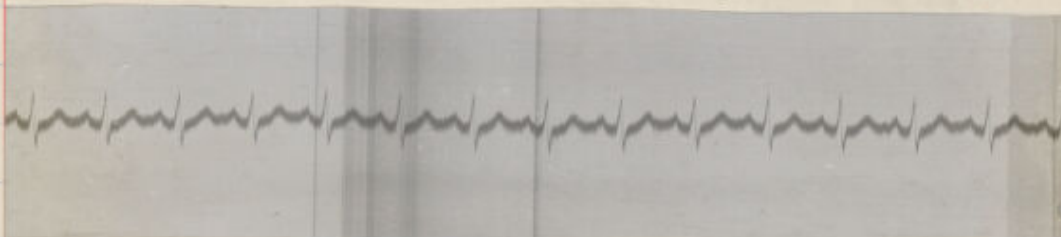
18.1.11

taken by
G.S.W.

G.S.W. I same as above but 24 hrs after alcohol (before dinner)

(68)

18.1.11

taken by
G.S.W.

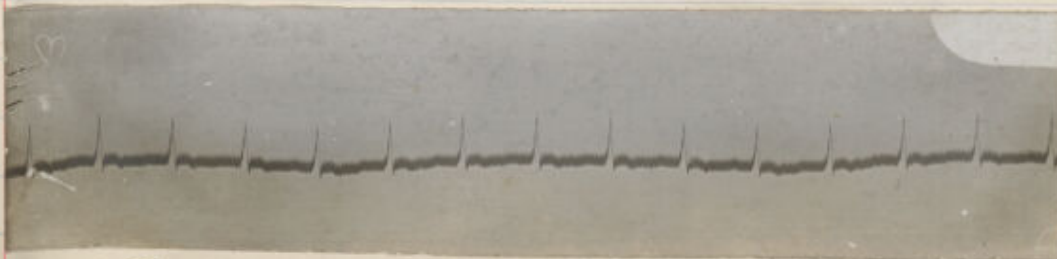
G.S.W. II

do

do

(69)

18.1.11

taken by
G.S.W.

G.S.W. III

do

do.

normal.

June 9th

70, 71, 72 (I, II, III)

Leonard Bailey - aet. 19. Giffith Ward.

apex beat visible. 3rd rib. above. 1" height of sternum, impulses somewhat diffuse and vibratory, cardiac sounds normal but slight systolic bruit in aortic area. nothing at apex. (Chronic latent Bright's disease.)

I Res. 5200 - sb. cur. 5 m/v.

II " 5200 " 14 m/v.

III " 4800 " 8 m/v

June 16th

73, 74, 75 (I, II, III) Res. 1, 2, 3.

Alfred Hume - aet. 40. Giffith Ward.
 sb. cur. 1070 2870 2800
 29+ 29+ 29+ m/v

(Aortic regurgitation)

Systolic 4 nos. No systolic.

Deep cardiac dulness stark 3rd space. 4 spaces out to nipple line.

Systolic murmur at apex haccable with axilla.

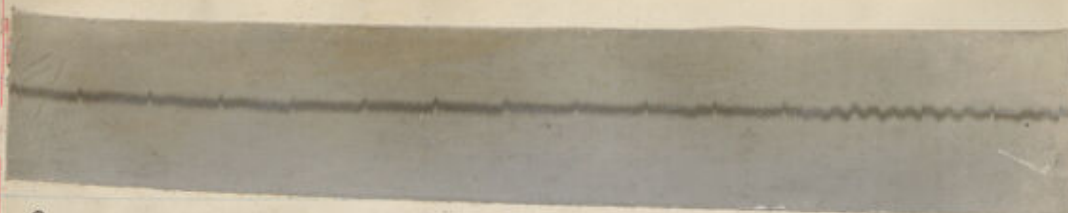
Diastolic murmur in aortic area.

(Mitral Aortic regurgitation.)

Mid-diastolic (Hill) murmur at apex.

⑦⑦

9.vi.11



Leonard Bailey I

⑦①

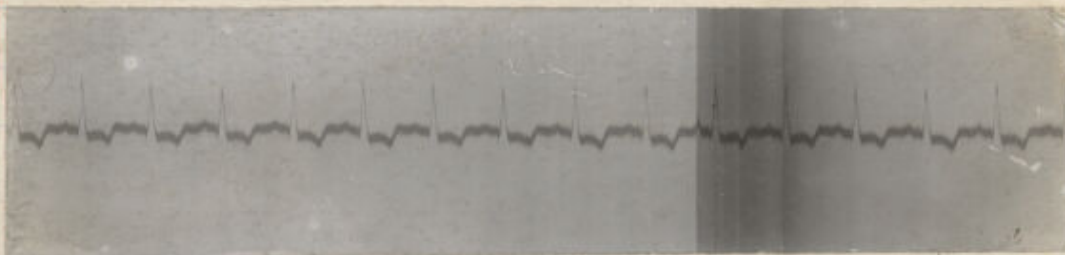
9.vi.11



Leonard Bailey II

⑦②

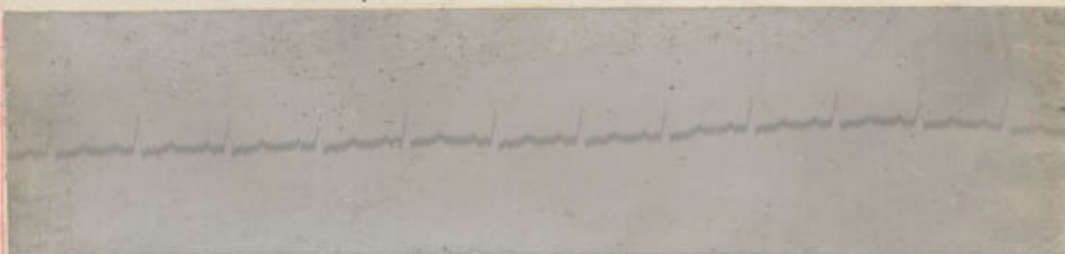
9.vi.11



Leonard Bailey III

⑦③

16.vi.11



Alfred Hume I

⑦④

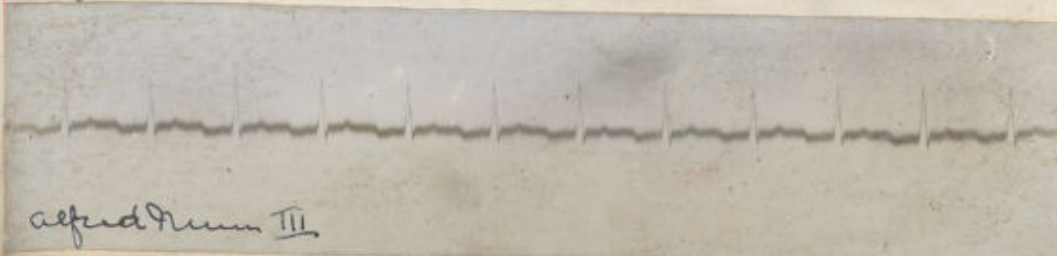
16.vi.11



Alfred Hume II

⑦⑤

16.vi.11



Alfred Hume III

1911

June 16 76, 77, 78. (I, II, III) (Resp. 4, 5, 6) res. $\begin{matrix} I & II & III \\ 6500, 11000+ & 11000+ & 11000+ \\ \text{sk. cu. } 27 & 29 & 9 \text{ mV} \end{matrix}$

Walker Amey - aet. 48. Fifth Ward

(Aneurism.) see photo.

Dyspnoea 3 mos. No syphilis.

Pupils at times unequal, pulse slightly water-hammer in type & unequal. Slight hiccoughing.

In aortic area a thrill is present.

Deep cardiac dulness starts at 3rd rib & extends 1" outside nipple line.

At impulse loud systolic & ~~faint~~ early diastolic bruits. In aortic area loud systolic & faint diastolic bruits.

Now & then the interval between 2nd & 1st heart is prolonged.

June - 79, 80.

Two records taken by Casford

79. Henry. Lead I. dried -

Resistance 1500 ohms; skin current 4.2 mV

80 Henry. Lead I. via Hospital back.

Resistance 1600 ohms; skin current 4.2 mV

(76)

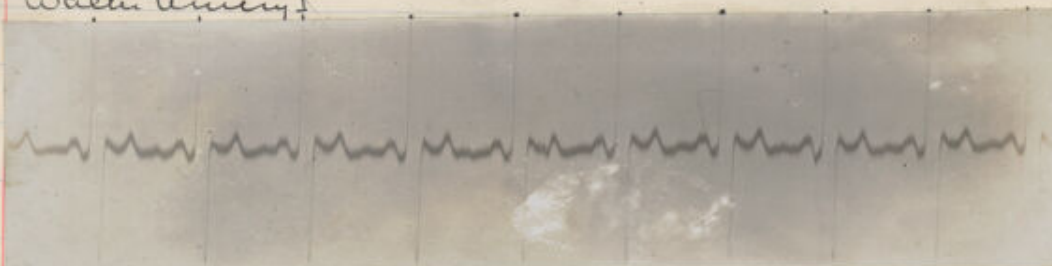
16.vi.11



(77)

16.vi.11

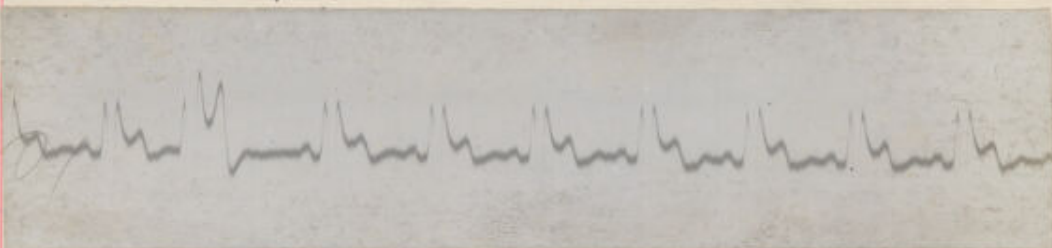
Waller A. m. v. I



(78)

16.vi.11

Waller A. m. v. II

~~(79)~~

Waller A. m. v. III

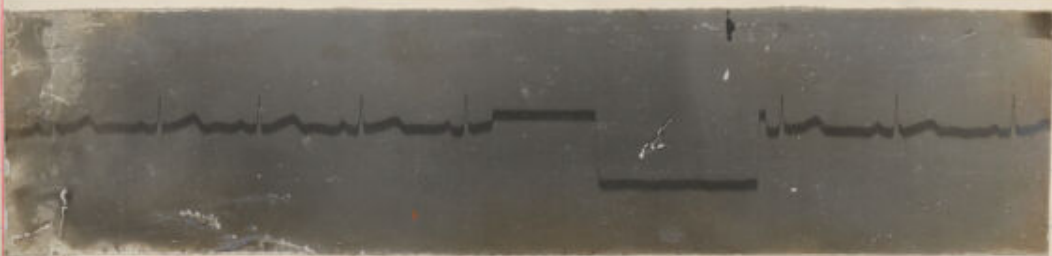
- Limit of plate.

(79)

~~(80)~~

reversed!

(80)



1911

(1/2 3u 504)

June 19. 81. 82. 83. (I. 11,000 +, 29 m/v; II 11,000 +; 9 m/v; III 11,000 +, 24 m/v)

Emma Smith, Halloulard. aet. 45

Myofascia. 4 yrs. Trachyphysis March 1911. Takes much alcohol.

Deep cardiac dulness starts at 3rd rib & passes 5" left of med. line, 4" to cl. of sternum.

Impulse in 5th space, external to nipple line.

At impulse loud systolic bruit audible in axilla, at times premature heart beat, & also early diastolic sound.

(Mitral stenosis & regurgitation. ? myocardial degeneration)

June 19 84. 85. 86. (I. 6000. 15 m/v; II 5000 29 m/v; III. 5500, 29 + m/v)

Edith Seymour, Halloulard. aet. 15

Rheumatic fever at 7, 8 1/2, & 13 years.

Deep cardiac dulness starts at 2nd rib & passes 1" to outside nipple line (4 1/2" from med. line) 4" to right of sternum.

At impulse. presystolic thrill. blowing systolic bruit audible in axilla & back. Localized murmur through whole diastole. 2nd sound accentuated at base. Irregular heart sounds.

(Mitral stenosis & regurgitation. ? Adherent pericardium)

(81)

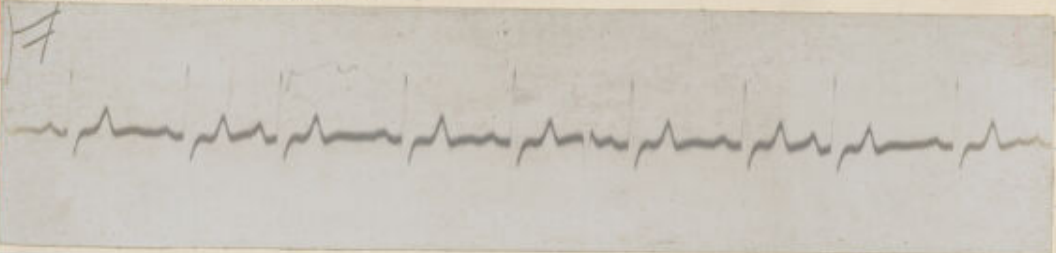
19.vi.11



Emma Smith I

(82)

19.vi.11



Emma Smith II

(83)

19.vi.11



Emma Smith III

(84)

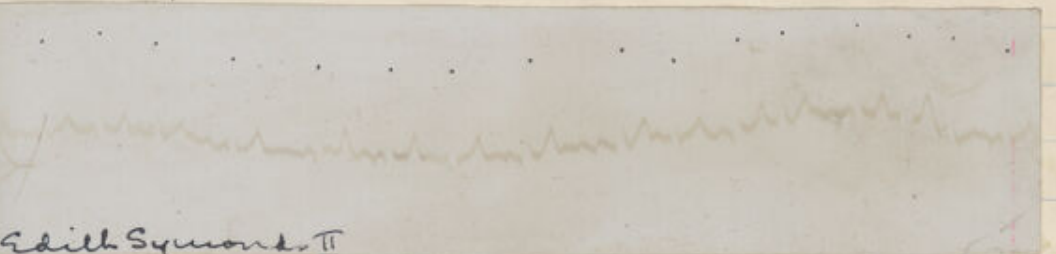
19.vi.11



Edith Symonds I

(85)

19.vi.11



Edith Symonds II

(86)

19.vi.11



Edith Symonds III

1911
June 19 87, 88, 89. (I, 11,000+, 29+mv; II, 11,000+, 29+mv; III 11,000+, 23mv)
Mary Hack, Halton - ael.

Rheumatic fever before 1904.

Deep cardiac dulness starts at 3rd rib & apex 1 1/2" outside
middle line (5" from mid. line) & 1 1/2" to rt. of sternum.

At apex a whistling bruit accessible into axilla as
a blowing systolic bruit; also a reduplicated
2nd sound; impulse diffuse & powerful.

2nd pulmonary sound accentuated.

(Mild regurgitation & very early stenosis)

June 19 90, 91, 92 (I, 8600, 9mv; II 10,000+, 29+mv; III, 11,000+, 24mv)
Eva Rias, Halton - ael. 19.

Chorea in infancy.

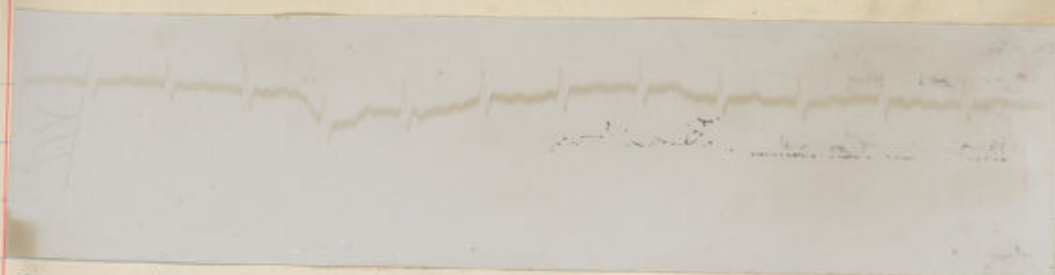
Deep cardiac dulness starts at 3rd rib & apex out 5" to
left of mid. line & 3/4" to right of sternum.

At impulse presystolic bruit, internal to this there is
a reduplicated 2nd sound, & there is a reduplicated
2nd sound over at the pulmonary area.

Much pulsation over the whole of the cardiac area.
(Mild stenosis)

(87)

19.vi.11



(88)

19.vi.11

Mary Hacks I



(89)

19.vi.11

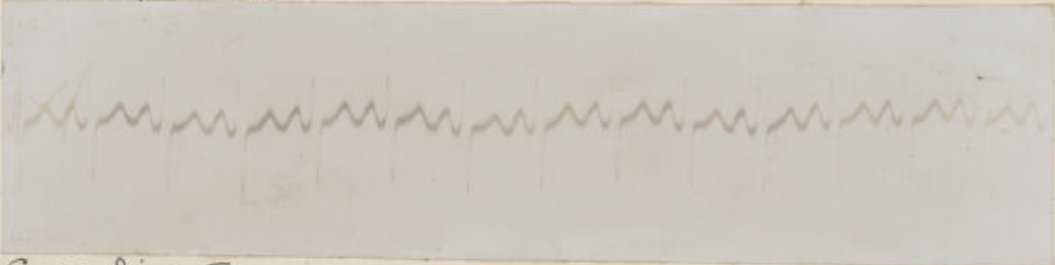
Mary Hacks II



(90)

19.vi.11

Mary Hacks III



(91)

19.vi.11

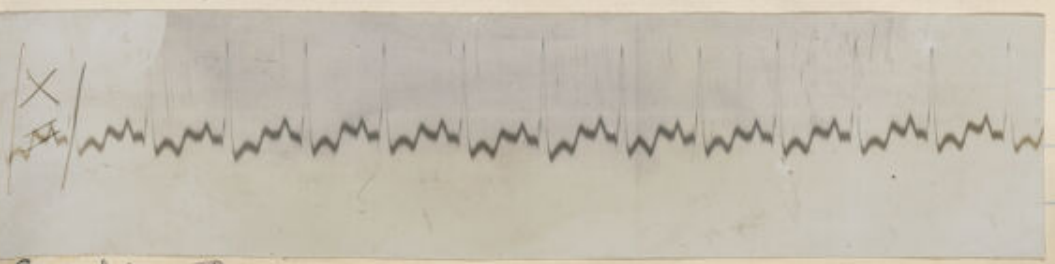
Gwahias I



(92)

19.vi.11

Gwahias II



Gwahias III

1911

June 27

93. 94. 95 (I 11,000+, 1 mfv; II 11,000+, 2 mfv; III 11,000+, 5 mfv)

~~Plasma~~ washed A.B.C. 12 ap. 1, 2, 3.Jack Fink⁽⁷⁾ Giffill

History of purpura with diarrhoea & vomiting

Heart - apex palpable in 4th space inside nipple line
irregular in force of contractions.L. border of heart - at border 1/2" to st. of sternum,
l. border passes from 2nd cc. Hooper just inside
nipple line.Auscultation - no bruits audible. At certain
times heart's action very irregular, two or three
systoles following rapidly on each other and
followed by 5 to 9 beats perfectly regular with
long diastole.

Aug 10

Chas Saunders, aet. 17. Giffill & Sand

96. I. 1000 obs. - 1 a. mfv. II 97. II ditto 98 III 99. III ditto.

Heart - bulging over praecordia; diffuse pulsation
especially in 4th - 6th spaces.Apex - in 6th interspace, 6" from middle line & 2"
outside nipple line.

Rt. border - just beyond st. border of sternum.

Auscultation - very irregular action, rough systoles
at apex conducted to axilla. Pulmonary 2nd
sound accentuated. (dead)mit. irreg. irreg. occas. redup. 2nd sound.

(93)

27.vi.11

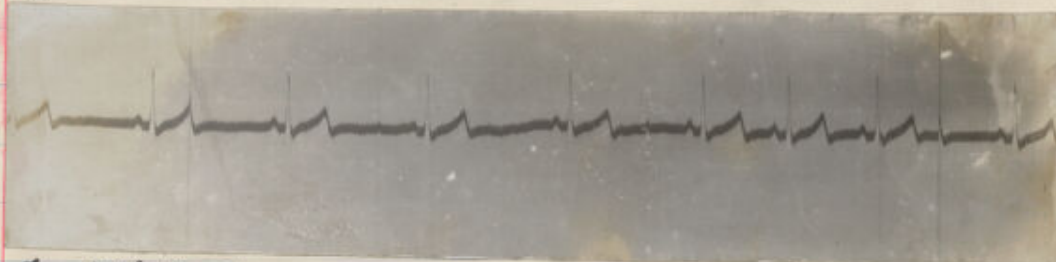


Jack Fisk. I

? Heart block

(94)

27.vi.11



Jack Fisk. II

(95)

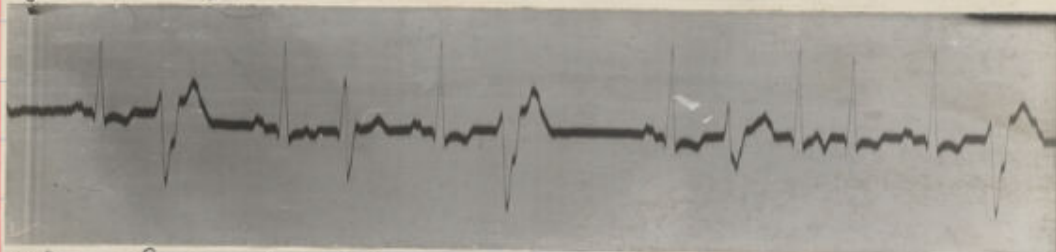
27.vi.11



Jack Fisk. III

(96)

10.vii.11



Chas Saunders. I

(97)

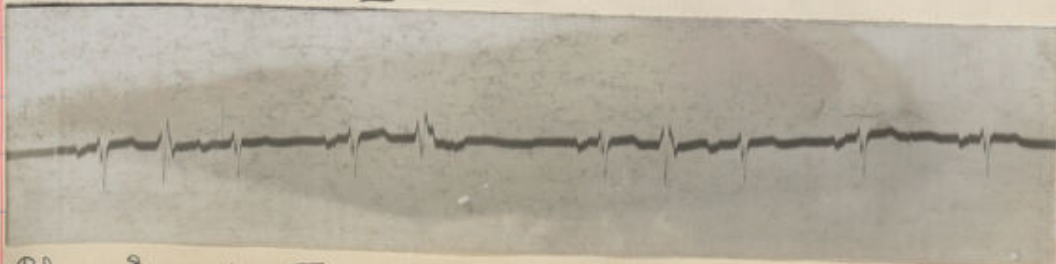
10.vii.11



Chas Saunders. II

(98)

10.vii.11



Chas Saunders. III

1911

Aug 10.

James Frances. ael. 48. Jeffell Ward.99 I (+) 1100 ohms. 450 mV. 100 II (S) ~~1100~~ 2 mV. 101 III (6) 1100 250 mV.

Influenza on two occasions

Heart - feeble apex impulse located in 5th interspace, 5/4" from mid-sternum.Auscultation - whistling systolic murmur at apex
Pulmonary 2nd sound accentuated.

mit. insuf.

Aug 10.

Robert Beale. ael. 38. Jeffell Ward.102 (1) I 1100 ohms. 45 mV. 103 (2) II ~~1100~~ 32 mV. 104 (3) III 1100. 8 mV.

History of rheumatic fever.

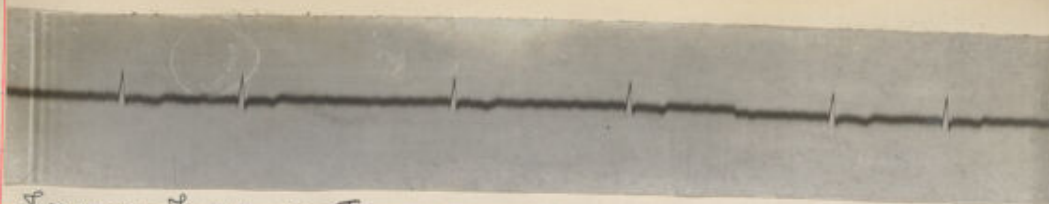
Heart - slight prominence over precordia; Apex in 5th interspace inside middle line and 4 1/4" from mid-sternum.At apex - blowing systolic bruit propagated to axilla.
diastolic bruit heard immediately after 2nd sound.

At base - short systolic at aortic, blowing diastolic propagated to apex.

mit. insuf. dbb aortic
aortic fibrillation

(99)

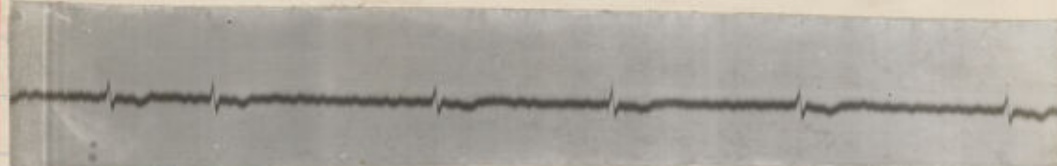
10.vii.11



James Francis I

(100)

10.vii.11



James Francis II

(101)

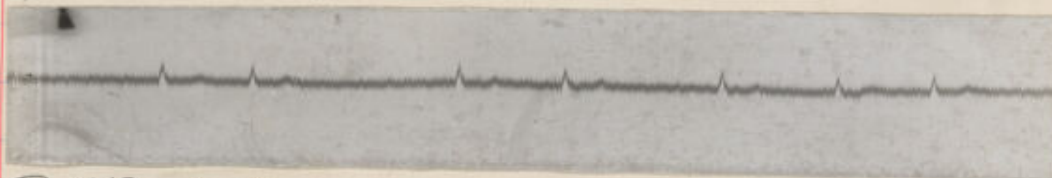
10.vii.11



James Francis III

(102)

10.vii.11



Robt. Beales I

(103)

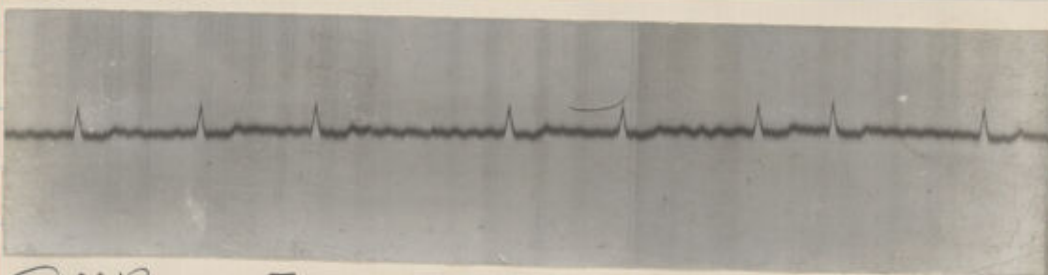
10.vii.11



Robt. Beales II

(103.A)

10.vii.11



Robt. Beales IIa

(104)

10.vii.11



Robt. Beales III

1911

Aug. 10

Emily Jones, 15. Hallon Ward.

105. (4) I 1100. 3 m/v.

106 (5) II 1000 - 3 m/v.

107 (6) III 2200 - 18 m/v.

Rheumatic fever when 8, when 13, & when 14.

Heart - bulging over precordia; diffuse pulsation in 3rd 4th & 5th spaces; maximum pulsation in 4th space.

Apex in 5th space, $4\frac{1}{2}$ " from middle line & 1" outside nipple line. Rb. border just to rt. of sternum.

Auscultation - at apex short presystolic murmur becoming continuous with accentuated 1st sound; 2nd sound reduplicated; faint blowing diastolic bruit following the second sound. At base 2nd pulmonary accentuated. Short systolic and long blowing diastolic over aortic cartilage, diastolic being propagated right down to apex of heart.

mit. sten.
aortic 2nd sound
double aortic

1911

Aug. 10

Lillian Bunting, 15 (Hallon Ward)

108 (1) I 1100. 0 m/v.

109 (2) II 1100. 3 m/v.

110 (3) III 1100. 2 m/v.

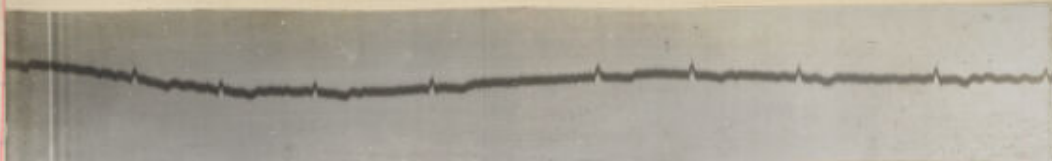
Rheumatic fever 6 weeks ago.

Heart - apex in 5th space $3\frac{1}{2}$ " from middle line & about 1" inside nipple line.mit. sten.
(recent)

Auscultation - 1st sound faint & almost entirely replaced by mitral systolic murmur propagated slightly to axilla. Marked accentuation of 2nd sound in pulmonary area.

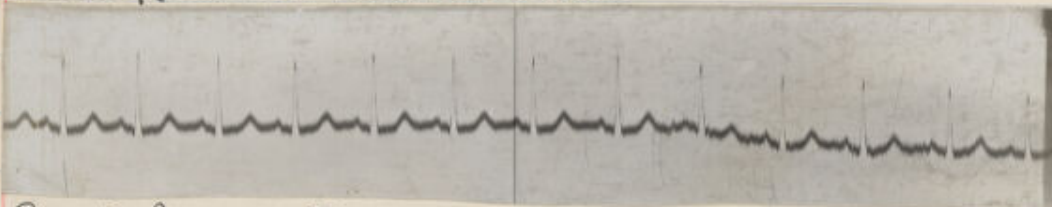
(104A)

10.VII.11

~~Emily Jones I~~ Robt. Reels III α

(105)

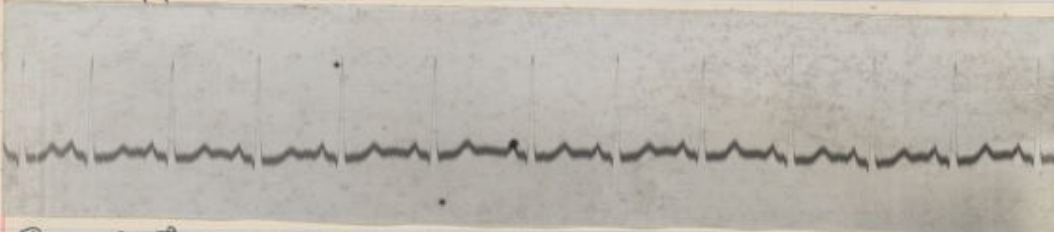
10.VII.11



Emily Jones I

(106)

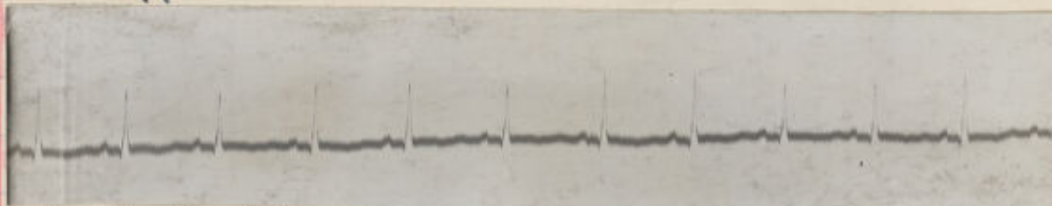
10.VII.11



Emily Jones II

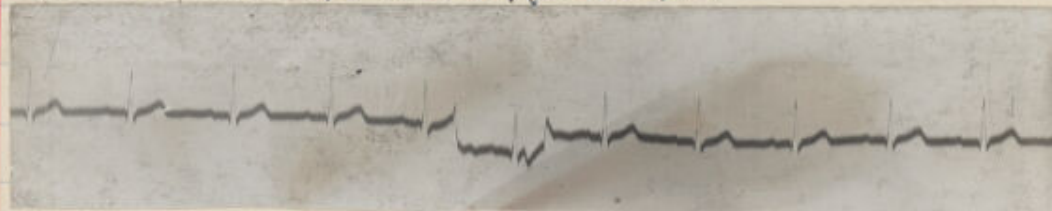
(107)

10.VII.11

~~Lillie Burling I~~ Emily Jones III

(108)

10.VII.11



Lillie Burling I

(109)

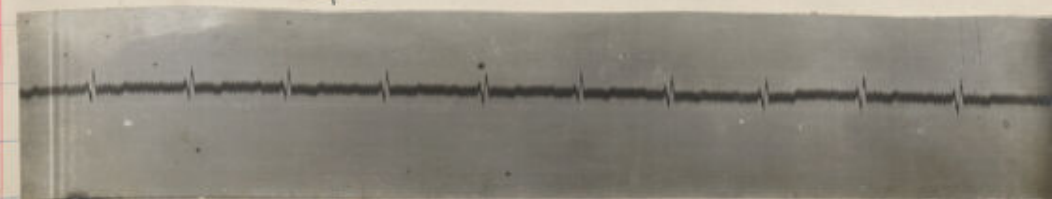
10.VII.11



Lillie Burling II

(110)

10.VII.11



Lillie Burling III

1911
Aug 10.

Elizabeth Johnson. aet. 50. Tallon.

111 (4) I, 1100. 9 m/v.

112 (5) II 1100. $\frac{30}{m/v}$.

113 (6) III 1100. 31 m/v

Slight attacks of rheumatism

Heart - apex in 5th space about 4 to 4½" from mid-line.

At apex - 1st sound replaced by systolic bruit.

diastolic bruit heard after 2nd sound.

At base. systolic & diastolic bruits audible, produced at aortic valve.

mit. insuff. double aortic

Aug. 10

Mrs Sarah Wright aet. 42

114 (1) I 1000 ohms. 40 m/v

115 (2) II 1000. 40 m/v

116 (3) III 1000. 2 m/v.

Frequent attacks of rheumatism

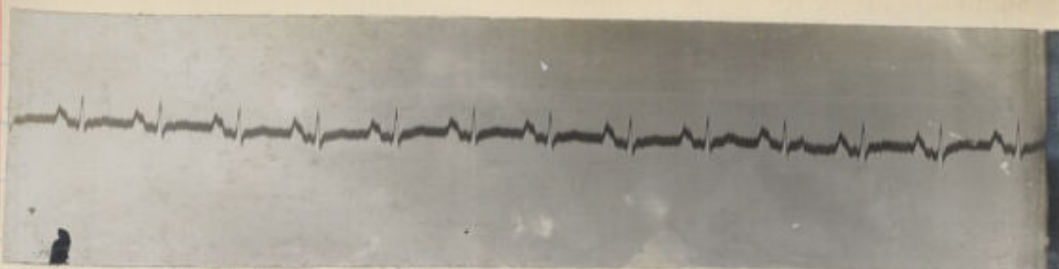
Heart - retraction over praecordia; diffuse pulsation over praecordia.

Apex - in 6th space 5" from mid-sternum. rt. border ½" to st. of sternum. well marked thrill in 2nd left interspace, partly systolic & partly diastolic

Auscultation - short presystolic & short systolic at apex
2nd sound reduplicated. Over pulmonary area rough systolic bruit getting louder as heard to left shoulder: short diastolic propagated down sternum.
Soft heard over aortic area. Systolic carried into right carotid, not into left

(111)

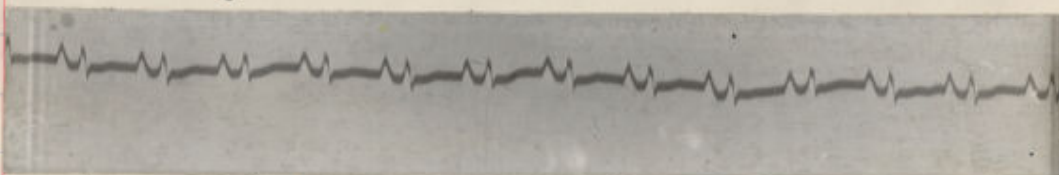
10.VII.11



Elizabeth Johnson I

(112)

10.VII.11



Elizabeth Johnson II

(113)

10.VII.11



Elizabeth Johnson III

(114)

10.VII.11



Sarah Wright I

(115)

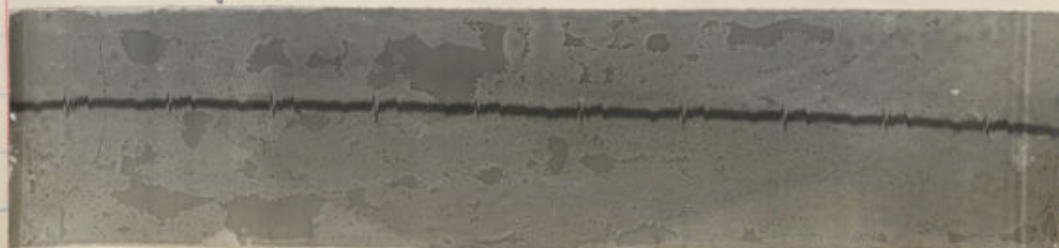
10.VII.11



Sarah Wright II

(116)

10.VII.11



Sarah Wright III

1911

Oct. 1/11

Waaler Schiff (date inaccurate)117. (1) I. 1000 ohms. 9 mV; ¹¹⁸II (2) 1000 ohms 35 mV; III (3) dead short straight line (withdrawn)

(Owing to a dead short in terminals at Med. School's Lead III was unsuccessful, trace was taken again. See post.)

Oct. 12

Arthur. Rodell. 53. Signalman (admitted Sep. 29) B.119. (4) 6000 ohms (!) 37 mV; ¹²⁰II (5) 1000 ohms, 5 mV; III (6) dead short straight line (withdrawn)

Shortness of breath, asthma, oedema, cough, duration 12 mos.

Pres. Illness. Lumbago, 18 yrs. ago; slight rheumatismSocial Conditions. Home food good; spirits in mood; tobacco 1/2 to 3/4 dozCirculi: System. Pulse regular, tension increased; arteries

thickened tortuous; blood temp. 100 mfm Hg; heart apex not visible

or palpable; rt. border 1" from sternum; left border 3rd costal

cart. to apex in 6th interspace 5 1/2" from mid-sternum; no

bruits; 1st sound short feeble. 2nd aortic accentuated

Respiratory System. emphysema; dry rhonchi in front; crep. both basesDigest. System. liver enlarged. Urine cont. alb. uric acid cypst

fatty hyaline casts. Treated with digitalis & diuretic

with marked & rapid improvement. Oct. 10. sudden severe

precordial pain & dyspnoea, relieved by morphine, sudden death

6 hrs. later. P.M. Kidney. granular degeneration. Heart - hypertrophy

of left ventricle. Atherosclerosis of valves of aorta. No infarct. or stenosis. Left

Lungs filled with blood from rupture

(117)

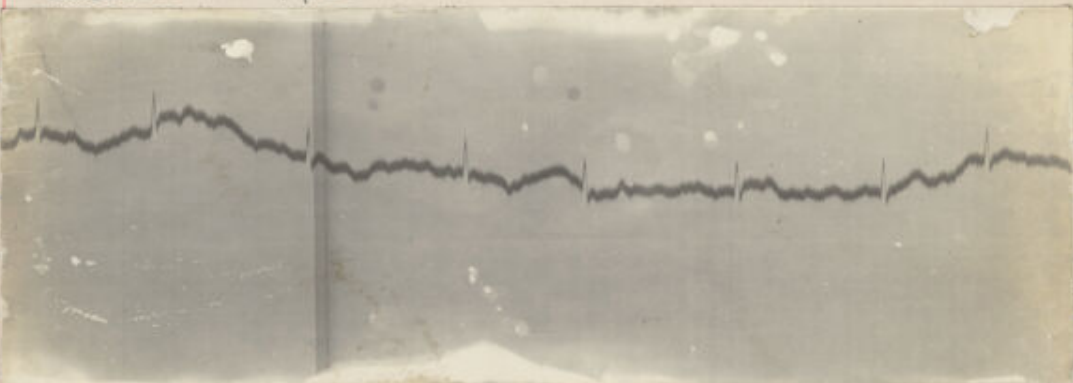
Oct. 1/11



Waelen Schiff. I

(118)

1. IX. 11



Waelen Schiff II

(119)

1. X. 11



Arthur Rodell I

(120)

1. X. 11



Arthur Rodell II

Blum filled with
blood from rupture
of aorta.

1911

Oct. 12th

Rabbit. (Dr. W. F. Driscoll). anaesthetic - urethane.

Shiny in cradle - supported by sling under chest, two fore paws with fur cut short with scissors, inserted in 2-5% salt sol. with ^{thin} zinc plate terminals.

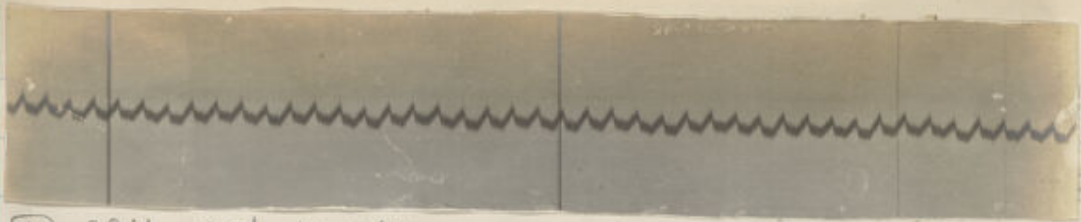
Lead I used throughout. Sensitivity 4 cm per mv

121 (1)	4600 ohms:	skin current	$1\frac{1}{2} \times 40 = 65$	mv/v	normal
122 (2)	7000	"	$3 \times 40 = 120$	mv/v	^{hypo} digital
123 (3)	4300	"	$5 \times 40 = 200$	mv/v	
124 (4)	4400	"	$4 \times 40 = 160$	mv/v	
125 (5)	3700	"	$4 \times 40 = 160$	mv/v	
126 (6)	3800	"	$6 \times 40 = 240$	mv/v	
127 (7)	3400	"	$3 \times 40 = 120$	mv/v	
128 (8)	3400	"	$5 \times 40 = 200$	mv/v	

note in ~~122~~ 122 & 123 respiratory movements of limbs against glass humbler contr. terminals.

(121)

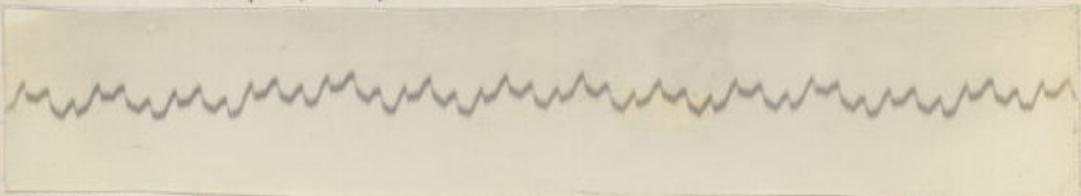
12.X.11



Rabbit - 4 c/m per nrv - normal

(122)

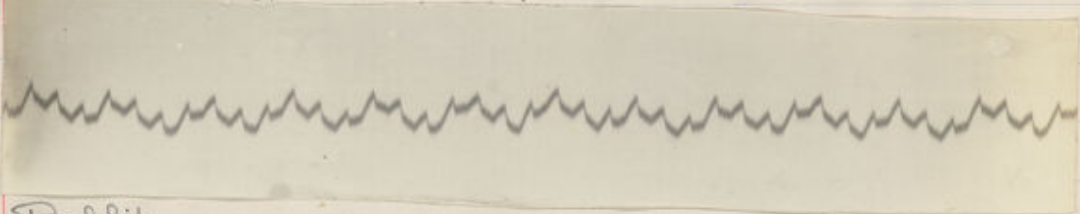
12.X.11



Rabbit - hypodermic digitalis

(123)

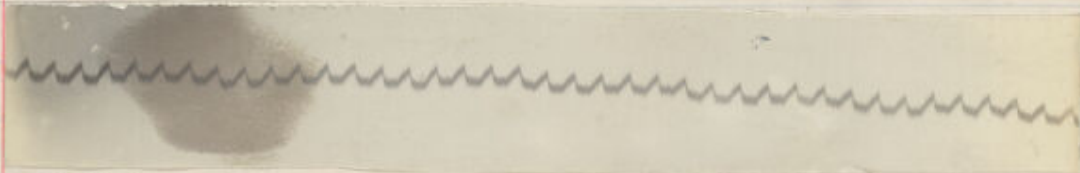
12.X.11



Rabbit

(124)

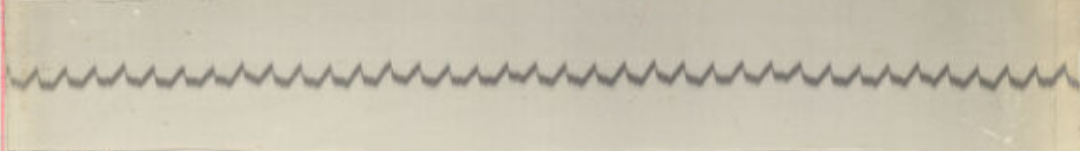
12.X.11



Rabbit

(125)

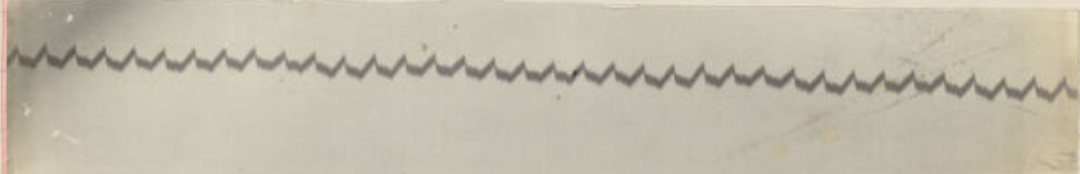
12.X.11



Rabbit

(126)

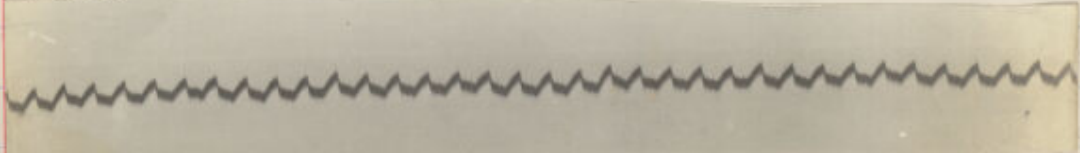
12.X.11



Rabbit

(127)

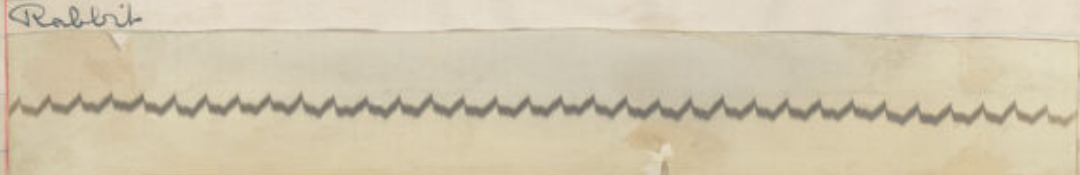
12.X.11



Rabbit

(128)

12.X.11



Rabbit

downupside

1911

Rabbit (Dr. W. E. Driscoll) anaesthetic - urethane.

Oct: 20

Sleep as last - same terminals as last

Lead I used throughout. Sensitivity 4 cfm per mV.129. (1) 2100 ohms; skin current $19 \times 40 = \frac{190}{100} \text{ mV} - \text{normal}$ 130 (2) 2200 " " " $16 \times 40 = \frac{160}{100} \text{ mV} - \text{adrenaline, } 1 \text{ cc } \frac{1}{25000}, \text{ hypo, } 1 \text{ min later}$ 131 (3) " " " " $16 \times 40 = \frac{160}{100} \text{ mV} - \text{none} -$ 132 (4) " " " " $22 \times 40 = \frac{220}{100} \text{ mV} - \text{adrenaline, } 1 \text{ cc } \frac{1}{25000} - \text{3 min later}$ 133 (5) " " " " $22 \times 40 = \frac{220}{100} \text{ mV} - \text{white ink ab. enough to perforate offered blood press. 2 min later}$ 134 (6) " " " " $22 \times 40 = \frac{220}{100} \text{ mV} - \text{5 min later; very weak}$

Lips cleaned with sodium sulfide (? sulfate)

(129)

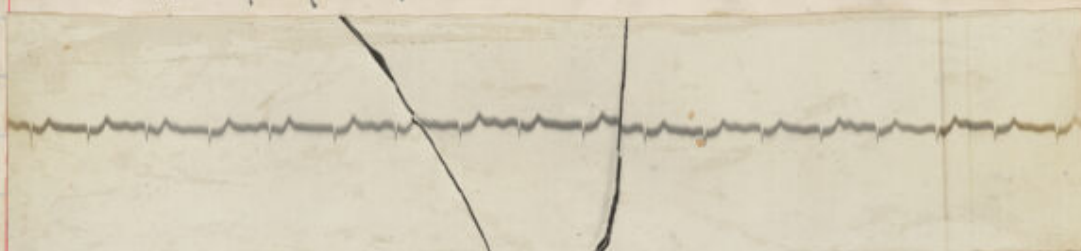
20. X. 11



Rabbit. 4 cfm per m.v. normal.

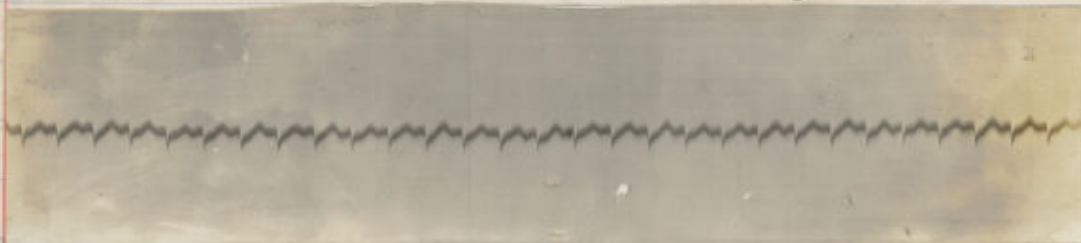
(130)

20. X. 11

Rabbit - do - adrenalin - 1 cc $\frac{1}{25,000}$ - after 1 min.

(131)

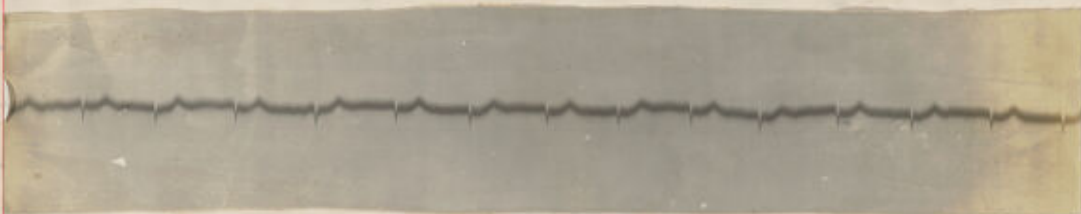
20. X. 11



Rabbit - do - no adrenalin - 10 mins. later.

(132)

20. X. 11

Rabbit - do - adrenalin - 1 cc $\frac{1}{25,000}$ - after 3 mins.

(133)

20. X. 11



Rabbit - do - white inhalation - after 2 mins.

(134)

20. X. 11



Rabbit - do - do - after 7 mins. (very weak)

1914

Marble.

J. B. Murphy

Oct. 31

(¹³⁵ Bay I) Lead I. 2200 ohms. 0 mV. sensit. 1 cm. p. mV.
 (Leads II & III not exposed properly)

Nov. 3

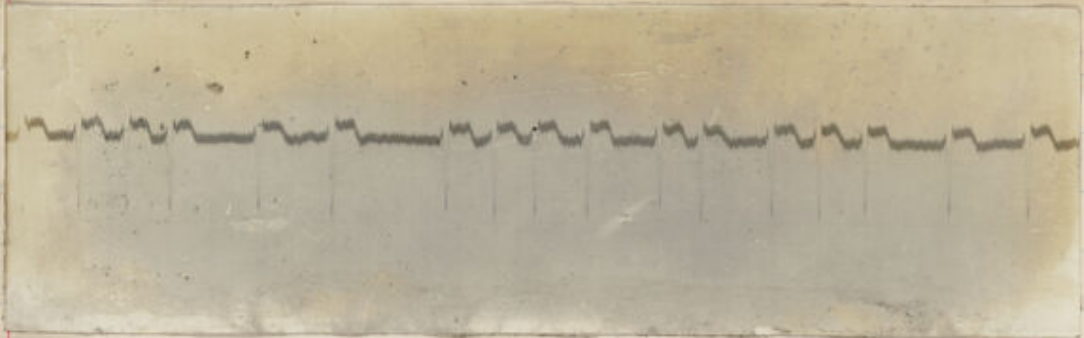
Frog. exposed heart. Lead from above at auricle to apex.

136 ① - Frog 1. 2400 ohms, 21 mV? normal137 ② - do do ? - Ball₂ applied 11.8 - photo at 11.23138 ③ - Frog 2. 4300 ohms. ? - normal - at ~~11.40~~ 11.30139 ④ - do do ? - adrenalin applied 11.33 - photo 11.40140 ⑤ - do do ? - photo refld. 11.43

Sensitivity 2 cm. p. mV.

(135)

Oct. 31/11



Muscles. I.

(136) ✓

3E. XI. 11



Reversed

Frog. normal. 2 cm

(137) ✓

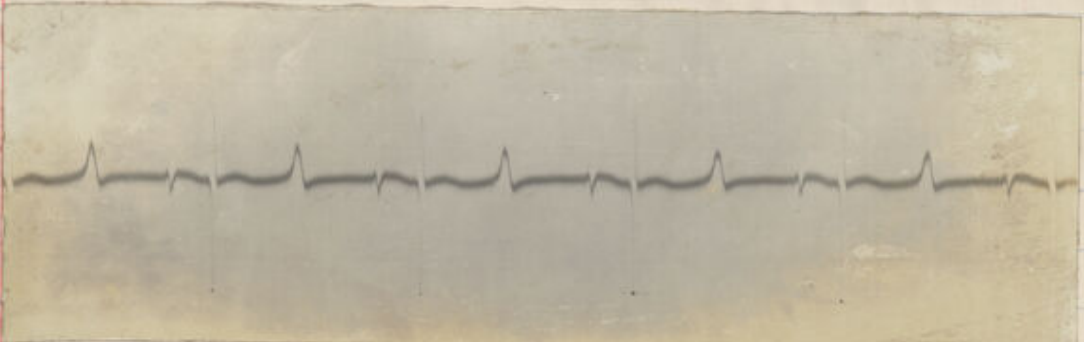
3E. XI. 11

Frog. BaCl₂. 2 cm

Reversed

(138) ✓

3E. XI. 11



Frog. normal (after above)

94

1911

Nov. 3

Frog (see ante)

(13)
3.x

(14)
3.x

1911
Nov. 2

Rabbit - Lead I from shaved legs. 3 u + 10% Cl 1%. Witham.

141. (1) 3300 ohms. 20 m/r - normal

142. (2) 2300 " 10 m/r - (both vagic cut)

143. (3) do 60 m/r - adrenalin - 1 cc $\frac{1}{20,000}$ - photo 4 minutes

- (6) do 25 m/r - repl. photo failed

Sensitivity - 4 c/m for m/r

(14)
2.x

(14)
2.x

(14)
2.x

(139) ✓

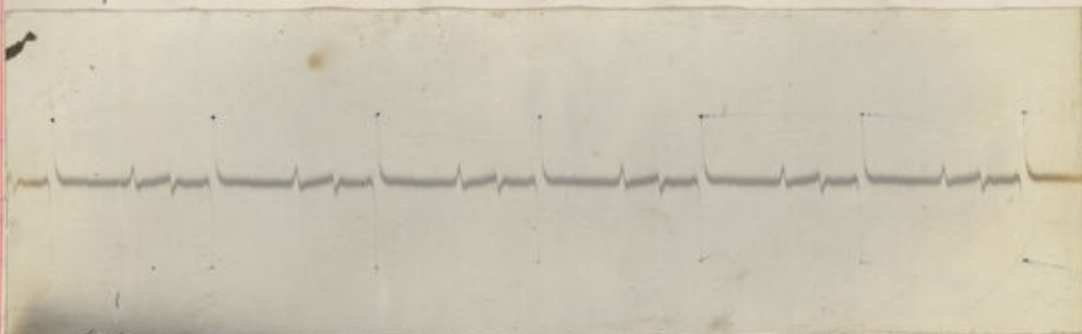
3.XI.11



Frog. adrenalin - 2 c/m

(140) ✓

3.XI.11



Frog. adrenalin (ref. photo) 2 c/m

(141) ✓

2.XI.11



Rabbit - normal - 4 c/m

(142) ✓

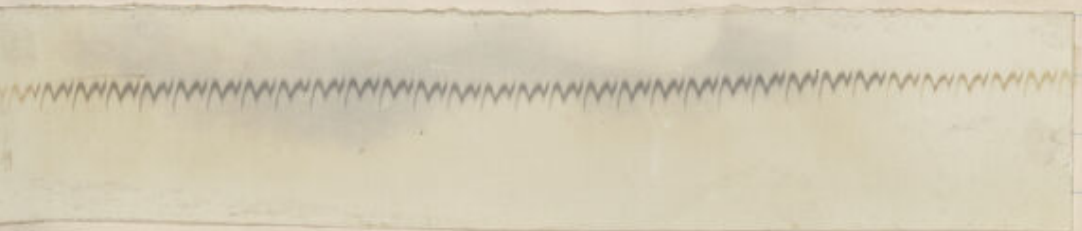
2.XI.11



Rabbit - both vagi cut - 4 c/m

(143) ✓

2.XI.11



Rabbit - both vagi cut. adrenalin - 4 c/m

1911

Nov: 3

Wacker Schiff.

(see later. terminals of electrodes at hospital loose.
 not clean. patient moving)

144. (1) Lead I . 1100 ohms ++ n/v

145. (2) do II . do ++ n/v

146. (3) do III . do 32 n/v

Nov: 3

Waller Anderson

(see later. terminals of electrodes at hospital loose,
 not clean. patient moving)

147 (4) Lead I - ohms - n/v

148 (5) do II - do - n/v

(6) do III not taken - too much movement

(144) ✓

3. XI. 11



Walter Shipp I (see opposite)

(145) ✓

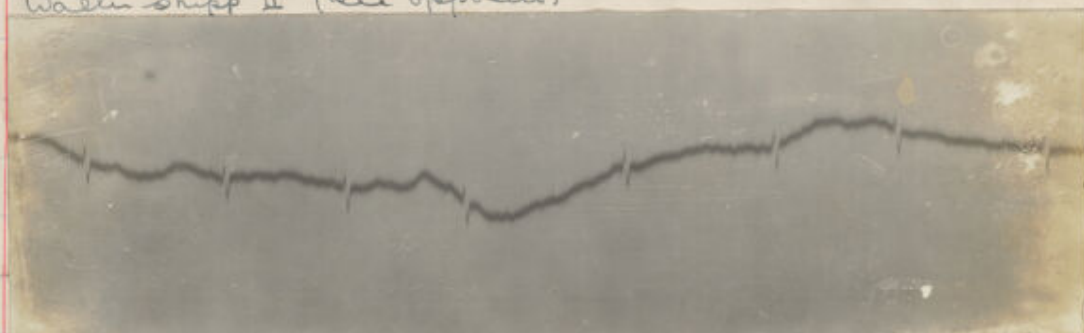
3. XI. 11



Walter Shipp II (see opposite)

(146) ✓

3. XI. 11



Walter Shipp III (see opposite)

(147) ✓

3. XI. 11



(148) ✓

3. XI. 11



Wm Anderson I (see opposite)

Reversed

Reversed

1911

J. J. Gurney. Chesterbon Hall (W. Humphrey)

Nov: 7 ¹⁴⁰(1) Lead I - 1000 ohms - 10 mV
 152 (2) do II do 35 "
 151 (3) do III do 15 "

1911

Nov: 7 Walker Schiff. 14. admitted 26.9.11

152 (4) Lead I - 1000 ohms. 24 mV

153 (5) do II - do ++ "

154 (6) do III - do 85 "

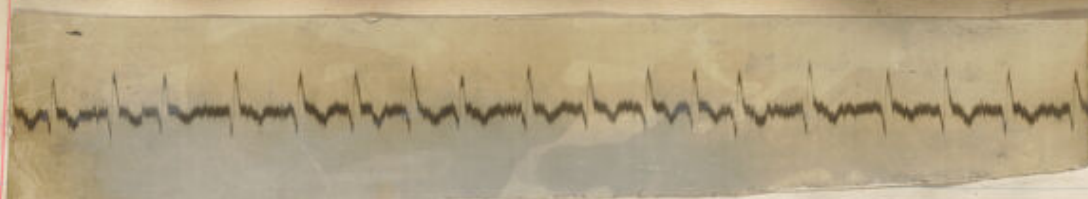
Admitted 2 acute rheumatism - joint pains & swellings
 dil. heart no purious effusions.

apical border Pulse regular, tension low; Heart apex in 5th intercostal
 pul. apex, coinc. outside nipple line $4\frac{3}{4}$ " from mid sternum &
 1 1/2" outside nipple. Short apical systolic not propagated
 2nd sound to axilla; redup. of 2nd sound; pulm. 2nd sound accent.
 mitral regurg. Left border, apex from 3rd cost. cartilage outside nipple &
 slightly beyond visible apex. Some impairment of
 resonance as far as 2nd rib on left side.

On Oct. 13th short diastolic heard at bottom of sternum & heard
 after 2nd sound, not heard at aortic cartilage

(149)

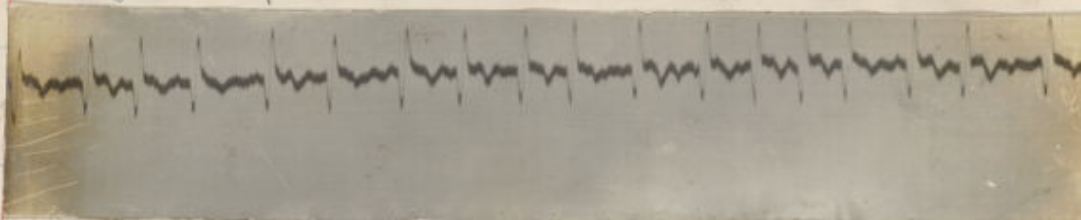
7. XI. 11



J. J. Junney. I

(150)

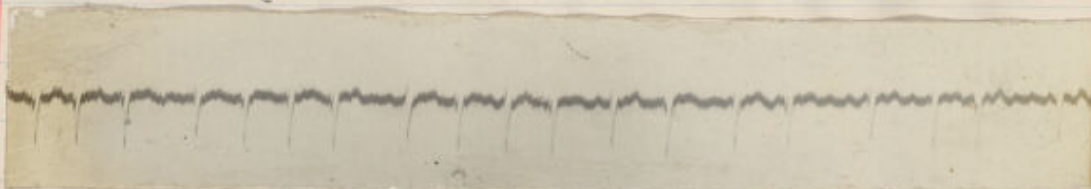
7. XI. 11



J. J. Junney. II

(151)

7. XI. 11



J. J. Junney. III

(152)

7. XI. 11



Waelen Shipp. I

(153)

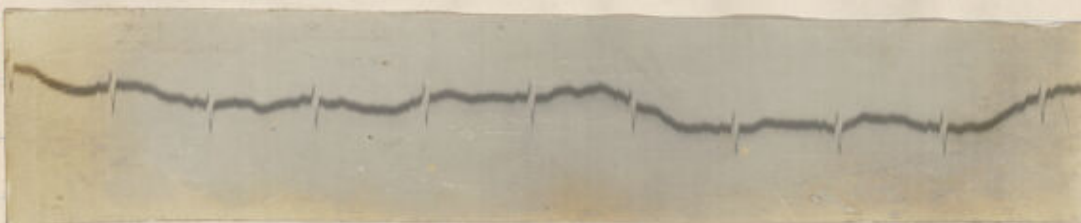
7. XI. 11



Waelen Shipp. II

(154)

7. XI. 11



Waelen Shipp. III

Revised

Revised

1911

Nov. 7

Walter Anderson. 64. admitted 11.X.11

155 ⑦ Lead I - 1100 ohms - 20 mV

156 ⑧ do II - do - 3.5 mV

157 ⑨ do III - do - 29 mV

For 3 mos. giddiness & frequent fainting. Palpitation & dyspnea.
Past illnesses - none.Social Cond: good, drinks beer mod; smokes 300 tobacco weekly.
Circ. System - pulse irreg in line & character of beats; tension low; arteries not thickened. Heart: apex palpable in 5th interspace in midcl. line, no thrills. Rt. border: $\frac{1}{2}$ " from sternum; left border, begins 3rd costal cartilage & extends to apex inside midcl. line; heart's action irregular. 1st sound short, no bruits. With rest in bed heart's action has become regular but at times returns to its irregular action. 1st. Confusion of mind.

Nov. 7

Albert Ganner. 35. Confusion. Admitted 30.X.11

158 ⑩ Lead I - 1000 ohms, 16 mV

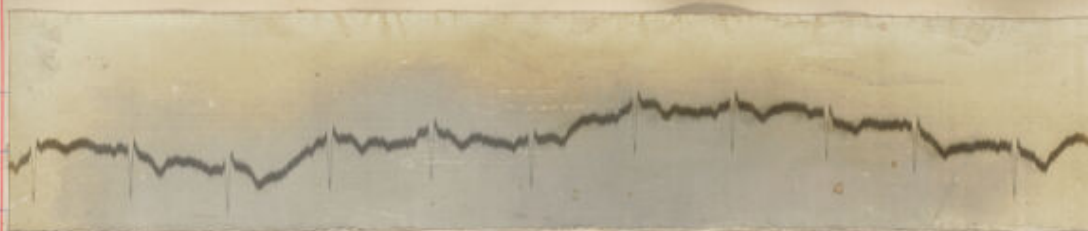
159 ⑪ do II - do 24 "

160 ⑫ do III - do 25 "

Shortness of breath, palp. & weakness on toff. for 3 years or more. Dull, aching sensation over precordia, has been in Royal Devon Hosp. here & no organic disease made out. Gained weight.
Past Illnesses - Scarlet fever; Influenza 14 & 16 yrs ago. no hist. of abdominal or joint - no ven. disease.Soc. Cond. Confusion. Cornet player many years. ^{Tobacco} ^{Smoker} ^{300 cigs}.
Large, stout, pale. no edema.Circ. System - pulse regular. varies from 48 to 70, arteries not thickened. B.P. 125 mfm Hg. Heart - apex not visible or palpable (thick chest wall). Rt. border, $\frac{1}{2}$ " outside sternum; left border, 3rd cost. cart. to apex in 5th space inside midcl. line - no bruits.
Rest system int. Stomach dilated. Spasmodic. Blood nil. X-ray shows aneurysm of descending arch of aorta. Pulsation 3rd space out.

(155)

T.XI.II



Waecher Anderson I

(156)

T.XI.II



Waecher Anderson II

(157)

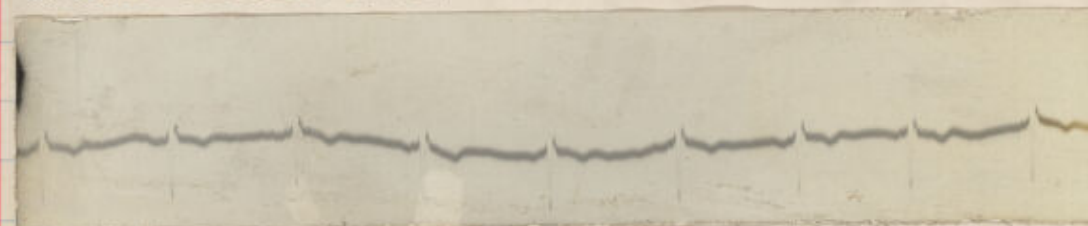
T.XI.II



Waecher Anderson III

(158)

T.XI.II



Albert Bremer I

(159)

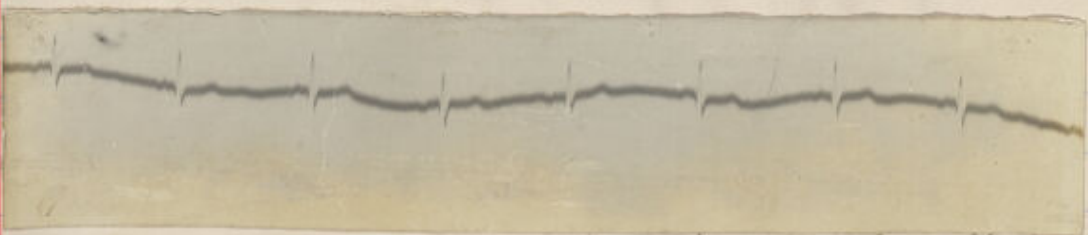
T.XI.II



Albert Bremer II

(160)

T.XI.II



Albert Bremer III

Revised.

Revised

1911
Nov: 10

Frog. sensitivity - 2 cm from m.v. Lead right auricle
to apex (pl. terminalis) exposed heart.

161. (1)	4000 ohms - ? m.v. (no skin res)	11.31.	normal
162. (2)	do	do	do
163. (3)	do	do	do
164. (4)	do	do	do
165. (5)	do	do	do
166. (6)	do	do	do

{ 11.35 muscarine?
11.37 photo do
11.42 photo do
11.44 do do refl.

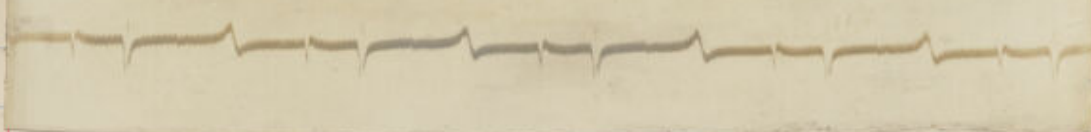
{ 11.46 atropine?
11.47 photo do

{ 11.50 chloral hydrate?
11.51 photo do

{ 11.54 adrenaline?
11.55 photo at

(161)

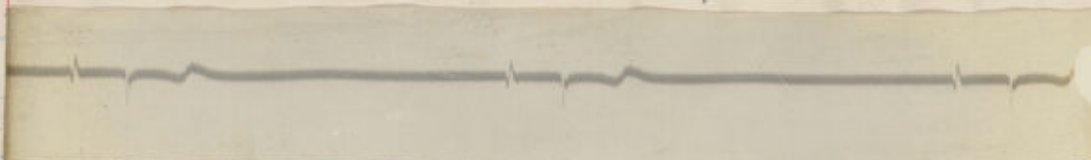
10.XI.11



Frog. exposed heart. normal. 2 cm

(162)

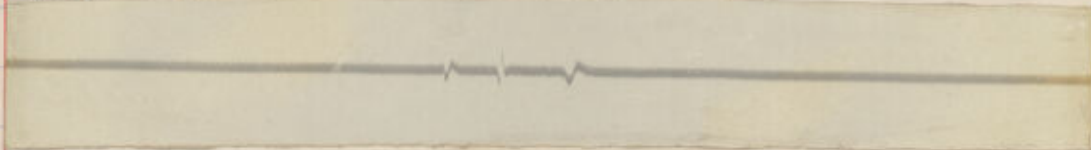
10.XI.11



Frog. exposed heart. muscarine 2 cm

(163)

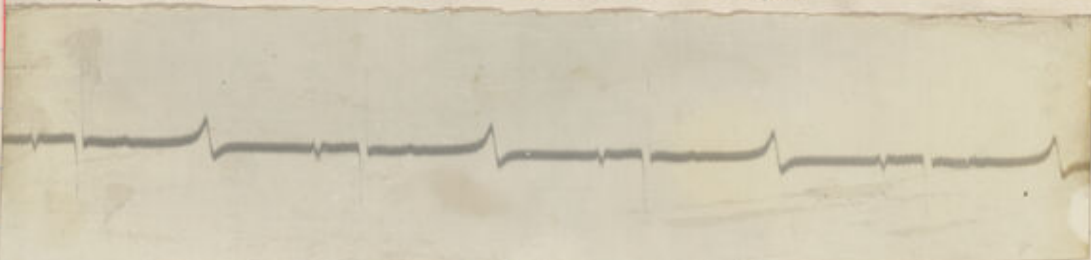
10.XI.11



Frog. exposed heart. muscarine 2 cm

(164)

10.XI.11



Frog. exposed heart. atropine 2 cm

(165)

10.XI.11

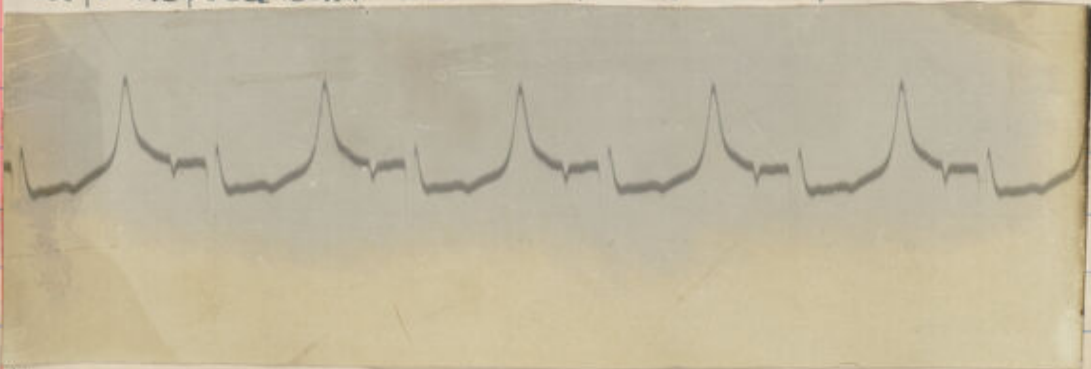
X



Frog. exposed heart. chloral hydrate 2 cm

(166)

10.XI.11



Frog. exposed heart. adrenaline 2 cm

Rummet

Rummet

1911

Nov: 17.

Cat. Urethane. artificial respiration.

exposed heart. lead from rt. auricle to apex. summarily 1 c/m
per m/v.

- | | | | | |
|---------|----------------------|--|--|---------------------|
| ① 164 . | 1100 ohms - 17 m/v . | <u>normal</u> . | 12.20 | |
| ② 168 . | | <u>adrenalin</u> . | 1 c/c. ^{10,000} 10,000 | 12.22 - taken 12.23 |
| ③ 169 . | | <u>pilocarpine</u> . | 1 c/c. 2% | 12.28 12.29 |
| | | slow & weakens heart | | |
| ④ 170 . | | <u>atropine</u> . | 1 c/c. 0.1% | 12.31 12.33 1/2 |
| | | Punctate pupils, weakens heart, weakens heart. | | |
| ⑤ 171 . | | <u>chloral hydrate</u> . | 1 c/c. 5% | 12.38 12.39 |
| | | said to block bundle of His | | |
| ⑥ 172 . | | <u>quinid.</u> (hied) | 1 c/c | 12.45 12.46 |
| | | increases amplitude of heart, weakens heart. | | |
| ⑦ 173 . | | <u>do</u> | 4 c/c. | 12.49 12.53 |
| | | (pupils partially dilated by atropine, no heart quivering) | | |
| ⑧ 174 . | | <u>do</u> | do. | 12.57 |
| | | <u>do</u> | | |

injections in left jugular

(167) ✓

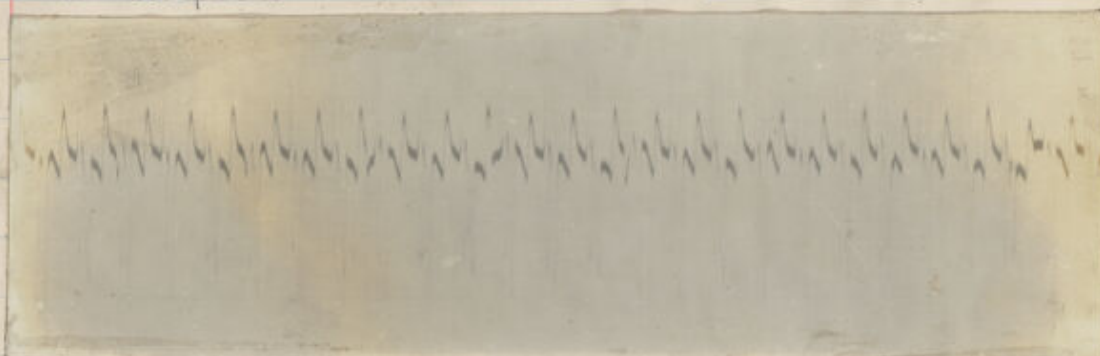
17. XI. 11



Cat. exposed heart. normal. 1 cm

(168) ✓

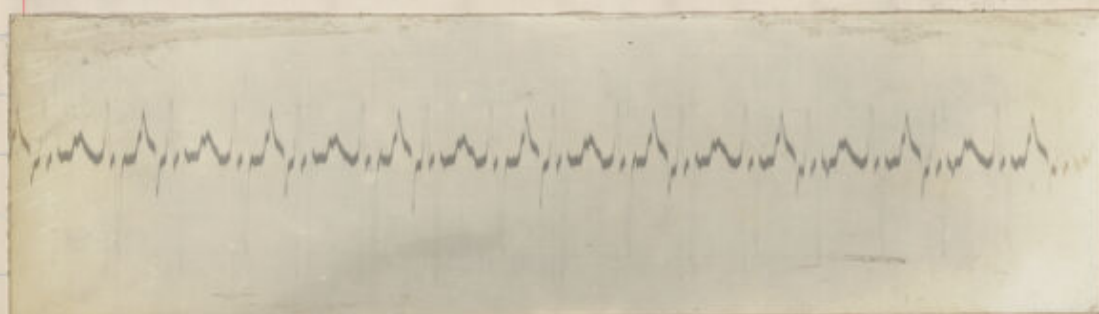
17. XI. 11



Cat. exposed heart. adrenalin - 1 cm

(169) ✓

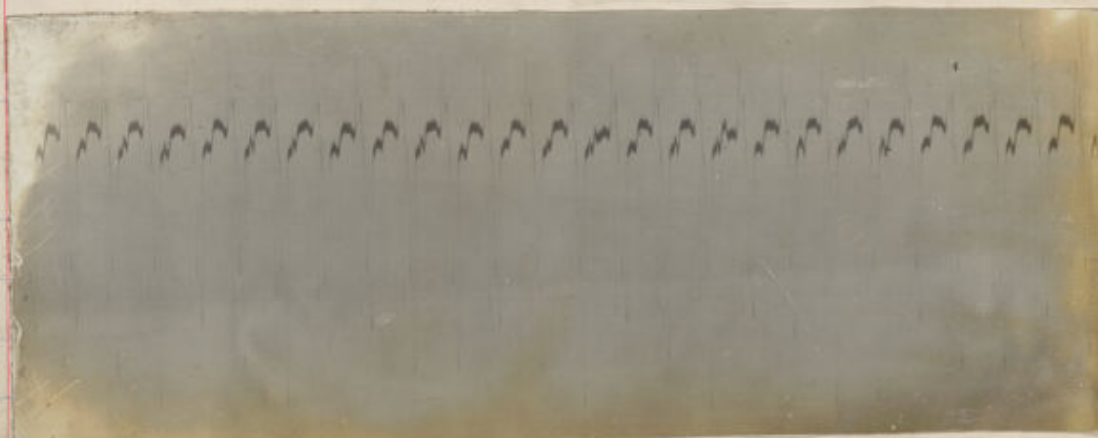
17. XI. 11



Cat. exposed heart. pilocarpin - 1 cm

(170) ✓

17. XI. 11



Cat. exposed heart. atropin - 1 cm

Reversed

Reversed

(see previous page)

(17)
17.X

(17)
17.X

(17)
17.X

(17)
17.X

(171) ✓

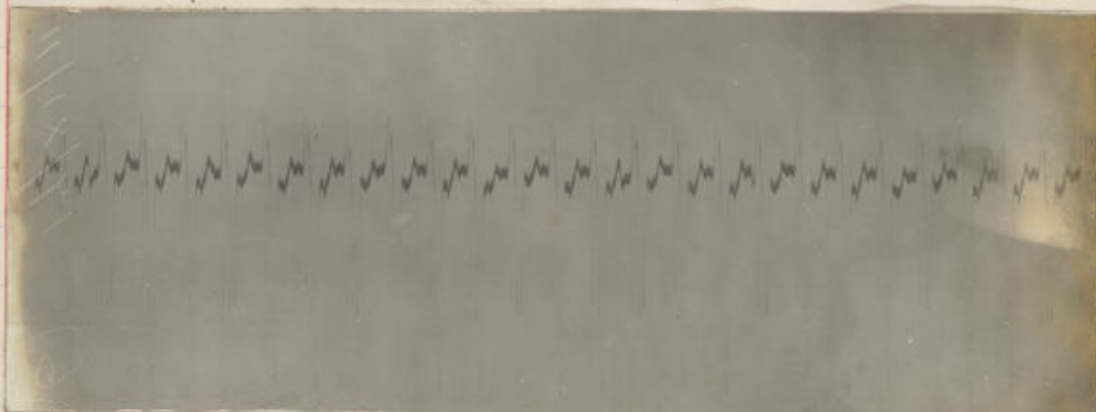
17.XI.11



Cat - exposed heart - chloral hydrate - 1 cm

(172) ✓

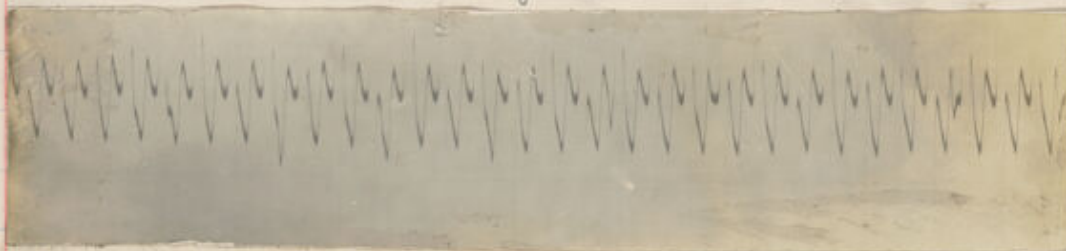
17.XI.11



Cat - exposed heart - squill - 1 cm

(173) ✓

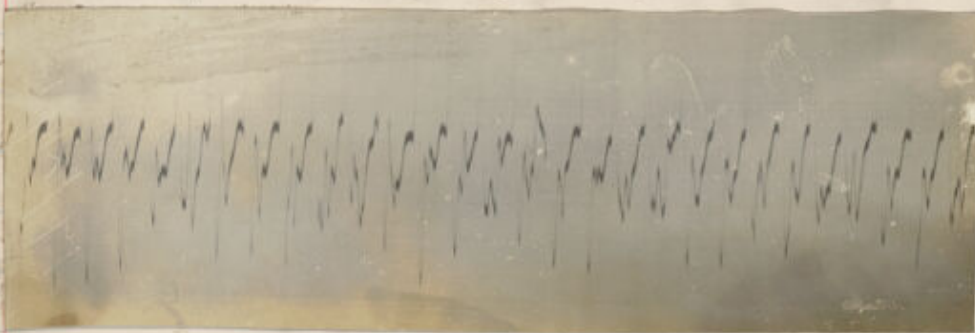
17.XI.11



Cat - exposed heart - squill (delirium) 1 cm

(174) ✓

17.XI.11



Cat - exposed heart - squill (delirium) 1 cm

Reversed

Reversed

1911

Nov: 24

Cat. Methane-platinum needles in pectoral muscles -

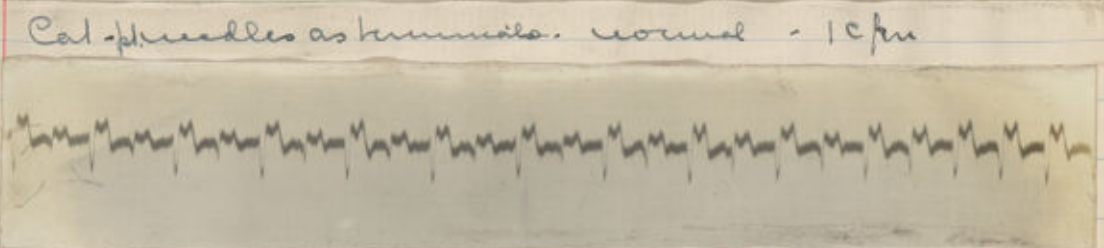
Ledd T. throughout, sensitivity 1 cfm per mfv. artif. resp. injection in left jugular. 1100 ohms.

- 175 (1) 1100 ohms. 40 mfv normal. 11.19
- 176 (2) " " 18 - adrenalin 11.44 taken 11.44 1/2
(reversal) ^{heart does more work, a rapid rise of peripheral}
- 177 (3) " " 18 - chloroform inhalation 12. taken 12.1. ^{to depress heart decidedly.}
- 178 (4) " " 21 - filocarpin. 1 c/c. 2% 12.9, taken 12.10
- 179 (5) " " 50 - atropin. 1 c/c. 0.1% 12.11, taken 12.11 1/2
- 180 (6) " " 23 - inul. squill 1 c/c. 12.18, taken 12.19
- 181 (7) " " 25 - do 4 c/c. 12.23 1/2, taken 12.26 1/2. heart in ^{dilatation} animal died 1 min. later

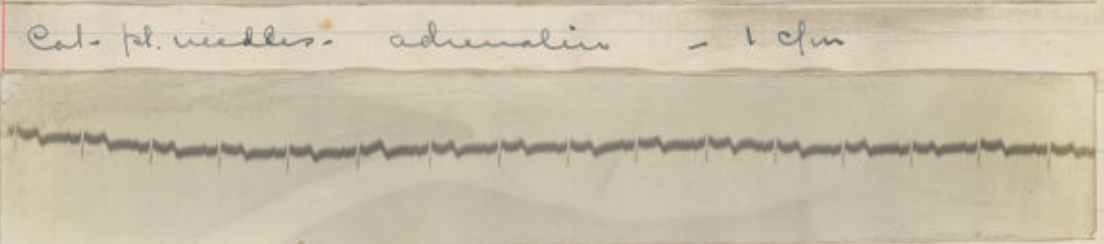
les - (175) ✓
 24.XI.11



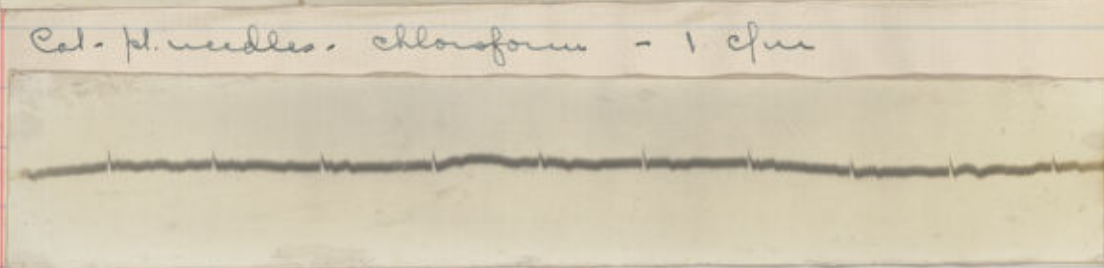
at table
 es
 idedly (176) ✓
 24.XI.11



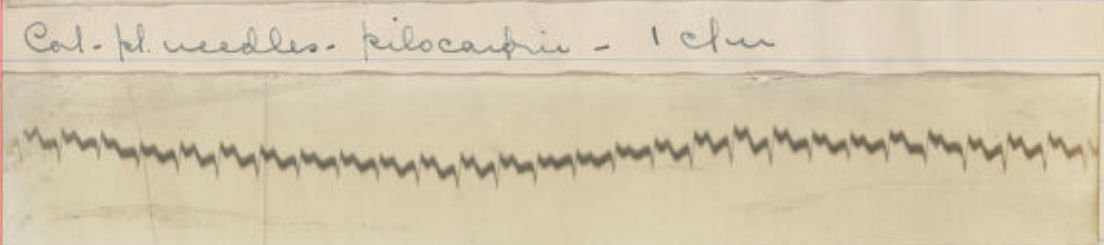
in
 in
 d dnd
 later (177) ✓
 24.XI.11



(178) ✓
 24.XI.11



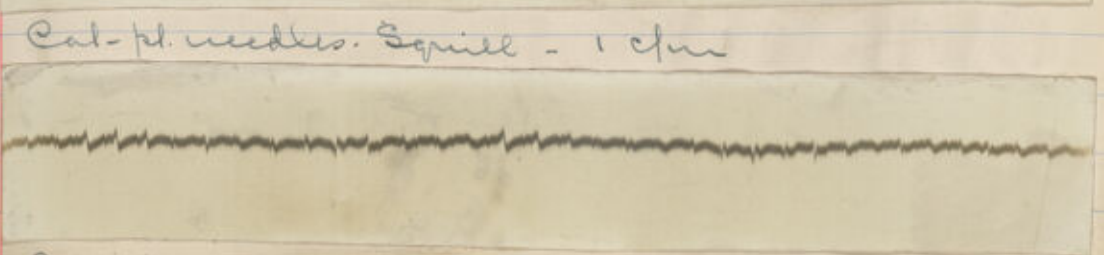
(179) ✓
 24.XI.11



(180) ✓
 24.XI.11



(181) ✓
 24.XI.11



Cat. pt. needles - Squal (delirium) - 1 cm

1911

Nov. 28

Frances Holmes. 71

182 (1) Lead I 1000 ohms. 16 m/v

183 (2) " II " " 50 "

184 (3) " III " " 26 "

oedema of legs, penis, scrotum. Head, some dyspnoea. no palpitation, occasional cough without expect. urine scanty & dark, neck veins ^{scant} distended.

Rheumatism for last 30 yrs, winter cough many years.

Pulse 86, regular. tension 125 mm Hg, arteries thickened.

Heart, apex not palpable; cl. border $3\frac{1}{4}$ " from sternum; lft. border 3rd

left costal cartilage to apex beat in nipple line or just outside it.

Difficult to percuss owing to emphysema; sounds at apex very feeble. Short syst. bruit at apex not propap. far; 2nd sound accult.

Marked emphysema. no advent. resp. sounds. Ascites. Liver not

enlarged. urine scanty 1022, acid. Alb. pres. no blood. numerous hyaline & granular casts. Very little improvement under digitalis & diuretic. Health action ^{Nov. 7th}

Nov. 28

Laura James. 36: (Dr. Humphrey)

185 (4) Lead I 1000 ohms. 65 m/v

186 (5) " II " " 62 "

187 (6) " III " " 50 "

Shortness of breath, cough, palpitation, pain over precordia, ^{inter} scanty micturition over several years. Suffered from 30 yrs ago. cough.

Chorea 15 yrs ago; inflammation of lungs 12 mos. ago; sore throat on admission; dyspnoea, marked cyanosis, yellowish tinge of skin, cough, oedema of back & legs; neck veins distended

Pulse regular; tens. low; arteries thickened. epist. puls. no bulging over precordia

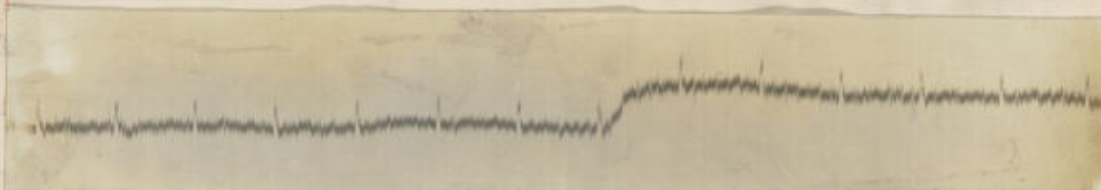
Heart. apex beat in 5th intercostal space in nipple line or slightly outside it. Rt. border 1" beyond sternum, l. border 3rd cost. cart.

through nipple line to apex 5th space. Loud mitral systolic prop.

to axilla; short diastolic; diast. bruit probably aortic. Loud systolic & diastolic aortic. latter propap. down both sides of sternum. emphysema & harsh heart sounds; enlarged liver & umbilicus, ascites. albumen in urine on admission - soon disappearing.

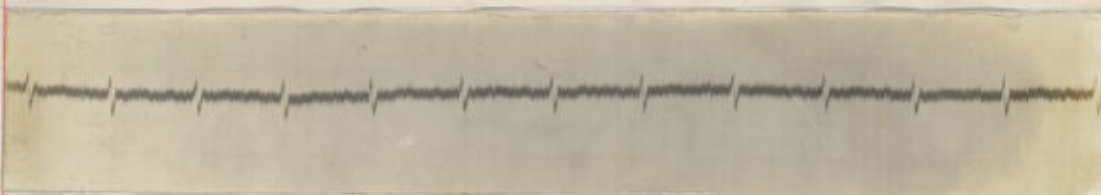
mitral
stenosis
incomp.
double
aortic

(182) ✓
28.XI.11



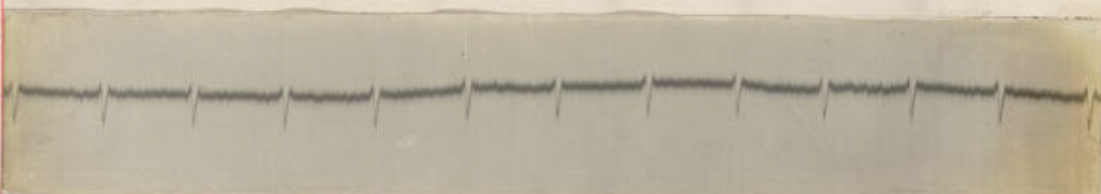
Froese-Howes I

(183) ✓
28.XI.11



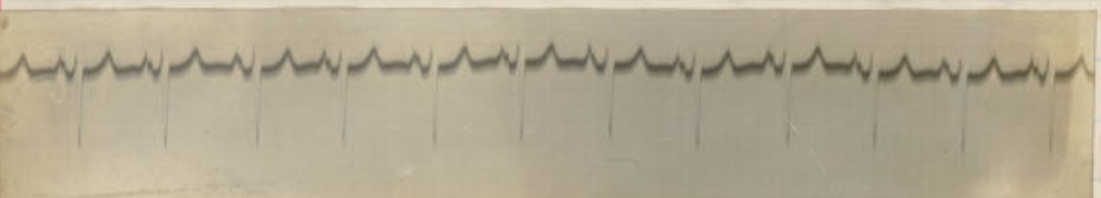
Froese-Howes II

(184) ✓
28.XI.11



Froese-Howes III

(185) ✓
28.XI.11



Laura James I

(186) ✓
28.XI.11



Laura James II

(187) ✓
28.XI.11



Laura James III

1911

Nov. 28

Dora Finney, 7.

188 (7) 1000 ohms Lead I 12 m/v

189 (8) " " " II 33 "

189 (9) " " " III 10 "

Rheumatic fever 3 mos. ago.

On admission: cyanosis, ineffectual dyspnea, extensive & immense dropsy, ascites.

Pulse regular, tension good.

Heart, apex in 6th interspace 5" from middle line and almost in axill. line; rt. border 1/2" from sternum, left border begins upper border of 3rd cost. cart. & passes to apex outside nipple line. Loud apical systolic prolaps. & ayle of scapula, suspicion of rough ^{pre}systolic; systolic bruit at aortic orifice. Diapnoea - aortic stenosis, mitral regurg.

Dec. 14

Lorina Davis, aet. 26. (Dr. Humphrey)

191 (1) Lead I 1100 ohms 48 m/v

192 (2) " II " " 13 m/v

193 (3) " III " " -

Pain over praecordia, dyspnea, palpitation, occasional faintness & dizziness, 2 yrs. duration.

Chorea, aet. 16; rheum. fever, aet. 18; slight rheum. freq. since, freq. sore throat

Pulse, irreg. at first, soon became regular, but low, arteries normal

Heart, syst. thrill at apex, apex 5th space, normal positionBlowing systolic bruit at apex, not propagated markedly in any direction. Pulse, 2nd sound accentuated.

(188) ✓

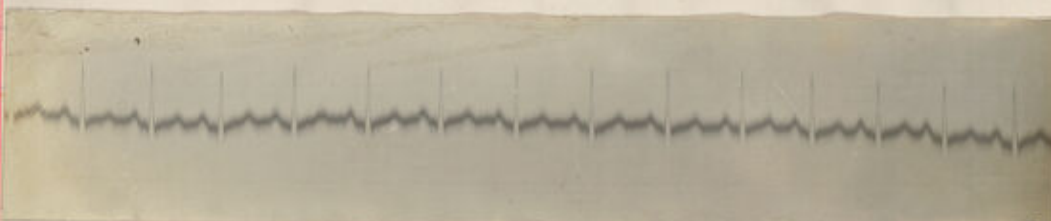
28. XI. 11



Dora Frances I

(189) ✓

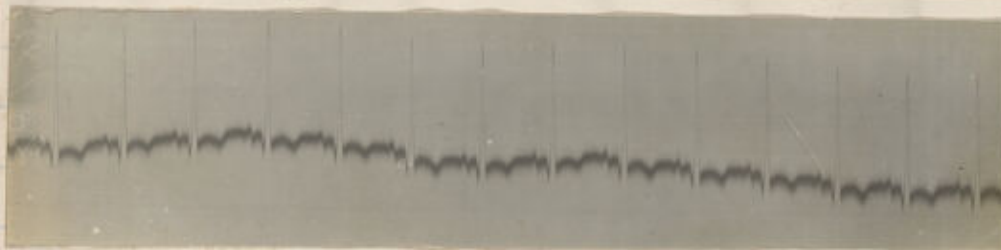
28. XI. 11



Dora Frances II

(190) ✓

28. XI. 11



Dora Frances III

(191) ✓

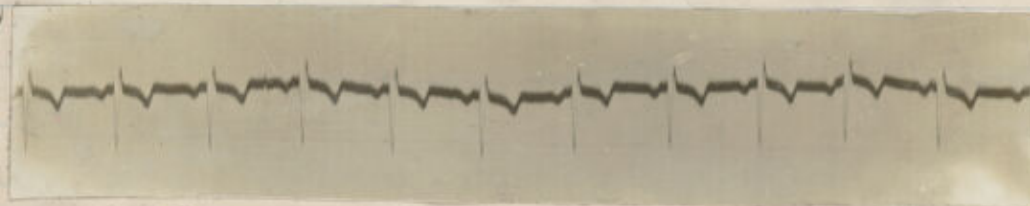
14. XII. 12



Louisa Pawin I

(192) ✓

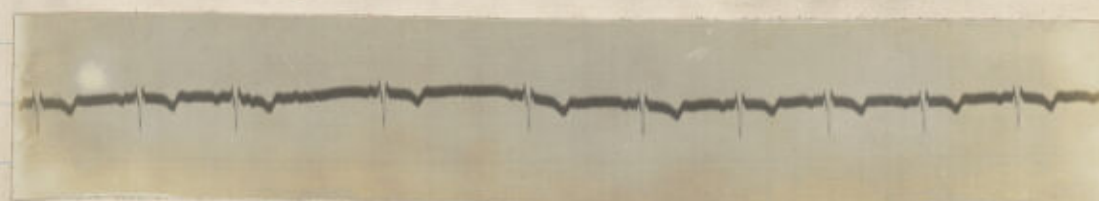
14. XII. 12



Louisa Pawin II

(193) ✓

14. XII. 12



Louisa Pawin III

Reversed trace
taken through
the glass.

Reversed

1911

~~Robert~~
~~Agnew~~ Hubbard - aet. 15 (Dr. Humphrey)

Dec. 14

194 (4) Lead I 1100 ohms. 20 mV

195 (5) " II " " -

196 (6) " III " " 15 mV

admitted with sub. acute rheum. of 6 wks. duration, preceded
 by acute tonsillitis; rheum. from 6 yrs ago; freq. sore throats
Heart. apex 5th space, slightly outside nipple line; forcible.

Systolic thrill palpable at apex & in 3rd left intercost. space,
 long blowing systolic at apex propap. to angle of scapula;
 pulm. 2nd sound accent. Left border, 3rd costal cart.
 to apex outside nipple line

Dec. 14

Jennina Nichols - aet. 69. (Prof. Bradbury)

197 (7) Lead I 1100 ohms 10 mV

198 (8) " II " " 1 mV

199 (9) " III " " -

Drooping of legs, back, & hands; shortness of breath; cough &
 tightness in chest; no expectoration; palpitation; ^{3 wks} _{duration}

Influenza 20 yrs. ago? Subseq. kidney trouble; slight rheumatism
 Sore throats frequently; winter cough, sev. yrs; aden. ^{sw. yrs} glands

Pulse. 44-80, regular, tension good, arteries not thickened.

Heart. apex 5th space, nipple line; ab. border 1" outside sternal
 region; left border, 3rd cost. cart. crossing nipple line to apex
 action delib. regular; long systolic bruit at apex propap. to
 axilla. Pulm. II sound accent.

Chest very emphysematous, harsh breath sounds with rhonchi
 chiefly basal. Urine 1077. acid, hae albumen

(194) ✓

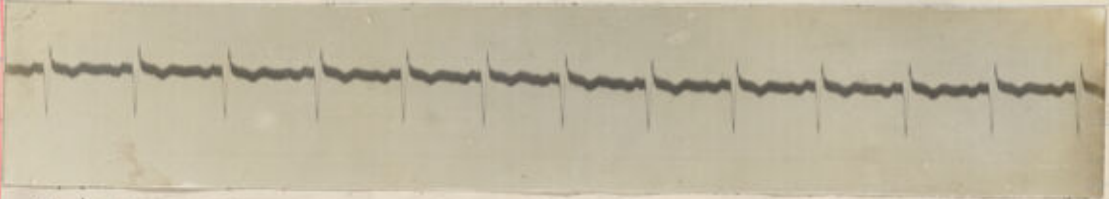
14.XII.11



Violet Hubbard I

(195) ✓

14.XII.11



Violet Hubbard II

(196) ✓

14.XII.11



Violet Hubbard III

(197) ✓

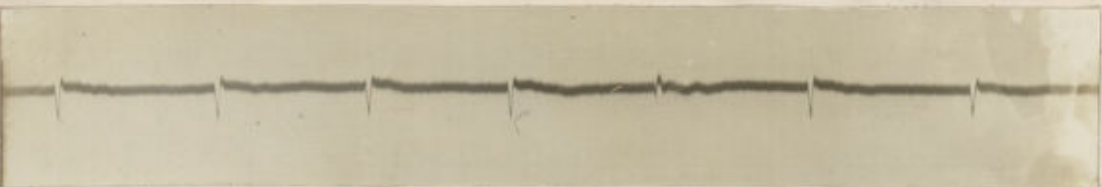
14.XII.11



Gemma Nichols I

(198) ✓

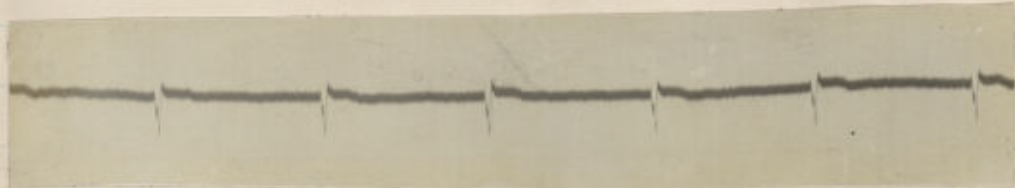
14.XII.11



Gemma Nichols II

(199) ✓

14.XII.11



Gemma Nichols III

Revised

122

1911
Dec. 16thG. S. Woodhead.

200.	(1)	Lead I	1100 ohms + 3.5 mV	10.15	pm	day	- 300 cfm alcohol diluted (= 2 2/3 whisky)
201	(2)	II		- 7.5	10.20	pm	day
202	(3)	III		- 6.0	10.25	..	
203	(4)	I		+ 2.5	10.40	..	
204	(5)	II		- 6.0	10.45	..	
205	(6)	III		- 5.5	10.50	..	
206	(7)	I		+ 12.0	11.30	..	
207	(8)	II		- 5	11.38	..	
208	(9)	III		- 14.5	11.36	..	

(200) ✓

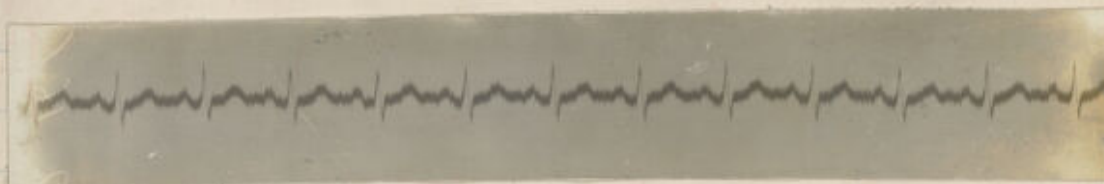
16. XII. 11



f. S. Woodhead I - 30 a/c pure alcohol - diluted

(201) ✓

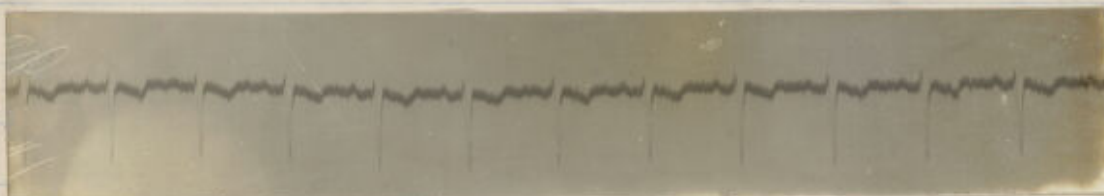
16. XII. 11



f. S. Woodhead II - 5 mins. later than I

(202) ✓

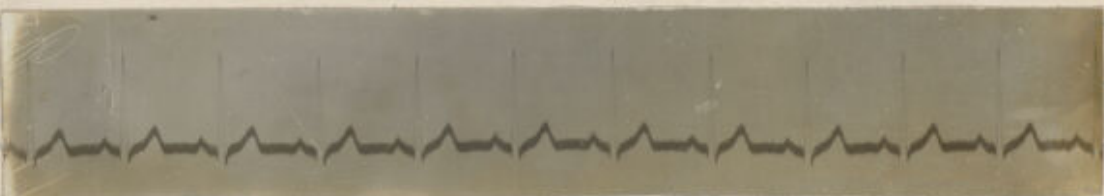
16. XII. 11



f. S. Woodhead III - 10 mins. later than I

(203) ✓

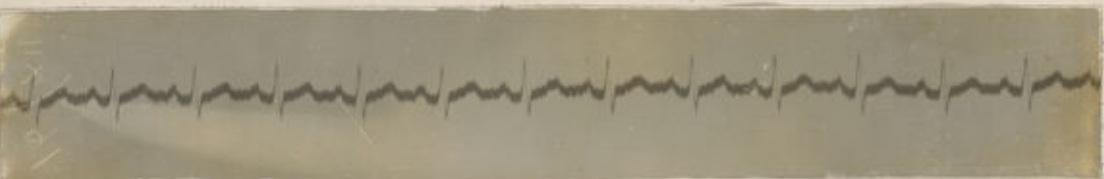
16. XII. 11



f. S. Woodhead I - 25 mins. later than I (100)

(204) ✓

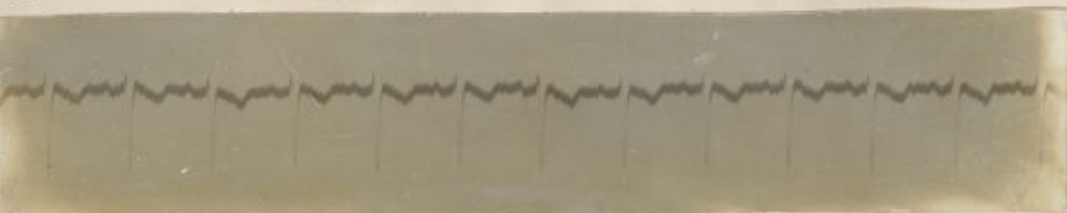
16. XII. 11



f. S. Woodhead II - 30 mins. later than I

(205) ✓

16. XII. 11



f. S. Woodhead III - 35 mins. later than I

124

1911

Dec: 16

(recurrently)

1912

July 28

Doctor Fiske - aet. 20. (Dr. Humphrey)

209 (1) Lead I 1100 ohms, 10 m/v

210 (2) Lead II " " 10 m/v

211 (3) Lead III " " 29 m/v

Shortness of breath, giddiness, feeling of faintness & actual syncope, cough.

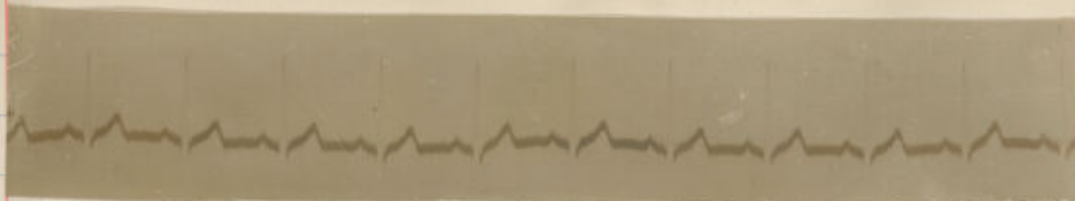
mitral
stenosis
incomp.

Rheumatic fever, chorea, & measles 11 yrs. ago; no growing pains or sore throats.

Pulse, regular, tension low, rate average 100.

Heart - forcible, diffuse apex beat in 5th intersp. in upper 1st rib. R. border, 1" beyond sternal margin; L. border, 3rd cost. cart. to apex of heart slightly outside nipple line. At apex presystolic & short systolic thrill. Some presyst. rumbling before 1st sound, wh. is replaced by long blowing syst. bruit propag. to axilla & angle of scapula. Pulm. 2nd sound accent. Followed by a well marked diastolic bruit. No bruits at the base. Pigeon-breasted chest. No advent. sounds in chest. Rubicose in 4th space. Harsh marked pericardial friction at times.

(206) ✓
16.xii.11



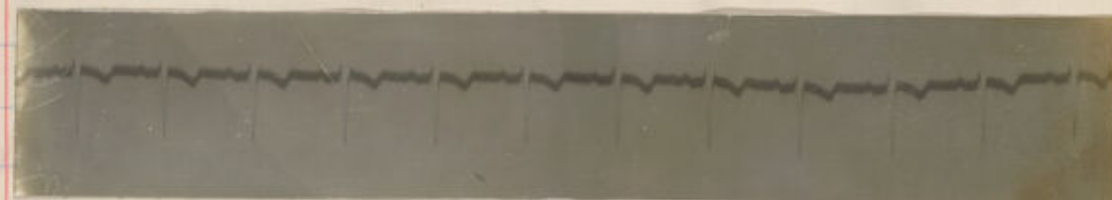
G. S. Woodhead I - 1 hr. 15 mins. later than I (200)

(207) ✓
16.xii.11



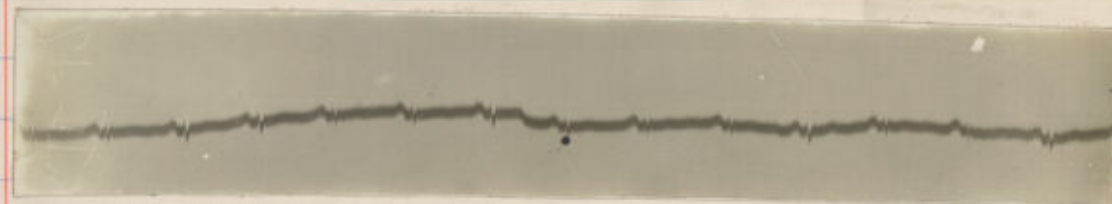
G. S. Woodhead II - 1 hr. 18 mins. later than I

(208) ✓
16.xii.11



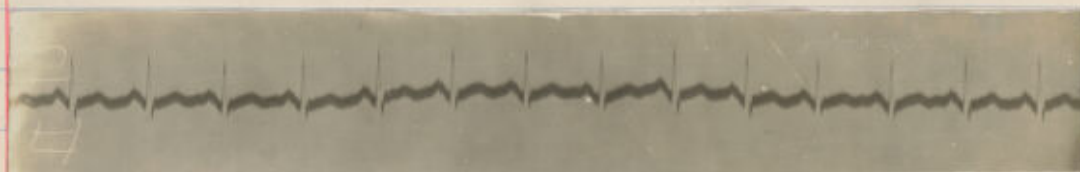
G. S. Woodhead III - 1 hr. 21 mins. later than I

(209) ✓
28.ii.12



Hector Fiske I

(210) ✓
28.ii.12



Hector Fiske II

(211) ✓
28.ii.12



Hector Fiske III

126

1912

July. 28

Emmet Foreman. 18 (Dr Humphrey)

212 (4) Lead I 1100 ohms 15 mV

213 (5) " II " " 82 "

214 (6) " III " " 68 "

admitted with acute rheumatism.

acute rheum: 9 yrs. ago; influenza 3 yrs. ago; freq. sore throat
from pains.

Pulse reg. tension low, diastolic.

Heart. apex 5th space $\frac{1}{2}$ " outside nipple line; slight precord. prom.
rt. border just beyond sternum; left border, 3rd cost. cart.
passing to about 1" outside nipple line.Long syst. bruit at apex propag. to mid-axilla. Diastolic
bruit also heard. At aortic valve sharp closure of aortic
cusps with low pitched diastolic bruit propag. down each
side of sternum.

July. 28.

Julia Steptoe. aet. 43 (Dr Humphrey)

215 (7) Lead I 1100 ohms 5 mV

216 (8) " II " " 32 "

217 (9) " III " " 32 "

Shortness of breath, palpitation, weakness, cough, ^{of aortic regurg.} edema

Rheum. from 14 yrs. ago; dry pleurisy as a pit; slight rheum.

Has slight cyanosis of face, lips; yellowish tinge of face. no
edema of lips; joints swollen from old rheumatism.Pulse small espans. at rest pulse is intermittent, missing
a beat. after exertion it becomes more disorderly.Heart. apex 6th space in ant. axill. line. no thrill.rt. border. margin of sternum; left border, 3rd cost. cart. through
nipple line to apex. Syst. bruit at apex propag. to angle of
scapula; closure of mitral valve clear & followed by
low diast. bruit. Syst. bruit also heard at aortic tricus. cartilage
(latter probably same bruit as at apex). old notes record presence of
a presystolic bruit.

(212) ✓

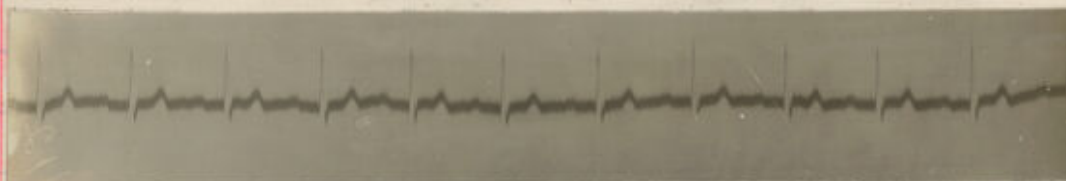
28.ii.12



Ernest Foreman I

(213) ✓

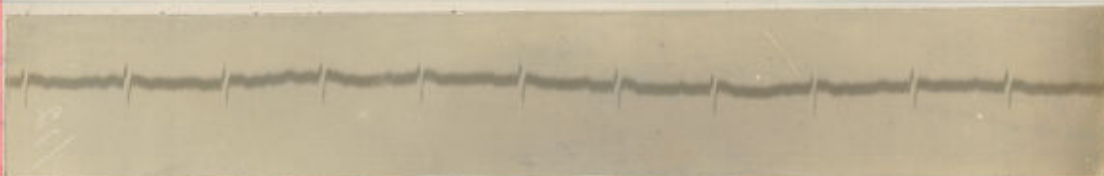
28.ii.12



Ernest Foreman II

(214) ✓

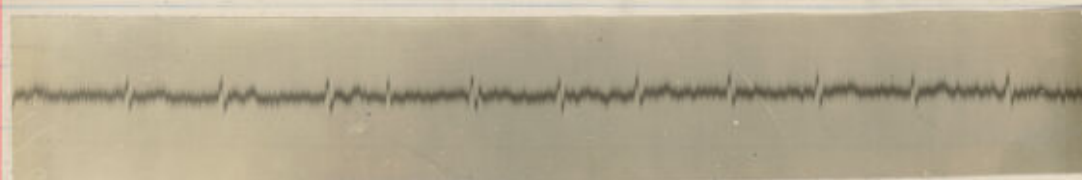
28.ii.12



Ernest Foreman III

(215) ✓

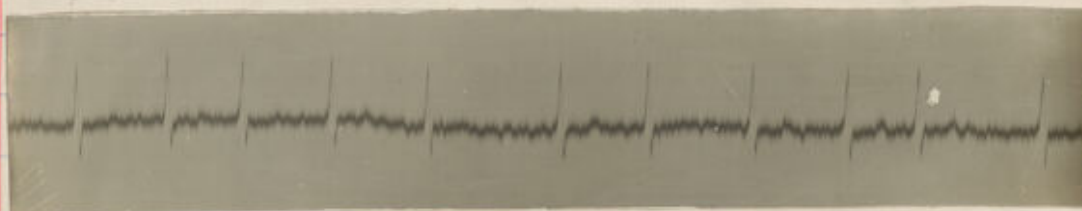
28.ii.12



Julia Sheftoe I

(216) ✓

28.ii.12



(217) ✓

28.ii.12



Julia Sheftoe III

128

1912

April 2

Jack Fisher

218 (1) Lead I

219 (2) " II

220 (3) " III

(see nos 93-94-95)

April 19

Mrs. Human (Liloh) (50) (Dewright)

221 (1) Lead I

222 (2) II

223 (3) III

Heart. HAB. $\frac{1}{4}$ " inside mid-clavicular line, 5th space.

ACD. ^{III}~~apical~~ HAB. Sounds: auscultation: I, long loud systolic murmur well conducted on ~~both~~ sides; II sound, inside the apex is heard a short pre-systolic murmur. Pulse regular in rhythm, but not in volume.

(218) ✓

2. IV. 12



Jack Fiske. Lead I

(219) ✓

2. IV. 12



Jack Fiske II

(220) ✓

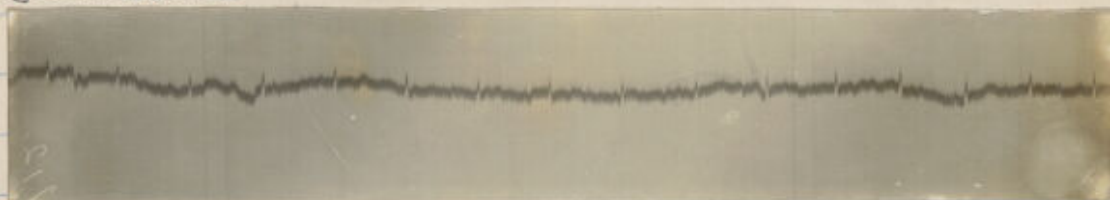
2. IV. 12



Jack Fiske III

(221) ✓

19. IV. 12



Mrs Human I

(222) ✓

19. IV. 12



Mrs Human II

(223) ✓

19. IV. 12



Mrs Human III

1912

May 3

Wm Lloyd

(Prof. Bradley)

- 224 (1) Lead I - 2000 ohms + 30 mV
 225 (2) " II - 1100 " - 8 "
 226 (3) " III - " " + 12 "

Matthew Threadgill - aet. 57. (Dr. Humphrey)

May 3

- 227 (4) Lead I 1100 ohms - 20 mV
 228 (5) " II 1300 " - 66 mV
 229 (6) " III " " - 61 mV

Irreg. heart, no arrhythmia, no S, old soldier.

Heart ACD obscured by emphysema, not percussable.

HAB, not felt.

Irregular, frequent extra systoles. Sounds obscured by emphysema, loud systolic murmur conducted to spine. Sounds rather aneurysmal, + "parchmenty".

(224) ✓

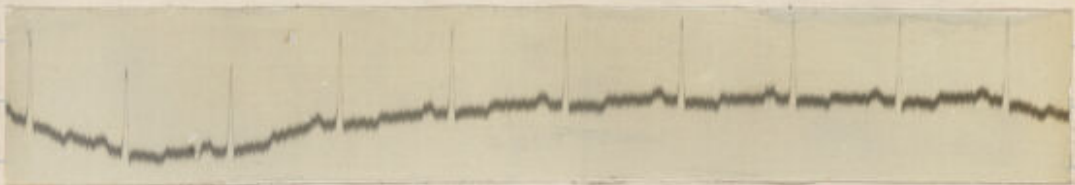
3.V.12



Win Lloyd I

(225) ✓

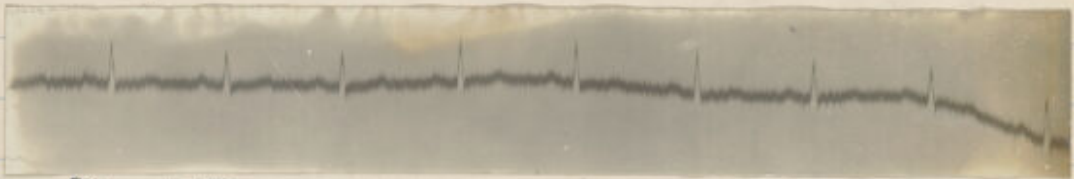
3.V.12



Win Lloyd II

(226) ✓

3.V.12



Win Lloyd III

(227) ✓

3.V.12



Matthew Threadgill I

(228) ✓

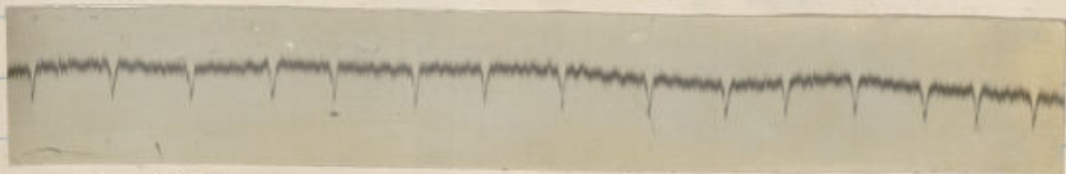
3.V.12



Matthew Threadgill II

(229) ✓

3.V.12



Matthew Threadgill III

1912

Edith Symonds aet. 17.

(Dr Bradbury)

July 12

230 (1) Lead I

231 (2) " II

232 (3) " III

Acute Rheumatism at 7, 8 1/2, & 13 yrs old.

Heart. ACO. Rt side 2" out. sternal border in iii space, 1" below xiphoid

cartilage, 1" outside nipple in vi space, iii rib. Sounds markedly irregular. Aortic. No I sound, loud systolic murmur. IInd accentuated, sometimes redup. There a rumbling diastolic murmur, which is not constant, occas. escha systolic murmur. Pulm. II sound much accent. Diastolic thrill. Sufples very heaving over apex.

J. Reed aet. 44. (Dr Wright)

Aug. 9

233 (1) Lead I 1100 ohms. 30 mfv

234 (2) " II " 41 mfv

235 (3) " III " 10 mfv

No rheumatism, denies S. old soldier.

HAB - 5th space, nipple line. ACO of ^{sternal} _{border} | HAB..

Attacks of tachycardia, rate 160, sounds clear, no murmurs.

Between the attacks - irregular, escha systoles, rate 60.

Preeasyphic murmur, I, rumbling systolic murmur, accent. II sound.

Arthur Cox - aet. 11. (Dr Wright)

Sep. 17

236 (1) Lead I 1100 ohms. + 22 mfv

237 (2) " II - 36 -

238 (3) " III - 52 -

Always had vague pains; measles; whoop. cough; sub-acute

rheumatism Dec 1911; acute rheumatism before admission

Pulse regular, tension low.

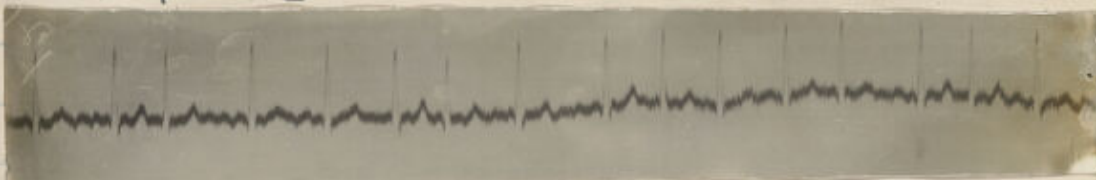
Heart. retraction of precordium, apex 5th space in nipple line.left border, 3rd cc. inside nipple line to apex; rt border, always in ofsternum. 1st sound faintly replaced by systolic bruit,pulm. 2nd sound accentuated.

(230) ✓
12.VII.12



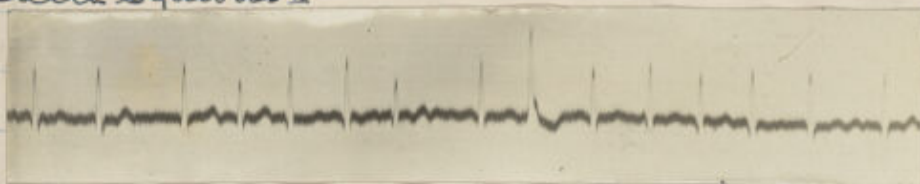
Edith Symonds I

(231) ✓
12.VII.12



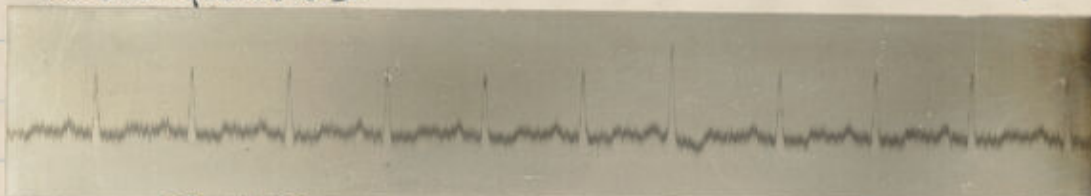
Edith Symonds II

(232) ✓
12.VII.12



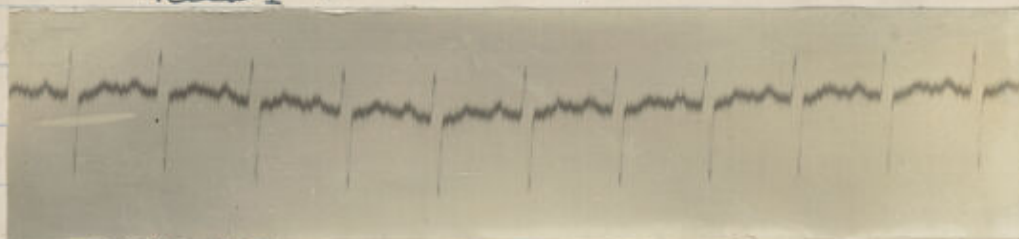
Edith Symonds III

(233) ✓
9.VIII.12



Edith I

(234) ✓
9.VIII.12



Edith II

(235) ✓
9.VIII.12



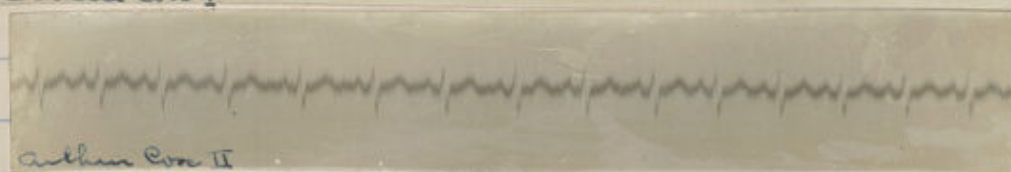
Edith III

(236) ✓
17.IX.12



Arthur Cose I

(237) ✓
17.IX.12



Arthur Cose II

(238) ✓
17.IX.12



Arthur Cose III

1912

Sep. 17

Arthur Clements (Dewright) act. 10

239 (4) Lead I . 1100 ohms + 13 mV

240 (5) . II . . - 18 mV

241 (6) . III . . - 31 mV

Acute rheumatism June 1912, 2 yrs before, frequent sore throats.

Pulse regular, tension low.

Heart - diffuse pulsation over precordium in epigastrium;

pre-systolic thrill; apex beat 5th space $\frac{3}{4}$ " outside nipple line;left border 3rd c. pass. thro. nipple line to apex; rt. border just outside sternLong pre-systolic at apex & short systolic; redup. 2nd sound, 2nd of which end in a diastolic bruit!Urbell Sallis act. 16. (Dewright)

Oct. 7

242 (1) Lead I 1100 ohms + 22 mV

243 (2) . II . . - 36 mV

(moved) . III . . - 52 mV

} not standardized owing to exhausted cell, therefore excursion only approximately correct

Patient moved in lead III which was not recorded on plate.

No rheumatism.

Heart quite normal.

Oct. 29

Albert Earl act. 25 (Dewright)

244 (1)

245 (2)

246 (3)

} similarly not standardized owing to voltmeter out of order.

Old rheumatic history. HAB. 6th space $\frac{1}{4}$ " outside NL farthest down, 1" outside NL farthest out. Very forcible impulses. Coarse

thrill at apex - early diastolic, pre-systolic & diastolic. Marked pulsation of carotids. Corrigan pulse.

ACO. II space aortic area I systolic murmur, II diastolic murmur
sternal line HAB. apex - pre-systolic murmur, I systolic & diastolic murmur, no II sound regular.

(239) ✓

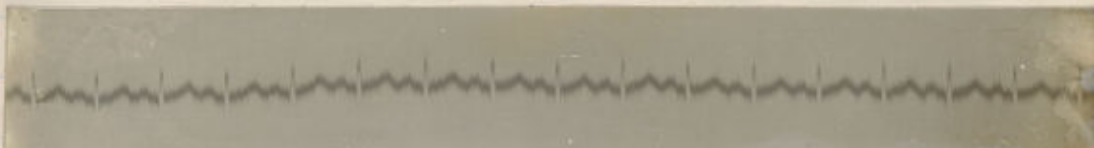
17. IX. 12



Arthur Clement I

(240) ✓

17. IX. 12



Arthur Clement II

(241) ✓

17. IX. 12



Arthur Clement III

(242) ✓

7. X. 12



Ethel Wallis I

(243) ✓

7. X. 12



Ethel Wallis II

(244) ✓

29. X. 12



Allent Dart I

(245) ✓

29. X. 12



Allent Dart II

(246) ✓

29. X. 12



Allent Dart III

1912

Nov: 14

Jesse Newman. 22. (Dr. Humphrey)

247. (1) Lead I 1400 ohms + 31 mV

248. (2) " II 1100 " + 26 "

249. (3) " III " " - 8 "

(only baselines in wiring, peaks are reversed)

Acute rheumatism.

HAB 5th space nipple line

ACD.

II space

1 finger breadth
outside right
sternal border

HAB.

Rydecar. I, aortic murmur loud & well conducted
out. II sounds muscular(Lalm) The right side of ACD is coming in to the right
sternal border.

Nov: 14

Annie Gily. 50. (Dr. Humphrey)

250. (4) Lead I 1300 ohms + 27 mV

251. (5) " II " " + 16 " (pl. moved)

252. (6) " III " " - 5 "

(only baselines in wiring, peaks are reversed)

Dec: 3

252 (4) Lead I 1200 ohms - 91 mV (note by skin current)

253 (5) " II " " + 31 mV

254 (6) " III " " + 100 + mV (note by skin current)
(peaks normal)

No acute rheumatism. Bad growing pains sore throat in child hood

HAB - 5th sp. 1/4" inside NL. ACD (1) st. border 1 1/2" lat. of sternum. (2) III ab.(3) HAB. Very irregular. I sound faint, purely valvular sound,
well-marked aortic murmur, valvular II often redup. or trip;
with rasping diastolic murmur. Pulse very irreg. & small, many
beats seem reach radial.[When 2nd having when taken pt. was under heavy dose of
digitalis. with commencing headache & nausea. Pulse 147]

(247)

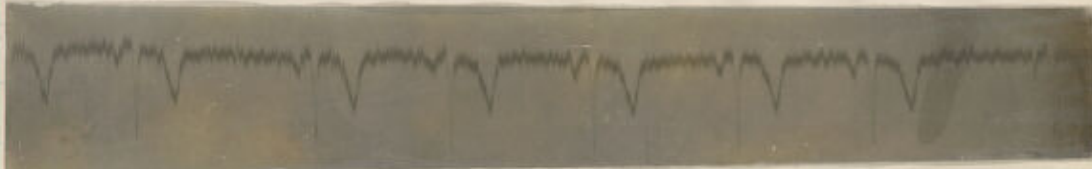
14. XI. 12



Series Newman I

(248)

14. XI. 12



Series Newman II

(249)

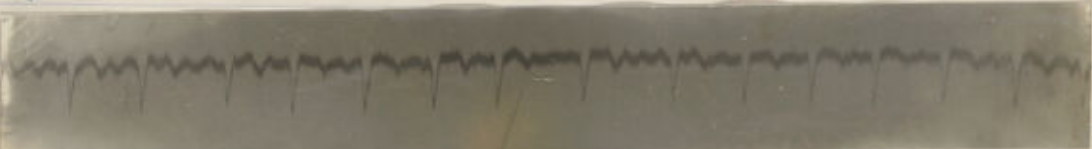
14. XI. 12



Series Newman III

(250)

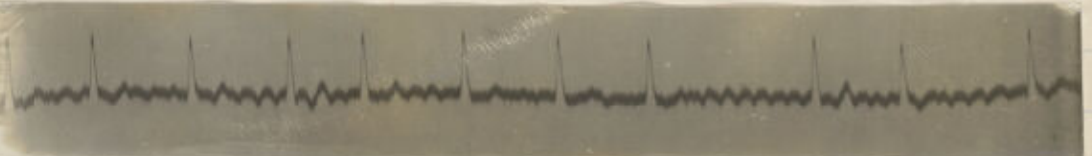
14. XI. 12



Series Sly I

(251)

14. XI. 12



Series Sly II

(252)

3. XII. 12



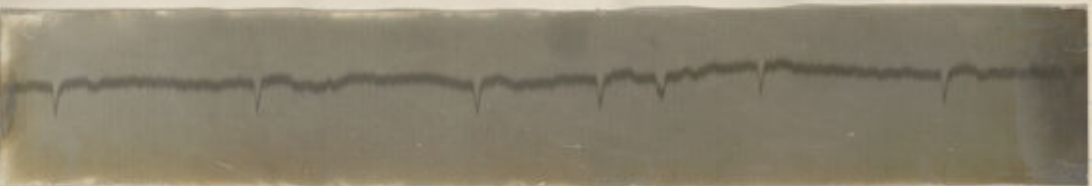
(253)

3. XII. 12



(254)

3. XII. 12



138

1912

Flower Clows - aul. 17 (L. Humphreys)

Dec: 3

255 (1) Lead I . 1200 ohms +20 mV

256 (2) " II . " " +54 mV

257 (3) " III . " " +30 mV

1912

Jesse Newman (repeated) . see aul. previous page

Dec: 6

258 (1) Lead I 1100 ohms + 32 mV

259 (2) " II 1200 " + 6 mV

260 (3) " III 1200 " - 26 mV

Convalescent after acute rheumatism

(255)

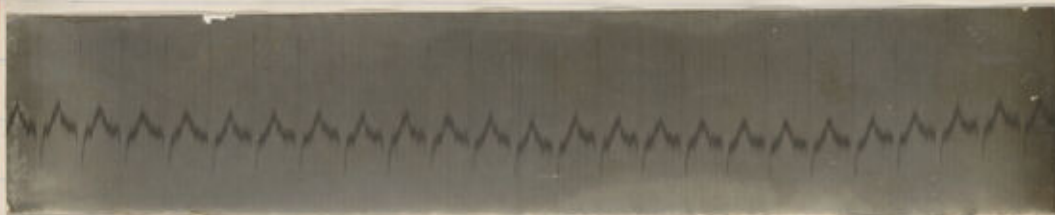
3. xii. 12



Horned Larks I

(256)

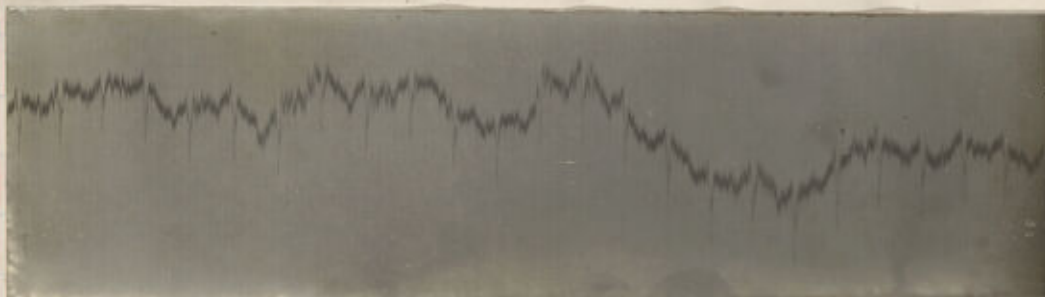
3. xii. 12



Horned Larks II

(257)

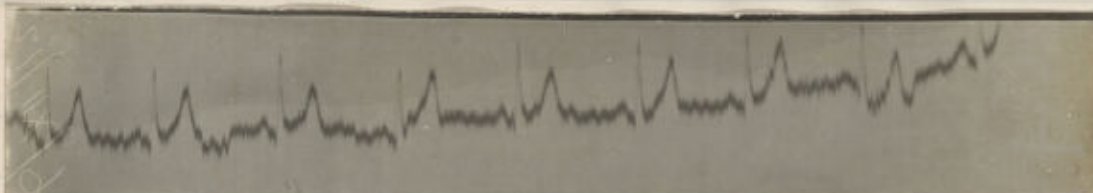
3. xii. 12



Horned Larks III

(258)

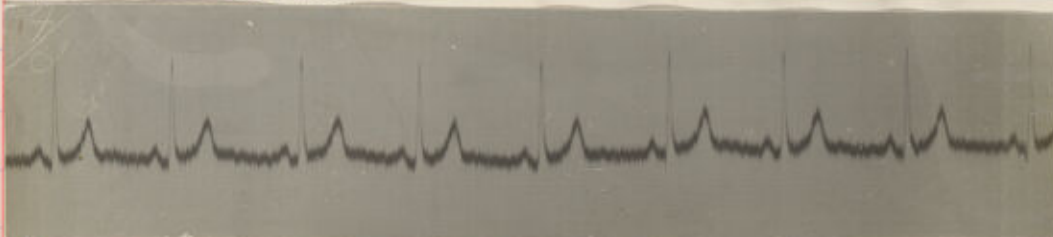
6. xii. 12



Jesse Newman I

(259)

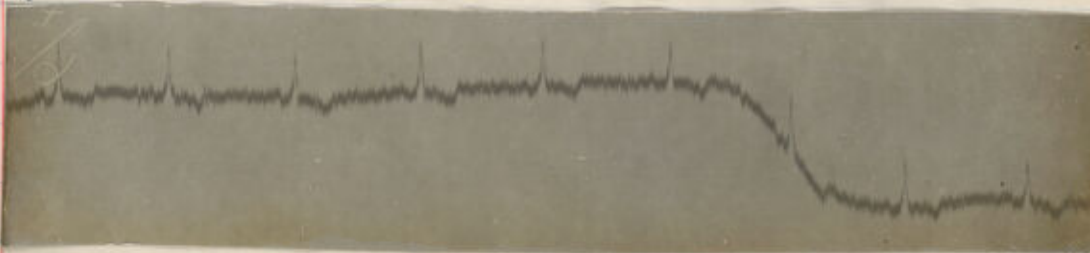
6. xii. 12



Jesse Newman II

(260)

6. xii. 12



Jesse Newman III

140

1912

Geo. H. Rose, aet. 15 - (Prof. Reading)

Dec. 6

261 (4) Lead I 1100 ohms. - 48 mV

262 (5) " II " " - 93 "

263 (6) " III " " - 45 "

1913

3. i. 13

F. Caplain, aet. 56

(264) (1) Lead I 1100 ohms. + 11 mV

(265) (2) " II " " - 8 mV

(266) (3) " III " " - 18 mV

myocarditis
with disease

(261)

6.xii.12



Chas. Case I

Addenbrooke's Hospital,
Cambridge.

Chas. H. Case. 18.

Acute rheumatism Nov. 2nd

Heart

HAB. 5th sp. 1/2" inside NL.

CD

III	
R.S.G.	HAB.

Sounds } I. muffled, with a short
 apex } very soft S M

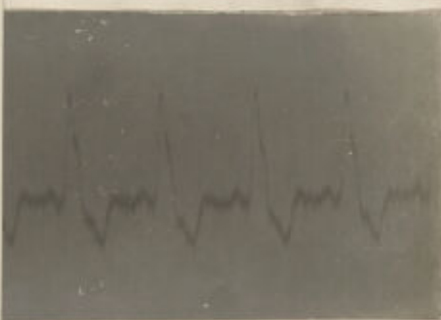
II. clear but followed by a
 fluro-pericard. murmur.

Aortic sounds. I II, faint

Pulmonary. I, II louder than
 aortic II

Marked puls. in epistern. notch,
 Carotids. Capillary pulsation.

Pulse-vessel distinctly thickened,
 low tension with very quick marked
 systolic rise fall.



F. Capitan II

Addenbrooke's Hospital,
Cambridge.

Chas. H. Cox. 18.

Acute rheumatism Nov. 2nd

Heart

HAB. 5th sp. $\frac{1}{2}$ " inside NL.

© D $\frac{\text{III}}{\text{R.S.B.} \mid \text{HAB.}}$

Sounds } I. muffled, with a short
at apex }
very soft S M

II. clear, but followed by a
fluro-pericard. murmur.

Aortic sounds. I II, faint

Pulmonary. I, II louder than
aortic II

Marked puls. in epistern. notch,
Carotids. Capillary pulsation.

Pulse - vessel distendedly thickened, slow
low tension with very quick & marked
systolic rise & fall.

5th Nov.

def. diastol. murmur, best
heard over sternum at 4th.

interspae. gone on 14th.

21st Nov. diastolic murmur

heard over aortic cartilage

very localized, not conducted

down sternum.

Dec: 7th last few days

developed irregular lump.

Strong pulse, but discharged.

Fluence Clear. 17

HAB. 5th sp. int. axill. - hirs

ACD. II spae.

3/4" out RSL | HAB

apex 15 m. II forcible.

base & pulm. area. I 5 m. II ++.

(261)

6.xii.12



Chas. Cox I

(262)

6.xii.12



Chas. Cox II

(263)

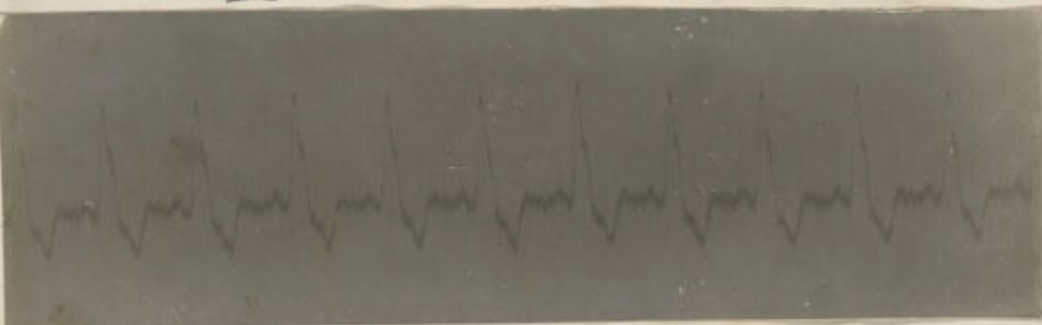
6.xii.12



Chas. Cox III

(264)

3.i.13



F. Capitain I

(265)

3.i.13



F. Capitain II

142
1913

266

Jan. 21 Chas Ryland. 71 (Sir Clifford Allbutt)

4 or 5 yrs. palpitation, no pain, no fiddiness,
periodical attacks of dyspnoea & faintness lasting
about 5 mins., at intervals of hrs a day, or as long
as every four or five days. Pulse 64, but during
paroxysms rises to 200.

- (1) 276 - I 1100 ohms - + 1 mfr
- (2) 277 - II " " + 15 "
- (3) 278 - III " " + 12 "

Jan. 3 B. Spaulon - ael. 64

hypercardia

Jan. 9, Emily Jones - ael. 16

- (1) 240 Lead I 1200 ohms. - 64 mfr
- (2) 241 " II " " + 34 mfr
- (3) 242 " III " " + 95 mfr

*double aortic
tricuspid regurg.
tricuspid stenosis*

266

ADDENBROOKE'S HOSPITAL.

DR. HUMPHRY.

Register No.

Name.	Age.	Single or Married	Occupation.	Abode.
Date of Admission.	For what admitted.		Result and date of discharge.	

Date.

Elizabeth Green age 33. Dr Humphry
 exophthalmic goitre - history of
 6 months. Palpitations. No rheumatic history.

Heart. A.B. 5th sp nipple line
 $\frac{1}{4}$ inch outside right sternal border
 TT out above.
 Rapid, regular unless excited when it becomes
 irregular. Sounds clear.

Emily Jeeves 16. Dr Humphry.
 Acute rheumatism & pyrexia when 8 years old,
 followed by heart trouble, again when 13 & 14 years old
 Heart 5th space ant axillary line, very forcible.
 A.B. $\frac{1}{4}$ in outside right sternal border
 TT costal space above.

Emily Jeeves III

ADDENBROOKE'S HOSPITAL.

DR. HUMPHRY.

Register No.

Name.	Age.	Single or Married	Occupation.	Abode.
Date of Admission.	For what admitted.		Result and date of discharge.	

Date.

Elizabeth Green age 33. Dr Humphry
 exophthalmic goitre - history of
 6 months. Palpitations. No rheumatic history.

Heart. A.B. 5th sp Nipple line
 $\frac{1}{4}$ inch outside right sternal border
 T.V. out above.

Rapid, regular unless excited when it becomes
 irregular. Sounds clear.

Emily Jones 16. Dr Humphry.

Acute rheumatism ~~2 years ago~~ when 8 years old
 followed by heart trouble, again when 13 & 14 years old

Heart 5th space ant axillary line, very forcible.
 A.B. $\frac{1}{4}$ in outside right sternal border
 T.V. costal space above.

Date.

Sounds at apex Praesystolic, accentuated I,
II sound often reduplicated, long diastolic murmur.
at aortic area - double aortic murmur.
Pulse ~~cor~~ - Corrigan.

Capitaine 56 Dr Humphrey.

No rheumatism

Heart A B 5th space nipple line.
Bright sternal border
IV rule alone

marked pulsation in ~~carotid~~ jugulars, low
blood pressure

No murmurs, sounds are very toneless &
scratchy. Irregular at times, with some extra
systoles, especially on admission, later they become
rare

Chas Cox 15 Prof Bradbury.

Came in with acute rheumatism

No previous attack, but has had growing pains.

Heart H A B 5th space $\frac{1}{2}$ in inside nipple line
III rule alone. Bright sternal border

Apx I, soft systolic murmur, II, pleuropericardial rule.
Aortic I, II, there is a diastolic murmur, which is not constant.
The sounds are rather faint. Pulse - Corrigan.

(266)

3.1.13



(267)

3.1.13

H. Caplain III



B. Scauto I

(268)

3.1.13



B. Scauto II

(269)

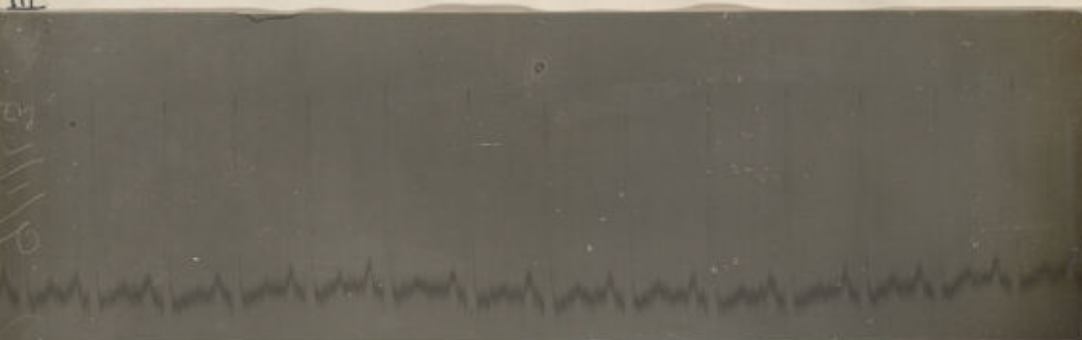
3.1.13



B. Scauto III

(270)

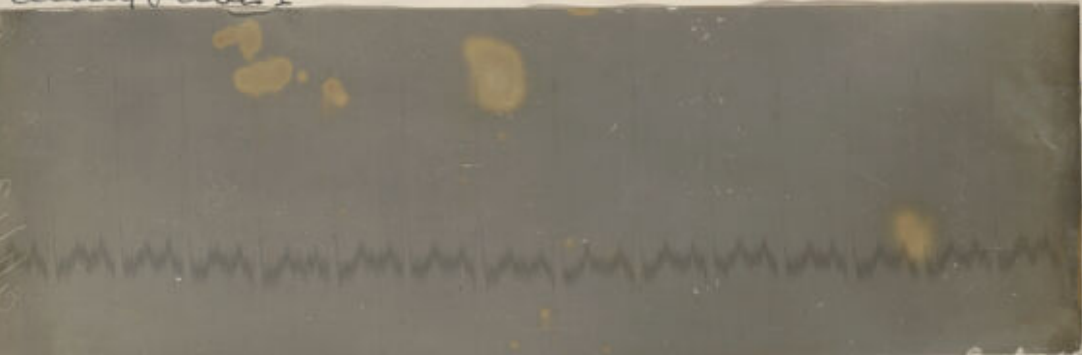
3.1.13



(271)

3.1.13

Emily Jones I



(272)

3.1.13

Emily Jones II



Emily Jones III

144

1913

Eliza Freeman - aet. 33

Jan 9

243	(A)	Lead I	1000 ohms.	- 27	nlv
244	(S)	" II	" "	+ 19	"
245	(6)	" III	" "	+ 48	"

excl. 20th

Chas England - aet. 71 (Sir Clifford Allbutt)
(superior paper)

(243)

9.1.13

(244)

9.1.13

(245)

9.1.13

(246)

21.1.13

(247)

21.1.13

(248)

21.1.13

(243)

9.1.13



Eliza Freeman I

(244)

9.1.13



Eliza Freeman II

(245)

9.1.13



Eliza Freeman III

(246)

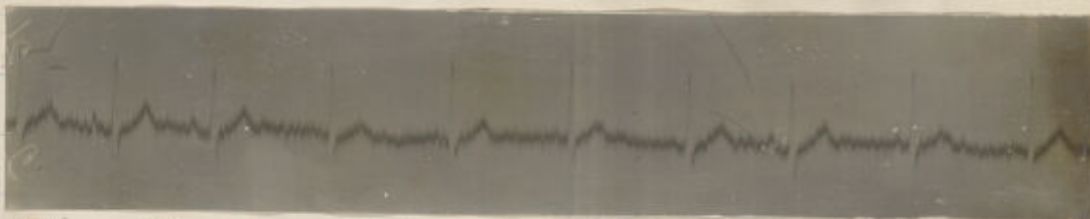
21.1.13



Chas England I

(247)

21.1.13



Chas England II

(248)

21.1.13



Chas England III

146

1913

July 4

Cat exposed heart - fl. needles to S.H. junction & aorta. sensitivity 0.25 cm per mV.

Mechanical tracings taken. respiration rapid.

279 (2) 11.35 normal

280 (3) 11.32 2 mins after 1 mg pilocarpin in jugular

281 (4) 11.35 1 mg atropine

282 (5) 11.40 chloroform inhalation

283 (6) 11.45 large dose of chloroform

(279)

24.1.

(280)

24.1.

(281)

24.1.

(282)

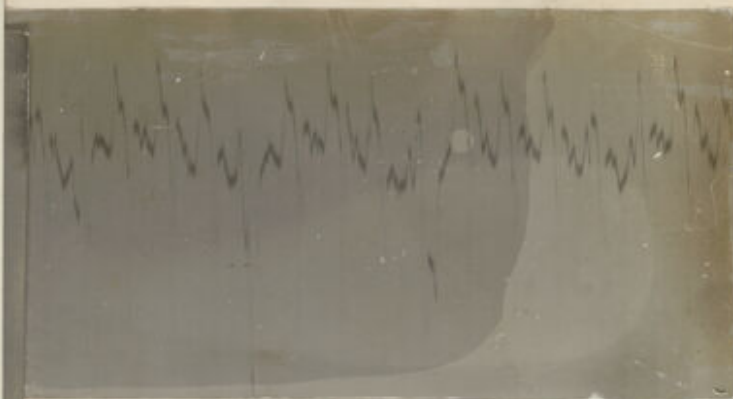
24.1.

(283)

24.1.

(279)

24.1.13



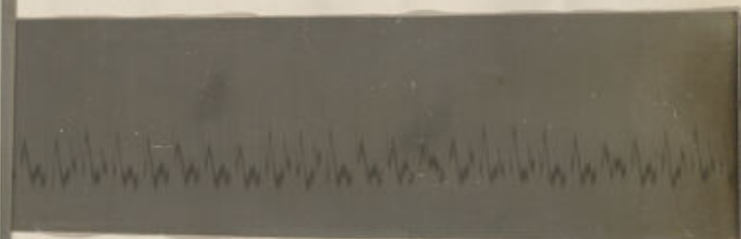
(280)

24.1.13



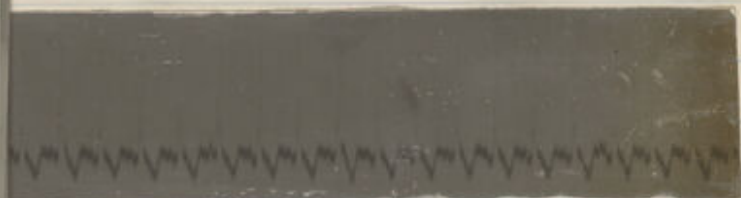
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24.1.13



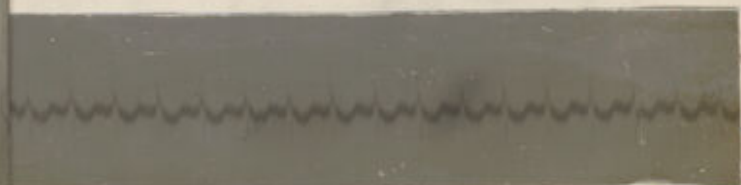
(282)

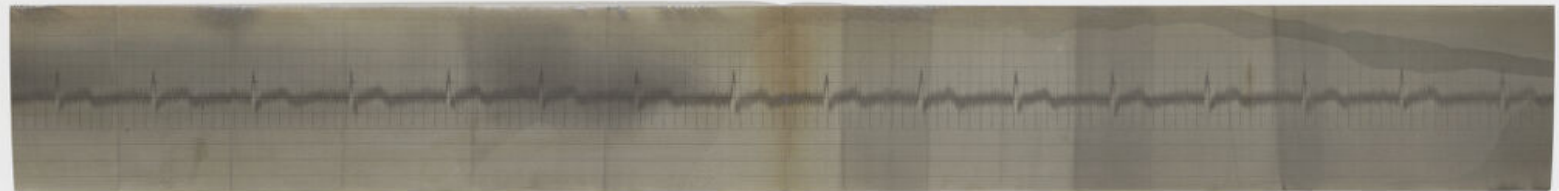
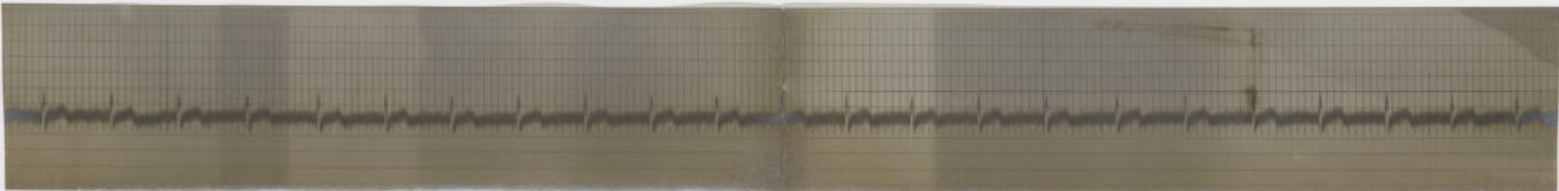
24.1.13



(283)

24.1.13

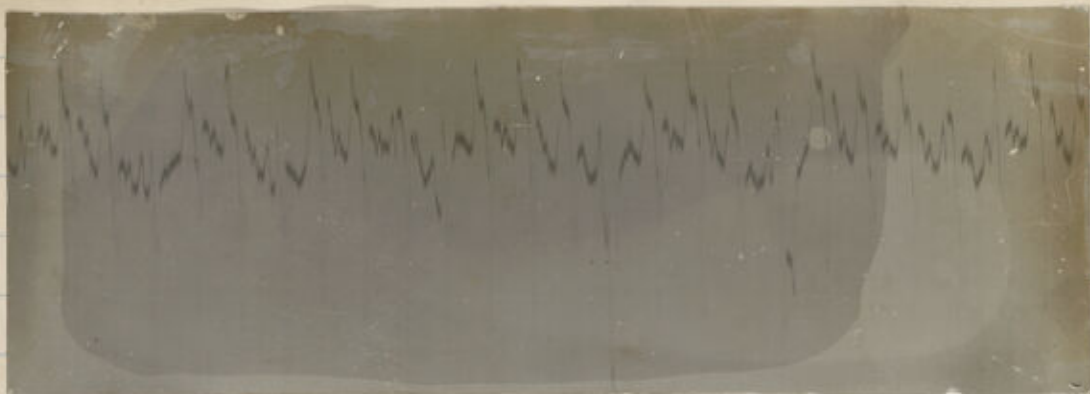






(279)

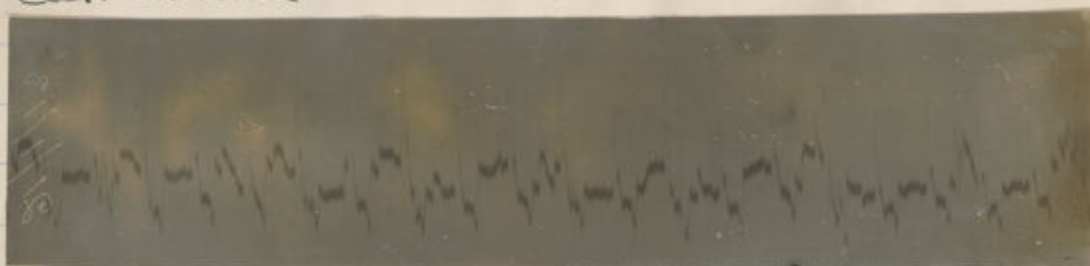
24.1.13



(280)

24.1.13

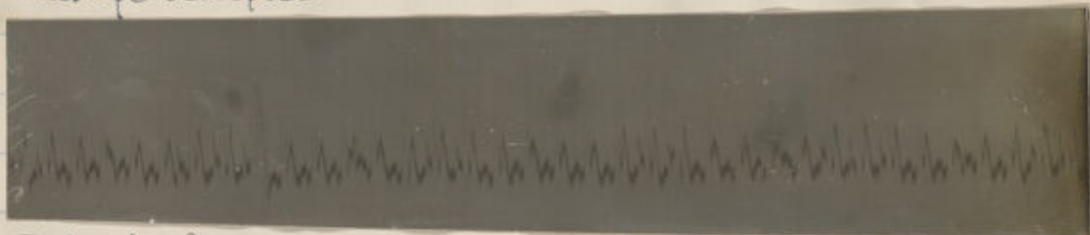
Cat. normal



(281)

24.1.13

Cat. p-tocarpin



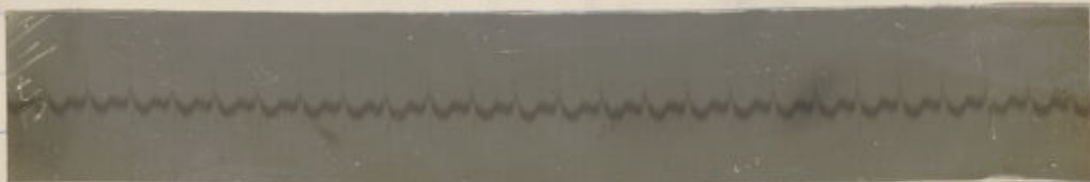
Cat. atropin



(282)

24.1.13

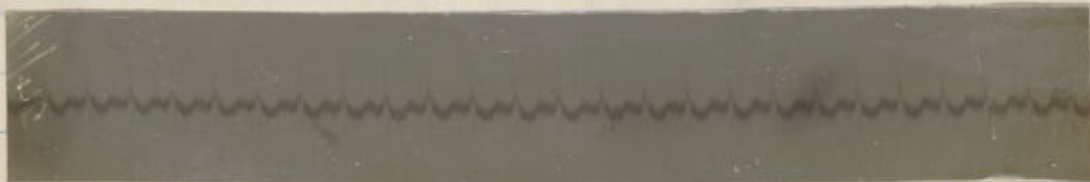
Cat. chloroform



(283)

24.1.13

Cat. chloroform



1913

Feb 4

Cat - pt. needles in rt. Hft. ped. muscles.

Mechanical haeings taken through incision in
rt. side of neck & pull of carotid. Much interference
in labn by periodical asynchronization of breathing.

- 284 (1) normal 11.4
285 (2) chloroform 11.6. heavy dose.
286 (3) arecoline 1mg 11.14 - heart slowed.
287 (4) atropin - 1mg. 11.19 - 3 mins. ~~before~~ after
288 (5) adrenalin - 1/50 mg. 11.30 -
(6) chloroform - heart very weak (plate spoiled)

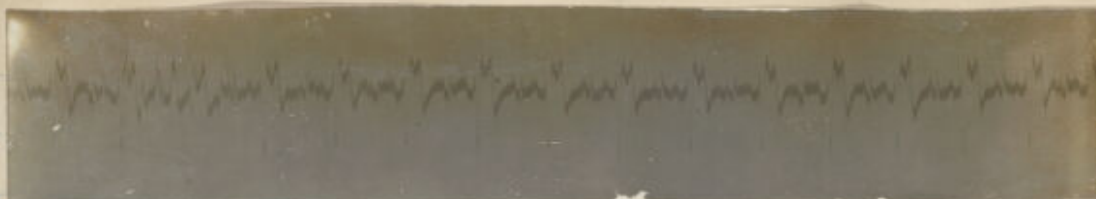
Feb 11

Rabbit's Heart - excised - 2 pt. needles placed near
S.A. junction & aorta. Heart bathed with oxygenated
water. & mechanical haeings taken. Sensitivity $\frac{1}{2}$ cfm km/v

289. (1) 11.42 normal
290 (2) 11.46 heart stopped with arecoline. 0.04 mg - note
effect of stimulation of oxygen drop, no coarctation seen
291 (3) 11.56 atropin - 0.1 mg
292 (4) 12.3 chloroform - max. effect, but small excursion
293 (5) 12.12 do - effect worn off
294 (6) 12.17 adrenalin - large except - 1/50 mg

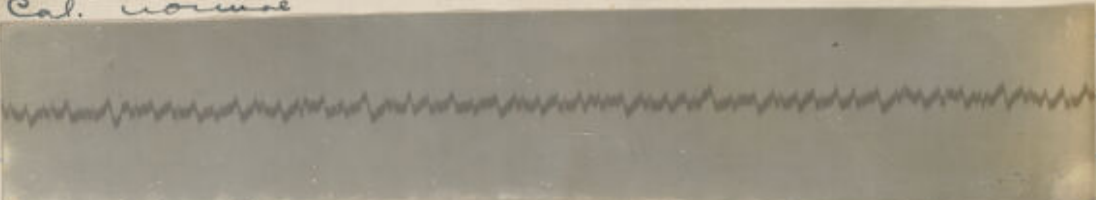
(284)

4.ii.13

*Cal. normale*

(285)

4.ii.13

*Cal. chloroform*

(286)

4.ii.13

*Cal. arecoline*

(287)

4.ii.13

*Cal. atropine*

(288)

4.ii.13

*Cal. adrenaline*

(289)

11.ii.13



(290)

11.ii.13

*Rabbit-normal**Rabbit - arecoline (no beat)*

150

1913

July 11

Rabbit (contd.)

(291)
11.11.13

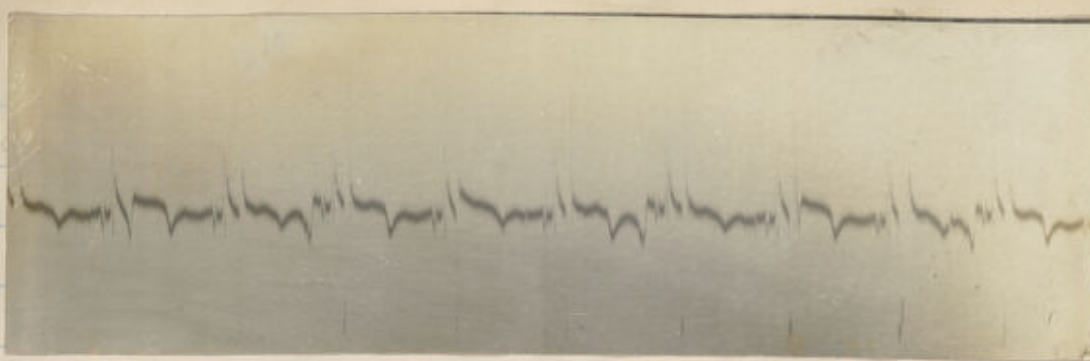
(292)
11.11.13

(293)
11.11.13

(294)
11.11.13

(291)

11. II. 13



Rabbit. atropin

(292)

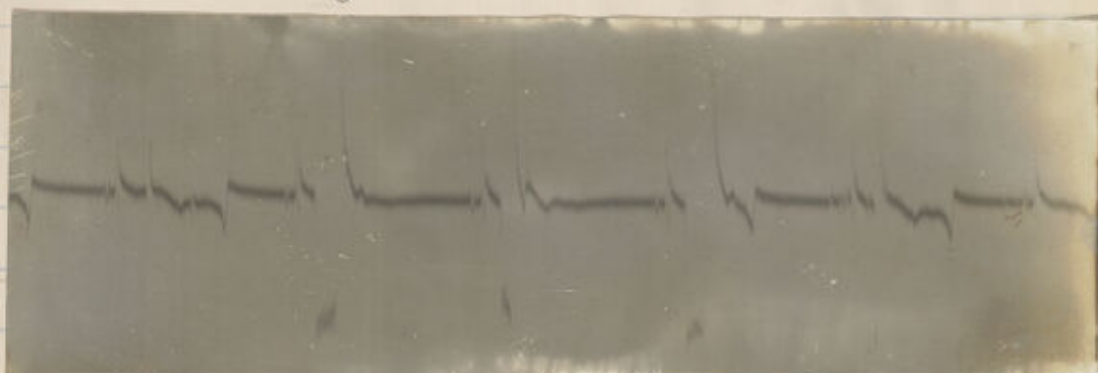
11. II. 13



Rabbit. chloroform

(293)

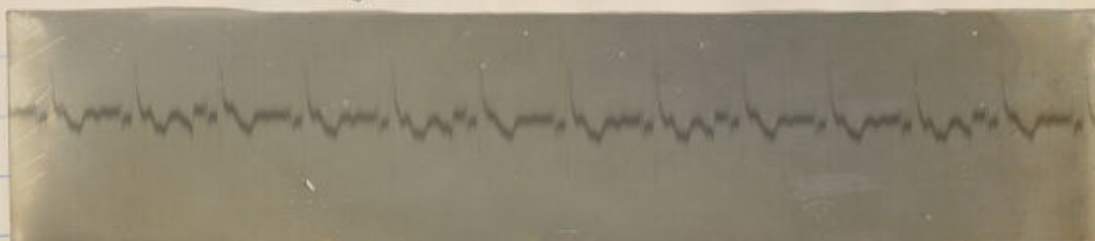
11. II. 13



Rabbit. Chloroform

(294)

11. II. 13



Rabbit. Adrenalin

152

1913
Mar. 14th

Annexely - ad 50

295. (1) Lead I - 1100 ohms. m/v. - 5
296. (2) " II - " " " + 4
297. (3) " III - " " " + 33

^{at}
~~Mar.~~ 18th

Louisa Nicholls

298. (1) Lead I - 1200 ohms. + 22 m/v
299. (2) " II " " + 45 "
300. (3) " III " " + 16 "

295

14. III. 13

296

14. III. 13

297

14. III. 13

298

18. IV. 13

299

18. IV. 13

300

18. IV. 13

ADDENBROOKE'S HOSPITAL.
CAMBRIDGE.

Electrical Department—
Mr. F. SHILLINGTON SCALES.

Name.	Age.	Number.	Physician or Surgeon.	Ward.
Annally	50		Dr. Humphrey	Hallou

Report:—

Date.
1913
Mar 14

As compared with tracings taken Nov. 14/12 the auricular fibrillation, though still evident, is less marked, & the heart would appear to be beating rather more strongly. There is still marked irregularity.

As compared with tracings taken Dec. 3/12 where the patient was much under the influence of digitalis, the heart which was then acting very slowly & weakly, has ~~become much~~ returned to more to its usual condition, but there is no longer the ~~marked~~ inhibition of the fibrillary condition.

simply given
taken 9.1.13 much
non/abnorm.
his exanous exam.
left v. hyp. ~~but~~ more
some ~~abnormal~~ ~~but~~ more
old notes 34 page
and attaching him
II cont. above.

Louisa Nichols. III

ADDENBROOKE'S HOSPITAL.
CAMBRIDGE.

Electrical Department—
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Tracing from
taken 9.1.13 much
more normal.
his examination
left v. hyp.
some of the
old notes 54 of
out as they were
II cond. space above.

Date.

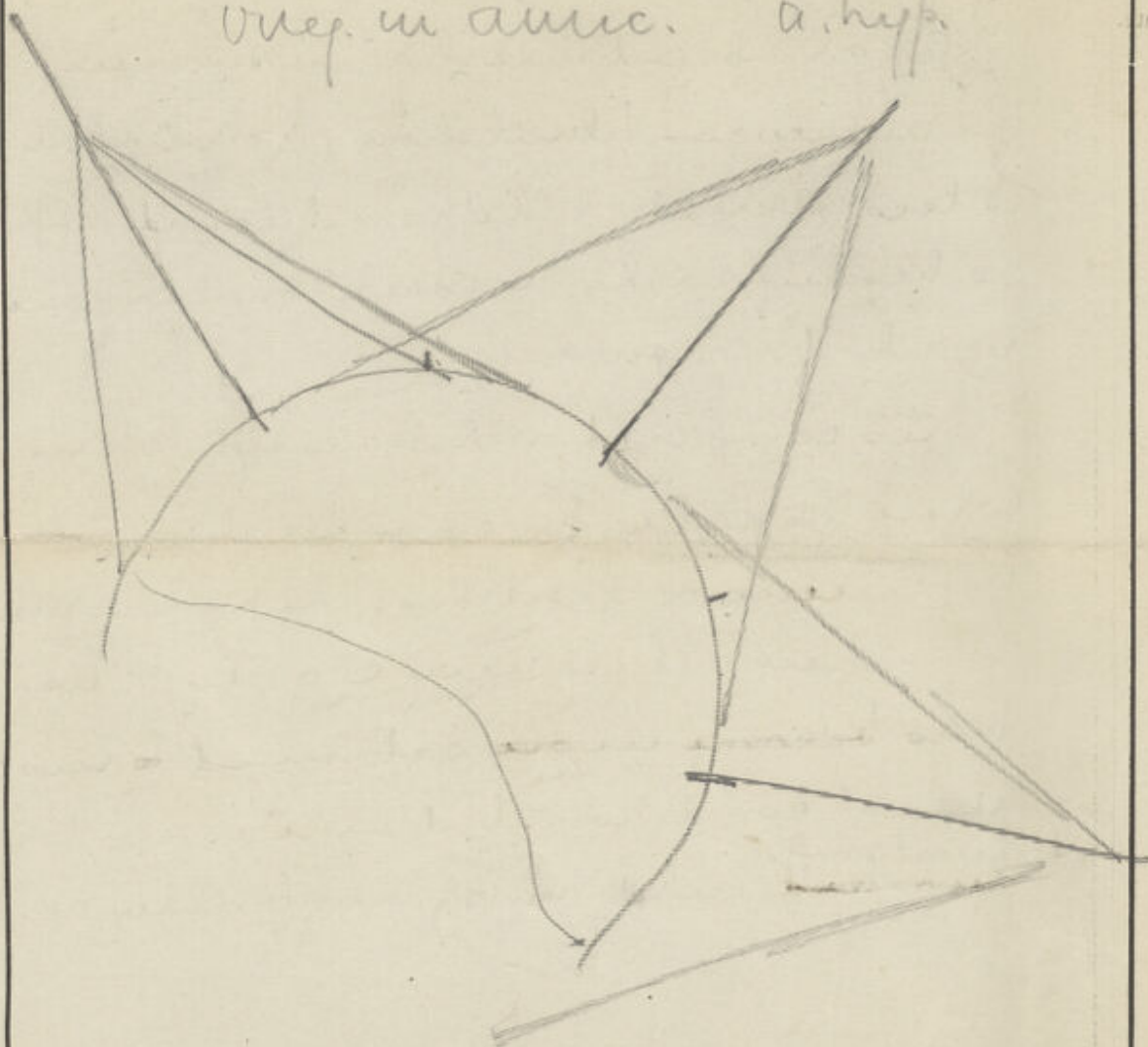
Louisa Nicholls

occas.
irregular. ~~some~~ auric. fib.
no hyper.

C. Lofham

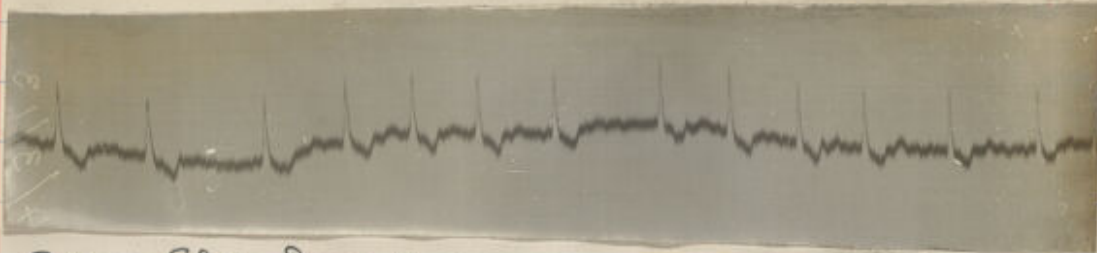
irreg. l. v. hyp.

irreg. in auric. a. hyp.



(295)

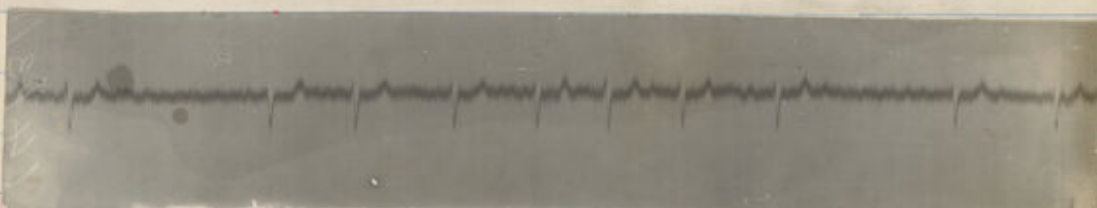
14. III. 13



Annie Ely - Lead I

(296)

14. III. 13



Annie Ely - II

(297)

14. III. 13



Annie Ely - III

(298)

18. IV. 13



Louisa Nicholls - I.

(299)

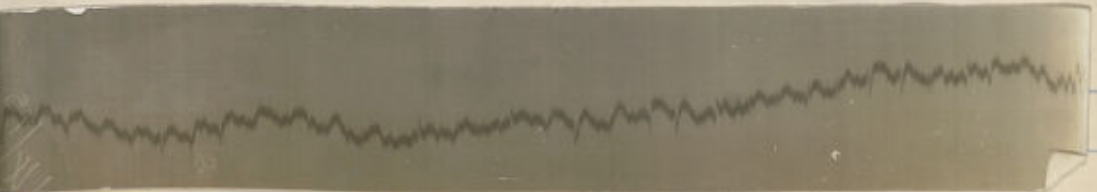
18. IV. 13



Louisa Nicholls - II.

(300)

18. IV. 13



Louisa Nicholls - III

154

1913

Rabbit

May. 15 Isolated rabbit heart (mechanical beating taken)

301	(1) normal	mm. 11.28
302	(2) chloroform	11.33
303	(3) adrenalin	11.42
304	(4) alternating in strength (see mechanical beating)	12.0
305	(5) quinchin (heart block) - 3 to 1 beats.	12.9

(301)

15.V.13

(302)

15.V.13

(303)

15.V.13

(304)

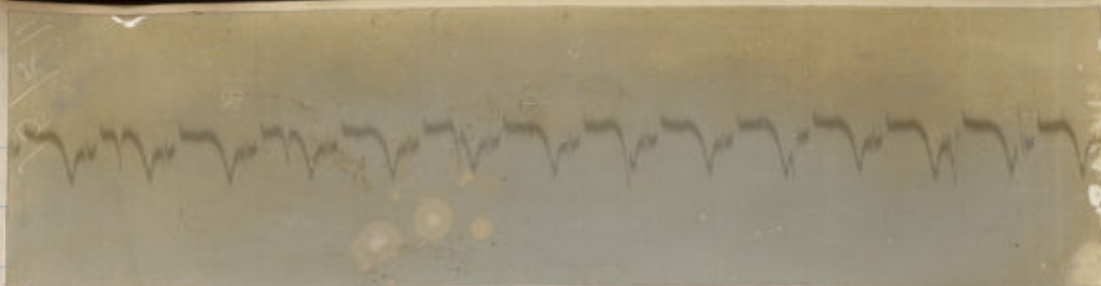
15.V.13

(305)

15.V.13

(301)

15.V.13



Rabbit - normal

(302)

15.V.13



Rabbit - chloroform

(303)

15.V.13



Rabbit - adrenaline

(304)

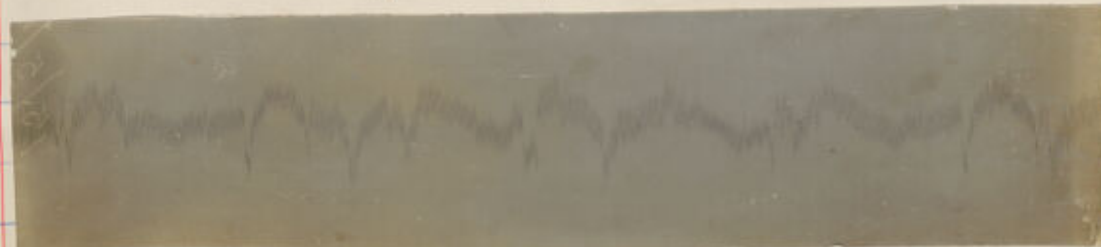
15.V.13



Rabbit - alternating in strength.

(305)

15.V.13



Rabbit - quetachin - heart block. 3 to 1 beats

156

1913

Louisa Nicholls

May 16

306. Lead I (1) ohms 1100 . + 12 m/v
 307. " II (2) " " - 60 "
 308. " III (3) " " - 65 "

May. 16

Emily Jones

309. Lead I (4) ohms 1100 . + 15 m/v
 310. " II (5) " " - 30 "
 311. " III (6) " " - 43 "

(306)
16.V.

(307)
16.V.

(309)
16.V.

(310)
16.V.

(311)
16.V.

(306)

16.V.13



L. Lisa Nicholls I

(307)

16.V.13



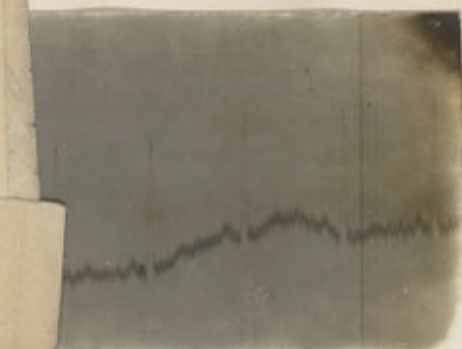
(308)

16.V.13



(309)

16.V.13



(310)

16.V.13



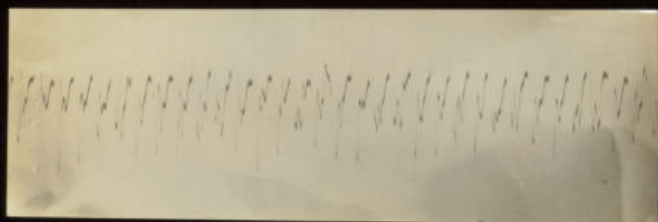
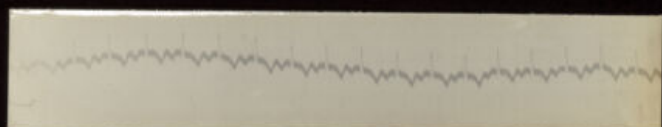
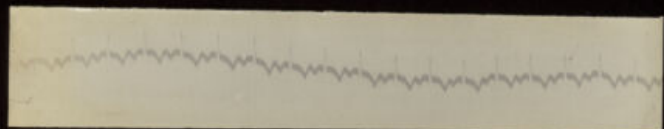
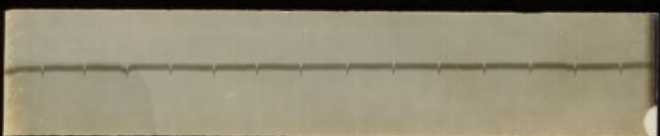
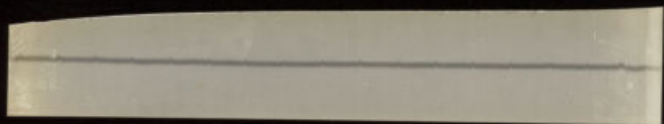
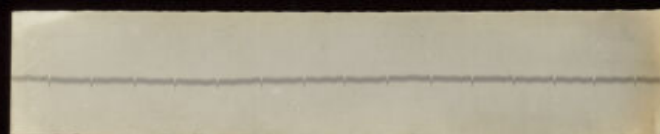
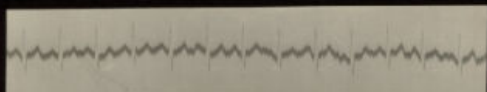
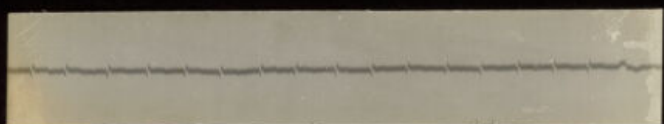
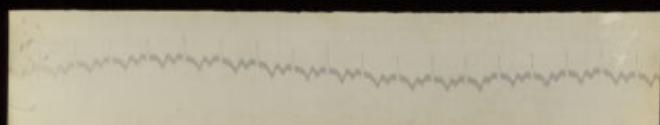
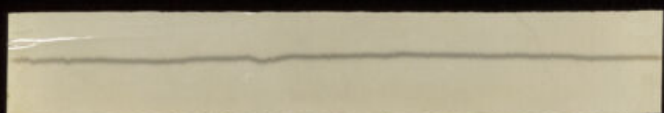
Emily James II

(311)

16.V.13



Emily James III



No 1 14/x1/11

No 2 14/x1/11

2 2/4/12 ²¹⁹ Implicate

No 3 14/x1/11

No 4 15/x1/11

No 4 15/x1/11

No 4 15/x1/11

No 5 15/x1/11

No 5 15/x1/11

No 6 15/x1/11

(8) 17/x1/11 ¹⁷⁴ Implicate

[Faint, illegible handwriting]

Sealer En ¹⁸⁷⁵

A case of Amythia Cadis
is willing to sacrifice himself for science
while for anyone a time convenient
with him.

In exchange I be glad to have a
honey as he has seen him
Let a polygraph team of him.

Recd. 6.11.

L. H. Sample

(306)

16.V.13



Louisa Nicholls I

(307)

16.V.13



Louisa Nicholls II

(308)

16.V.13



Louisa Nicholls III

(309)

16.V.13



Emily Jones I

(310)

16.V.13



Emily Jones II

(311)

16.V.13



Emily Jones III

158

1913

Charles Topham - ant. 45

May. 29

312 (1) - Lead I . 1200 ohms. - 18 m/v
 313 (2) " II . " " not taken
 314 (3) " III . " " do

with pump
 (L.V.H.)

July 17

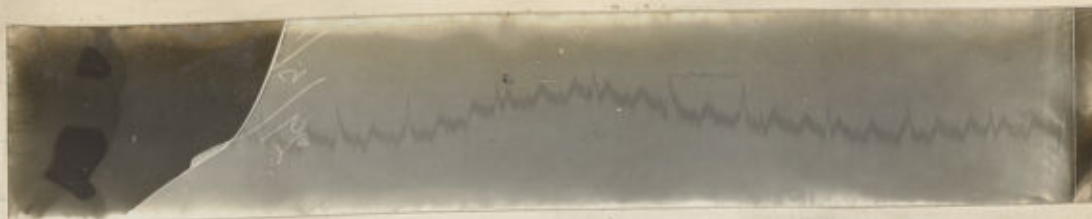
Charles Topham - ant. 45Hall.

315 (1) - Lead I . 1100 ohms. - 20 m/v
 316 (2) " II . " " - 70 m/v
 317 (3) " III . " " - 50 m/v

with
 pump
 (L.V.H.)

(312)

29.5.13



Chas. Lofham. I

(313)

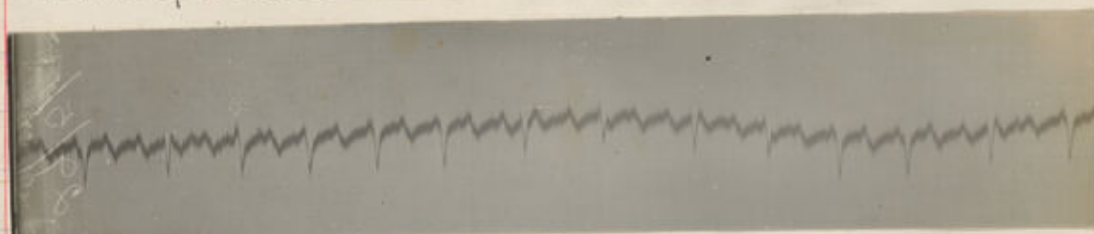
29.v.13



Chas. Lofham. II

(314)

29.v.13



Chas. Lofham III

(315)

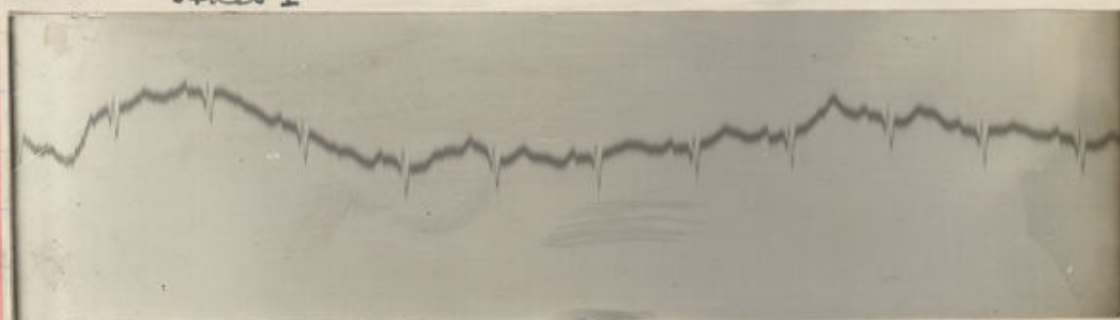
17.vii.13



Hall I

(316)

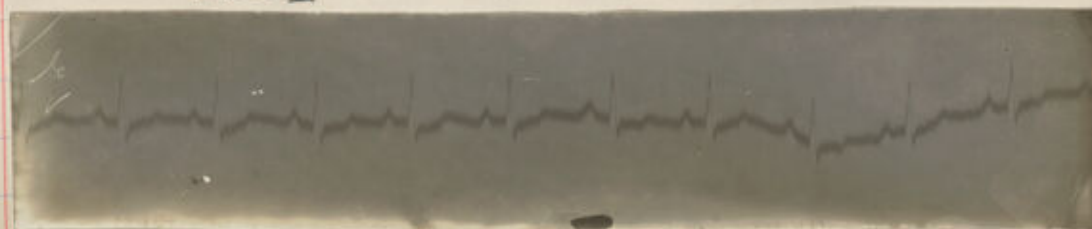
17.vii.13



Hall II

(317)

17.vii.13



Hall III

160

1913

~~Island 2~~Barlon

July 17

318 (4) Lead I . 1200 ohms - 10 m/v.

319 (5) " II . " " - 100 "

320 (6) " III . " " - 100 "

July 17

~~Barlon~~ Walker Sealehill - alt. 40

321 (7) Lead I . 1000 ohms - 25 m/v

322 (8) " II . " " - 78 "

323 (9) " III . " " - 50 "

aortic

apex

(thick at apex)

(L.V. 1/2)

(318)

17.vii.13



Barlon I

(319)

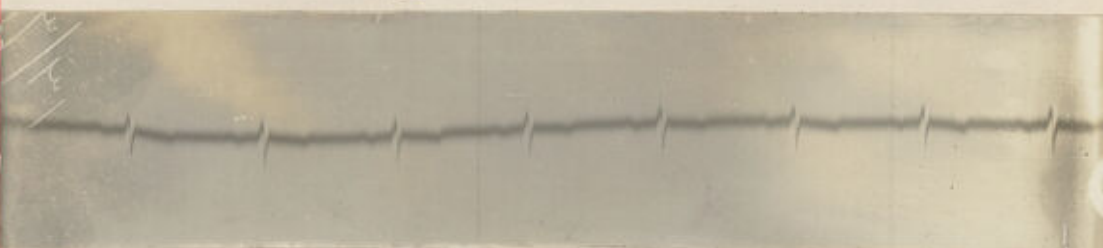
17.vii.13



Barlon II

(320)

17.vii.13



Barlon III

(321)

17.vii.13



Waelu Schell I

(322)

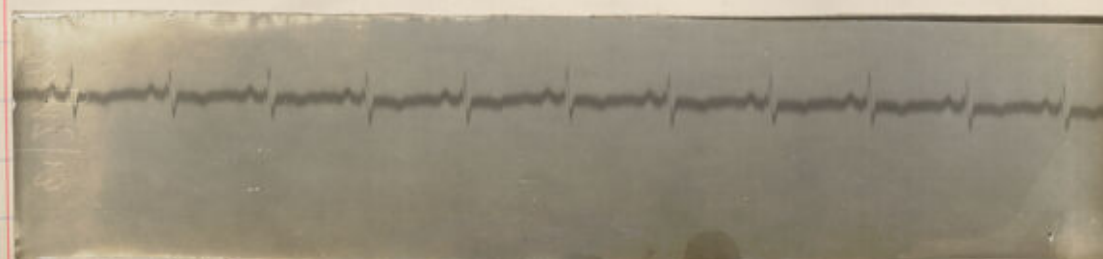
17.vii.13



Waelu Schell II

(323)

17.vii.13



Waelu Schell III

162

1913
Sep. 12Coe.

324	(1)	Lead I	1100 ohms.	+ 20 mV
325	(2)	" II	" "	- 13 "
326	(3)	" III	" "	- 36 "

Nov. 21

Hessie Brier

327	(1)	Lead I	1100 ohms	- 58 mV
328	(2)	" II	" "	- 50 "
329	(3)	" III	" "	+ 2 "

see skiogram
vertical
heart

(324)

12. IX.

(325)

12. IX.

(326)

12. IX.

(327)

21. XI.

(328)

21. XI.

(329)

21. XI.

(324)

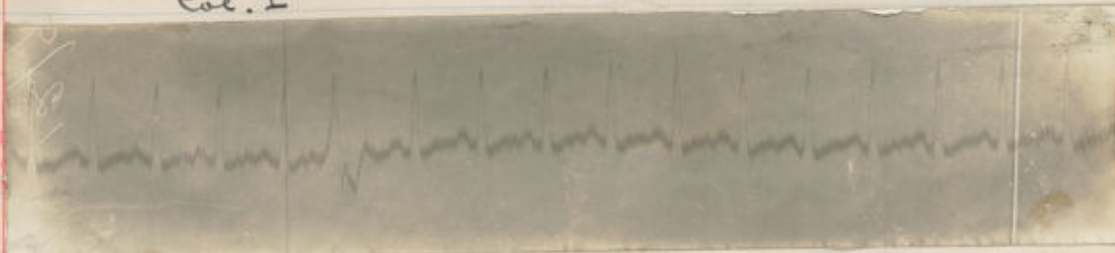
12. IX. 13



Coe. I

(325)

12. IX. 13



Coe. II

(326)

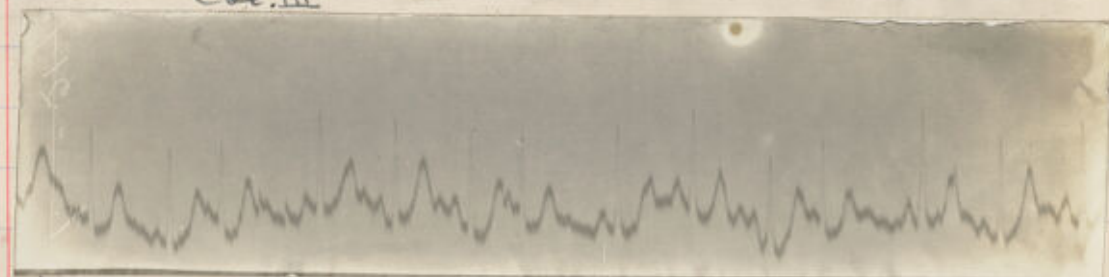
12. IX. 13



Coe. III

(327)

21. XI. 13



Hessio Brier I

(328)

21. XI. 13



Hessio Brier II

(329)

21. XI. 13



Hessio Brier III

164

1913

Samuel Westwood. ael. 70

Dec. 16

330 (I) Lead I - 1100 ohms - 6 mV

331 (II) " II 400 " - 30 " (? leakage)

332 (III) " III 400 " - 30 " (? leakage)

mixed
anhyd.

Dec. 16

~~John Crook~~ John Crook. ael. 36

333 (1) Lead I - 1100 ohms - 15 mV

334 (2) " II " " - 82 "

335 (3) " III " " - 61 "

double
anhyd.

(330)

16.XII.13



Saml. Westwood I

(331)

16.XII.13



Saml. Westwood II

(332)

16.XII.13



Saml. Westwood III

(333)

16.XII.13



John Crook I

(334)

16.XII.13



John Crook II

(335)

16.XII.13



John Crook III

166

1913

Dec: 16

James Bennett - ael. 36

336. (4) Lead I . 1100 ohms . - 15 mV

337. (5) " II " " " - 82 "

338. (6) " III " " " - 61 "

dbl. aortic

1914
July 5

Blaney - ael.

339 (1) Lead I . 1200 ohms - 58 mV

340 (2) " II " " " - ∞ " (? poor excursion)

341 (3) " III " " " - ∞ " (do)

(336)

16.XII.13



James Bennell I

(337)

16.XII.13



James Bennell II

(338)

16.XII.13



James Bennell III

(339)

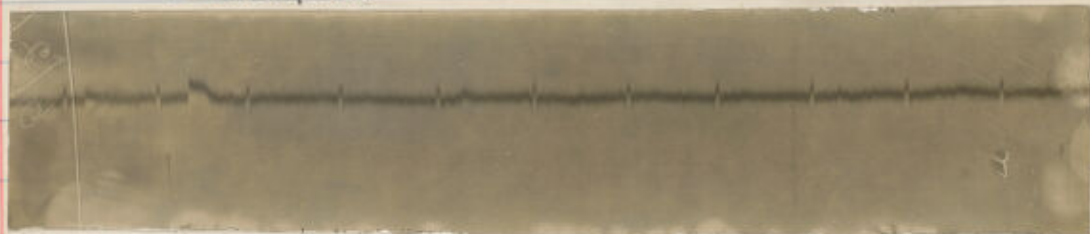
5.II.14



Slacy. I.

(340)

5.II.14



Slacy. II.

(341)

5.II.14



Slacy. III.

1914

July 20th

Martha Cummings. aet. 32. [Prof. Bradbury]

342. I (1) 1100 ohms. -28 mV

343. II (2) " " +50 "

344. III (3) " " +92 "

Variable precordial pain; worse on exertion; occasional faints, sometimes oedema of legs. Short breath & cyanosis on exertion

III rib.

$\frac{1}{2}$ " a. of R.S.F. in 2nd. I
34. opae. AB in I opae just in front of ant. axill. line.
Pulsation in epithermal notch. Fine systolic thrill felt. AB well seen & somewhat diffuse.

Some dilat. veins in chest. At apex. a (?) presystolic systolic thrill felt. Short presyst. murmur heard. Loud blowing syst. & muffled 2nd sound with soft dull murmur. Apical diast. murmur more marked towards axilla. Loud blowing ~~thrill~~ over aorta conducted down r. border of sternum. Less audible over pulmonary area.

Mar. 6th

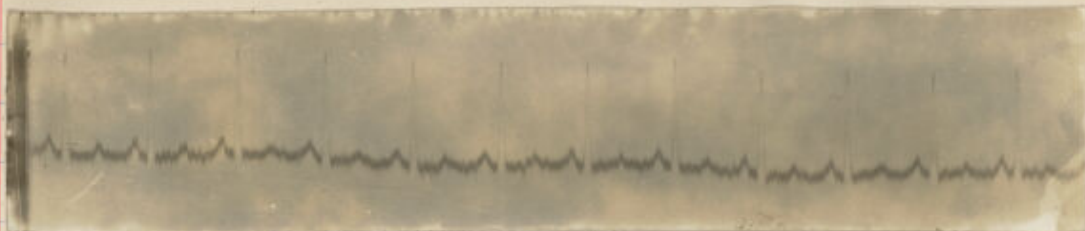
345. I (1) 1100 ohms +27 mV

346. II (2) " " -70 "

347. III (3) " " -92 "

(342)

20.ii.14



Martha Quinn I

(343)

20.ii.14



Martha Quinn II

(344)

20.ii.14



Martha Quinn III

(345)

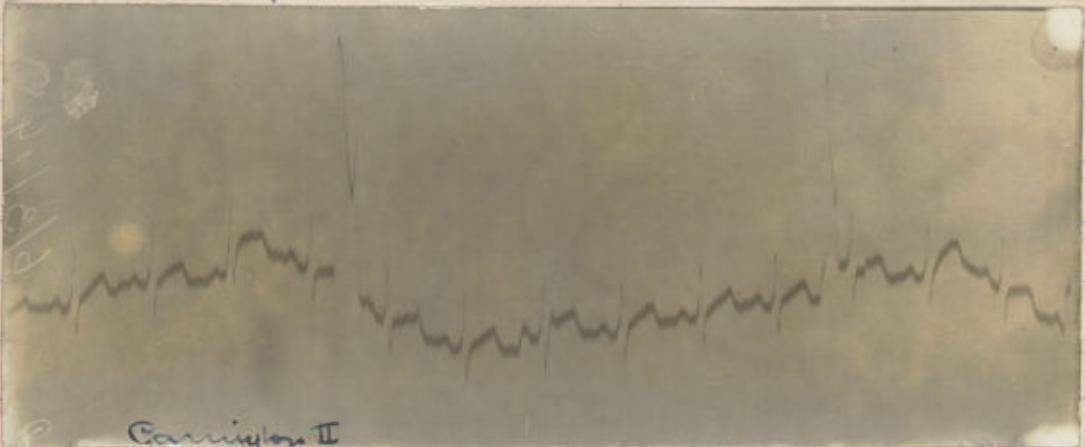
6.iii.14



Carrington I

(346)

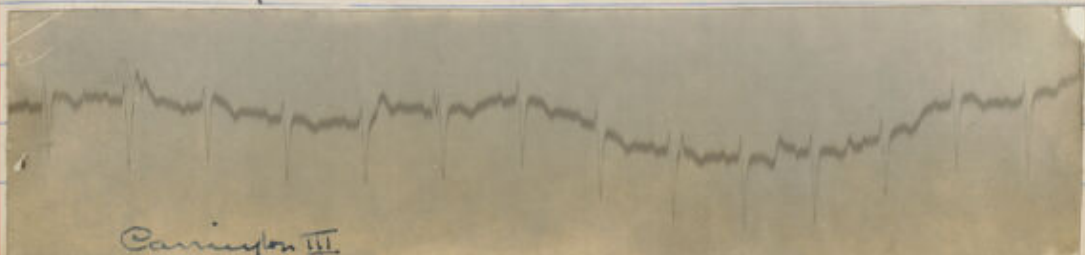
6.iii.14



Carrington II

(347)

6.iii.14



Carrington III

170

1914

Siedel Hubbard. act. 17.

Mar. 24 348 I (1) 1100 ohms + 82 m/v
 349 II (2) " " + 85 "
 350 III (3) " " + 12 "

Mar. 24 Mabel Bentley. act. 13

351. I (4) 1100 ohms - 8 m/v
 352. II (5) " " - 2 "
 353. III (6) " " - 2 "

348

24.iii.

349

24.iii.

350

24.iii.

351

24.iii.

352

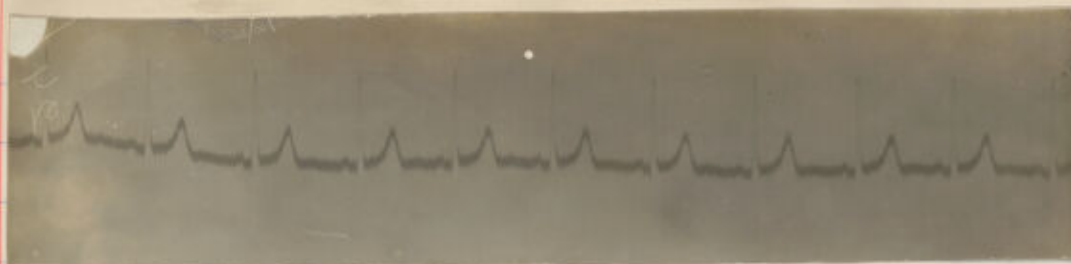
24.iii.

353

24.iii.

(348)

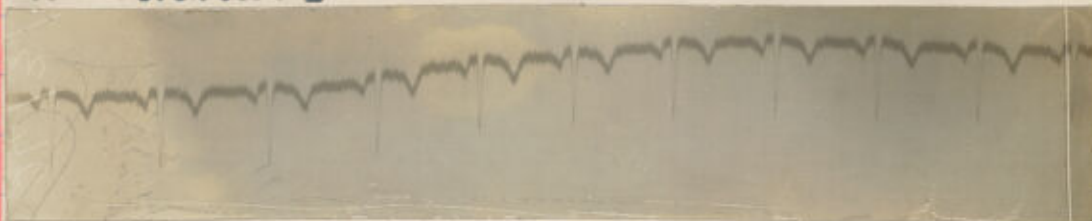
24.iii.14



Violet Hubbard I

(349)

24.iii.14



Violet Hubbard II

(350)

24.iii.14



Violet Hubbard III

(351)

24.iii.14



Mabel Bentley I

(352)

24.iii.14



Mabel Bentley II

(353)

24.iii.14



Mabel Bentley III

1914

Florus Newman. ael. 11

Mar. 31 354 I (1) - 28 m/v
 355 II (2) - 45 m/v
 356 III (3) - 19 m/v

Mar. 31

Lorisa Parker. ael. 25 (with Murphy)

357 I (4) - 65 m/v
 358 II (5) - 52 m/v
 359 III (6) + 12 m/v

Under 12 lb. 12 mos. ago with poth.

III nd.
 L.S.E. | A.B. Vth space nipple line. redup. 2nd sound.
 pulmo. 2nd sound very sharp & accentuated

Complains of weakness, jittery nerves, buzzing
 in head. often feels faint, palpitations. slight sweating,
 no esophthalmos; hemors of hands & lips.
 Neck 12 1/2" in circumf. Pulse 88.

(354)

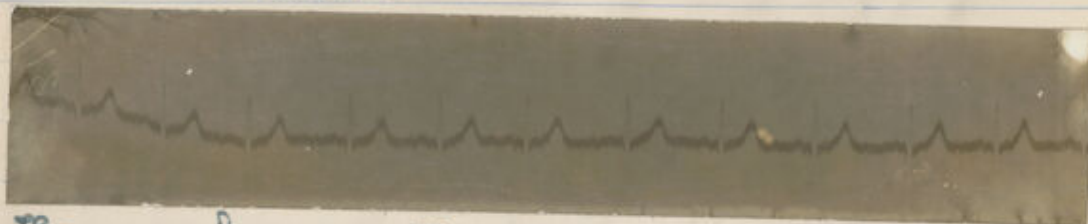
31.iii.14



Florence Heuman I

(355)

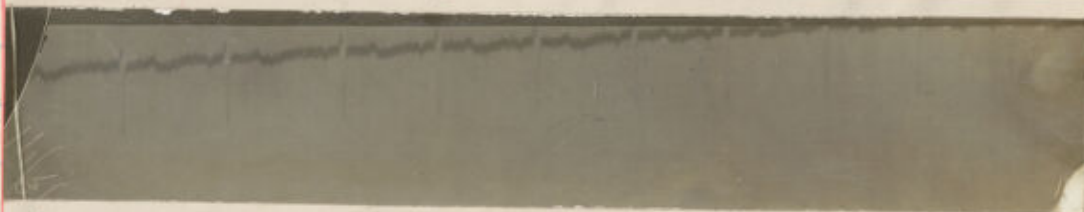
31.iii.14



Florence Heuman II

(356)

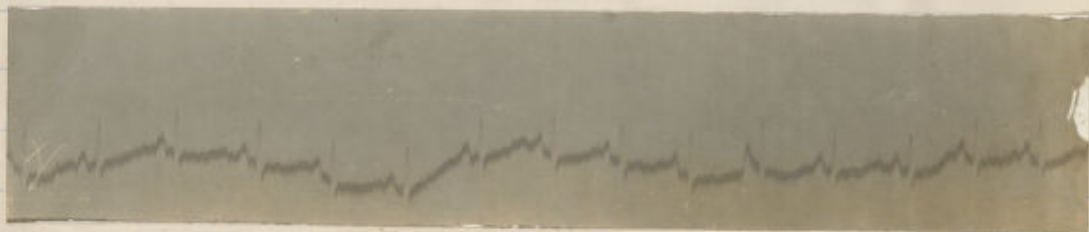
31.iii.14



Florence Heuman III

(357)

31.iii.14



Louisa Parker I

(358)

31.iii.14



Louisa Parker II

(359)

31.iii.14



Louisa Parker III

1914

Apr. 3

Emma Smith. act: 60 (B. Humphrey)

360 I (1) - 50 m/v

361 II (2) - 2 ..

362 III (3) - 2 ..

Born here in Hoop. before in 1911. with mitral stenosis
 frequent.

II b. par.

midstern. A.B. hearing & diffuse appears to be in V open space just in
 front of ant. axillary line. Systolic thrill felt at apex.
 Loud syst. murmur & faint diast. murmur at apex,
 systolic being conducted into axilla & audible at angle
 of scapula behind. Scattered rales & moist sounds over
 both lungs, esp. l.

May 7

Nellie Humphreys. act: 12. (B. Humphrey)

363. I (1) - 32 m/v

364. II (2) - 17 "

365. III (3) + 12 "

(child nervous during electrocardiogram)

Loud presyst. murmur over whole precordium, most
 marked in episthernal, 2nd sound at apex muffled,
 no separate murmurs at base, but any possible sounds

obscured by above. Ronchi & moist sounds in lungs,
 P.N., B.N. parasternal, B.S., V.P., & R.R. diminished on l. side.

Clubbed fingers, flushed cheeks, pulse poor vol. Heusion,
 some irreg. of rhythm. Chest ^{rather} region braced, protrusion of

vi. vii. viii ribs. resp. rapid. Tumultuous pulsation over lower
 l. chest, very marked where ribs are prominent. Pulsation
 both sides of neck. IV rib.

? | ? A.B.

dullness at ant. line just int.
 to nipple line, A.B. seems to be in
 l. of episthernal.

Well marked presyst. thrill
 in episthernal

St. died suddenly May 13th, 1910 P.M.

(360)

3.IV.1

(361)

3.IV.1

(362)

3.IV.1

(363)

T.V.14

(364)

T.V.14

(365)

T.V.14

(360)

3.IV.14

*Emma Smith I*

(361)

3.IV.14

*Emma Smith II*

(362)

3.IV.14

*Emma Smith III*

(363)

7.V.14

*Nellie Humphreys I*

(364)

7.V.14

*Nellie Humphreys II*

(365)

7.V.14

*Nellie Humphreys III*

1914

May 7

Leak. Butkef. ant. 36. (D. H. Murphy).

366 I (5) - 92 m/v

367 II (6) - 22 "

368 III (7) - 60 "

Skisogram shows glands very distinct in chest, with scattered areas (esp. on R) which may be localizing patches of T.B. or possibly fibrotic condition. Heart very small & upright.

6 yrs. isolated small clots of blood in his mouth without warning. No cough or vomiting, but retching first thing

in morning. No night sweating. Says he brought up a pint of blood July 20th. Ref. 2 who seen. App. poor - losing weight

poor p.r. over both lungs, VF & VR rather increased, BS

poor with feeble air entry over both lungs, rather more marked on R. side. No advent. sounds detected

Thor. hump. no advent. sounds. Stone mason

ACD | ^{III rib.} AB. in V space 1/2" int. to nipple line. no murmur.
RSP.
TB. detected in apulum May 12th

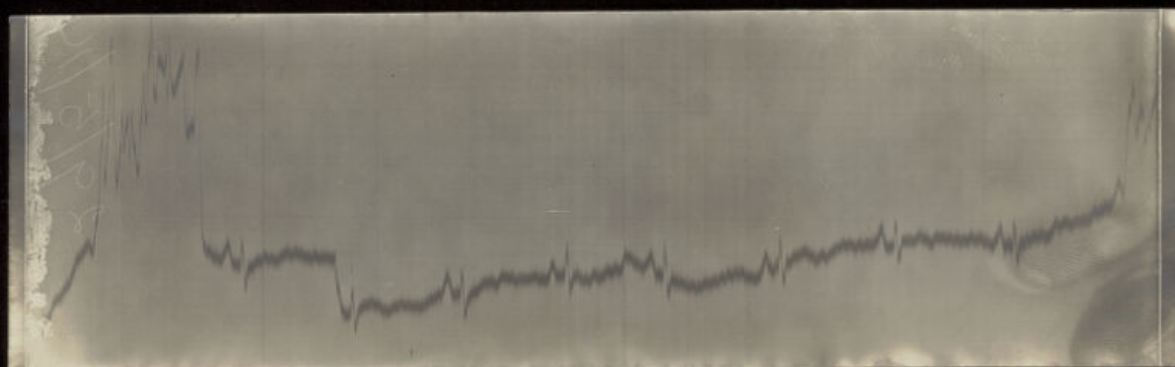
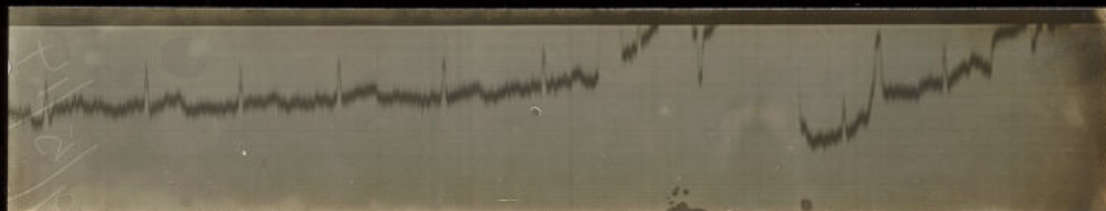
May 29

Harry Golding ant. 19

369 I (1) + 48

370 II (2) + 85

371 III (3) + 45



1. 369 29/5/14

(2) 29/5/14

3. 370 29/5/14

ADDENBROOKE'S HOSPITAL.
CAMBRIDGE.

Electrical Department—
Mr. F. SHILLINGTON SCALES.

Name.	Age.	Number.	Physician or Surgeon.	Ward.

Date.

Report :—

ADDENBROOKE'S HOSPITAL.
CAMBRIDGE.

Electrical Department—
Mr. F. SHILLINGTON SCALES.

Name.	Age.	Number.	Physician or Surgeon.	Ward.

Date.

Report :—

Date.

ADDENBROOKS HOSPITAL
CAMBRIDGE
Electrical Department
MR. F. SMILLINGTON SCALE

Date.

ADDENBROOKS HOSPITAL
CAMBRIDGE
Electrical Department
MR. F. SMILLINGTON SCALE

(366)

T.V. 14



Bentley I

(367)

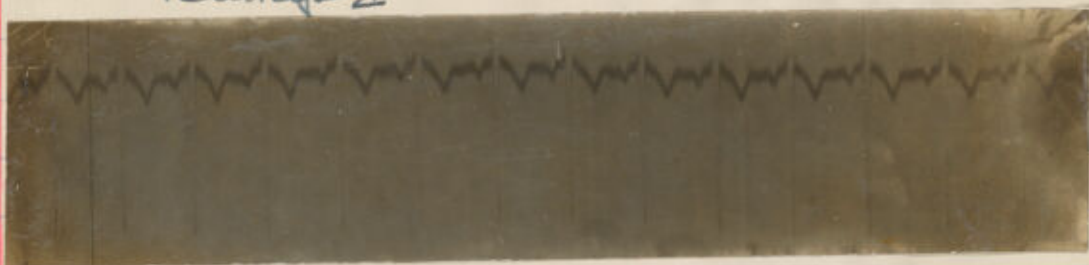
T.V. 14



Bentley II

(368)

T.V. 14



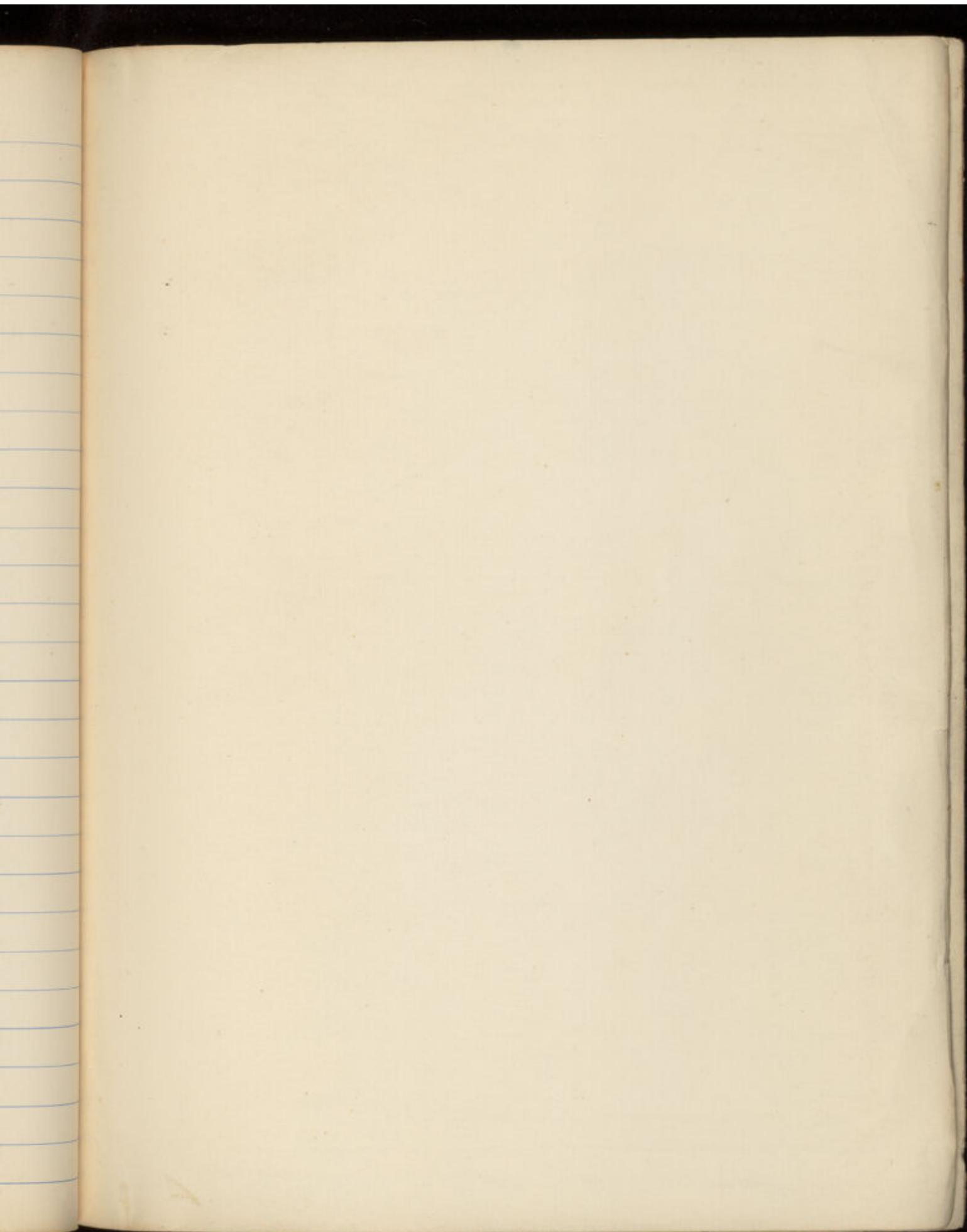
Bentley III

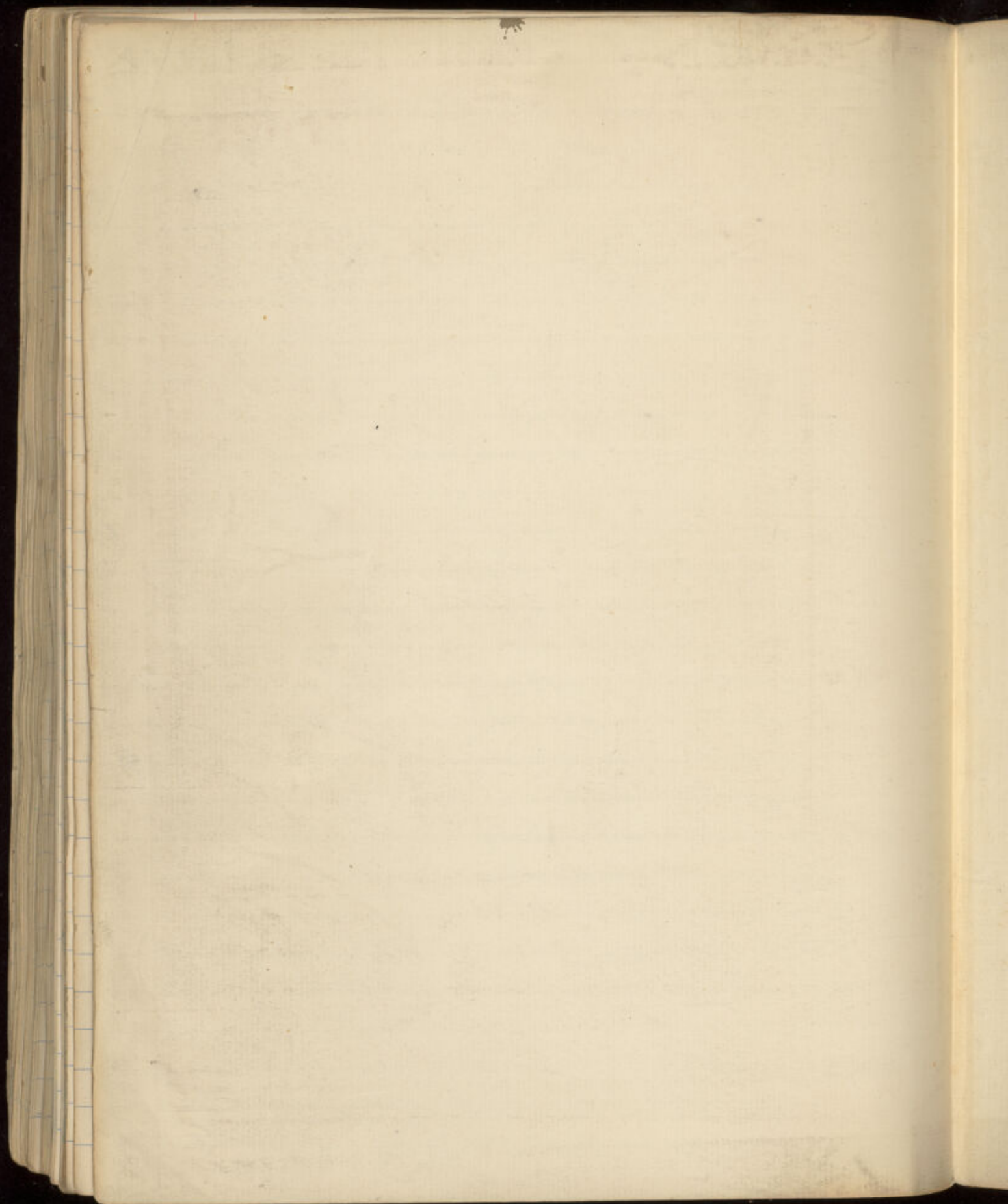
178

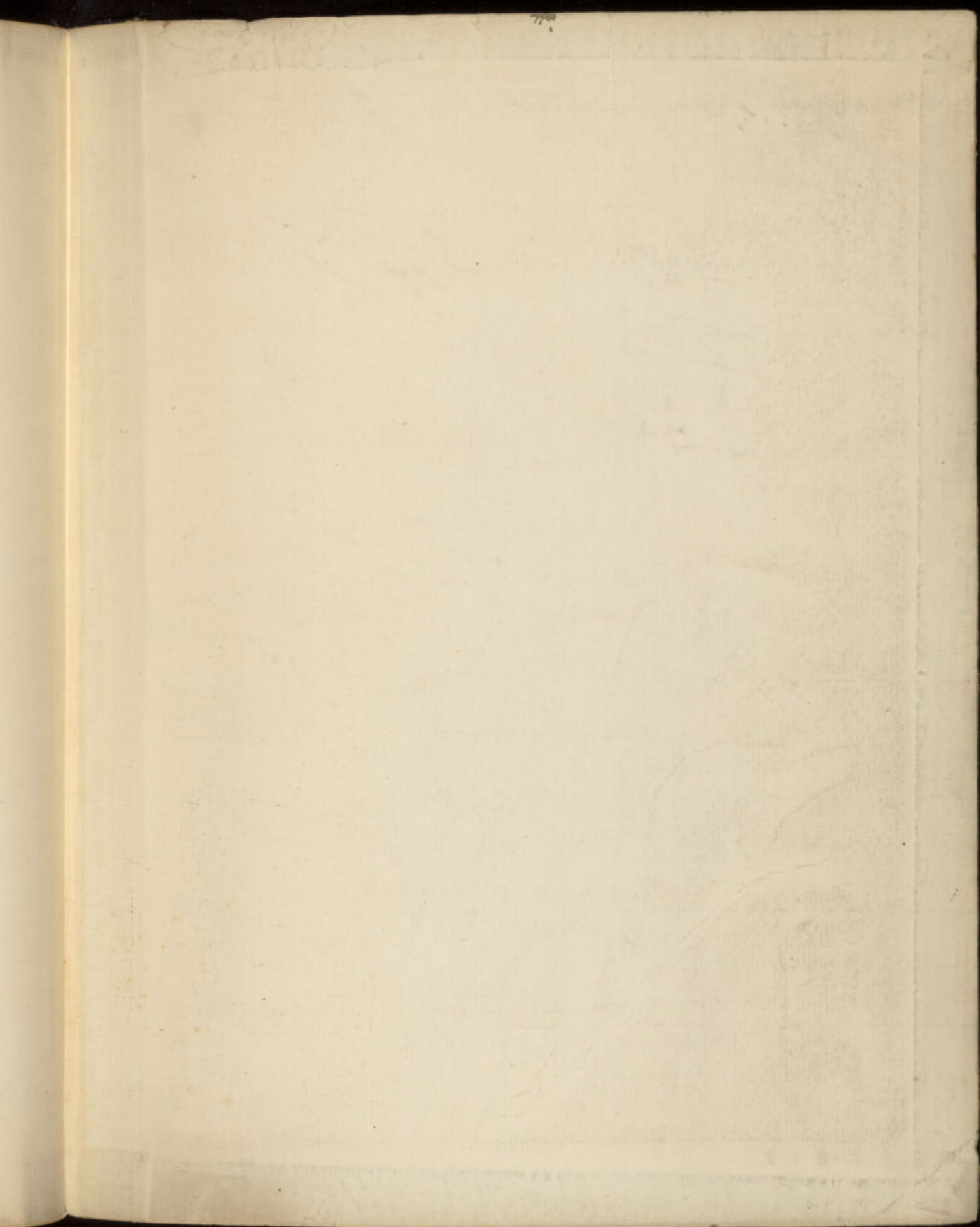
196

200

210











303924

~~5584~~

[with MS. 4379]

Shillington Scales's papers
from Cyclograph record book



Mand

Date

25

Date.

bigilalone. - ~~to~~ (p. 113)
inavenous 5 to 10

Chloroform

Geo Coe

R. 10

split up
laurels
breathels

Geo Coe



Geo. Coe.
31. VII. 10

Tigular

Radial

Geo Coe. 31. VII. 10 Tigular

apex.

Geo Coe
31. VII. 10

apex

Radial

Adjust Resistances

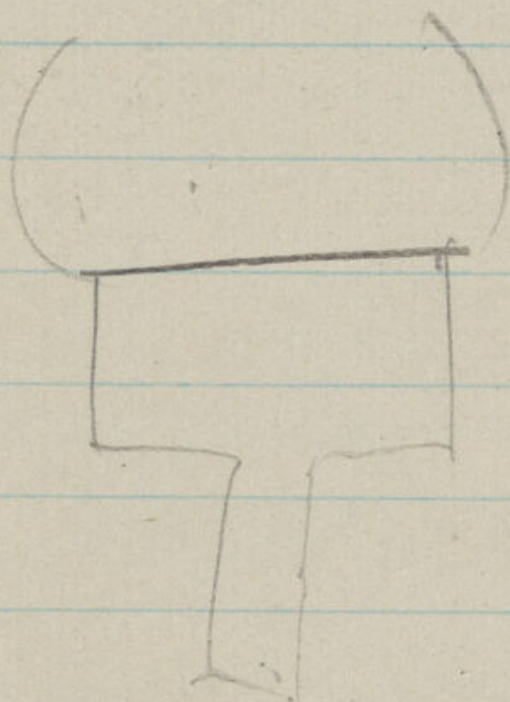
till pointer

indicates.

9. Millivolts
—, —

1. m. y. 10²
5000

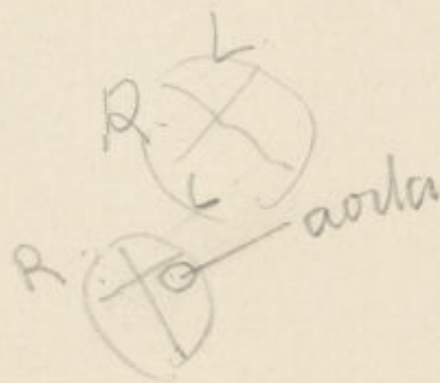
10⁴ 1/5 micro ampere.



trigonalone. - ~~to~~ (p. 113)
inavenous 5 to 10

Chloroform -

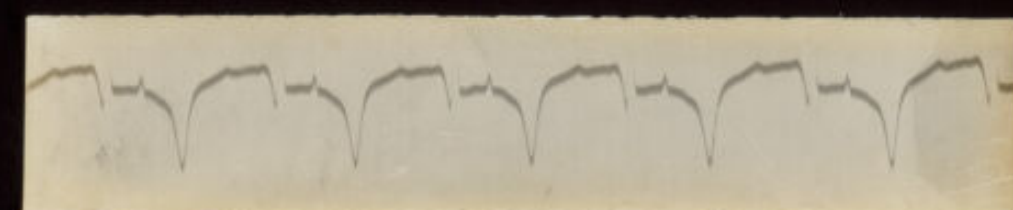
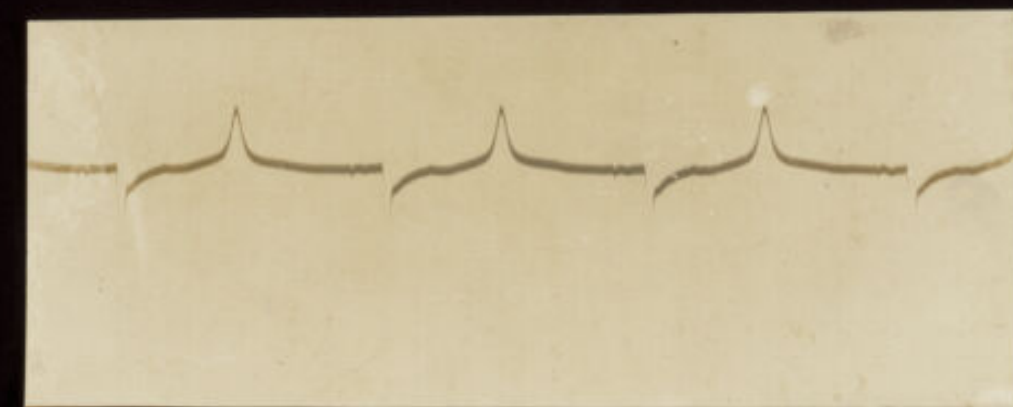
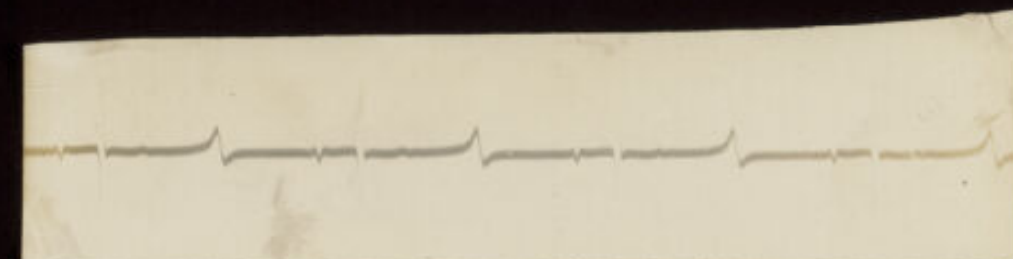
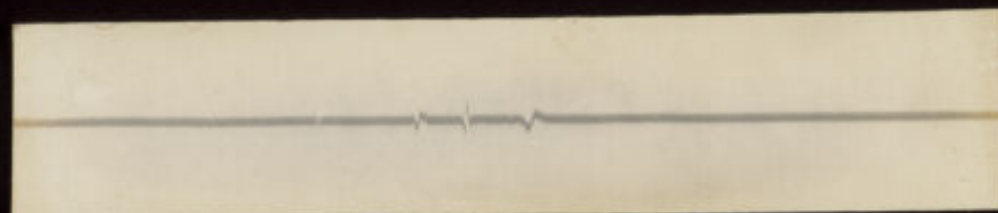
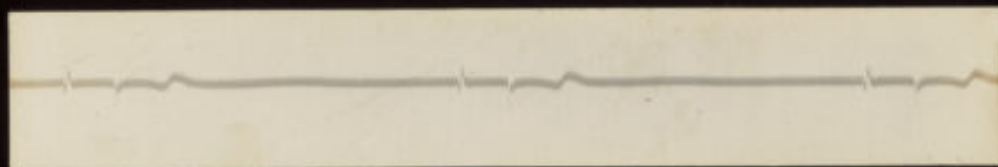
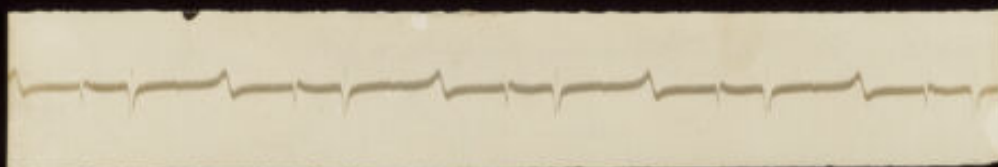
muscarin affecting auricle
rather than ventricle



split up
auricle
& ventricle







no 1 10/x1/11 161

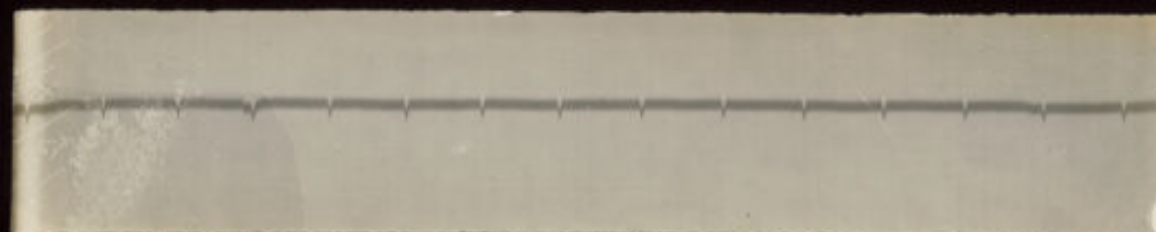
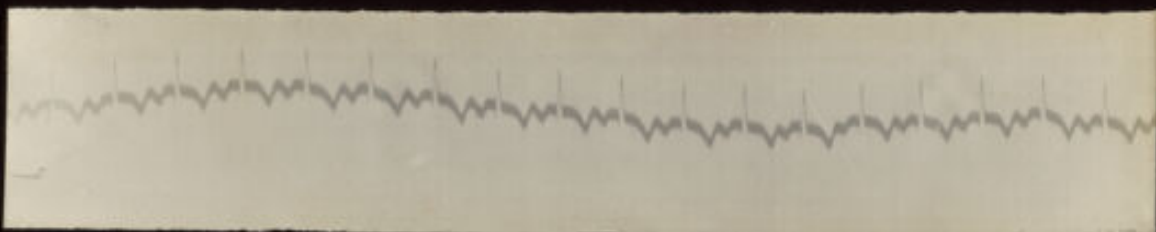
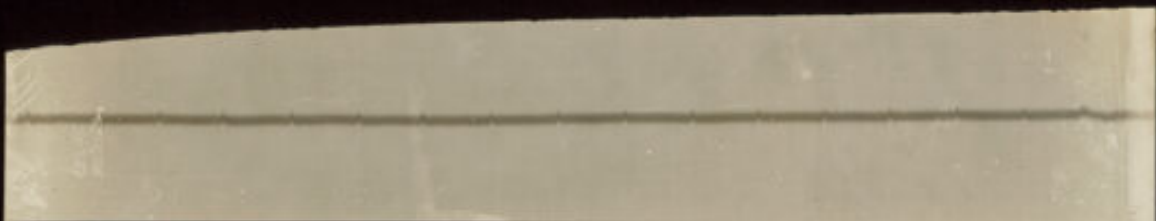
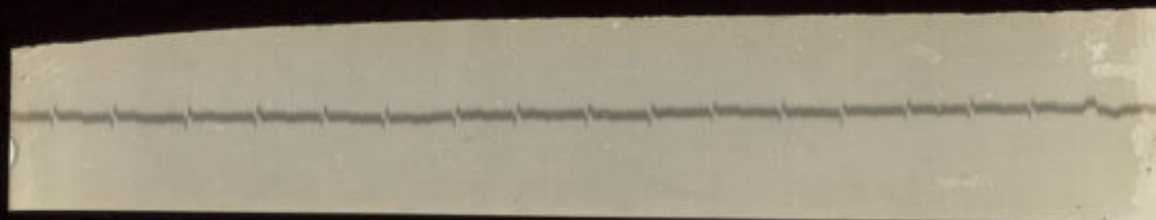
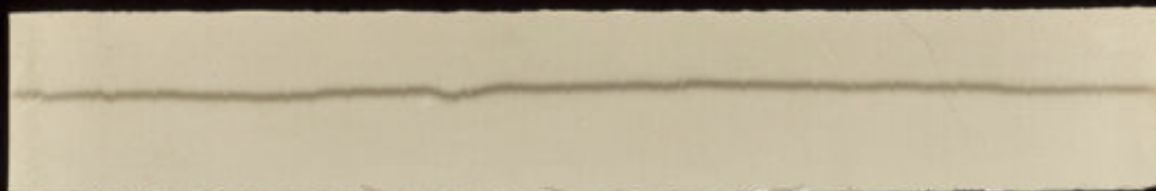
no 2 10/x1/11 162

11/11/01 3 8:16 163

11/1x/01 4 4:04 164

5 165
11/1x/01 9:04

no 6 9 10/x1/11



No 1

14/x1/11

Royes
I

II
sharp

No 2.

14/x1/11

No 3.

14/x1/11

III
sharp

No 4

15/x1/11

Dora Francis
I

No 5.

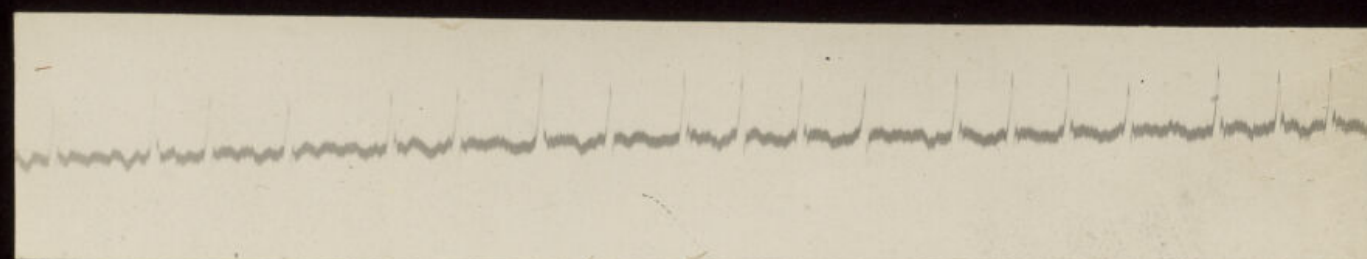
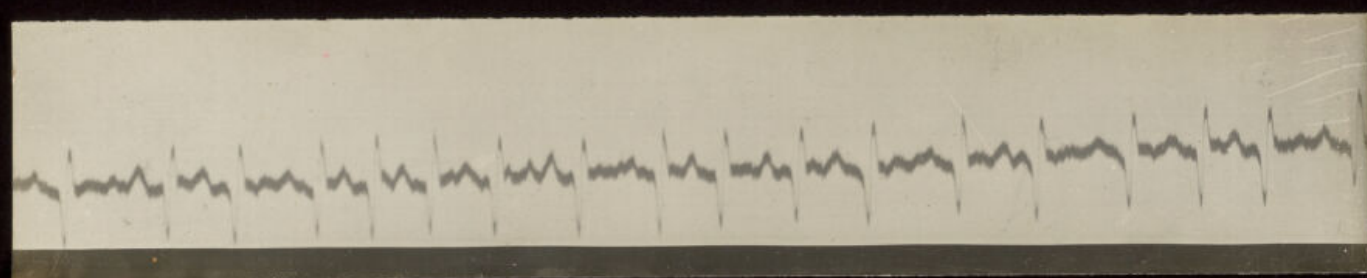
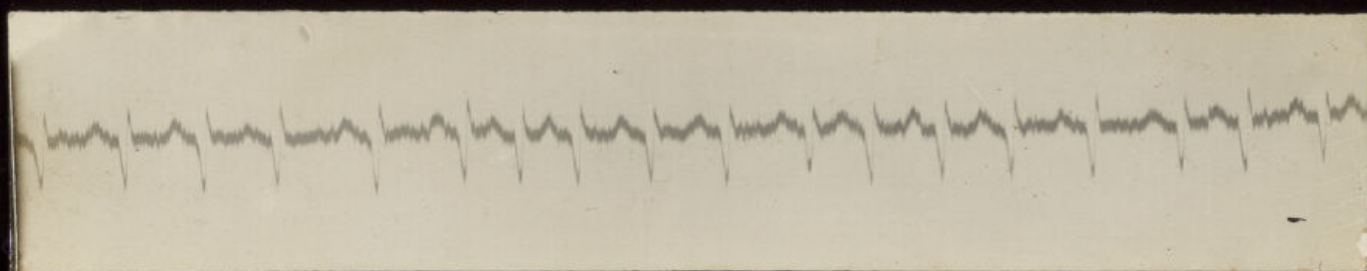
14/x1/11

Dora Francis
II

No 6

15/x1/11

III
Dora Francis



(149)

7/xi/11

I

(160)

7/xi/11

II

(151)

7/xi/11

III

Method of Using Temporary Apparatus for the
Compensation of Body Resistance & Skin Current Effects.

Body Resistance. Place the switches 1 & 2 in the left hand positions, then tapping one of the keys of switch 4 adjust the body balancing resistance until the detector just shows the slightest tendency to move in one direction & then changes & moves in the opposite direction almost immediately due to polarization. As a check tap the other key 4 & note whether the same movements of the detector are produced but in reverse directions. Having done this put switch (1) in the right hand position which throws the resistance found to be equivalent to that of the body into the standardising circuit, whereby the galvanometer is standardised under the same conditions as those which pertain when taking the cardiogram.

Place switch 2 in right hand position which disconnects the patient from the bridge & connects to the left side of switch 3.

Standardising compensator. By means of the switches a & b adjust the current in the compensator until the deflection on the standard voltmeter is 10 on the lower scale. If the dry cells have fallen so much that a & b are insufficient to adjust the voltmeter correctly, plugs should be put in the resistance box c, until the resistance ~~box~~ switches a & b can again be brought into use.

Standardising Galvanometer. to sensitivity of 10 μ per m.v. (millivolt) of cardiac E.M.F. Adjust the head of the vibrator until a deflection of 10 μ is obtained when throwing switch 3 over from the neutral position to the right hand position.

To Compensate for Skin Currents. Close switch 6 +
throw switch 5 over to the left, then if the mean
position of the fibre is displaced bring it back to
the zero position by turning the dial switch
of the compensator in a clockwise direction.
Should this increase the displacement throw
switch 5 over to the other side. Having thus
roughly compensated, open the shunting switch 6
+ make the final compensation by means of
the slide wire on the compensator. When this
has been done the cardiogram may be taken.
The strength of the skin current is shown by the
readings of the dial switch + slide wire

C.S.I.C.

T.R. 5/5/11.

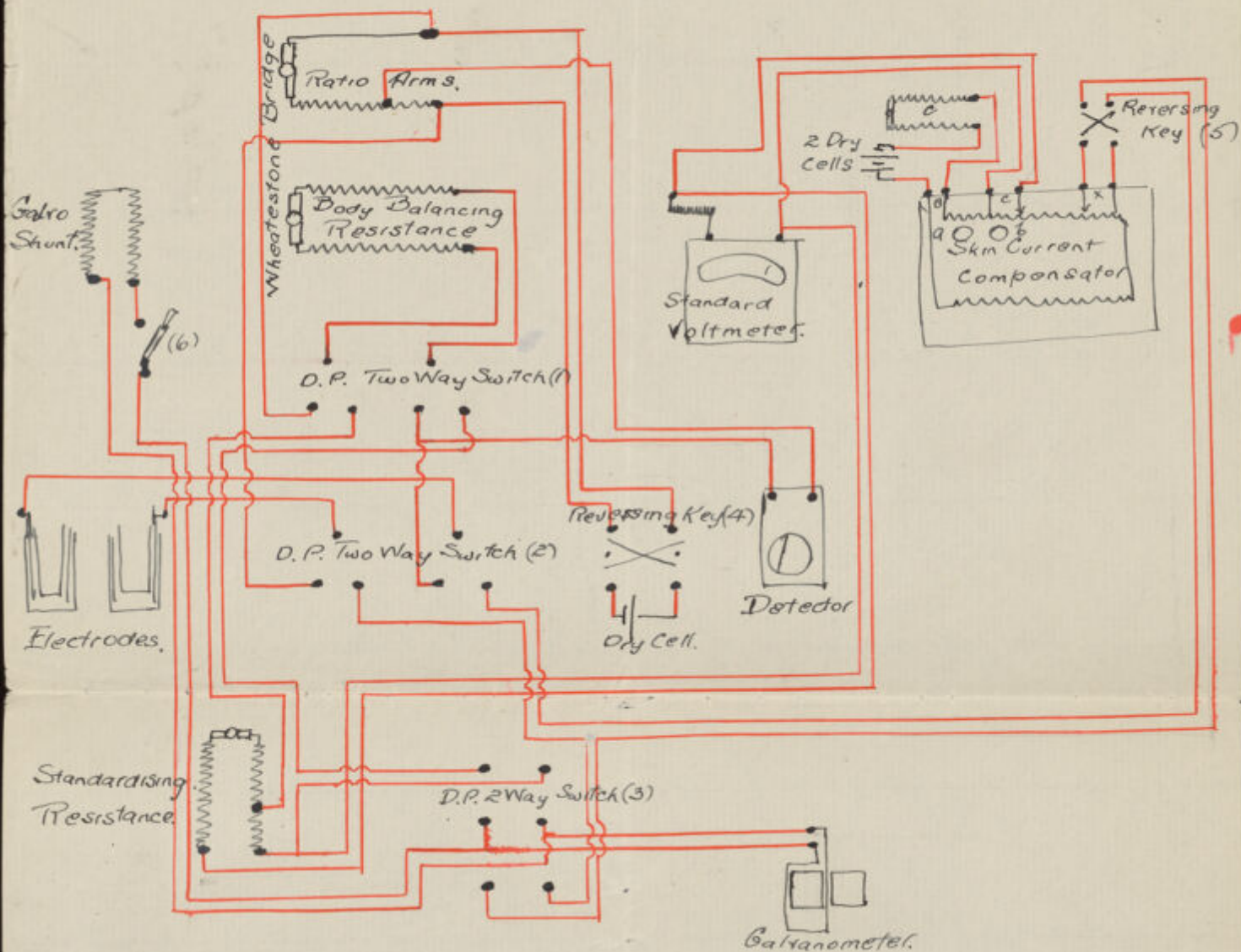
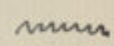


Diagram of Connections
of

Temporary Apparatus
for

Body Resistance & Skin Current Compensation

Apparatus indicated thus:— 
Connections " " " " 

ADDENBROOKE'S HOSPITAL.

PROFESSOR BRADBURY.

Register No.

Name.	Age.	Single or Married	Occupation.	Abode.
Maud Gane	19	S.	Factory Hand	Hill Street,
Date of Admission.	For what admitted.		Result and date of discharge.	
25. XI. 11				

Date.

admitted 2 Rheumatic Fever (Subacute).

Shortness of Breath 12 months. No other Cardiac symptoms.

Prev. Illnesses: 1 Acute Rheumatism - 6 years ago.
 2 " " - 16 months later.
 3 " " - 1 year ago.

State on Admission: Poorly nourished. Swelling and tenderness of several joints. T. 100°.

Circulat. Syst.: Pulse - Tens. low, regular.
Heart - pulsation in 4th & 5th spaces.
 Apex 5th space nipple line,

At apex - systolic bruit propagated to axilla and angle of scapula. Short diastolic.

At aortic - systolic bruit and diastolic propagated down

Stemum. Closure of aortic valves also heard.

Date.

Respirat. Syst Left chest retracted and
of feeble expansion. Harsh vesicular breathing.

ADDENBROOKE'S HOSPITAL.

PROFESSOR BRADBURY.

Register No.....

Name.	Age.	Single or Married	Occupation.	Abode.
Kate Tofts	23	S.	Domestic	Hoxham Lane Linton
Date of Admission.	For what admitted.		Result and date of discharge.	
20. Oct. 1911				

Date.

Symptoms of anaemia - pallor, dyspnoea, dyspepsia
Epistaxis etc.

Social Cond:- good.

State on Admission:- intense pallor. Thin. Skin surface
and mucous membrane show great anaemia.
Spleen - palpable.

Blood Change:- severe pernicious anaemia.

Retinal Change:- Small haemorrhages.

Circulat. Syst - Pulse 136. Tension low.
Heart - apex 4th space. nipple line.
Systolic thrill (anaemic)

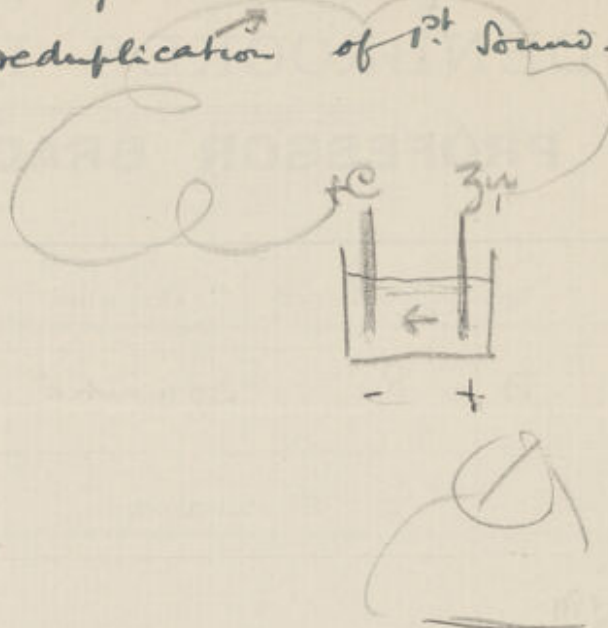
Left Border - 3rd Cost. Cart. to apex of heart under 5th rib.

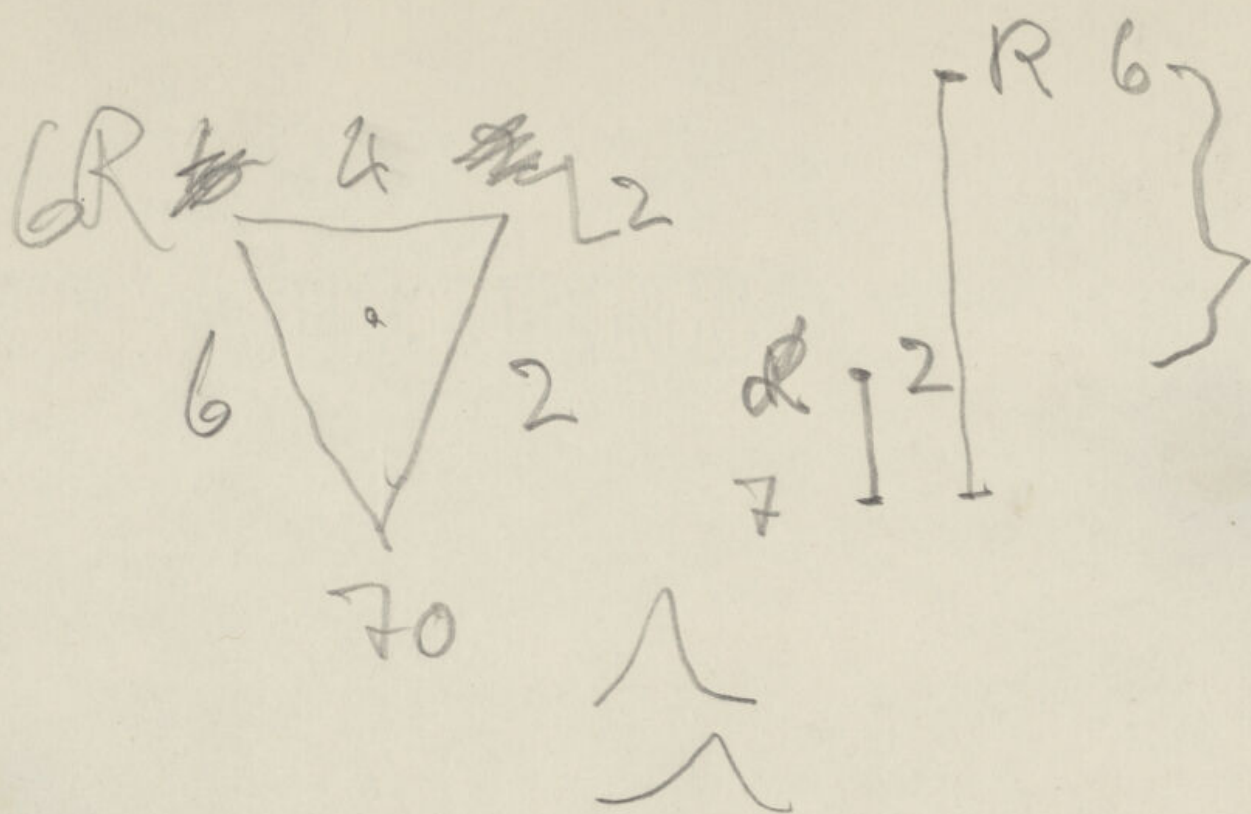
Rt. Border - just outside sternum.

Date.

When electrocardiogram was taken there was
a marked reduplication of 1st sound.

A





Short Instructions for Using Cardiogram Compensating Apparatus.

Connect up the apparatus as shown diagrammatically in blue print. (T.R. N. 158). The batteries shown should be a good make of dry cell, say Clark size M. The one connected to the bridge should preferably have an adjustable resistance in series with it so that the current thro' the patient may be varied according to circumstances. Note that the small induction coil is working properly, then with the switch in position "R" to measure the resistances by adjusting the dial switches T. O. V. until the minimum sound is heard in the telephone receiver.

Procedure. Set the 3-way switch to "10." then adjust the resistances C & D until the voltmeter indicates 0.9 volt. (as marked by the red line). Set the multiple way switch F to "Galv. resist" & by means of the bridge measure the resistance of the severed fibre of the galvanometer. In doing this it is essential that the field current should be switched off otherwise the fibre may be so violently deflected as to damage it.

Next set switch to "Bony resist." & balance for the resistance of the patient, electrodes & leads. Then throw switch K over to S. which places the above resistance found in series with the galv. when calibrating it. Then adjust the fibre to its zero position & then put switch to "Calibrate"

The deflection obtained is that, due to 1 M.V. Having
adjusted to the usual sensitivity, turn switch
to "compensate". In this position the galvo.
is heavily shunted so that even if the skin
current is very large the fibre is not likely to
be thrown off the scale. By adjusting the
slider A along the slide bar the fibre can
be brought back until it vibrates about its
zero position. Having done this set switch to
record & finally compensate if necessary by locking
the slider on the bar by the screw P. & adjusting
by the milled nut B. The record may then
be taken in the usual way. If with the
3-way switch C. at "10" the skin current
cannot be compensated turn the switch to
"100" & readjust the resistances so that the
voltmeter again read 0.9V. The amount of
compensation is then 10 times as great as
before & the M.V. compensation indicated by the
slider should be multiplied by 10. It is
immaterial whether this switch is on the "10"
or "100" M.V. range when calibrating but it must
not be in the "off" position.

It is not intended that the galvo resistance
should be measured each time but if
measured occasionally its resistance will
indicate whether the fibre is normal or not.

When the record has been taken turn
both switches to "off" & disconnect the battery
from the Bridge.

No. 33.	Normal.	Lead I	AHM	glass ^{by face} by face
" 34.	do	Lead II	"	
" 35.	do	Lead III	"	
45.46.47				
" 58.59.60	do	Lead I	GSW.	
" 61	do	Lead I	GSW -	5 mins after
84.92.96.119				whisky 3i
136	do	Frog.		
137	do	"		BaCl ₂ - tonus in cycle
138	do	"		
139	—	"		Adrenalin - inc.
140		"		heart beat owing to perf. inc. blood press - but slows through thinning of vapors at medulla.
161	normal	"		
162	—	"		muscarine stops heart thro' vapors
163	—	"		do, rep
164	—	"		atropin
165	—	"		Chloral hydrate said to def. bundle.
166	—	"		adrenalin
167.168.169.170.171.172.173.174				
45.46.47				
175.176.177.178.179.180.181				

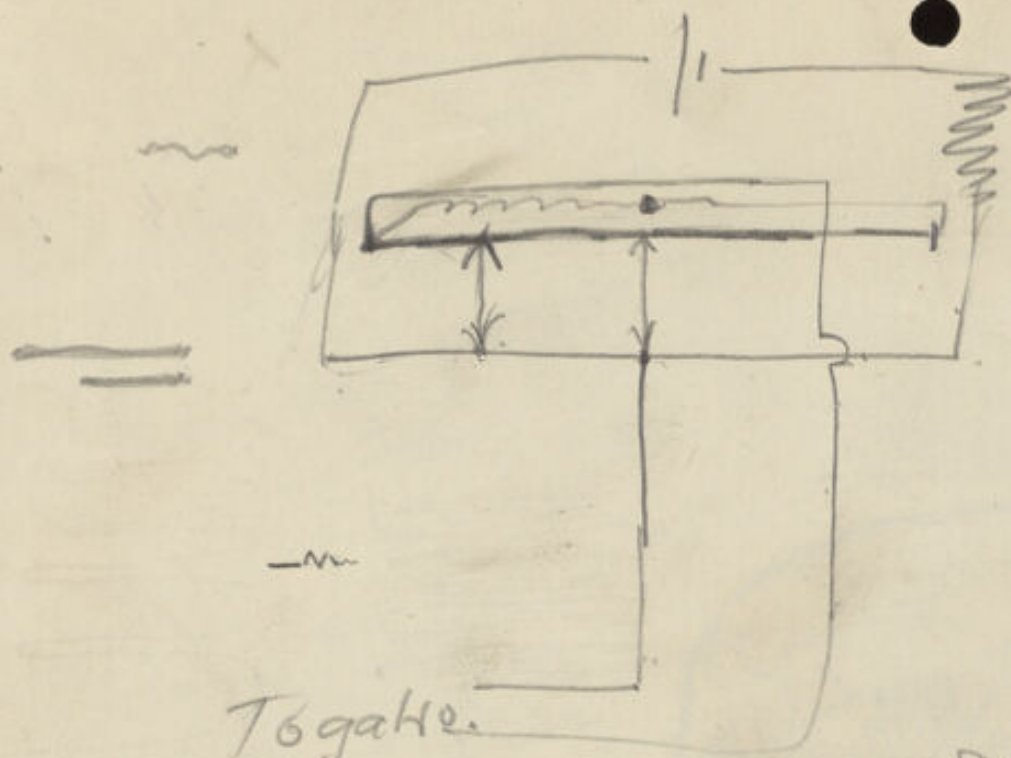
Cast 190

Nov: 24/11

40

Carl. metham. Lead I - pt. needles in pectoral muscles

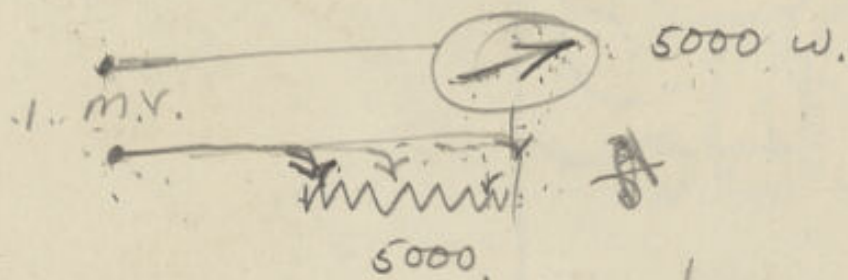
Bay I. (175)	1100 ohm	40 m/v	normal
" I ^{ap} (176)		18 m/v. adrenaline	11.19 11.44 1/2 11.45
" 2 (177)		18 m/v chloroform suggested hypnotism to depress heart	12.0 12.1
" 3 (178)		21 m/v pilocarpine ice - 2%	12.9 12.10 12.11
" 4 (179)		50 m/v atropine ice - 0.1%	12.11 1/2
" 5 (180)		23 m/v hind squirrel 1%	12.18 12.19
" 6 (181)		25 m/v dr. 4 c/c	12.23 1/2 12.26 1/2



2200
238

$$1 \text{ cfm} = 2 \text{ m/v}$$

$$4 \text{ cfm} = \begin{matrix} .25 \text{ mp} \\ .06 \text{ m/v} \end{matrix}$$

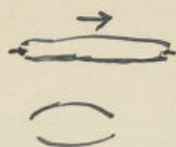
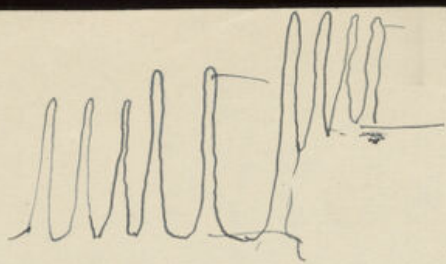


4000

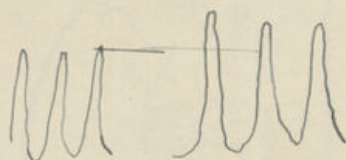
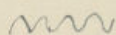
2000

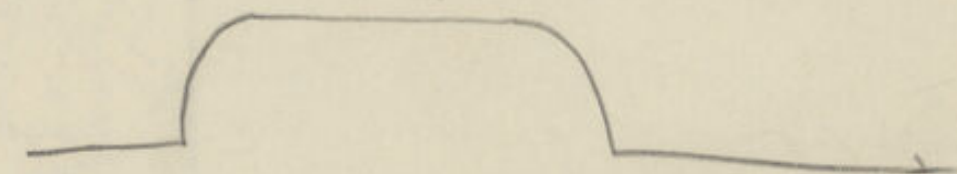
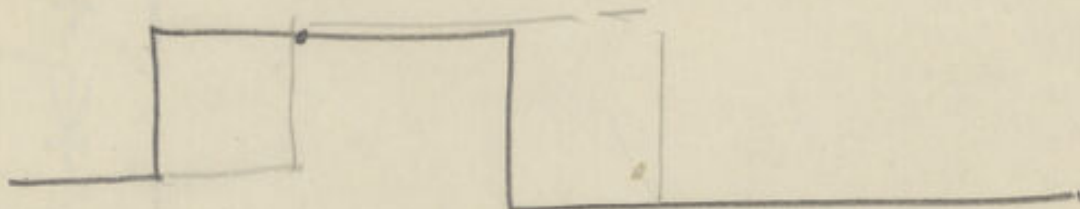
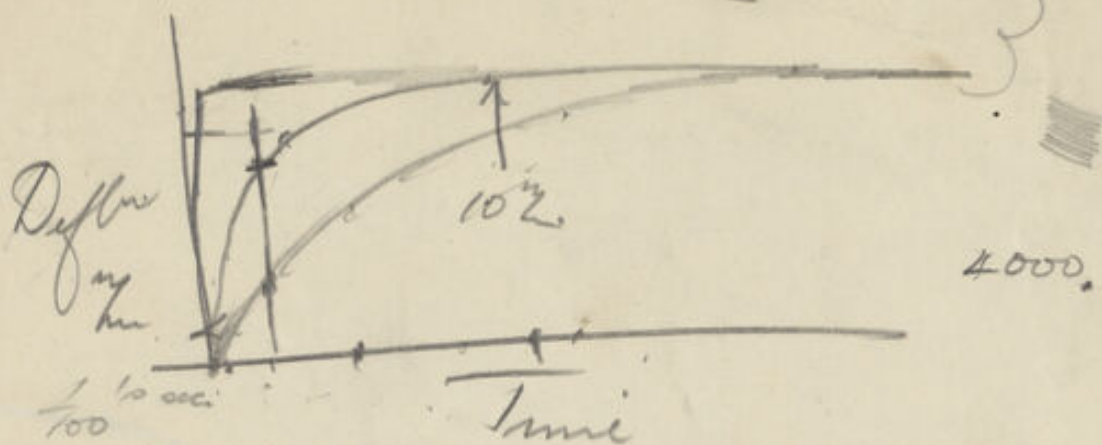
$$\frac{1 \text{ m/v}}{1 \text{ m/v}} = \frac{.001}{.0005} = \frac{.001}{.0001} = 10000$$

$$\frac{.2 \text{ micro amp}}{1 \text{ micro amp}} = \frac{.16 \text{ m}}{.15 \text{ m}}$$



2 mV
3 mV





A. Nervous impulses are constantly passing from the spinal cord by way of the upper cervical sympathetic to the blood vessels of the head & to the pupil. This is shown by the ~~contraction~~ dilatation of the blood vessels & the contraction of the pupil which takes place as soon as the sympathetic is cut.

The ~~following~~ ^{following} questions & experiments are.

1. Whether the string galvanometer gives evidence of the passage of these nervous impulses.
2. If so, whether any induction can be drawn whether the nervous impulse is continuous or ^{discontinuous} ~~intermittent~~. & if ~~intermittent~~ discontinuous, at what rate per second.

B. The nervous impulses are then from the cerv. symp. to the tissues pass through the ~~nerve~~ nerve cells of the superior cervical ganglion. No investigations have been made as to the modification in the electrical change accompanying a nervous impulse as it passes through peripheral nerve cells.

If the string galvanometer gives evidence of the nervous impulse in the cerv. symp. this could be compared with that given when an electrode is placed peripherally of the sup. cerv. ganglion.

Further the matter could be tested by sending a single induction shock into the nerve & leading off to the string galvanometer.

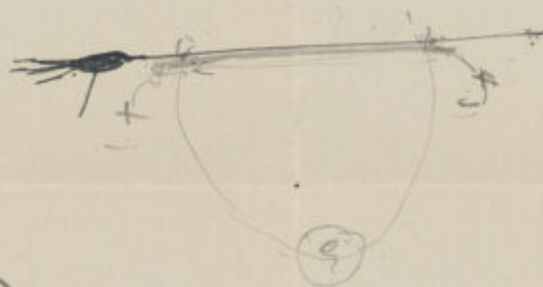
as in (a) & as in (b)



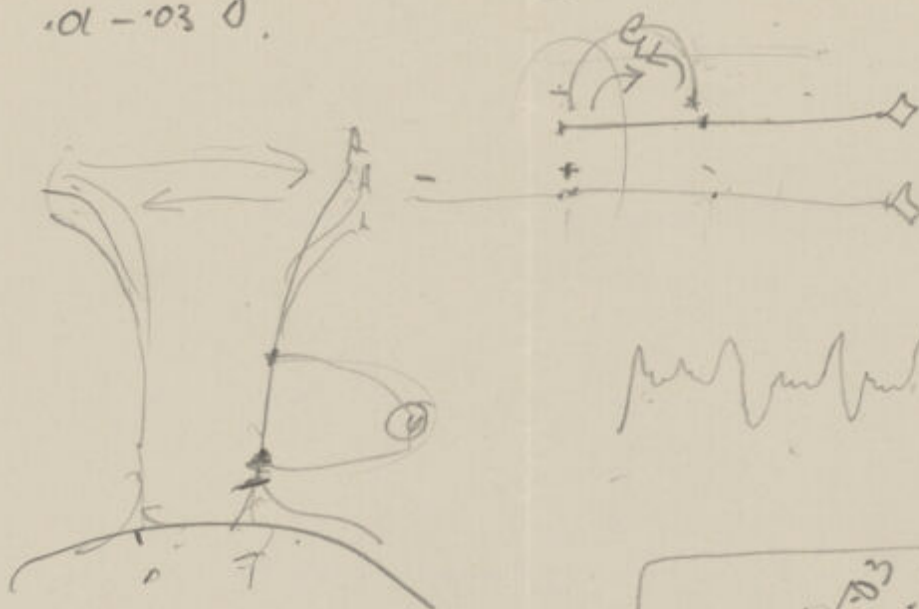
Animals that could be used are the rabbit & cat.

Normally nervous impulses pass down the cervical sympathetic
 & cause a ~~slow~~ continuous slight contraction of the blood vessels
 of certain parts of the head, & of the dilator pupillae.

Can any indication of this be obtained with the tiny galvanometer
 stimuli passing ~~down~~ along the cervical sympathetic have to pass
 through ganglion cells. When the nerve is stimulated electrically
 what changes are perceptible in the post-ganglionic phase -
 the ganglion cell



.01 - .03 D.



[Handwritten signature]

157 K-03
 Danville

No. 33

34

35

38

61

136

137

138

139

161

162

163

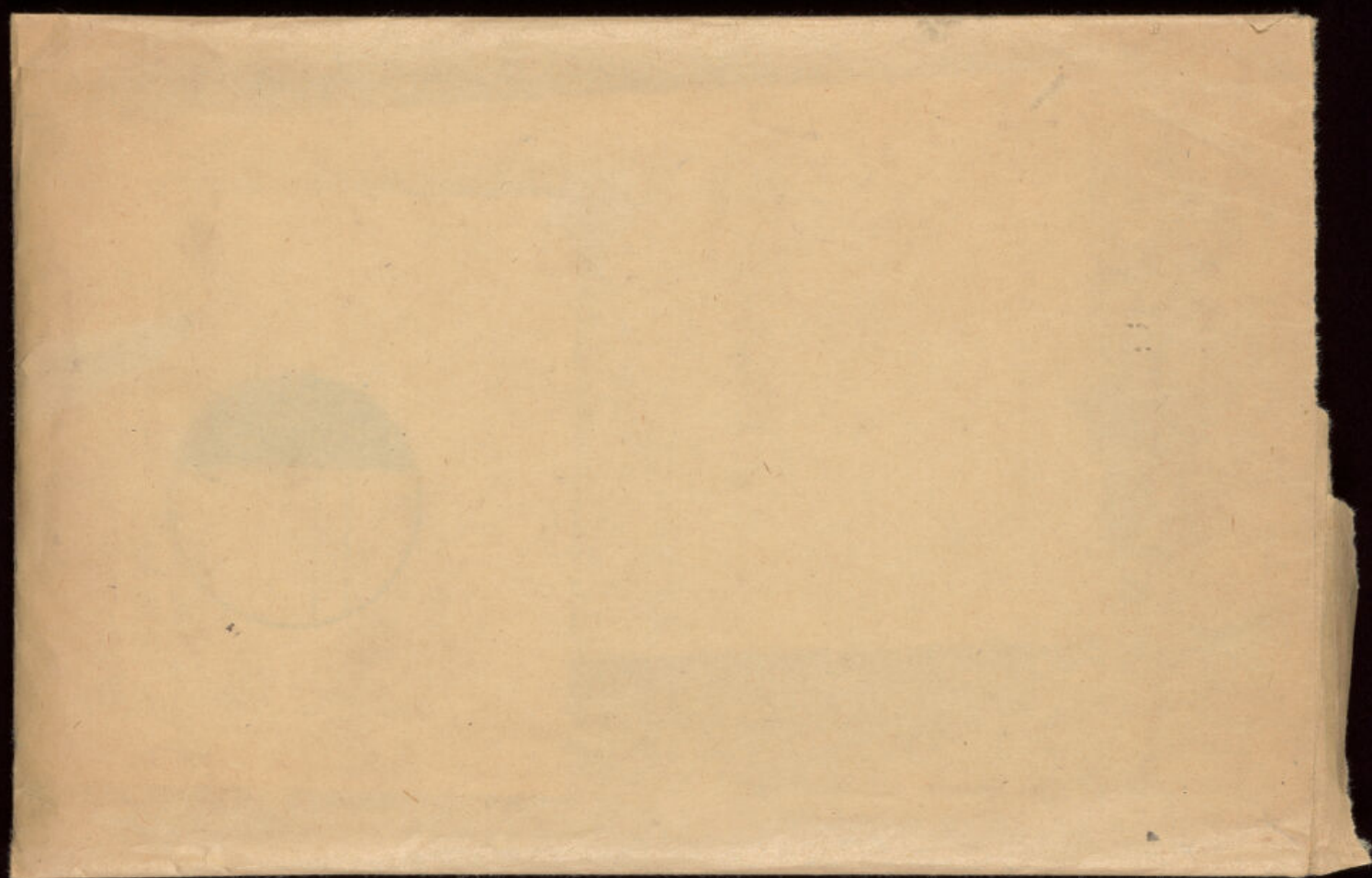
164

165

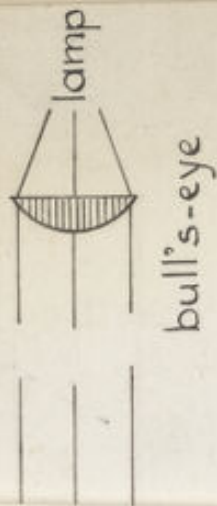
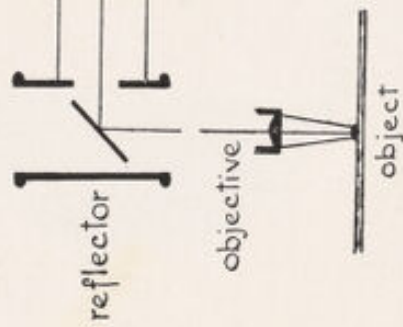
166

marked T L

hop - left.

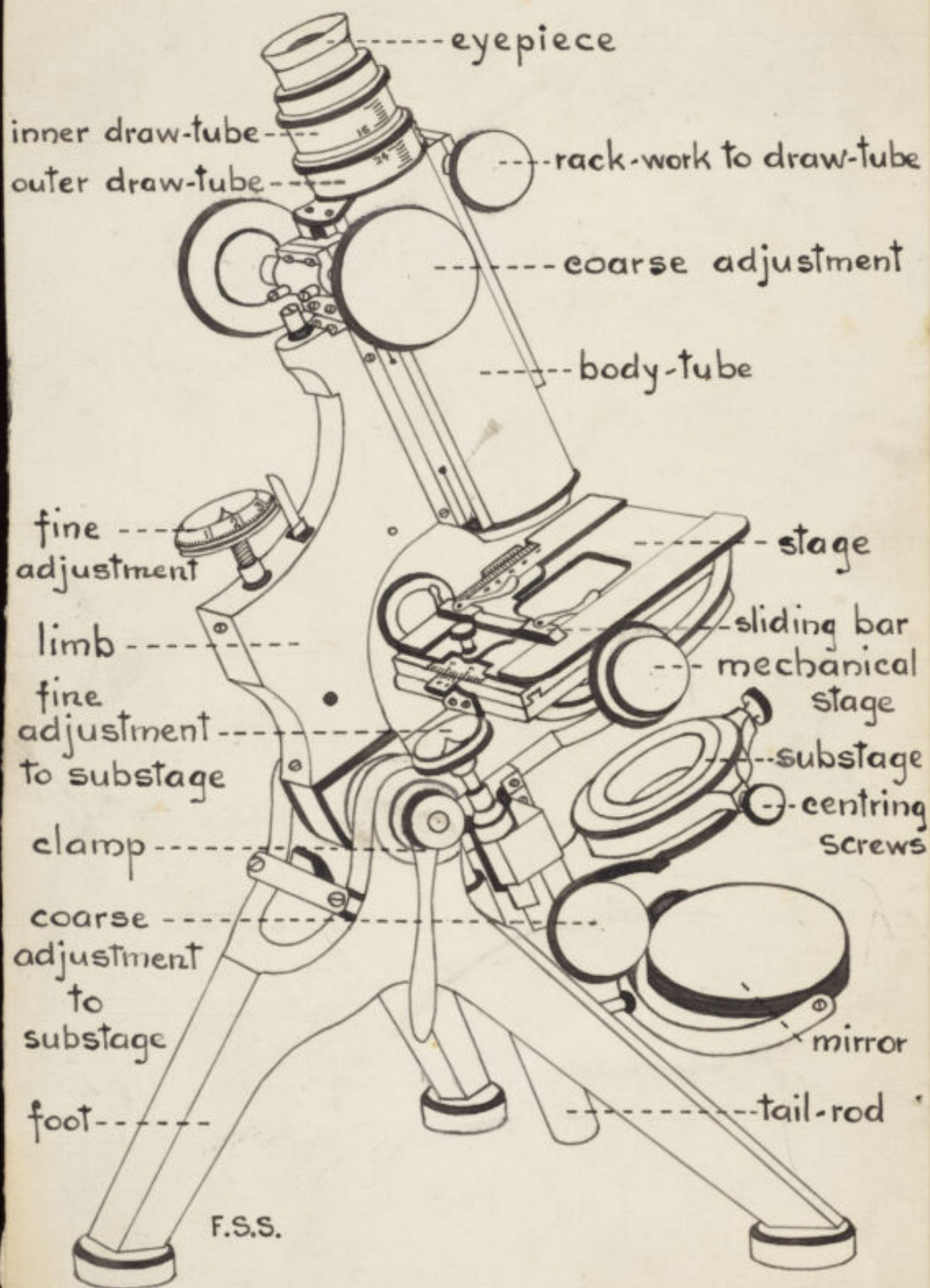


June.



IV





3 1/2

Fig. 5

Compound Microscope

(reduce to size suitable
for page - say, to $\frac{2}{3}$)

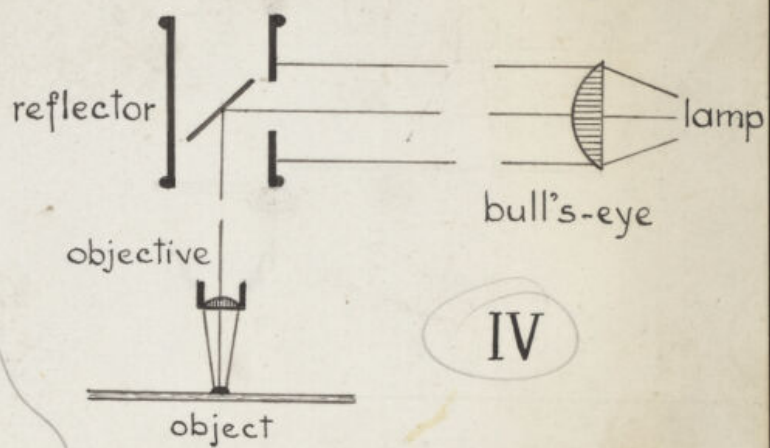
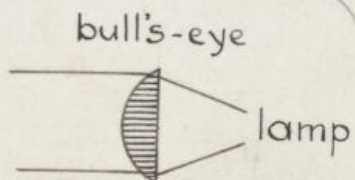
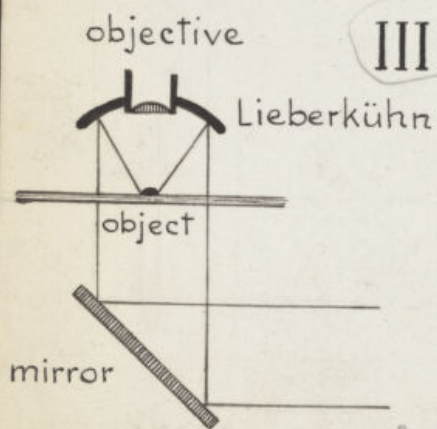
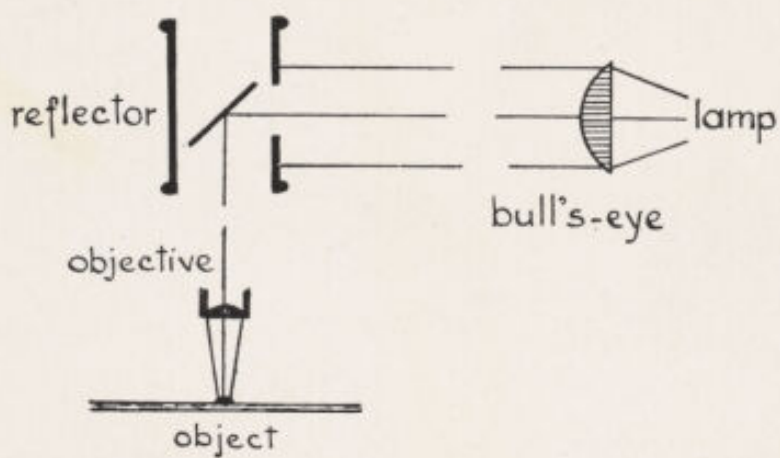
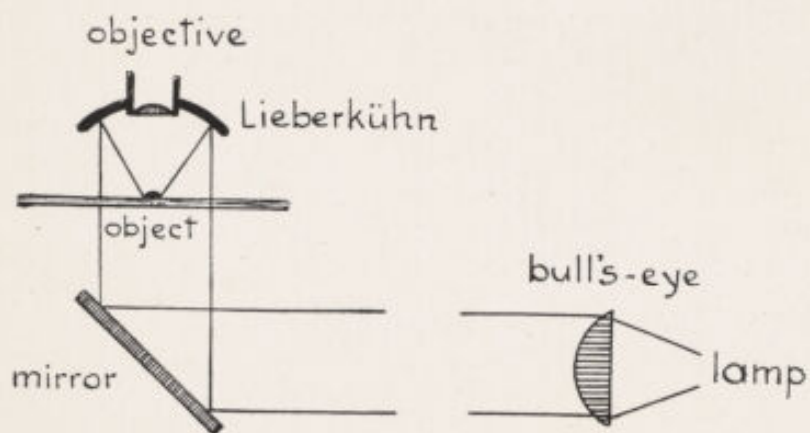


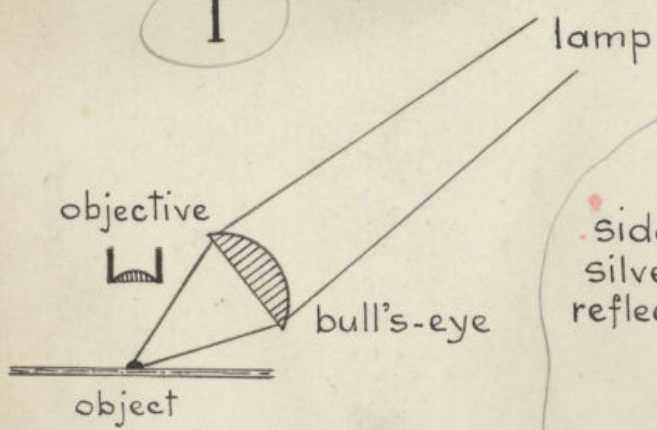
Fig 108 (contd) Reduce to $\frac{2}{3}$

Methods of Reflecting Light.

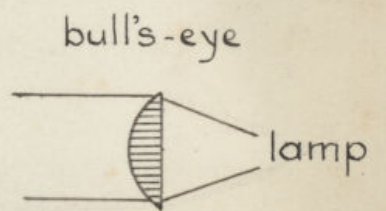
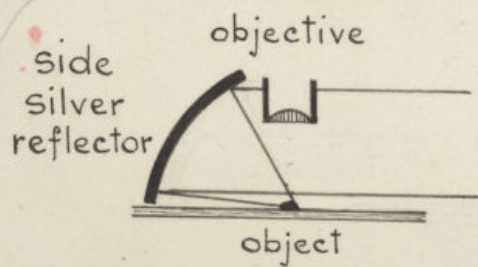
724



I



II



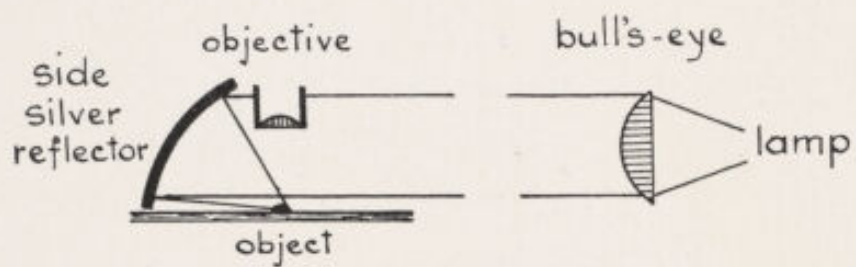
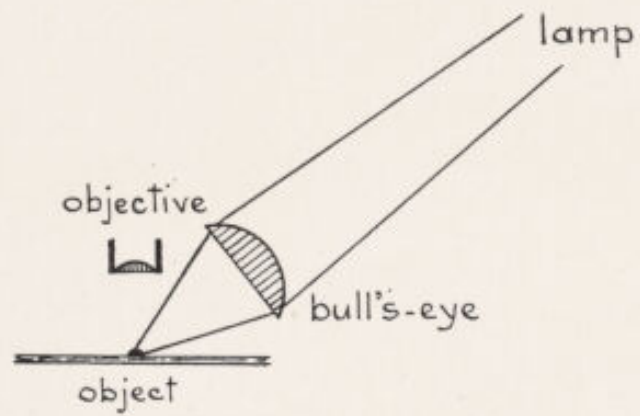
with the 3" — A

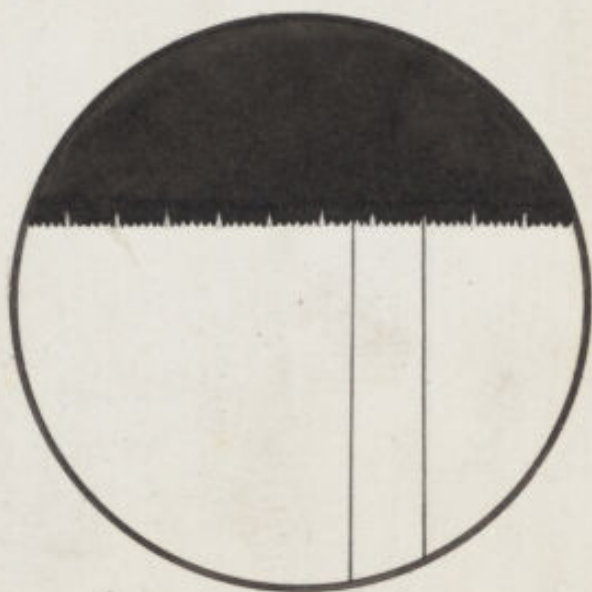
Fig 108

Reduce to $\frac{2}{3}$

Methods of Reflecting Light.

L2LL





White Kie
2" — "A"

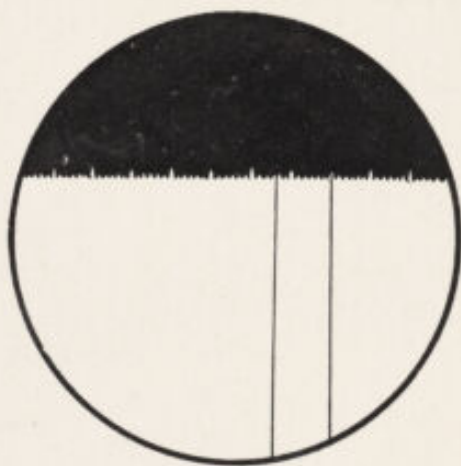


Fig. 73

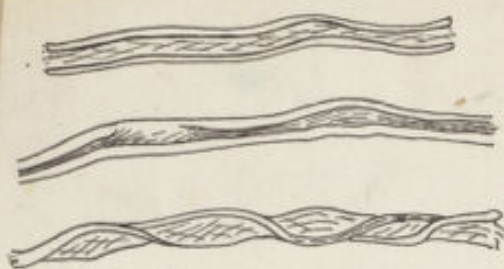
Reduced to 2/3

Field of Screw Micrometer

Eye piece

7727

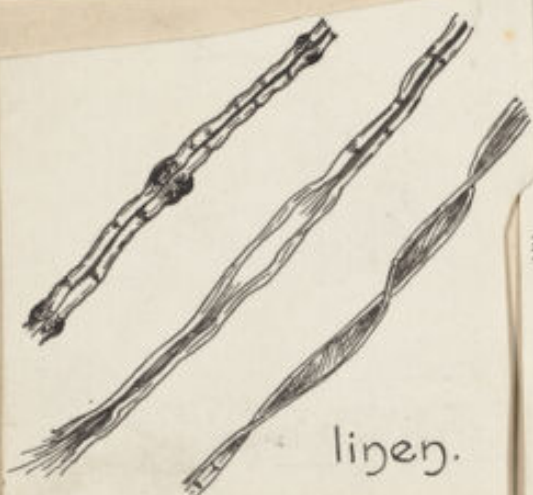




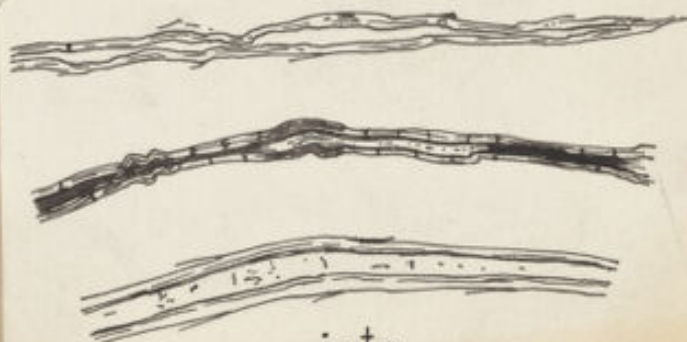
cotton.



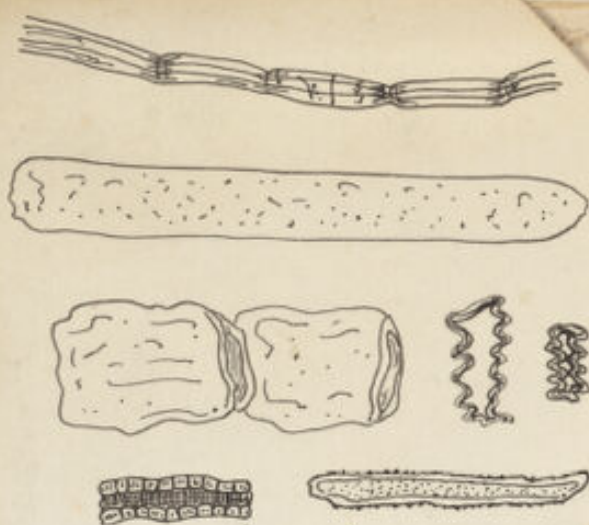
hemp.



linen.



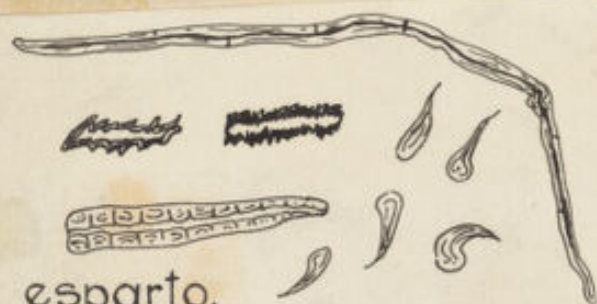
jute.



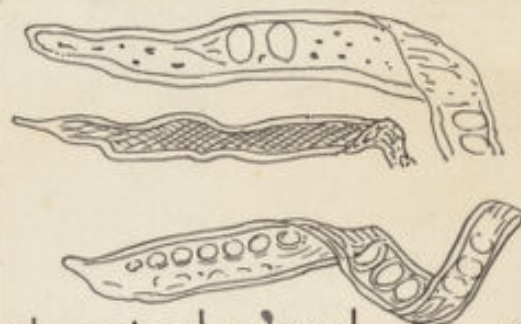
straw.



mechanical wood.



esparto.



chemical wood.

F.S.S.

White

Whole part of plant

absence of hairs
on stem

mode of inflorescence

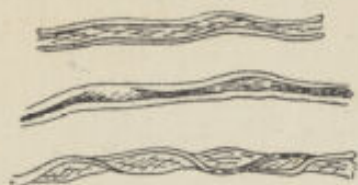
presence of stipules

&c &c

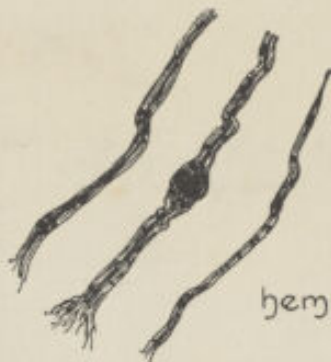
[sufficient pressure to
measure the length of
the whole]

5496

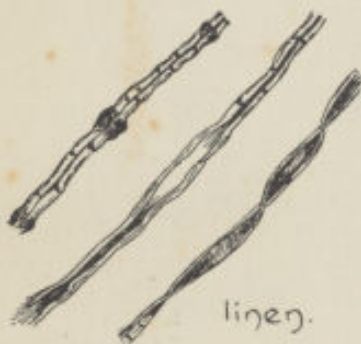
3 1/4 inches



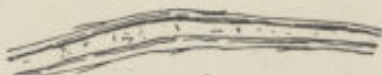
cotton.



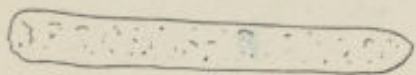
hemp.



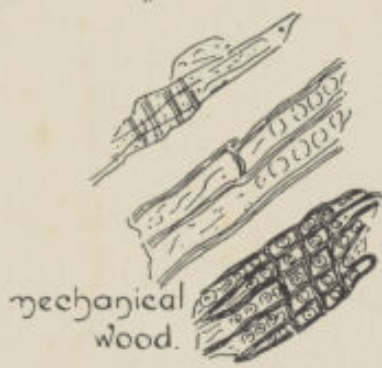
linen.



jute.



straw.



mechanical wood.



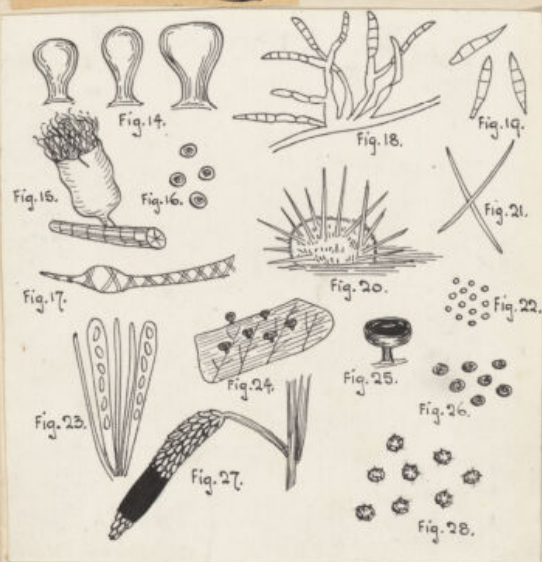
esparto.



chemical wood.

F.S.S.

Seaver Corp



Reduce to $5\frac{1}{4}$ in
 & cut into 3 blocks $2\frac{1}{2}$ in wide, each,

W. scales

7625

