

No. 742,410.

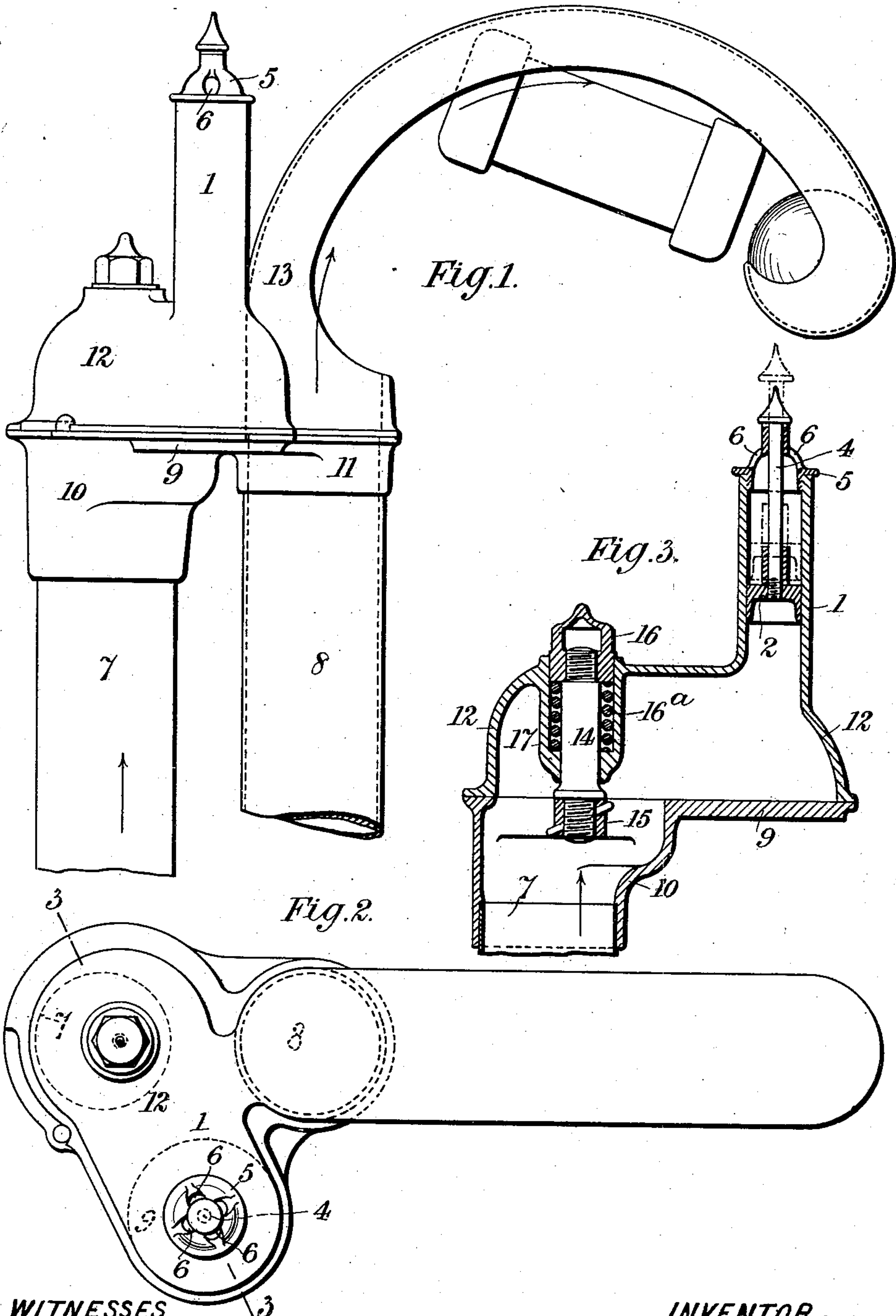
PATENTED OCT. 27, 1903.

E. L. GILES.
PNEUMATIC SERVICE SYSTEM.

APPLICATION FILED JAN. 28, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES
A. L. Munn
C. A. Stewart

INVENTOR.
Edwin Luther Giles
By E. C. Gilman
+ J. O. Rusk
Attys.

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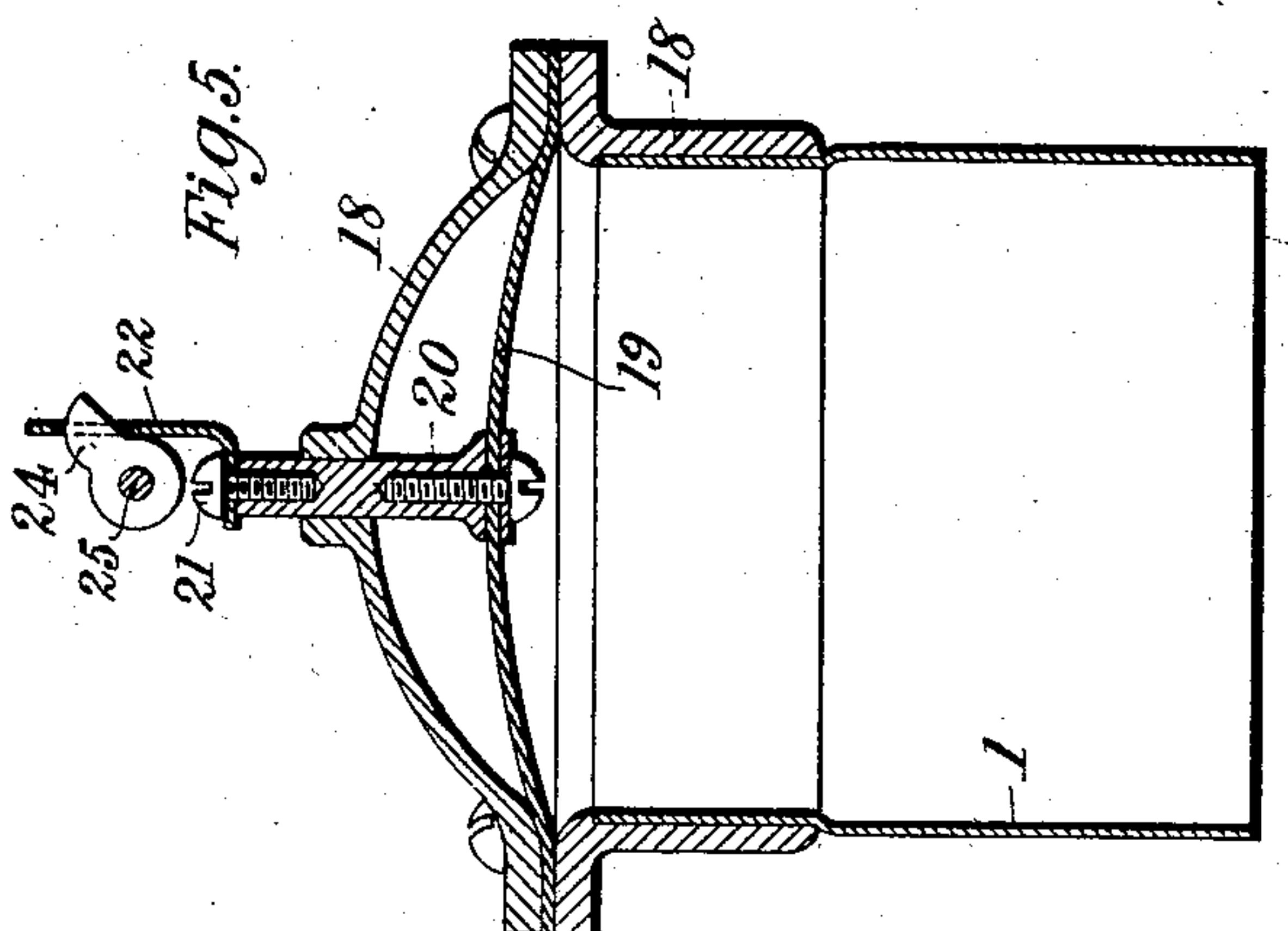
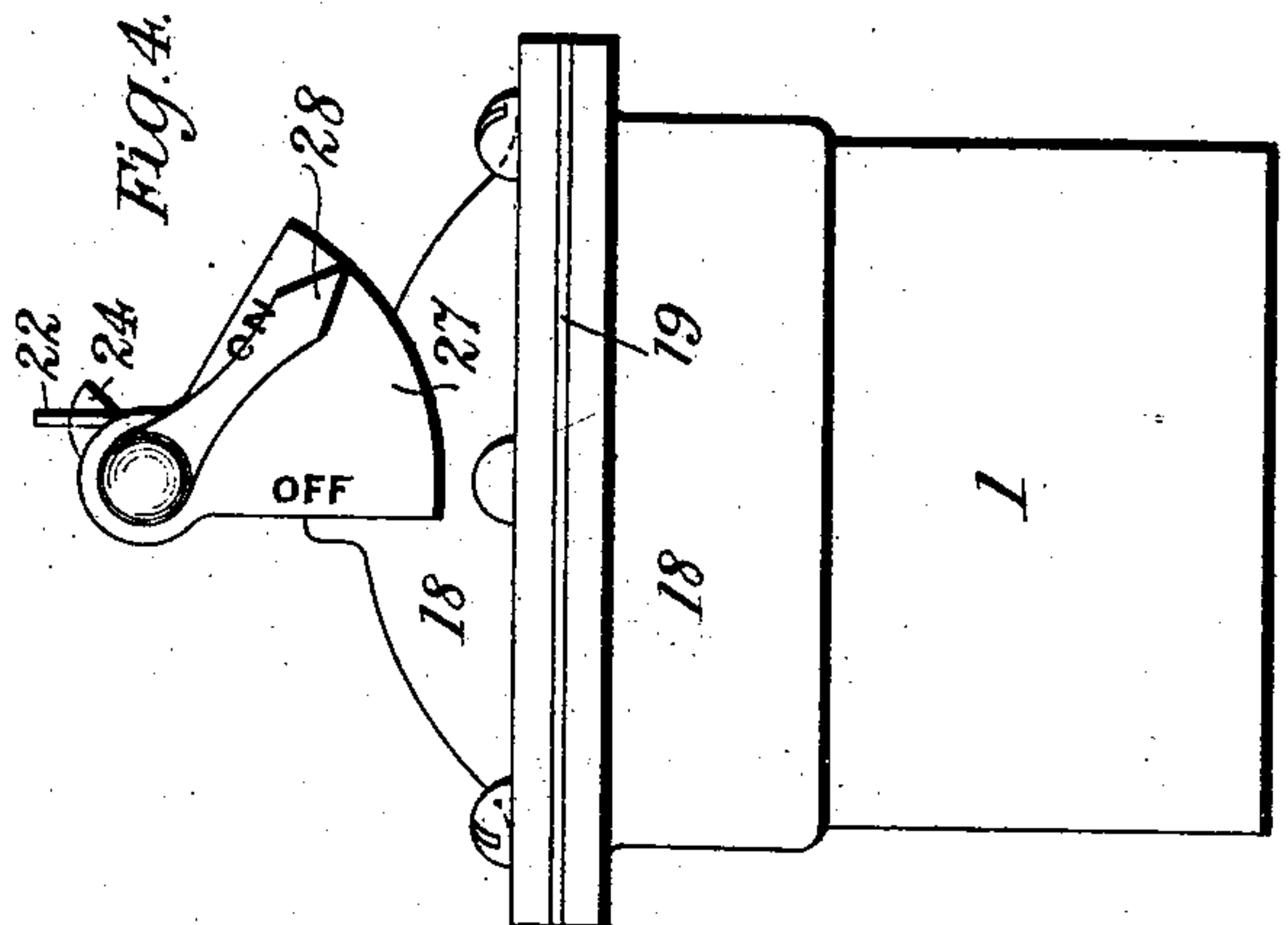
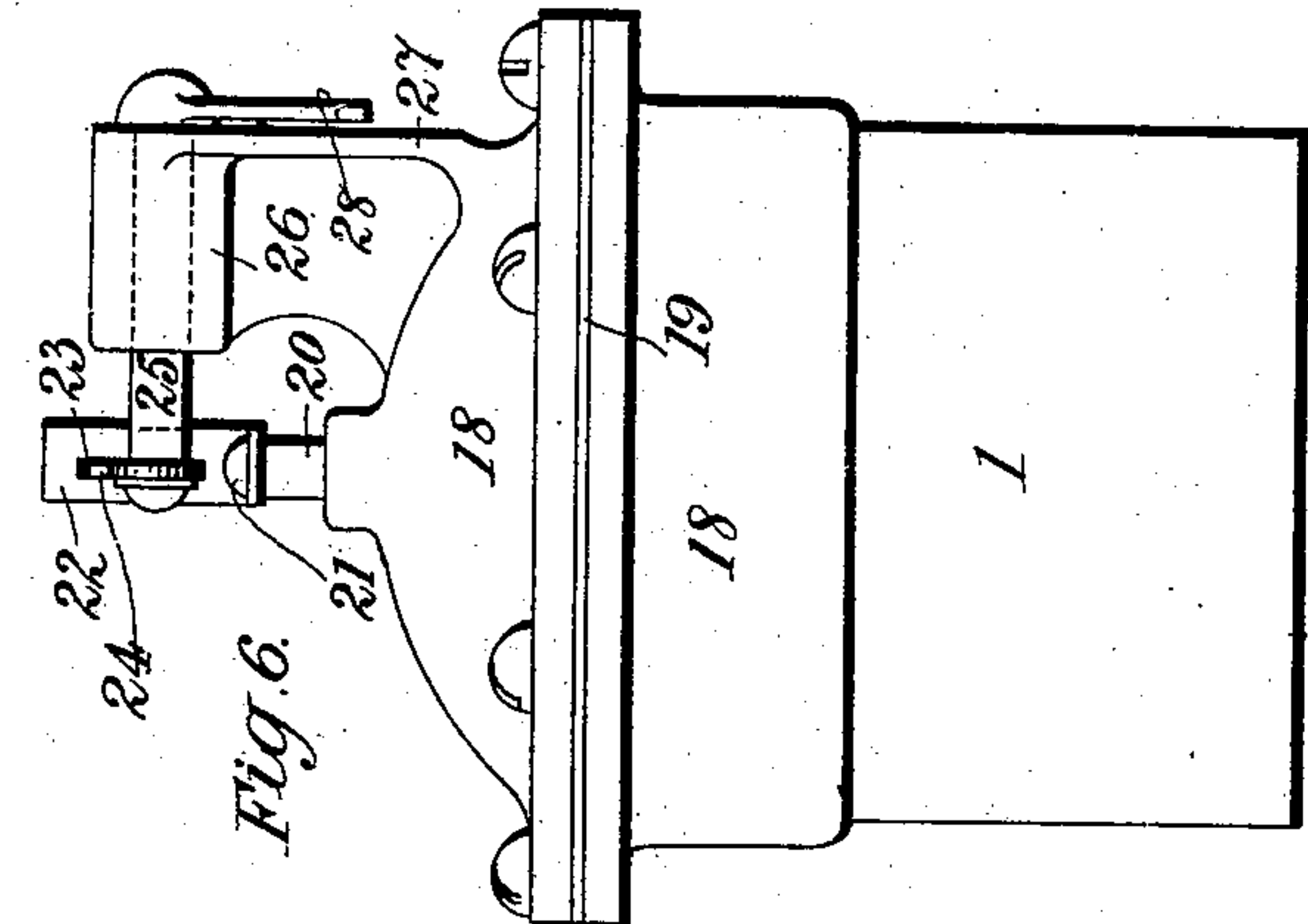
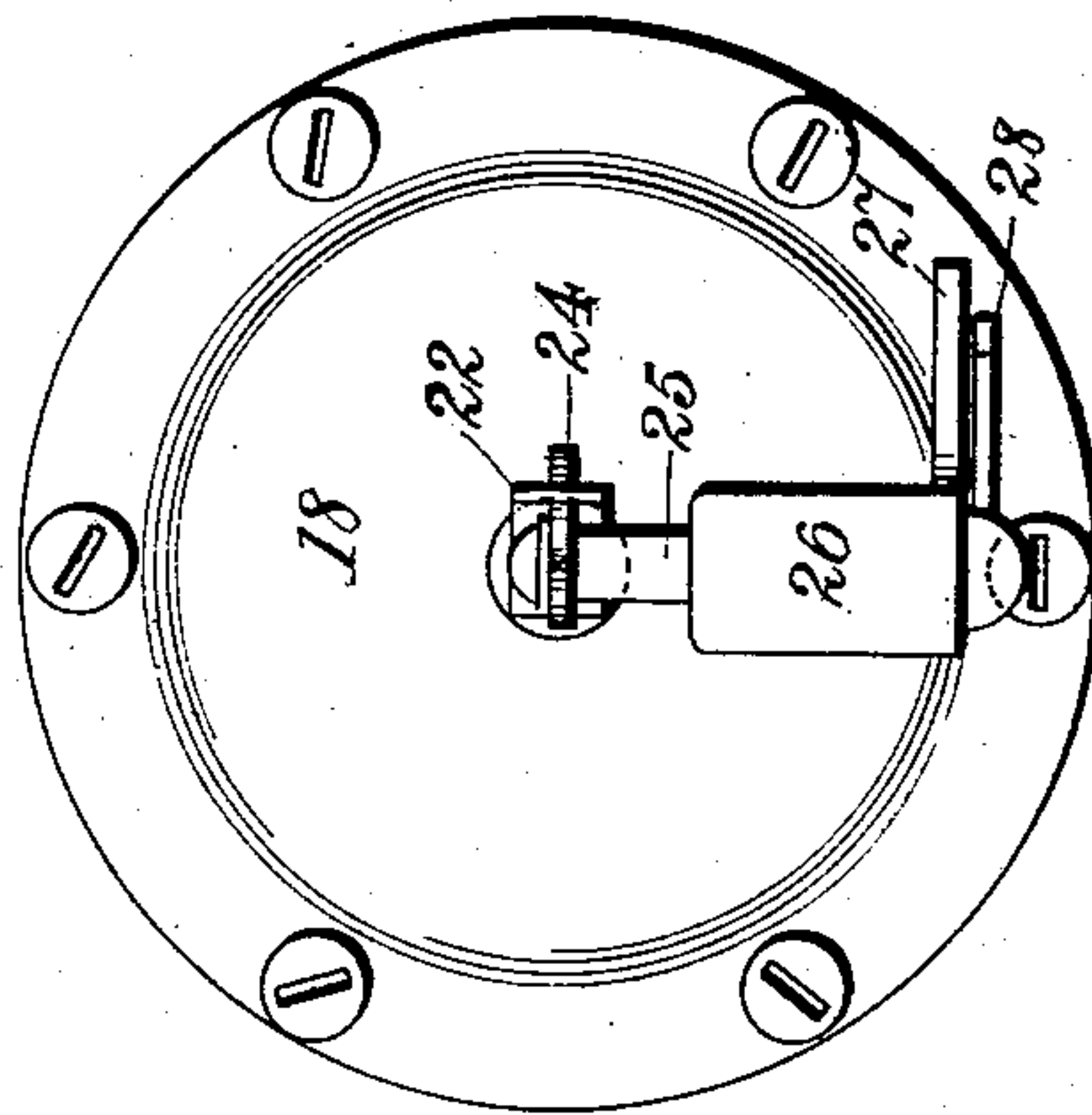


Fig. 7.



WITNESSES.

A. D. Messer
C. A. Stewart

INVENTOR.

Edwin Luther Giles
By E. C. Schuman
Attorney

UNITED STATES PATENT OFFICE.

EDWIN LUTHER GILES, OF LONDON, ENGLAND, ASSIGNOR TO LAMSON CONSOLIDATED STORE SERVICE COMPANY, OF NEWARK, NEW JERSEY, AND BOSTON, MASSACHUSETTS, A CORPORATION OF NEW JERSEY.

PNEUMATIC-SERVICE SYSTEM.

SPECIFICATION forming part of Letters Patent No. 742,410, dated October 27, 1903.

Application filed January 28, 1902. Serial No. 91,581. (No model.)

To all whom it may concern:

Be it known that I, EDWIN LUTHER GILES, a citizen of the United States, residing at London, England, have invented a certain new and useful Improvement in Pneumatic-Ser-
5 vice Systems, of which the following is a specification.

My invention relates to an improvement in pneumatic-service systems, such as those employed in stores and other places for trans-
10 mitting coin and other articles, messages, and the like.

In the class of system in which or in some point in which a single tube is employed both
15 for the outward and inward passage of the carriers it is of advantage to know that the carrier has reached its destination and the tube is empty.

The object of my invention is to provide a
20 device for indicating when the tube is so occupied or empty; and it consists in placing at some convenient point on the tube an indicating device operated by the back pressure caused by reason of a carrier being in the
25 tube and also adapted to show that pressure is present in the supply-tube.

In the accompanying drawings, which illustrate the invention, Figure 1 is an elevation of a terminal for a pressure system adapted
30 both as a sending and receiving terminal, showing my invention applied thereto. Fig. 2 is a plan of same. Fig. 3 is a section on line 3 3, Fig. 2. Fig. 4 is an elevation of a part carrying my invention in a modified
35 form. Fig. 5 is a central vertical section of same. Fig. 6 is an elevation at right angles to Fig. 4, and Fig. 7 is a plan.

According to my invention I place at some suitable point in the line a part, which may
40 be a cylinder 1, as shown in Figs. 1, 2, and 3, having therein a piston 2, to which is connected an indicating-rod 4, passing through and guided by a cap 5, in which are openings 6 for allowing the air above the piston to
45 escape. Thus pressure or back pressure in the transmission-tube will cause the piston to rise and the indicating-rod to be raised to show the operator either by the projection of the rod or by an indicating device operated
50 thereby that a carrier is in the tube, the re-

lease of the pressure allowing the piston and rod to fall.

As an illustration of one manner in which my invention may be employed I have illustrated it in Figs. 1, 2, and 3 as applied to a
55 pressure-system terminal having a single tube adapted for both sending and receiving the carrier in a manner which is well known. In this arrangement 7 is the air-supply tube from a suitable supply, and 8 the line-tube
60 for sending and receiving, 9 being a dead-plate formed in one with the sockets 10 11, receiving the ends of the tubes 7 8, respectively. 12 is an elongated cap or hood forming an air-switch and having in one there-
65 with an open receiving-guide 13 of the usual form for the carrier and further carrying the indicating device, consisting of the cylinder 1 and other parts above described. The hood 12 is pivoted in some suitable man-
70 ner, such as by the pin 14, screwed in a bridge-piece 15, formed with the socket 10 and having a nut 16 compressing a spring 16^a in a box 17, formed inside the hood, so that said hood is held down by a spring-pressure. It
75 will be seen, therefore, that the hood 12 can be turned for the purpose hereinafter described. In the operation of this form of apparatus when used as a sending-terminal the
80 hood 12 is turned so as to expose the opening to the tube 8, the carrier is dropped therein, and the hood is turned to bring it into communication with such tube 8, so that pressure from tube 7 passes behind the carrier and
85 forces it to its destination, which may be a terminal of similar construction. The back pressure in the tube at once forces up the piston 2 and indicator 4, thus showing that the tube is occupied, until it leaves the tube
90 at the other end, when the back pressure ceases and the indicator will fall, thus showing that the tube is empty. When the terminal is used as a receiver, the hood 12 is turned into the position shown in the draw-
95 ings, with the open receiving-guide 13 in line with tube 8 and the hood closing the pressure-tube 7 by reason of its resting on the dead-plate 9. In this position the carrier coming
100 up tube 7 will pass into the receiving-guide, as indicated, and until this takes place the

indicator at the transmitting-terminal, if it is provided with a similar one to that described, will also show that the tube is occupied. It will be seen that with the hood in this position the air-supply in tube 7 will be on inside hood 12 and that the indicator will normally stand in an elevated position, thus acting in this position also to show that the proper pressure is in the supply-pipe for transmitting carriers when required. As shown in the drawings, the indicator is down as it would be if the pressure were cut off.

In the arrangement shown in Figs. 4 to 7 the cylinder 1 carries a cap 18, adapted to hold between its flanges a flexible diaphragm 19, carrying a rod 20, (which is the equivalent of rod 4 in Figs. 1 to 3,) passing through an opening in the upper part of the cap and having attached thereto by a suitable screw 21 a bent arm 22, a slot 23 in which receives a cam or lug 24, fixed on a spindle 25, capable of rotation in a bearing-bracket 26, carried by the cap and having combined therewith an indicating-plate 27, which may bear such words as "Off" and "On" or other suitable words, while the end of the spindle carries an indicating-finger 28. It will be seen that the movement of the diaphragm upwardly owing to pressure will move its indicating-finger 28 to "On," while the fall of the diaphragm will bring the finger back to "Off."

It will be understood that the position of my indicating device in the line may be varied, the one I have shown being given as an illustration, whereby it answers the two purposes I have described.

What I claim is—

1. In a pneumatic-service system and in combination, an air-supply pipe, a carrier-tube, a pivoted hood communicating with said air-supply pipe and adapted to be turned to communicate with said carrier-tube, and an indicating device mounted on said hood and operated by the pressure of air in said hood.

2. In a pneumatic-service system and in combination, an air-supply pipe, a carrier-tube, a pivoted hood communicating with said air-supply pipe and adapted to be turned to communicate with said carrier-tube, a cylinder communicating with said hood, mechanism in said cylinder operated by the pressure of air therein, and an indicator operated by said mechanism in said cylinder.

3. In a pneumatic-service system and in combination, an air-supply tube, a carrier-tube, a dead-plate, a hood forming a switch,

means for pivotally holding such hood whereby it may be turned either into connection with the carrier-tube or the dead-plate, an indicator carried by such hood, and means whereby such indicator is moved by the pressure in the tube when the hood is on the dead-plate, or by back pressure in the carrier-pipe when the carrier is in the latter.

4. In a pneumatic-service system and in combination, an air-supply pipe, a carrier-tube, a pivoted hood communicating with said air-supply pipe and adapted to be turned to communicate with said carrier-tube, a cylinder communicating with said hood, a piston in said cylinder operated by the pressure of air therein, and an indicator operated by said piston.

5. In a pneumatic-service system and in combination, an air-supply pipe, a carrier-tube, a pivoted hood communicating with said air-supply pipe and adapted to be turned to communicate with said carrier-tube, a cylinder communicating with said hood, a rod, means carried by said cylinder for supporting said rod and in which said rod is movable, and mechanism in said cylinder movable by the pressure of air therein and connected with said rod for operating the latter.

6. In a pneumatic-service system and in combination, an air-supply pipe, a carrier-tube, a pivoted hood communicating with said air-supply pipe and adapted to be turned to communicate with said carrier-tube, a cylinder communicating with said hood, a cap for said cylinder, a rod movable through said cap, and mechanism in said cylinder movable by the pressure of air therein and connected with said rod for operating the latter.

7. In a pneumatic-service system, the combination with a pressure-supply, a tube adapted for transmission or receiving purposes, a movable hood and a receiving-guide carried thereby, of a cylinder in connection with such hood, provided with air-escape openings, a cap for such cylinder, a rod movable through and guided by such cap, means connected to the rod, and movable in the cylinder adapted to be acted upon by pressure in the tube and an indicating device operated by such rod.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDWIN LUTHER GILES.

Witnesses:

ALLEN PARRY JONES,
A. KNIGHT CROAD.