(No Model.)

L. COLLER.

FIRE ESCAPE.

No. 261,584. Patented July 25, 1882.

Fig. 1

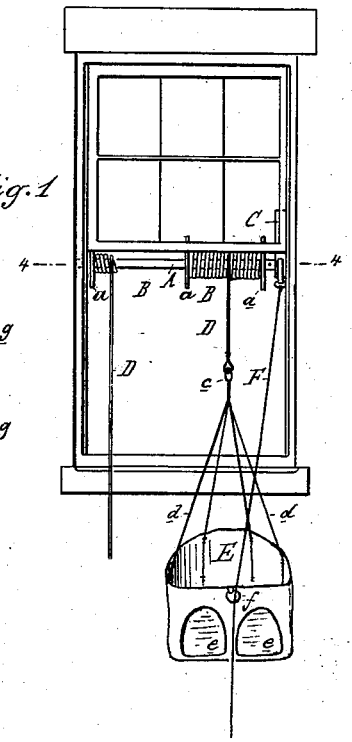


Fig. 2

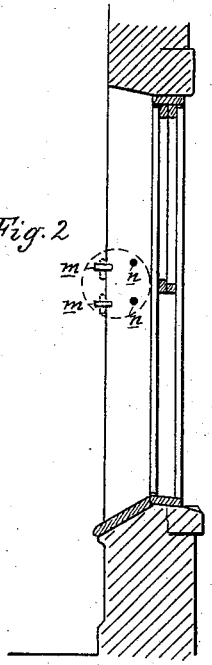


Fig. 3

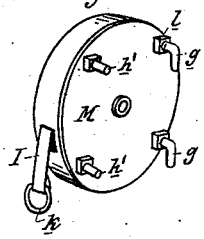


Fig. 4

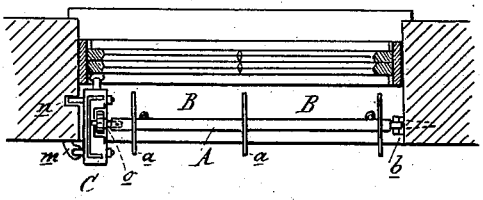


Fig. 5

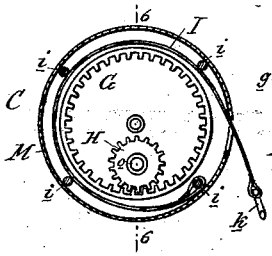
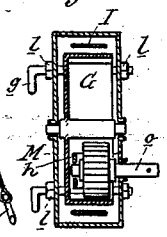


Fig. 6



Witnesses:
Geo. H. Owen
A. Barthel

Inventor.
Lewis Coller

UNITED STATES PATENT OFFICE.

LEWIS COLLER, OF FLINT, MICHIGAN.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 261,584, dated July 25, 1882.

Application filed January 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, LEWIS COLLER, of Flint, in the county Genesee and State of Michigan, have invented new and useful Improvements in Fire-Escapes; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to that class of fire-escapes which allow the descent of a person from a window by means of a rope to which a basket or bag is attached; and the object of my improvement is to construct a device that admits of either being operated by the person trying to escape by its help or by others assisting in the escape, so as to allow of the safe removal of women and children or other persons unable to operate the device themselves.

In the drawings, Figure 1 shows a window to which my fire-escape is attached. Fig. 2 is a vertical central section of the window, showing the manner of securing the brake to the embrasure of the window. Fig. 3 is a detached perspective of the brake inclosed in its case. Fig. 4 is a horizontal section on line 4 4 in Fig. 1. Fig. 5 is an elevation showing the construction of the braking device. Fig. 6 is a vertical central section on line 6 6 in Fig. 5.

In the drawings, A is a shaft, upon which are secured the disks *a a a*, so as to form the two spools B B. One end of the shaft A is journaled in an open bearing, *b*, secured to the wall, while the other end is connected to the shaft *o* of the brake C in such manner as to allow the spools to revolve freely, except when under the action of the brake. The device may be attached either on the inside or on the outside of the window high enough to leave free egress through the lower half of the window.

Attached to each of the spools B B by a rope, D, of sufficient length is a basket or sack, E. I construct this sack preferably of stout canvas of the form shown in the drawings. Its edges are hemmed in or bound with rope, while strong cords *d*, secured to the bag and terminating in an eye or ring, *c*, provide a means for hanging the same to a hook at the end of the rope D. Upon the front side this bag is provided with the two openings *e e*, large enough to allow the legs of a person sitting in the bag to protrude through. Near the upper front edge of the bag is secured a ring, *f*, through which the rope F, which operates the brake, loosely passes.

The brake is constructed as follows:

G is an internally-geared pulley whose shaft has proper bearings in the walls of the inclosing cylindrical case M.

H is a pinion meshing with the internal gear of the pulley G. One end of the shaft *o* of this pinion has its bearing in the bridge *h*, which is secured to the case M. The other end of this shaft passes out through the case M, and to it is detachably secured, in any convenient manner, one end of the shaft A.

I is a stiff leaf-spring partly encircling the face of the pulley G. One end of this spring is secured to one of the bolts *i*. The other end passes out of the case M, and has secured to it the ring *k*, to which the rope F is tied. The recoil of the spring I prevents its coming in contact with the face of the pulley G, except when forcibly coiled by a strong pull upon its free end, when it acts as a brake upon the pulley G. The bolts *i* pass through the case M, and are held in place by the nuts *l* upon opposite sides thereof. Two of these bolts terminate in hooked ends *g*, while the other two terminate in studs *h'*. The hooks *g* are destined when the device is in place to engage with the eyebolts or staples *m*, which are secured into the wall. The studs *h'* enter suitable holes, *n*, cut into the wall for that purpose. This arrangement of the parts allows the brake to be easily removed or swung out of the way so as not to form an obstruction to the window when not in use. It also gives a very strong support for one end of the shaft A.

In practice, the device being constructed and arranged as described, one bag is raised to the height of the window-sill by uncoiling the rope of the other bag from its spool. The person going to entrust himself to the bag takes firm hold of the brake-rope F and enters the bag by putting first his feet and legs through the openings *e*, and then sits down in the bottom of the bag. As soon as the hold upon the rope F is loosened the bag begins to descend, its descending being easily regulated by taking a firmer grip on the rope F. While one bag is descending the other one is ascend-

ing. The rope F has to be of sufficient length so that persons outside upon the ground, by taking hold of it, can also guide the descent of the bag; or a person at the window of exit or at other windows upon the line of descent can perform this service. If performed by persons upon the ground, it gives them the additional facility of guiding the bag by the rope F over overhanging cornices or other obstructions. By guiding the rope F through the ring *f* on the bag the rope can never get out of the reach of the person sitting in the bag.

Instead of two bags, as described, only one bag may be used. The second spool is then provided with a rope coiled in the proper manner in relation to the one on the other spool, and of sufficient length to reach at all times to the ground, so that the one bag may be raised again by its help when desired.

As my device can be easily removed and as quickly replaced when required, it is not of a nature to form a permanent obstruction to a window.

What I claim as my invention is—

1. The shaft A, spools B B, one or more baskets, E, ropes D, and a brake mechanism for such shaft, combined with the brake-casing M, having hooks *g* and studs *h'*, the staples *m* and holes *n*, the bearing *b*, and a brake-operating rope passed through the basket to enable the occupant to control the descent of the basket.

2. The combination of the shaft A, spools B B, rope or ropes D, and one or more baskets, E, with a brake mechanism, the casing M therefor supporting the shaft at one end, and the bearing *b* for the other end of such shaft, the whole forming a fire-escape for ready use in a window, as shown and described.

3. The combination of the shaft A and bearing *b* for one end thereof with a brake mechanism having an arbor, and a casing adapted to receive and support the other end of said shaft within a window-frame, substantially as shown and described.

4. The brake consisting of the internally-toothed gear G, the friction-strap I, encircling the same, the pinion H, and its projecting arbor *o*, combined with an inclosing case, M, provided with means for detachable connection with a window-frame and with the shaft A, supporting a basket, and a brake-rope connected to strap I to regulate the descent of the basket, substantially as shown and described.

5. In a fire-escape, the case M, provided with hooks *g* and studs *h'*, in combination with staples *m* and holes *n*, forming a removable bearing for the shaft A, substantially in the manner described.

6. The combination of the shaft A and its bearings *b*, the spools B B, basket E, and ropes D and F with a brake having the arbor *o*, and a casing, M, provided with hooks *g g* and pins *h' h'*, adapted to engage eyes and holes, respectively, in a window-frame to removably support the shaft and its appurtenances in a window, substantially as shown and described.

LEWIS COLLER.

Witnesses:
R. VAN TIFFLIN,
J. E. MELDRUM.