2 Sheets—Sheet 1.

F. E. GOBLE.

FIRE-ESCAPE.

No. 192,500. Patented June 26, 1877.

FIG. 2.

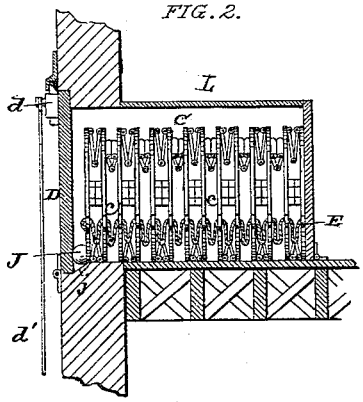

FIG. 1.

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Robert Burns

Chas. Hall.

INVENTOR:

Frances E. Goble

By Knight Bros.

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2 Sheets—Sheet 2.

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FIG. 3.

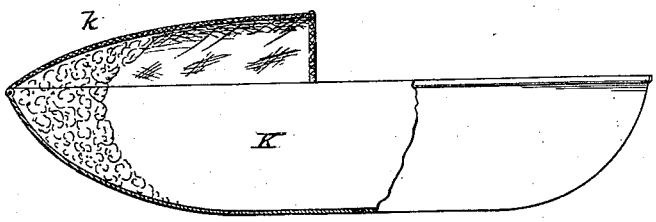


FIG. 4.

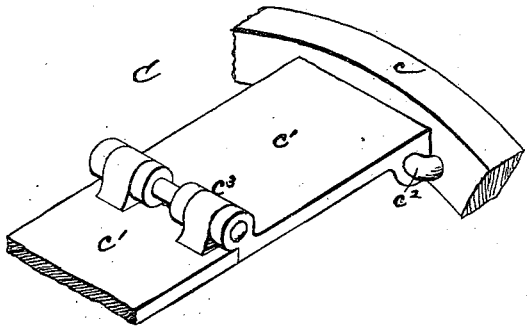
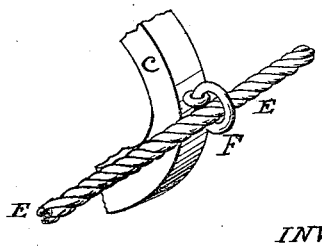


FIG. 5.



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Robert Burns
Chas. Hall

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By Knight Bros
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UNITED STATES PATENT OFFICE.

FRANCES E. GOBLE, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **192,500**, dated June 26, 1877; application filed May 2, 1877.

To all whom it may concern:

Be it known that I, FRANCES E. GOBLE, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My improvement consists of a tube composed of rings connected by jointed links, so that the tube is extensible, and, when extended, the hinged links act as braces, so that the tube is self-supporting. This tube, when contracted, is contained in a receptacle just inside the outer wall of the house, and closed by a hinged door in the said wall. This door is shown as arranged with a spring-catch, to which is attached a cord reaching to the ground, and as the catch is drawn back the door falls and exposes the outer end of the tube. To this end is attached a cord, whose other end is secured to a ball or rounded weight which rests in an inclined groove or on an outwardly-inclined surface, so that it is kept in by the door, so that it rolls out and falls to the ground as soon as the door is opened; then, by pulling on the cord, the outer end of the tube is drawn out, and may be carried to the other side of the street or to any other place, so as to stretch it to its utmost length, its upper end remaining fixed in the doorway.

In making use of the apparatus, persons enter boat-formed sleds, which are placed in the tube, and slide down by the force of gravity and out at the lower end of the tube. The lower end of the tube is curved where it rests upon the street, and checks the descent of the sled.

Figure 1 is a side view of my apparatus arranged for use. Fig. 2 is a similar view of the same packed away, the house being shown in section. Fig. 3 is a longitudinal section of one of the boat-formed sleds. Fig. 4 is a detail perspective, showing part of one of the jointed links and its connection with the ring. Fig. 5 is a detail perspective, showing part of one of the tube-rings, with one of the side ropes with which the tube is partly supported, and with which it is drawn up into a position to be packed away.

A is the outer wall of the house, and A′ one of the floors. B is the surface of the street. C is the tube forming the track of the sleds from the window or doorway D to the street. The tube C is formed of rings *c*, connected together by links c^1, jointed to the rings at c^2, and hinged at c^3. The joints are of the "rule-joint" form, so that they can only bend inward when folding up, and when the tube is being extended the link-joints cannot open past a line straight with the rings *c*, so that the links act as braces to make the tube self-supporting when extended.

Attached to the outer end of the tube C, or near the outer end, are cords or ropes E, which pass through eye-rings F, and whose upper ends are made fast either to a windlass or fixed objects inside the house. The purpose of the ropes E is, primarily, to act as ties to strengthen the tube and to insure safety, in case any part of the tube might be broken. They are also used to draw up the tube again, if required.

Straps, with buckles, are shown at G, for the connection of the outer and lower end of the tube with the street-pavement. These straps pass through eyes *h* in stakes H, which are driven down into the pavement.

I is a supporting-frame, whose legs are hinged to the wall, and whose upper end or saddle is made to engage beneath the tube to furnish a means of support.

D′ is a door or shutter closing the doorway D. The door is provided with a spring-catch, *d*, which holds the door shut. To the catch *d* is attached a cord, *d′*, which extends down so as to be in reach of a person standing on the street, and when the cord *d′* is drawn it disengages the catch and the door falls open into the position it occupies in Fig. 1.

J is a ball or rounded weight lying on an outwardly-inclined track, *j*, when the door is closed, and retained by the door, so that when the door is opened the ball rolls out and draws with it the outer end of a cord, J′, whose inner end is attached to the outer end of the tube C. The purpose of the ball and cord J J′ is to give a means for drawing down the outer end of the tube C to the street. K is a sled shaped like a boat, and of sufficient capacity

to hold one person or more. The sled is made so as to slide down the interior of the tube C. Its front end is covered at *k*, so as to prevent the person from being thrown out of it, and it preferably has padding *k'*, to avoid injury from jars.

The tube, when folded up, may be inclosed in a receptacle, L, as seen in Fig. 2; but said receptacle is not necessary, as any kind of covering, or no covering at all, may be used.

The operation of my apparatus is as follows:

On the building taking fire the cord *d'* is drawn down, which disengages the catch *d* and opens the door D'. The ball or weight J then rolls out, drawing down with it the outer end of cord J', and with this cord the tube C is drawn out and its lower end made fast by the stakes H and straps G.

The sleds K are one at a time placed with their front ends in the tube, and one person or more occupies the sled in a lying position. The sled is then pushed forward into the tube and runs down to the street, where it may be checked by a mattress or other suitable object, or may be allowed to run out upon the street and be brought to rest by friction against the surface.

Any suitable device, such as a windlass, M, may be used to draw up the sleds for use over again.

I claim as my invention—

1. The tube C, formed of rings *c* and jointed links c^1, and secured at the upper end to the house, substantially as and for the purpose set forth.

2. The fire-escape apparatus, composed of the extensible tube C and sled K, substantially as and for the purpose set forth.

3. The combination, with the tube C and drop-door D', of the weight J and cord J', substantially as set forth.

4. The combination of folding tube C, ball and cord J J', drop-door D', with catch *d* and cord *d'*, substantially as set forth.

FRANCES E. GOBLE.

Witnesses:
SAML. KNIGHT,
GEO. D. KNIGHT.