

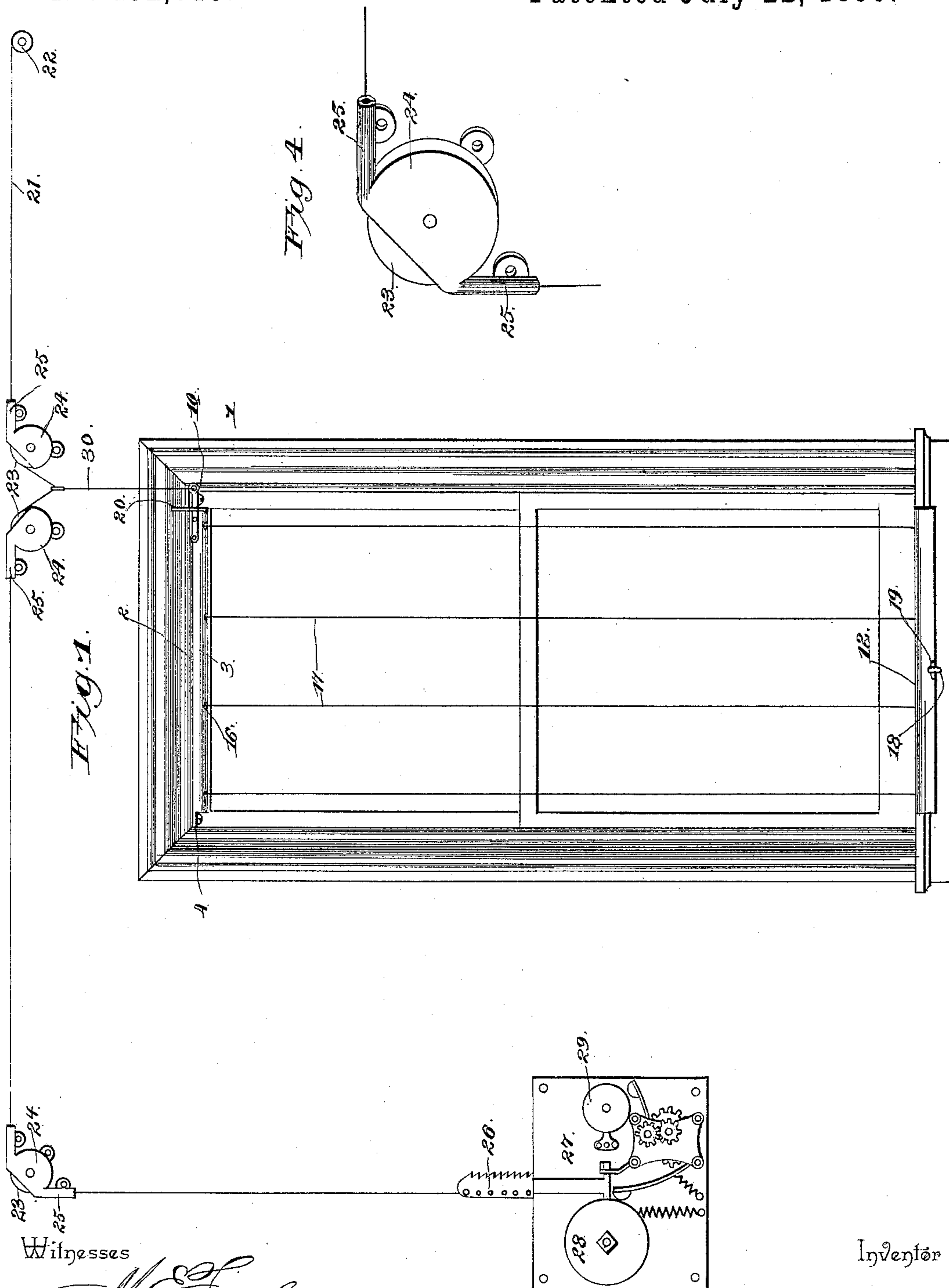
(No Model.)

2 Sheets—Sheet 1.

C. C. HENDERSON.
FIRE AND BURGLAR ALARM.

No. 432,613.

Patented July 22, 1890.



Witnesses

M. E. Fowler
Wm. Bagger

By his Attorneys,

C. A. Snow & Co.

Inventor

Charles C. Henderson

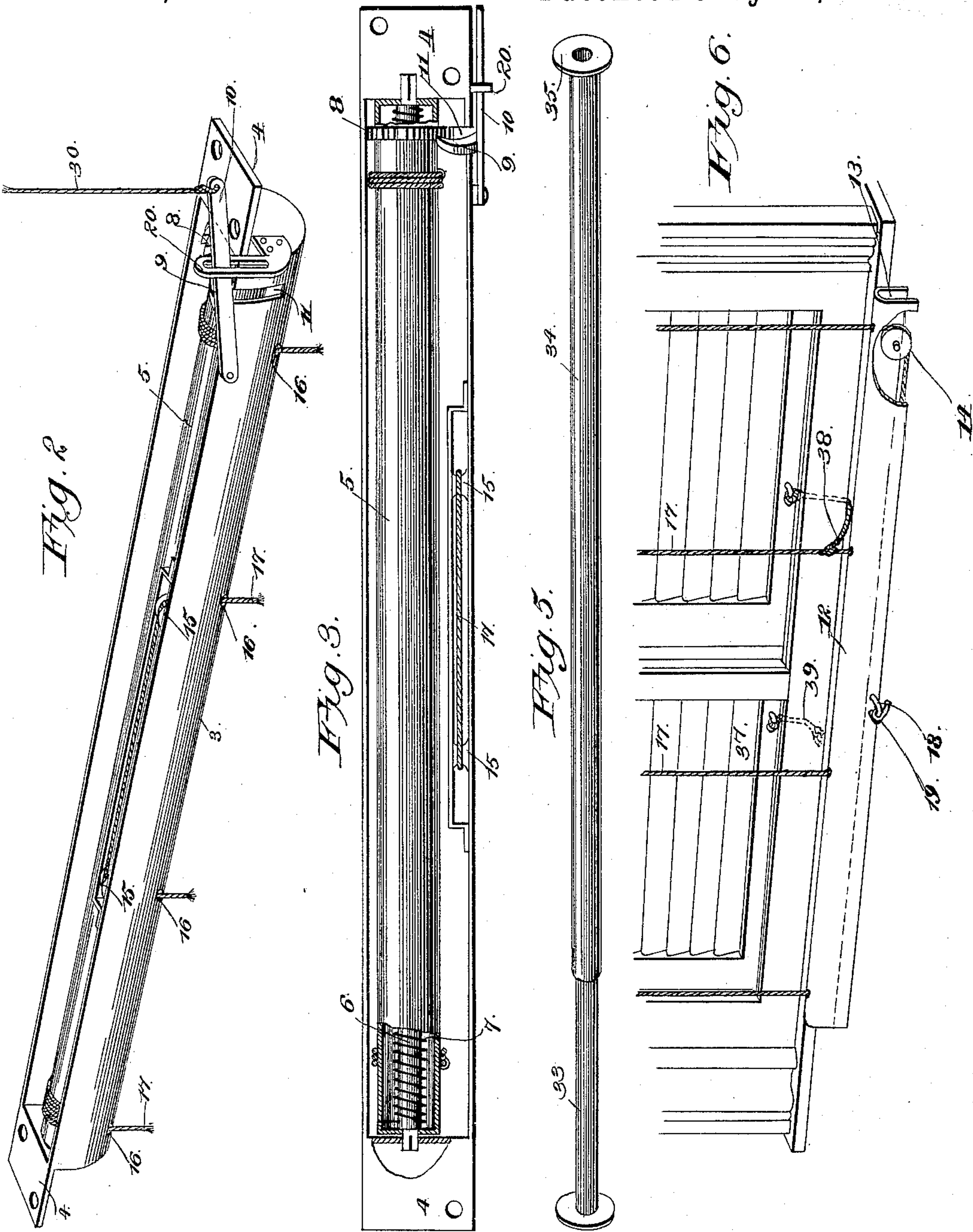
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UNITED STATES PATENT OFFICE.

CHARLES CARROLL HENDERSON, OF JAMESTOWN, NEW YORK.

FIRE AND BURGLAR ALARM.

SPECIFICATION forming part of Letters Patent No. 432,613, dated July 22, 1890.

Application filed October 3, 1889. Serial No. 325,912. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CARROLL HENDERSON, a citizen of the United States, residing at Jamestown, in the county of Chautauqua and State of New York, have invented a new and useful Fire and Burglar Alarm, of which the following is a specification.

This invention relates to fire and burglar alarms, and is an improvement on the device for which Letters Patent of the United States No. 398,254 were granted to myself on the 19th day of February, 1889.

The object of my present invention is to simplify the general construction and to render the operation more certain and effective; and it consists in the improved construction and arrangements and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a front elevation of a window provided with a fire and burglar alarm embodying my improvements. Fig. 2 is a perspective view, on a larger scale, showing the spring-actuated roller and the latch at one end of the same. Fig. 3 is a detailed view showing the several parts comprising the spring-roller and the latch mechanism separated from each other. Figs. 4 and 5 are detailed views of parts used in connection with my invention. Fig. 6 is a perspective detail view illustrating a modified arrangement of my invention.

Like numerals of reference indicate like parts in all the figures.

1 designates a window-frame, under the cap-piece 2 of which is secured a trough 3, the ends of which are provided with perforated flanges 4 to receive the screws or other devices by means of which the said trough is secured in position.

5 designates a cylindrical tubular roller, through which extends a shaft 6, the ends of which are securely mounted in the ends of the trough 3. The roller 5 is arranged to rotate upon the shaft, and upon the latter within the said roller is coiled a spring 7, the ends of which are attached, respectively, to one end of the shaft and to the opposite end of the roller. It follows that by rotating the roller upon the shaft the spring 7 may be wound upon the latter. One end of the roller 5 is provided with a ratchet-wheel 8, adapted to engage a spur or dog 9, projecting laterally

from a latch-lever 10, which is mounted pivotally upon the outer side of the trough or casing, the latter being provided with a slot 11, through which the spur 9 may extend to engage the ratchet-wheel 8.

12 designates a bar or frame corresponding in length to the trough 3, and having in its lower side a longitudinal groove 13, in which are journaled a series of grooved pulleys 14. Guide-pulleys 15 are likewise journaled to the front wall of the trough 3 in front of the roller 5, and the said trough is provided with perforations 16 for the passage of a cord 17. The ends of the latter are attached to the roller 5 near the ends of said roller, and the cord is threaded through the perforations 16 and over the pulleys 14 and 15, as will be seen in the drawings. When the ends of the cord are wound upon the roller 5, the spring 7 in the latter is unwound, and the said spring may be wound by unwinding the cord 17 from the said roller. This may be effected by lowering the frame or bar 12, and the latter is provided with a handle 18, by means of which it may be manipulated. When the bar 12 is lowered to the window-sill, the handle 18 may be engaged with a hook 19 upon the sill for the purpose of holding the parts in position for operation.

The ends of the trough or casing 3 are provided with a guide or guard 20 to confine the latch-lever 10 and to limit the extent of its operation.

21 designates a cord, one end of which is made fast at the point 22, from whence it passes through the several rooms of the building in which the device is located, suitable guide-pulleys 23 being provided at all necessary points. Said guide-pulleys are provided with casings 24, having tubular guides 25, which serve to retain the cord in position with absolute certainty and to prevent it from being accidentally disarranged. The cord 21, after making the circuit of the building, is attached to the trip mechanism 26 of a spring-actuated bell-alarm 27, which may be located at any suitable point in the building, and which may be provided with two separate alarm-bells 28 and 29, one of which shall be arranged to give a continuous alarm, while the other, by a certain number of strokes, shall indicate the point of the building at which the trip-rope 21 is being interfered

with. At the point 22, where the end of the trip-rope is attached, the said rope may be wound upon a suitable drum or shaft to secure a proper degree of tension. It will be
 5 observed that the severing of the trip-cord or the release of the tension thereon will cause the trip mechanism of the alarm device to be actuated and the alarm to be sounded.

The latch-lever 10, attached to one end of
 10 the trough 3, has one end connected by a cord 30 with the trip-rope 21 at a point immediately between two of the guide-pulleys 23, thus stretching or straining the trip-rope between the said pulleys. It will be ob-
 15 served that by raising the free end of the latch-lever the strain upon the trip-rope is released, and the alarm thereby caused to be sounded.

To adjust the device for operation, the frame
 20 or bar 12 is lowered and its handle 18 is placed in engagement with the hook 19. At the same time the free end of the latch 10 is lowered and the spur 9 of the said latch is placed into engagement with the ratchet-wheel 8 upon
 25 the end of the spring-roller, thus setting the alarm mechanism. By lowering the frame or bar 12 the cord 17 is unwound on the roller and its several strands are caused to cross the window or aperture in front of which the
 30 device is arranged. When the cord 17 is severed by a burglar in the act of entering, the spring-roller is released and caused to rotate, thereby releasing the latch 10 and relieving the strain upon the trip-rope 21, with the re-
 35 sult of instantly sounding the alarm. The same result will be effected by the cord 17 or trip-rope 21 being severed at any point by fire arising in any of the rooms of the building where the device is located.

40 At points where the trip-rope 21 passes through the walls or partitions between the rooms, or through the floors of the house in which the device is arranged, I employ the telescopic guide-tubes 33 and 34, which are
 45 flanged at their opposite ends, as shown at 35, and which telescope within each other, so as to form a smooth and continuous passage through which the trip-rope may be passed without danger of becoming worn or abraded.

50 The construction of this device is, as will be seen, exceedingly simple and forms a complete safeguard against fire and burglars for the building protected therewith.

In houses provided with outside blinds, as
 55 shown in Fig. 6 of the drawings, one of the blinds 37 may be connected by a cord 38 with the cord 17, so that in the event of the opening of the blind from the outside the cord 17 will be ruptured and the alarm sounded. The
 60 bottom rail of the lower sash is likewise connected by a cord 39 with the cord 17, so that the latter will be ruptured and the alarm sounded by the raising of the sash.

Having thus described my invention, I claim
 65 and desire to secure by Letters Patent of the United States—

1. In a fire and burglar alarm, the combi-

nation, with the alarm mechanism and the trip mechanism, of a spring-actuated roller, a cord having its ends attached to the said
 70 roller near the ends thereof and adapted to be stretched in front of a window above which the said spring-actuated roller is located, and means for securing the cord against winding
 75 out the roller and releasing the catch of the trip mechanism, substantially as and for the purpose set forth.

2. In a fire and burglar alarm, the combination, with the alarm mechanism and the trip mechanism, of a spring-actuated roller,
 80 a cord having its ends attached near the ends of said roller, and a series of guide-rollers over which the said cord may pass when it is unwound on the said roller and stretched in
 85 front of the window above which the said roller is arranged, so as to cross and recross the said window or aperture, substantially as herein described and set forth.

3. In a fire and burglar alarm, the combination, with the alarm mechanism and the
 90 trip mechanism, of the trough or casing, the spring-actuated roller arranged therein, a cord having its ends attached near the ends of the said roller and passing through perforations in the said casing, a grooved bar or
 95 frame having pulleys for the passage of the said cord, and pulleys journaled in the trough or casing in front of the spring-actuated roller and registering with perforations in the
 100 said casing for the passage of the said cord, substantially as and for the purpose set forth.

4. The combination of the spring-actuated roller having a ratchet-wheel at one end, the cord having its ends attached to and wound
 105 upon the said roller, a latch-lever having a spur or dog engaging the said ratchet-wheel, and the trip-rope connected with the latch-lever, substantially as herein described, and for the purpose set forth.

5. The combination of the trough or casing,
 110 the spring-actuated roller mounted in the same and having a ratchet-wheel at one end, the latch-lever pivoted to the outer side of said casing and having a dog or spur extending through a slot in the latter and engaging
 115 the ratchet-wheel upon the end of the spring-actuated roller, a cord connecting the free end of said latch-lever with the trip-rope of a spring-actuated alarm mechanism, and a
 120 cord having its ends attached to and wound upon the spring-actuated roller, said cord being passed over guide-pulleys in the trough or casing and through perforations in the
 125 latter and over guide-pulleys in a vertically-adjustable frame or grooved bar, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES CARROLL HENDERSON.

Witnesses:

L. W. WILTSIE,
 FRED P. TODD.