J. M. BUTCHER.

ALARM.

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967,322.

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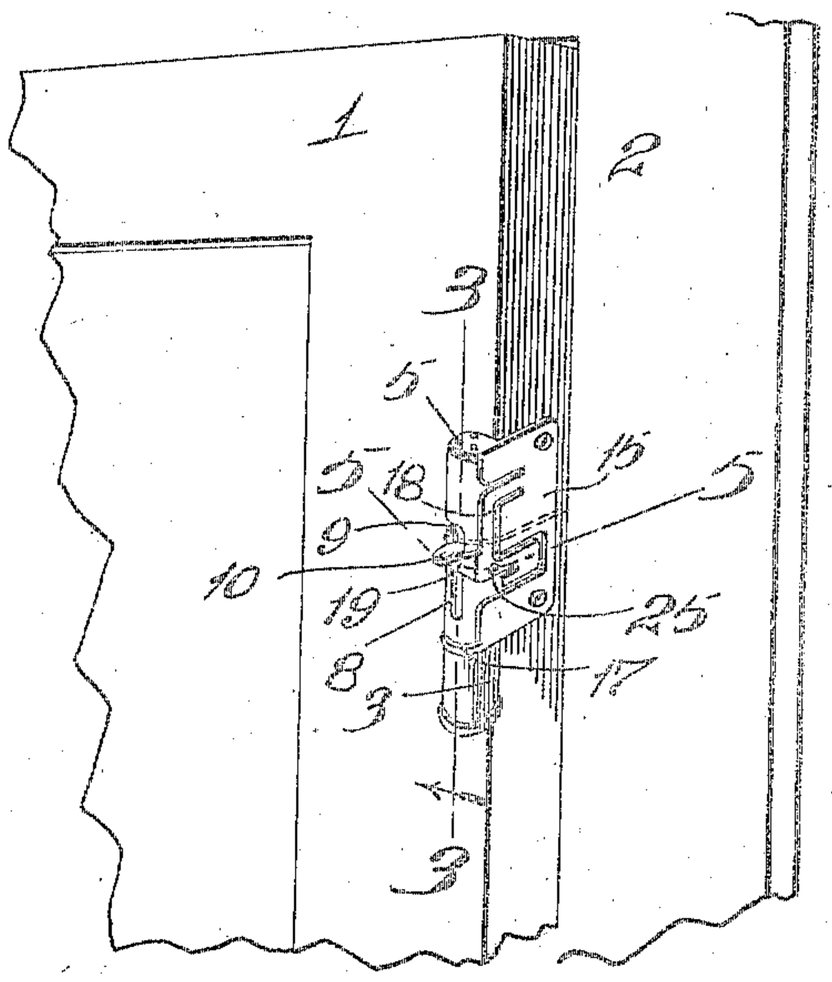



Fig. 1.

Fig. 2.

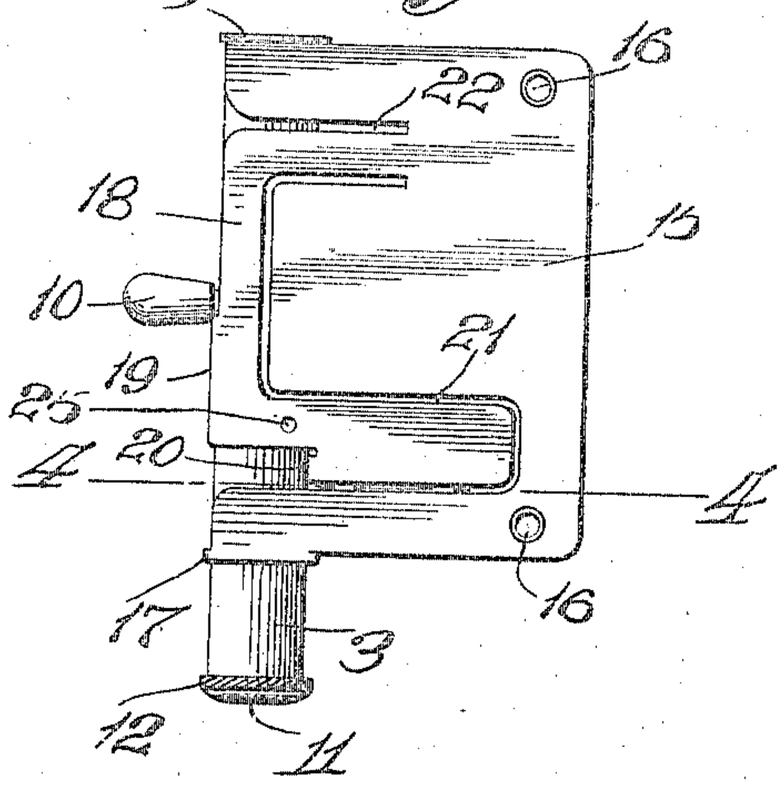



Fig. 3.

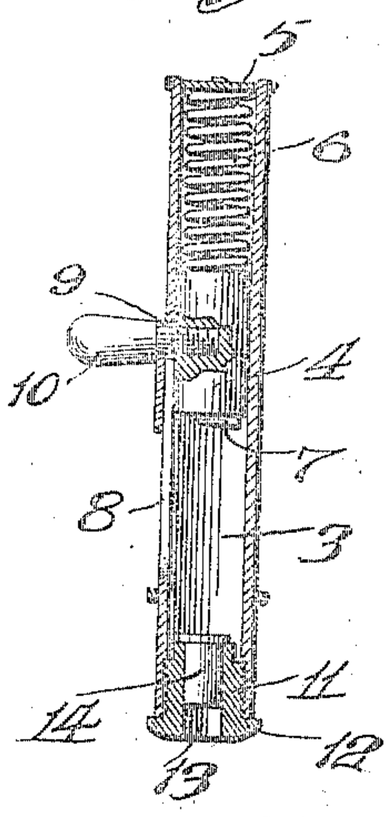



Fig. 4.

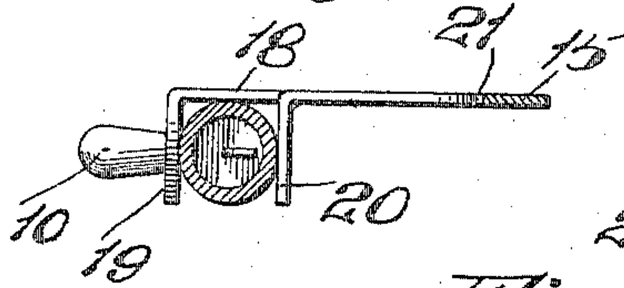



Fig. 6.

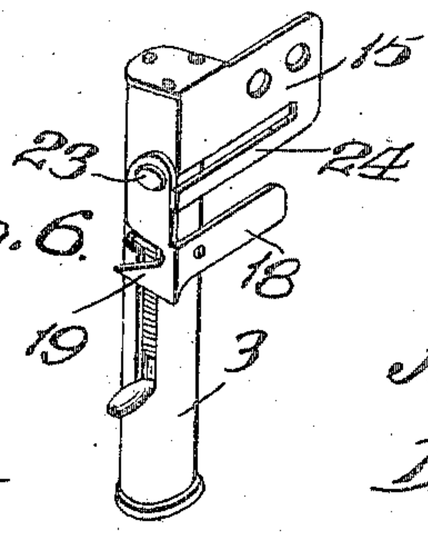
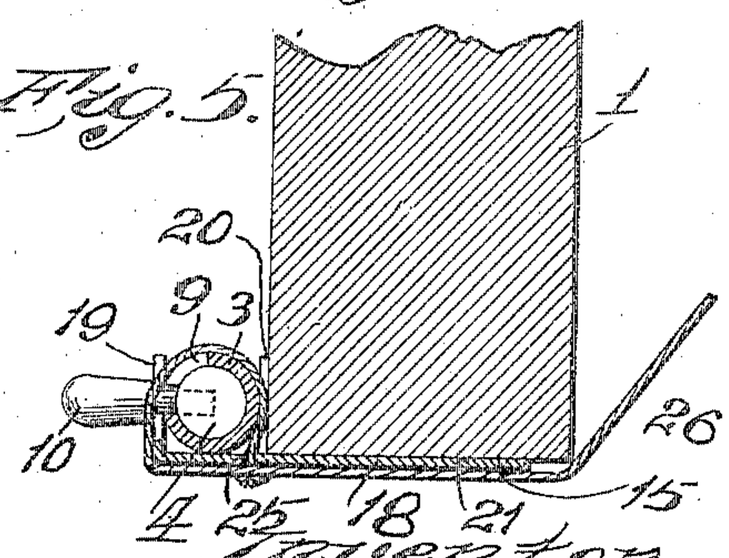



Fig. 5.

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# UNITED STATES PATENT OFFICE.

JAMES M. BUTCHER, OF ST. LOUIS, MISSOURI, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO INTERNATIONAL BURGLAR ALARM COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

## ALARM.

967,322. Specification of Letters Patent. **Patented Aug. 16, 1910.**

Application filed March 25, 1909. Serial No. 485,743.

*To all whom it may concern:*

Be it known that I, JAMES M. BUTCHER, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Alarms, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to alarms, and especially to the detonating class of alarms, my object being to construct an alarm which is to produce an alarm, which may be readily applied to and removed from a door or window, which is simple and compact, and which may be carried around in the pocket and used wherever desired.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of a portion of a door showing my invention applied to the same; Fig. 2 is an elevation of my invention; Fig. 3 is a longitudinal section taken on the line 3—3 of Fig. 1; Fig. 4 is a cross section taken on the line 4—4 of Fig. 2; Fig. 5 is a section taken on the line 5—5 of Fig. 1; and Fig. 6 is a perspective view of a modified form of my invention.

Referring by numerals to the accompanying drawings: 1 indicates a door and 2 the jamb thereof, and in this connection I have illustrated my invention as being applied to a door, but, as heretofore stated, it may be applied to a window or various places, wherever it is desired to produce an alarm. As illustrated in Fig. 1, it is applied to the front edge of the door, but it may be applied to other edges of the door if desired.

3 indicates what might be termed the barrel of my invention, which is constructed of tubing of any desired material. Mounted in said tubing is a spring-driven plunger 4, which is adapted to snugly fit and move in the barrel or cylinder 3. Said barrel or cylinder 3 is provided with a closed end, which is closed by means of a cap 5, and disposed between said cap and one end of the plunger 4 is a spiral spring 6 of the desired tension, and the opposite end of said plunger 4 is provided with a lug 7.

Formed in the barrel 3 is an elongated slot 8, which terminates at one end in a recess 9. Mounted in said slot is a screw-threaded stud 10, which is screwed into a suitable screw-threaded opening formed in the plunger 4. One end of the barrel or cylinder 3 is provided with integral screw-threads into which the screw-threaded plug 11 may be inserted and removed, the said plug being provided with a milled peripheral edge 12. Formed in said plug 11 is a central bore 13, in which the blank cartridge 14 which I employ in producing the alarm may be spaced. In order to insert or remove this cartridge, it is necessary to remove the plug 11. The expansion of the spring 6 after being depressed drives the plunger 4, and the lug 7 comes in contact with the rim of the cartridge 14, which fires the same. In order to set the spring 6 under compression, it is only necessary to manipulate the stud 10 which is secured to the plug 4 and move the stud around into the recess 9. This operation will hold the spring 6 under compression.

15 indicates a plate formed of resilient sheet metal, the said plate being provided with openings 16 by means of which it may be secured by screws, or other suitable fastening devices to the door or window. Said plate is cut or stamped from the sheet metal and is provided with the turned over portion which answers the function of closing one end of the barrel or cylinder 3, and is provided with a ring 17, through which the barrel or cylinder 3 may be disposed. Said plate 15 is provided with a resilient tongue 18 carrying a hook 19, and disposed on the other side of the cylinder opposite said hook is a guide 20 carried by the tongue. Said hook 19 is provided with a downwardly inclined top edge which engages with the stud 10. The tongue 18 is stamped from the metal plate 15, and by means of slots 21 and 22 the tongue is free to move independently of the plate 15. In other words, if said plate 15 is held rigid, said tongue 18 through its resiliency may be moved.

In Fig. 6 I have shown a modified form wherein the tongue 18 and hook 19 are formed from a separate piece of metal and pivoted to the barrel by means of the pivot 23, the plate 15 in such instances being separately formed, said plate being provided

with a spring tongue 24 which engages with the catch 19. However, I desire to construct my device as illustrated in Fig. 2, wherein, as heretofore described, the plate 15 and the catch and tongue are all formed from a single piece of metal. The spring tongue 18 is provided with an opening or aperture 25 through which may be inserted a string or other flexible member 26, said string being then passed around the casing 3. This construction is provided for holding the alarm set from the outside of the door to which it is applied until the door is wholly closed.

The operation of my device is as follows: When it is desired to use my alarm on a door, the plate 15 is secured to the edge of the door, as heretofore described, the spring 6 is compressed by the manipulation of the stud 10, and said stud is engaged on the downwardly inclined top edge of the hook 19. The door is then closed, which will bring the spring tongue 18 in contact with the jamb of the door, while the door is closed; but on the opening of the door, the spring 6 being of greater tension than the spring tongue 18 carrying the hook 19, will force said catch or hook 19 out of engagement with the stud 10, thus permitting the expansion of the spring 6 and the consequent firing of the cartridge and the producing of the alarm. If it is desired to set the alarm from the outside of the door, the string 26 is employed, which is inserted through the spring tongue 18 and around the casing 3, and by the operator's pulling on said string until the door is closed, the alarm may be held set from the outside until the door is closed, the door then serving to maintain the alarm set until the door is opened.

I claim:

1. An alarm, comprising a casing, a cartridge holder at one end of said casing, a spring actuated plunger located in said casing, an arm carried by said plunger, a plate having an integral portion embracing the casing and an integral portion forming one end of the casing, said integral portions constituting a support for the casing, a resilient tongue carried by the plate and a catch carried by the tongue for engagement with the plunger arm.

2. An alarm, comprising a casing, one end of which is provided with internal screw-threads, a cartridge holder provided with external screw-threads seated in said casing, the said casing being provided with slots which intersect each other, a spring-actuated plunger located in the casing, an arm carried by said plunger and adapted to travel in the slots formed in said casing, a thin rigid plate secured to the casing and projecting tangentially therefrom, a resilient tongue carried by the plate, and a catch provided with an inclined edge carried by said tongue and adapted to engage with the arm carried by the plunger.

3. An alarm, comprising a casing, a cartridge holder at one end of said casing, a spring actuated plunger located in said casing, an arm carried by said plunger, a plate having an integral portion embracing the casing and an integral portion forming one end of the casing, said integral portions constituting a support for the casing, a resilient tongue carried by the plate, a catch carried by the tongue for engagement with the plunger arm, there being an opening formed in said tongue and a flexible member inserted through said opening and around said casing for holding the alarm set from the exterior of the door until the door is closed, after which the door holds the alarm set.

4. An alarm, comprising a casing, one end of which is adapted to carry and hold a removable cartridge holder, a plunger located in said casing, a coil spring located in said casing between the end of said casing and said plunger, an arm carried by said plunger and projecting through an opening formed in the casing, a sheet metal plate secured to said casing, which sheet metal plate is adapted to be positioned between a door and a door-jamb, a spring tongue carried by said plate, and also adapted to be positioned between the door and jamb, and a catch carried by said spring tongue.

5. An alarm, comprising a casing, an externally threaded cartridge holder screw seated in one end of said casing, a spring actuated plunger located in the casing, an arm carried by said plunger and projecting at an angle relative to said plunger, a plate secured to said casing, a resilient tongue carried by the plate, a catch carried by said resilient tongue and projecting at an angle relative to said tongue and being an integral part of said tongue, and a removable, flexible member engaging said tongue and capable of being passed between the door and jamb for holding the alarm set from the exterior of the door until the door is closed.

6. An alarm, comprising a casing provided with intersecting slots, a cartridge holder removably located in one end of said casing, a spring-actuated plunger located in the casing, an arm carried by said plunger and projecting through one of said slots, a thin metal plate secured to and projecting outside of the casing and at a tangent thereto, a resilient tongue having its free end terminating intermediately of the margins of said plate and occupying a position substantially in the plane of said plate when not in use and when in use occupying a position in a different plane from the plate, and an integral catch on said tongue provided with an inclined edge adapted to engage with the arm carried by said plunger.

7. An alarm, comprising a casing, a removable cartridge holder carried by the casing, a spring-actuated plunger located in the casing, an arm carried by said plunger and projecting through an opening formed in the casing, a thin metallic rigid plate secured to the casing and projecting at a tangent therefrom and exteriorly of the casing, a resilient tongue carried by the plate, the free end thereof terminating intermediately of the margins of the plate and lying substantially in the same plane as the plate when not in use and when in use occupying a position in a different plane from the plate, and a catch formed integral with the tongue and adapted to engage with the arm carried by the plunger.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

JAMES M. BUTCHER.

Witnesses:

H. G. FLETCHER,

E. L. WALLACE.