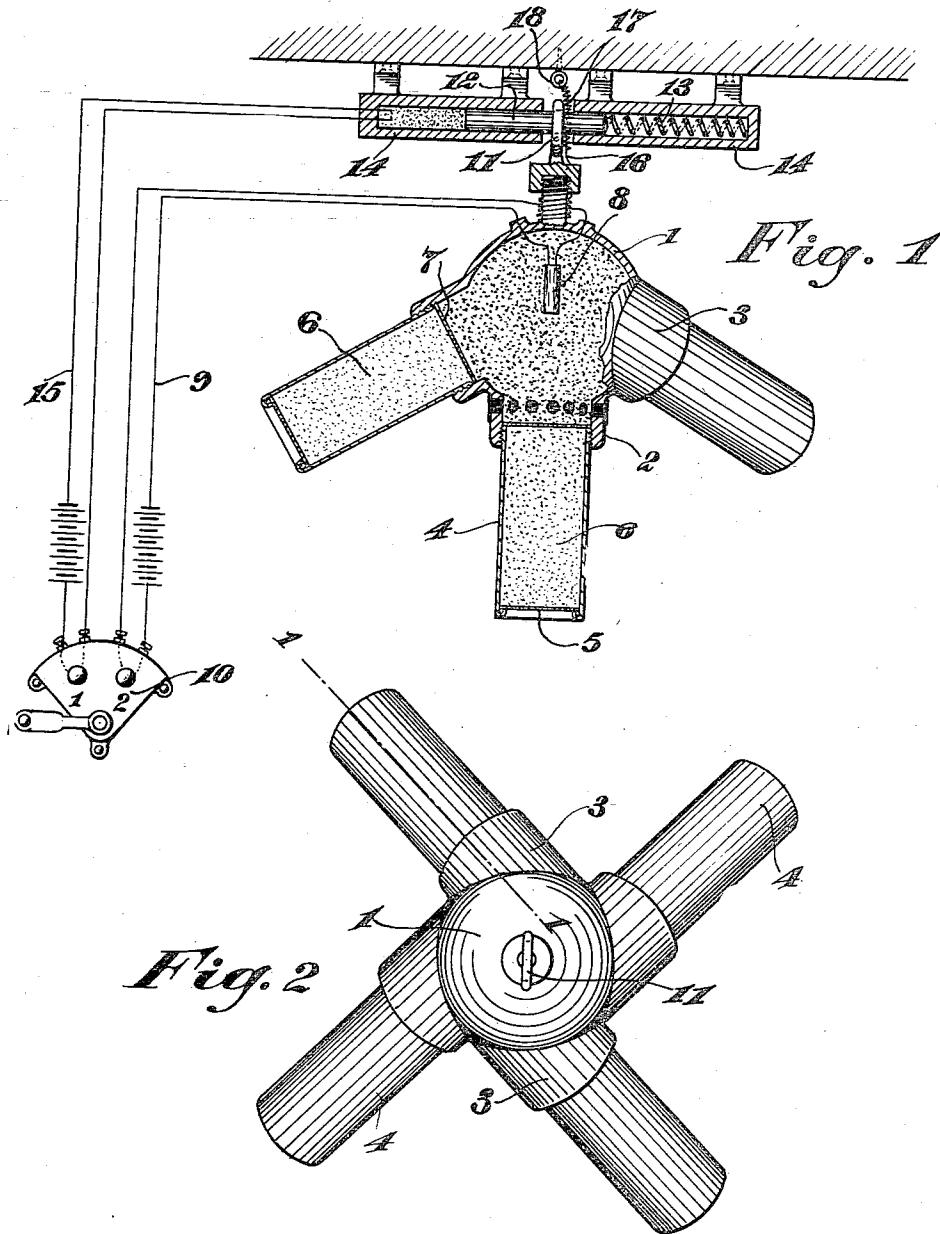


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FIRE EXTINGUISHER.
APPLICATION FILED DEC. 16, 1911.

1,038,850.

Patented Sept. 17, 1912.



Witnesses:

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UNITED STATES PATENT OFFICE.

ARTHUR ALBERT CHARBONNEAU AND LEO ALBERT CHARBONNEAU, OF MONTREAL,
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FIRE-EXTINGUISHER.

1,938,850.

Specification of Letters Patent. Patented Sept. 17, 1912.

Application filed December 16, 1911. Serial No. 666,291.

To all whom it may concern:

Be it known that we, ARTHUR ALBERT CHARBONNEAU and LEO ALBERT CHARBONNEAU, both subjects of the King of Great Britain, and residing at Montreal, Quebec, Canada, have invented certain new and useful Improvements in Fire-Extinguishers; and we do hereby declare that the following is 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.

The invention to be hereinafter described relates to fire extinguishers.

In order to more clearly disclose the construction, operation, and use of the invention, reference should be had to the accompanying drawings forming part of the present application.

Throughout the several figures of the drawings like reference characters designate the same parts.

In the drawings: Figure 1 is a central, vertical cross section through one of the extinguishers and its support, on line 1—1 of Fig. 2, together with a diagrammatic view of the operating circuits; and Fig. 2 is a top plan view of one of the extinguishers.

Referring to the drawings in detail, 1 represents a hollow body or casting of approximately globular shape and provided with a single screw threaded socket 2 extending perpendicularly downward from the lower surface of the casing, and also provided with a plurality of similar sockets 3 extending tangentially from a circumference which is at right angles to the aforesaid perpendicular socket. These tangentially disposed sockets are also each arranged at a similar downward and outward angle relatively to the perpendicular socket. Into each socket is threaded a tubular casing 4 the wall of which is folded in at one end to receive and support a deformable closure disk 5. Each such casing is filled with a fire extinguishing powder 6 and its opposite end is closed by another deformable disk 7 which rests between the end of the casing and the annular shoulder at the inner end of the screw thread of each socket, as clearly shown in Fig. 1.

The interior of the globular body 1 is filled with an explosive adapted to be fired by means of a detonating cap 8, or the like, the detonator being set off by means of a

normally open electric circuit 9 which may be closed by means of an ordinary switch 10. When the explosion takes place in the globular body its reactive force will be exerted tangentially toward the circumferential line from which the plurality of nozzles project. The explosion, of course, discharges the contents of the tube directly downward against any fire beneath. Now, if these tubes projected radially, instead of tangentially, the extinguishing powder would be driven out as radial jets, the reaction of the explosion being radial toward the center of the globular body. There would be no resulting movement of the globular body. With the tangential arrangement of the sockets and tubes, the reaction of the explosion is exerted tangentially in a band extending about the surface of the globular body. Such reaction gives a very rapid spinning or whirling motion to the extinguisher which results in a centrifugal scattering of the extinguishing powder in a fine uniform cloud. Due to the angles of sockets 3, this cloud is directed both downwardly and outwardly, as will be clear. The gases of the explosive also mix with the gases of the extinguisher and form extinguishing fumes. Thus, a great cloud of fire smothering and extinguishing atmosphere will be created which will completely fill the room or apartment.

Preferably, this extinguisher should be suspended from the ceiling of a room where it will be out of the way, and means should be provided for readily freeing it from its support to permit it to drop toward the center of the room, before exploding. Such an arrangement comprises an eye 11 projecting from the top of the body and adapted to slidably receive a supporting bolt 12. Normally, this bolt is seated with its opposite ends slidably mounted in two tubes 14. One of these tubes is partly filled with an explosive and a coil spring 13 is seated in the other tube. The coil spring exerts a pressure on one end of the bolt 12 and keeps the opposite end of the bolt firmly pressed against the explosive in the other tube. In order to free the extinguisher, it is only necessary to close circuit 15 and thus fire the explosive in one tube 14 and shoot the bolt 12 into the other tube, thereby freeing it from the eye 11 and permitting the extinguisher to drop.

It is preferable, of course, to limit the dis-

tance of the drop of the extinguisher, so that it may not strike the floor. If it should strike the floor or an obstruction before being exploded, one or more of the casings of extinguishing powder might be broken off and the explosive charge might be let out, thus rendering the device useless. To avoid this, a cable or the like 16 is attached at one end to the body 1 and has its opposite end connected to a spring 17 which, in turn, is connected to an eye 18 in the ceiling. The length of this cable is so proportioned, of course, as to suspend the extinguisher at the desired point above the floor of the room or apartment. The spring 18 acts, of course, to take up any sudden shock as the extinguisher reaches the end of its fall.

In order to doubly insure explosion, one or more of the sockets of the body 1 may be provided with a row of perforations filled with phosphorous paint or some other very readily ignitable substance and this row may be covered with a band of the same substance. Should the detonator or the exploding current fail, the heat of the fire would soon ignite the phosphorous paint or the like and the explosion would then occur, with the same operations as previously explained.

In operating the device, the switch lever 10 is swung in a clockwise direction, closing circuits 15 and 9 successively. This, of course, first frees the extinguisher so that it may fall, and then explodes the charge in the body 1.

It is thought that the operation and use of the invention will be clear from the preceding detailed description.

Changes may be made in the construction, arrangement, and disposition of the several parts of the invention without in any way departing from the field and scope of the same, and it is meant to include all such within this application wherein only a preferred form has been disclosed.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In combination, a globular body charged with an explosive and provided with a plurality of sockets, casings connected to said sockets and charged with a fire extinguishing material, and means for exploding said explosive.

2. In combination, a globular body charged with an explosive and provided with a plurality of sockets extending tangentially therefrom, casings connected to said sockets and charged with a fire extinguishing material, and means for exploding said explosive.

3. In combination, a globular body charged with an explosive and provided

with a plurality of sockets all extending tangentially and in the same circumferential line therefrom, casings connected to said sockets and charged with a fire extinguishing material, and means for exploding said explosive.

4. In combination, a globular body charged with an explosive and provided with a plurality of sockets extending tangentially therefrom, and a single socket extending radially from said body, casings connected to said sockets and charged with fire extinguishing material, and means for exploding said explosive.

5. In combination, a globular casing charged with an explosive and provided with a single socket extending radially downward therefrom, and also provided with a plurality of sockets extending tangentially therefrom in a circumferential line at right angles to the direction of said first named socket, each of said tangentially arranged sockets being also arranged at an acute angle with the first named socket; casings connected to said sockets and charged with a fire extinguishing substance, and means for exploding the aforesaid explosive.

6. In combination, a fire extinguisher containing an explosive charge, electrical means for exploding said charge, means for suspending said extinguisher in inoperative position, electrical means for operating said suspending means, and means for operating the two electrical means successively in the reverse of the order named.

7. In combination, a fire extinguisher, an eye connected thereto, a pair of tubes, a bolt slidably mounted in said tubes and extending through said eye, and explosive means for sliding said bolt.

8. In combination, a fire extinguisher, an eye connected thereto, a pair of tubes, a bolt slidably mounted in said tubes and extending through said eye, means for normally holding said bolt in operative position, and explosive means for sliding said bolt.

9. In combination, a fire extinguisher, an eye connected thereto, a pair of tubes, a bolt slidably mounted in said tubes and extending through said eye, explosive means for sliding said bolt, and means for limiting the drop of said extinguisher.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

ARTHUR ALBERT CHARBONNEAU.
LEO ALBERT CHARBONNEAU.

Witnesses:

RÉNÉ LAJEUNESSE,
E. LETOURNEAU.