(No Model.)

# G. C. WATERHOUS.

## FIRE ESCAPE.

No. 407,752. Patented July 23, 1889.

Fig. 1.

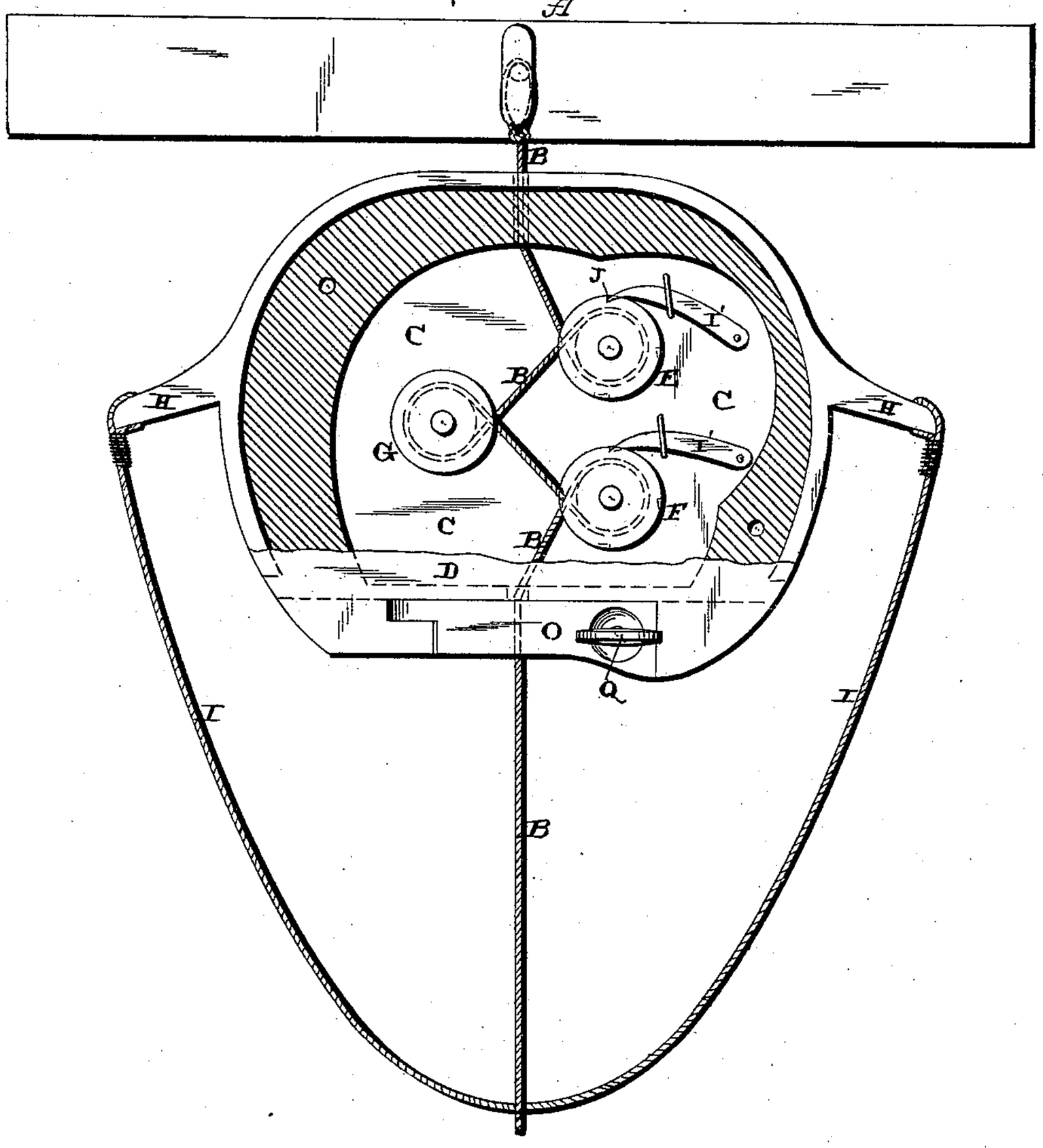
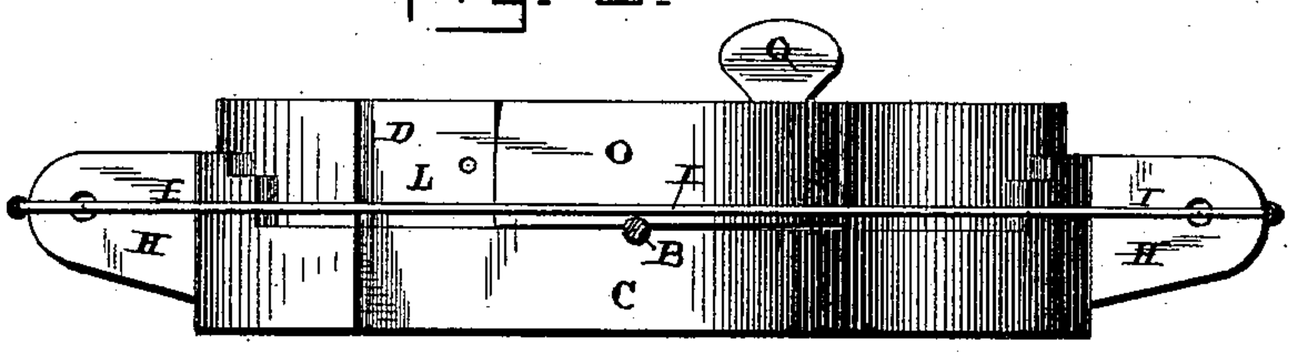



Fig. 2.




Witnesses:
Edm P. Ellis,
L. L. Burket.

Inventor:
Geo. C. Waterhous.
per
F. A. Lehmann,
atty

# UNITED STATES PATENT OFFICE.

GEORGE C. WATERHOUS, OF NEW ALBANY, INDIANA.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 407,752, dated July 23, 1889.

Application filed September 10, 1888. Serial No. 285,024. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE C. WATERHOUS, of New Albany, in the county of Floyd and State of Indiana, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in fire-escapes; and the object of my invention is to provide a fire-escape by means of which persons can easily escape from a burning building and regulate the speed at which they shall descend therefrom.

Figure 1 is a front elevation of a fire-escape which embodies my invention, shown partly in section. Fig. 2 is an edge view of the fire-escape, taken from its lower edge.

A represents the screw-rod, hook, or eye, which is to be screwed into a window-sill or any other suitable support, and to which the upper end of the rope B is to be fastened. The rope B, upon which the descent is to be made, passes through the fire-escape, which consists of the frame C and the removable cover D, between which two parts the friction-rollers E F G are journaled. The shape of the two parts C D may be varied from what is here shown, as this is immaterial. Upon opposite sides of the frame C are formed the perforated projections H, to which the supporting-rope I, which is to be passed around the person's body, is fastened. The person supported by this rope I supports or steadies himself by catching hold of the escape, and thus descends safely upon the rope B to the ground.

The descending rope passes through an opening in the top of the frame C, and is wrapped successively around the three friction-rollers, as shown, and in order to prevent these rollers from revolving while a descent is being made, and thus increase the amount of friction upon the rope, two or three of the rollers have ratchets or notches J formed in one end, and with these notches or ratchets the automatically-acting pawls I′ engage, and thus prevent the rollers from having any movement whatever while a descent is being made. The ratchets or notches are so shaped that the pawls do not prevent the rollers from revolving backward, so that after the escape has moved downward over the descending rope the rope can be drawn freely backward through the escape. In drawing the rope back through the escape all three of the rollers freely revolve, and hence they offer but very little friction or resistance to the passage of the rope.

In order to enable the person to regulate the speed with which he shall descend, a friction-brake O is pivoted to the lower edge of the cover D, and through the free end of the brake is passed a clamping set-screw Q. The rope B passes between this friction-brake and the lower edge of the frame C, and by adjusting the set-screw the amount of friction upon the rope B can be increased or decreased at will. The person making the descent holds the screw in one hand and by turning it either forward or back can increase or decrease the friction on the rope, and thus increase or decrease the speed at which he or she is descending at will.

In order to give the cover D sufficient thickness and strength at its lower end, which it otherwise would not have, to enable the brake to be pivoted therein, the adjacent lower portion of the frame C is cut away, as shown, so as to form a shoulder, and the cover D correspondingly thickened at L to form a shoulder, the two parts thus interlocking. Another and more important purpose and function of the cut-away portion of the frame and enlarged portion L of the cover is to relieve the screws which secure them together of the great and sudden jerks and strain to which the cover of a fire-escape of this construction are subjected in consequence of the cover having journaled therein one end of the bearings of the friction-rollers upon which there is a great upward strain during descent.

A fire-escape constructed as shown is very cheap, simple in construction, and the parts are not liable to get out of order. The parts being small and compact, they can be carried around with one in a trunk or satchel, and thus be ready at any time.

In fire-escapes of this character heretofore

made the rollers have been allowed to revolve free in opposite directions, thus necessitating a brake upon the rope, which alone regulates the descent of the person. By preventing the rollers from revolving when the person is descending, as herein shown and described, nearly the entire friction of descent is upon the rollers. Arranging the rollers into a triangle, as shown, and thus deflecting the course of the rope, the friction upon the rollers is greatly increased. Where the descent is entirely regulated by a brake, a person during the excitement of a fire is liable to forget about the brake or from ignorance of its operation fail to apply it, thus descending rapidly and incurring great injury. By means of my construction the descent is regulated sufficiently by the stationary rollers to prevent injury from a rapid descent.

Having thus described my invention, I claim—

The combination of descending rope B with the main frame C, having the arms H formed integral therewith, and its lower portion cut away so as to form a shoulder, the cover D, having its lower portion provided with the enlarged part L, engaging the shoulder upon the frame, the brake-lever O, pivoted in the part L at right angles to its face, the screw Q, passing through its free end into the frame C, and the friction-rollers around which the rope passes journaled in the frame and cover, substantially as and for the purpose shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE C. WATERHOUS.

Witnesses:
JAMES H. WATERHOUS,
LOUIS WEBER.