(No Model.)

B. A. HILL.

EXTENSION LADDER.

No. 535,759. Patented Mar. 12, 1895.

Fig. 1.

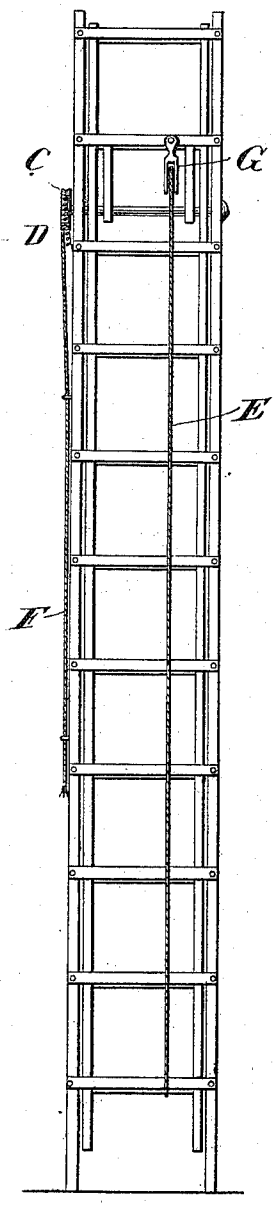


Fig. 2

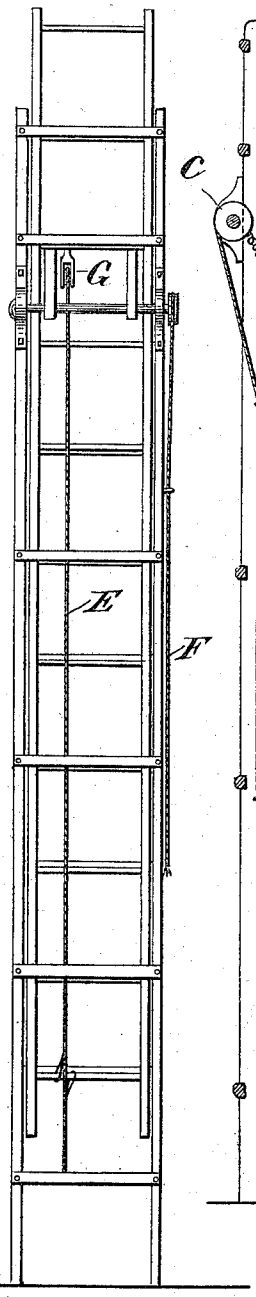


Fig. 3.

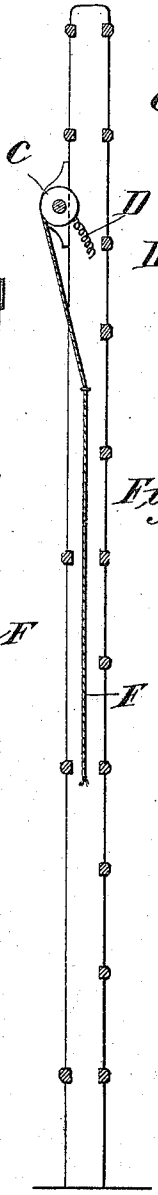


Fig. 4.

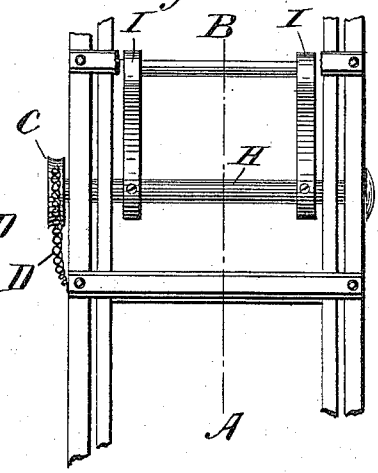
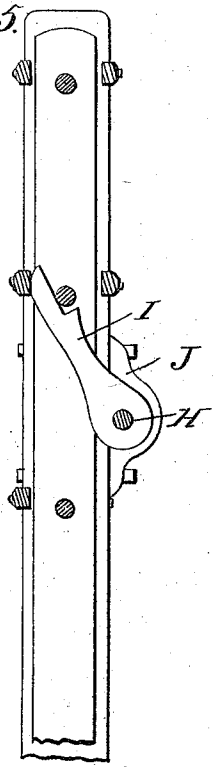


Fig. 5.



Witnesses.
Geo. K. Sumner
N. P. Work

Inventor.
Benjamin A. Hill

UNITED STATES PATENT OFFICE.

BENJAMIN A. HILL, OF HARTFORD, CONNECTICUT.

EXTENSION-LADDER.

SPECIFICATION forming part of Letters Patent No. 535,759, dated March 12, 1895.

Application filed July 9, 1894. Serial No. 517,032. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN A. HILL, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented an Extension-Ladder, of which the following is a specification.

My invention relates to improvements in an extension ladder whereby the second or inside section of said ladder is governed and held in place by two parallel arms or clutches and made automatic by means of coiled springs. I attain these objects by the mechanism illustrated in the accompanying drawings.

Figure 1. is the front view of the entire ladder. Fig. 2. is the rear view of said ladder. Fig. 3. is the side view of said ladder. Fig. 4. is the rear view of automatic clutches. Fig. 5. is the inside view, showing manner of clutch.

The letter C. in Fig. 1. refers to the pulley attached to automatic roller. Letter D. refers to the spiral spring which governs said roller. Letter F. refers to the rope used in upsetting said spring. Letter G. refers to pulley through which runs an endless rope. Letter E. refers to endless rope, which is attached to the lower rung, of inside section of extension ladder and is used in the elevation of same.

Letter G. in Fig. 2 refers to pulley through which passes endless rope. Letter E. refers to endless rope used in elevating inside section of ladder. Letter F. refers to rope used to upset automatic clutches.

Fig. 3. gives side view of ladder. Letter C. refers to pulley controlled by spiral spring. Letter D. refers to spiral spring which actuates said roller. Letter F. refers to rope used in upsetting automatic clutches.

Letters I, I, in Fig. 4. refer to clutches or arms which engage rungs of inside section of ladder. Letter C. refers to pulley of automatic roller to which is rigidly attached clutches or arms which engage rungs of inside section of ladder. Letter H. refers to automatic roller, to which is attached said clutches or arms. Letter B. refers to top of ladder. Letter A. refers to bottom of said ladder.

Letter J. in Fig. 5. refers to arbor cap which holds automatic roller, and journals same on back side of lower section of ladder. Letter I. refers to clutch or arm which engages each rung of inside section of ladder. Letter H. refers to roller which is journaled upon each surface of lower section of ladder.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the ladder provided with rungs upon both faces, and an extension ladder nested and sliding within the same and a clutch composed of two parallel arms rigidly secured to a roller, which is journaled upon the first named ladder, said clutch being actuated by a pulley and spring and adapted to engage a rung of the extension ladder and supported in position by a rung of the first section substantially as described and shown in Figs. 1, 2, 3, 4, and 5. of the drawings which accompany this specification and claim.

BENJAMIN A. HILL.

Witnesses:
JOHN H. CARPENTER,
LEON I. SWEAT.