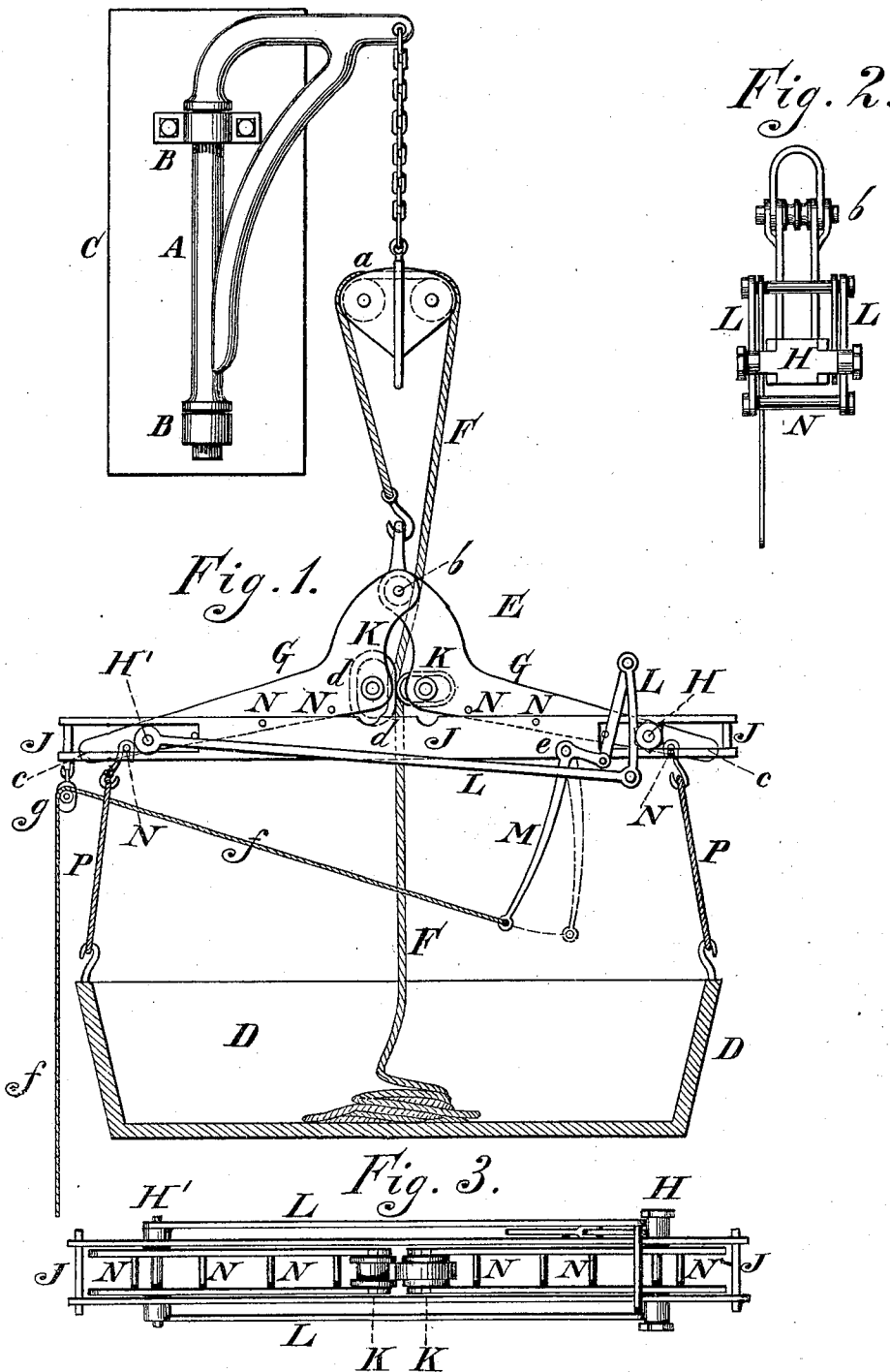


H. P. BELL.
Fire-Escapes.

No. 148,166.

Patented March 3, 1874.



Witnesses:
 Millard F. Walton,
 Robert H. How.

Inventor:
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UNITED STATES PATENT OFFICE.

HENRY P. BELL, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **148,166**, dated March 3, 1874; application filed July 18, 1873.

To all whom it may concern:

Be it known that I, HENRY P. BELL, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Fire-Escapes; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a side elevation, partly in section, of the device embodying my invention. Fig. 2 is an end view of a portion thereof. Fig. 3 is a bottom view thereof.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in a brake, which is constructed to control the lowering rope and regulate the speed of descent of the bag or other receptacle for the persons or goods. It also consists in constructing the two heads which carry the friction-rollers or blocks of the brake with means for adjusting the leverage on the heads, thereby regulating the amount of friction on the lowering rope or chain, and controlling the descent of the receptacle. It also consists in the construction of the friction-rollers.

Referring to the drawings, A represents a bracket or crane, which is mounted on ears B attached to a plate, C, or secured to the house in any well-known manner. This bracket is arranged in juxtaposition to the window or two windows of the house, so that when the escape is required, the bracket is swung round to the window in order to bring the suspended bag, box, or other receptacle, D, for the people or goods close to the window, and thus permit convenient access to said receptacle, after which the receptacle may be swung away from the house or wall. From the bracket is suspended a brake, E, which is connected to a rope or chain, F, passing over a pulley, a, which is hung from the bracket. The brake E consists of two heads, G, which are hinged to each other at their upper ends, as at *b*, and near their lower outer ends *c* are attached by sliding bearings H H' to a frame, J. The heads G may be said to be triangular in form,

of which two angles are at *b c*. The third angle, *d*, is at a point below the top end *b*, and each head carries at that point *d* a friction-roller, K, which rollers are adapted to be brought together or separated. From the heads G G are suspended the receptacle D, as aforesaid. On the sliding bearing H' of one head, G, there is hinged an angular or bent lever or frame, L, which extends longitudinally toward the bearing H, and the upper arm or limb of the angular lever or frame is located or comes between the two bearings H H', said upper arm or limb being curved and jointed by suitable arms to an operating-lever, M, which is hinged to the frame J, as at *e*. The cord or chain F passes between the friction-rollers K, and is thus within reach of the person in the receptacle D. Should such persons be able to lower quickly he may draw on the lever M, and thus depress the lever or frame L, which forces the lower ends of the heads G away from each other, and thereby separates the rollers K K. The cord or chain F is not resisted by the said rollers, and thus, by proper handling of the cords or chains, the person in the receptacle D may lower himself.

If the weight in the receptacle is too heavy to be controlled by the person in the receptacle, the lever M is released, and the frame or lever L thus raised, whereby the weight on the heads, which are hinged at *b*, causes the portions *d* of the heads to advance toward each other, and thereby bring the rollers in contact with the cord or chain F, the friction naturally occurring controlling the play-out of the cord or chain, and regulating the descent of the receptacle D.

The amount of friction between the rollers and cord or chain may be regulated by operating the lever M, which, through the medium of the lever or frame L, will increase or decrease the pressure of the rollers against the cord or chain.

The lever or frame M may be operated from the house, pavement, or street, by a cord, *f*, passing from the lever M through a pulley, *g*, suspended from the frame J, and extending to the desired spot, whereby the receptacle D may be controlled by parties outside of the receptacle.

The amount of friction between the rollers

K and cord or chain F may be regulated by means of a number of bars, N, which extend transversely on the lower sides of the heads G, and from which the receptacle D is suspended, said bars being located between the portions *c d* of the heads.

It is evident that the cords P of the receptacle D may be hung on the bars N farther from or nearer to the points *d* of the heads G, and thus increase or decrease the leverage of the heads, and consequently the amount of pressure of the rollers on the cord or chain.

It is evident that when such amount of pressure is determined, and the various parts of the brake are adjusted relatively thereto, the receptacle D may be automatically lowered, special attention of the operator not being required.

The friction-rollers K are constructed of elliptical form, so that one will bear solidly against the other, and thus take proper hold of the cord or chain. The sides of one roller are flanged, and the sides of the other roller are grooved. The flanges of one roller project into the grooves of the other roller, and thus serve to inclose the cord or chain, and prevent lateral displacement thereof, or fouling with the heads G G.

When the receptacle D is to be raised, the

friction-roller K will not be in contact, the lever or frame L being elevated, and thus the cord or chain is free to be drawn down.

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

1. The heads G, carrying the friction-rollers K, in combination with the receptacle D and cord or chain F, substantially as and for the purpose set forth.

2. The lever or frame L and operating-lever M in combination with the heads G, sliding bearings H H', and the frame J, substantially as and for the purpose set forth.

3. The series of bars N in combination with the heads G, sliding bearings H H', frame J, and suspended receptacle D, substantially as and for the purpose set forth.

4. The combination, with the cord or chain of a fire-escape, of the friction-rollers K K, constructed of elliptical form and with side flanges, and operating in the manner and for the purpose set forth.

The above signed by me this 1st day of May, 1873.

HENRY P. BELL.

Witnesses:

JOHN A. WIEDERSHEIM,
MILLARD F. WALTON.