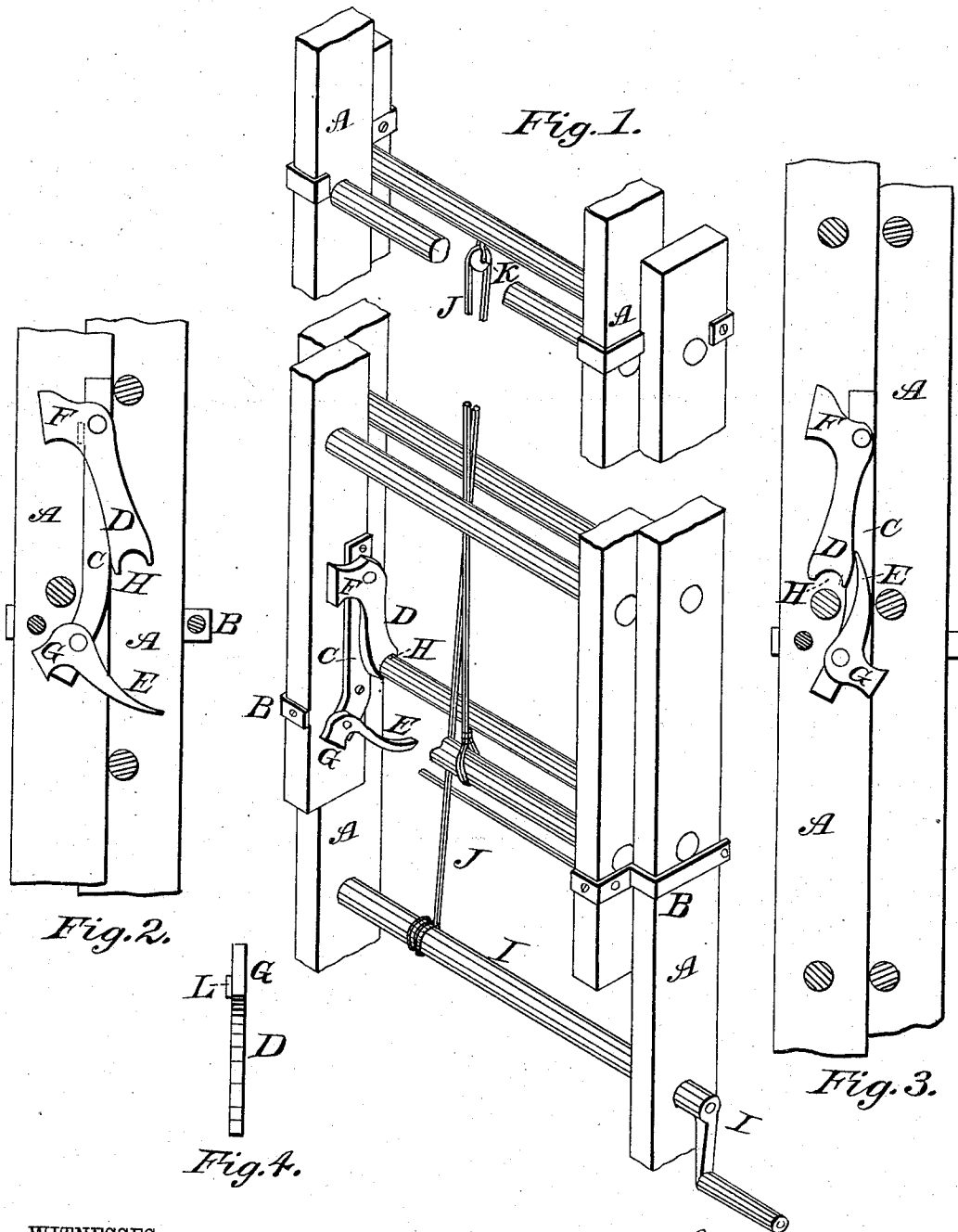


(No Model.)

J. A. BALM & A. DEMENSY.
EXTENSION LADDER.

No. 316,516.

Patented Apr. 28, 1885.



WITNESSES:

Harry Grease.
L. Lentz

INVENTORS
Julius A. Balm &
Augustus Demensy
BY Fred W. Bond
ATTORNEY

UNITED STATES PATENT OFFICE.

JULIUS A. BALM AND AUGUSTUS DEMENSY, OF CANTON, OHIO.

EXTENSION-LADDER.

SPECIFICATION forming part of Letters Patent No. 316,516, dated April 28, 1885.

Application filed November 13, 1884. (No model.)

To all whom it may concern:

Be it known that we, JULIUS A. BALM and AUGUSTUS DEMENSY, citizens of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Extension-Ladders; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon, in which—

Figure 1 is a perspective view. Fig. 2 is a view showing the position of the parts when the upper section of the ladder is being elevated. Fig. 3 is a view of the different parts as the upper section of the ladder is descending and the locking-dog passing a rung. Fig. 4 is a detached view of the locking-dog.

The present invention has relation to that class of extension-ladders formed in two pieces or sections; and its nature consists in the different parts and combination of parts herein-after described, and pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, A represents the side pieces of the ladder, which are made in the ordinary manner, and rungs placed in proper position, as shown in Fig. 1. The two sections of the ladder proper are held in the desired position by means of suitable clamps, B.

Upon the inside of the side pieces, A, are attached the plates C, which are substantially of the form shown in the drawings, and should be made of malleable iron or like material, and are securely held in proper position by suitable clamping bolts, screws, or rivets.

To the plates C are attached the locking-dogs D and the tripping-dogs E, said parts being attached to the plates C, as seen in the drawings. These dogs are provided with weighted arms F and G, which are for the purpose of holding said dogs in the position seen in Fig. 2, when they are not engaged with the rungs.

The bottom or lower ends of the locking-dogs D are provided with the recesses H, said recesses being for the purpose of receiving the rungs of the lower section of the ladder, as seen in Fig. 1.

The lower end of the lower section is provided with the crank-shaft I, to which shaft is attached the elevating-rope J, said elevating-rope passing up over the pulley K and down to the lower rung of the upper section of the ladder proper, to which rung said rope is attached, as seen in Fig. 1.

To raise the upper section of the ladder, the elevating-rope J is wound around the crank-shaft, and as the upper section ascends, the locking-dog D and the tripping-dog E will pass the rungs of the lower section, and as the upper section descends the tripping-dog E will be thrown in the position shown in Fig. 3, thereby throwing the locking-dog D away from the rung.

To lock the ladder, the locking-dog D is elevated just above the rung, leaving the tripping-dog below the rung, and the upper section of the ladder lowered until the locking-dog D engages the rung, as seen in Fig. 1.

In order to lock the ladder as the upper section descends, it is necessary to pass the tripping-dogs E below the rung desired to lock upon when the upper section is raised so as to bring the locking-dogs above said rung, so as to engage the rung as they are lowered. To prevent the locking-dogs D from swinging past a rung, the projections L are provided.

Having now fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The plates C, provided with the locking-dogs D and the tripping-dogs E, substantially as and for the purpose specified.

2. The locking-dogs D, provided with the recesses H, the weighted arms F, and the projections L, substantially as described, and for the purpose specified.

3. The tripping-dogs E, provided with the weighted arms G, substantially as described, and for the purpose specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

JULIUS A. BALM.
AUGUSTUS DEMENSY.

Witnesses:

R. Z. WISE,
FRED W. BOND.