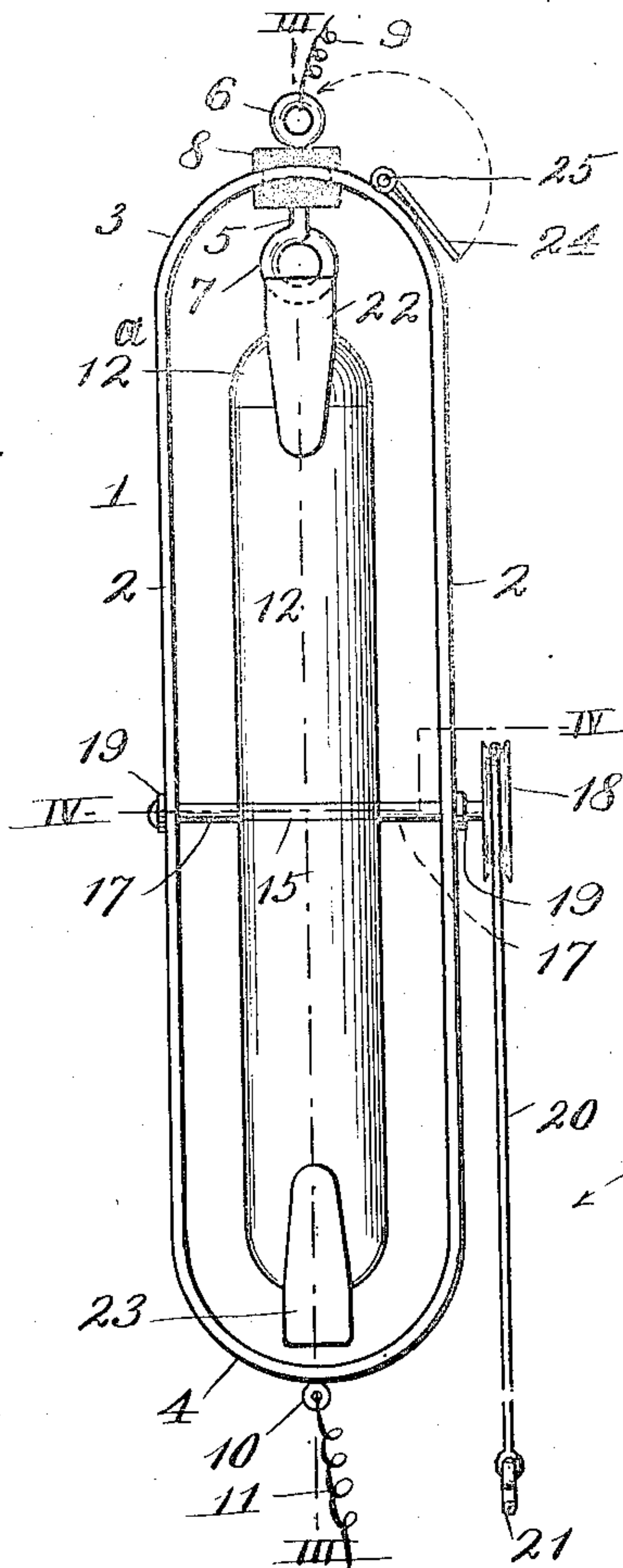


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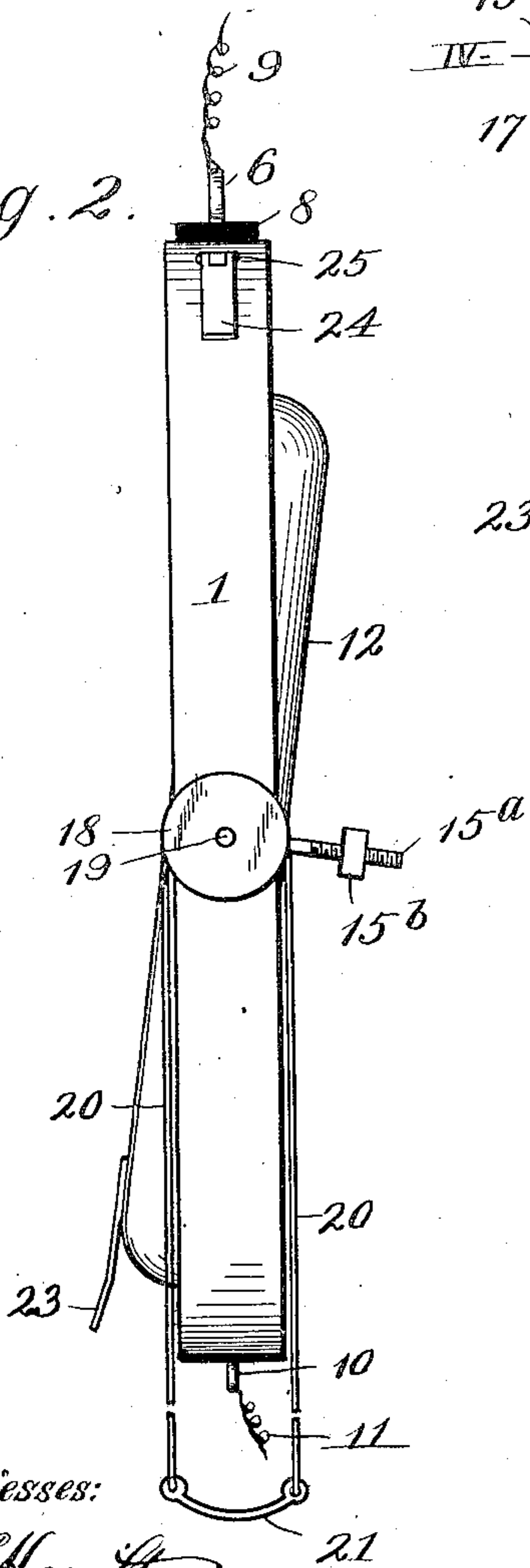
PATENTED APR. 9, 1907.

J. D. PATTON.  
AUTOMATIC CUT-OFF.  
APPLICATION FILED DEC. 8, 1905.

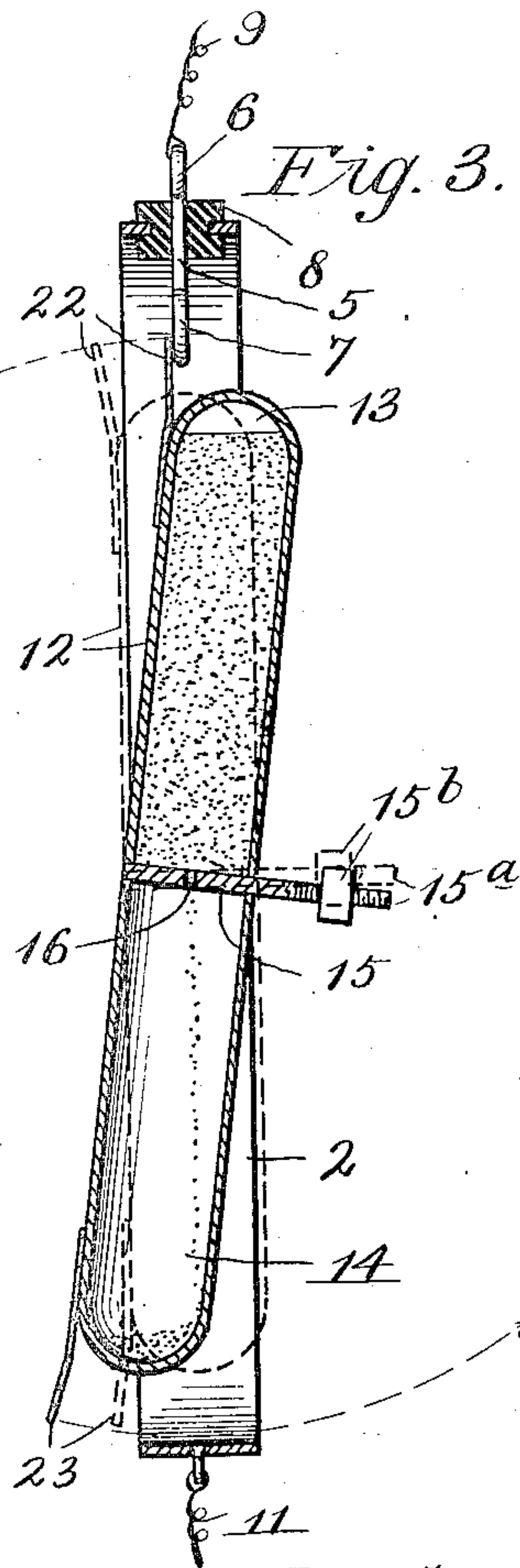
*Fig. 1.*



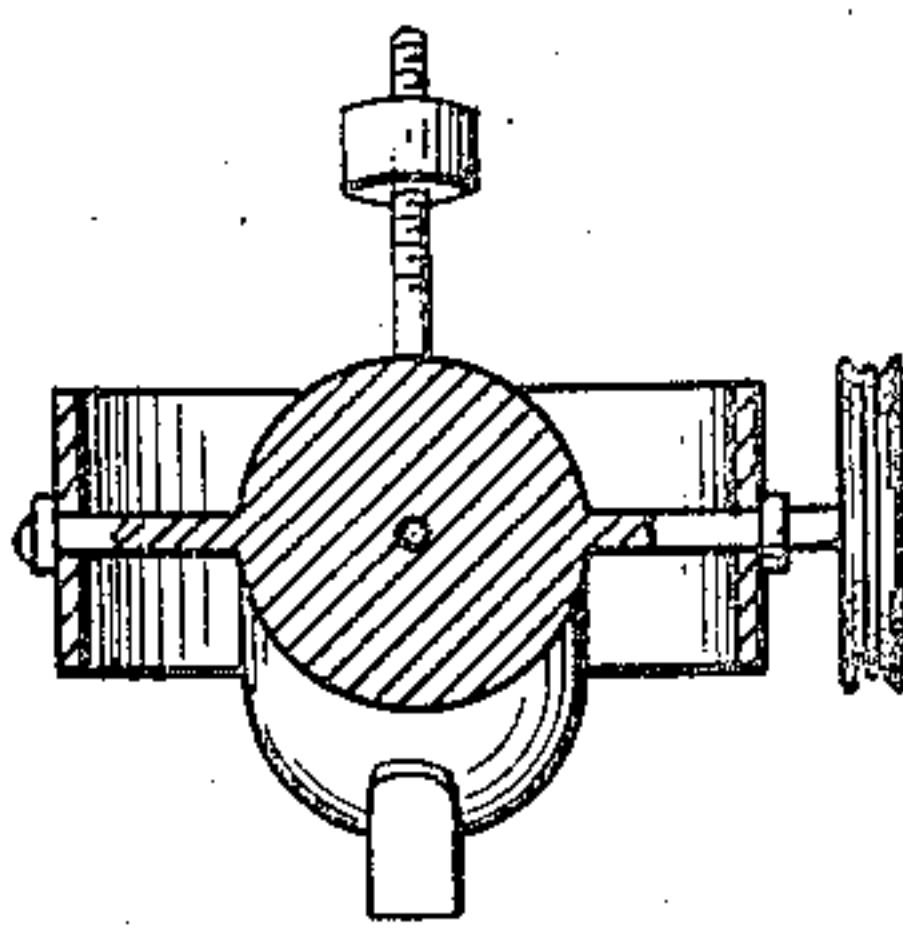
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:  
*R. Hamilton*  
*J. Moore*

Inventor,  
*John D. Patton*

By *F. G. Fischer*  
Atty.



# UNITED STATES PATENT OFFICE.

JOHN D. PATTON, OF ROSEDALE, KANSAS.

## AUTOMATIC CUT-OFF.

No. 849,637.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed December 8, 1905. Serial No. 290,994.

*To all whom it may concern:*

Be it known that I, JOHN D. PATTON, a citizen of the United States, residing at Rosedale, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Automatic Cut-Offs, of which the following is a specification.

My invention relates to an automatic cut-off; and my object is to provide a device of this character which may be set to cut off at a predetermined time electrical circuits, &c., or gas, water, and oil without further attention on the part of the operator. The application of the invention, however, need not be limited to these purposes, as it may be employed for numerous and other important uses—for example, the stopping or starting of steam, electric, and gas motors and various other cases where the beginning or termination of an operation is to be observed.

The invention consists of the novel construction, combination, and arrangement of parts hereinafter described, pointed out in the claims, and illustrated in the accompanying drawings, in which latter—

Figure 1 represents a front elevation of the invention. Fig. 2 is a side elevation thereof. Fig. 3 is a central vertical section taken on line III III of Fig. 1. Fig. 4 is a transverse section taken on line IV IV of Fig. 1.

For convenience in describing the invention I have shown it arranged as a circuit-breaker, in which 1 designates a frame arranged in the form of a loop consisting of parallel side bars 2, united by semicircular end portions 3 and 4.

5 designates a wire extending through the upper end of the frame and provided at its opposite ends with eyes 6 and 7, said wire being insulated from the frame by fiber 8 or other suitable non-conducting material.

9 designates one end of a circuit-wire attached to eye 6.

10 designates an eye secured to the lower end of frame 2 for the reception of one end of a circuit-wire 11.

12 designates a cylinder which is normally closed at its open end by a removable cap 12 and divided at its central portion into two compartments 13 14 of equal size by a centrally-disposed transverse partition 15, provided with a central orifice 16 for a purpose hereinafter described. Partition 15 is provided with a pair of trunnions 17, journaled

in the central portions of side bars 2, one of said trunnions being longer than the other to receive the pulley 18 fixed thereon. Partition 15 is also provided at a point intermediate the trunnions with a threaded stem 15<sup>a</sup>, upon which a thumb-nut or counterweight 15<sup>b</sup> is adjustably mounted. Trunnions 17 are provided with collars 19 to prevent the cylinder from shifting laterally in frame 1.

20 designates a cable secured to pulley 18 and attached at its lower terminals to a handle 21, whereby said pulley may be operated when the device is overhead or out of convenient reach of the operator.

Cylinder 12 is provided at its opposite ends with contact terminals 22 23, arranged to automatically engage eye 7 when it is desired to form a path from wire 9 to wire 11 for an electric current.

24 designates a switch secured by a hinge 25 to the upper portion of the frame and adapted when swung to an operative position to contact with eye 6 in order to form a path from eye 6 to the frame when both contact-points 22 23 are out of engagement with eye 7.

In practice one of the compartments is filled with sand or other suitable substance adapted to flow slowly through orifice 16, the quantity of said substance being regulated by the predetermined time intervening between the setting of the device and the time at which it is to operate or break the circuit, the full compartment, which in this instance is compartment 13, is then turned uppermost until its contact-point 22 engages eye 7. When this occurs, the cylinder will occupy a slightly-tilted position, (see Fig. 3,) so that the greatest weight will be at the rear of a vertical line drawn through the center of orifice 16. This preponderance of weight at one side of the center line will reliably hold contact-point 22 in engagement with eye 7 until a sufficient quantity of the substance in compartment 13 flows into compartment 14 through orifice 16 to overcome the downward pressure exerted by counterweight 15<sup>b</sup> and causes the cylinder to assume substantially a vertical position. (See dotted lines, Fig. 3.) As the cylinder swings to said vertical position contact-point 22 is thrown out of engagement with eye 7, and thus breaks the circuit between wires 9 and 11. If it is desired, however, to maintain the circuit



for an indefinite period, the switch 24 is swung upwardly into contact with eye 6, so that the current, instead of passing downwardly through wire 5, eye 7, cylinder 12, trunnions 17, and frame 1 to wire 11 will pass from eye 6 to switch 24 and from thence to wire 11 through the frame. After the cylinder swings to the vertical position (shown by dotted lines, Fig. 3) the remaining substance in compartment 13 will flow into compartment 14, so that when the device is again set by operative handle 21 to bring compartment 14 uppermost contact-point 23 will be brought and held into engagement with eye 7. The time intervening between the setting and the operation of the device may be varied by adjusting thumb-nut 15<sup>b</sup> inwardly or outwardly, as it is obvious that the nearer said thumb-nut is to the outer end of stem 15<sup>a</sup> the longer the cylinder will be held in its inclined position. If, however, it is desired to change the time to any great extent, this may be accomplished by diminishing or increasing the quantity of sand or other substance in the cylinder, as it is obvious that it will require a certain time for a given quantity of the substance to pass through orifice 16.

While the power exerted by the device is limited, yet it may be the initial means of starting or stopping heavy motors or performing work requiring considerable power by operating any suitable trip mechanism which will release a spring, weight, or other agent capable of performing considerable work.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. In the device of the character described, an electrical conductor arranged in the form of a frame, a cylinder journaled therein and divided into two compartments having communication through an orifice so that a substance may flow from one compartment to the other, a contact-terminal supported by but insulated from the frame, a switch adapted to establish communication between said terminal and the frame, and contact-terminals carried by the cylinder adapted to alternately and temporarily rest against the first-mentioned terminal.

2. In a device of the character described, a loop, a cylinder journaled therein, a partition dividing said cylinder in two compartments and provided with an orifice, a substance in said cylinder adapted to flow from one compartment to another through the orifice, contact-terminals at the ends of the cylinder, a contact-terminal at one end of the loop against which either of the first-mentioned terminals is adapted to bear when it is desired to support the cylinder in a tilted position, a switch mounted upon the loop and adapted to be thrown into contact with the terminal on said loop, and means for setting the cylinder.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN D. PATTON.

Witnesses:

F. G. FISCHER,  
F. E. ACKLEY.