

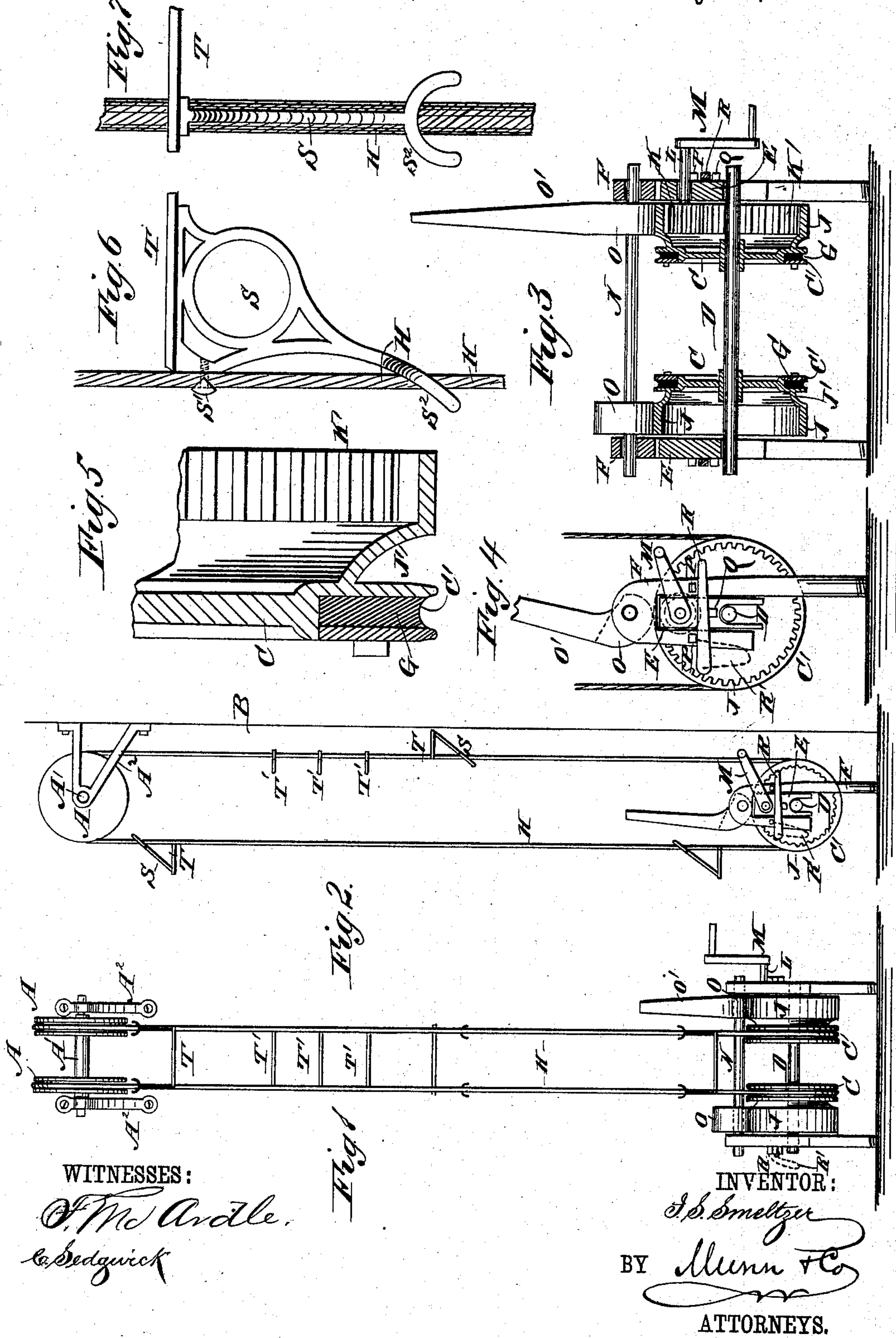
(No Model.)

I. S. SMELTZER.

FIRE ESCAPE.

No. 322,206.

Patented July 14, 1885.





# UNITED STATES PATENT OFFICE.

ISAAC S. SMELTZER, OF COLUMBUS, OHIO.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 322,206, dated July 14, 1885.

Application filed May 6, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC S. SMELTZER, of Columbus, in the county of Franklin and State of Ohio, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved fire-escape, which is strong and reliable, simple in construction, and can also be used for elevating firemen and hose to the upper stories.

The invention consists in novel combinations of parts and in constructions of said parts, all as will be fully set forth and described hereinafter.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front view of my improved fire-escape. Fig. 2 is a side view of the same. Fig. 3 is a detail longitudinal sectional view of the bottom cable, pulleys, and mechanism combined with the same. Fig. 4 is an end view of the same. Fig. 5 is an enlarged detail section view of a hoisting-rope pulley. Fig. 6 is a side view of a bracket for holding a platform on the cables. Fig. 7 is a front view of the same.

Two grooved pulleys, A, are mounted on a shaft, A', journaled in brackets A<sup>2</sup>, projecting from the wall B of the building at the cornice or at any other elevation. Below the pulleys A pulleys C are mounted on a shaft, D, journaled in boxes E, mounted to slide in the upper hook ends of standards F, secured in the ground, sidewalk, &c., at the base of the building. Each pulley C has a groove, C', in which a rubber strip, G, is placed, the strip being grooved as shown in Fig. 5. An endless wire rope or cable, H, is passed over each pulley A and through the groove C' of the pulley below it. Each pulley C is provided on its outer side with an outwardly-inclined flange, J', on the outer edge of which a smooth brake-rim, J, is formed. On the inner surface of one rim J cogs K' are formed and engage with a pinion, K, on the inner end of a shaft, L, journaled in the corresponding sliding box, E, and having a crank-handle, M, on its outer end. A shaft, N, is journaled in the tops of the standards F, and carries a

brake-cam, O, above each rim J, one of the said brake-cams having a handle, arm, or lever, O'. Two lugs, P, project from the outer sides of each standard, and lugs, Q, project from each box E. A wedge-key, R, is connected with each standard F by a chain, R'.

To each endless cable H a series of brackets, S, are held by screws S', the brackets having forks S<sup>2</sup> on the lower ends, which rest against the cables. The corresponding brackets on the two cables are united by shelves or platforms T or by rungs T'.

The operation is as follows: The persons to be rescued hold on the rungs T' and step on the platforms T and descend, the other parts of the cables rising. The friction of the cables on the rubber G in the grooves C' is so great as to revolve the pulleys C. By pressing down the arm or lever O' the cams O are pressed on the rims J, and the speed of descent can thus be checked and regulated. In case firemen carrying hose, &c., are to be elevated, the lever or arm O' is swung down to cause the cams O to press down the pulleys C, the shaft D, and the boxes E, and whereby the endless belts are drawn taut. The boxes E are locked in place by passing the key R in between the lugs Q on the boxes and the lugs P on the standards. The lever O' is then raised. By turning the shaft L the pulleys C are revolved, and the platforms, &c., carrying the firemen are raised. When persons are to be lowered, the keys R are withdrawn, whereby the cables are slightly slackened so as to run more freely.

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

1. The combination, with the pulleys A, of the pulleys C, having brake-rims J, the standards F, the shaft N, the brake-cams O, one of which has a handle, O', and of the endless cables H, substantially as herein shown and described.

2. The combination, with the pulleys A, of the pulleys C, having brake-rims J, one of which has cogs on its inner surface, of the pinion K, engaging with the teeth on the rim, the shaft L, and the crank M, together with the cables H, substantially as herein shown and described.

3. The combination, with the pulleys A, of the standards F, the sliding boxes E, the shaft D on the same, the pulleys C on the said shaft,

the cams O, one having a lever or handle, O', the lugs P on the standards, the lugs Q on the boxes, and the key R, together with the cables H, substantially as herein shown and described.

5 4. The combination, with a cable, of the bracket S, held on the cable by the screw S', and having a fork, S<sup>2</sup>, at its lower end, substantially as herein shown and described.

5. The pulley C, having a groove, C', the flange J', and the brake-rim J, combined with the rubber G in the grooves C', substantially as herein shown and described.

ISAAC S. SMELTZER.

Witnesses:

CHARLES REEB,

HENRY C. SMELTZER.