G. CARLTON.
Extension-Ladder.

No. 199,514. Patented Jan. 22, 1878.

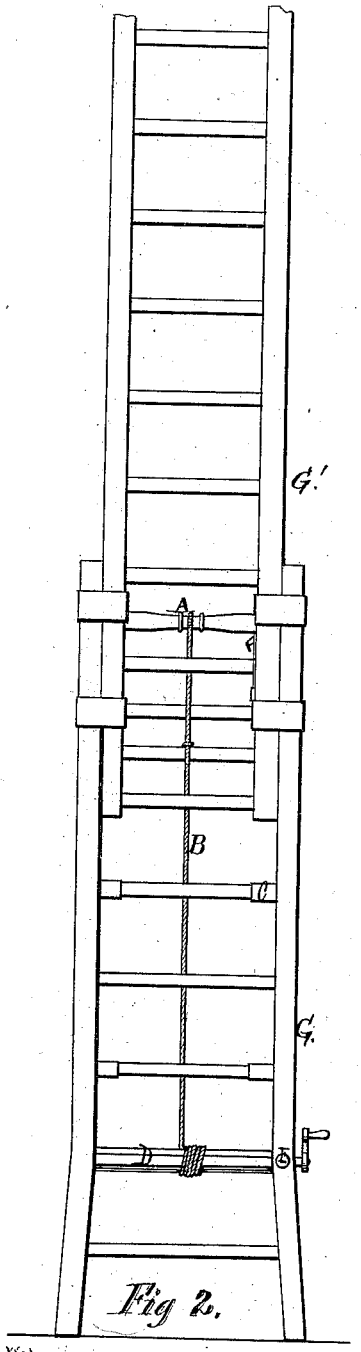

Fig 2.

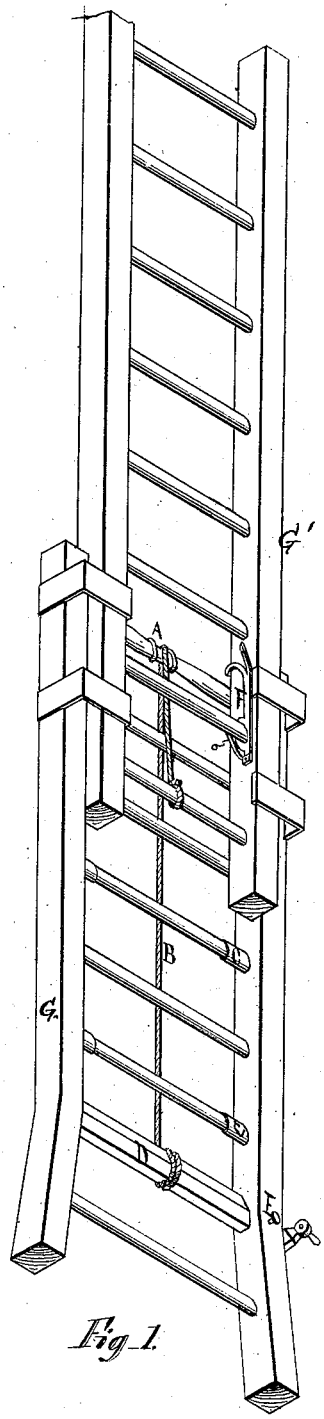

Fig 1.

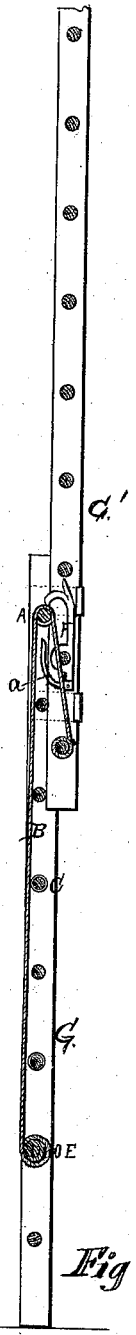

Fig 3.

Witnesses:—
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GEORGE CARLTON, OF ST. JOHN'S, MICHIGAN.

IMPROVEMENT IN EXTENSION-LADDERS.

Specification forming part of Letters Patent No. **199,514**, dated January 22, 1878; application filed October 8, 1877.

To all whom it may concern:

Be it known that I, GEORGE CARLTON, of St. John's, in the county of Clinton and State of Michigan, have invented certain new and useful Improvements in Extension-Ladders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improved construction of extension-ladders; and it consists of the details of construction and general arrangement of parts, all as will be hereinafter fully described, and pointed out in the claim.

Referring to the drawings, Figure 1 represents a perspective view of my invention. Fig. 2 represents a front elevation of the same, and Fig. 3 represents a sectional view.

Similar letters of reference indicate like parts in the several figures.

G represents the lower or stationary ladder, to which the sliding ladder G′ is attached by means of the overlapping guides or braces as are commonly employed in such constructions. To the lower end of the ladder G, and working in suitable bearings in the side frames of the same, is provided the windlass D, which is, preferably, of an octagonal shape, to hold the rope B securely thereon, as also to assist in its winding upon the same, said windlass being provided at one end with a suitable crank for operating the same. At the upper part of the ladder G, and at the center of the top round, is provided a wooden or other suitable pulley, A, over which the rope or chain B passes, one end of said rope or chain being attached to the center of the round of the movable ladder G′, and the other end to the windlass D, which can be held stationary by the pin E. Upon the rounds of the ladder G, next the side frames, are provided friction-rollers C, against which the sliding ladder G′ presses, and which serve to secure an easy upward or downward movement of said ladder, without liability of its catching or jerking while being operated. To one of the side frames of the sliding ladder G′, and upon the inner side of the same, is pivoted the hook F, the upper rounded portion of which catches over the rounds of the stationary ladder to hold the sliding ladder at suitable positions thereon. To the lower end of the hook F is pivoted the curved arm *a*, the object of which is, that when the sliding ladder is to be lowered, this arm, by its bearing against the round below, may serve to keep the rounded portion of the hook F from catching over the rounds of the stationary ladder, as illustrated in Fig. 3.

By means of my improvements I am enabled to furnish an extension-ladder possessing the desired degree of simplicity and economy, combined with ease of manipulation and ready adaptation to the various purposes for which it may be applicable.

Having thus described my invention, what I claim as new and useful is—

In an extension-ladder, the combination of the stationary ladder G, provided with windlass D, having stop-pin E, friction-rollers C, and pulley A, with sliding ladder G′, having hook F and rope B, substantially as and for the purpose specified.

GEORGE CARLTON.

Witnesses:
A. STOUT,
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