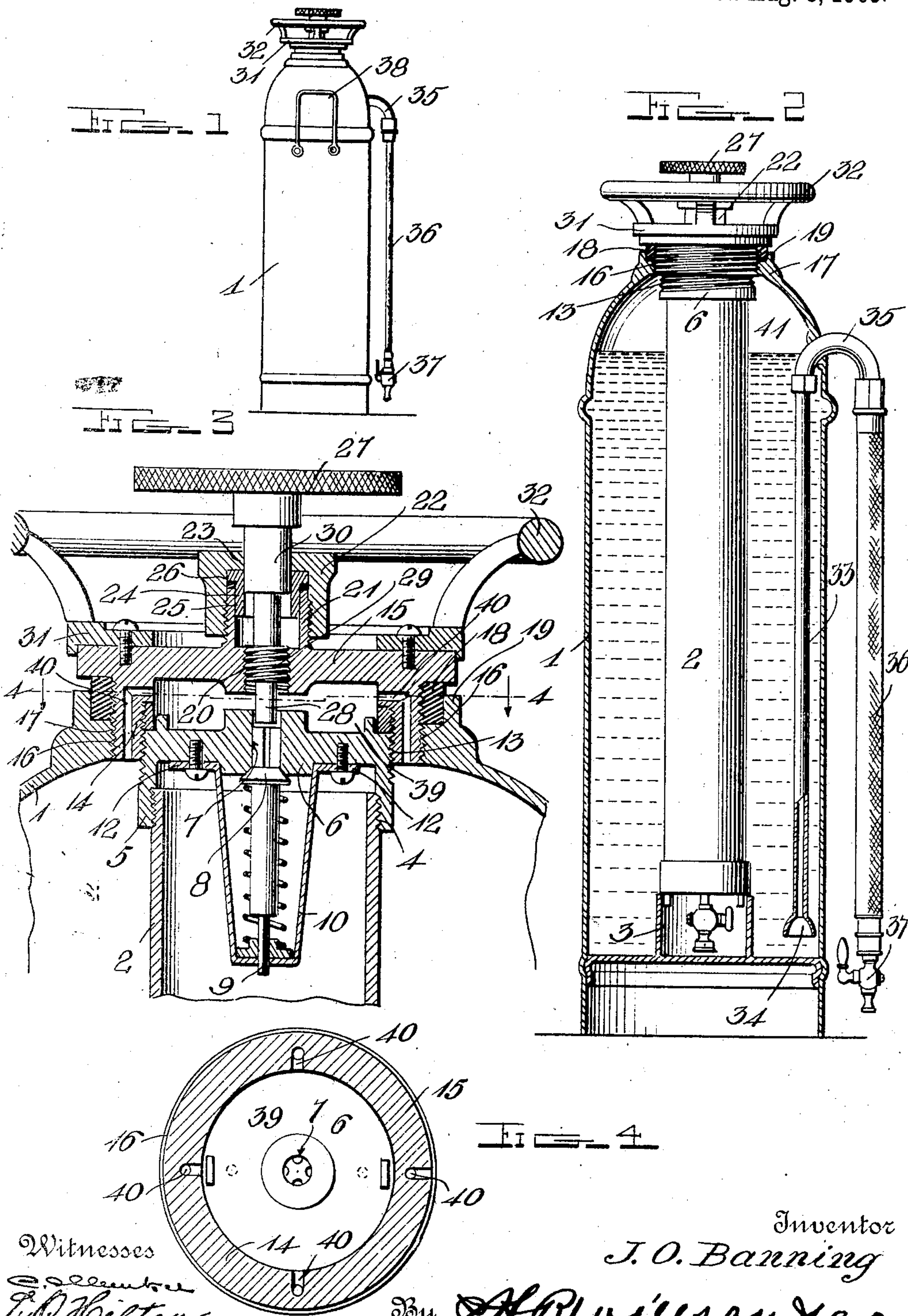


J. O. BANNING.
FIRE EXTINGUISHER.
APPLICATION FILED OCT. 14, 1908.

930,123.

Patented Aug. 3, 1909.



Witnesses
E. O. Hilton

By

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UNITED STATES PATENT OFFICE.

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FIRE-EXTINGUISHER.

No. 930,123.

Specification of Letters Patent.

Patented Aug. 3, 1909.

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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 Fire-Extinguishers; 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 new and useful improvements in fire extinguishers and has for its object to provide a simple and desirable device of this character wherein compressed air is used to expel the extinguishing fluid and wherein suitable valve connections are employed for controlling the passage of the pressure fluid from a storage receptacle arranged in the main casing to the interior of said casing.

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

In the accompanying drawings, Figure 1 is a side elevation of the fire extinguisher embodying the present improvements; Fig. 2 is a central longitudinal section thereof on an enlarged scale; Fig. 3 is a central vertical section of the pressure controlling means on an enlarged scale; and Fig. 4 is a horizontal section, taken on line 4—4 of Fig. 3.

In the embodiment illustrated, which is for illustrative purposes only and therefore not drawn to scale, numeral 1 indicates the main casing of the fire extinguisher in which is placed the extinguishing fluid and 2 a suitable cylinder for holding the compressed air or other agent for expelling the extinguishing fluid, said cylinder being arranged centrally and vertically within the casing with its lower end fitting in a centrally disposed casing 3 arising from the bottom of the main casing 1.

In carrying out the objects of the invention, the upper end of the cylinder 2 is ex-

teriorly threaded, as at 4, to receive the interiorly threaded rim 5 of a suitable solid cylinder cap 6 provided with a central valve opening 7 which is normally closed by a spring pressed valve 8 having a reduced portion or stem 9 at its lower end to work through a corresponding guide opening in an approximate U-shaped bearing or frame 10 and at its upper end with a guide stem 11 which fits in the valve opening 7 of the cap 6. As shown, the ends of the bearing or frame 10 are provided with outstanding laterally projecting portions 12 which are screwed to the cap 6.

The body of the cap 6 is exteriorly threaded, as at 13, to receive the interiorly threaded rim 14 of a second and larger cap 15. Said rim 14 is also exteriorly threaded, as at 16, to screw into the upper threaded end 17 of the main casing 1 and is provided at its inner end with a suitable gasket or packing ring 18 to seat within an annular flange 19 produced at the extreme upper end of the main casing and thereby seal the upper end of the casing against the escape of any compressed air. The cap 15 is provided with a central threaded opening 20 and with a centrally disposed exteriorly threaded tubular upstanding stem 21 at its top surface around said opening upon which is screwed an interiorly threaded cap 22 provided in its top with a central opening 23.

The numeral 24 indicates a cap which is arranged with its rim 25 fitting in the stem 21 and its annular flange 26 seating upon the upper edge of said stem, the bore of said cap registering with the opening 23 of the cap 22.

Numerals 27 and 28 indicate a valve operating device which comprises a stem having a lower reduced cylindrical portion 28 provided intermediate of its ends with a thread adapted for screwed engagement with the threaded opening 20 of the cap 15, the lower end of the stem fitting in the upper end of the valve opening 7 of the cap 6. The stem of the valve operating device also comprises an upper enlarged portion 30 which closely fits the inner surface of the removable cap 24 and the wall of the opening of the cap 24, thereby

sealing the upper end of the cap 15 against the passage of any air therefrom. The extinguisher is also provided with a suitable handle comprising a flat annular base plate 31 which screws upon the top of the cap 15 and an annular ring 32 suitably connected with the base plate and adapted to be grasped or engaged by the operator. The casing is also provided with a suitable discharge or outlet pipe 33 which is arranged vertically within the same at one side of the casing and extends to a point near the bottom thereof, the lower end of said pipe terminating in a mouth 34 and the upper end 35 thereof extending through one side of the casing to which is connected a flexible hose connection 36 provided with a stop cock 37.

In the operation of the device, the operator turns the valve operating device 27 by means of its handle 38 to cause the lower portion 28 thereof to engage and depress the spring controlled valve 8 sufficiently to permit the passage of the compressed air from the storage cylinder 2 through the valve opening 7 of the cap 6 into an annular chamber 39 formed by the interior of the rim of the cap 15. The compressed air then passes through a plurality of right-angularly formed ports 40 formed in the rim of said cap and communicating with the valve chamber 39 to the annular space 41 between the rim of the cap and the upper end of the storage cylinder. This compressed air or other agent acting upon the extinguishing fluid forces the same into the lower end of the outer pipe 33 and through said pipe and the flexible hose connection in a continuous jet or stream until the valve operating device is unscrewed to permit the spring controlled valve 8 to again close the valve opening 7 in the cap 6.

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

Having thus described and ascertained the nature of my invention, what I claim as new and desire to secure by Letters-Patent is:

1. In a fire extinguisher of the class described, the combination with an outer casing, of a compressed air receptacle arranged therein, a cap provided with a spring controlled valve screwing over the upper end of the compressed air cylinder, a second cap screwing into the upper end of the casing, and a valve operating device screwing through the last mentioned cap and adapted to release or depress said valve.

2. In a fire extinguisher of the class de-

scribed, the combination with an outer casing, of a compressed air receptacle, arranged therein, a cap screwing over the upper end of the air receptacle, a depending bearing frame attached to the bottom of said cap, a spring controlled valve arranged in said frame, a second cap screwing into the upper end of the casing and provided with outlet ports leading from the space between it and the first mentioned cap to the interior of the casing, and a valve operating device screwing into the second mentioned cap and adapted to release said valve to permit the passage of the pressure fluid from the storage receptacle into the casing.

3. In a fire extinguisher of the class described, the combination with an outer casing, of a compressed air receptacle arranged centrally and vertically therein, a cap carrying a spring controlled valve screwing over the upper end of said receptacle, a second cap screwing into the upper end of the casing and upon the body of the first mentioned cap, said last mentioned cap having a rim provided with a plurality of right-angularly formed discharge ports leading to the inner surface of the rim, means for limiting the extent which the last mentioned cap is capable of being screwed upon the first mentioned cap in order to provide a space between the same, and a valve operating device screwing into the second named cap and comprising a stem adapted to depress said valve to permit the passage of the compressed air in the compressed air receptacle to the space between the two caps out of the discharge ports in the rim of the second named cap into the interior of the valve casing to cause the expulsion of the extinguishing fluid.

4. In a fire extinguisher, the combination with an outer casing, of a compressed air receptacle arranged therein, a cap provided with a central valve opening screwing over the upper end of said receptacle, a spring controlled valve to normally close the valve opening in said cap, a second cap screwing into the upper end of the casing and provided with a plurality of outlet ports leading from the space between it and the first mentioned cap to the interior of the outer casing, a spring controlled valve to control the passage of the compressed air from the storage receptacle to the outer casing, and a valve operating device screwing into the second mentioned cap and adapted to release said valve.

5. In a fire extinguisher of the class described, the combination with an outer casing, of a compressed air receptacle arranged therein, a cap carrying a spring controlled valve screwing over the upper end of said receptacle, a second cap screwing into the upper end of the casing and upon the body of the first mentioned cap and provided with a plurality of discharge ports leading from

the space between it and the first mentioned cap to the interior of the outer casing, and a valve operating device screwing into the second mentioned cap and adapted to release said valve to permit the passage of the compressed air in the storage receptacle to the interior of the outer casing.

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

JOSEPH O. BANNING.

Witnesses:

E. EDMONSTON, Jr.,

J. P. DUFFIE.