

Smith & Burrows.
**NATIONAL
 FIRE ESCAPE.**

117007

FIG. 1

PATENTED JUL 11 1871

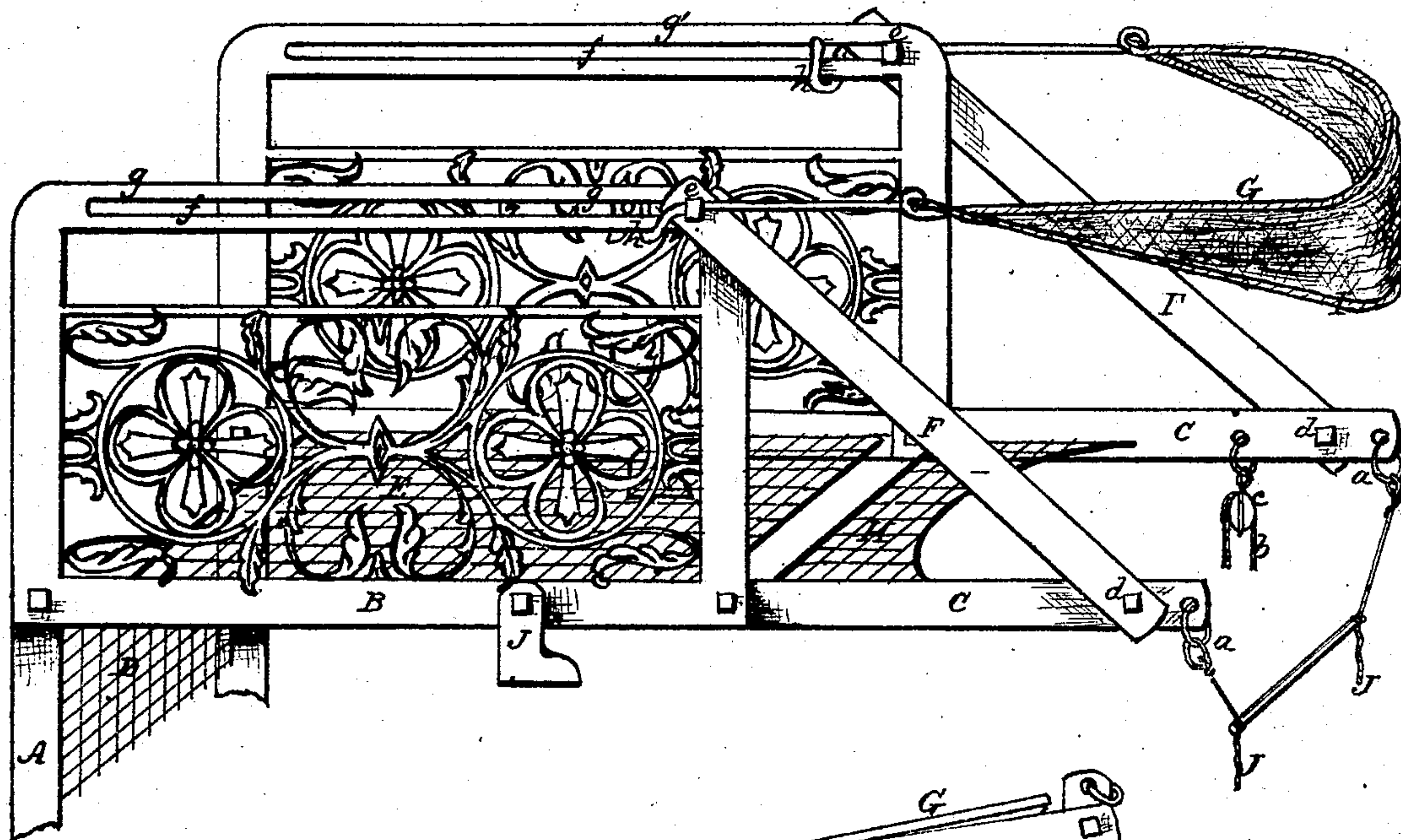
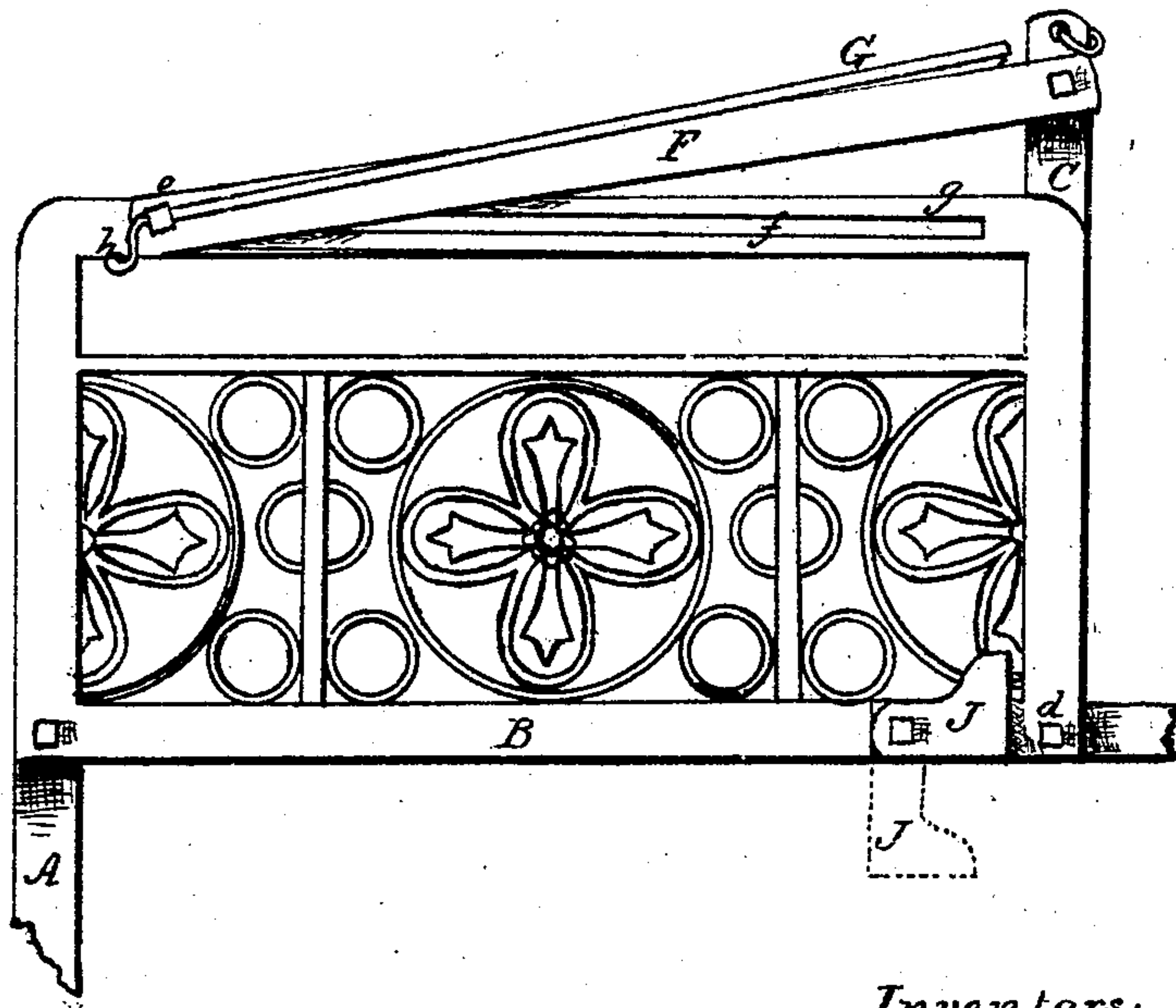


FIG. 2



Witnesses:
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Inventors:
George C. Smith and
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UNITED STATES PATENT OFFICE.

GEORGE C. SMITH AND FRANK M. BURROWS, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. 117,007, dated July 11, 1871.

To all whom it may concern:

Be it known that we, GEORGE C. SMITH and FRANK M. BURROWS, of the city and county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification:

Our invention relates to devices for effecting a safe and convenient escape from the upper windows of buildings on fire.

In a patent bearing date the 4th day of April, 1871, we have represented and described such a device, consisting, among other things, of a frame composed of separate sections hinged to each other so as to be folded and unfolded, and when unfolded to suspend and support the escaping devices by a section of the frame projecting beyond the window and sustained in its horizontal position by bracing-chains. In such devices, however, it is of the last importance, in quickly placing them in position for use, that there should be no danger of the parts becoming entangled in unfolding the frame and throwing the escaping devices out of the window. Such an objection existed, to a greater or lesser degree, by the flexible bracing-chains described in our patent aforesaid; and it is one of the objects of our improvements under this patent to avoid the use of any devices which would be liable to entangle or catch with other parts in throwing the frame over upon and the ladder out of the window; and the said improvements consist in uniting the projecting and suspending section of the frame to the section supported upon the window-sill by inflexible braces, which, however, are capable of a certain sliding movement to allow the projecting section to be folded and unfolded with the other sections, so that, while serving to brace and sustain the section from which the escaping devices are suspended, the braces may be folded and unfolded with said section by a sliding movement of their ends, and, being inflexible bars, no entanglement can occur in using the escape. Our improvements also consist in combining with said inflexible braces a semicircular guard, connected to the sliding ends of said braces so as to maintain a horizontal position, extend over and above said horizontal section, and fold and slide with the bracing-bars horizontally upon the section supported upon the window-sill, so that when extended the said guard shall form a protector to the person in reaching the escaping devices.

In the drawing we have shown only so much of a fire-escaping device as represents our present improvements, and in which A, B, and C are three sections of a hinged folding and unfolding frame, the section A being secured by suitable hinges to the inner side of the wall directly beneath the window-sill and provided with a wire filling, which, when said frame is folded, forms a cover, D, thereto and incloses the escaping devices. When the frame is unfolded this section stands upright against the window-sill, and the intermediate section B occupies a horizontal position upon the window-sill, and is provided with a wire filling, which in this position of the frame forms a platform, E, to afford safe and convenient means of exit from the window, and when the frame is folded occupies a vertical position at the outer side of the inclosing compartment, and forms a cover thereto, so that the exposed sides of the frame are in this way covered, and thus conceal the ladder, which, when not in use, is folded up and packed within the chamber formed by the folded sectional frame. The frame C, when unfolded, projects beyond the front of the building, so as to suspend the ladder and traveling-bag out from the building, in order to increase the security of the descent by avoiding fire from the windows below. To this frame the escaping-ladder and traveling-bag are suspended, the former to rings *a* and the latter, by a rope, *b*, to a swiveling-pulley, *c*. Their weight, therefore, and that of the persons descending, is sustained by this frame C, by means of two strong rigid diagonal braces, F, secured by strong pivot-bolts *d* to the ends of said frame C, and the opposite ends are connected to the frame B by strong pins *e*, which hold the braces and the suspending-frame C firmly to the frame B when unfolded, and which slide in grooves *f* in bars *g* of the frame to be folded up with said grooved frame B, which for this purpose is made of two side frames, with one bar of each resting on the sill, and the other *g* having the grooves *f* for the movement of the pins *e* of the rigid braces. The suspending-frame C is also provided with a wire platform, H, so as to form a continuation of the wire platform E to the ladder. This frame is also provided with a horizontal semicircular guard, G, arranged above the platform H and extending just above the ladder. It is a curved wire frame, having a jointed branch, I, like a gig-top,

to form a protection to the person in reaching the ladder. It is secured to the pins *e* of the sliding braces *F* by being wound around them so as to be free to turn thereon, and its ends are bent so as to form stops *h*, which bear against the under sides of the slotted bars *g* and hold the said guard *G* in a horizontal position, as shown in Fig. 1, and also serve as guides to hold it in such position while folding and unfolding the bracing-arms *F* and their frame, as shown in the drawing. The position of this guard *G* is, therefore, not changed, but folds with the arms *F* and occupies a position with them over and upon the frame *B*, as shown in Fig. 2, and when folded over into the box lies close to the wall beneath the window. The feet *J*, which support the frame *B* upon the window-sill, are pivoted so as to be folded with said frame, as shown in Fig. 2, so as to prevent it from projecting out when the frame is closed up within the room. The rope *J* of the ladder should reach to the pavement, with about five feet of surplus length, and fastened to rings secured in the curb-stone for that purpose.

Having described our invention, we claim—

1. The rigid braces *F*, in combination with the suspending-frame *C* and the grooved holding-bars *g* of the frame *B*, for the purpose of obtaining inflexible braces having the capacity to fold and unfold by a sliding movement with the frame, and thereby prevent all entanglement of the parts, as described.

2. The curved guard *G* of the frame *C*, hinged so as to slide and fold and unfold with the braces *F* of said frame, as and for the purpose described.

3. In a fire-escape having a hinged sectional folding and unfolding frame, *A B C*, which support the escaping devices, the combination therewith of the folding and unfolding rigid braces *F*, the folding and unfolding curved guards *G*, stops *h*, grooved bars *g*, and the folding and unfolding feet *J*, the several parts being constructed and arranged as described.

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