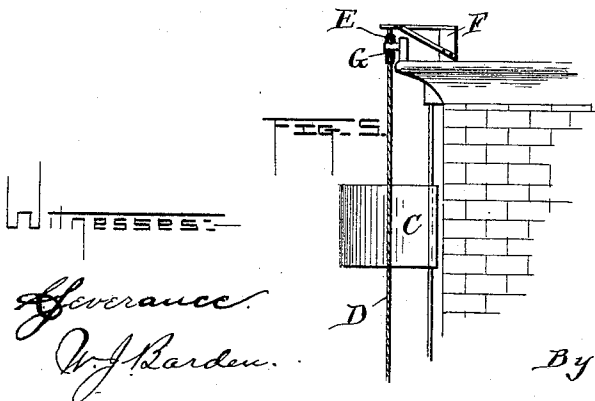
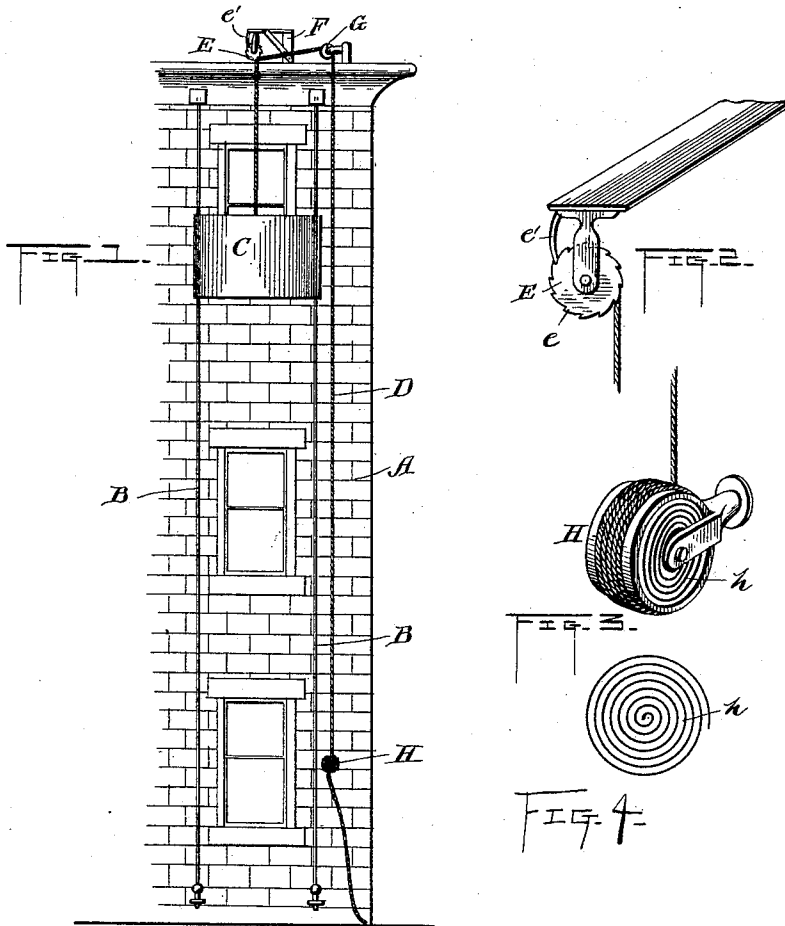


(No Model.)

L. T. NICHOLS.
FIRE ESCAPE.

No. 452,280.

Patented May 12, 1891.



Witness
W. J. Barden.

L. T. Nichols,

By L. Deane
his Attorney.

UNITED STATES PATENT OFFICE.

L. T. NICHOLS, OF CLAREMONT, MINNESOTA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 452,280, dated May 12, 1891.

Application filed May 31, 1890. Serial No. 353,777. (No model.)

To all whom it may concern:

Be it known that I, L. T. NICHOLS, a citizen of the United States, residing at Claremont, in the county of Dodge and State of Minnesota, 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 appertains to make and use the same.

This invention belongs to that class of devices known as "fire-escapes;" and the main points of novelty consist in placing above the roof the bracket which supports the rope, &c., by which the cage is hoisted and lowered, in the application of a ratchet-wheel in connection with said bracket and the hoisting-rope, in means by which the cage can be automatically returned or hoisted when its cargo has been discharged, in the peculiar braking apparatus, and in the construction and combination of all the parts, all as will be hereinafter set forth, as well as pointed out in the claim.

In the accompanying drawings, Figure 1 is a view in front elevation showing the apparatus as applied to a building. Fig. 2 is a detail in perspective of the ratchet, &c. Figs. 3 and 4 are detail views of the hoisting-drum and spring therein which causes the automatic return of the cage. Fig. 5 is a side elevation in detail, showing bracket attached to the roof and the hoisting apparatus connected with it.

In the drawings, A denotes any building, and to the face of it are applied the vertical metal rods B, which extend from top to bottom thereof, and are sufficiently wide apart to form guides for the cage C. This cage may pass between said rods, which can be set out from the building, or they may pass through it, or there may be ears on its sides for the rods to pass through. This cage is hoisted and lowered by means of the wire rope D, which is attached at one end to the cage, and thence passes up over the pulley or roller E, which is suitably journaled in the bracket F, which is secured upon the roof of

the building and projects considerably over the eaves. After passing twice round this pulley or roller, the rope thence is run over a pulley G, attached to the roof or in any suitable position. Thence the rope descends to the ground, passing on its way thereto over the drum H, inside of which is the coiled spring *h*.

On the end of the roller or pulley E is a ratchet *e*, with which the pawl *e'* is adapted to engage, and these operate so that the roller is free to allow the rope to haul up the cage, this operation being automatically accomplished by means of the coiled spring in the drum H, yet when the cage is descending the roller will be held fixed. Thus the friction of the wire rope over this roller will serve to make the descent of the cage regular, safe, and easy. The coiling of the other end of the rope about the drum H aids in the safe accomplishment of the result. I do not mean that this rope shall always be passed just twice about the roller, but enough times to secure the desired friction. It will be noted that by this construction the cage can be drawn up to the level of the roof. This point is of special value. The firemen can easily pass from the cage to the top of the roof and apply the hose-pipe very quickly. It is also a point in this construction that the bracket can be easily, securely, and cheaply applied in position.

My device is very simple and cheap in structure, and most efficient in operation. Its extreme simplicity of structure renders it almost certain that it cannot easily get out of order or repair, and therefore will be always ready for use when the supreme moment of need happens.

What I claim as new is—

The fire-escape comprising the cage and its guiding-rods, the roller or pulley and its ratchet-and-pawl retaining device hung in a bracket on the roof, the additional pulley or roller, said pulleys or rollers, with said ratchet-and-pawl retaining device, being arranged upon the roof of the building, the cage-suspending rope, and the hollow drum, inside of

which is arranged or inclosed a spring adapted to automatically elevate and retain elevated the said cage through said rope, said spring-inclosing drum being arranged near
5 the surface of the ground and said rope being coiled around each of said pulleys and around said drum, substantially as shown and described, and for the purpose set forth.

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

L. T. NICHOLS.

Witnesses:

L. C. LARSEN,
WM. THURMAN.