

No. 659,855.

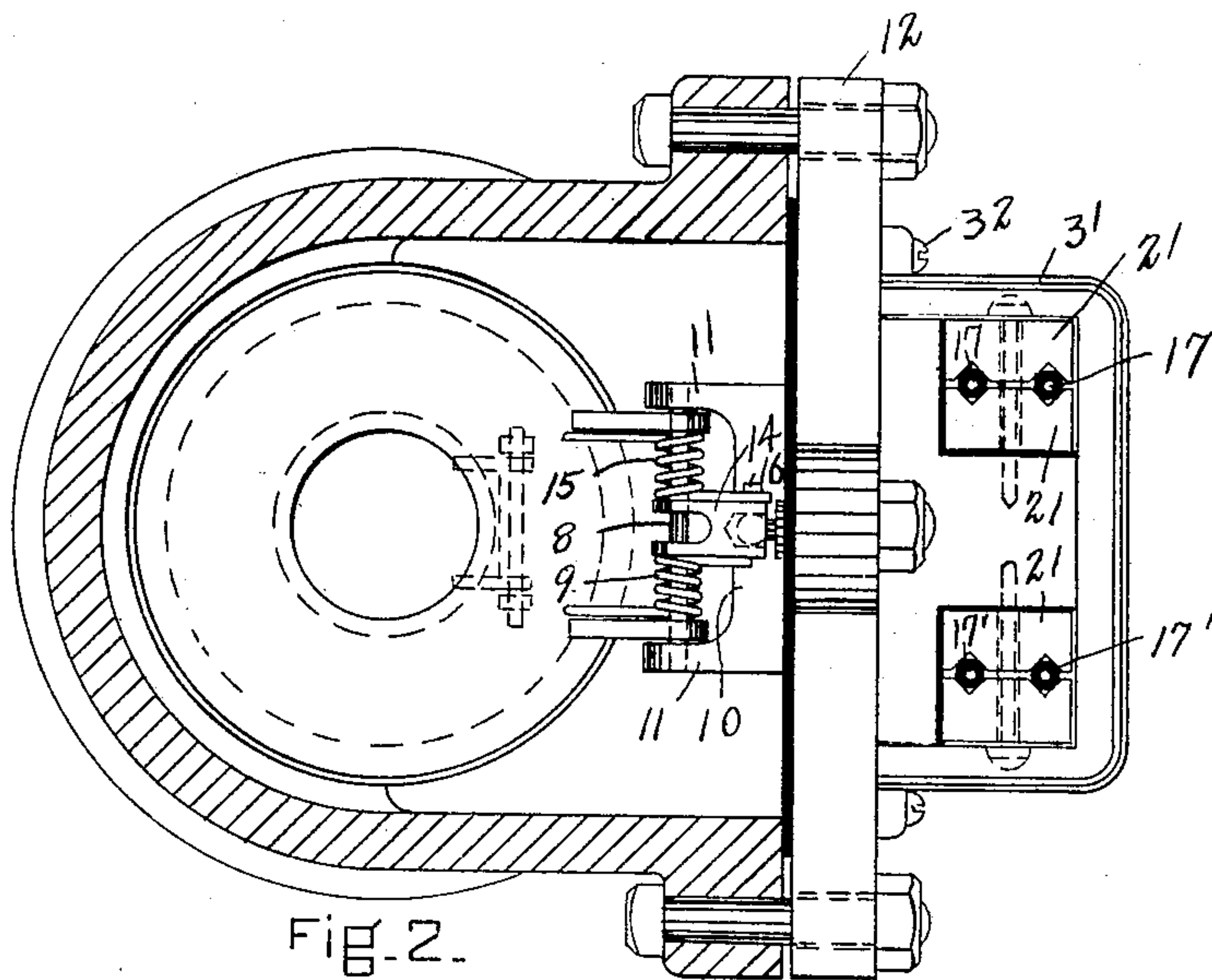
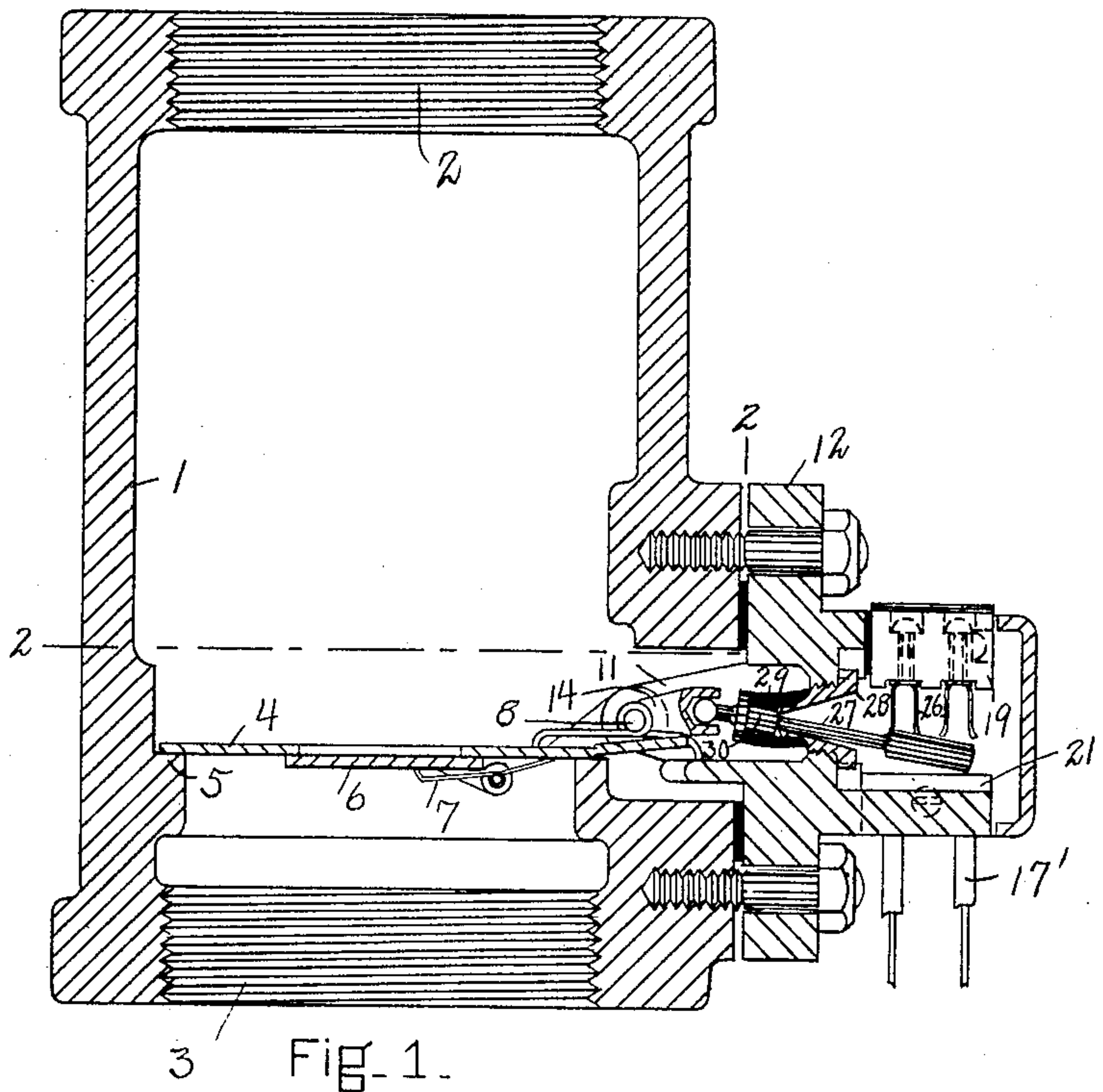
Patented Oct. 16, 1900.

J. C. MELOON.
ALARM MECHANISM.

(Application filed June 5, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES.
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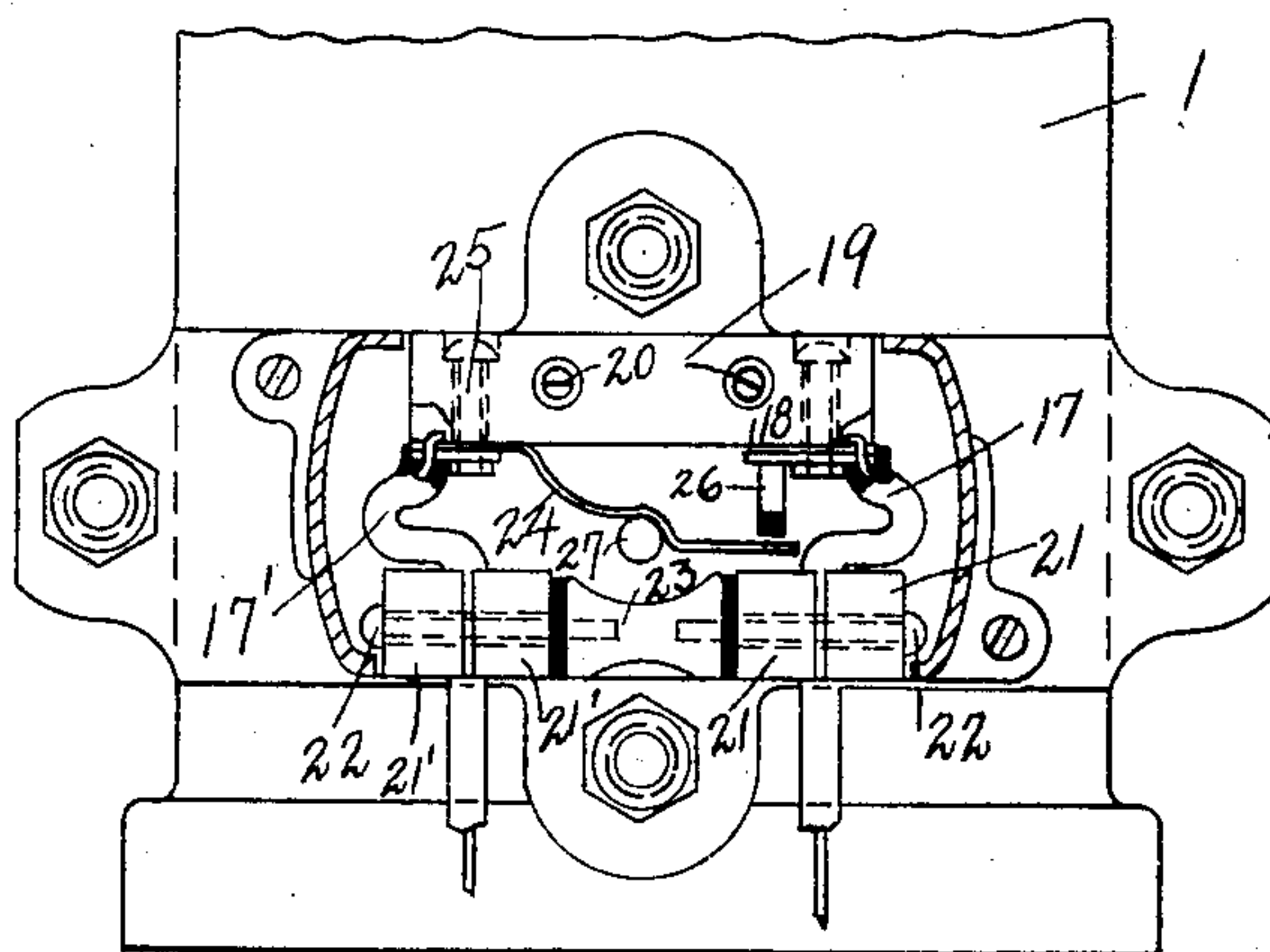


Fig. 3.

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UNITED STATES PATENT OFFICE.

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ALARM MECHANISM.

SPECIFICATION forming part of Letters Patent No. 659,855, dated October 16, 1900.

Application filed June 5, 1900. Serial No. 19,098. (No model.)

To all whom it may concern:

Be it known that I, JONATHAN C. MELOON, of the city and county of Providence, in the State of Rhode Island, have invented certain
5 new and useful Improvements in Alarm Mechanisms; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a full, clear, and exact de-
10 scription thereof.

The invention relates to an apparatus for operating an alarm whenever there is a flow of water in a water-supply system and is intended more especially for use, in connection
15 with fire-extinguisher systems, to sound an alarm when a sprinkler is opened. The invention may be used, however, in connection with other liquid-supply systems wherever it is desired to operate an alarm when there is
20 a flow of liquid in the system. In the apparatus embodying the invention the movement of a member which is operated by a flow of water in the system is utilized to close an electric circuit, thereby operating an alarm.

25 In the drawings is shown an apparatus embodying the invention in its preferred form.

Figure 1 is a sectional elevation. Fig. 2 is a sectional plan view, the section being taken on line 2 2, Fig. 1. Fig. 3 is an elevation look-
30 ing toward the left in Fig. 1.

Referring to the drawings in detail, 1 represents a casing which may be included in and form a part of a water-distribution system. For instance, the end 2 may be con-
35 nected with the sprinkler-pipes of a fire-sprinkler system and the end 3 be connected with the main supply-pipe or riser of such system, in which case there will be a flow of water in the direction of the arrow, Fig. 1,
40 whenever a sprinkler opens. A movable member in the form of a valve 4 is located in the casing 1, being arranged to seat upon a valve-seat 5, so that any flow of water through the system will move said valve from its seat.

45 The valve 4 is provided with a relief-valve 6, pivoted to the supply side thereof and normally held closed by a spring 7, which valve may open to relieve any excess of pressure upon the system side of the valve 5. The
50 valve 5 is pivoted upon a rod 8 and is held to

its seat by means of a spring 9 coiled about said rod and having one end bearing against the valve and the other against a fixed stop 10. The rod 8 is carried by lugs 11, project-
ing from a plate 12, which is secured to the 55 side of the casing 1 by means of bolts 13. The lugs 11 project inward through an opening in the side of the casing 1, which is closed by the plate 12. An arm 14 is also loosely piv-
60 oted on the rod 8 and is yieldingly connected with the valve 4 by means of a spring 15, coiled about the rod 8 and having one end bearing upon the valve and the other end upon a lug 16 on the side of arm 14. With
65 this construction the arm 14 will move with the valve when it is lifted from its seat until the end of said arm strikes the stop 10, and then the valve may continue to move inde-
70 pendent of the arm 14, the spring 15 yielding to allow such movement. The movement of the valve 5 and arm 14 is utilized, through suitable connections, to cause one or more
75 electric alarms to be operated. In the construction shown there are two electric alarm-circuits, and the alarms are operated by clos-
ing said circuits. The devices for closing the
80 circuits, as well as the means for connecting said device with the arm 14, are supported by the plate 12.

The devices for closing the circuits are du- 80 plicates of each other and only one set will be described. The end of the circuit-wire 17 is attached to a metal plate 18, which is mounted on a block of porcelain 19, secured to the plate 12 by means of screws 20. The 85 wire 17 passes from the end of plate 18, between two porcelain blocks 21, which are pressed together by screws 22, passing through said block and into a lug 23 on plate 12. Thus any pull or jar upon the wire 17 will 90 not cause a rupture of the connection with plate 18. The other end of the circuit-wire 17' passes between a second set of clamping-blocks 21' and is attached to the end of a metallic leaf-spring 24, which is secured to 95 the block 19 by a bolt 25. The spring 24 curves outward from the block 19, and its free end is arranged to pass between the legs of a U-shaped plate 26, secured to the plate 18, and thus complete the alarm-circuit. 100

The springs or contact-blades 24 are forced between the contact-plates 26 by means of a lever, one end of which engages said springs and the other end of which is connected with the arm 14. This lever in the form shown consists of a rod 27, which extends through a sleeve 28, screwed into a hole in the plate 12. The sleeve 28 is provided with a conical hole through which the rod 27 passes, the smaller end of the cone being toward the arm 14. The sleeve 28 projects through the plate 12, and a rubber tube or sleeve 29 surrounds the said sleeve 28 and also a collar 30, formed on the rod 27. This rubber sleeve is preferably molded onto both the sleeve 28 and the rod 27 and forms a flexible fulcrum for said rod, as well as a tight packing for preventing leakage at the point where the rod passes through the plate 12. The devices carried by the plate 12 are protected by a casing 31, arranged to fit over the blocks 19, 21, and 21' and the lug 23 and held in place by screws 32. The inner end of the rod is spherical and fits within a recess in the end of arm 14. When the valve and arm 14 are moved by a flow of water, the rod is rocked about its yielding fulcrum and the outer end of said rod forces the springs 24 between the legs of the plates 26, thus completing the electric circuits and operating the alarms. The alarms may be located wherever desired. For instance, one may be located in the building where the installation is and another at a fire station.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with a casing, a pivoted valve therein, an arm independently pivoted to turn about the same axis, a spring connecting said arm and valve, circuit-controlling devices outside the casing, a lever connected with said arm for operating said devices, and a flexible sleeve surrounding said lever and connected with the wall of the casing.

2. The combination with a casing, a valve pivoted on a rod 8, an arm 14 pivoted on said rod independently of the valve, a spring 15 connecting said valve and arm, a lever 27 connected with said arm and extending through the wall of said casing, a flexible sleeve 29 surrounding said lever and connected with the wall of the casing, and circuit-controlling devices operated by said rod.

3. The combination with a non-conducting block 19, a U-shaped plate 26 mounted thereon, wire 17 connected with plate 26, a spring 24 mounted on block 19, wire 17' connected with spring 24, non-conducting clamping-blocks between which wires 17, 17' are held, a lever 27 for operating the spring 24 and a member moved by a flow of water in a system of pipes for operating said lever.

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Witnesses:

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