(No Model.)

J. T. PEET.

FIRE AND BURGLAR ALARM.

No. 563,881. Patented July 14, 1896.

Fig. 1.

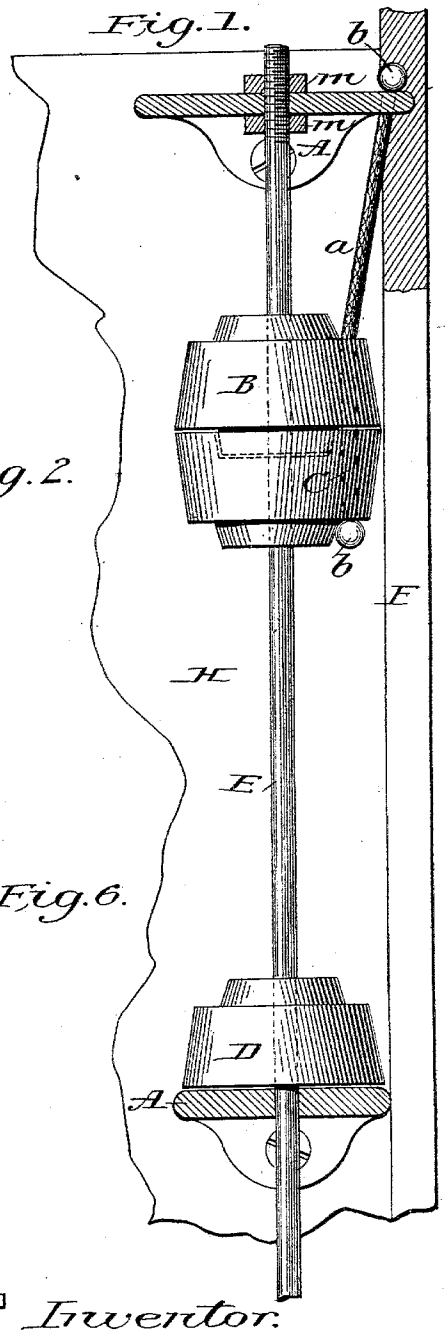


Fig. 3.

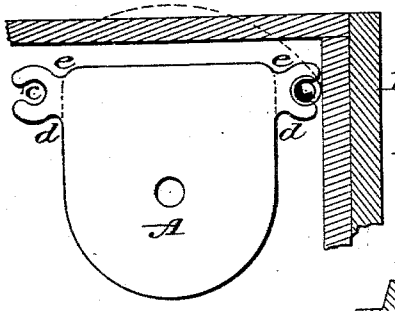


Fig. 4.

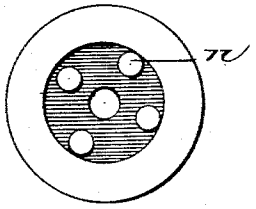


Fig. 2.

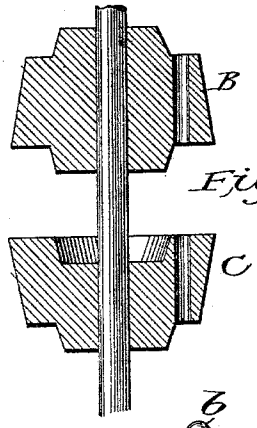


Fig. 5.

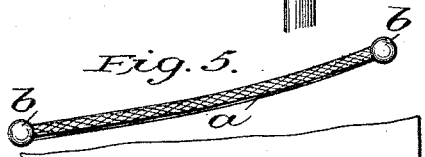
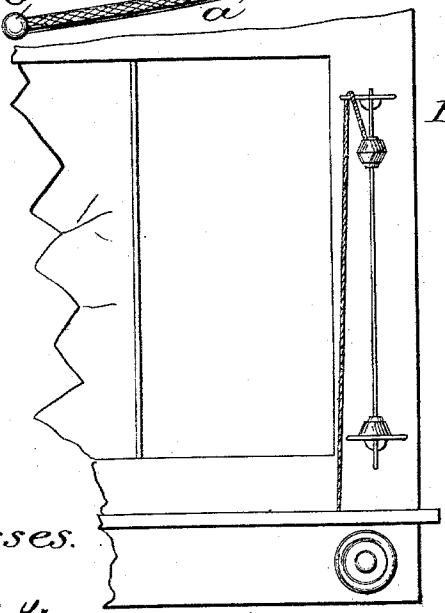


Fig. 6.



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UNITED STATES PATENT OFFICE.

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FIRE AND BURGLAR ALARM.

SPECIFICATION forming part of Letters Patent No. 563,881, dated July 14, 1896.

Application filed August 17, 1895. Serial No. 559,669. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. PEET, a citizen of the United States, residing at the National Military Home, in the county of Leavenworth and State of Kansas, have invented a new and useful Combined Fire and Burglar Alarm, of which the following is a specification.

My invention relates to improvements in fire and burglar alarms, in which a mastic is used in combination with mechanism for releasing a cord by the action of heat or by the act of opening a door or window, either by swinging or raising it. On said cord is suspended a bisected metal detonator of peculiar construction, hereinafter described. Said metal detonator is constructed in two parts, and placed between these members, suitably protected against accidental displacement and from injury by being exposed to the atmosphere, is a detonating fulminate which is exploded by concussion when said detonator is released. It then, by reason of its weight, slides down the guide-rod E and strikes the solid block D with such force as to cause an explosion by concussion. I attain these objects by means of the mechanism shown in the accompanying drawings.

Figure 1 is a front view of a full-sized alarm, attached by means of two wood-screws to the right-hand upper corner of a swinging door, the face of which is in line with the face of the door. The frame F, a portion of the brackets A A, the nuts *m m*, and a section of the door-frame F, are shown in section, and the parts B and C suspended by the cord *a* on the guide-rod E. In Fig. 2 the detonator B C is shown separated and in section. Fig. 3 is a plan view shown on the other side of the door, where the frame or boxing requires a different arrangement of the parts. The engaging lug in this case does not project beyond the vertical edge of the door. Fig. 4 is a plan view of C, showing the fulminate *n* in position. Fig. 5 is a view of the cord *a* with the balls *b b'* of mastic attached to each end; Fig. 6, a view on a reduced scale showing the alarm attached to the lower sash of the window G, the cord *a* extending down and passing under the lower edge of the sash which presses upon it, holding the detonator in position.

Referring to the drawings, it will be noticed that the projecting lug on A, Fig. 1, passes beyond the edge of the door, which, when closed against the face of the frame F, retains the ball *b* above the depression *e*. On the other end of the cord is a similar ball of mastic. These balls will soften and yield to the action of heat. They and the cord answer a double purpose. The cord passing through opposite holes in the members B C is held from pulling through by said ball *b'*, and thus supports it in position. When exposed to heat sufficient to soften the mastic, the cord is released at either or both ends, or when the door H is opened the engaging projection on A is then drawn away from the face of the door-frame F, thus allowing the detonator to drop.

The fixed guide-rod E is supported by the nuts *m m*, one above, the other below, the bracket A, which and the nuts *m m* are shown in section.

When the door is slightly opened, the engaging projection on A is drawn away from the face of the door-frame F, thus allowing the detonator to drop. It then slides on the fixed guide-rod E, and by reason of its weight strikes the block D and the concussion explodes the fulminate inclosed between the members B C.

The degree of heat at which the cord is released is controlled by the size of the ball, a small mass being more quickly heated to the degree necessary to liberate the lubricating property of the mastic than would sufficiently effect a larger bulk, but the composition of the mastic must also be taken into account, and in the selection of a sample for use it must be one in which the process of distilling has been arrested before all of the volatile matter has been driven off.

The mastic is a mixture of mineral pitch, and a suitable mineral in a comminuted form fused together. In practice the best mineral is found to be graphite or steatite, which are of a greasy nature. This is molded while plastic upon the end of the cord in the form of a ball or cylinder. The mastic most suitable are these materials in proportion of half and half by weight, and action depends upon the lubricating character of this mastic, which

does not fuse or separate, but softens by the action of heat. Then the lubricating property of the mastic allows the cord to be drawn through the mass at a greater or less temperature, according to the size and composition of the ball, thus diminishing the friction on the cord.

When placed upon the other side of the door, as shown in Fig. 3, the operation is the same as described, except that the engaging projection does not pass beyond the edge of the door, but in this application it closes snug against the jamb of the door F or against a strip, when one is used, which is its equivalent. When in this position, the ball is held in the notch *c* instead of *e* and is released when the door swings in the direction of the dotted line, Fig. 3.

When applied to a window, Fig. 6, or a door which opens vertically, the alarm is placed at a convenient point on the face of the sash or door. The cord with but one ball attached and of proper length passes over the projecting lug, Fig. 3, at the neck, (indicated by *e d*,) extending downward, and the door or window closes down upon the end of the cord supporting the detonator. When the window or door is raised, the end of the cord being pinched between the lower edge of the sash and the window-frame, is released and the detonator will then drop.

It will be noticed that in all positions, when set as a burglar-alarm it is also a fire-alarm, or may be used as either independent of the other purpose. Should it be desired to use the device as a fire-alarm alone, the device should be attached to the wall near the ceiling, in which position heat will sooner act on it.

If the device is suspended from the non-engaging part C′, the device will be in position to act as a fire-alarm, and will not actuate as a burglar-alarm when the door is opened.

The bracket A has the projecting lug on both sides, so as to be adapted to either a right or left hand door, and are easily broken off and discarded, as required, and when used as a lower bracket A especially.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As a new article of manufacture a combined fire and burglar alarm comprising a guide-rod and a perforated detonator, through which passes a fusibly-tipped cord one end of which engages with a closed door or window and is actuated by the act of opening the same. The other end supports the detonator by passing through the perforation and is held in position by the tip which being of fusible mastic yields and thus releases the detonator when subjected to sufficient heat to soften the mastic of which it is composed.

2. In a combined fire and burglar alarm, the combination of the supporting-bracket having engaging lugs thereon, the fixed guide attached thereto, the perforated bisected detonator traveling on said guide, the anvil supported below the said detonator and means substantially as described whereby the detonator may be suspended above the said anvil and allowed to contact therewith as and for the purpose described.

3. In a combined fire and burglar alarm, the combination of the supporting-bracket having engaging lugs thereon, the fixed guide attached thereto, the perforated bisected detonator traveling on said fixed guide, and frictionally-held means extending from the said detonator to the said lugs whereby the detonator may be suspended and released substantially as described.

4. In a combined fire and burglar alarm, the combination of the supporting-bracket having engaging lugs thereon, the fixed guide attached thereto, the bisected perforated detonator traveling on said fixed guide and the fusibly-tipped cord passing through the perforated detonator and engaging the said lug whereby the detonator may be suspended and released therefrom as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN T. PEET.

Witnesses:
JOSEPH B. SITLEY,
EDWARD HAM.