(No Model.)

J. J. ORVIS.
FIRE ALARM.

No. 523,003. Patented July 17, 1894.

Fig. 1.

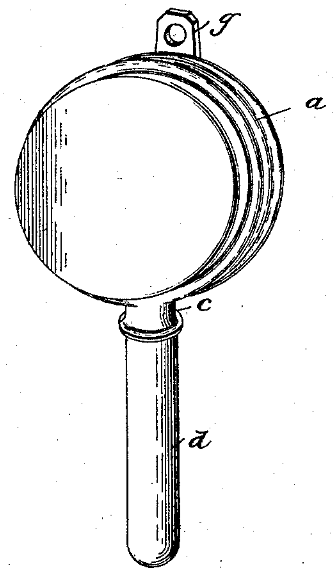


Fig. 2.

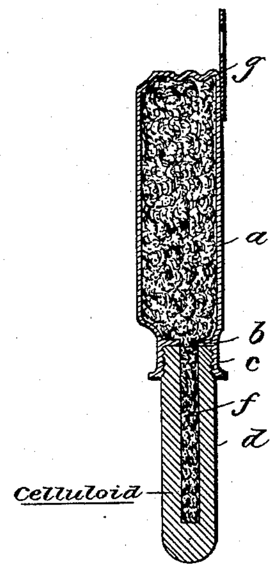


Fig. 3.

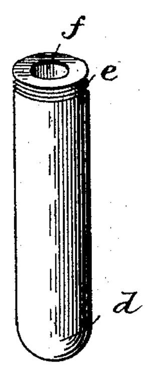
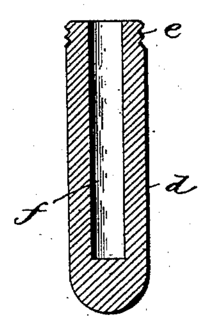


Fig. 4.



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UNITED STATES PATENT OFFICE.

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FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 523,003, dated July 17, 1894.

Application filed February 24, 1894. Serial No. 501,409. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. ORVIS, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented a new and useful Fire-Alarm, of which the following is a specification.

This invention relates to fire-alarms; and it has for its object to effect certain improvements in those fire alarms which provide for a loud report or explosion upon being subjected to the action of fire, and thereby give an alarm.

To this end the main and primary object of the invention is to provide a cheap, simple and efficient device of this class, which will be impervious to water, and at the same time susceptible to quick and rapid action on account of the great inflammability of the igniting part thereof.

With these and other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 represents a perspective view of the improved fire-alarm. Fig. 2 is a longitudinal section thereof; Fig. 3 an enlarged detail view of the hollow igniter plug or stem; Fig. 4 an enlarged section of the same.

Referring to the accompanying drawings, *a*, designates a circular or other suitable shaped explosive case or receptacle adapted to be filled with powder or other suitable explosive, and said case or receptacle is provided at one side and the top thereof with the perforated supporting lug or flange *g*, which provides means for conveniently hanging the alarm at any desirable location where fire will most likely come in contact therewith very soon after breaking out.

The explosive case or receptacle *a*, is provided in the lower end thereof with a small feed opening *b*, which is surrounded by a depending interiorly threaded neck or flange *c*, and said feed opening *b*, is adapted to provide means for filling the case or receptacle with the powder or other explosive, but is designed to be as small as consistent with the capability of loading the case, in order that the confinement of the explosive will be as close as possible and will therefore insure a very loud explosion when the powder is ignited.

The depending interiorly threaded neck *c*, surrounding the small bottom feed opening *b*, is adapted to removably receive the threaded end *e*, of the hollow igniter plug or stem *d*. The inner exteriorly threaded end of the hollow igniter plug or stem *d*, not only engages the threads of the neck *c*, but is adapted to bear against the shoulder formed by that part of the case *a*, immediately surrounding the opening *b*, thereby providing a perfectly water tight connection between the plug and the case. The hollow igniter plug or stem *d*, preferably consists of an elongated cylindrical body made of celluloid which is a material of sufficient solidity to be entirely impervious to water and unaffected thereby, while at the same time being exceedingly inflammable so that the same will burn on the slightest contact of fire therewith.

The elongated cylindrical igniter plug or stem *d*, is closed at its outer end and is provided with a longitudinal bore or pocket *f*, extending longitudinally in the plug or stem from the inner end thereof to a point near the outer closed end, and this longitudinal pocket or bore is adapted to be aligned in communication with the opening *b*, so that after filling the case or receptacle, *a*, and hanging the same in position, the powder or other explosive will run into and fill up the bore or pocket of said plug or stem.

In use, the alarm is hung up at a convenient point in the manner described, and the moment fire reaches the celluloid plug or stem the latter will immediately catch on fire and burn up very rapidly, thereby igniting the powder or explosive in the pocket or bore *f*, which will instantly ignite the body of the explosive in the case or receptacle *a*, and cause an explosion to take place, and thereby give a loud report or alarm.

It will be understood that in filling and priming the alarm it is simply necessary to separate the two parts thereof and fill up the case or receptacle *a*, with the powder or other explosive. The hollow plug or stem *g*, is then fitted in position and the alarm hung up at

the point desired, when the same will be immediately ready for use, the celluloid plug or stem serving two very important functions, that is, to keep the alarm intact and entirely impervious to water or moisture, while at the same time providing a highly inflammable igniter for the alarm.

While a specific screw-thread connection between the case or receptacle and the igniter plug or stem has been described, it will of course be understood that any other suitable detachable connection may be used, and the case or receptacle may be made of any suitable material and preferably of a material that will be strong and will not break up into pieces and fly about when the explosion occurs. It will therefore be understood that 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 this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a fire alarm, the combination of an explosive case or receptacle adapted to contain a suitable explosive and provided with a bottom opening, and a hollow celluloid igniter plug or stem separably connected to said case or receptacle, and open at one end to communicate with the interior of the latter through its bottom opening, to receive a portion of the explosive, contained within said case or receptacle substantially as set forth.

2. In a fire alarm, the combination of an explosive case or receptacle adapted to contain a suitable explosive and provided with a bottom opening and a depending neck surrounding said opening, and an elongated celluloid plug or stem detachably fitted at one end within the neck of said case or receptacle and provided with a longitudinal bore or pocket opening through one end of the plug or stem to communicate with the interior of the case or receptacle through its bottom opening so as to receive a portion of the explosive material, that is placed in the case or receptacle substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN J. ORVIS.

Witnesses:
BOYD MCDOWELL,
GEORGE M. HURD.