

No. 896,295.

PATENTED AUG. 18, 1908.

A. L. HAINES.
FIRE LADDER.

APPLICATION FILED MAY 15, 1907.

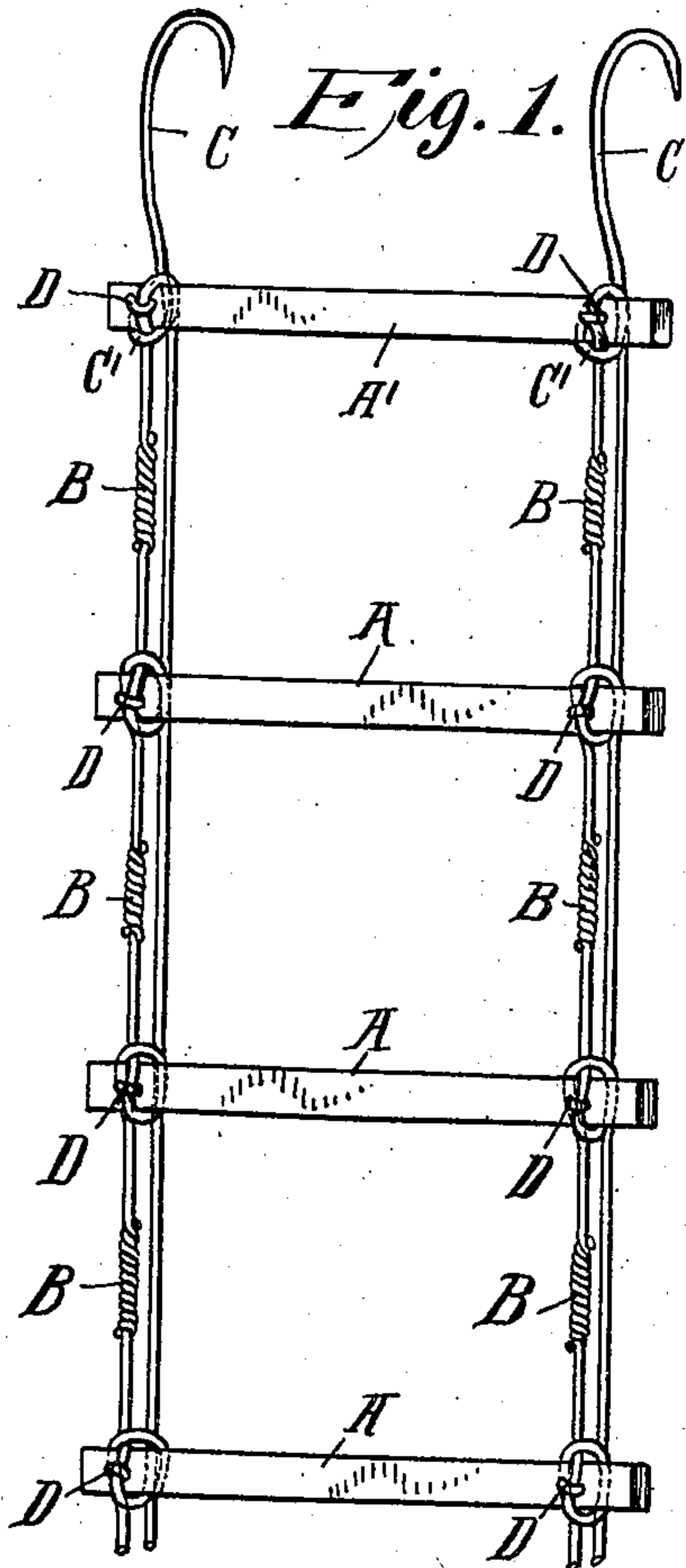


Fig. 1.

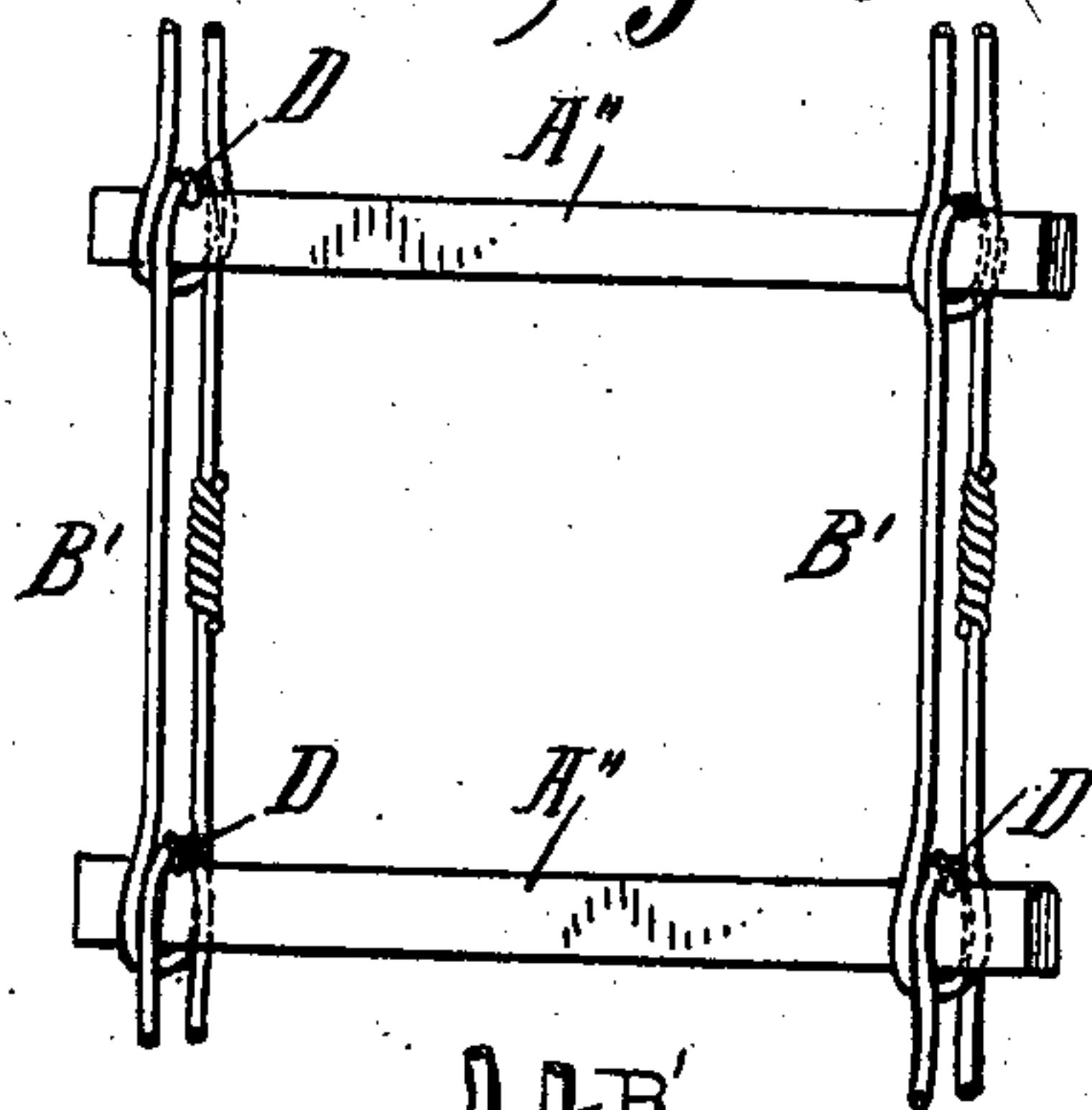


Fig. 2.

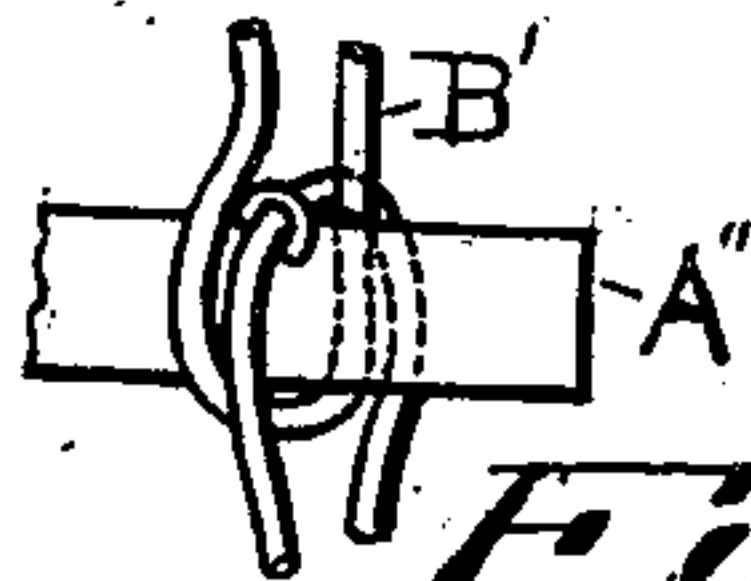


Fig. 3.

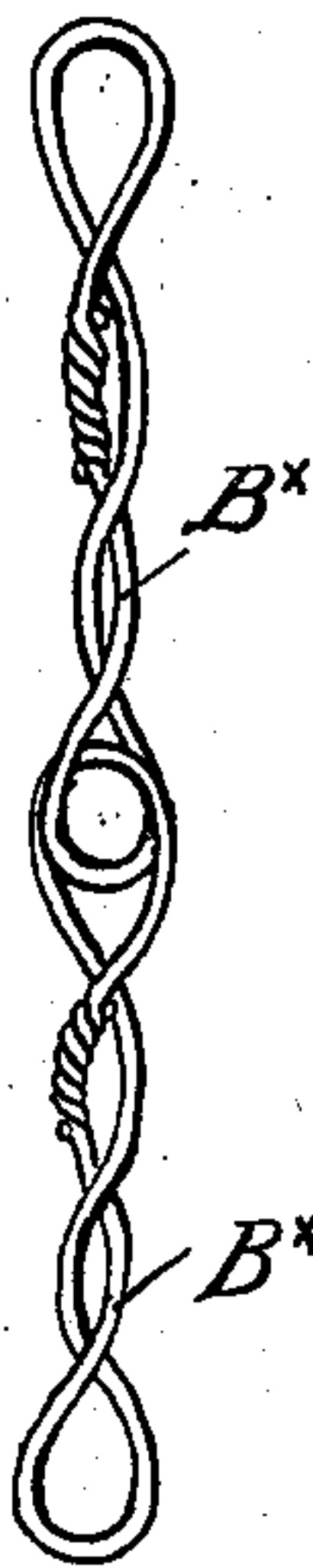


Fig. 4.

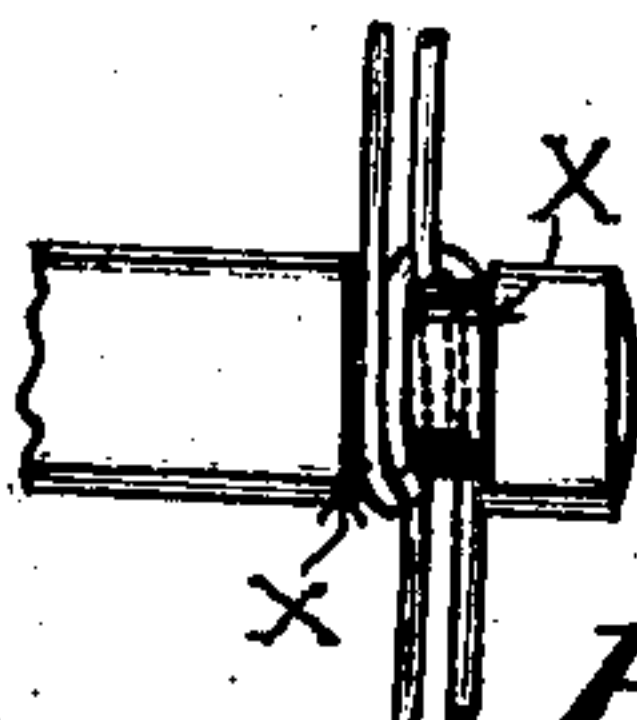


Fig. 5.

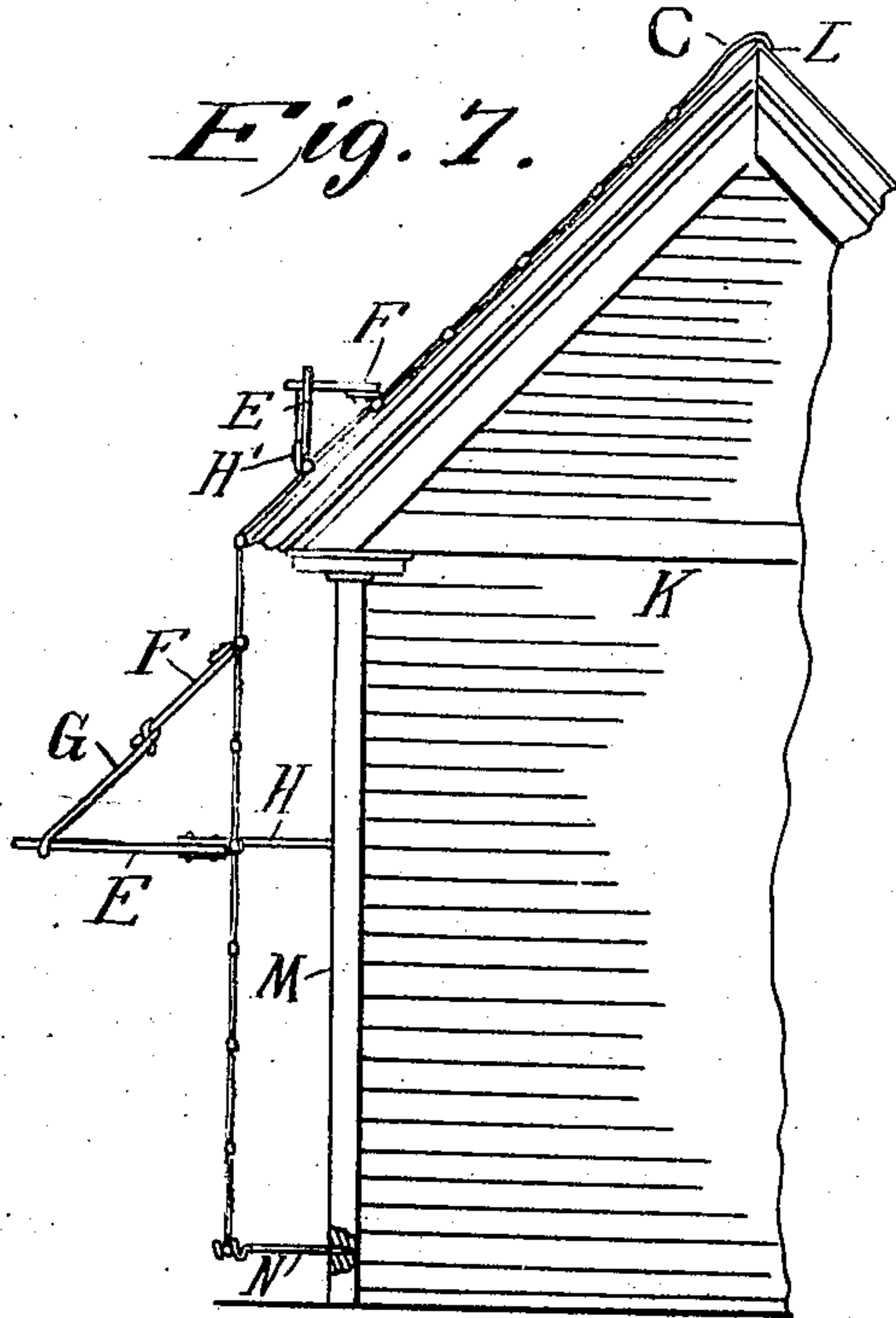


Fig. 7.

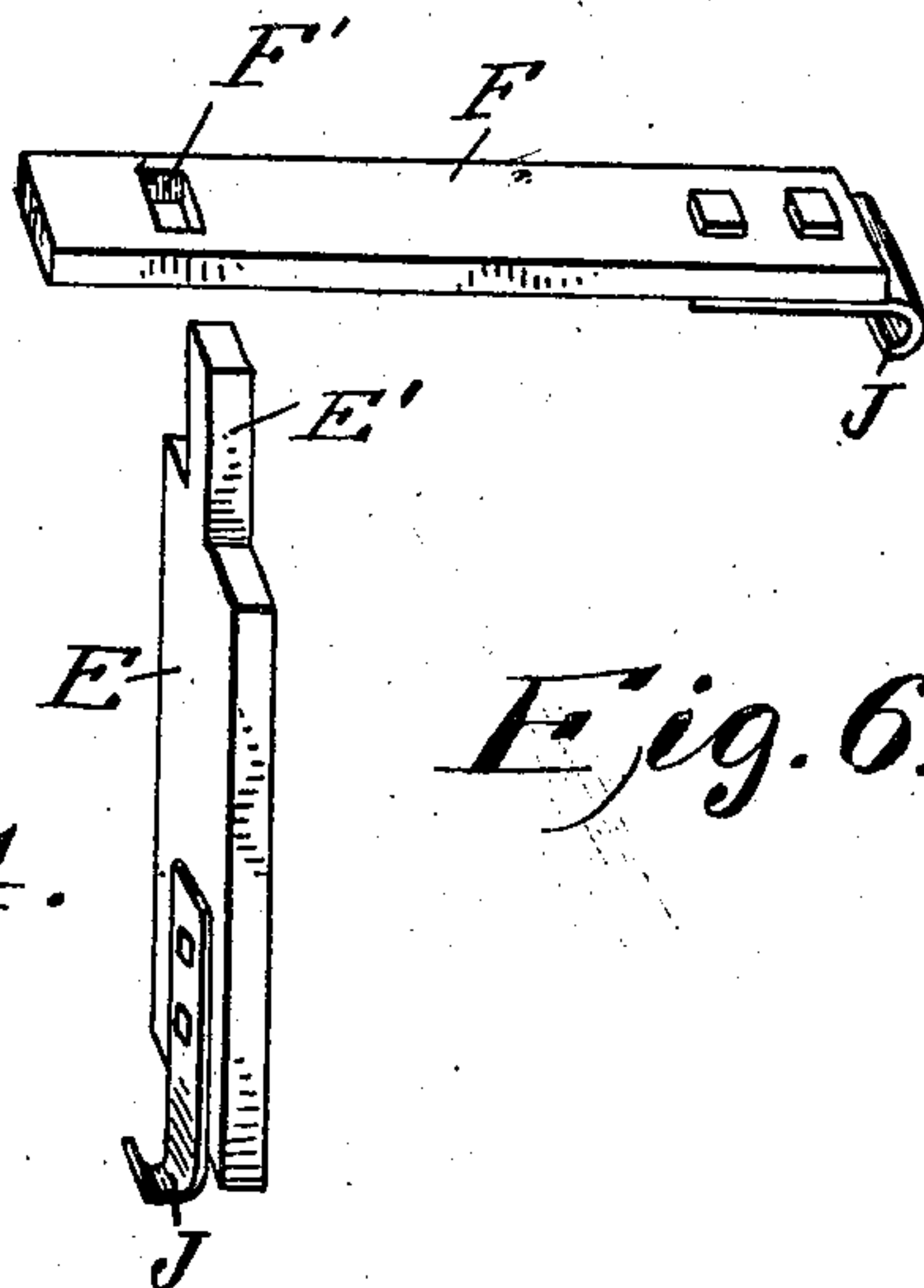


Fig. 6.

Witnesses:
Harry C. Hevig
Albert Hamilton

Albert L. Haines Inventor.
By his Attorney
James Hamilton

UNITED STATES PATENT OFFICE.

ALBERT L. HAINES, OF FORT FAIRFIELD, MAINE.

FIRE-LADDER.

No. 896,295.

Specification of Letters Patent.

Patented Aug. 18, 1908.

Application filed May 15, 1907. Serial No. 373,810.

To all whom it may concern:

Be it known that I, ALBERT L. HAINES, a citizen of the United States, residing at Fort Fairfield, in the county of Aroostook and State of Maine, have invented certain new and useful Improvements in Fire-Ladders, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in fire ladders; and one object of my invention is to provide a fire ladder which will be simple in construction and secure and efficient in operation.

Another object of my invention is to provide a fire ladder with a staging attachment which may be readily put in place upon the ladder.

In the drawings illustrating the principle of my invention and the best mode now known to me of applying that principle, Figure 1 is a perspective view of one form of my new fire ladder; Fig. 2 is a detail showing a modified form of the ladder; Fig. 3 is a detail showing the way the wires or links of Fig. 2 interlock with the rung; Fig. 4 is an elevation of another modified form of my invention; Fig. 5 shows a rung formed with a groove; Fig. 6 illustrates in perspective parts of the staging device; and Fig. 7 shows in elevation my new fire-ladder secured in place upon a building.

Referring to Fig. 1, the upper portion of the fire ladder is provided with grapple hooks C formed with eyes C'. Through the eye C' of each grapple hook C is passed the end of a closed link B; and each end of the rung A' is passed through the closed end of the link B and over the eye C' of the grapple hook C. The link B is secured in place by a staple D driven into the rung A'. Each end of each lower rung A is passed through the lower end of a link B, this same end of the link B having been previously passed through the upper end of the next succeeding link below it; and the ends of the rung A are secured by staples D to the links B as in the case of the uppermost rung A'.

In Fig. 2 each wire B' passes around one end of the rungs A'' and through the loop of the links or wires B' next above and next below, the end of each rung A'' lying above the looped lower end of the upper one of each pair of links and below the looped upper end of the lower link of the pair. (Figs. 2 and 3). The upper end of each link is held in place by means of a staple D, or by the walls X of a

groove formed in each end of the rung. (Fig. 5).

In Fig. 4 the suspensory member is made up of a series of sections or links of which the intermediate portion B^x is twisted and each end of which is formed into an eye through which passes the end of the rung, as will be readily understood without further description.

When the ladder is put in place for use, the grapple-hooks C engage the ridge L of the roof of the building K and the lower end of the ladder is made fast to the side M of the building by means of a screw-hook N or in any other suitable manner. To the ladder may be attached the staging members E, F of Fig. 6, each of the members being provided at one end with a hook J adapted to engage any rung of the ladder and the member E being formed at its other end with a tenon E' which fits into the mortise F' in the other member F. In order to hold the post member E in place, a board H' may be bolted to it, whereby the hook J will be prevented from slipping from under the rung. To provide that portion of the ladder which extends along the side of the building with a staging attachment, the member F is hooked to one of the rungs and the member E is hooked to one of the rungs below. A rope G is then passed through the mortise F' and is tied around the tenon E'. A board H is secured to the member E and abuts against the wall M of the building K.

My new ladder can be folded into small compass, since the links will rotate upon the rungs.

I claim:

1. A ladder consisting of a series of links the ends of which are looped, said links passing one through the other successively, whereby each link is interlocked with the next succeeding link; and rungs an end of which passes through a link of each pair of successive links and lies above the looped end of the upper link and below the looped end of the lower link of said pair of links; the upper end of the lower link lying above the lower end of the upper link of said pair of links where the rung engages said links.

2. In combination in a ladder, a pair of links the ends of which are looped, said links passing one through the other, whereby said links are interlocked; and a rung an end of which passes through one of said links and lies above the lower end of the upper link and

below the upper end of the lower link of said pair of links; said upper end lying above said lower end and above said rung.

3. In combination in a ladder, a link having a looped end; a grapple-hook having an eye at one end through which passes the looped end of said link; and a rung an end of which passes through said looped end and lies above said eye.

In testimony whereof I have hereunto set my hand at said Fort Fairfield this seventh day of May, A. D. 1907, in the presence of two witnesses.

ALBERT L. HAINES.

Witnesses:

EARLON K. GUILD,
HERBERT T. POWERS.