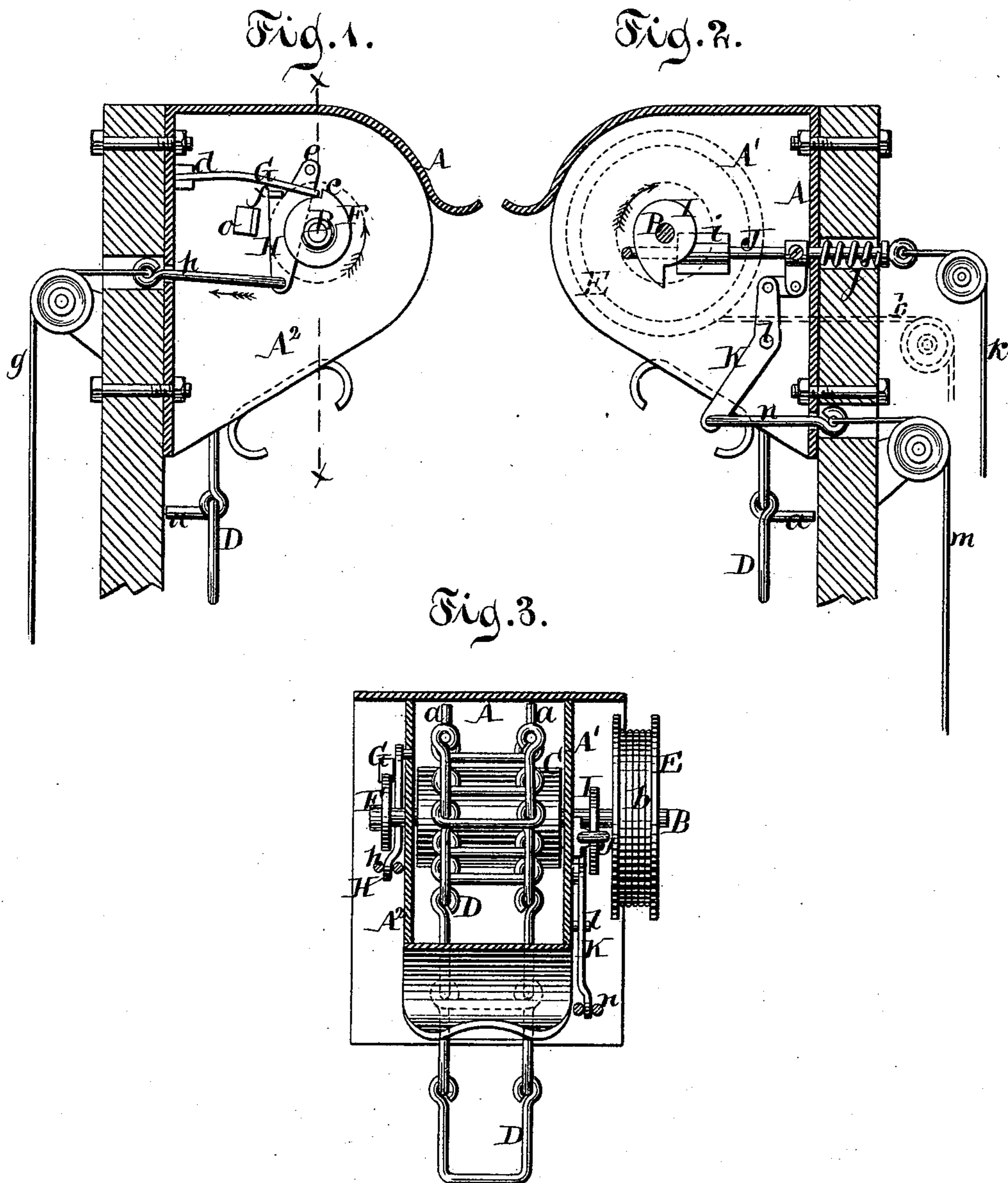


G. W. FOSTER.  
Fire-Escape.

No. 200,526.

Patented Feb. 19, 1878.



Witnesses.  
Chas. Wahlers.  
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# UNITED STATES PATENT OFFICE.

GEORGE W. FOSTER, OF GREEN POINT, NEW YORK.

## IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **200,526**, dated February 19, 1878; application filed January 12, 1878.

*To all whom it may concern:*

Be it known that I, GEORGE W. FOSTER, of Green Point, in the county of Kings and State of New York, have invented a new and useful Improvement in Fire-Escapes, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a side view of my apparatus, partly in section. Fig. 2 is a like view, looking in an opposite direction to Fig. 1. Fig. 3 is a vertical section in the line  $x x$ , Fig. 1.

Similar letters indicate corresponding parts.

This invention relates to certain improvements in fire-escapes; and consists in a frame adapted to be attached to a building, and having a drum, to which is connected a flexible ladder, and to the end of which drum is secured a stop-wheel combined with a spring-pawl, adjacent to which is arranged a lever in such a manner that, while the drum is held by said pawl and stop-wheel, the pawl can be disengaged by said lever so as to release the drum. On the axle of the revolving drum is also secured a cam engaging with a slide-rod, which is adapted to be connected to an alarm, so that when the drum revolves a reciprocating motion is given to said rod by the cam, and if the rod is connected to an alarm the same is sounded, one result of which is that any attempt at tampering with my apparatus is made known. To said slide-rod is connected a lever, which serves to move and hold the same out of the path of the cam, thus permitting of a reverse movement of the cam and of winding the ladder on the drum, besides throwing the alarm out of operation, all of which is hereinafter more fully set forth.

In the drawings, the letter A designates a frame, which is so constructed that it can be fastened to a building directly beneath the roof. Said frame A forms the bearing for an axle, B, to which is secured a drum, C. On this drum is wound a chain-ladder, D, which is preferably constructed with inwardly-projecting bars  $a$ , to hold it off from the building, as seen in Figs. 1 and 2. Said drum C is located between two cheeks formed on the frame A, and marked  $A^1 A^2$ . Exterior of the cheek  $A^1$  is located a pulley, E, which is secured to

the axle B, and to which is fastened one end of a rope,  $b$ . When the ladder D is unwound from the drum C the latter revolves, and the pulley E partakes of its motion, so that the rope  $b$  is wound on the pulley, an equal portion of this rope being wound up to the portion of the ladder which is unwound. Hence, when it is desired to rewind the ladder D on the drum C, it is only necessary to draw the rope  $b$  off the pulley.

Exterior of the cheek  $A^2$  is located a wheel, F, (best seen in Fig. 1,) which is secured to the axle B, and provided with a shoulder or stop,  $c$ .

G is a spring-pawl, which is secured to the frame A at  $d$ , and bears on the periphery of the wheel F. H is a lever, which has its fulcrum on a pin,  $e$ , secured to the cheek  $A^2$ , and which is provided with a toe,  $f$ , projecting beneath the pawl G. I connect the lever H to a cord,  $g$ , by means of a link,  $h$ . The stop-wheel F and pawl G serve to prevent rotation of the axle B or the drum under normal conditions, while, when the lever H is tilted in the direction of the arrow in Fig. 1, the toe  $f$  comes in contact with said pawl and lifts the same off the stop-wheel F, so as to release the said parts. The extent of the movement of the lever H is regulated by a stop,  $o$ .

Between the pulley E and the cheek  $A^1$  is situated a cam, I, (best seen in Fig. 2,) which is secured to the axle B and a rod, J, which slides in a socket,  $i$ . This rod J is bent at one end, and is so arranged that this bent end rides over the face of the cam I. Said rod may also be subjected to the action of a spring,  $j$ , having a tendency to hold it in contact with the cam. I connect the rod J to one end of a cord,  $k$ , the other end of which is intended to be connected to an alarm. When the cam I is revolved in the direction of the arrow in Fig. 2, (which motion it describes when the ladder D is unwound from the drum C,) a reciprocating motion is imparted to the rod J, and thereby the alarm to which said rod is connected is sounded. The primary object of this arrangement is to warn the person or persons in proximity to the alarm of any attempt at tampering with my apparatus.

I propose to place the said alarm in the office or any other frequented apartment in the

house or building to which my apparatus is fastened, the before-mentioned cords or ropes *b*, *g*, and *k*, as well as a cord, *m*, presently referred to, being conducted to the same apartment in any suitable way.

To the slide-rod *J* is connected a lever, *K*, which has its fulcrum on a pin, *l*, secured to the cheek *A'*, and is connected to a cord, *m*, by means of a link, *n*. When the lever *K* is tilted by means of the cord *m* the rod *J* is moved out of the path of the cam *I*, and may be held in this position, so that the cam is susceptible of rotating in a reverse direction to the arrow in Fig. 1, which motion it is caused to describe when the ladder *D* is wound on the drum. By moving the rod *J* out of the path of the cam *I*, I also bring the alarm to which the rod is connected out of gear.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a fire-escape, the combination of the frame *A*, adapted to be secured to a building, the axle *B*, the drum *C*, having the pulley *E* and flexible ladder *D*, the shouldered stop-wheel *F*, the spring-pawl *G*, the depending pivoted lever *H*, having a lateral toe, *f*, and

link *h*, the whole constructed to operate substantially as and for the purpose described.

2. The combination of the frame *A*, shaft *B*, revolving drum *C*, and flexible ladder *D* wound on said drum, with the cam *I* on the end of the shaft, and the longitudinally-sliding rod *J*, which embraces said cam, and is connected with an alarm mechanism, all substantially as and for the purpose set forth.

3. The combination of a frame adapted to be fastened to a building, a revolving drum mounted in said frame, a flexible ladder wound on said drum, a cam secured to the axle of said drum, a reciprocating rod, which is engaged by said cam, and adapted to be connected to an alarm, and a lever for moving and holding said reciprocating rod out of the path of the cam, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 8th day of January, 1878.

G. W. FOSTER. [L. S.]

Witnesses:

W. HAUFF,  
CHAS. WAHLERS.