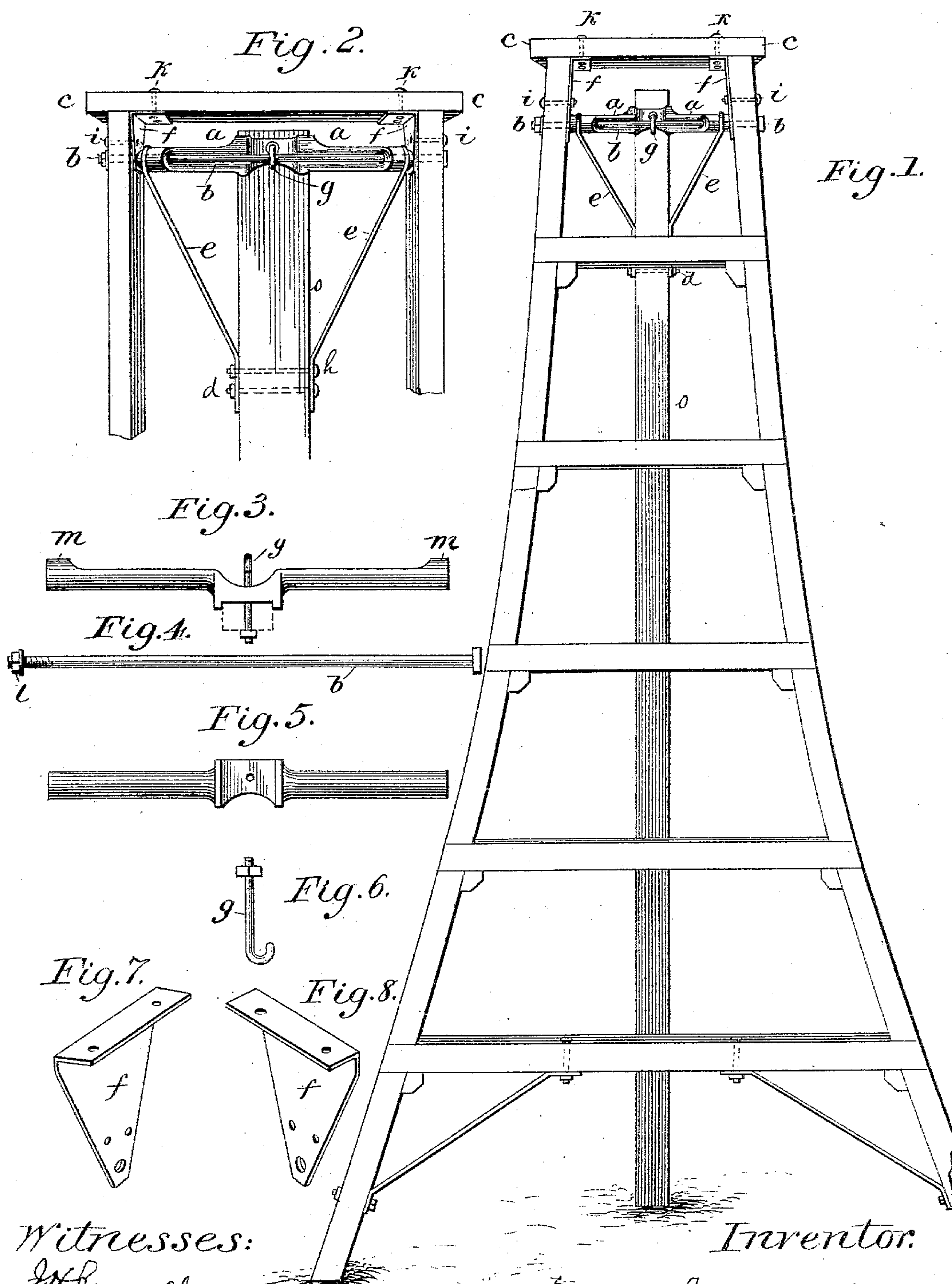


(No Model.)

B. M. CLOSE.  
ORCHARD LADDER.

No. 571,853.

Patented Nov. 24, 1896.



Witnesses:  
J. H. Russell,  
G. K. Ester.

Inventor:  
Benjamin Mortimer Close



# UNITED STATES PATENT OFFICE.

BENJAMIN MORTIMER CLOSE, OF CATO, NEW YORK.

## ORCHARD-LADDER.

SPECIFICATION forming part of Letters Patent No. 571,853, dated November 24, 1896.

Application filed September 24, 1894. Serial No. 524,003. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN MORTIMER CLOSE, a citizen of the United States, residing at Cato, Cayuga county, New York, have invented a new and useful Improvement in Orchard-Ladders, of which the following is a specification.

My invention relates to improvements in orchard-ladders in making them comparatively light in weight, yet strong and durable and safe for persons to work upon while engaged in picking fruit or trimming trees. I attain these objects in the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the entire ladder. Fig. 2 is an enlarged vertical section of the head of the ladder, showing the improvements when all put together. Figs. 3 to 8 illustrate details. Fig. 3 is a top view of the cross-head shown in Fig. 2 at *a a*. Fig. 5 is a back view of the same cross-head. The cross-heads are made of metal of sufficient size for durability. Fig. 4 is the head-rod, made also of metal of sufficient strength, and extends through the entire structure from side to side, as shown at *b b* in Fig. 2, and is tightened up by means of the nut and thread, as shown at *l* in Fig. 4. Fig. 6 is a hook-bolt with a nut and thread on the straight end thereof. The hook-bolt is put through the cross-head at *g* in Fig. 2 and also through the third leg *o* and is screwed up on the back side of the third leg, the hook end of the hook-bolt encircling the head-rod, as shown at *g* in Fig. 2. The braces *e e* in Fig. 2 are made of metal of a size and strength sufficient for the purpose and are punched at their upper ends to receive the head-rod *b b* in Fig. 2 and are also punched at their lower ends to receive the bolts *h* and *d* in Fig. 2, thus holding the third leg *o* in its proper position when the ladder is set up for use. Figs. 7 and 8 show cheek-pieces made of metal cut in proper shape, to be punched and crimped in the form as shown, being in pairs, and are riveted to the inside of the main sides as supports of the ladder. The cheek-pieces are shown in Fig. 2 at *ff*.

*i i* in Fig. 2 show where the cheek-pieces are riveted to the main side pieces of the ladder.

*c c* in Fig. 2 show the top step of the ladder. *k k* show the small bolts that extend down through the top step and also through the upper flange of the cheek-pieces and are screwed up against the flange of the cheek-pieces. The cheek-pieces are wide enough to receive two rivets each where they are riveted to the main side pieces and also receive two small bolts each where the top step is fastened to the flanges of the cheek-pieces, thus making it difficult for the side pieces or top step to split or get out of place. The looped ends of the cross-head are shown at *m m* in Fig. 3. The head-bolt *b* (shown at Fig. 4 and also at *b b* in Fig. 2) extends through the main sides of the ladder, through the lower ends of cheek-pieces, and through the upper ends of the braces *e e* in Fig. 2, and through the looped ends of the cross-head, and along the groove in the cross-head, and under the hook end of the hooked bolt, as shown at *g* in Fig. 2.

When the ladder is all put together with all of the improvements, the cross-head not only keeps the third leg *o* in its proper position, but acts as a support or stop to the main sides of the ladder to keep the sides of the ladder out to their proper places. When the head-rod is screwed up tight and when all put together and sufficiently tightened up, the head of the ladder is comparatively light, yet strong and rigid, making it safe to use and very durable.

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

1. In a ladder, the combination, with the sides thereof, of a grooved and perforated cross-head extending between said sides, and a bolt passing through the cross-head and the sides and uniting them.

2. In a ladder, the combination, with the sides thereof, of a grooved and perforated cross-head extending between said sides and uniting them, a third leg, and means for attaching the latter to the cross-head and bolt.

In testimony whereof I affix my signature in presence of two witnesses.

BENJAMIN MORTIMER CLOSE.

Witnesses:

J. H. RUSSELL,  
G. K. ESTES.