

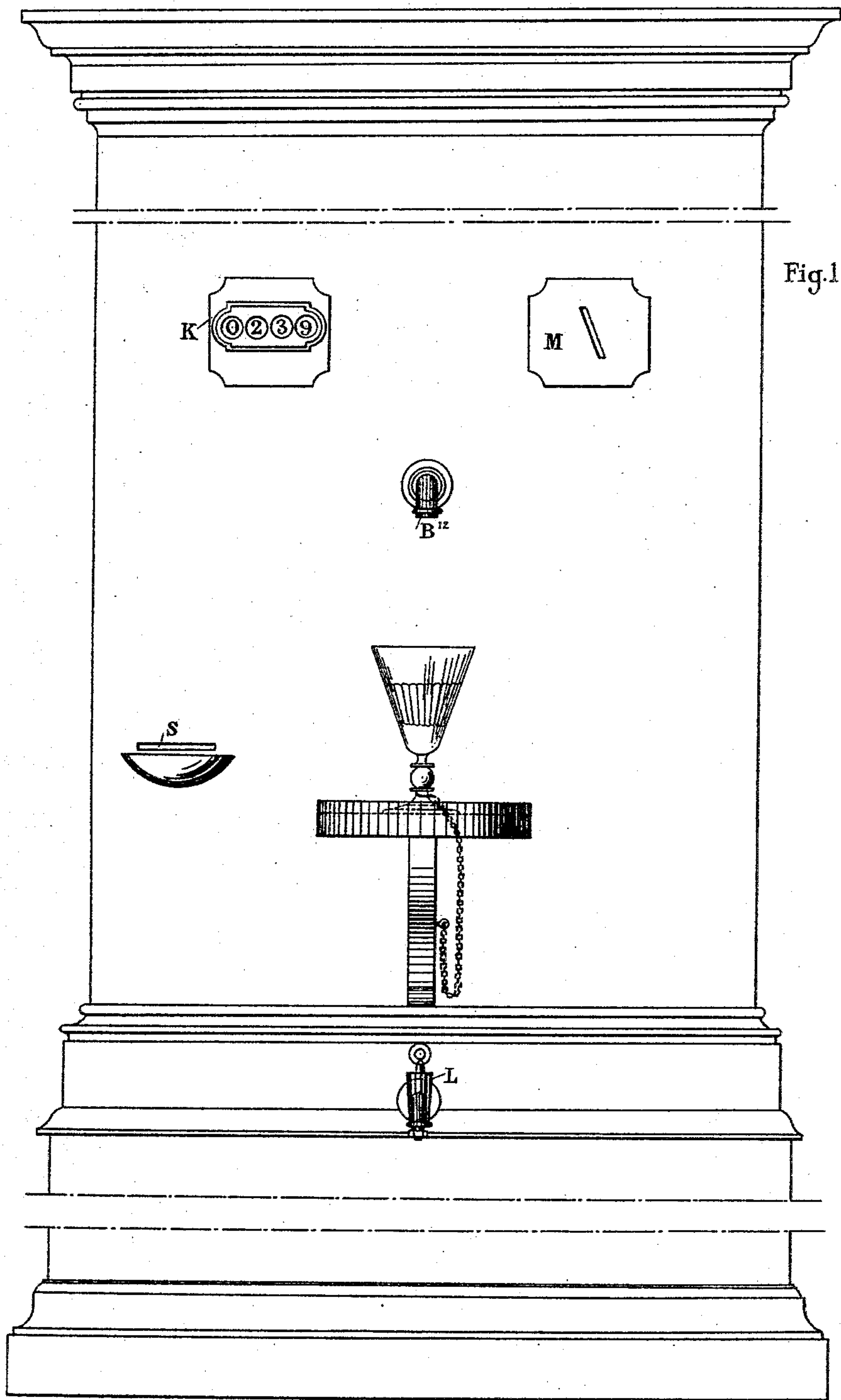
(No Model.)

8 Sheets—Sheet 1.

H. SCHLOESING & B. DÉGREMONT.
COIN OPERATED LIQUID VENDING APPARATUS.

No. 412,127.

Patented Oct. 1, 1889.



Witnesses:

H. P. P. P.
Arthur L. Bryant

Inventors:
Henri Schloesing
Benjamin Degremont
By their Attorneys
Edouard P. P.

(No Model.)

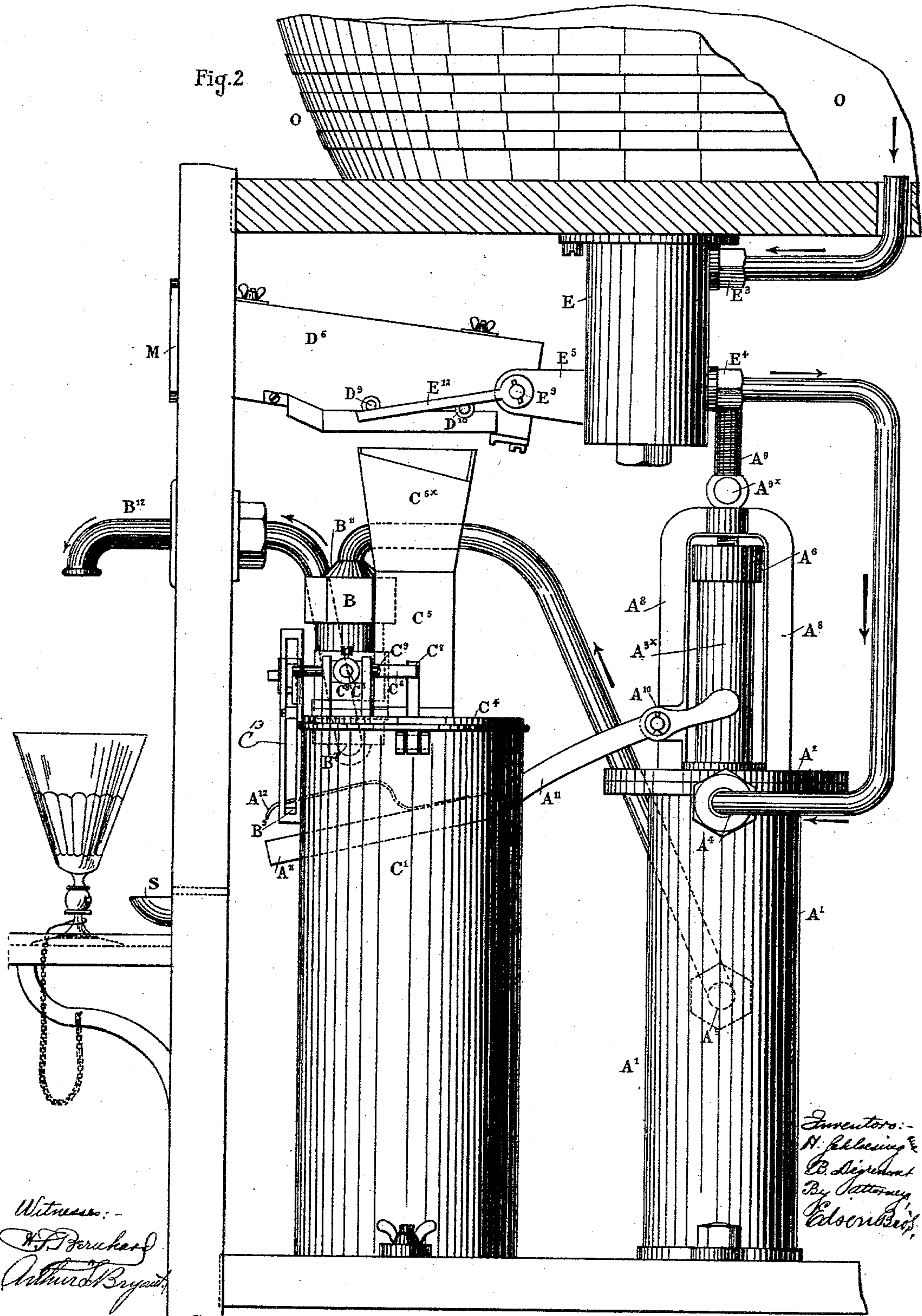
8 Sheets—Sheet 2.

H. SCHLOESING & B. DÉGREMONT.

COIN OPERATED LIQUID VENDING APPARATUS.

No. 412,127.

Patented Oct. 1, 1889.



N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

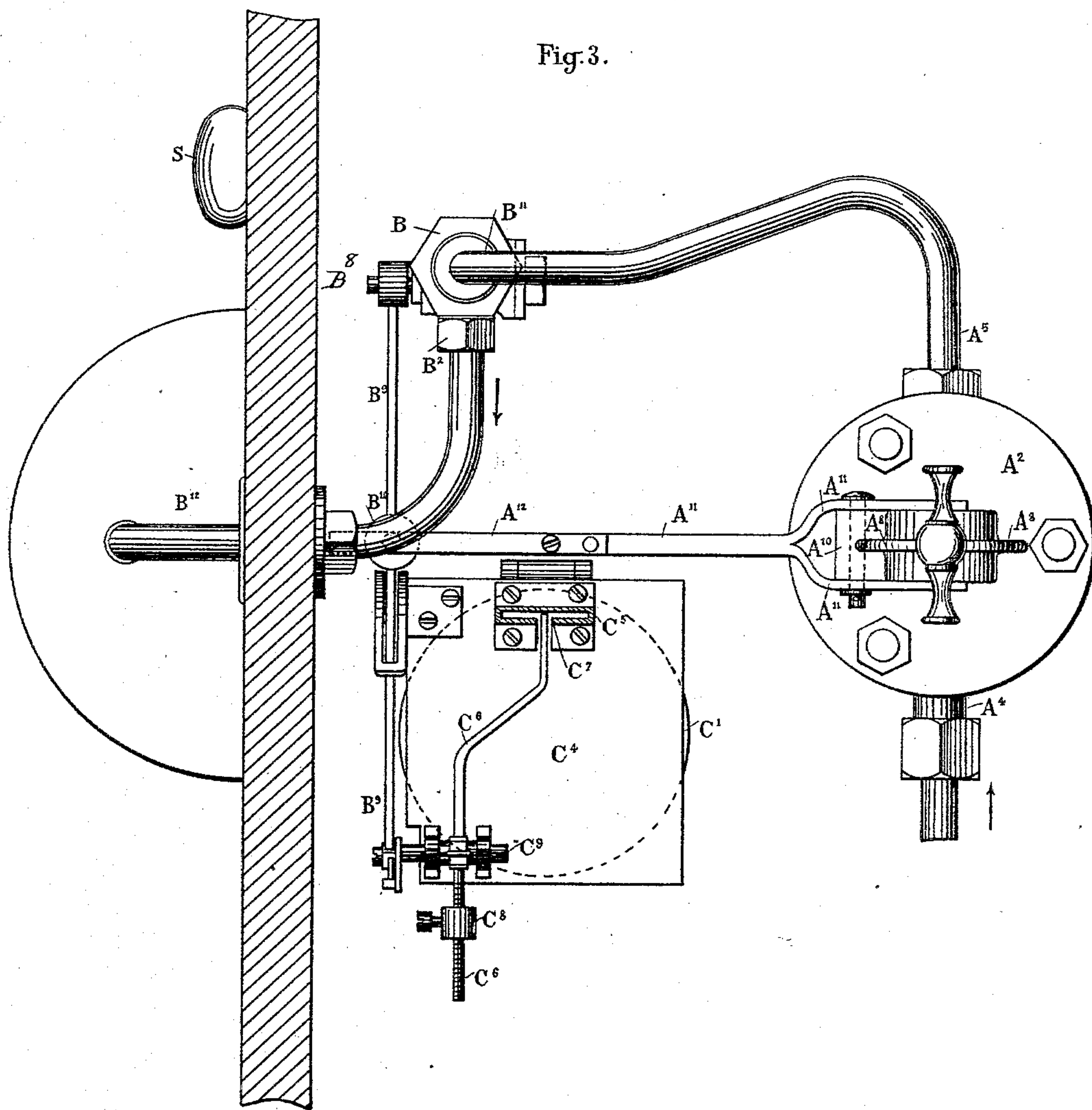
8 Sheets—Sheet 3.

H. SCHLOESING & B. DÉGREMONT.
COIN OPERATED LIQUID VENDING APPARATUS.

No. 412,127.

Patented Oct. 1, 1889.

Fig. 3.



Witnesses:

H. Peruchaud

Arthur L. Bryant

Inventors:

Henri Schloesing and

Benjamin Degremont

By their attorneys,

Edson Bros.

(No Model.)

8 Sheets—Sheet 4.

H. SCHLOESING & B. DÉGREMONT.
COIN OPERATED LIQUID VENDING APPARATUS.

No. 412,127.

Patented Oct. 1, 1889.

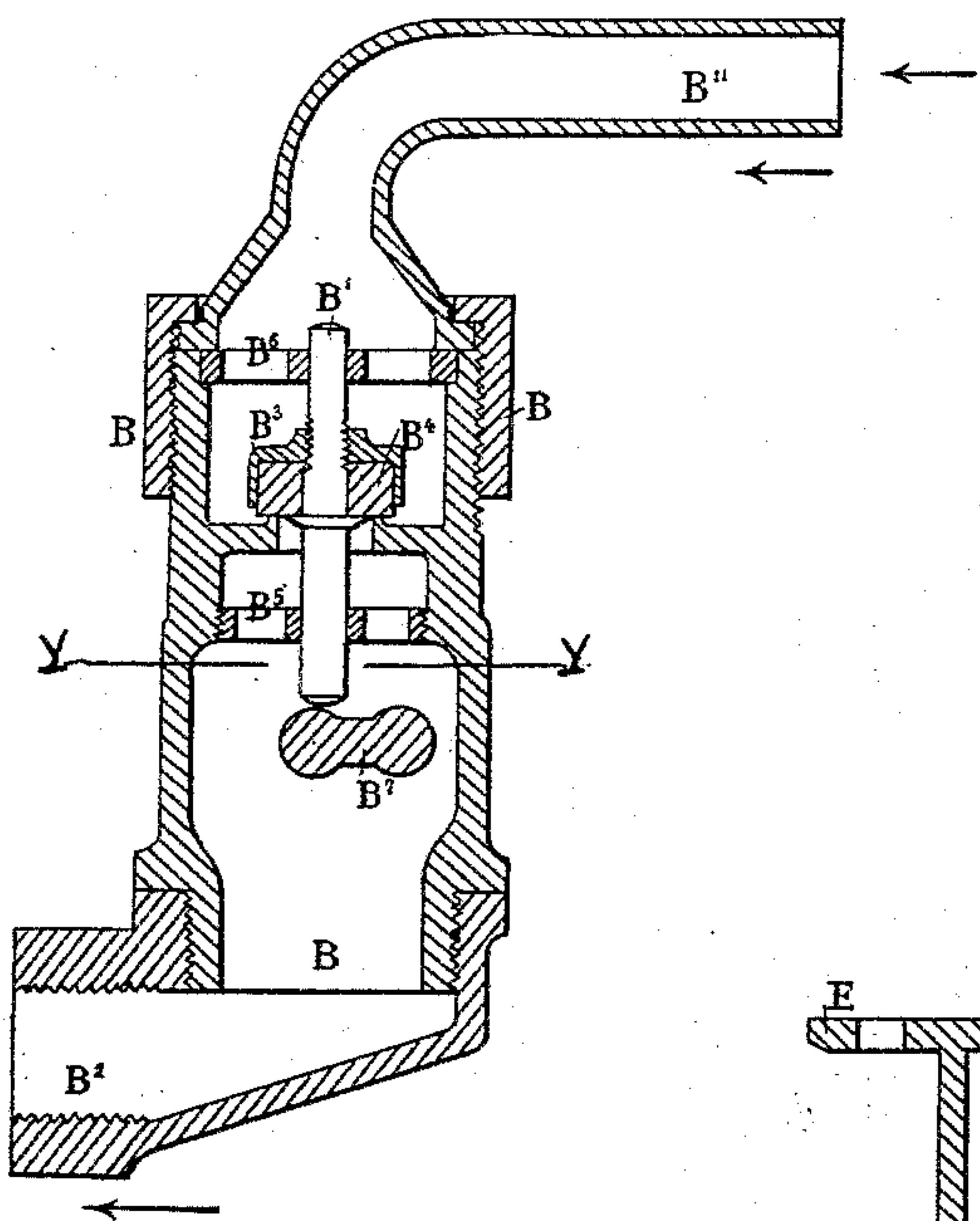


Fig. 9.

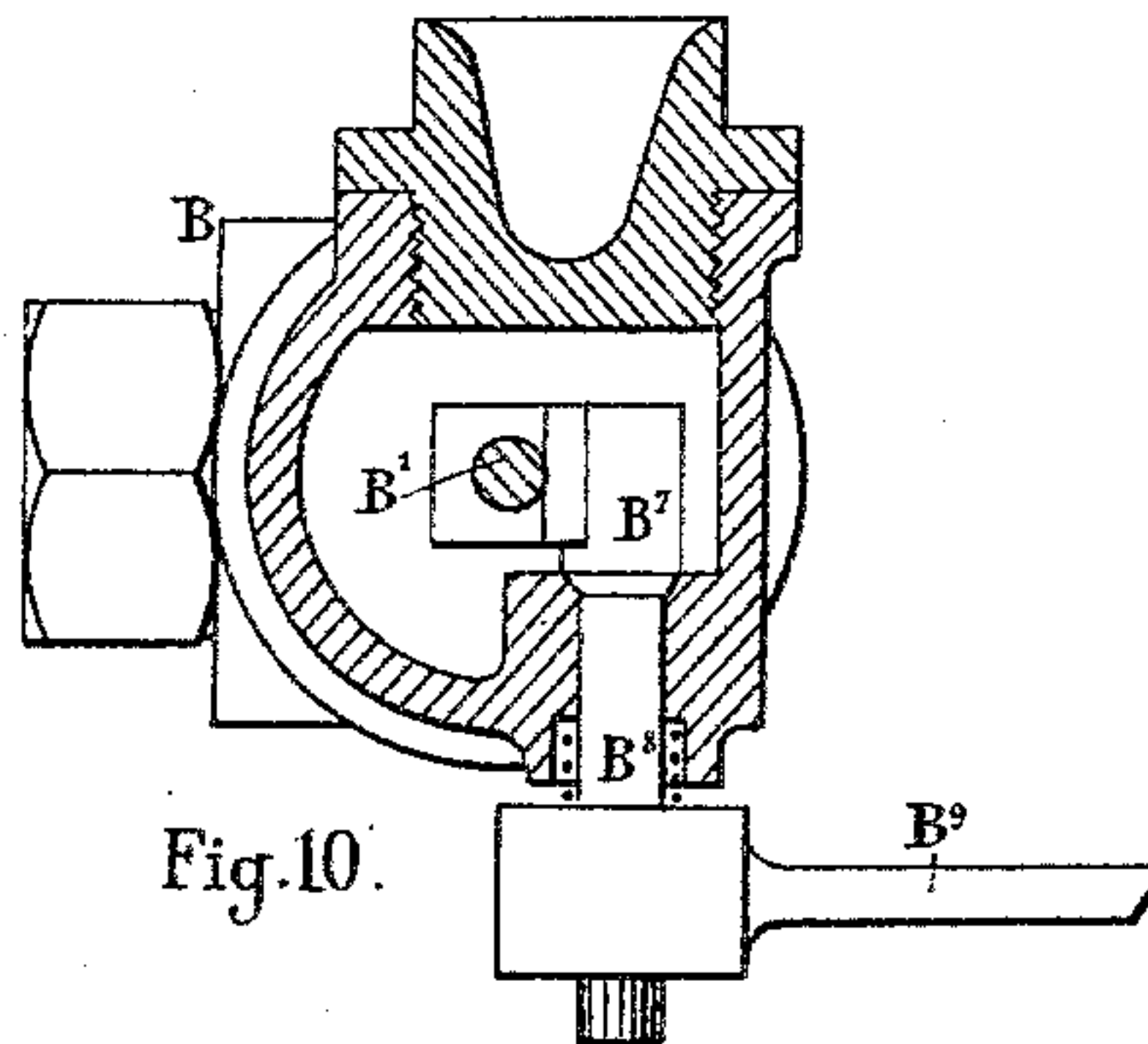


Fig. 10.

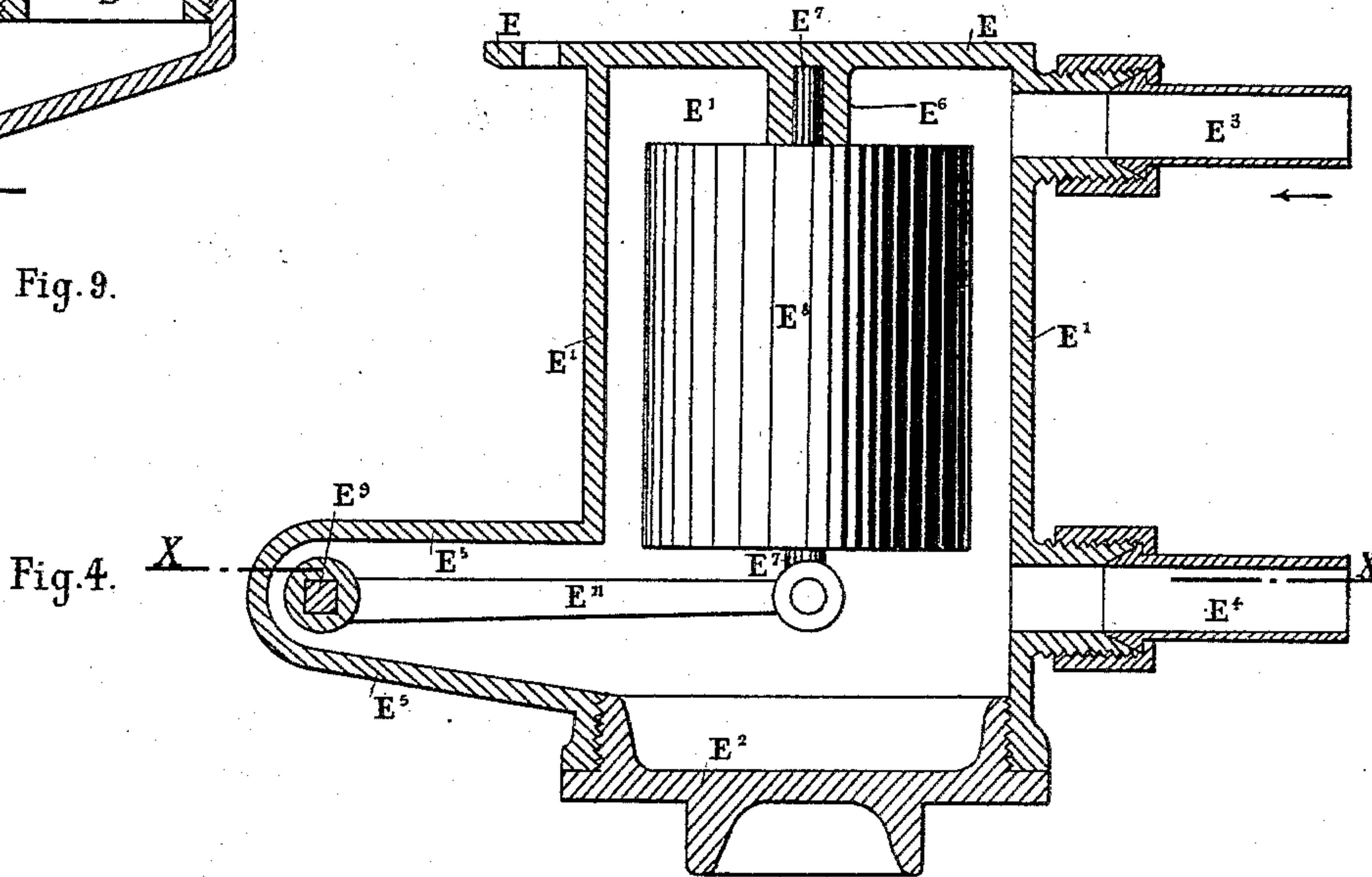
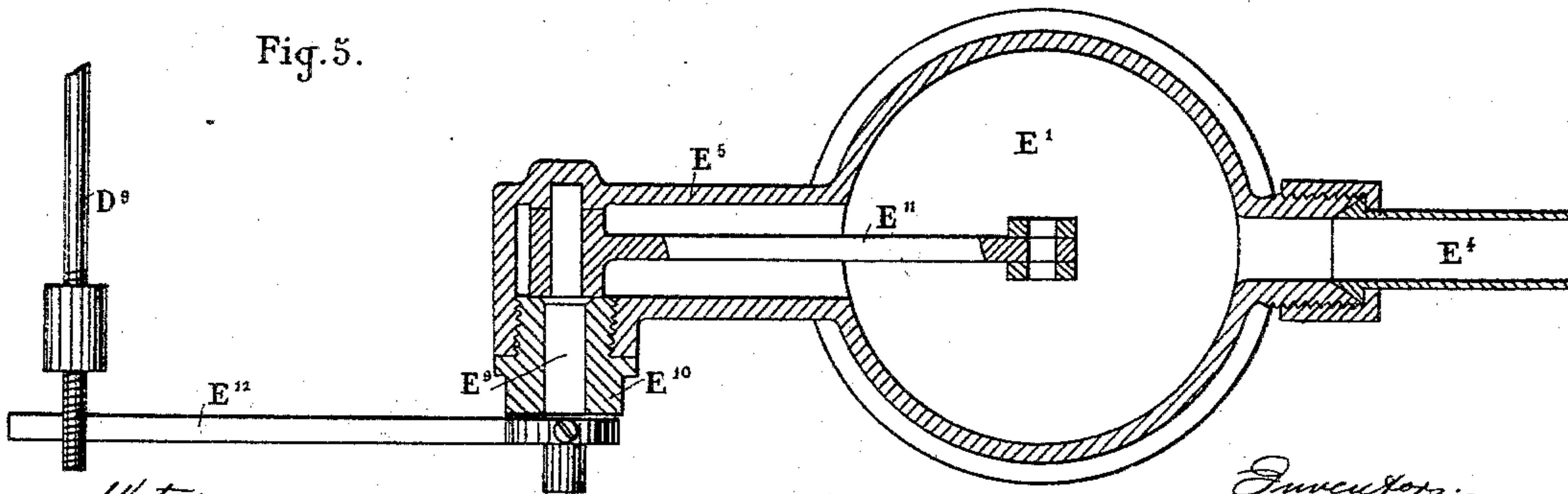


Fig. 4.

Fig. 5.



Witnesses:

W. Peruchon
Arthur L. Bryant

Inventors:
Henri Schloesing & B. Dégremond
By *their attorneys*
Edson Bros.

(No Model.)

8 Sheets—Sheet 5.

H. SCHLOESING & B. DÉGREMONT.
COIN OPERATED LIQUID VENDING APPARATUS.

No. 412,127.

Patented Oct. 1, 1889.

Fig. 7.

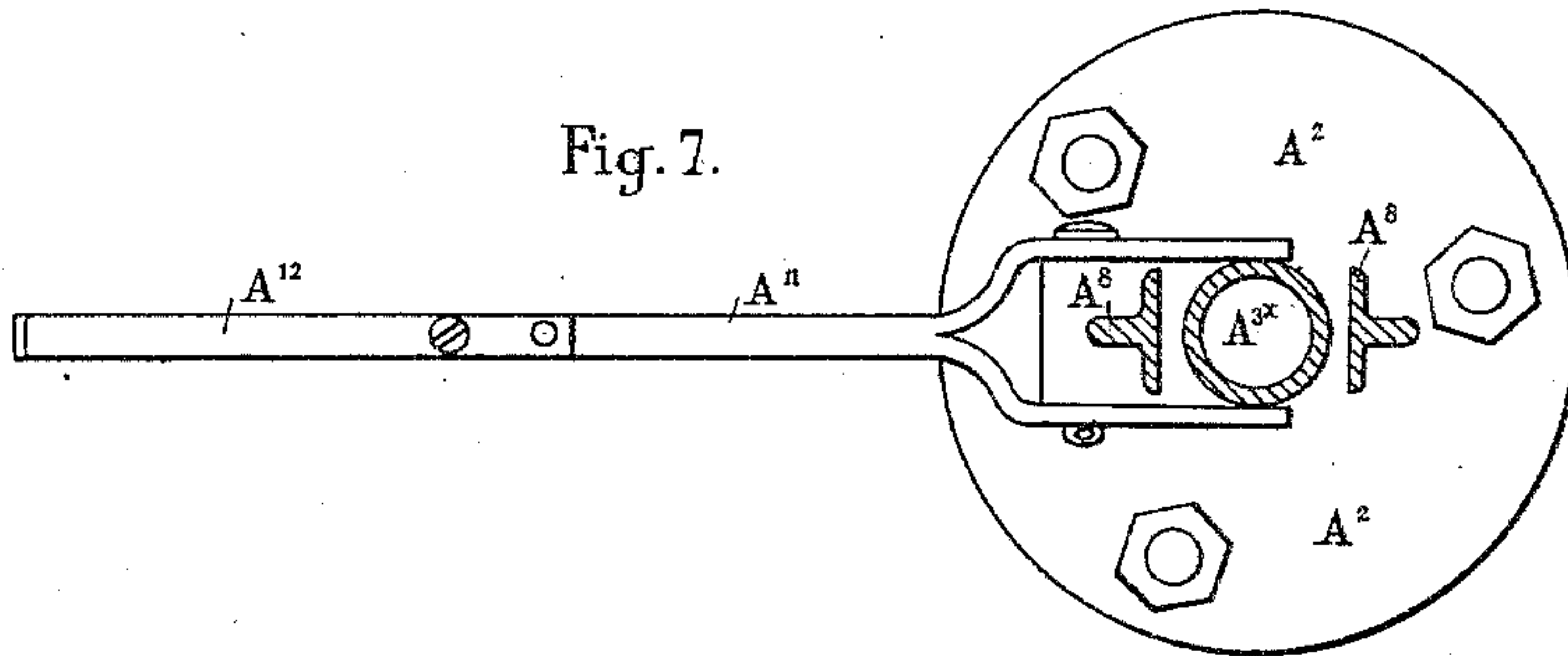


Fig. 6.

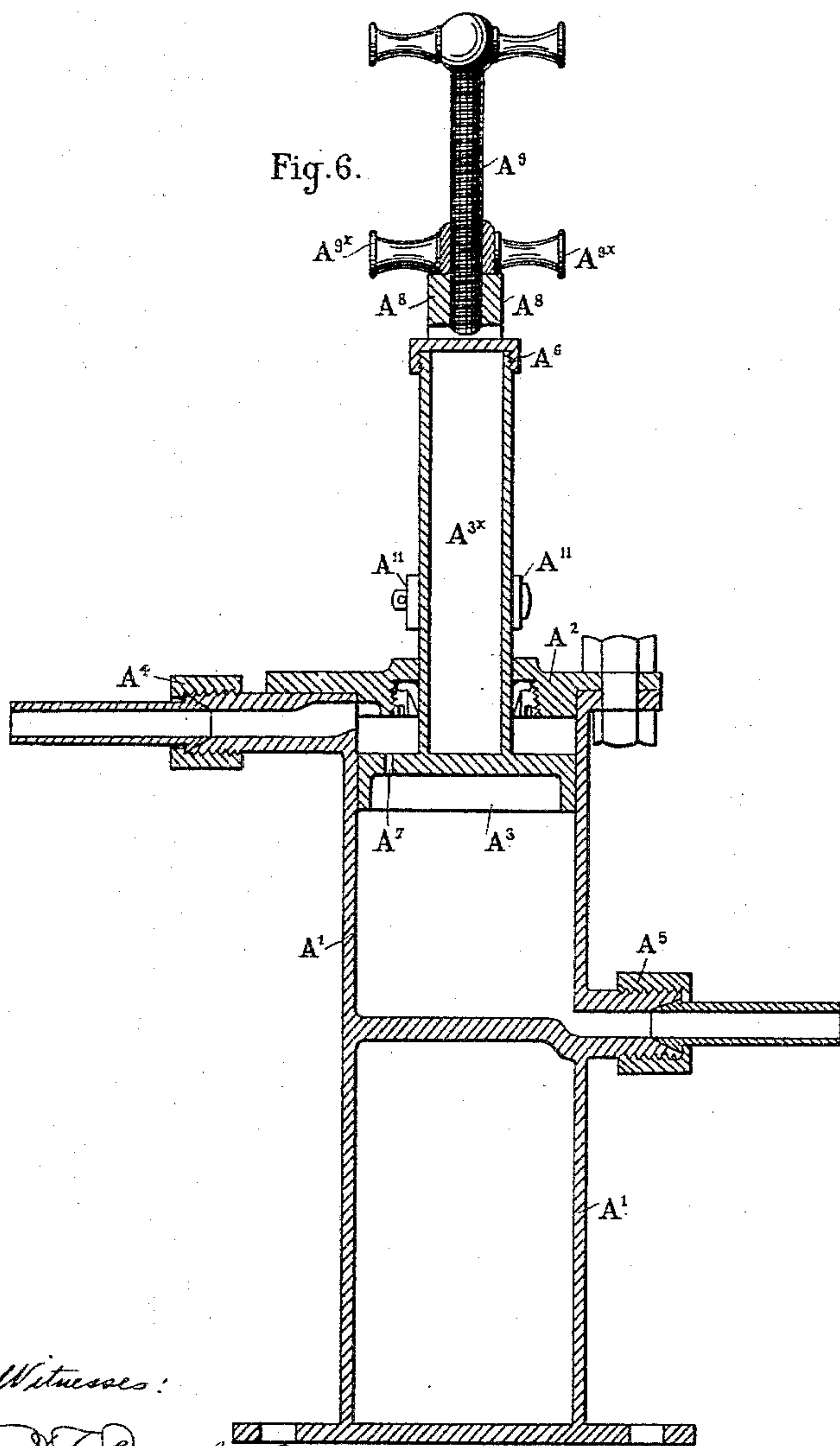
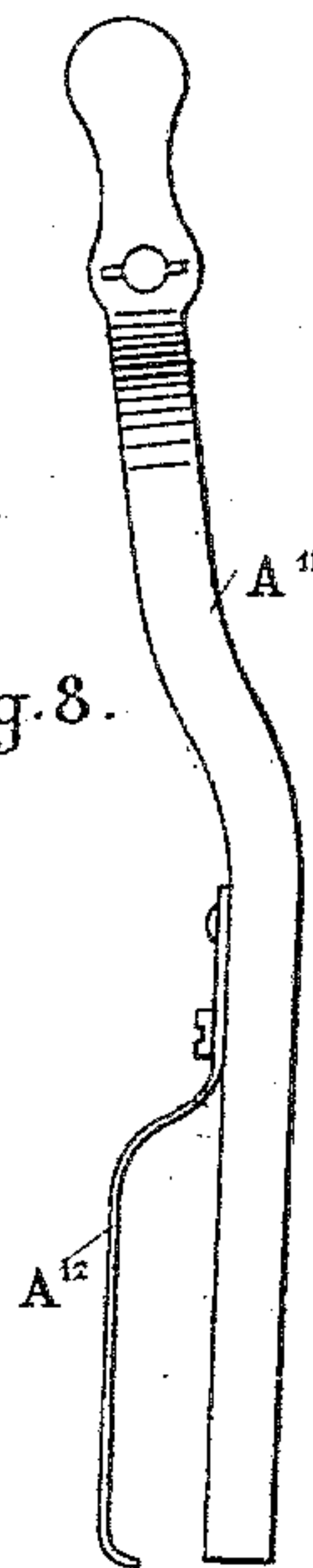


Fig. 8.



Witnesses:

H. Perichard

Arthur L. Bryant

Inventors:-

*Henri Schloesing &
Benjamin Degremont
By their Attorneys,
Edson Bros.*

(No Model.)

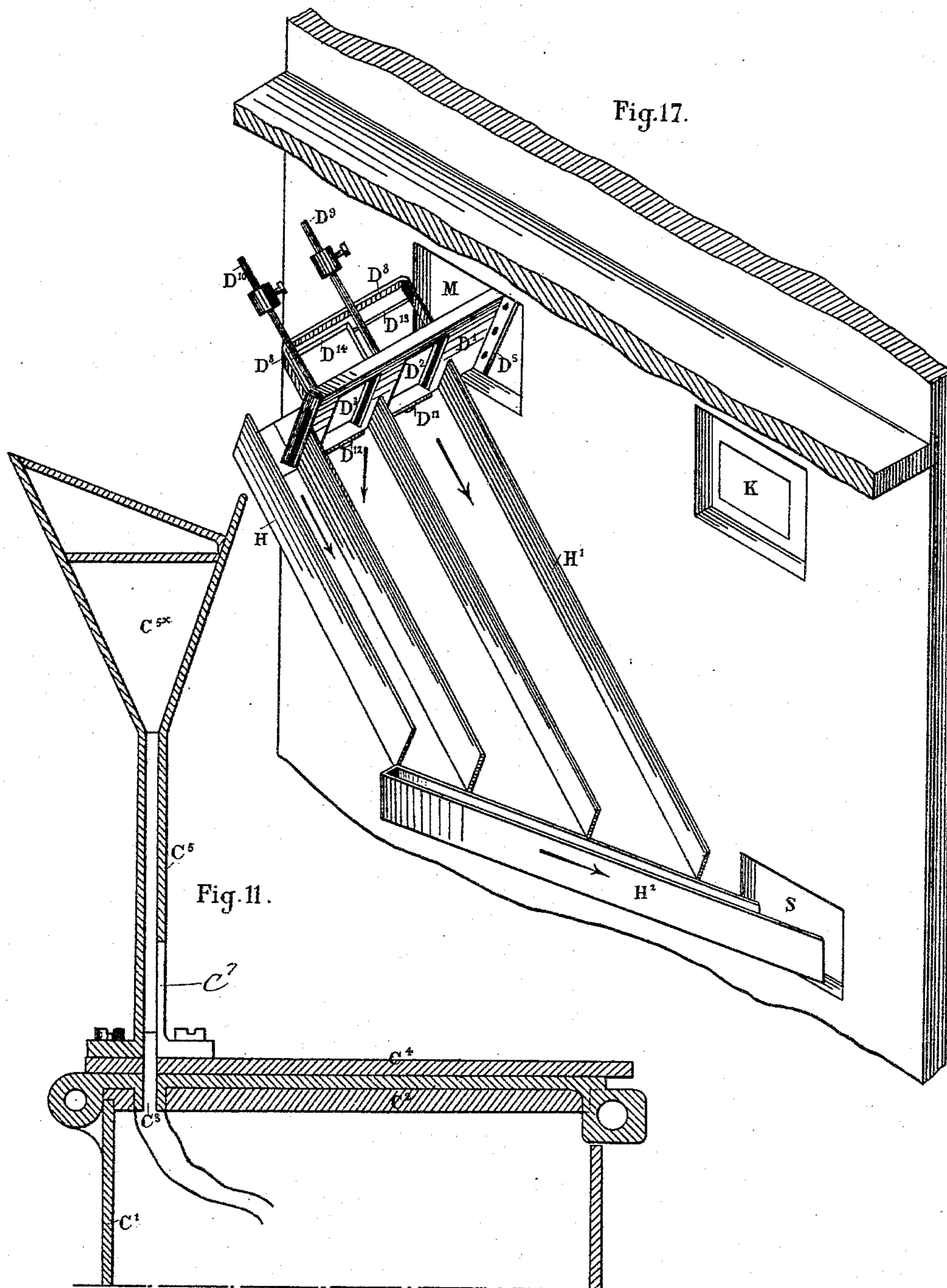
8 Sheets—Sheet 6.

H. SCHLOESING & B. DÉGREMONT.

COIN OPERATED LIQUID VENDING APPARATUS.

No. 412,127.

Patented Oct. 1, 1889.



Witnesses:
N. D. Baruch
Arthur L. Bryant

Inventors:-
Henri Schloesing and
Benjamin Degremont
By their Attorneys,
Edson Bros.,

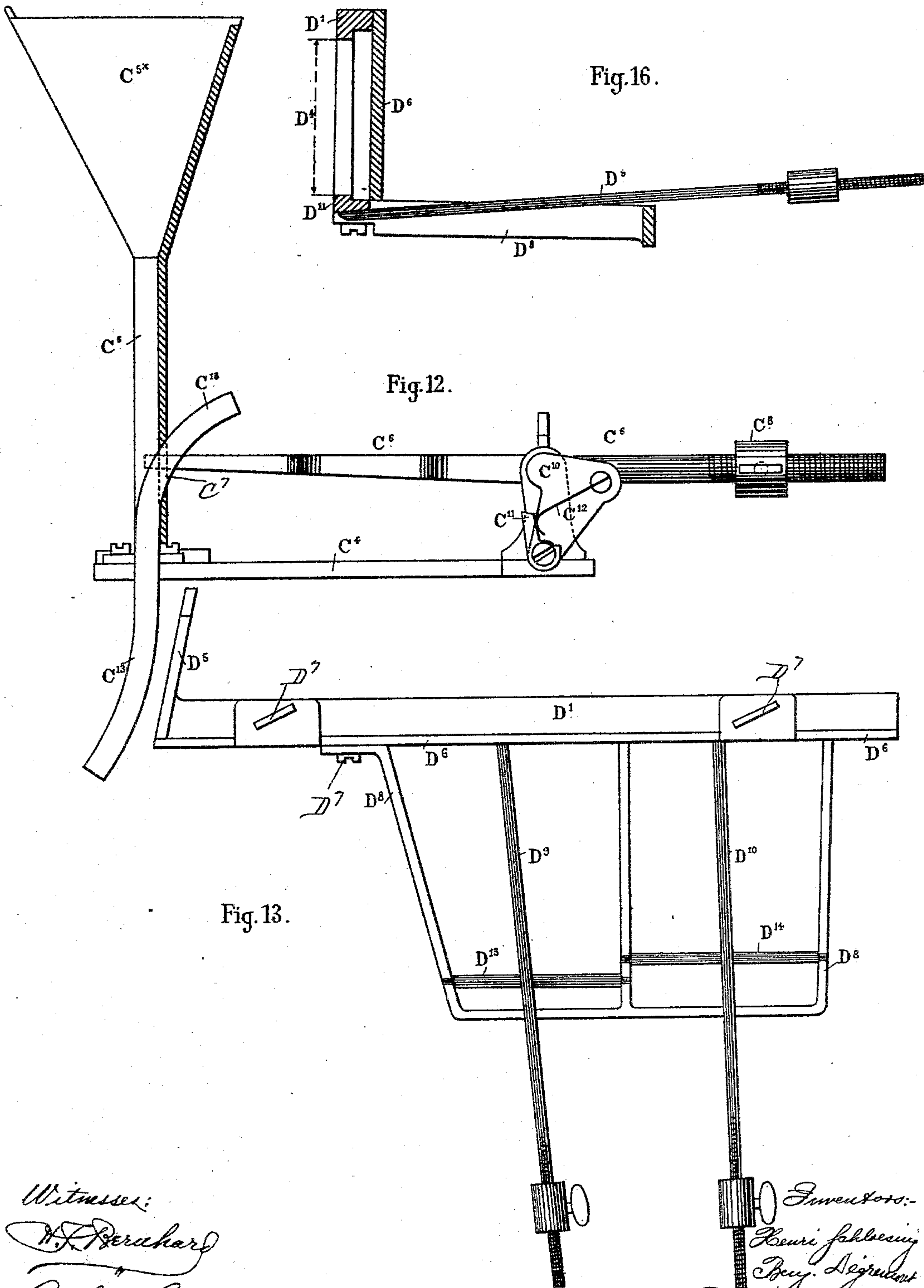
(No Model.)

8 Sheets—Sheet 7.

H. SCHLOESING & B. DÉGREMONT.
COIN OPERATED LIQUID VENDING APPARATUS.

No. 412,127.

Patented Oct. 1, 1889.



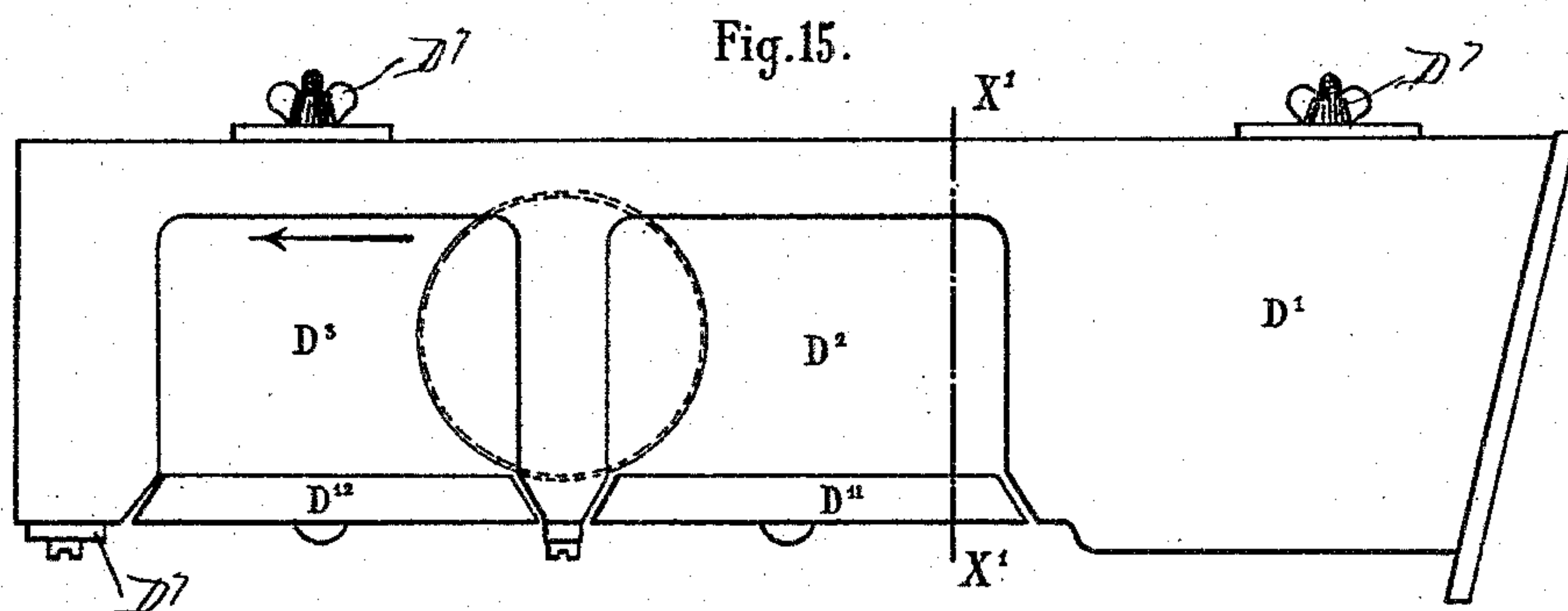
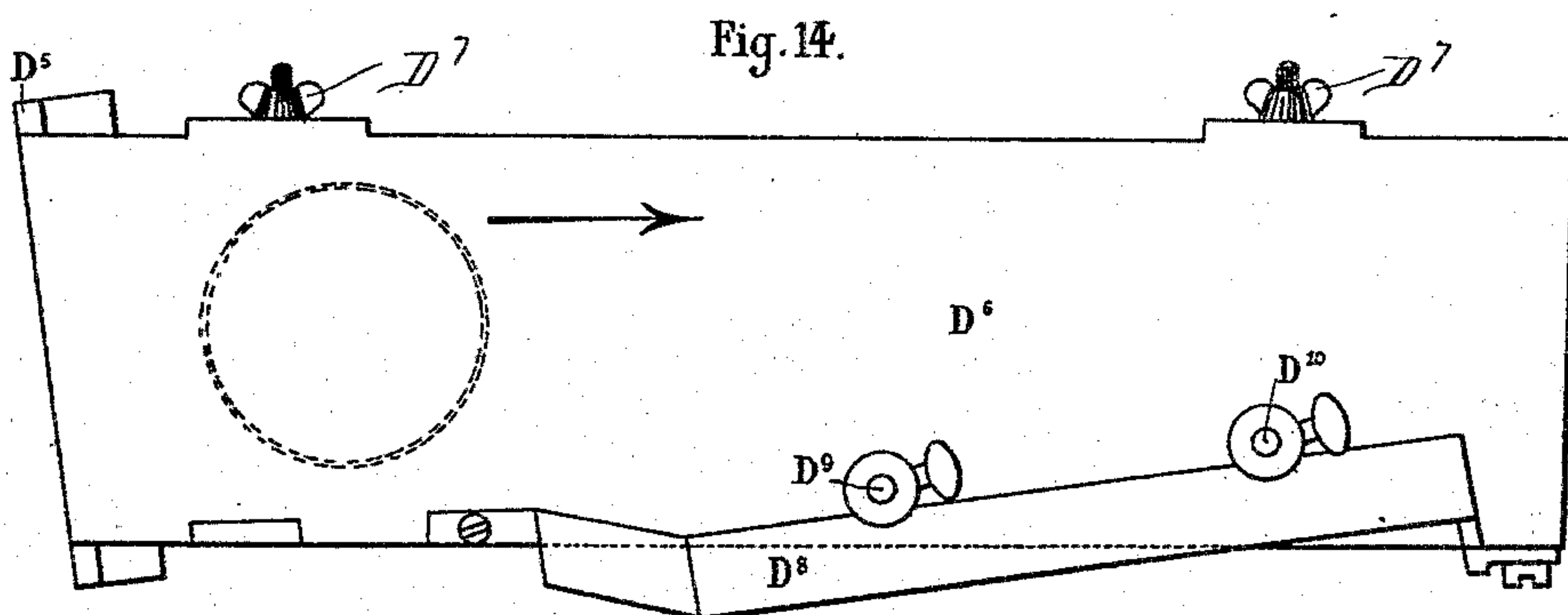
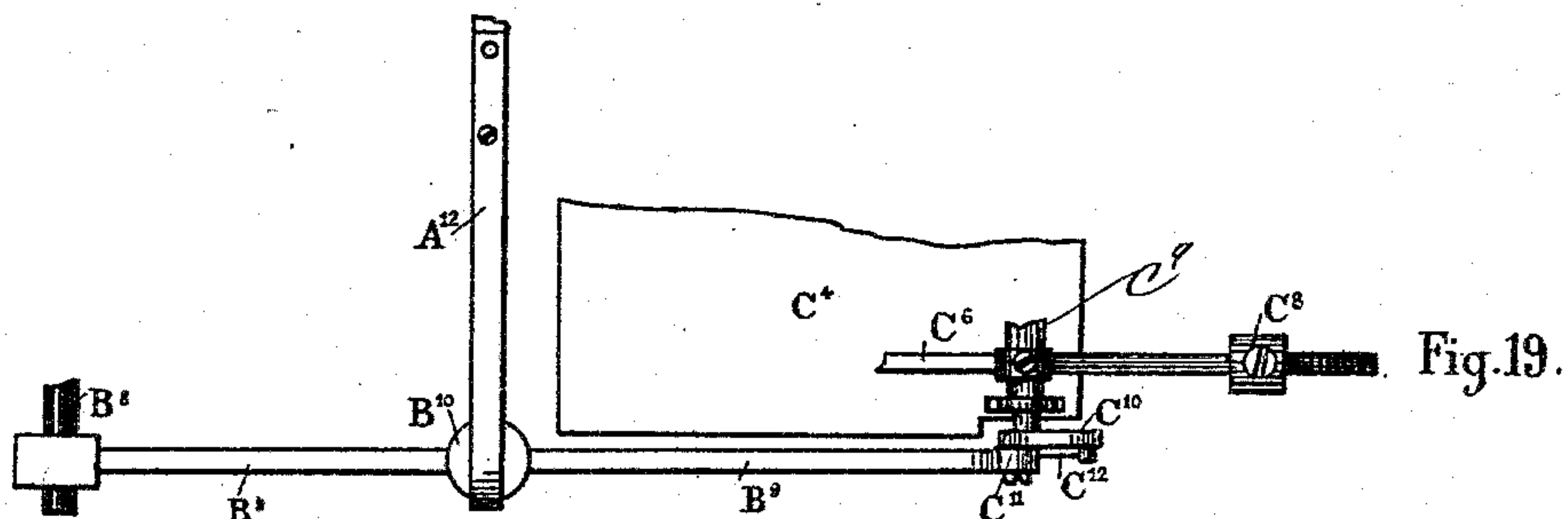
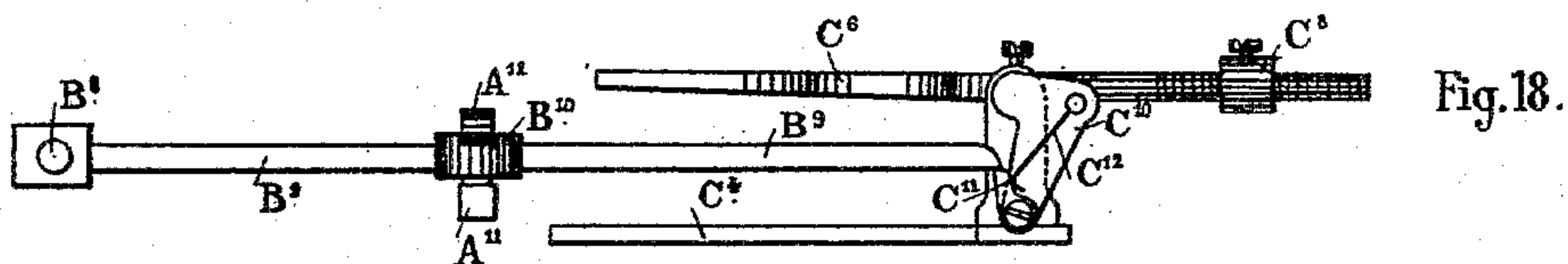
Witnesses:
W. F. Perchar
Arthur L. Bryant

Inventors:
Henri Schloesing
Ber. Degremont
By their Attorneys,
Eden Bros.

8 Sheets—Sheet 8.

COIN OPERATED LIQUID VENDING APPARATUS.

Patented Oct. 1, 1889.



Witnesses: -

W. F. Perckhoff
Arthur L. Bryant,

Inventors:—

Henry Jackson
Benjamin Segreant
By their Attorneys,
Edwin Brod.

UNITED STATES PATENT OFFICE.

HENRI SCHLOESING AND BENJAMIN DÉGREMONT, OF MARSEILLES, FRANCE.

COIN-OPERATED LIQUID-VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 412,127, dated October 1, 1889.

Application filed June 11, 1889. Serial No. 313,892. (No model.) Patented in France March 4, 1889, No. 196,462.

To all whom it may concern:

Be it known that we, HENRI SCHLOESING and BENJAMIN DÉGREMONT, citizens of France, residing at Marseilles, have invented certain new and useful Improvements in Coin-Operated Liquid-Vending Apparatus, (for which we obtained Letters Patent in France, No. 196,462, dated March 4, 1889;) and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The apparatus which forms the subject of the present application effects the automatic delivery of liquids upon the simple insertion of a coin of specified form. It is more especially intended to deliver automatically a quantity determined in advance of liquids, such as beer, lemonade, cider, &c., which require to be supplied under pressure.

The outer casing of this apparatus may be made of any suitable material, and its shape may be cylindrical, prismatic, rectangular, or otherwise.

Our apparatus is represented in the accompanying drawings.

In the drawings, Figure 1 is an external front view of our distributor, one-third of the actual size. Fig. 2 is an elevation of the internal parts. Fig. 3 is a plan of those parts. The two latter figures are half-size. Fig. 4 is a vertical section of the float-box, full size. Fig. 5 is a horizontal section from X to X of Fig. 4. Fig. 6 is a vertical section of the distributing-cylinder, half-size. Figs. 7 and 8 are detail views of same. Fig. 9 is a vertical section of the valve-box. Fig. 10 is a horizontal section from Y to Y of Fig. 9. Fig. 11 is a partial vertical section of the money-box. Fig. 12 is a side view of the parts fitted upon the money-box. Fig. 13 is a plan of the slide. Figs. 14, 15, and 16 are detail views of same. Figs. 9 to 16 are full size. Fig. 17 is a view in perspective of the slide and its chutes. Figs. 18 and 19 are half-size figures, showing the relations of the levers of

the valve-box, of the distributing-cylinder and of the money-box.

In the figures, O is the reservoir or barrel containing the liquid to be vended, (see Fig. 2,) which is previously charged, by means of an air-pump or otherwise, to a pressure of about two atmospheres.

E is the float-box; A', the distributing-cylinder; B, the valve-box; C', the money-box, and D' the slide.

The liquid under pressure contained in the upper reservoir O enters into the float-box E—the object and working of which will be explained later on—through the bent tube E³ and leaves it through the bent tube E⁴, (see Figs. 2, 4, and 5,) in order to reach the distributing-cylinder at A⁴.

Distributing-cylinder.—This apparatus consists of a cylinder A', Fig. 6, of bronze or any other metal, provided with a lid A² and a piston A³, which moves in the interior. This cylinder has two bent tubes A⁴ and A⁵, each attached by a joint. The upper part of the cylinder in which the piston moves is bored. The piston A³ works with gentle friction in the cylinder. It is provided with a hollow rod A^{3x}, which passes through the lid of the cylinder. This rod has a cap A⁶, which serves as an abutment and limits the stroke of the piston. A little hole or vent A⁷ of about two millimeters is pierced in the piston to afford a passage for the liquid. On the lid A² is fitted a curb A⁸, into which passes an adjusting-screw A⁹, provided with a counter-nut A^{9x}. This curb A⁸ is provided with a boss A¹⁰, which serves as the axis of a forked lever A¹¹, Figs. 7 and 8, provided with a spring A¹². This lever is worked by the cap A⁶ of the piston-rod. The liquid to be distributed enters, as we have already said, into the cylinder through the tube A⁴, and passes through the hole or vent A⁷ of the piston A³ to reach the lower chamber of the cylinder. In consequence of the area occupied by the hollow rod A^{3x} the pressure exerted upon the upper surface of the piston A³ is less than that which is exerted upon its lower surface, and the piston will rise in the cylinder under the pressure of the liquid contained in the lower chamber until it abuts against the adjusting-screw A⁹.

This screw, as will be seen, permits of increasing or diminishing at will the capacity of the lower portion of the cylinder, and consequently the quantity of liquid to be delivered each time the apparatus works.

The liquid which comes out of the cylinder through the bent tube A^5 enters through a pipe soldered onto the bent tube B^{11} above the valve B^3 of the valve-box B .

The valve-box B , Figs. 9 and 10, consists of the main body screwed onto the foot B^2 . This arrangement permits of the box being placed in a suitable position. The box B contains the valve B^3 , provided with an india-rubber washer B^4 , and an axial rod B^7 , guided by metal bearings B^5 and B^6 . This valve B^3 is governed by a lever B^7 , provided with a spindle B^8 , upon which is fixed a lever B^9 , provided with a counterpoise B^{10} . When the lever B^9 is lowered, it raises the valve B^3 , allowing a passage for the liquid, which flows through the bent tube B^2 and reaches the spout B^{12} . When the apparatus is not at work, the lever B^9 rests upon a pawl C^{11} , fitted upon the lever system C^6 of the money-box.

The money-box shown in Figs. 2, 3, 11, and 12 consists of a cylinder C^1 , provided with a lid C^2 , which is hinged, and which may be furnished with a padlock or any other suitable fastening. The lower part of this cylinder has two ears, which serve to fix the box in the apparatus. The lid has an aperture C^3 , through which the coins pass. This aperture is prolonged on the inside by a bent channel, Fig. 11, the object of which is to prevent the coins from being taken out of the box. Upon the lid is fixed a plate C^4 , bearing the vertical chute C^5 , ending in a funnel C^{5x} ; also the lever system C^6 , Figs. 3 and 12. The chute C^5 is in two parts, easily taken to pieces. In this chute a groove or slit C^7 is made, which the end of the lever C^6 enters. This lever is provided with a counterpoise C^8 , which permits of its being regulated. It is fixed upon a little axis C^9 , which has at one end an arm C^{10} , provided with a pawl C^{11} and a spring C^{12} . On the pawl rests the end of the lever B^9 of the valve-box when the apparatus is at rest, as seen in Figs. 18 and 19. This lever B^9 is guided by a curved guide C^{13} , fitted upon the money-box.

The coin in falling into the chute C^5 lowers the lever C^6 , which at once rises again in consequence of its counterpoise, but in descending it releases the lever B^9 , which falls and raises the valve B^3 , affording a passage for the liquid, which comes out with force through the spout B^{12} . The pressure under the piston A^3 of the distributing-cylinder ceasing suddenly, in consequence of the outflow of the liquid under pressure, the piston falls abruptly. The cap A^6 then abuts against the lever A^{11} , which rocks and raises with its front end the lever B^9 , gearing it again with the pawl C^{11} of the detent. The valve B^3 then promptly closes and the apparatus is ready to act afresh.

The relative positions of the three levers B^9 , A^{11} , and C^6 are shown in Figs. 18 and 19 in elevation and in plan, respectively.

The coins reach the chute C^5 of the money-box after having passed through a guide D . (Shown in Figs. 2, 13, 14, 15, 16, and 17.) This guide is fixed upon the outer money-plate M by the lug D^5 . (See Fig. 17.) It is provided on its face D' with two apertures D^2 and D^3 , as shown in Figs. 15 and 17. Fig. 14 shows an elevation of the other face of the guide. Between the two plates or faces D' and D^6 , held together by the screws D^7 , the coins inserted in the apparatus pass, as shown by the dotted lines in Figs. 14 and 15. The lower side of the slide, upon which the coins roll, is provided in front of the apertures D^2 D^3 with little swing-plates D^{11} D^{12} , sustained by the balanced levers D^9 D^{10} , moving about the axes D^{13} D^{14} , mounted upon a support D^8 , fixed on the guide.

Fig. 16 is a section from X' to X' of Fig. 15. The distance D^4 is one-half millimeter less than the diameter of a ten-centimes piece. The first swinging plate D^{11} , fitted upon the end of the lever D^9 , is governed by means of its counterpoise in such a way that the proper coins pass over the plate D^{11} without making it descend, while they make the plate D^{12} descend, and, passing through the aperture D^3 , they fall through the funnel C^{5x} into the box, thus making the apparatus work. The funnel C^{5x} is placed between the chutes H and H' .

Coins lighter than the proper one pass over the two plates without making them oscillate and come out through the end of the slide into the chutes H and H^2 , and thus into the trough S , placed on the outer face of the apparatus. (See Fig. 17.)

Coins heavier than the proper one set the first swing-plate D^{11} in action and also reach the trough S through the chutes H' and H^2 . In our apparatus these chutes are not absolutely straight, as might be imagined from Fig. 17. They are arranged in such a way as to leave room for the parts which have to lie between them.

The arrangement of this guide with swing-plates is such that the apparatus can only work when the proper coin is inserted into it. Any other coin placed in the apparatus passes through to the trough S , and is thus returned to the public.

Fig. 17 in perspective shows clearly the arrangement of the guide and its chutes H and H' . It is very easy to arrange the apparatus so that it will act on the insertion of any coin. It is sufficient for that purpose to alter the proportions of certain parts of the guide D , and to regulate suitably its levers and the levers C^6 of the money-box.

In order to show when the liquid has been exhausted in the barrel or reservoir O and to prevent the coins then inserted by the consumer from remaining in the apparatus, we adopt the following arrangement.

The float-box E , Figs. 2, 4, and 5, placed

under the barrel, consists of a cylinder E', with a lid E² screwed on, provided with two jointed bent tubes E³ and E⁴ and a projecting part E⁵. At the top of the box is a boss E⁶, in which the rod E⁷ of the float E⁸ slides. In the projecting part E⁵ is arranged a spindle E⁹, which passes through a bearing E¹⁰. This spindle E⁹ carries a lever E¹¹, which is jointed to the rod E⁷. Upon the spindle E⁹ is fixed externally a lever E¹². The end of this lever E¹² projects under the end of the lever D⁹ of the slide. When the liquid is exhausted in the barrel, and consequently in the cylinder E', the float E⁸ descends, lowering the lever E¹¹ and raising the lever E¹², which in turn raises the lever D⁹, governing the plate D¹¹ of the coin-guide. This plate D¹¹ remains lowered until fresh liquid is introduced into the apparatus and all coins which are put into the latter pass through the aperture D² and the chute H' into the trough S, thus being returned to the consumer.

In order to show at any moment at a glance the state of the apparatus and what consumption there has been, we arrange a meter K, which registers the number of times that the apparatus has acted. This meter is worked by the distributing-cylinder or otherwise in any suitable way. We have simply shown in Fig. 1 of the accompanying drawings the face of the meter, the mechanism of which is not described and shown.

L, Fig. 1, is a tap supplying water at will. This water enters the apparatus in any suitable way.

It is a matter of course that we in no way intend to limit ourselves to the arrangements as described and shown, which are capable of numerous alterations in their details and workmanship.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is—

1. In a coin-controlled liquid-vending apparatus, the combination of a delivery pressure-cylinder, a valve-chest communicating with said cylinder and having an automatic valve, a coin-controlled lever connected with said valve to automatically open the latter and permit the liquid from the pressure-cylinder to escape through the valve-chest, and mechanism for closing said valve when the pressure-cylinder is emptied, all arranged and combined for service substantially as and for the purpose specified.

2. In a coin-controlled liquid-vending apparatus, the combination of a pressure-cylinder having a piston, a valve-chest communicating with said cylinder, a coin-operated lever arranged in the path of the coin deposited in the machine, a valve located in said valve-chest and connected with said coin-operated lever to be maintained thereby in a normally-closed position, and mechanism connected to said valve and arranged to be operated by the piston to close the valve when the pressure-

cylinder is emptied, substantially as and for the purpose described.

3. In a coin-controlled liquid-vending apparatus, a pressure-cylinder having an outlet at or near its lower portion and a piston operating in said cylinder and provided with an inlet-port and a piston-rod, the area of exposed surface on the upper side of the piston being less than the exposed area on the lower side thereof, for the purpose described, in combination with a valve-chest which communicates with the outlet of said pressure-cylinder, a valve, and a coin-operated lever connected to said valve, all arranged and combined for service substantially as described.

4. In a coin-controlled liquid-vending apparatus, a pressure-cylinder, a reciprocating piston operating therein, and an adjusting-screw arranged to limit and vary the stroke of said piston to regulate the capacity of the cylinder for holding liquids, in combination with a valve-chest communicating with the cylinder and having an automatic valve, and a coin-operated lever for operating the valve, substantially as described.

5. In a coin-controlled liquid-vending apparatus, the combination of a pressure-cylinder, a valve-chest communicating with said cylinder, an automatic valve housed within said valve-chest, a coin-operated lever having a trip-pawl, and a lever connected to said valve and normally supported by said trip-pawl, all arranged for service substantially as described, for the purpose set forth.

6. In a coin-controlled liquid-vending apparatus, the combination, with a pressure-cylinder and a valve-chest having a valve, of a coin-tube, a lever arranged in the path of the coin that passes through said coin-tube, and another lever connected to the valve and normally sustained by the coin-operated lever in an elevated position to close the valve, substantially as and for the purpose described.

7. In a coin-controlled liquid-vending apparatus, the combination, with a pressure-cylinder and a valve, of a lever connected to said valve, a coin-operated lever for sustaining the valve-lever in an elevated position, and a lever operated by the piston of the pressure-cylinder to raise the valve-lever after it has been released by the coin-operated lever, substantially as and for the purpose described.

8. In a coin-controlled liquid-vending apparatus, the combination, with a pressure-cylinder and an automatic valve, of a coin-operated lever having a trip-pawl, a lever connected at one end to said valve and resting at its other end on the trip-pawl, and a lever fulcrumed on the pressure-cylinder to be operated by the piston thereof and having its free end arranged to lift the valve-lever, whereby, when said valve-lever is lowered after its disengagement with the coin-operated lever to open said valve, the descent of the piston actuates the piston-lever to elevate the valve-lever and cause it to re-engage with the trip-pawl, substantially as described.

9. In a coin-controlled liquid-vending apparatus, a valve-chest having a valve-seat and the aligned guides, a vertically-movable valve-stem fitted in said guides and carrying a valve, 5 and a rock-shaft having an arm at one end on which the lower end of the valve-stem rests, in combination with a lever fixed to the extended end of said rock-shaft, a coin-operated lever for normally elevating the valve-lever, 10 and a pressure-cylinder, substantially as described.

10. In a coin-controlled liquid-vending apparatus, the combination of a vertical coin-tube having a slot, a counterbalanced lever 15 fulcrumed on an axis C^9 and having its free end fitted in the slot of the coin-tube, a trip-pawl carried by said lever, a valve-lever normally fitted on said pawl, an automatic valve controlled by said valve-lever, a pressure-cylinder, 20 and a bifurcated lever fulcrumed on the pressure-cylinder, with one end arranged in the path of a protuberance on the piston of the cylinder and having its other end arranged to lift the valve-lever, substantially 25 as and for the purpose described.

11. A coin-receiver having a longitudinal coin-passage and a transverse opening which extends through one side and the lower edge of said coin-passage, combined with a counter- 30 balanced plate arranged in said transverse opening at the base of the coin-passage and forming a continuation of the bottom of the coin-passage, to sustain a coin of proper denomination as it passes across said opening, 35 substantially as described.

12. In a coin-operated liquid-vending apparatus, a fixed coin-receiver having a longitudinal coin - passage and a series of transverse

openings which intersect said longitudinal passage and extend through one side and the 40 bottom of the coin-passage, combined with a counterbalanced plate fitted in each of said transverse openings at the base of the coin-passage and forming a continuation of the bottom thereof, a series of levers, each of 45 which carries one of the plates, and a common fixed support on which all of the levers of the series are fulcrumed, substantially as described.

13. In a coin-operated liquid-vending apparatus, the combination, with a coin-receiver 50 and a counterbalanced plate, of a float-receptacle which communicates with the source of liquid-supply for the vending apparatus, and a float connected by intermediate devices 55 with said counterbalanced plate to hold the latter against movement under the weight of a coin, substantially as and for the purpose described.

14. In a coin-operated liquid-vending apparatus, the combination, with a coin-receiver, 60 of a plate carried by a counterbalanced lever, a float-receptacle having a rock-shaft journaled in one end thereof, a float, an arm carried by the rock-shaft and jointed to the float, 65 and a lever intermediate of the rock-shaft and the counterbalanced lever, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRI SCHLOESING.
BENJAMIN DÉGREMONT.

Witnesses:

G. DE MESTRAL,
R. G. PRESTON.