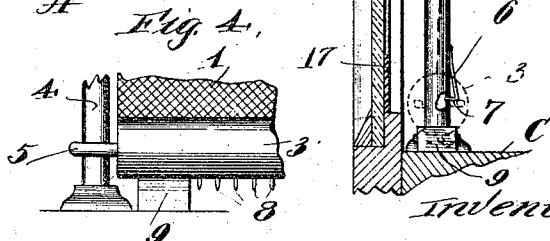
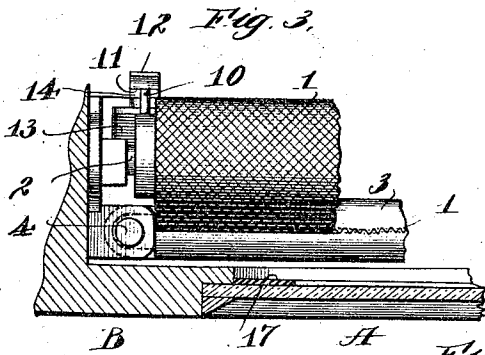
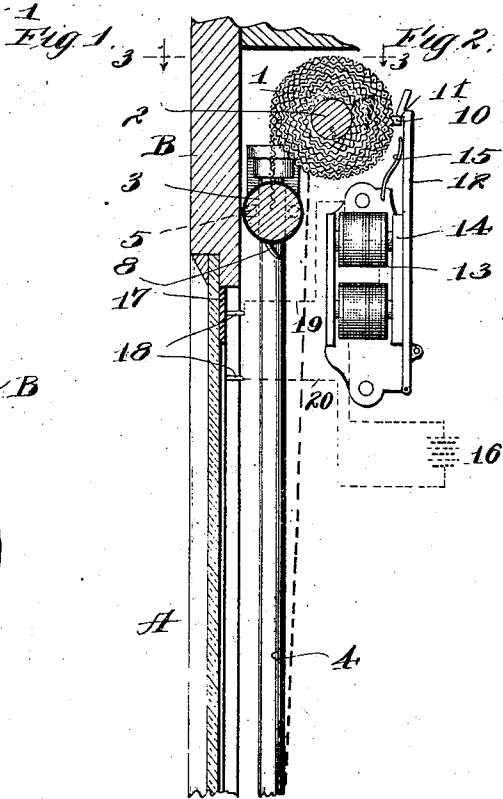
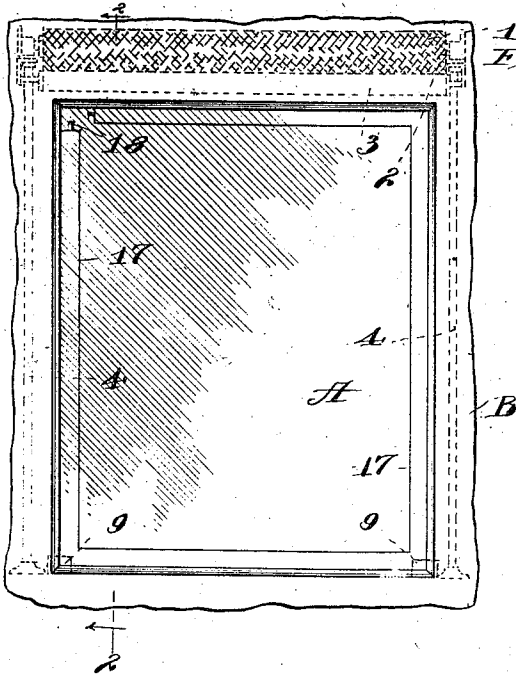


E. A. WAYLAND.
BURGLAR SCREEN.
APPLICATION FILED FEB. 8, 1909.

931,360.

Patented Aug. 17, 1909.



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UNITED STATES PATENT OFFICE.

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BURGLAR-SCREEN.

No. 931,360.

Specification of Letters Patent.

Patented Aug. 17, 1909.

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To all whom it may concern:

Be it known that I, EUGENE A. WAYLAND, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Burglar-Screens, of which the following is a specification.

This invention relates to a device for preventing the theft of jewelry, particularly diamonds and the like, furs or any other valuable merchandise, displayed in shop windows.

As is well known, the theft of merchandise exposed in shop windows is often effected by breaking a hole in the show window in which the goods are displayed, sufficiently large to permit the thief to insert his hand and withdraw the goods. Having secured the goods, the thief then attempts to escape with them, before he can be apprehended, oftentimes with success.

As the more valuable jewels, jewelry, etc., are usually placed in a safe or vault at night, robberies of this kind are most often attempted during business hours, when there are people in the store and usually, also, at no great distance away on the street. And, as the breaking of the window is usually effected by throwing a brick, stone or other heavy object through the window, thus making a noise calculated to attract the attention of people at a considerable distance, the success of the attempted robbery necessarily depends on its being executed with the greatest possible despatch. The general condition of unpreparedness of people in the vicinity, together with the excitement and confusion naturally incident to the suddenness of an attempted robbery of this sort, often enables the thief to make good his escape, before those around realize what is happening or are able to formulate a plan of action. To safeguard property, thus exposed, it is, therefore, very desirable to provide mechanical means to prevent such robberies, which will act automatically and rapidly to interpose a barrier between the thief and the goods, which will effectively cut off his access thereto.

This is the object of the present invention, and to this end the invention comprises a suitable screen, preferably of metal, supported adjacent to the window, adapted to be maintained normally in raised or re-

tracted position so as not to obstruct the window, a pawl or detent for maintaining said screen normally in raised or retracted position and means, preferably electrical means, controlled by the breaking of the window, for releasing or tripping said pawl or detent and a weight or equivalent means applied to said screen for quickly drawing said screen down or across the window immediately said pawl or detent is tripped.

The invention also consists of the various other features, combinations of features and details of construction hereinafter described and claimed.

In the accompanying drawing, in which my invention is fully illustrated—Figure 1 is an outside elevation of a window equipped with my improved protective device, the screen being raised or retracted. Fig. 2 is a sectional elevation thereof on the line 2—2 of Fig. 1, on an enlarged scale. Fig. 3 is an enlarged, partial plan section on the line 3—3 of Fig. 2; and Fig. 4 is a fragmentary detail view, showing a buffer for defining the fully lowered position of the screen and for absorbing the impact and jar due to the falling of the weight applied thereto for lowering the same.

Referring now to the drawing, A designates a show window, B the frame or casing thereof, and C a support for goods, display racks or the like, inside of said window, commonly known as a "bulkhead." Supported inside of the window A, preferably at the top thereof, is a screen 1 which is adapted to be lowered so as to entirely cover said window. Said screen 1 is preferably made of woven wire the meshes of which are too small to permit a hand to be inserted there-through, and said wire being of such character that it cannot be readily cut to form an opening through the same, through which a hand may be inserted. In practice I prefer to use wire screen having a very fine mesh, so that it will be practically impossible to insert any instrument through said screen from the outside or to withdraw any object through said screen. In the preferable construction shown, the screen 1 is adapted to be wound upon a roller 2, rotatably mounted in suitable bearings secured to the window casing at opposite sides of said window.

Attached to the lower end of the screen 1 is a weight 3 which is sufficiently heavy to

draw said screen rapidly down over the window when said screen is free to respond thereto. A weight for this purpose which will present a very neat and attractive appearance may be formed by means of a brass tube secured to the lower edge of said screen the interior of which is filled with lead or the like. The weight 3 will vary in size, depending upon conditions, a desirable weight for general purposes being about 150 pounds. If desired, a spring may be applied to the roller 2 adapted to rotate the same in a direction to wind the screen 1 upon the same, after the manner of the usual Harts-horn roller. My invention, however, contemplates equally the use of any other desirable or approved means tending to rotate the same in a direction to wind said roller 2 up, or such means may be entirely dispensed with. If used, however, the force exerted by said means tending to rotate said roller must be weak enough so as not to interfere with the designed rapid movement of the screen 1 under the influence of the weight 3.

To prevent the free edge of the screen 1 from being pushed inwardly when in lowered position, said screen is held by suitable guides, which also operate to guide the same while being raised and lowered. As shown, said guides consist of upright rods 4 secured adjacent to the sides of the window casing, which are engaged by rings 5 secured to the lower corners of the screen 1. The screen 1 is adapted to be secured in lowered position to prevent the same from being raised by means of suitable spring catches constructed and arranged to automatically engage the weight 3 or other part of said screen when fully lowered. As shown, said catches consist of springs 6 secured adjacent to the lower ends of the guide rods 4 which, normally, are downwardly and outwardly inclined away from said guide rods and are provided with shoulders 7 at the lower ends which extend substantially at right angles to said guide rods, the relation being such that, as the weight 3 descends past said catches the rings 5 on said weights will operate to depress said spring catches to permit said rings to pass the same, said catches springing out so as to bring the shoulders 7 thereon in engagement with the upper sides of said rings as soon as said rings pass said catches. To permit the designed operation of said catches, suitable recesses will preferably be formed in the guide rods 4 adapted to receive said catches when depressed.

To provide for preventing a thief from withdrawing his hand or arm from beneath the screen, in case he should succeed in inserting same, teeth 8 may be secured to the weight 3 which project below the same. To prevent said teeth from causing serious injury, they will preferably be made of such length that they will project only a short

distance below the weight 3 and the ends thereof will be curved inwardly. As a further safeguard against injury, stops are preferably provided for arresting the downward movement of the weight 3 at a short distance above the lower side of the window casing, say an inch or an inch and a half. In the preferable construction shown, said stops consist of buffers 9, preferably rubber, or the like, of proper thickness to form the desired stops and which will also operate to relieve and absorb the shock and jar due to the impact of the weight 3 when it strikes said buffers.

The screen 1 is adapted to be maintained normally in raised or retracted position in the following manner:—Projecting laterally from one end of the roller 2 is a pin 10 which is adapted to be engaged by a catch 11 formed at the end of an arm 12 pivoted to a suitable lug or bracket on the window casing. The arm 12 is adapted to be moved pivotally to bring the catch 11 thereon into position to engage the pin 10 by means of an electromagnet 13 mounted on the window casing adjacent to said arm 12, the armature 14 of said magnet being secured to said arm 12. When the magnet 13 is deenergized, the arm 12 is adapted to be moved pivotally to release the pin 10 from the catch 11 by a spring 15 applied thereto.

The coils of the magnet 13 are in circuit with a suitable electrical generator, indicated at 16, said electrical circuit comprising strips or bands 17 of tin foil or other conductor of electricity cemented or otherwise secured to the surface of the window A, preferably, closely adjacent to the edges thereof and extending continuously around the two lateral sides and the bottom thereof. To provide for electrically connecting the strips or bands 17 of tin foil, metal contacts 18, preferably of small platinum wire, are inserted beneath said strips or bands of foil, at opposite sides of a break therein, said contacts 18 being connected to different sections 19 and 20 of the electrical circuit connecting the magnet 13 and the generator 16.

In shattering a window with a brick, stone or other heavy object, cracks are formed therein extending from the hole formed by said brick or stone to the edges of the glass. Such cracks in the glass will operate to break the continuity of the strip or band 17 of tin foil or the like, and will thus break the electrical circuit controlling the magnet 13 which will thereupon be deenergized, releasing the arm 12 from the influence of said magnet and permitting the same to swing outwardly under the influence of the spring 15 to release the pin 10, thereby permitting the screen 1 to be drawn down by the weight 3 applied thereto.

Many modifications and variations of the mechanical and electrical means employed

for controlling the operation of the screen I will readily suggest themselves to skilled mechanics and electricians, and I do not, therefore, desire to limit myself to the specific means shown.

Many variations in the form and construction of the screen will likewise readily suggest themselves and I do not therefore desire to limit myself to the flexible screen shown and in the broader claims following, I have used the term shield to designate broadly any form of screen, gate, plate, or the like, whether flexible or otherwise to designate this member.

I claim:—

1. In a device of the type described, the combination with a window, of a shield mounted inside of said window constructed and arranged to be drawn over said window, a weight or the like applied to said shield adapted for drawing said shield over said window, means for securing said shield in retracted position and means rendered operative by the breaking of the window for releasing said shield, substantially as described.

2. In a device of the type described, the combination with a window, of a shield mounted inside of said window constructed and arranged to be drawn over said window, a weight or the like applied to said shield adapted for drawing said shield over said window, guides for said shield adapted for preventing the same from being pushed inwardly, means for securing said shield in retracted position and means rendered operative by the breaking of the window for releasing said shield, substantially as described.

3. In a device of the type described, the combination with a window, of a shield mounted inside of said window constructed and arranged to be drawn over said window, a weight or the like applied to said shield adapted for drawing said shield over said window, electrically controlled means for securing said shield in retracted position and means rendered operative by the breaking of the window for releasing said shield, substantially as described.

4. In a device of the type described, the combination with a window, of a shield mounted inside of said window constructed and arranged to be drawn over said window, a weight or the like applied to said shield adapted for drawing said shield over said window, a detent for securing said shield in retracted position, an electromagnet applied to said detent adapted for maintaining said detent in engaging position and means applied to said detent for tripping the same when said magnet is deenergized, an electric circuit connecting the coils of said electromagnet with an electric generator, said circuit comprising a conductor of easily frangible material applied directly to the window

so as to be breakable therewith, whereby breaking said window across said conductor so applied thereto will operate to break the circuit of the magnet and deenergize the same, substantially as described.

5. In a device of the type described, the combination with a window, of a shield mounted inside of said window constructed and arranged to be drawn over said window, a weight or the like applied to said shield adapted for drawing said shield over said window, a detent for securing said shield in retracted position, an electromagnet applied to said detent adapted for maintaining said detent in engaging position and means applied to said detent for tripping the same when said magnet is deenergized, an electric circuit connecting the coils of said electromagnet with an electric generator, said circuit comprising a conductor of easily frangible material applied directly to the window adjacent to the edges thereof in such manner as to be breakable therewith, whereby a crack in said window extending from the inside of said frangible conductor to the edge of the glass will break said conductor, thus breaking the circuit of the electromagnet and deenergizing said magnet, substantially as described.

6. In a device of the type described, the combination with a window, of a shield mounted inside of said window constructed and arranged to be drawn over said window, a weight or the like applied to said shield adapted for drawing said shield over said window, a detent for securing said shield in retracted position, an electromagnet applied to said detent adapted for maintaining said detent in engaging position, and means applied to said detent for tripping the same when said magnet is deenergized, and an electric circuit connecting the coils of said electromagnet with an electrical generator, said circuit comprising a strip or band of metallic foil, the same being a conductor of electricity applied directly to said window, substantially as described.

7. In a device of the type described, the combination with a window, of a flexible screen, a rotatable roller to which said screen is attached so as to be rolled thereupon and unrolled therefrom, a weight or the like applied to said screen adapted for unrolling said screen from said roller, a lug or projection on said roller, a detent constructed and arranged for engaging said lug or projection to secure said roller against rotation, an electromagnet applied to said detent adapted to maintain said detent in position to engage said lug or projection and means applied to said detent for tripping the same when said magnet is deenergized, an electric circuit connecting the coils of said electromagnet with an electrical generator, said circuit comprising a strip or band of metal-

lic foil the same being a conductor of electricity applied directly to said window, substantially as described.

- 5 combination with a window, of a shield mounted inside of said window constructed and arranged to be drawn downwardly over said window, a weight applied to the lower edge of said shield and teeth secured to said
- 10 weight which project downwardly below the same, means for securing said shield in retracted position and means rendered oper-

ative by the breaking of the window for releasing said screen, substantially as described.

In testimony, that I claim the foregoing as my invention, I affix my signature in presence of two subscribing witnesses, this 4th day of February, 1909.

EUGENE A. WAYLAND.

Witnesses:

K. A. COSTELLO,
G. M. ELLINGEN.