

J. O. BANNING.
 APPARATUS FOR EXTINGUISHING FIRES.
 APPLICATION FILED OCT. 14, 1908.

930,122.

Patented Aug. 3, 1909.

3 SHEETS—SHEET 1.

Fig. 1

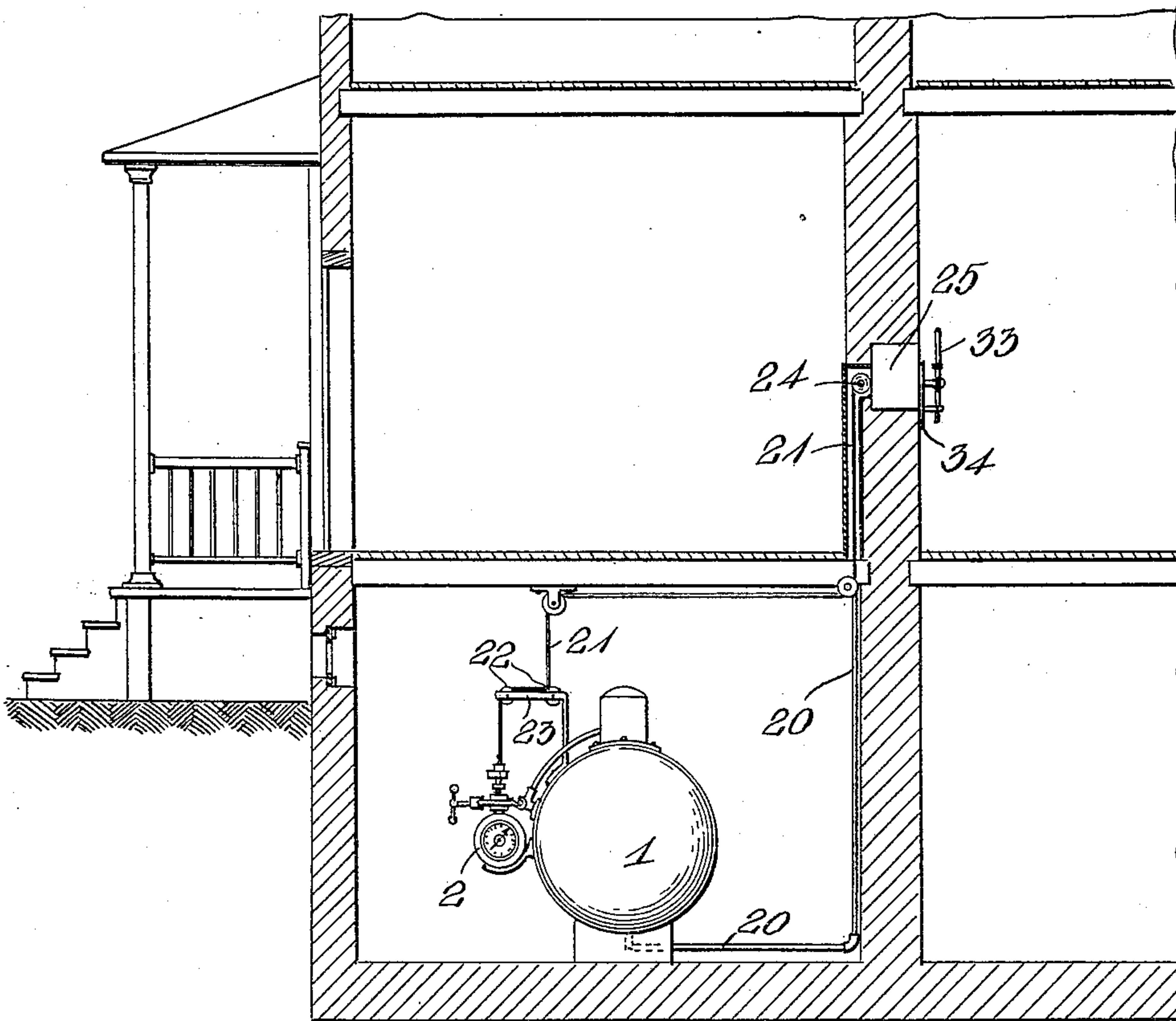


Fig. 11

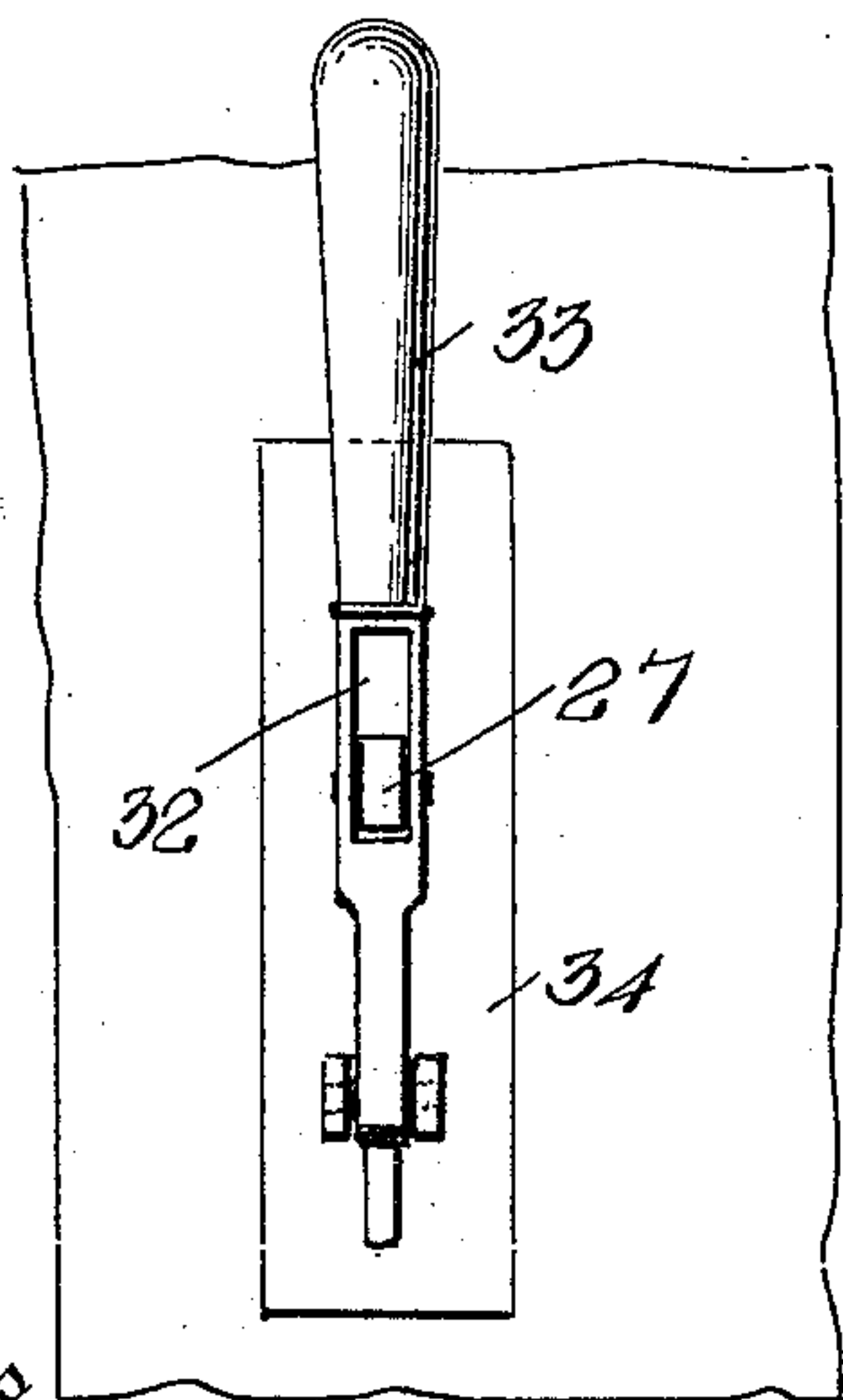
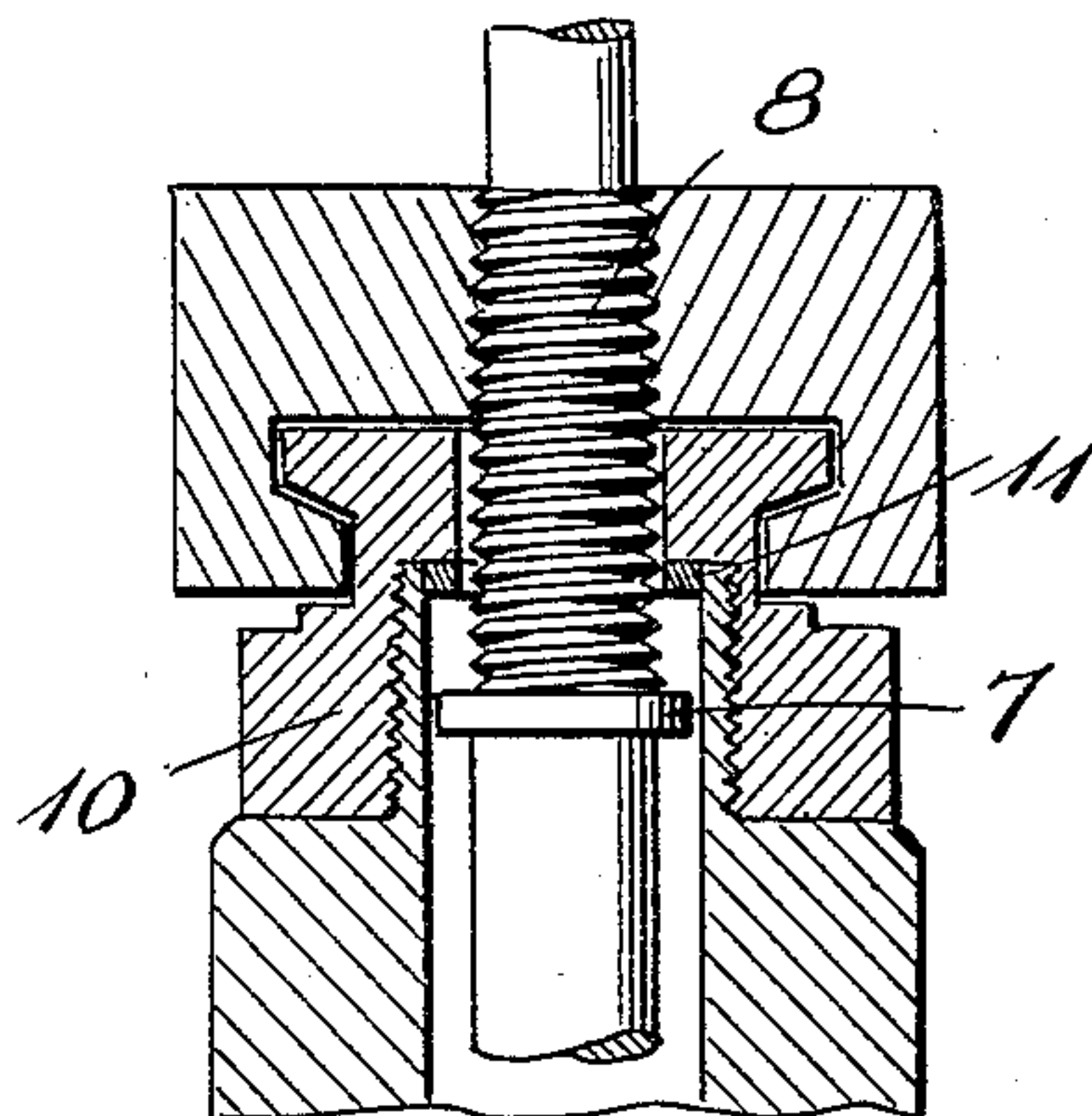


Fig. 8



Witnesses

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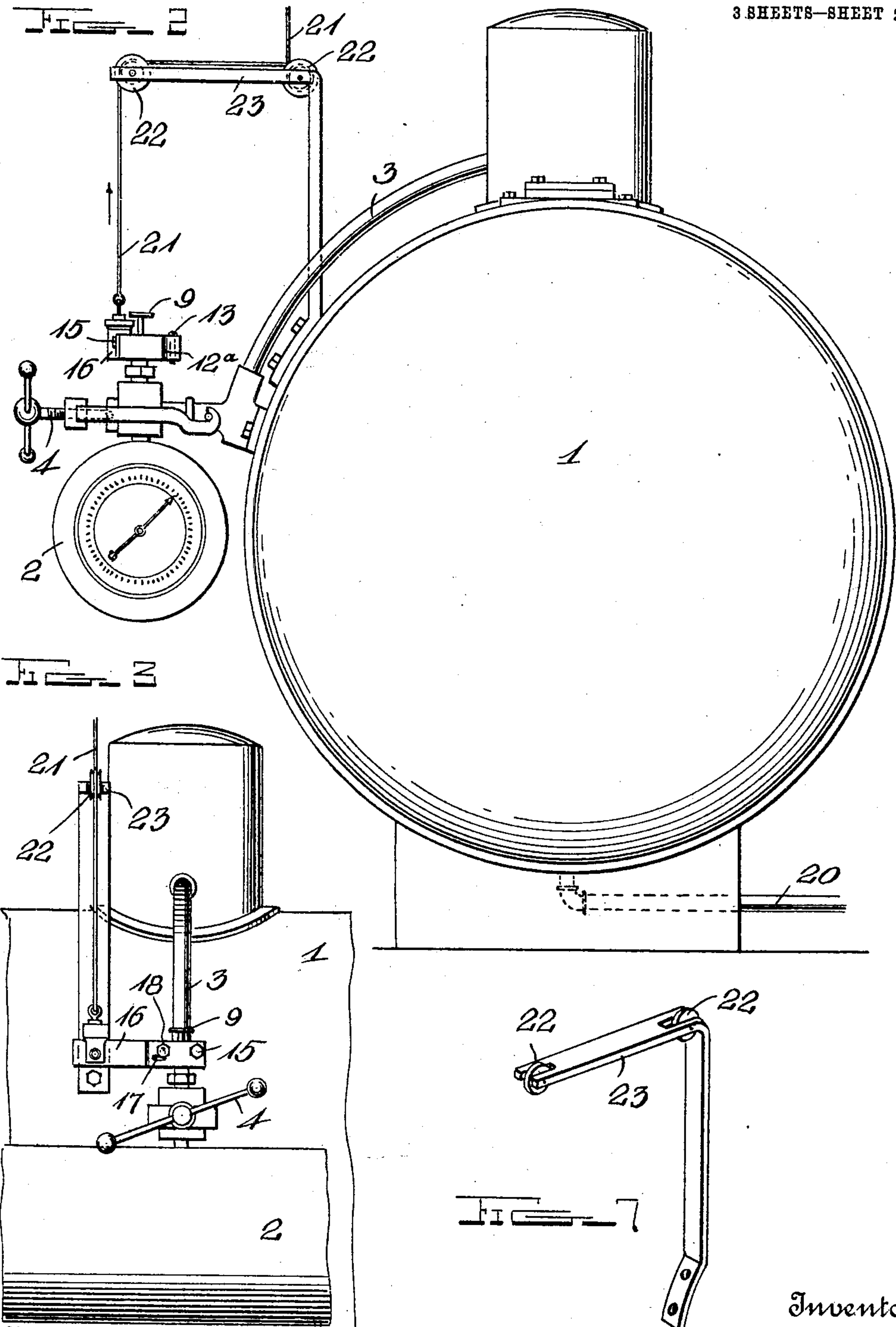
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 4

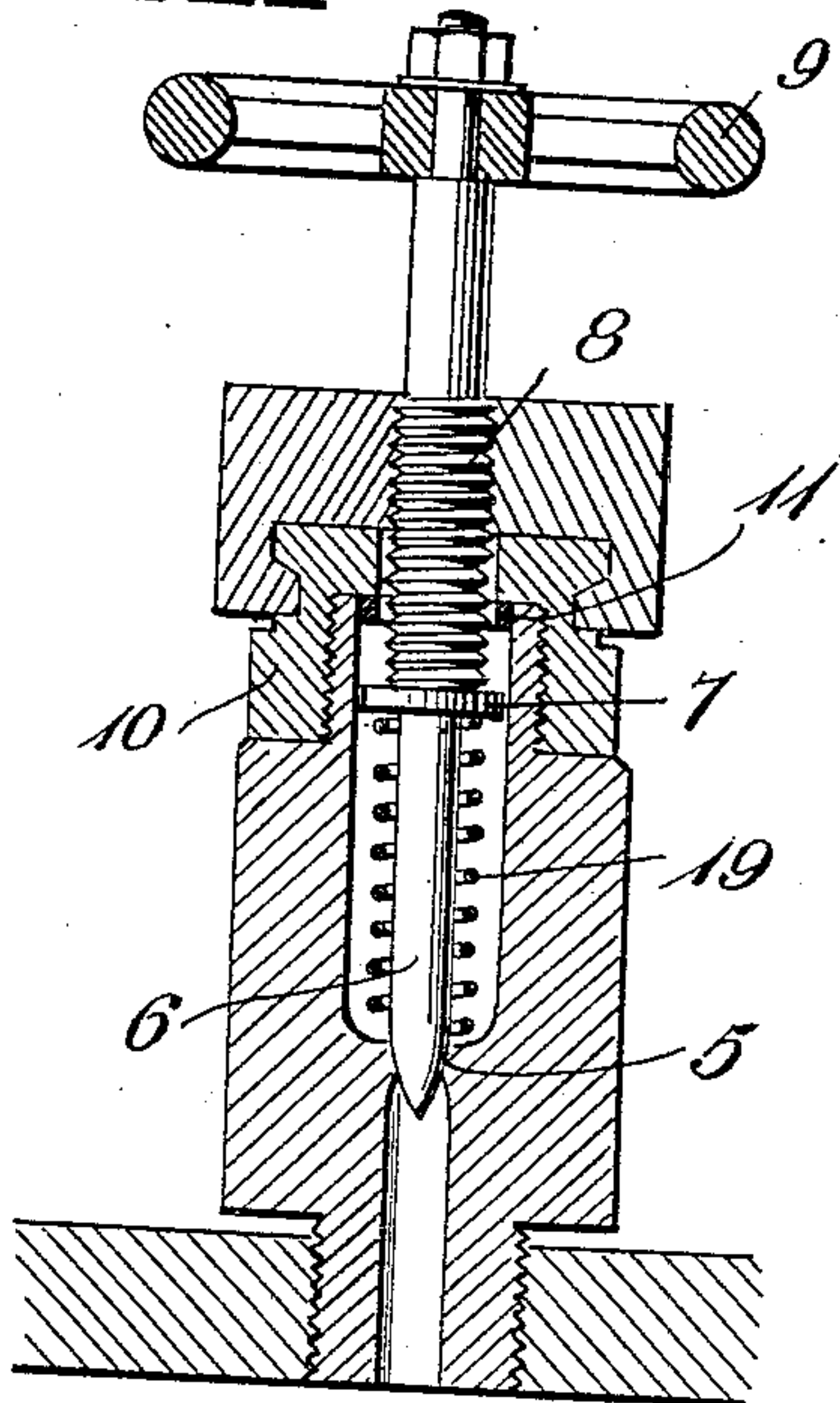


Fig. 5

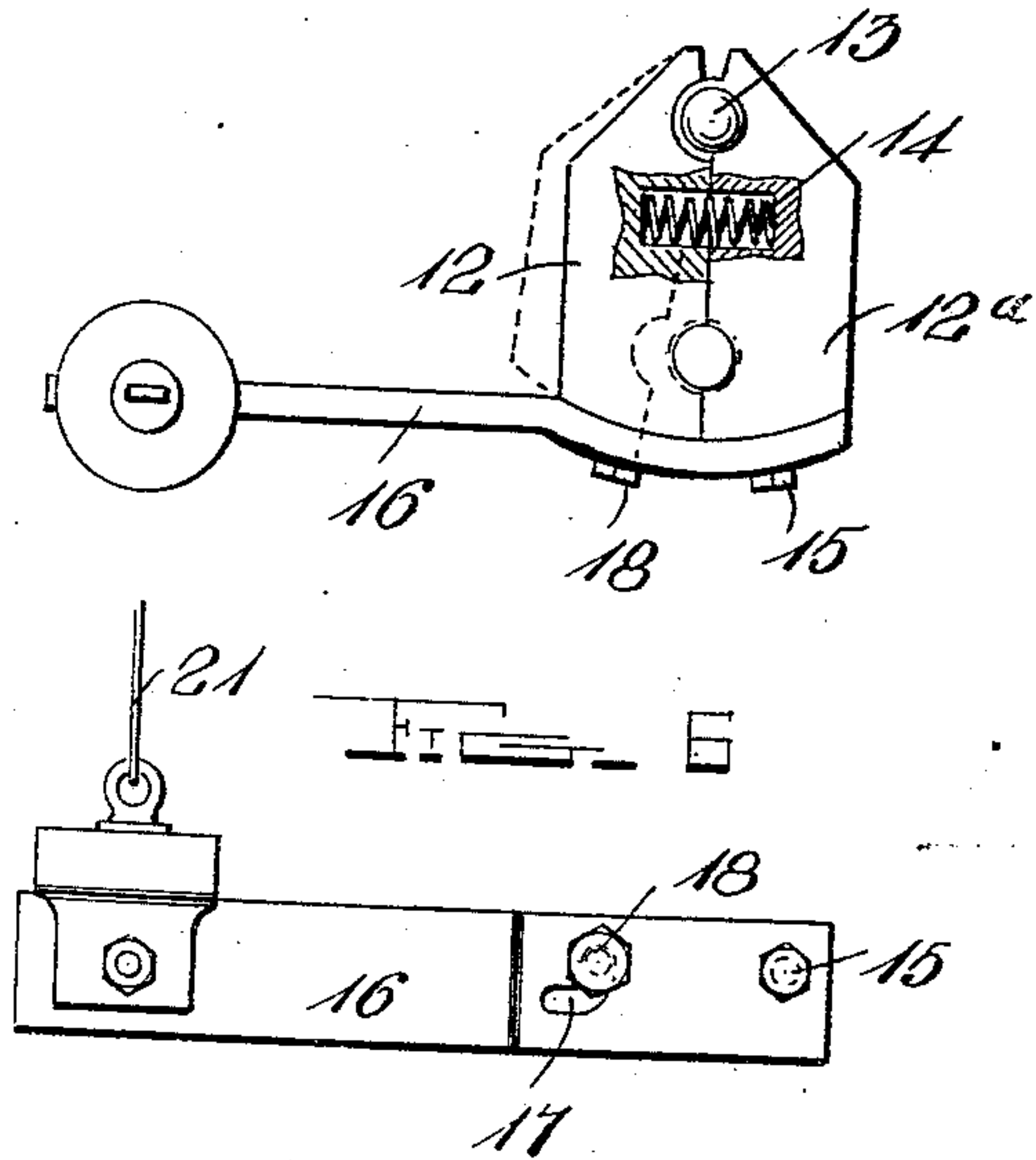


Fig. 6

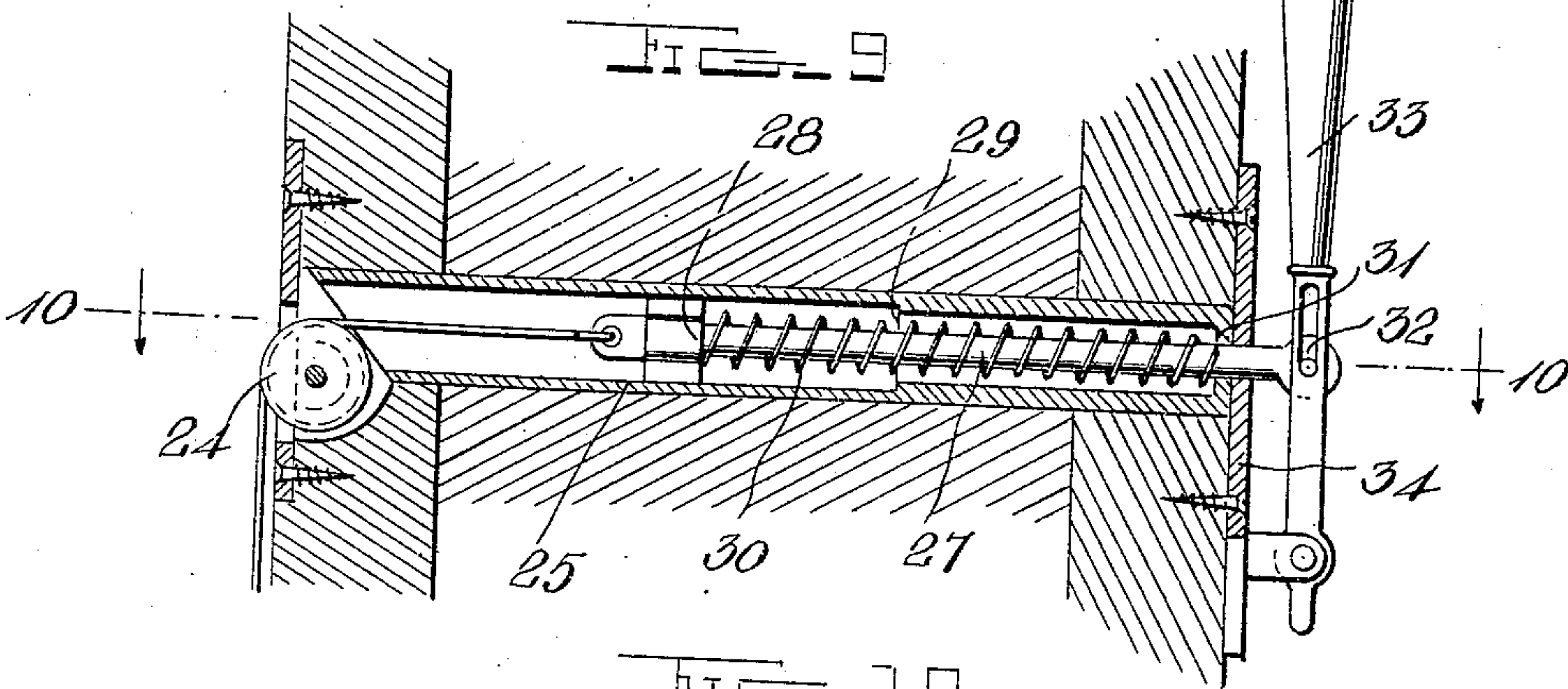
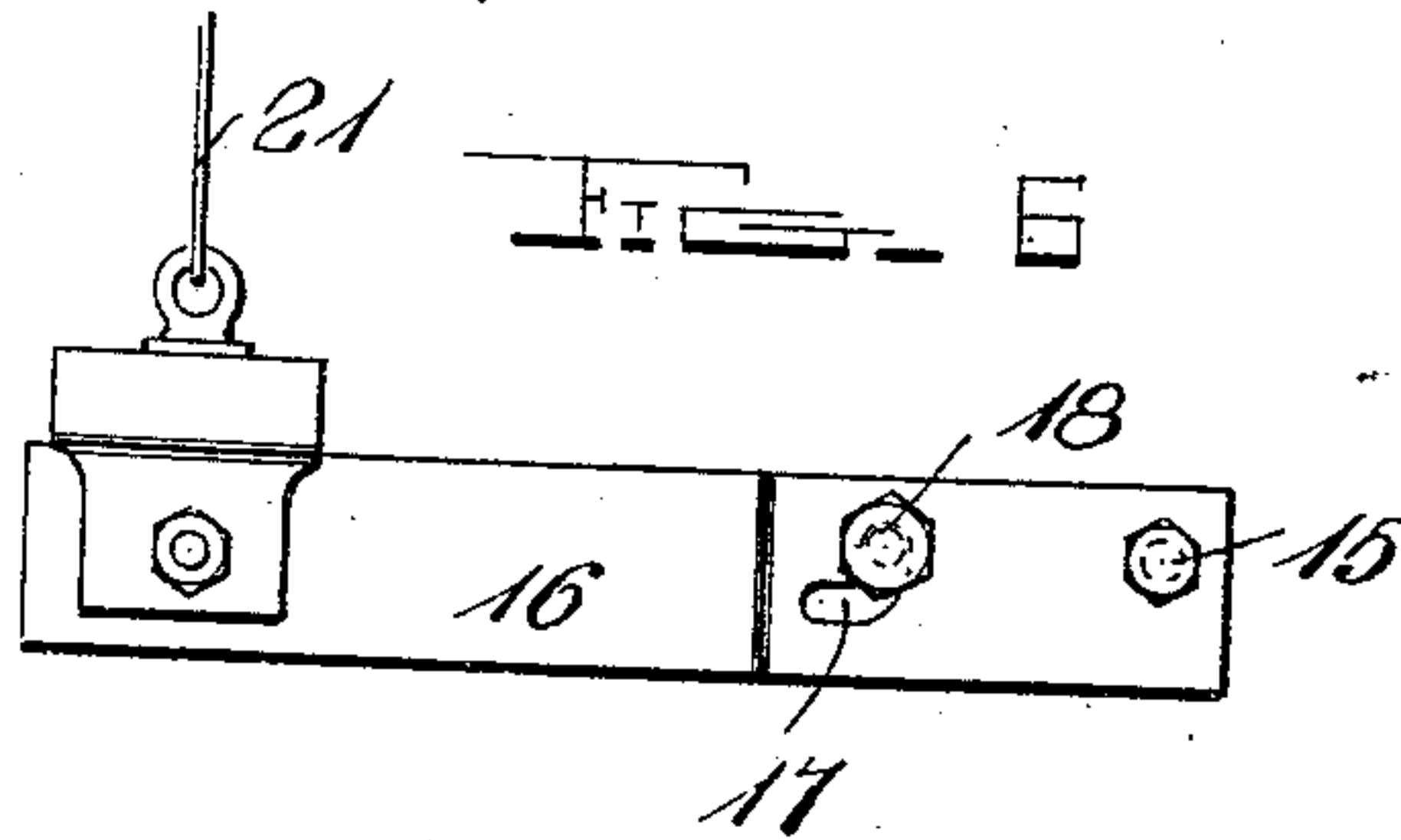
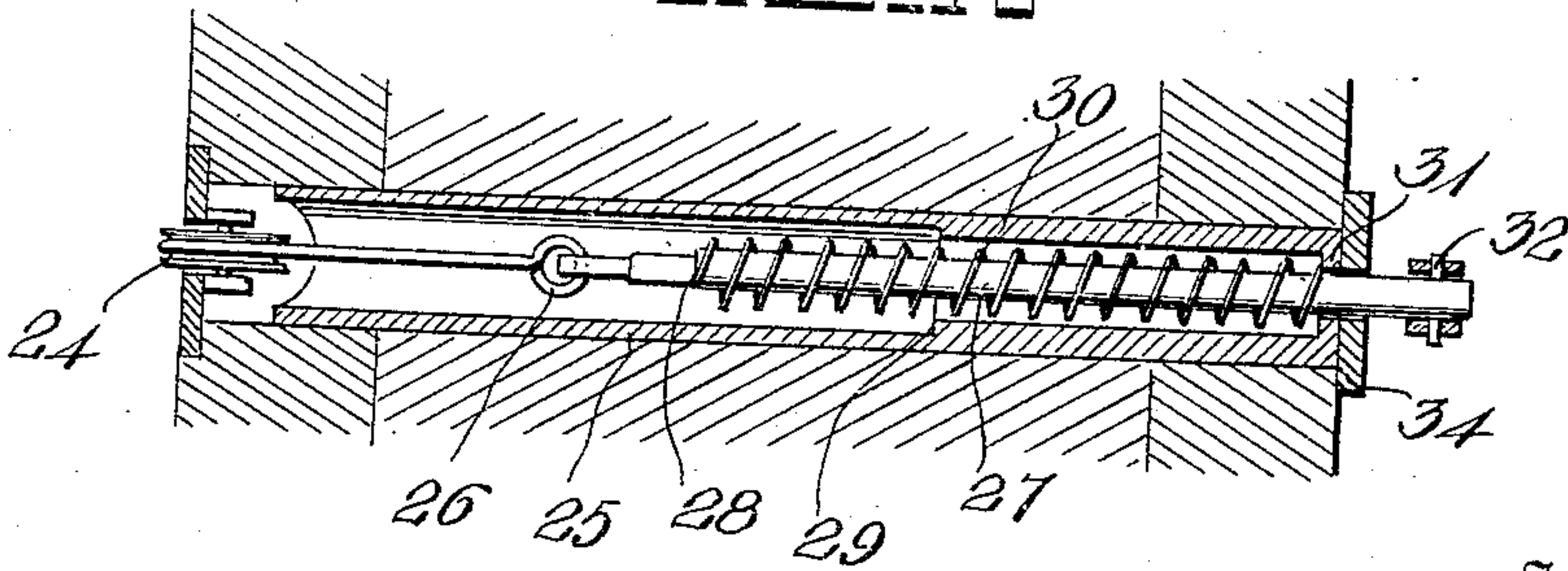


Fig. 8



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR EXTINGUISHING FIRES.

No. 930,122.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed October 14, 1908. Serial No. 457,693.

To all whom it may concern:

Be it known that I, JOSEPH O. BANNING, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Apparatus for Extinguishing Fires; and I do 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.

This invention relates to improvements in apparatus for extinguishing fires of that class in which compressed air or other agent is used to expel the extinguishing fluid from a suitable receptacle, the present invention being especially designed as an improvement over the application for which a patent was granted August 28th, 1906, No. 829,621 and being especially directed to improved manually operated mechanical connections for effecting the release of the compressed air or other fluid.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangements of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a diagrammatic view of a fire extinguishing apparatus embodying the present improvements showing more particularly the mechanical connections for effecting the release of the pressure fluid; Fig. 2 is an end view on an enlarged scale of the apparatus, the greater part of the mechanical connections not shown; Fig. 3 is a front elevation thereof; Fig. 4 is a sectional view of the pressure releasing valve; Fig. 5 is a plan view partly in section of the sectional nut and latch for holding the same closed on the shank of the valve illustrated in Fig. 4; Fig. 6 is a front view showing the latch for latching the sectional nut in latching position; Fig. 7 is a detailed perspective view of the roller-carrying bracket; Fig. 8 is a sectional view on an enlarged scale of the packing for the stem of the pressure releasing valve; Fig. 9 is a longitudinal section of the mechanical connections for operating the pressure releasing valve; Fig. 10 is a horizontal sectional view

taken on the line 10—10 of Fig. 9. Fig. 11 is a fragmentary view showing the operating lever and its bearing as it appears in front elevation.

In the embodiment illustrated, the numeral 1 indicates a closed tank for containing the extinguishing fluid, and 2 indicates a tank to contain fluid or air under pressure. The tank 2 is connected to the tank 1 by means of a pipe 3. This pipe may be constructed in two sections, the upper section of which is attached to the pressure tank 2 and the lower section held in position by means of a screw clamp 4. In this pipe is a suitable valve casing containing a valve seat 5 on which seats a valve 6 having a shoulder 7, threaded stem and a handle 9 by means of which handle the valve may be turned toward and from the seat when the stem engages a split nut hereinafter described. On the valve casing is a threaded collar 10, the upper end of which projects inward to form a shoulder against which the shoulder 7 of the valve 6 presses a washer 11 when the valve is lifted.

The split or divided nut comprises two parts 12 and 12^a hinged together at their rear ends as indicated at 13. Between the sections of the divided nut is seated a spring 14 tending to throw them apart. Pivoted at 15 on one of the sections of the dividing nut is a lever 16 formed near its pivoted end with an angular slot 17 into which projects a pin 18 on the other section of the nut. When the parts of the divided nut are closed on each other, they may be latched together in closed position by depressing the free end of the lever 16 until the pin 18 is in the vertical part of the angular slot. The pressure of the spring 14 can be such as to engender enough friction in the position where it latches the sections of the nut together and at the same time permit the release of the sections when the free end of the lever is raised by suitable connections hereinafter described. As seen in Fig. 3 the parts of the split nut, when closed, embrace the threaded portion of the shank of the valve stem, and, as above stated, can be moved toward and from the seat by turning the stem in said nut. When the split nut is closed, therefore, the valve is held from vertical movement from any position to which it is adjusted, but, when the

split nut is open, the valve is free to move vertically and upwardly off its seat either by pressure in the tank 2 or by means of the spring 19 encircling the stem and pressing upward against the shoulder 7.

In practice, the extinguishing fluid in the tank 1 can be conducted from said tank by a pipe 20 to any point or points where its discharge is desired but generally when the apparatus is for stationary use, the tank will be located in some place lower than the place of discharge as, for example, in the cellar. In this way the outlet for the tank may be in the lower part thereof and be continuously open but this is not the only way in which the apparatus may be used.

I will now describe the mechanical connections for raising the free end of the lever 16 to release the valve 6 in order to permit the compressed air or other fluid to pass into the tank 1 and thereby cause the expulsion of the extinguishing fluid. A flexible element 21, preferably in the form of a wire cable, is attached to the free end of the lever 16 and after passing over a pair of grooved guide pulleys 22 mounted in the upper horizontal arm 23 of a suitable supporting bracket of approximately right-angular form bolted at its lower end to the boiler in position to dispose its horizontal portion 23 directly over said handle, and then passes upward through a suitable conduit extending through the basement floor to the proper point or station, which may be located on the first, second, third or any other floor, passes over a third pulley 24 mounted in one end of a protective casing 25. The last mentioned end of the cable is provided with a hook 26 which is engaged with the inner end of an operating rod 27 mounted for longitudinal movement in the casing 25. As shown, this rod is provided near its inner end with a shoulder 28 adapted to engage with an annular shoulder 29 in the casing and is normally held within the casing by a longitudinally disposed coil spring 30 disposed around said rod and arranged between the outer wall 31 of the casing and the shoulder 28 of said rod. Said rod normally projects beyond the front end of the casing 25 and has a slotted connection as at 32 with a vertically disposed operating lever 33 pivoted at its lower end to a suitable bracket 34. In practice, by pulling forwardly upon the operating lever 33, the operating rod is caused to move longitudinally within the casing against the action of its spring which operation, through the medium of the flexible element 21, raises the free end of lever 16 and releases the valve 6 thus permitting the compressed air or other agent to pass into the tank 1 and cause the expulsion of the extinguishing fluid.

From the foregoing description taken in connection with the accompanying drawings,

the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

I claim as my invention:—

1. In a fire extinguishing apparatus, the combination with a tank for containing a fire extinguishing fluid, a second tank for containing fluid under pressure, a connection between said tanks closed by a valve, a threaded split nut in which the valve stem works and by which said valve is held in position on its seat, means including a lever for latching the parts of said nut in position for holding said valve, and mechanical connections operable to release the valve holding means from said valve, said connections including a flexible element connected with the free end of said lever, a spring controlled operating rod connected with said flexible element, and a pivoted operating lever for moving said operating rod against the action of its spring.

2. In combination with an extinguishing fluid containing tank, a tank for containing fluid under pressure, a connection including a valve between said tanks, means including a horizontally disposed lever for latching the valve in its seat to cut off the passage of the compressed fluid in the first mentioned tank, connections including a flexible element attached to said lever, a casing, a spring controlled operating rod connected with said flexible element and mounted for longitudinal movement in said casing, a pivoted operating lever for moving said operating rod against the action of its spring, means in the casing and on the rod for limiting the movement of the latter, and a spring for raising the valve to effect communication between the two tanks.

3. In a fire extinguishing apparatus, the combination with a tank for containing a fire extinguishing fluid, of a second tank for containing a fluid under pressure, a valve to control the passage of the compressed fluid from the second named tank to the first mentioned tank, means including a lever for holding said valve in its seat, and manually operated connections operable to release the valve from its holding means, said connections including a flexible element connected with said lever and a spring controlled longitudinally movable operating rod connected with said flexible element.

4. In a fire extinguishing apparatus, the combination with a tank for containing a fire extinguishing fluid, of a second tank for holding a pressure fluid, a valve to control the passage of the pressure fluid from the

second named tank to the first mentioned tank, means including a lever for holding said valve in its seat, a supporting bracket arranged upon the first mentioned tank, 5 grooved guide pulleys mounted in said bracket, and manually operated connections to release the valve from its holding means, said connections comprising a flexible element passing over the grooved guide pulleys 10 and connected with said lever, a spring con-

trolled operating rod connected with said flexible element, and a pivoted operating lever connected with said operating rod.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 15

JOSEPH O. BANNING.

Witnesses:

E. EDMONSTON, Jr.,
J. P. DUFFIE.