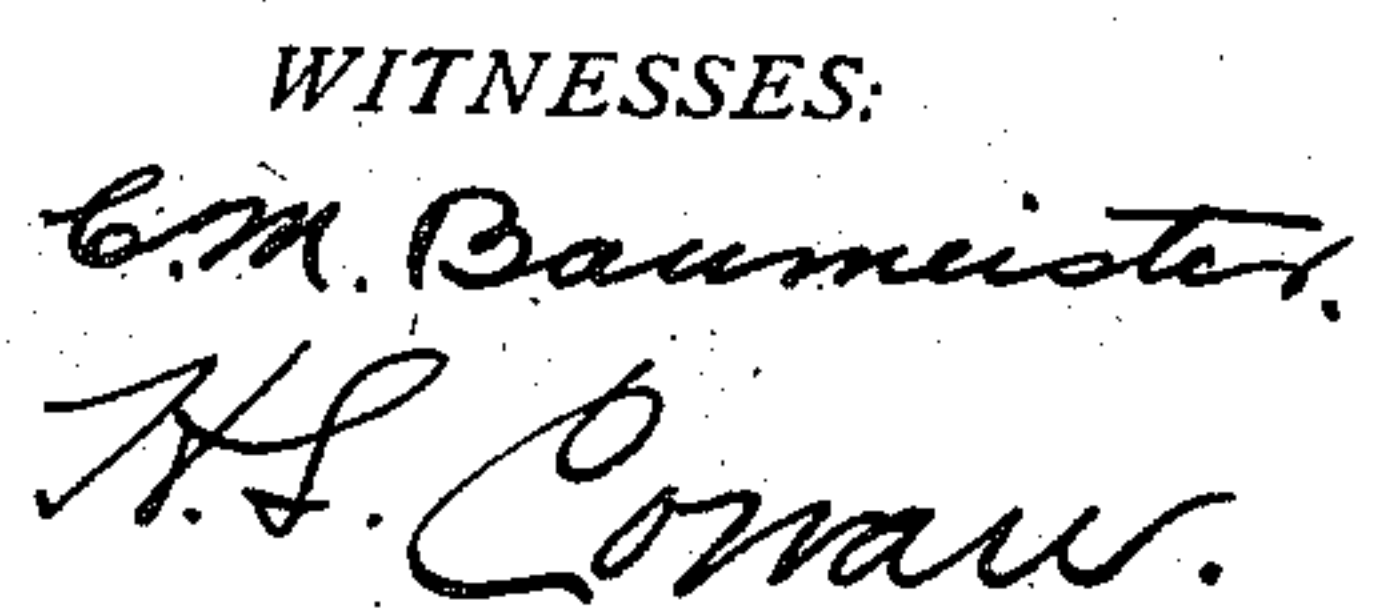


DEVICE FOR PROTECTION OF DISPLAY WINDOWS.  
APPLICATION FILED OCT. 14, 1909.

Patented Feb. 7, 1911.

4 SHEETS—SHEET 1.



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4 SHEETS—SHEET 2.

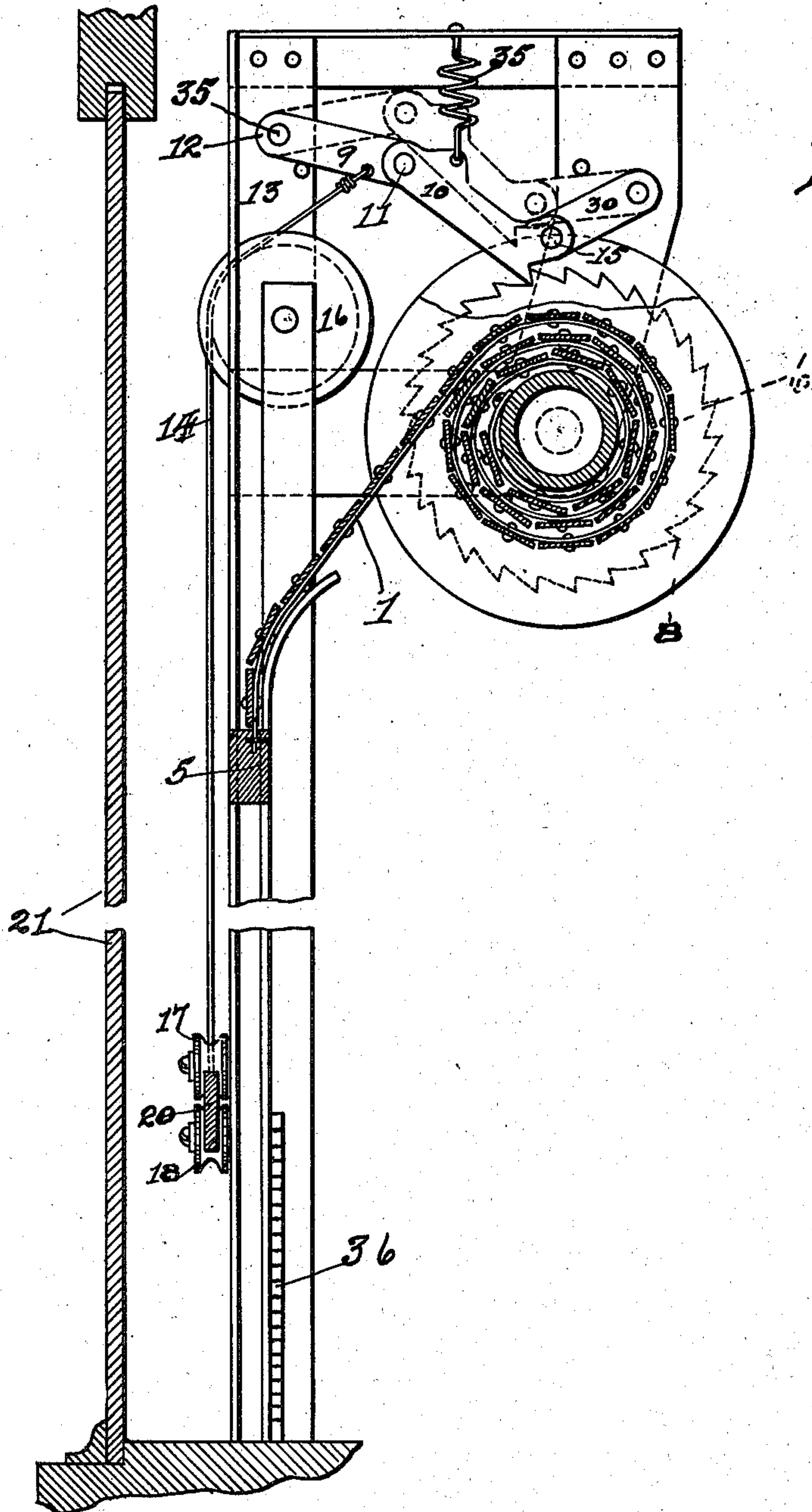


Fig. 2

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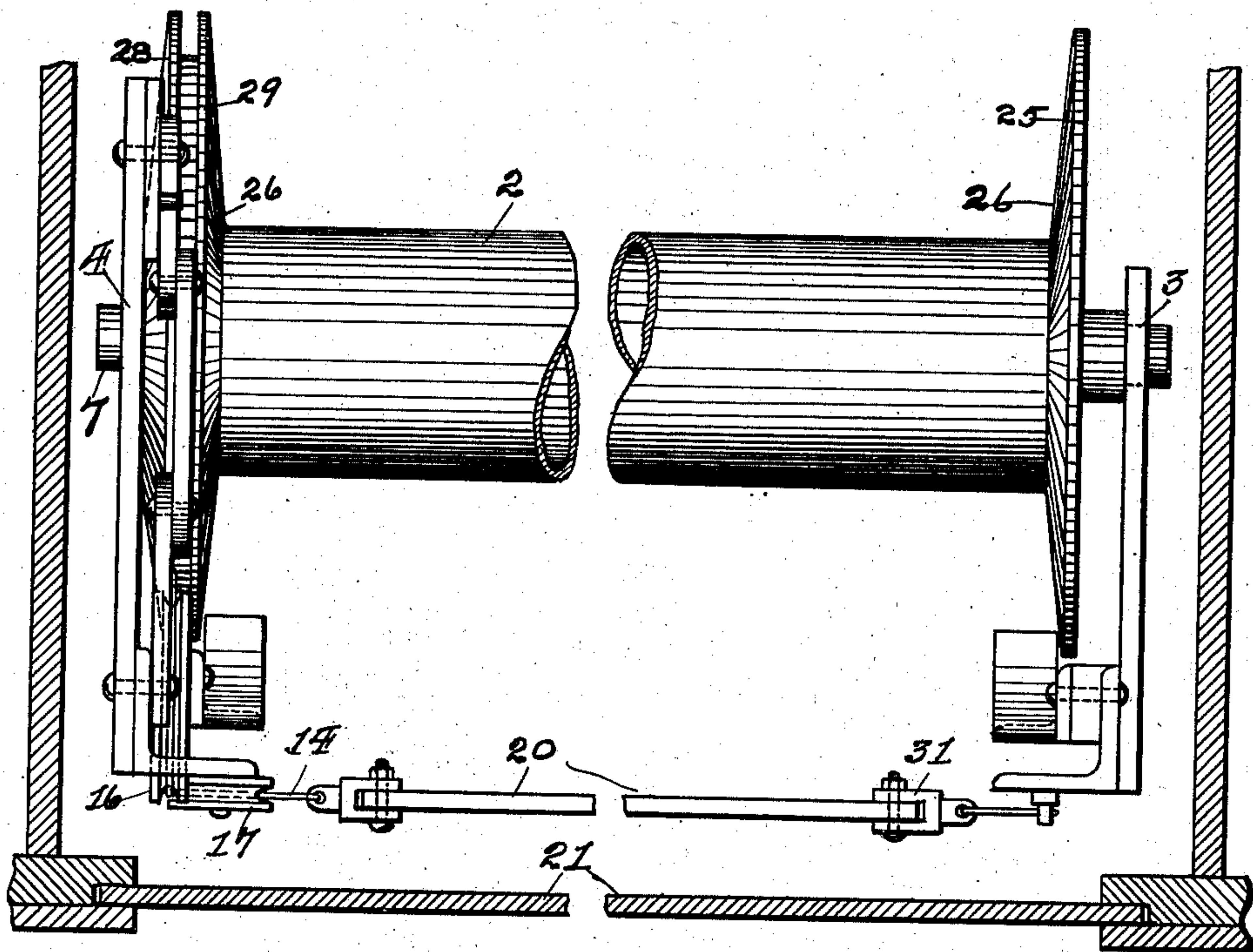
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4 SHEETS—SHEET 3.

*Fig. 3.*



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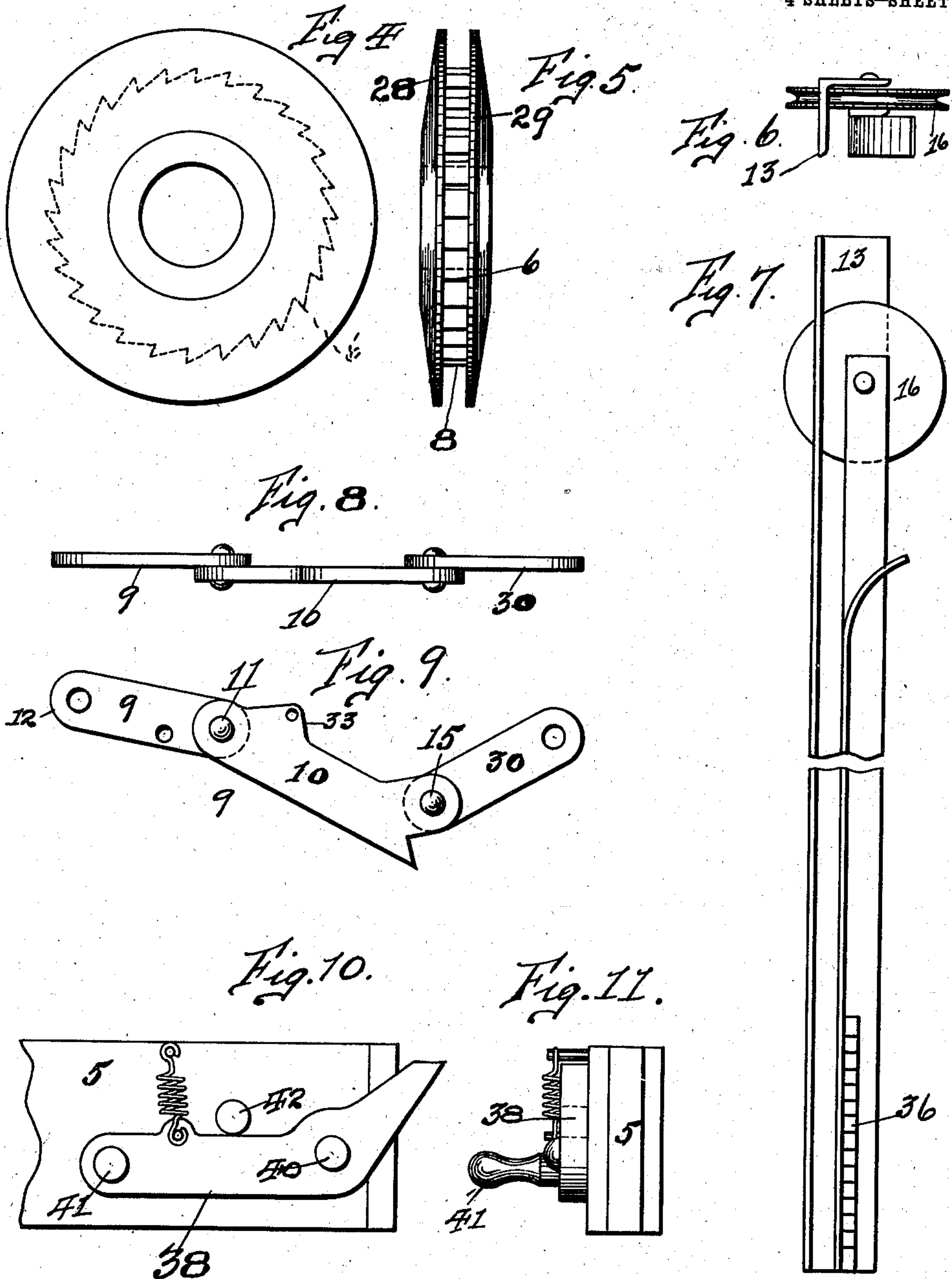


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# UNITED STATES PATENT OFFICE.

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## DEVICE FOR PROTECTION OF DISPLAY-WINDOWS.

983,663.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed October 14, 1909. Serial No. 522,507.

*To all whom it may concern:*

Be it known that I, FRANK M. WHITE, a citizen of the United States, residing in the city of Chicago, county of Cook, and State of Illinois, have invented a certain new and useful Device for Protection of Display-Windows, of which the following is the specification.

It is a well known fact that great losses are incurred annually, especially in the larger cities, through the breaking of display windows in jewelry and other stores by the hurling of bricks and other missiles through the windows, and abstracting the goods through the opening thus made before the shopkeeper or watchman can prevent it.

My invention has for its object to provide a device which will effectually prevent the loss of goods in this manner, and one which will be operated by gravity without the use of springs of any kind with their annoying tendency to set, or the use of electricity which is very objectionable in devices of this character, as the contacts get dirty or corrode, thus preventing a contact and rendering the device inoperative at the very time when called upon to act, whereas in my device, I make use of a natural law which is unchanging in its force and effect, and utilize mechanical means which are positively operated to permit the force to act at the precise instant it is needed, and to accomplish the above result in a simple and inexpensive manner.

My means of accomplishing the above results may be more readily understood by having reference to the accompanying drawings which are hereunto annexed and are a part of this specification in which:

Figure 1 is an elevation of a corner window showing my invention applied thereto. Fig. 2 is a vertical section. Fig. 3 is a detail view showing the roller. Figs. 4 and 5 are detail views showing a ratchet wheel and the disks to prevent the dislodgment of the trigger mechanism. Figs. 6 and 7 are detail views of the angle irons showing the rack to prevent the elevation of the curtain when it has fallen. Figs. 8 and 9 are enlarged detail views of the trigger mechanism. Figs. 10 and 11 are detail views showing the mechanism attached to the lower edge of the curtain to prevent its elevation when it has fallen.

Similar reference numerals refer to similar parts throughout the entire description.

As shown in the drawings, my invention consists of a flexible shade or curtain formed of steel or other suitable material. This shade 1 is carried on a roller 2 which is supported on bearings 3 and 4 or in any other suitable or convenient manner. In its normal position the curtain is rolled up, but as its lower edge is formed of a heavy bar 5 of steel or iron, its constant tendency is to unroll. This is prevented by means of my improved trigger mechanism which is better seen in the detail views.

As shown, a ratchet wheel 6 is rigidly secured to the shaft 7 upon which the roller is mounted. This ratchet wheel is mounted between flanges 28 and 29, the ratchet teeth being below the periphery thereof; as shown in Figs. 4 and 5, these flanges serve to hold the trigger mechanism in position and prevent it getting out of position. The teeth 8 of the ratchet are engaged by a detent which is formed of three members 9, 10 and 30, which are joined to each other by means of pivot pins 11 and 15. The end 12 of the member 9 is pivotally attached by a pivot pin 35 to the angle iron 13 which is a part of the frame. A lug 33 is formed on the member 10 and has a coil spring 35 attached thereto, exerting an upward pressure tending to raise the detent 10 out of engagement with the teeth 8 of the ratchet wheel. A cord or wire 14 is attached to the member 9 near the pivot pin and is carried down at one side of the curtain 1, passing over shives 16—17 and 18. The end of the cord or wire 14 is secured to one end of a strip 20 of frangible material, preferably of glass, which extends across the window pane 21, the other end of which may be secured to a lug 31 attached to the angle iron frame. This strip of glass 20 may be apparently suspended by cords 22 and 23 and lettered so as to act as a sign, and thus it will not in any manner detract from the appearance of the display window. The roller is provided with flanges 29 and 25 which are preferably beveled as at 26, so as to insure the easy rolling up of the curtain after it has been dropped.

The operation of my device is as follows: The device being in the position shown in Fig. 1, it is obvious that the great weight of



the bar 5 would unroll the curtain in an instant, due to the force of gravity, were it not prevented by the detent 9. An inspection of the drawings discloses the fact that  
 5 the pivot pin 11 is slightly above a line drawn between the pivot pins 35 and 15, so that the pressure exerted on the detent by the weight 5 through the ratchet wheel 6, together with the spring 34, would fold it  
 10 up unless it was prevented, which is done by the cord 14 and the strip of glass 20, but it will be apparent from the foregoing, that if a brick or other missile is hurled through the window-pane 21 at any point sufficiently  
 15 near the bottom to enable the thrower to reach the goods on display, that it will necessarily break the glass strip 20 which will operate to instantly release the members 9 and 10, thus permitting them to double up,  
 20 this movement being assisted by the spring 35 which is secured to the member 10, thus releasing the ratchet wheel 6, and the curtain will drop with great rapidity, due to the heaviness of the bar 5, so that before the  
 25 thief could even insert his hand in the opening, he finds himself confronted by an impassable barrier of metal and he cannot steal anything displayed by the merchant in that window.  
 30 In order that he may not get around the edge of the curtain, I provide angle irons 25 and 26 which effectually protect the edge of the curtain. Where the windows are side by side, my invention is placed at the top, but  
 35 when it is a corner window, then it is placed at the bottom as shown in Fig. 1, but it is obvious that this change would be within the spirit of my invention. A rack 36 is located at the lower part of the angle irons and a  
 40 detent 38 as shown in Figs. 10 and 11 which is pivoted at 40 to the bar 5, a handle 41 is provided to disengage the lock when the curtain is to be raised. When the curtain falls, the teeth of the rack 36 push the detent 38

back out of the path, and when an attempt 45 is made to raise it, the stop pin 42 prevents it being moved unless the handle 41 is grasped and the detent is released.

Having described my invention what I regard as new and desire to secure by Let- 50 ters Patent is:

1. In a device of the character described, the combination of a roller, a metal curtain adapted to be rolled on said roller, a weighted bar attached to the lower edge of said cur- 55 tain, a ratchet wheel at the end of said roller, a trigger mechanism to prevent the movement of said roller, means to hold said mechanism in engagement with the teeth of the ratchet wheel, a bar of frangible mate- 60 rial, the breaking of which operates to release said mechanism, angle irons at each side of said curtain, a rack at the bottom of one of said angle irons, and a detent on the weighted bar of the curtain adapted to en- 65 gage the rack on the angle iron when the curtain falls, whereby the raising of the curtain is prevented.

2. In a device of the character described, the combination of a shaft, a frame in which 70 said shaft is journaled, a roller mounted upon said shaft, a flexible metallic curtain rolled on said roller, a weighted bar secured to the lower edge thereof, a ratchet wheel at one end of said roller, disks at each side of 75 said ratchet wheel, a trigger mechanism between said disks adapted to engage the teeth of the said ratchet wheel, a cord holding said trigger mechanism in position, shives over which said cord runs, a bar of frangible ma- 80 terial, the breaking of which operates to release said cord, and means on the weighted bar to hold said curtain down when it falls.

FRANK M. WHITE.

Witnesses:

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