March 26, 1946. S. BOAL 2,397,235

PORTABLE FIRE EXTINGUISHER AND SUPPORTING MEANS

Filed Sept. 7, 1944

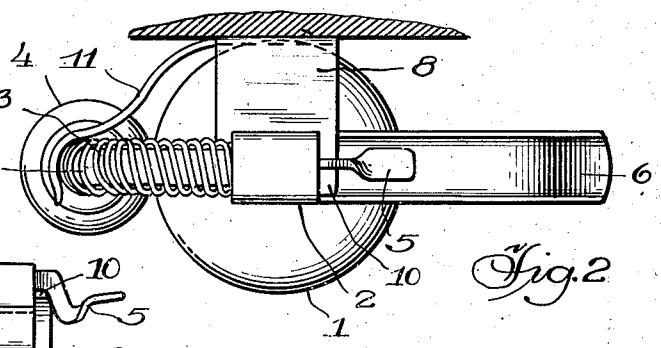


Fig. 2

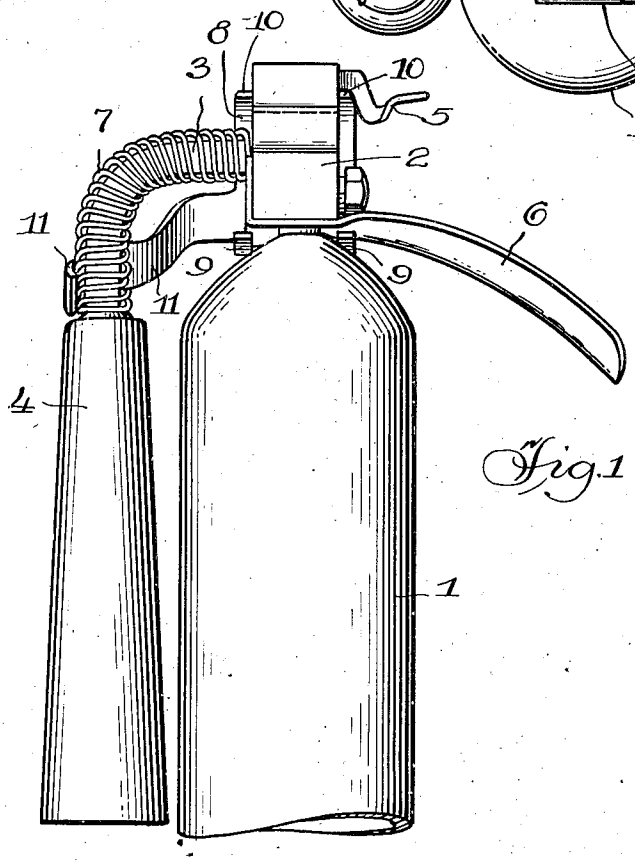


Fig. 1

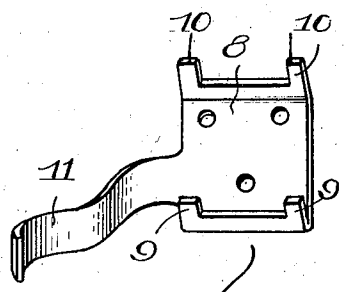
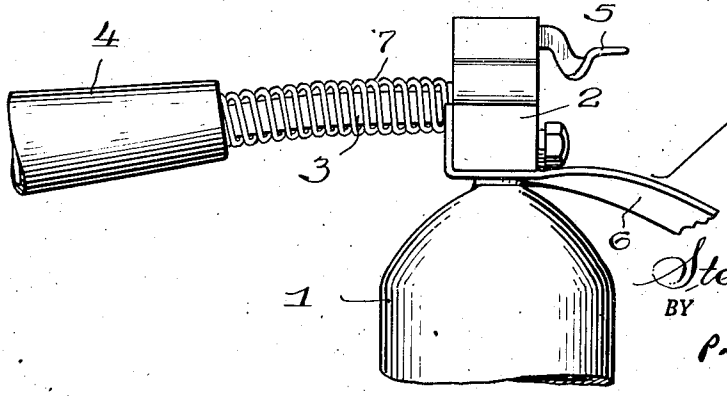


Fig. 3



INVENTOR.
Stewart Boal
BY
Parkinson & Lane
Attys

Patented Mar. 26, 1946 2,397,235

UNITED STATES PATENT OFFICE

2,397,235

PORTABLE FIRE EXTINGUISHER AND SUPPORTING MEANS

Stewart Boal, Winnetka, Ill., assignor to Randolph Laboratories, Inc., Chicago, Ill., a corporation of Illinois.

Application September 7, 1944, Serial No. 552,978

4 Claims. (Cl. 169—31)

This invention relates to a novel construction of a portable one-hand control fire extinguisher and the means for mounting and retaining the extinguisher on a wall or other supporting surface but designed to release the operating mechanism for instantaneous use when the extinguisher is removed from the mounting means.

Among the objects of the invention is to provide a portable fire extinguisher which may be quickly and easily detached from its wall support and operated with one hand.

Another object is to provide such an extinguisher which will be held in a secure and inoperable position when mounted on the wall bracket but which will instantly become operable upon removal from the wall bracket.

Another object is to provide such an extinguisher with a flexible hose connection so constructed and arranged that the nozzle at the end of the hose or tube will automatically be raised so that its discharge horn is in substantially a straight line, operative position when the extinguisher is removed from the wall bracket.

A further object is to provide co-acting means on the extinguisher and the wall bracket support so arranged that the extinguisher cannot be accidentally operated while supported by the bracket.

Another object is to produce a construction and combination of parts of maximum safety, simplicity, efficiency, economy, ease of assembly and operation, and such further objects, advantages and capabilities as will later more fully appear and are inherently possessed thereby.

The invention further resides in the construction, combination and arrangement of parts illustrated in the accompanying drawing, and while there is shown therein a preferred embodiment, it is to be understood that the same is susceptible of modification and change, and comprehends other details, arrangements of parts, features and constructions without departing from the spirit of the invention.

In the drawing:

Figure 1 is a fragmentary view in side elevation of the extinguisher and showing the novel wall bracket for holding the extinguisher in supported, inoperative position.

Figure 2 is a top plan view of the extinguisher showing its manner of mounting upon a wall or other surface.

Figure 3 is a disassembled view of the extinguisher and mounting with the extinguisher removed therefrom and ready for instantaneous use.

Referring more particularly to the illustrative embodiment shown in the drawing, a cylinder 1 for containing a fire extinguishing substance such as carbon dioxide, is shown with the bottom broken away. Attached to the top of cylinder 1 is a valve body or housing 2 which contains the usual valve assembly for controlling the discharge of the contents of the cylinder. At one side of the valve body or housing 2 is a hose or tube 3 having its one end connected to the discharge port of the valve body and having at its other end a horn 4.

On the side of the housing opposite the tube or hose mounting is a thumb-actuated lever 5 which is pivoted within the housing 2 and so attached to the valve that when the lever 5 is depressed the valve is opened and the contents of the cylinder are liberated through the tube 3 and horn 4. Disposed below the lever 5 is a stationary handle 6 by which the extinguisher may be carried and which is fixedly attached to the cylinder 1 and lies in the same vertical plane with the actuating lever 5. As shown in Figure 1, the handle is in such position that it may be readily grasped with the fingers of one hand leaving the thumb to actuate the lever 5.

The tube 3 is surrounded by a spiral spring 7 which has its one end abutting or connected with the housing 2 and its other end with the horn 4. This spring 7 is under such tension that the tube and spring may be bent upon themselves at substantially a right angle as shown in Figure 1, but which when released, will automatically and instantaneously assume a substantially straight line position as shown in Figure 3.

The bracket 8 for supporting the extinguisher when not in use, is adapted to be fastened to a wall or other supporting surface and has a lower pair of supporting lugs 9 and an upper pair of lugs 10. The lugs 9 are so spaced that they span and partially enclose and securely hold the neck of the cylinder 1 just under the housing 2. Bracket 8 is also provided with a side arm or projection 11 so shaped and arranged as to grip and hold in folded position the tube 3, thus affording a secure and compact arrangement of the parts of the extinguisher when it is not in use.

The right upper lug 10 is so designed and shaped that it fits snugly under the portion of lever 5 adjacent its entrance into the housing 2 and thus when the extinguisher is held in supported position on the mounting 8, lug 10 effectively prevents lever 5 from being depressed and the valve actuated to release the contents of the cylinder.

It should also be noted that the lugs 9 and 10

are so spaced and located that they hold the substantially rectangular shaped housing and the extinguisher against rotating movement.

In operation, when the extinguisher is not needed, it remains in inoperative position on the wall with its tube and horn held in compact, lowered position adjacent the cylinder.

When fire breaks out, the operator grasps the extinguisher and pulls it from the mounting on the wall. This requires the use of but one hand. The trigger lever is thus released and may be manually depressed as required. The spring supported tube 3 tends to automatically and instantaneously straighten itself when the tube is released from its holder as illustrated in Figure 3, and the force of the carbon dioxide rushing through the tube further tends to straighten the tube so that when the extinguisher is in use the horn and tube are disposed in practically a straight line and in the same plane as the handle 6 of the trigger lever 5, thus affording a one-hand operated, straight line extinguisher capable of being held in locked and compact position when not in use but adapted to be immediately available for operation upon being removed from the wall supporting means.

Having thus described my invention, I claim:

1. In combination, a fire extinguisher having a container for carbon dioxide or the like, a valve, a thumb-actuated lever for operating said valve, a discharge tube and horn for the carbon dioxide, means for retaining the tube and lever in inoperative position, and means to position the discharge tube and horn and the lever for instantaneous use upon release from the said retaining means.

2. In combination, a fire extinguisher having a container for an extinguishing fluid, a valve, a thumb-actuated lever for operating said valve, a discharge tube for the extinguishing fluid pivotally arranged at one side of the container, means for retaining said tube in compact and lowered position when not in use, and means for causing the said discharge tube to assume an operating position for instantaneous use upon release from the said retaining means.

3. A fire extinguisher of the carbon dioxide type comprising a fluid holding cylinder, a housing mounted at the top of said cylinder, a trigger actuated means to liberate the fluid upon movement of the trigger, a discharge tube and horn, a spirally arranged spring encompassing the tube between the housing and the horn, said spring being so constructed and arranged as to cause the tube to extend in substantially a straight line into operative position but permitting it to be bent into a compact position adjacent the cylinder when the extinguisher is not in use.

4. In combination, a fire extinguisher having a container for carbon dioxide or the like, a fixed handle, a valve, a thumb-actuated lever above said handle for actuating said valve, a discharge tube opposite said handle and lever, means to hold said tube in compact form when the extinguisher is not in use and means to cause the tube automatically to assume a straight line when the extinguisher is discharging its contents, thus providing a straight line one-hand control extinguisher.

STEWART BOAL.