

No. 701,566.

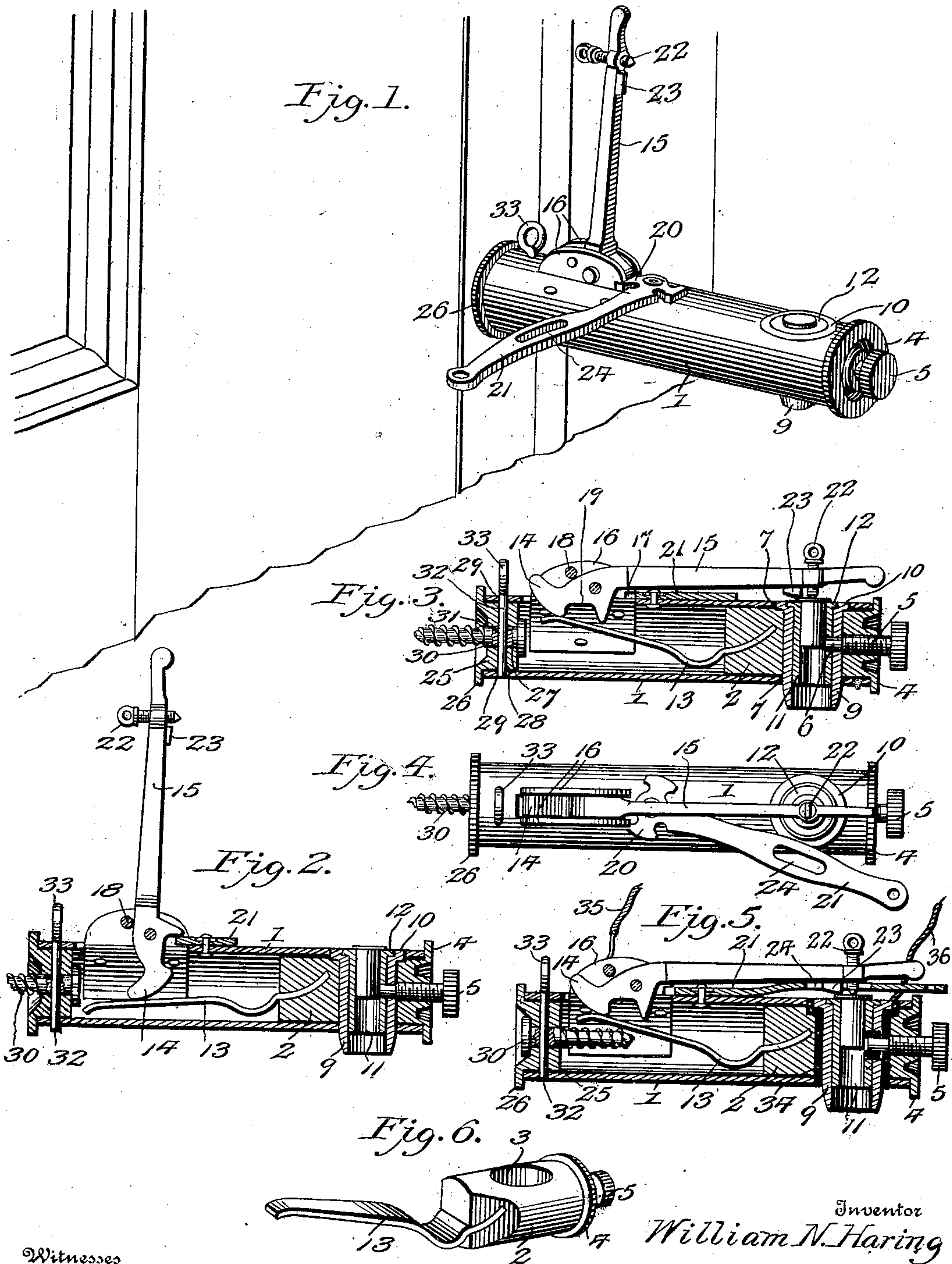
Patented June 3, 1902.

W. N. HARING.

ELECTRIC ALARM.

(Application filed Feb. 7, 1902.)

(No Model.)



Witnesses
Edwin G. McKee
Chas. S. Hoyer

Inventor
William N. Haring

By Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM N. HARING, OF NYACK, NEW YORK.

ELECTRIC ALARM.

SPECIFICATION forming part of Letters Patent No. 701,566, dated June 3, 1902.

Application filed February 7, 1902. Serial No. 93,064. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM N. HARING, a citizen of the United States, residing at Nyack, in the county of Rockland and State of New York, have invented new and useful Improvements in Electric Alarms, of which the following is a specification.

This invention relates to burglar-alarms of that class known as "detonating;" and one object of the present construction is to simplify the organization of this class of devices and render them more positive and reliable in their operation by insuring an explosion of a cartridge or similar device, and in some arrangements to include electrical signaling means in addition to the detonating features.

A further object of the improvement is to construct the several contributing parts in such a manner as to render them convenient in assemblage and disconnection, and thereby minimize the cost of manufacture as well as facilitate the disposition of the parts in operative relation.

A further object of the invention is to supply convenient reversible means for attaching the entire device adjacent to a door or other movable entrance device, and to inclose the main fastening element within the body of the alarm to shield the same during transportation or when placed in a pocket.

With these and other objects in view the invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the improved alarm shown applied and set for operation. Fig. 2 is a longitudinal vertical section of the parts as shown arranged in Fig. 1. Fig. 3 is a longitudinal vertical section of the alarm after the firing element has been tripped and comes into contact with the cartridge. Fig. 4 is a top plan view of the alarm, showing the parts arranged as illustrated by Fig. 3. Fig. 5 is a longitudinal vertical section of the improved device, showing electrical attachments in connection therewith. Fig. 6 is a detail perspective view of a part of the device.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a tubular casing constructed of suitable metal, preferably of a non-corrosive nature, and open at opposite ends. The dimensions of the alarm are such that it may be conveniently carried in the pocket of the user and be applied from time to time as may be desired in different places, or in some uses it may remain applied and be prepared for operation when found necessary. Within one end of the tubular casing an elongated plug 2 is removably fitted and has an opening 3 extending transversely therethrough at a point intermediate of its ends. The outer end of the plug 2 is formed with a flange 4 to snugly bear against the end of the casing, and extending longitudinally into the said plug from its outer end is a holding-screw 5, having an outer milled head and an inner reduced terminal 6. The casing 1 above and below the plug and in alinement with the opening 3 also has openings 7 formed therethrough, and removably mounted in the openings 7 and the opening 3 of the plug 2 is a cartridge-holding member 8, which is held in place by the inner reduced terminal 6 of the screw 5. This cartridge-holding member comprises a sleeve 9 with an upper flanged end 10, adapted to bear on the upper portion of the casing 1 around the top opening 7. Within the sleeve 9 a smaller sleeve 11 is removably fitted and also has a flange 12 at its upper end, which rests on the flange 10 of the sleeve 9, the sleeve 11 being of less length than said sleeve 9. The inner reduced terminal 6 of the screw 5 passes through openings in both sleeves when the latter are used together and prevents said sleeves from rotating or becoming disconnected from the device. The purpose of using two sleeves is to accommodate cartridges of varying caliber, the sleeve 11 being of such diameter as to accommodate a twenty-two-caliber cartridge, for instance, and the sleeve 9 a thirty-eight-caliber cartridge. Some persons are more easily awakened than others, and the provision for the use of cartridges having different calibers is exceptionally advantageous, because the use of the maximum cartridge would tend to aggravate nervous or easily-frightened persons in view of the loud detonation produced thereby, whereas the smaller cartridge would overcome any such

tendency, and thereby adapt the alarm to be used for awakening both light and heavy sleepers. In removing the sleeve 11 the screw 5 is turned to free the inner terminal 6 thereof from the sleeve, but said terminal is permitted to remain in engagement with the sleeve 9. It will also be seen that the sleeve 9 holds the plug 2 in place within the casing, and when said sleeve 9 is removed or withdrawn from the plug the latter can be readily pulled out from said casing. The solid plug 2 is employed to resist the vibration and strain necessarily created by continual detonations or explosions, and, furthermore, the said plug reinforces the sleeve or sleeves, and the free end of the alarm is thus practically made solid. Structurally a material convenience results in having the plug 2 held in place by the sleeve 9, particularly from a standpoint of economy in assemblage of the several parts and the avoidance of securing devices. Moreover, the removability of the sleeves 9 and 11 permit other like devices to be supplied and substituted for those which may have become injured without rendering the entire device impaired and useless, as would be the case if the sleeves were fixed or formed an integral part of the plug 2. The plug also serves the further function of a support for a spring 13, which has one end secured in the plug and is bent or shaped in such manner as to project upwardly toward the top of the casing and contacts with a cam extremity 14 of a firing-arm 15, fulcrumed between ears 16, rising from the top of the casing and movable through a slot 17 in the latter. The firing-arm 15 is prevented from overthrowing by a stop-pin 18, extending from one ear to the other, and the spring 13, which always has its free end in contact with the cam extremity 14, tends to throw the arm 15 downwardly when said arm is free for such operation. The cam extremity 14 of the arm also has a slot or recess 19 formed therein in the side edge toward the plug to receive a projecting head 20 on the end of a trigger-arm 21, the said head 20 being fulcrumed to the casing at a proper distance in advance of the pivotal or fulcrum point of the firing-arm 15. The trigger-arm is made of such length that it will stand outwardly from the casing a considerable distance for engagement by a door or other movable object, and said arm is so arranged that it can be reversed and projected from either side of the alarm.

The arm 15 is provided with two firing elements 22 and 23 to insure both a center and a rim firing contact with a cartridge placed in either the sleeve 9 or the sleeve 11. The center-firing element 22 is in the form of a screw adjustably mounted in the arm 15 at a point inward a suitable distance from the free end of the latter, and by adjusting the said screw the indenture of the cap of the cartridge may be regulated, or in the event of the use of a large cartridge the center-firing element 22 may be adjusted to accommodate the dif-

ference in elevation of the cap of the cartridge due to the removal of the sleeve 11, and thereby permit the arm to practically operate as a firing-arm with either size of cartridge. The trigger-arm 21 has a slot 24 at an intermediate point therein which is adapted to be drawn under the firing elements 22 and 23 to hold said trigger-arm against movement during transportation of the alarm or when the latter is not in use.

It will be seen that by removing or inserting the plug 2 the spring 13 will be carried therewith, and in assembling the plug in the casing 1 and holding it by means of the sleeve 9 accuracy in the position of the spring 13 is always insured, as said spring will be so applied to the plug relatively to the opening 3 that the free end thereof will properly contact with the cam extremity 14 of the firing-arm when the sleeve 9 is inserted through said plug.

Another advantageous and convenient attachment of the alarm consists of a reversible securing device which is fitted in the end of the casing 1 opposite that containing the plug 2 and of such nature that the entire alarm may be used to secure or insert the main fastening member thereof into the wood of a door or a window frame in proximity to a door, shutter, or other movable device. This securing mechanism comprises a plug 25, having an outer flange 26, which normally bears against the end of the casing 1. The plug has a central bore 27 and an intersecting right-angular opening 28, which alines with similar openings 29 in the upper and lower portions of the casing. In the bore 27 the smooth portion of the shank of a screw 30 is removably fitted and has an opening 31 extending therethrough to aline with the opening 28 of the plug 25. To hold the screw against movement in the plug, a pin 32 is used and has an upper looped head or eye 33 for convenience in applying or withdrawing the same. When it is desired to secure the alarm to a window or door frame or other support, the screw 30 is projected, as shown by Figs. 2, 3, and 4, and held against movement by the pin 32, which likewise secures the plug 25 in the casing. When the alarm is reduced to compact form for carrying it in the pocket, the pin 32 is withdrawn and the screw 30 is reversed and again secured by the pin, as clearly shown by Fig. 5. In Fig. 5 electrical means for causing a signal to be given at a distance from the alarm are applied, when the firing-arm 15 is thrown down. It will be understood that when the casing 1 is secured against a wooden frame it is supported by a non-conductor, and it is only necessary to introduce insulating material in a portion of the device, and therefore the sleeve 9 as well as the plug 2 are separated from the casing by suitable insulating material 34, as clearly shown. A wire 35 is connected to one of the ears 16 and runs to one terminal of a suitable signal device at a distance, including a battery, and a second

wire 36 is connected up to the sleeve 9. It will be seen that when the firing-arm 15 falls it closes the circuit and will thereby actuate the signal. This electrical auxiliary or attachment does not modify the construction of the alarm in the least and is only an additional feature that may be applied at any time desired. By the use of this electrical signaling attachment the device not only detonates to have a frightening effect on a burglar or other person attempting to improperly gain admission into an apartment or house, but will indicate at a distant point that an irregular attempt is being made to effect an entrance into a house or apartment.

The improved device is strong and durable and comparatively inexpensive in the cost of manufacture in view of the convenience in assemblage of the several parts.

Changes in the form, dimensions, proportions, and minor details may be resorted to without in the least departing from the principle of the invention.

Having thus fully described the invention, what is claimed as new is—

1. A burglar-alarm comprising a casing, a firing-arm, a filling-plug, and a cartridge-sleeve holding the said plug in place and adapted to receive a cartridge for discharge by the firing-arm.

2. A burglar-alarm comprising a casing, a firing-arm, a cartridge-holding sleeve having insulating material separating it completely from the rest of the structure, and electrical connections for the sleeve and the remaining

parts of the alarm, the firing-arm serving as a circuit-closer.

3. A burglar-alarm comprising a casing carrying detonating elements, a plug mounted in one end of the casing, a fastening device removably arranged in the said plug, and a removable pin passing through the casing, plug, and fastening device.

4. A burglar-alarm comprising a casing, a cartridge-holding element, and a firing-arm carrying both rim and center firing elements, the center-firing element being adjustable.

5. A burglar-alarm comprising a casing having a plug fitted in one end thereof and carrying a spring which is permanently fastened thereto, the said plug having an opening therethrough, a cartridge-holding sleeve removably mounted in the casing and plug, and a firing-arm fulcrumed in the casing and having a portion adapted to engage the said spring.

6. A burglar-alarm comprising a casing having a firing-arm fulcrumed therein, a plug removably mounted in one end of the casing and having a spring fixed thereto which engages a portion of the firing-arm, cartridge-holding means mounted in the casing and plug, and a screw in the said plug to cooperate with the said cartridge-holding means.

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

WILLIAM N. HARING.

Witnesses:

JOHN GORMAN,
CLARENCE JONES.