(No Model.) 4 Sheets—Sheet 1.

J. PRIDE.

FIRE ESCAPE.

No. 482,274. Patented Sept. 6, 1892.

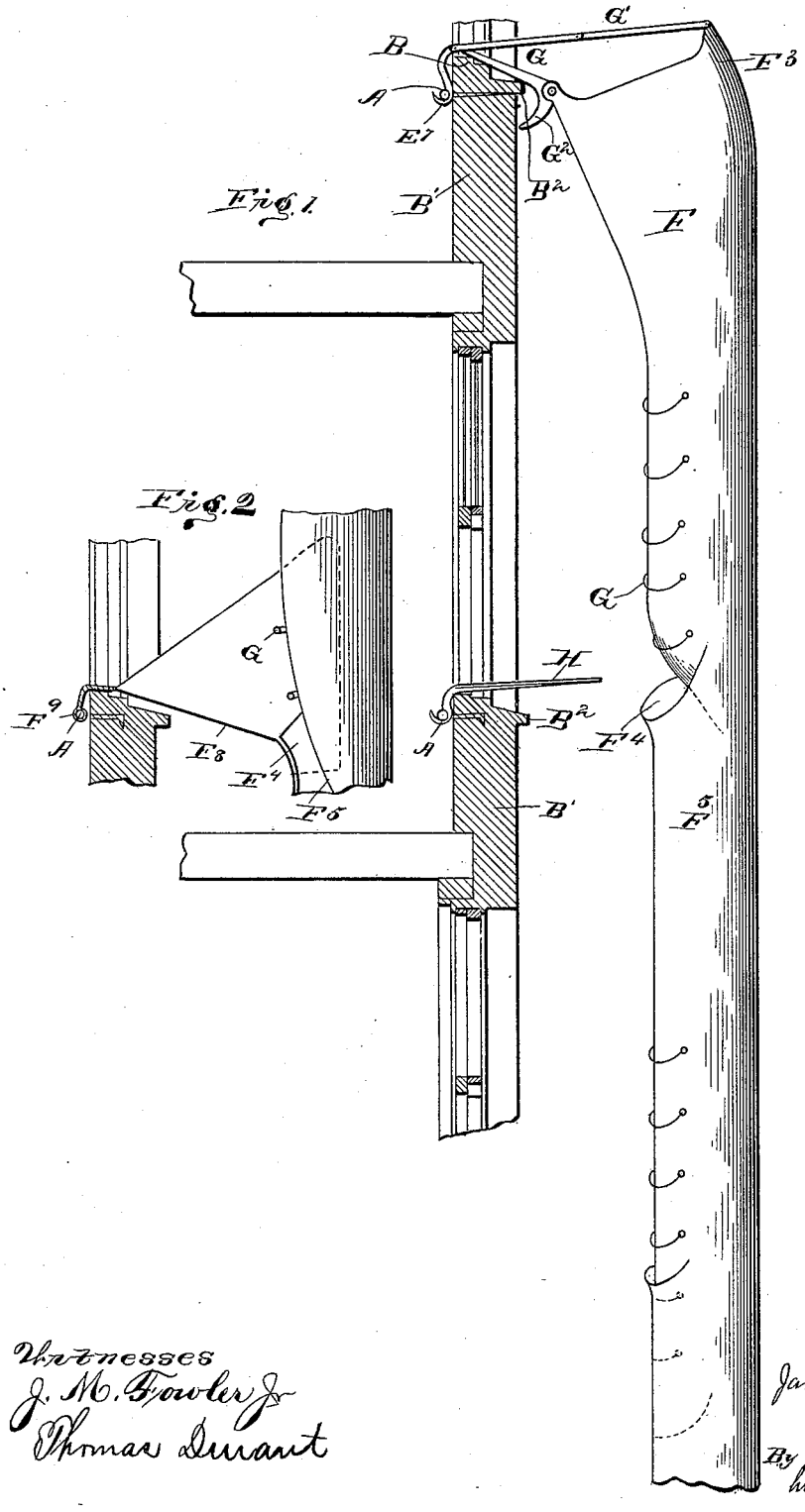

Fig. 2.

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Fig. 3.

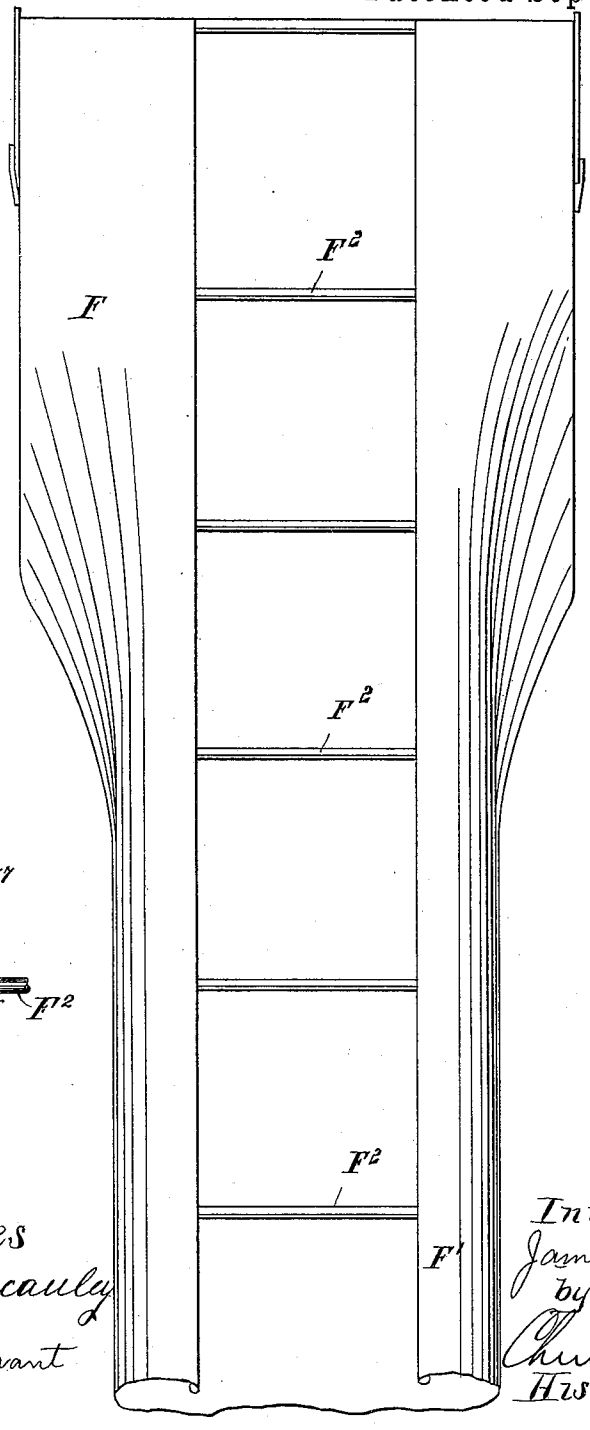
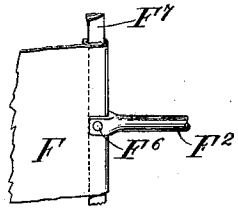


Fig 4.



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(No Model.) 4 Sheets—Sheet 3.

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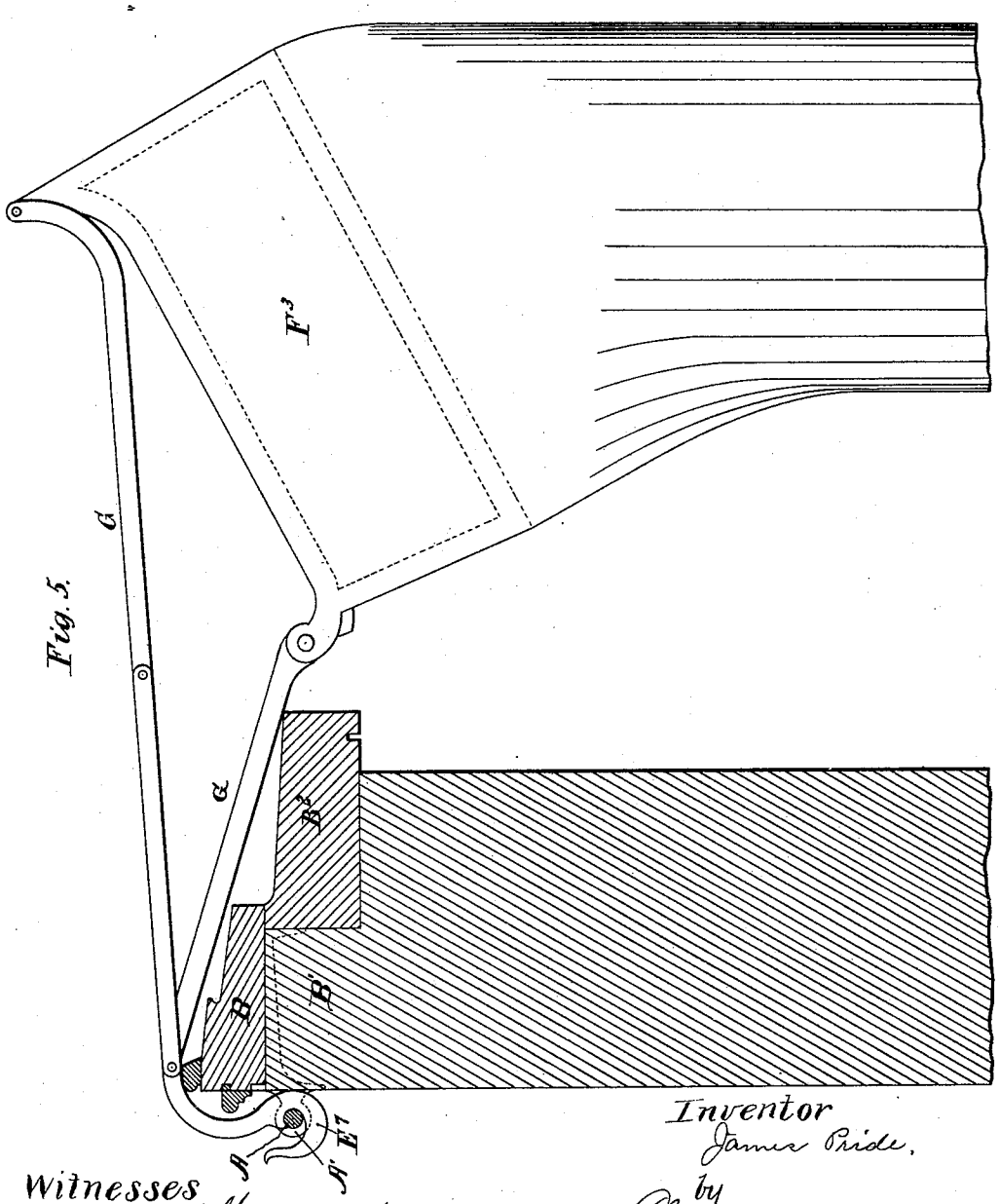

Fig. 5.

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(No Model.) 4 Sheets—Sheet 4.

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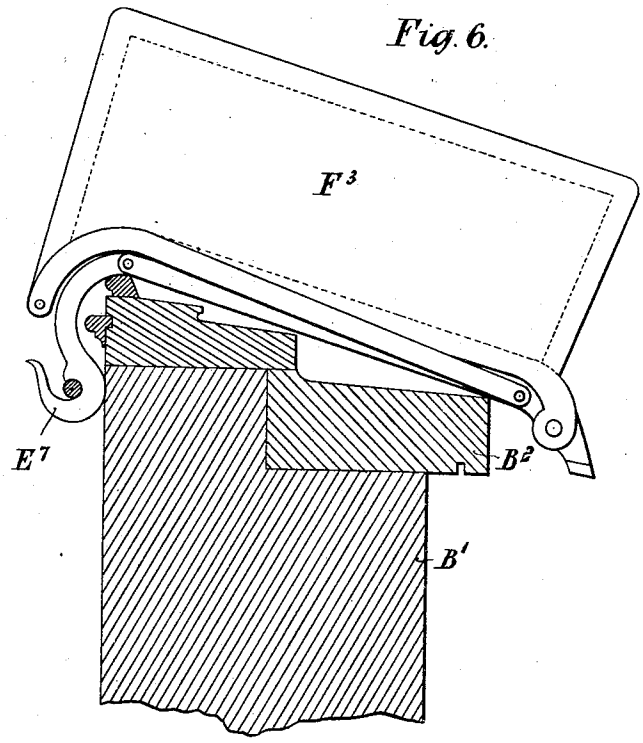
Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES PRIDE, OF LONDON, ENGLAND.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 482,274, dated September 6, 1892.

Application filed April 16, 1891. Serial No. 389,198. (No model.)

To all whom it may concern:

Be it known that I, JAMES PRIDE, a subject of the Queen of England, residing at London, England, have invented certain new and useful improvements in apparatus to facilitate escape from windows or other wall-openings in case of fire, and for raising and lowering materials and the like, of which the following is a specification.

This invention relates to appliances for facilitating escape from windows or other wall-openings in case of fire and for other similar purposes.

The invention will be best understood by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a canvas-chute fire-escape, showing also a section of the wall of a building and means of attachment to the chute. Fig. 2 is a vertical section showing a modification of Fig. 1. Fig. 3 is an enlarged front elevation of the upper portion of the fire-escape. Fig. 4 is a detail view showing the manner of attaching the rungs to the chute; and Figs. 5 and 6 are side elevations of the upper part of a slightly-modified form of fire-escape, showing the mode of attachment to the wall, Fig. 5 showing the escape as when ready for use and Fig. 6 showing it when closed up and resting in the window-opening.

Like letters represent like parts in the drawings.

A is a purchase-rod, which may be constructed of iron, steel, or other suitable material and either solid or tubular. This rod may either be permanently fixed in position inside the window-frame B, as shown in Fig. 1, by two or more rigid brackets A′, secured to B, or to the wall B′, to which it may also be built or cemented, or it may be rendered removable by suitable appliances. To the purchase-rod A is pivotally connected either by eyes or hooks E^7 a framework to be now described, upon which is suspended the chute or ladder.

In Figs. 1, 3, and 5, F represents the chute, which is supported at its upper end by any suitable device or framing, preferably such as will hold the top expanded and will also carry the chute clear of the side of the building and any projections which may happen to extend therefrom.

It will be noted that the hooks E^7, by which the frame G is attached to the purchase-bar, are preferably of such shape that the framing cannot become detached from the bar while in operative position. When, however, it is desired to detach the framing from the bar, it must be turned back and down, the hooks turning on the bar, said hooks being brought to such a position on the bar that the frame may be lifted off.

In Figs. 3, 5, and 6 I have shown a framing G, which would answer the purpose, the projecting portion G′ serving to cause the chute to hang clear of the building. The general shape of the chute F is curved like a tube, but with a flat front F′, which, in fact, may be entirely open, and carries a rope or other ladder F^2, the rungs of which may be made with advantage of metal tubes, the ends being curled round so as to embrace the side ropes, to which they are thus secured, the said ropes forming part of or being secured to the chute F, and the whole being made flexible and adapted to be folded up and placed in a box or casing F^3, forming part of the supporting-framework, as shown in dotted lines in Figs. 5 and 6; or, instead of this last-described arrangement, the rungs F^2 may be secured to the chute F in the manner shown in Fig. 4. In this construction each of the rungs is forked at its ends and is riveted at F^6 to the edges of the chute F, each of these edges having been previously folded over a strong, preferably woven, core F^7 and stitched so as to form a stout and substantial hem.

The back portion of the chute F presents some special features, which will now be described. At suitable intervals in its length, preferably arranged so as to coincide with the windows of the building to which it is applied, openings F^4 are provided by which persons escaping by the lower windows can enter the chute F. A flap or fold F^5, which may be an extension of the back portion of the chute above the opening F^4, extends down inside the chute, so that a person sliding or climbing down inside the chute would not be liable to fall out through the opening F^4, which would be closed by the flap F^5. In Fig. 1 two of these openings F^4 and flaps F^5 are shown, the upper one being dotted in the forward position that it would occupy when a person was entering the chute by that opening F^4, and the

lower opening showing the flap F^5, hanging straight down below the opening F^4, leaving the interior of the chute open, so as not to impede the descent of the person or persons inside. Loops or ladder-rungs G are provided upon the back of the chute for the accommodation of persons desiring to enter the chute by the openings F^4, and these loops would be carried down on the back of the flaps F^5 inside the chute, so as to enable the person entering by the opening F^4 to let himself down by these loops until he reached the ladder F^2 at the front of F′ and so be able, if necessary, to continue climbing down. If necessary, these loops G may be carried down the whole of the back portion outside the chute F, and could thus be used as a ladder to enable a person to descend to the ground outside the tube. Generally speaking, however, the plan of entering by the opening F^4 and so getting to the front ladder F^2 would be decidedly preferable; or, if desired, the loops or rungs G may be carried round to the front ladder F^2, so as to enable a person to pass around the outside of the chute from the back and descend by ladder F^2.

A platform H is shown at one of the intermediate windows in Fig. 3 by which the escape of the person by that window may be facilitated. This platform H may form part of a window-cleaning apparatus, and may be adapted to fold back inside the wall of the building when not otherwise in use or to be removed altogether. Nevertheless, a person desiring to escape from the intermediate window could easily do so without the assistance of the platform H.

At the lower part of Fig. 3 is shown a chair E in its closed position resting on the window-sill, so as to enable it to be used as a platform to facilitate entrance to the chute F through opening F^4.

In Fig. 2 I have shown means for connecting each of the chute-entrances F^4 with the window or other opening to which it appertains. This consists of an apron F^8, which may be stitched or otherwise secured to the chute, so as to form, as it were, an extension of the lower edge of the opening F^4 and extend, also, a suitable distance up the sides of the chute. At its free edge the apron is provided with loops F^9 or hooks, eyes, or other means by which it may be readily connected to the purchase-bar A. This last-described arrangement by completely closing in the space between the window and the chute will prevent any feeling of giddiness to those escaping from the building.

If desired, the ladder or open or front portion of the chute may be closed in by one or more flaps or pieces of canvas or the like, and such closing piece could, if desired, be carried a greater portion or the whole length of the chute, so as to close it all in; but as a rule it is preferable to have it open as much as possible. When closed in from top to bottom, as just described, the chute is practically continuous, and, in fact, a perfectly tubular chute may be employed without rounds or ropes, down which persons or goods may be allowed to travel. It is intended to fold the chute when not wanted for use into the box or frame F^3. One or more ropes may be provided inside or outside the chute F, preferably passing over pulleys at the top to facilitate the descent of unconscious or injured persons or children.

An advantage in this escape is that it may be used as an escape not only from windows, but also from balconies, the top of bay or bow windows, parapets, and well-holes of stairs, or, indeed, from almost any portion of buildings outside or inside. The ladder F^2 need not extend quite to the bottom of the chute, the last few rungs being preferably omitted, so as to allow of exit from the chute.

If desired, the chute, instead of being provided with openings F^4, may be slit up the back to a greater or less extent and the divided parts of the back may be normally held together by hooks, buttons, lacing, or other suitable means.

In Figs. 5 and 6 the weight of the chute is principally taken by the window-sill. In Fig. 1 there is shown a foot G^2, (of which there may be two or more,) which serves to bear against the outer face of wall B′, so as distribute the points of support.

I claim—

1. For the attachment to a window or other wall-opening of a fire-escape, the combination, with the ladder, of a frame G G′, having feet G^2, substantially as and for the purpose described.

2. In a fire-escape, the combination, with the folding frame pivotally supported, as described, of the casing or framework carried by said folding frame, to which the chute is directly attached and serving to hold the mouth of the chute open and to contain the chute when not in use, substantially as shown and described.

3. The combination, with a fire-escape chute or tube having intermediate openings by which entrance to the chute may be secured, of loops or rungs upon the outside of the chute and also upon the flap, substantially as and for the purpose described, and illustrated in Fig. 3 of the accompanying drawings.

4. In a fire-escape, the combination, with the chute or tube having one or more intermediate openings by which entrance to the chute may be had, of an apron secured to the chute at each of these entrances and extending a suitable distance up the sides of the chute, having hooks or other means of attachment for securing it in place, substantially as described.

5. In a fire-escape, the combination, with a tube or chute, of fork-ended rungs secured to its vertical edges, substantially as described, and illustrated in the accompanying drawings.

6. In a fire-escape, the combination, with a tube or chute having its edges folded over

cores, of fork-ended rungs secured to it by rivets passing through the forked ends of folded edges and cores, substantially as described, and illustrated in the accompanying drawings.

7. For attachment to a window or door or other wall-opening, the combination, with a purchase-bar, of a platform which may be connected to it by hooks which admit of its removal from the bar only when the platform is in an inoperative position.

8. In a fire-escape, the combination, with the folding frame having the pivoted hooks at the rear side, of the purchase-bar, to which the folding frame is pivotally connected by said hooks, substantially as and for the purpose set forth.

In testimony whereof I have hereto set my hand in the presence of the two subscribing witnesses.

JAMES PRIDE.

Witnesses;
ALFRED J. BOULT,
HARRY B. BRIDGE.