J. DAVIE.

FIRE-ESCAPE.

No. 183,146. Patented Oct. 10, 1876.

Fig. 1.

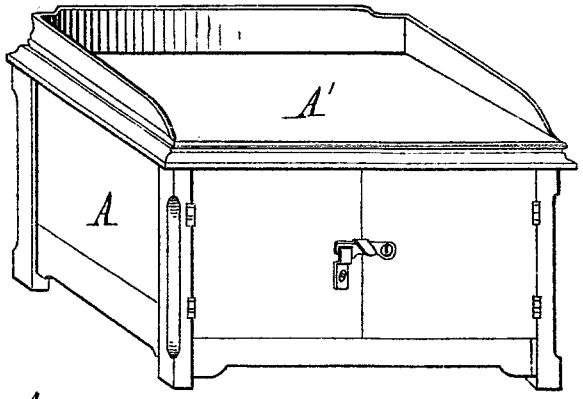


Fig. 2.

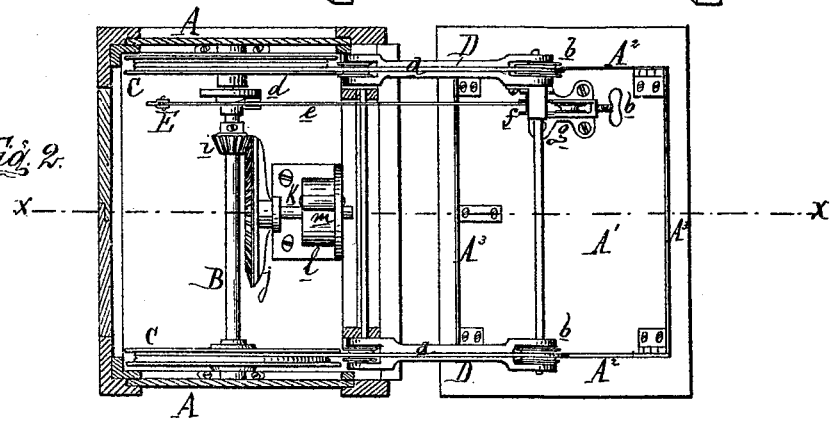
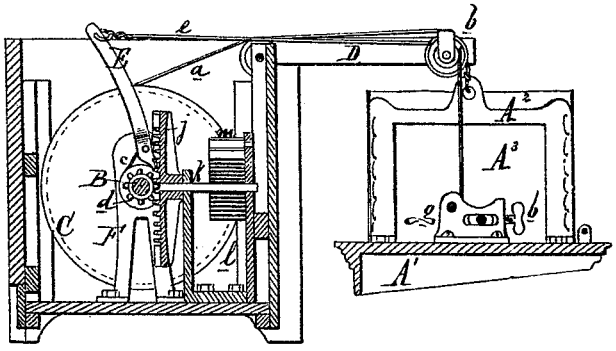


Fig. 3.



Attest:
Edward Barthel.
Charles J. Hunt

Inventor:
J. Davie
By Atty
Thos. S. Sprague

UNITED STATES PATENT OFFICE.

JOHN DAVIE, OF JOLIET, ILLINOIS.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **183,146**, dated October 10, 1876; application filed August 31, 1876.

To all whom it may concern:

Be it known that I, JOHN DAVIE, of Joliet, in the county of Will and State of Illinois, have invented an Improvement in Fire-Escapes, of which the following is a specification:

The object I have in view is to provide a fire-escape, either stationary or portable in form, which will enable the occupants of the cage to lower themselves to the ground at a rate of speed that may be regulated by them, or by persons in the building above, and when the cage has arrived at the ground and is unloaded, it will be automatically returned to the starting-place; the invention consisting, mainly in the construction and combination of the various parts, as more fully hereinafter set forth.

Figure 1 is a perspective view of my cabinet inclosing the devices. Fig. 2 is a plan of the same opened out, with the cage ready for the occupants. Fig. 3 is a cross-section of the same at *x x*.

In the drawing, A represents a cabinet, having doors in front, and a removable top, A^1, which is, when turned over, the bottom of the cage. B is a shaft, journaled in the ends of the cabinet, with a grooved pulley, C, near each end, to which is secured a hemp or wire cord, *a*. D D are two davits, each pivoted to the rear wall of the cabinet at the top, and adapted to fold over into it, or to be extended outwardly through a doorway or window in the upper part of a building, projecting far enough to clear cornices and other projections below.

The cords *a a* pass over guide-sheaves *b b* in the ends of the davits, and attach to bails A^2 A^2, hinged to the platform A^1, and are thus capable of being folded flat against its under surface when serving as a top for the cabinet. A canvas, A^3, made fire-proof or non-combustible by saturating it in a proper solution, is attached to the folding bails A^2, by which the platform is suspended, to prevent persons or objects from falling off, as well as to prevent the occupants from being scorched in passing through flames below. *c* is a steel strap-brake, around a flanged collar, *d*, on the main shaft, its ends being secured to a lever, E, respectively at and below the point where said lever is pivoted to a standard, F, straddling said shaft, so that the brake will be tightened by moving said lever in either direction. A cord, *e*, is attached to this lever, and passes over a guide-pulley, *f*, at the end of one davit, and down through a block, *g*, attached to the platform, between two pulleys in line, and a movable jam-pulley between them, which latter can be moved up by a screw, *h*, to jam the rope and serve as a tension to the main brake above as the brake-rope is paid out.

On the shaft B is a bevel-pinion, *i*, giving motion through a bevel-gear, *j*, to a shaft, *k*, transversely journaled in a frame, *l*, in the cabinet at a right angle with the axis of said shaft B. To the shaft *k* is secured the inner end of a ribbon-spring, *m*, coiled thereon, and whose outer end is secured to a stud on the frame *l*, so that as the cage is lowered this spring will be unwound from its shaft *k*. The tension of the spring is sufficient to raise the platform, when empty, to the davits by its recoil, which reverses the motion of the shaft B.

The brake can be operated by persons in the descending cage to regulate its speed, or by a person above, the cage automatically returning after each descent until the last person has effected his escape.

When not in use, the bails and canvas can be folded up against the platform, the davits be turned over into the cabinet, and the platform be turned over onto the cabinet to form a cover for it.

The cabinet can have various forms, either stationary or portable, or it can be arranged under the floor of a hotel or other public building, in proximity to a window or other elevated opening, for the purpose specified.

What I claim as my invention is—

1. In a fire-escape, substantially as described, the combination, with the pulley-shaft, cords, and cage, of the coiled spring and gearing, adapted to reverse the motion of said shaft and elevate the empty cage, substantially as set forth.

2. In a fire-escape, substantially as described, the combination, with the cabinet A, of the removable top A^1, folding davits D, hinged bails A^2, protecting-canvas A^3, pulley-shaft B, brake-lever E, and cords *a e*, constructed and arranged substantially as described and shown.

JOHN DAVIE.

Witnesses:
AUGUST HOEFENER,
CONRAD SCHWEIGER.