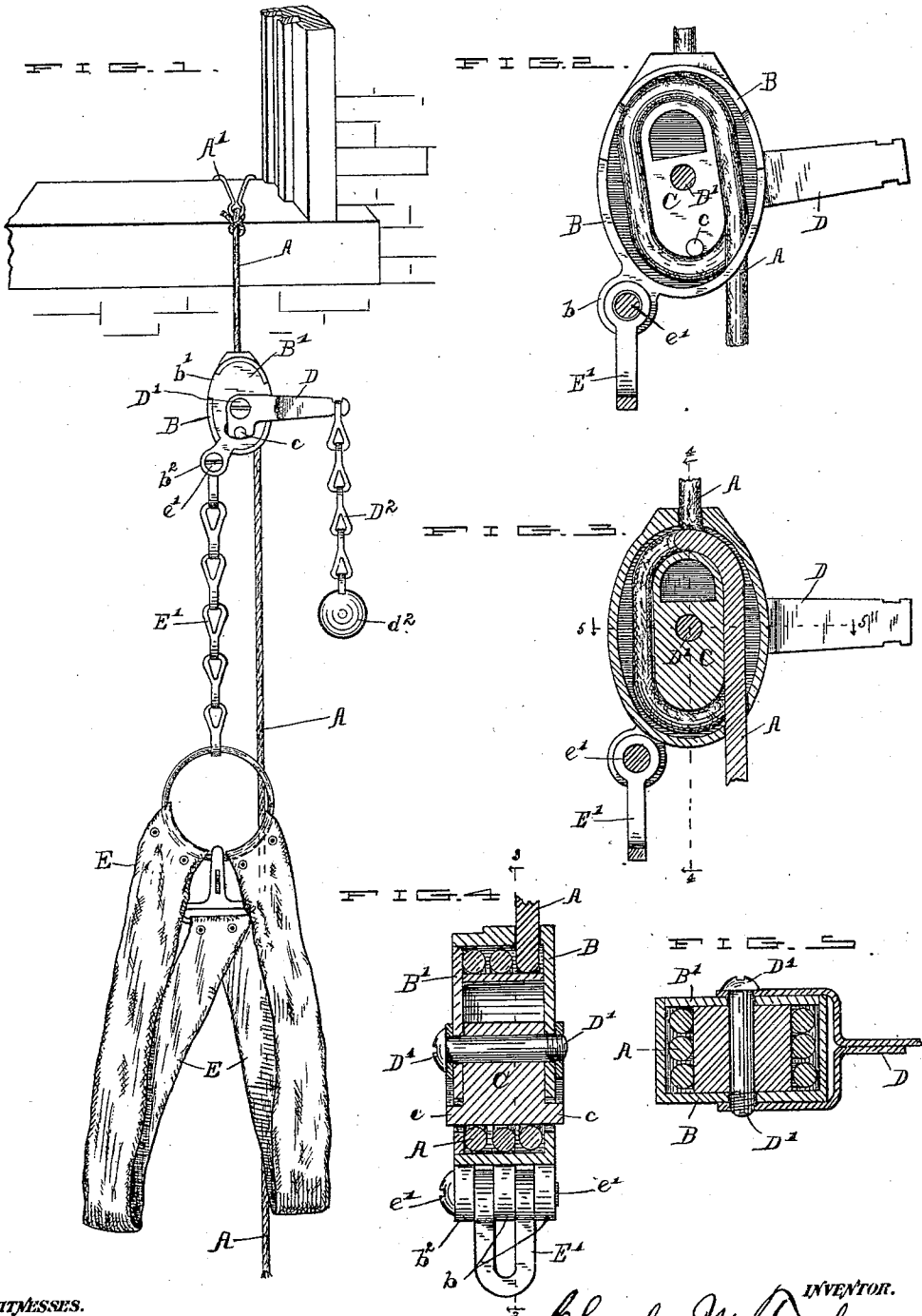


(No Model.)

C. M. FOWLER.
FIRE ESCAPE.

No. 461,528.

Patented Oct. 20, 1891.



WITNESSES.

J. H. Warner.
Frank H. Wood.

INVENTOR.
Charles M. Fowler,
per C. E. W. Bradford,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES M. FOWLER, OF SALEM, MASSACHUSETTS.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 461,528, dated October 20, 1891.

Application filed May 18, 1891. Serial No. 393,158. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. FOWLER, a citizen of the United States, residing at Salem, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

The object of my said invention is to produce a simple and easily-operated fire-escape, which shall be automatic to the extent that it cannot be operated, except by steady careful manipulation, and that when this fails it will at once become locked in place. Said invention will be first fully described, and then pointed out in claims.

Referring to the accompanying drawings, which are made a part hereof and on which similar letters of reference indicate similar parts, Figure 1 is a view showing the complete apparatus suspended in position for use; Fig. 2, a side elevation of the friction device separately with the cap-plate removed, showing said device frictionally locked upon the rope by the weight suspended therefrom; Fig. 3, a central sectional view on the dotted line 3 3 in Fig. 4, showing the parts held in position, so that the device will slide down the rope; Fig. 4, a transverse sectional view looking toward the left from the dotted line 4 4 in Fig. 3, and Fig. 5 a horizontal sectional view looking downwardly from the dotted line 5 5 in Fig. 3.

In said drawings, the portions marked A represent the rope of the fire-escape; B, the casing or frame-work of the friction device; C, a pivoted friction-block therein; D, a lever for operating said friction-block, and E the sling for carrying the person using the fire-escape.

The rope A is an ordinary rope for the purpose, and passes through the friction device and around the friction-block therein. It is shown as passing with three turns around said friction-block; but obviously a greater or less number of turns might be employed. At the upper end it is preferably provided with a grappling-hook A', with which a secure attachment may be made to a window sill or frame, a piece of furniture, or other sufficiently-secure object, as may be most convenient.

The casing B of the friction device is oval

in general outline, and is hollow to receive the friction-block and the rope. Ears *b* project therefrom at the lower side, somewhat to one side of the center, and to these ears the sling is suspended. A cap B' forms one side of this casing, and it is preferably provided with projections *b'* and *b''*, which pass through notches in the edge of the main portion of the casing, and is thus held accurately in place. One of these projections *b''* corresponds in shape and size to the ears *b*, and becomes, when in place, one of said ears.

The friction-block C is of substantially the same outline as the interior of the casing B, but is sufficiently smaller, so that the space between said block and said casing is adequate to receive the turns of rope. This block is pivoted centrally, the pivot being preferably a bolt, which passes through the entire structure and which also forms a pivot for the lever D. At its lower end it has studs *c*, which extend out through openings in the sides of the casing B and with which the ends of the lever D will engage for the purpose which will be presently stated. The upper portion of this block is shown hollow but this is only for the purpose of making it of less weight than it would be if solid.

The lever D is preferably in the form of a bell-crank lever pivoted at the angle on the bolt D', which also forms the pivot for the block C. This lever is bifurcated and straddles the structure of the casing B. The lower ends of its shorter members are each bifurcated, and they pass over the studs *c* of the block C, as shown. For convenience in operating this lever there is preferably connected to the outer end of its longer member a short section of chain D², with a ball *d*² upon its lower end, by means of which a firm and convenient grasp may be had and maintained. Obviously, however, this might be dispensed with without departing from my invention, but at the expense of some portion of the convenience and ease of operating it.

The sling E may be of any desired construction. It is suspended from the ears *b b''* in any convenient way, a small chain E' being shown as the means, which is united to said ears by a pivot-bolt *e'*. As before stated, the ears *b b''* are located somewhat to one side of the center and on the opposite side to that

from which the longer member of the lever D extends. The weight of the user is thus enabled to counteract to some extent the effect of the pull on said lever, maintaining the device in a more nearly upright position than would otherwise be the case.

The operation is as follows: The fire-escape being suspended ready for use by means of the grappling-hook A' or otherwise, the user places himself in the sling E. His weight, pulling on the rope A, causes the parts to assume the position shown in Fig. 2, gripping the turns of the rope tightly between the friction-block C and the inner side of the surrounding casing B. When adjusted in position, the user, by pulling on the outer end of the lever D, may throw the parts into the relative positions shown in Fig. 3, permitting the rope A to move around the friction-block C, and thus allowing the device to slide down the rope and effecting the object. Should the device move too rapidly, a variation in the pull on the lever will cause friction between the rope and the inside of the casing, and this results equally from a too strong as a too slight pull, as the block C is as readily thrown in one direction by the one as permitted to go in the other direction by the other, and either causes the friction-block to force the rope against the interior of the casing, and thus increase the friction. Any awkward or careless use of the device, therefore, stops its operation, and it is thus rendered perfectly safe.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a fire-escape, of an

oblong casing, an oblong friction-block centrally pivoted therein, a rope passing through said casing and around said friction-block, and a bell-crank-shaped lever pivoted at the angle upon the casing or on a shaft passing through it and engaging at the shorter ends with said friction-block or projections thereon, whereby said friction-block may be thrown around on its pivot and friction on said rope thus increased or decreased, substantially as set forth.

2. The combination, in a fire-escape, of an oblong casing having ears or a means of attachment on its lower end to one side of the center, a carrying-sling suspended thereto, a rope passing through said casing and around a centrally-pivoted oblong friction-block, said friction-block, and means for moving the same on its pivot, the device being thus automatically locked, except when said friction-block is moved, substantially as set forth.

3. The combination, in a fire-escape, of an oblong casing, an oblong friction-block centrally mounted therein and having projections extending through said casing to the outside, a bifurcated lever centrally pivoted to said casing with its ends engaging with said projections, a sling suspended to said casing, and a rope passing through said casing around said block.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 13th day of May, A. D. 1891.

CHARLES M. FOWLER. [L. S.]

Witnesses:

CHESTER BRADFORD,
FRANK W. WOOD.