

Explanation of plate XXII, in illustration of the Report on anaesthetics, page 387.

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Publication/Creation

[London?] : [publisher not identified], [1881?]

Persistent URL

<https://wellcomecollection.org/works/bxmzxr>

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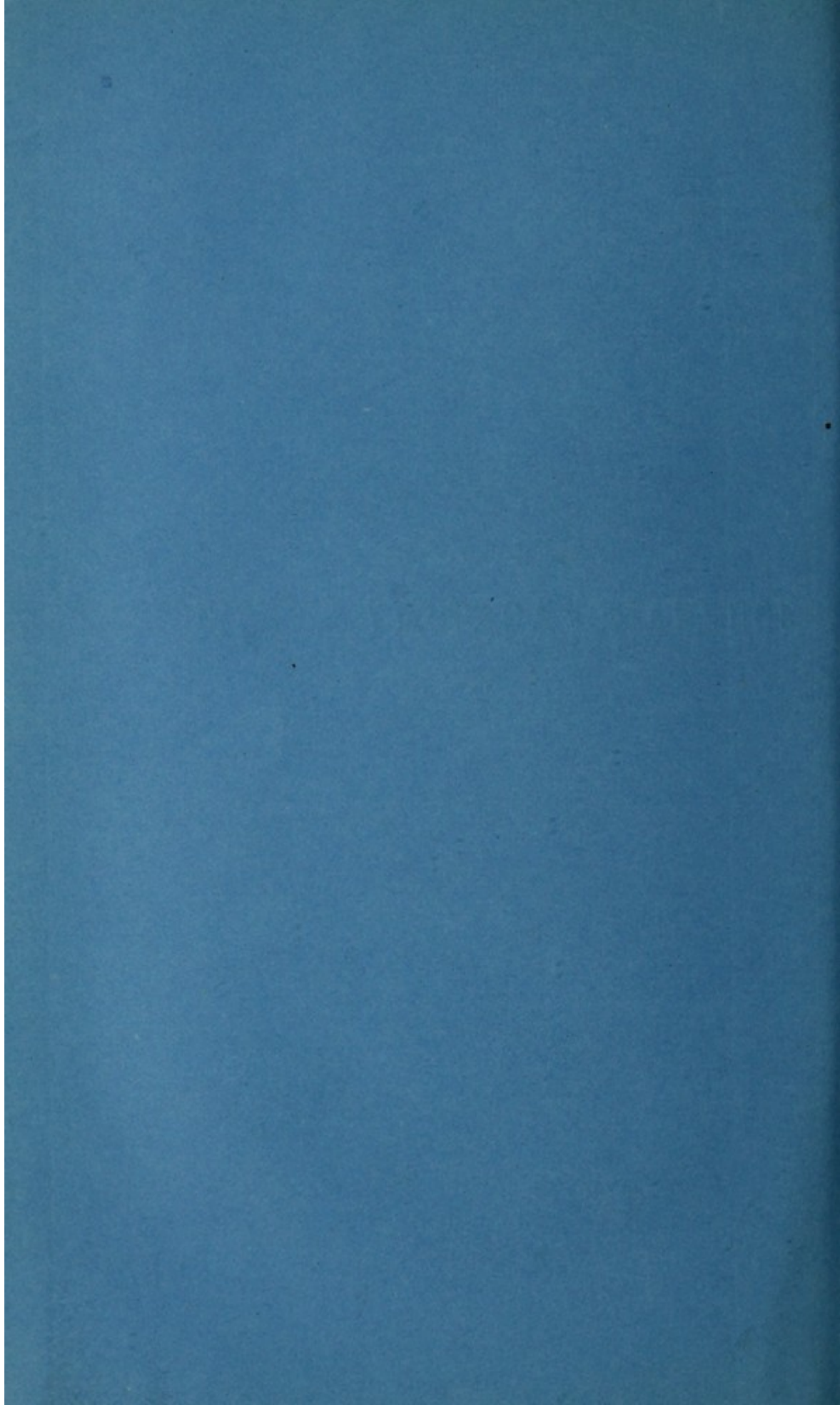
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FROM THE
JOURNAL OF ANATOMY & PHYSIOLOGY
VOL. XIII.



EXPLANATION OF PLATE XXII

An illustration of the Experiment on the Respiration of a Dog

Some of the figures referred to in the text are here reproduced, being understood that in the original the tracings are white on black instead of black on white. The basometer has presented the point at which the needle was when the mercury in the two limbs of the manometer was level. According to the present, the mercury is pressed down in the one limb and raised in the other, the tracing giving the level. As the actual pressure equals the weight of the column of mercury raised, this will be represented by the distance in the levels in the two limbs and will be double the distance from the basometer line to the tracing. The tracings are to be read from left to right.

A. Represents the experiment mentioned in the text in which while a dog was recovering from chloroform, a sudden fall of pressure occurred, with great reduction in the frequency of the heart's contractions. There is a gradual recovery, with striking regularity of pressure corresponding with respiratory movements.

B. Another sudden fall of pressure and reduction of the heart's contractions occurred, but the recovery was not so complete as in the first case, and when the pressure had returned nearly to the normal.

C. The arterial pressure in a dog under the influence of chloroform. There is a progressive but somewhat irregular reduction of pressure, ending in a stoppage of the heart, while respiration continues. This is an important recovery of the heart, the contractions being caused by pressure to reach the basometer line. Towards this tracing are copies of the tracings only with the chronograph, half second delay, of the tracings used to indicate the administration or having an effect on an event are also reproduced.

D. The arterial pressure in a dog under the influence of ether. There is a perfectly regular and gradual reduction in the pressure, the respiratory variations being preserved.

E. This is a continuation of D, after an interval. Ether has been given all the time, and the illustration begins at the point where the pressure is lowest. The pressure is now beginning to rise, the ether being still continued.

F. The arterial pressure in a dog under the influence of ether. Note effect on the pressure is produced, and the respiratory variations are perfectly preserved.

G and H show the variations in pressure produced in rabbits by the administration of chloroform, the animals being at this time deeply under its influence. These variations are presumed to be reflex.

I and K show the exaggerated respiratory variations produced while artificial respiration was being carried out. It is to be understood that the animals made spontaneous respiratory efforts. The arrangement for artificial respiration not only blew air into the lungs but washed it out.

EXPLANATION OF PLATE XXII.

In illustration of the Report on Anæsthetics, page 387.

SOME of the tracings referred to in the text are here reproduced, it being understood that in the original the tracings are white on black instead of black on white. The basement line represents the point at which the needle was when the mercury in the two limbs of the manometer was level. According to the pressure, the mercury is pressed down in the one limb and raised in the other, the tracing giving the latter. As the actual pressure equals the weight of the column of mercury raised, this will be represented by the difference in the levels in the two limbs, and will be double the distance from the basement line to the tracing. The tracings are to be read from left to right.

A. Represents the occurrence mentioned in the text, in which, while a dog was recovering from chloroform, a sudden fall of pressure occurred, with great reduction in the frequency of the heart's contractions. There is a gradual recovery, with striking inequalities of pressure corresponding with respiratory movements.

B. Another sudden fall of pressure and retardation of the heart's contractions occurring seventy seconds after the removal of the chloroform, and when the pressure had returned nearly to the normal.

C. The arterial pressure in a dog under the influence of chloroform. There is a progressive but somewhat irregular reduction of pressure, ending in a stoppage of the heart, while respiration continues. There is an imperfect recovery of the heart, the contractions barely causing the pressure to reach the basement line. Beneath this tracing are copies of the markings made with the chronograph, half seconds being registered. The markings used to indicate the administration or leaving off of an agent are also reproduced.

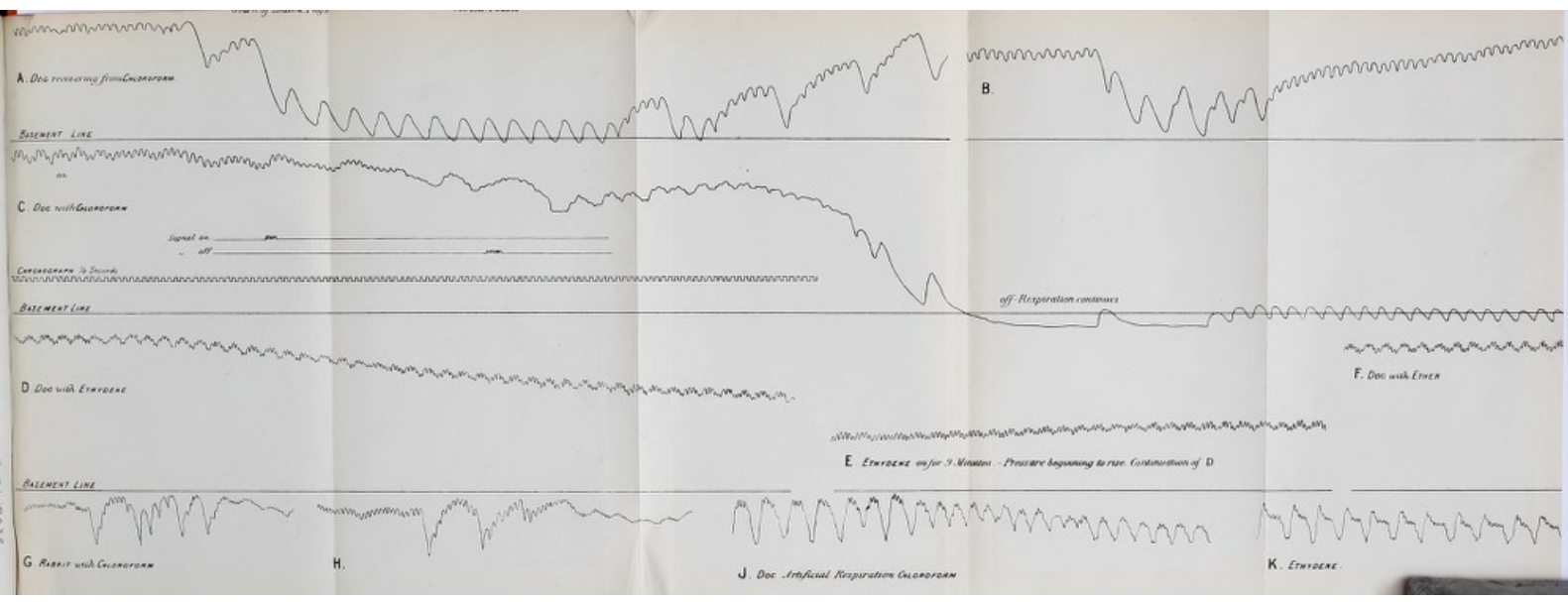
D. The arterial pressure in a dog under the influence of ethidene. There is a perfectly regular and gradual reduction in the pressure, the respiratory variations being preserved.

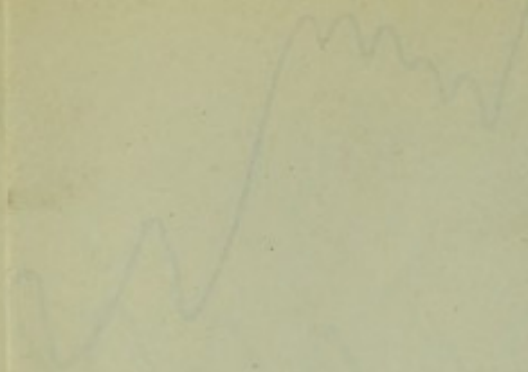
E. This is a continuation of D, after an interval. Ethidene has been given all the time, and the illustration begins at the point where the pressure is lowest. The pressure is now beginning to rise, the ethidene being still continued.

F. The arterial pressure in a dog under the influence of ether. No effect on the pressure is produced, and the respiratory variations are perfectly preserved.

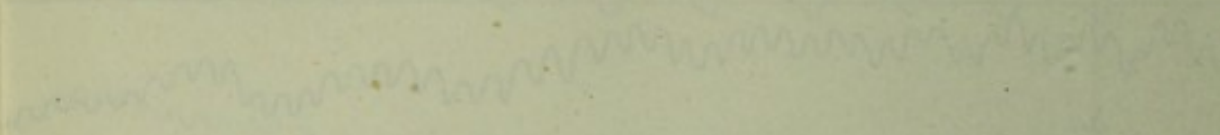
G and H show the variations in pressure produced in rabbits by the administration of chloroform, the animals being at this time imperfectly under its influence. These variations are presumed to be reflex.

J and H show the exaggerated respiratory variations produced while artificial respiration was being carried out. It is to be understood that the animals made synchronous respiratory efforts. The arrangement for artificial respiration not only blew air into the lungs, but sucked it out.



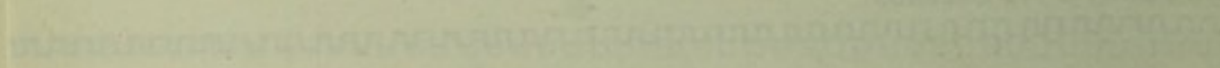


the first of the first series



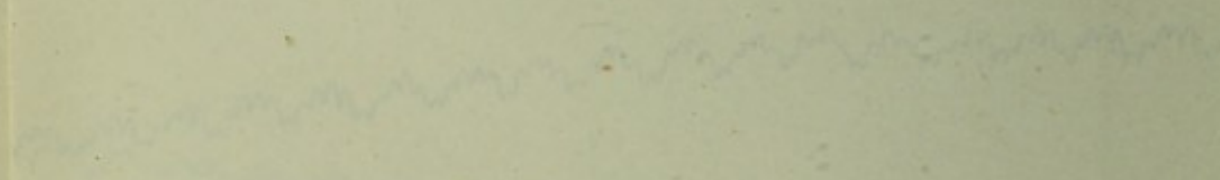
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the third of the first series



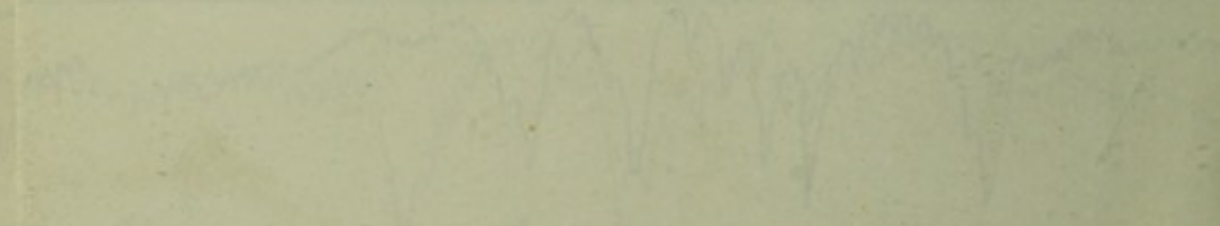
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the fifth of the first series



the sixth of the first series

the seventh of the first series



the eighth of the first series

