

(No Model.)

J. A. WESTON.
EXTENSION LADDER HOOK.

No. 477,877.

Patented June 28, 1892.

Fig. 1

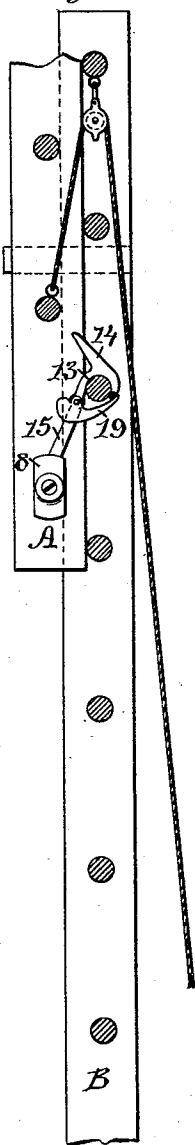


Fig. 2

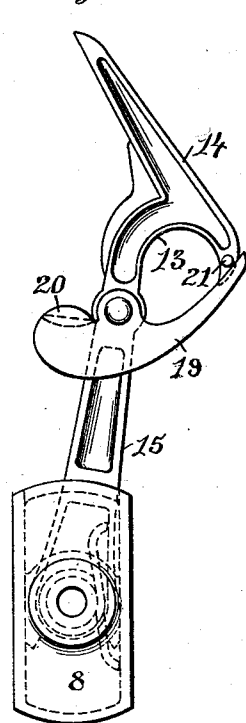


Fig. 3

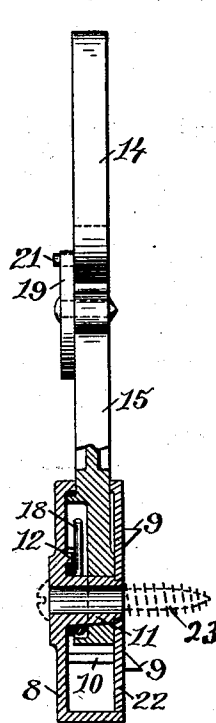


Fig. 4

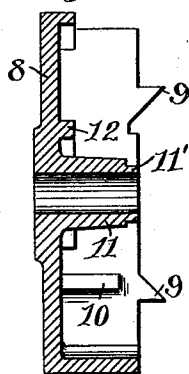
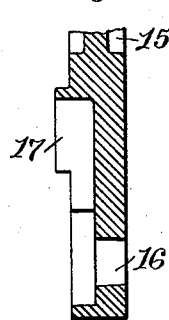


Fig. 5



Fig. 6



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN A. WESTON, OF PROVIDENCE, RHODE ISLAND.

EXTENSION-LADDER HOOK.

SPECIFICATION forming part of Letters Patent No. 477,877, dated June 28, 1892.

Application filed March 23, 1892. Serial No. 426,066. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. WESTON, of the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Extension-Ladder Hooks; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in hooks for extension-ladders in which a narrow ladder forms an extension for a ladder of slightly-greater width and is adapted to travel over the rounds of such wider ladder.

The objects of this invention are to produce an economical form of extension-ladder hook which will operate automatically and in which the pivoted portion of the hook and spring for operating the same will be protected from the action of the weather.

The invention consists in the peculiar construction of the protecting-case and the novel combination therewith of the spring-operated hook, together with other peculiar features of construction and combination of parts, which will hereinafter be more fully described, and pointed out in the claim.

Figure 1 represents a vertical sectional view of two ladders, showing the completed hook in the act of supporting the narrow ladder by engagement with the rounds of the wider ladder. Fig. 2 represents an enlarged view of the hook and the casing in which the shank of the same is pivoted. Fig. 3 represents an edge view of the same, the casing and the parts contained therein being shown in vertical section. Fig. 4 represents a vertical sectional view of the casing. Fig. 5 represents a view of the spring by which the hook is forced against the rounds of the ladder. Fig. 6 represents a vertical sectional view of the base of the hook.

Similar numbers and letters of reference designate corresponding parts throughout.

In the drawings 8 represents a casing or box open at the upper end and at the back. The sides of the casing are provided with spurs 9 9, adapted to enter the side frames of the ladder A and prevent the casing from turning. These sides of the casing are also provided on their inner surfaces with the

strengthening-ribs 10 10, which also serve to regulate the throw of the hook. At the center of the casing is formed the tubular pivot or bearing-post 11, the outer surface of which is slightly conical, while partially surrounding the base of this post at a short distance therefrom is formed the bearing-rib 12, against the surface of which the outer side of the hook-shank bears. The hook 13 has an upwardly extending and inclined arm 14, adapted to lift the hook by riding over the rounds of the ladder B when the ladder A is moved upward. This hook has an elongated shank 15, the lower end of which is provided with a transverse perforation 16 to fit the conical post 11 of the casing 8, and the inner surface of this shank has a lug 17, against which when in place the long end of the spring 18 bears to throw the hook forward, the short end of the spring bearing against the side of the casing and the coil of the spring surrounding the base of the post 11 being contained in the space between the same and the rib 12. At a point on the shank 15 somewhat below the bend of the hook is pivoted the counterweighted pawl or lever 19, having a gradually-curved outline, and the counter-weight of this lever is furnished with the stop 20, adapted to regulate the downward throw of the small end of the lever, which on the upward throw strikes the pin 21, extending from the end of the hook. This lever 19 when swung upward by striking the rounds of the ladder B closes the bend of the hook 13, thus preventing the hook from catching on the rounds of the ladder over which the hook is descending. The casing is closed by a flat piece of metal 22, formed to fit inside the edges of the same and provided with a hole, through which the end of the post 11 extends. The casing and the parts contained therein are secured to the inner surface of the ladder-frame by the screw 23 or a bolt extending through the tubular post 11. The plate 22 prevents contact between the side of the ladder-frame and the shank of the hook, while the spurs 9 9, being forced into the wooden frame of the ladder by the drawing action of the screw 23, secure the casing and the movable parts firmly to the ladder. This plate 22 is firmly secured over the movable parts contained within the case by the expansion of the thin edge 11' of the post

in the perforation of the plate, thus protecting these movable parts and producing an article which can be sold separately from the ladders and afterward secured to either the upper portion of the lower ladder or to the lower portion of the upper ladder without the exercise of more than ordinary skill. As the casing is thus closed, the movable parts cannot be lost without the destruction of the case.

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

In an extension-ladder hook, the combination, with the casing 8, having the spurs 9 9, ribs 10 10, and a central tubular post 11, of the hook 13, provided with the counterweighted

lever 19, pivoted thereto and having a stop 20, a perforated shank on said hook pivoted on the post 11, a spring 19, surrounding said post and bearing against the lug 17 on said shank, the plate 22 for closing the open side of said casing, and the screw 23, extending through the perforated post 11 and adapted to secure the casing to a ladder-frame, as described.

In witness whereof I have hereunto set my hand.

JOHN A. WESTON.

Witnesses:

HENRY J. MILLER,
JOSEPH A. MILLER, Jr.