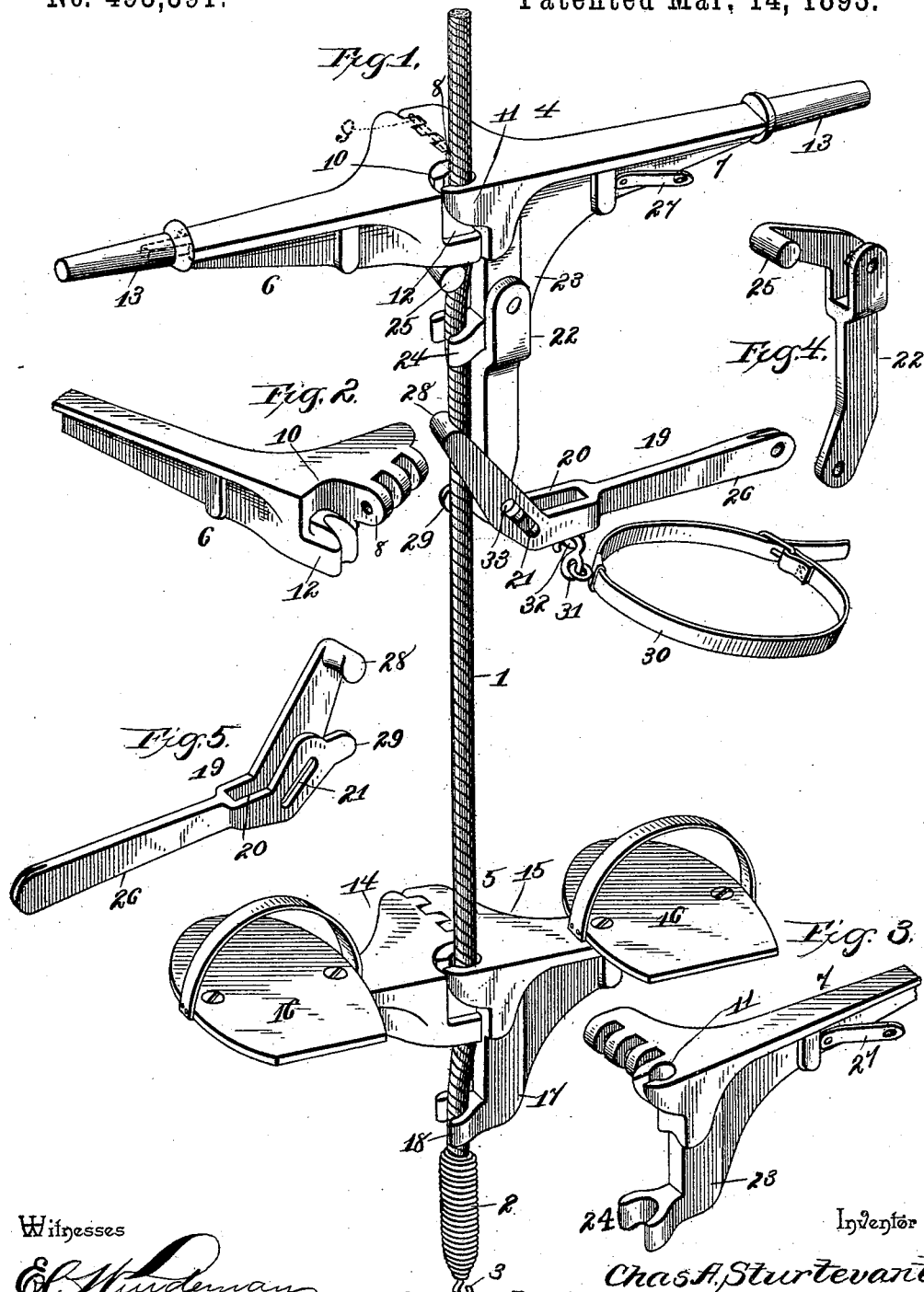


(No Model.)

C. A. STURTEVANT.  
FIRE ESCAPE.

No. 493,391.

Patented Mar. 14, 1893.



Witnesses

*E. J. Widdeman*  
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# UNITED STATES PATENT OFFICE.

CHARLES A. STURTEVANT, OF PLAINFIELD, NEW JERSEY.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 493,391, dated March 14, 1893.

Application filed May 4, 1892. Serial No. 431,769. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. STURTEVANT, a citizen of the United States, residing at Plainfield, in the county of Union and State of New Jersey, have invented a new and useful Fire-Escape, of which the following is a specification.

The invention relates to improvements in fire-escapes.

10 The object of the present invention is to provide a simple and inexpensive fire-escape which will enable a person to readily climb a cable or rope, to descend the same and to regulate the speed at which he descends.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings—Figure 1 is a perspective view of a fire-escape constructed in accordance with this invention. Figs. 2 and 3 are detail perspective views of the sections of the hand-clamp. Fig. 4 is a detail perspective view of the bell-crank lever. Fig. 5 is a similar view of the brake-lever.

Like numerals of reference indicate like parts in all the figures of the drawings.

30 1 designates a cable designed to extend from the top of a building to the ground and provided at its lower end with a tension spring 2, which is secured by a hook 3 to a suitable stop; and mounted on the cable is a hand-clamp 4, and a foot-clamp 5, which are adapted 35 to enable a person to ascend and descend the cable to carry persons or other loads from the building to the ground to save life and property in case of fire.

40 The hand-clamp is composed of sections 6 and 7, which have their inner ends horizontally enlarged and provided with a series of perforated ears 8, through which passes a pintle 9. The inner end of the section 6 is recessed at 10, and the section 7 is provided with a jaw 11, having its end bifurcated and curved 45 to receive the cable, and the section 6 is provided below the recess 10 with a jaw 12, having a groove adapted to receive the cable which is clamped between the said jaws and the portion of the section 7 immediately below the projecting jaw, this portion in reality forming a

portion of the jaw. By raising the sections 6 and 7 and turning them up on the pintle 9, the cable is released, and by pressing down or throwing weight upon the outer ends of the sections the rope is clamped. The outer ends of the sections 6 and 7 are squared and are provided with removable handles 13, having sockets to receive the squared portions.

55 The foot-clamp 5 consists of two sections 14 and 15 constructed similarly to the hand-clamp to the extent of the manner of hinging the jaws together, and the manner of clamping the cable; and the said sections 14 and 15 are provided at their outer ends with stirrups 16, adapted to receive the foot of a person and to secure the same to the ends of the sections 14 and 15. The section 15 is provided with a depending portion 17, having a horizontal lug 18 at its lower end, which 65 lug is provided with a curved recess to receive the cable and to hold the clamp at an approximately horizontal position.

70 In ascending the rope, the weight of the person is supported by the lower clamp, and the upper clamp is raised on the rope as high as the person can conveniently reach. He then supports himself from the hand-clamp, causing the latter to bite the cable and to remain stationary, and the operator then 80 draws his feet up beneath him as far as he conveniently can, and then supports himself on the foot-clamp which bites the rope and remains stationary and enables the operator to straighten himself out and again elevate the 85 hand-clamp.

90 In descending the cable the speed is regulated by a brake-lever 19, which is approximately L-shaped and which is provided at its angle with an opening 20, and with slots 21 in its side communicating with the opening and is pivoted to the lower end of a bell-cranked lever 22. The bell-cranked lever 22 is bifurcated at its angle and is fulcrumed at the same on the lower end of a depending 95 portion 23 of the section 7 of the hand-clamp. The depending portion 23 is provided at its lower end with a horizontal lug 24, which is recessed to receive the cable and which serves to steady the hand-clamp and to enable the same to maintain an approximately horizontal 100 position during the operation of ascend-

ing and descending. The upper end of the bell-cranked lever 22 is provided with a laterally-extending lug 25, between which and the depending portion passes the cable, and when the lower end of the bell-cranked lever is forced in the direction of the cable by the brake-lever, the cable will be clamped. The long arm 26 of the brake-lever is shaped into a handle, and when ascending the brake-mechanism is held out of engagement with the cable by a spring 27, which is secured to the section 7 of the hand-clamp and which is provided with a laterally-extending projection adapted to engage a corresponding depression in the end of the handle-portion of the brake-lever. The short arm of the brake-lever is provided with a laterally-extending lug 28, and when the handle-arm of the brake-lever is lowered the cable is clamped between the lug 28 and the bell-crank lever; and the cable is guided by a flange 29 projecting from the angle of the brake-lever and serving to keep the parts in proper position to engage the cable.

The operator is provided with a belt 30 designed to be placed around the body under the arms, and the belt has a hook 31, which in ascending is engaged with the cable and which in descending engages a perforated ear 32 of the brake-lever. The slots at the angle of the L-shaped brake-lever receive the fulcruming pivot 33, and permit a longitudinal movement of the short arm of the lever to facilitate the clamping of the cable.

What I claim is—

1. In a fire-escape, the combination of the hand-clamp composed of sections hinged together and provided with jaws adapted to clamp a cable, a bell-cranked lever fulcrumed on the hand-clamp and provided with a lug arranged to clamp the rope between it and one of the said sections, and a brake-lever connected with the bell-crank lever, substantially as described.

2. In a fire-escape, the combination of a hand-clamp composed of two sections hinged

together and provided with jaws adapted to clamp a cable, one of the sections having a depending extension and provided with a grooved lug adapted to receive a cable, a bell-cranked lever fulcrumed on the extension and provided with a lug adapted to clamp a cable between it and the extension, and a brake-lever fulcrumed on the bell-cranked lever and provided with a lug and adapted to clamp a cable between its lug and the bell-cranked lever, substantially as described.

3. In a fire-escape, the combination of a hand-clamp composed of two sections hinged together and provided with jaws adapted to clamp a cable, one of the jaws being provided with a depending extension and having a lug at the lower end of the same adapted to receive a cable, a bell-cranked lever bifurcated at its angle and fulcrumed on the extension and provided at its upper end with a lug adapted to clamp a cable, and an L-shaped brake-lever provided with an opening at its angle to receive the lower end of the bell-crank lever and having slots in its sides to receive the pivot and provided with a clamping-lug and having a guide-flange arranged near its angle, substantially as described.

4. In a fire-escape, the combination of a hand-clamp composed of two sections hinged together and provided with clamping-jaws, a bell-cranked lever fulcrumed on one of the sections and having a clamping-lug at its upper end a brake-lever connected with the bell-crank lever, and a spring mounted on one of said sections and arranged to engage the brake-lever to hold the same out of engagement with the cable, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHAS. A. STURTEVANT.

Witnesses:

E. L. MUIRHEAD,  
ARMSTRONG MULFORD.