F. P. BERNEY.

Fire-Escape.

No. 164,131. Patented June 8, 1875.

Fig. 1.

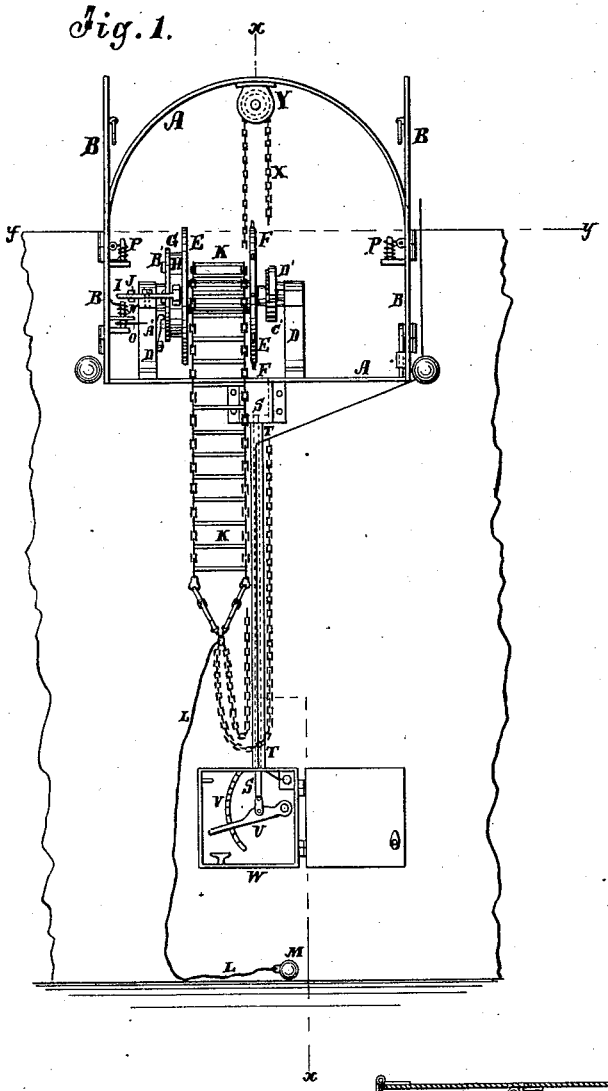


Fig. 2.

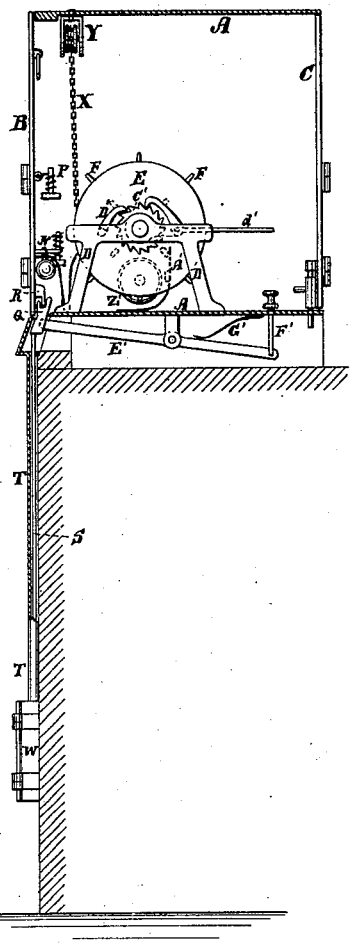
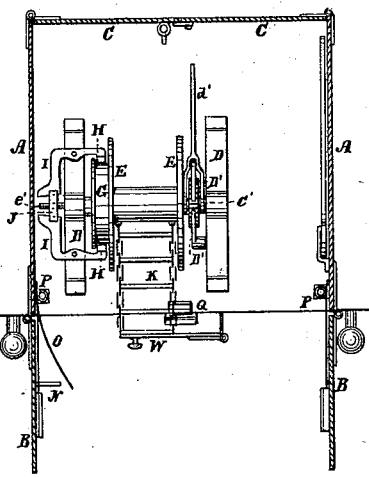


Fig. 3.



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UNITED STATES PATENT OFFICE.

FRANKLIN P. BERNEY, OF SAN QUENTIN, CALIFORNIA, ASSIGNOR TO LEE B. MATTHEWS, OF SAME PLACE.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **164,131**, dated June 8, 1875; application filed March 6, 1875.

To all whom it may concern:

Be it known that I, FRANKLIN PERRY BERNEY, of San Quentin, in the county of Marin and State of California, have invented a new and useful Improvement in Combined Fire-Ladder, Fire-Escape, and Hose-Elevator, of which the following is a specification:

Figure 1 is a front view of my improved apparatus, the doors being open and the ladder and hose-elevator partly lowered. Fig. 2 is a vertical section of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a top view of the same, the box being shown in horizontal section through the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved apparatus for giving convenient and speedy access to the roof or the upper part of the building in case of fire or other danger, furnishing a ready means of escape from the said roof or upper part of the building and enabling hose and other necessary articles to be quickly raised to and lowered from the roof or upper part of said building, and which shall be simple in construction and reliable in use.

The invention will first be fully described, and then pointed out in the claims.

A represents a box made of iron or other suitable material, and which may be made fire-proof or not, as may be desired. The box A may be built upon the roof or in the upper part of the building, and should be so placed that its front doors B may open at the wall of the said building. The box A is also provided with doors C at its inner side. To the floor of the box A, or to other suitable supports, are attached brackets D, in bearings attached to which revolves the shaft of the reel E. To the edge of one or both the end plates of the reel E are attached handles F, to adapt it to serve as a windlass for winding the ladder upon the said reel, or a separate hand-wheel or crank may be attached to the reel-shaft for this purpose. To one of the end plates of the reel E is attached, or upon it is formed a smooth-faced wheel or flange, G, for the brake blocks or shoes H to bear against. The brake-shoes H are attached to the ends of the bent bars I, which are pivoted at their angles to the bracket D. The outer arms of the bent bars I are beveled off and rest in notches in the ends of the cross-head nut J, the screw-thread of which fits into the screw *e'*, formed upon the projecting end of the shaft of the reel E so that the brake may be applied and withdrawn by turning the said reel. To the reel E is attached one end of a ladder, K, made of chains, wire ropes, or other suitable material. The ladder K is made of such a length that its lower end may reach to the ground, where it may be secured to hooks attached to the pavement. To the free end of the ladder K is attached, by means of straps, rings, or other means, the end of a cord or chain, L, of such a length as to reach to the ground from the box A. The other end of the cord or chain L is secured to a ring attached to a rubber ball, M. The ring of the rubber ball M, when the front doors B are closed, is slipped upon a pin, N, attached to one of said doors. O is a spring-arm attached to the side of box A, and which presses against the said door, just below the pin N, when the doors are closed, but which cannot swing out as far as said door swings. By this arrangement, when the doors B are swung open, the arm O pushes the ball M from the pin N, when the doors have been swung partly open, so that the ball M may fall into the street and carry down with it the end of the cord or chain L, by which the ladder K may be drawn from the reel E. The doors B are swung open when unfastened by springs P, connected with the sides of the box A, and which press against the said doors. The doors B are fastened when closed by a sliding catch-bolt, Q, that takes hold of catches R, attached to the inner side of the lower part of said doors. The bolt Q is made inclined, and works in an inclined socket, so that when drawn down to unfasten the doors it may push said doors outward to release them should they be frozen fast with ice. The bolt Q is operated by a rod or chain, S, which passes down along the wall of the building through a guard-pipe, T, attached to said wall. The lower end of the rod or chain S is attached to a lever, U, the end of which is pivoted to said wall, or to a support at-

tached to it. The free end of the lever U moves along a tooth-bar, V, by which it is held in any position into which it may be moved. The lever U is covered and protected by a box, W, which may be the box of an alarm-telegraph. When the box W cannot be placed directly beneath the doors B the chain S may be passed around one or more guide-pulleys to bring its lower end into the desired position. With the catch-bolt Q is connected the forward end of the lever E′, which passes back beneath the bottom of the box A, is pivoted to a stud or other support, and to its rear end is pivoted the end of a rod, F′, that passes up through a hole in the bottom of the box A, and has a knob or other handle attached to its upper end for convenience in operating it. G′ is a spring attached to the bottom of the box A, or to some other support, and which rests upon the upper side of the rear part of the lever E′, to hold the bolt Q in place when the doors are fastened. The device E′ F′ G′ also enables the doors B to be unfastened from the box A, when desired. X is a chain or rope, which passes over a pulley, Y, attached to the upper part of the box A. When not in use, the ends of the chain or rope X are brought together and are connected with the end of the ladder K so as to be drawn down by and with said ladder. The chain or rope X is designed for use for raising hose or other desired articles to or lowering them from the roof or upper part of a building. Z is a gong attached to the box A or some suitable support in such a position that its hammer A′ may be struck by projections B′, formed upon the end plate of the reel E, the said hammer being so formed that the gong Z will be sounded while the ladder K is being run out or unwound, but will not be sounded when the said ladder is being wound upon the reel. The gong Z is designed to serve as an alarm to arouse the inmates of the building, call the attention of watchmen, policemen, and others, and also to prevent the ladder from being lowered by unauthorized persons or for improper purposes. With one end of the reel E is connected a ratchet-wheel C′, with the teeth of which engage one or two pawls, D′, one of which may be provided with a lever-handle, *d′*, so that it may be used for turning the said reel E to wind up the ladder K.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An automatic brake, H I J *e′*, worked by a screw attached to shaft of reel, as and for the purpose specified.

2. The combination of the chain or cord L, the rubber ball M, the pin N, and the spring-bar O, with the ladder K and with the doors B of the box A, substantially as herein shown and described.

3. The combination of the inclined catch-bolt Q, the rod or chain S, and the lever U, with the box A and the catches R and doors B, substantially as herein shown and described.

4. The combination of the box W and the pipe T with the lever U and the rod or chain S that operates the catch-bolt, substantially as herein shown and described.

5. The combination of the chain or rope X and the pulley Y with the ladder K and the box A, substantially as herein shown and described.

6. The combination of the lever E′, the pivoted rod F′, and the spring G′ with the catch-bolt Q and the box A, substantially as herein shown and described.

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Witnesses:
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