Aug. 18, 1925. 1,550,356

J. HARVARD ET AL

LADDER

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FIG. 1

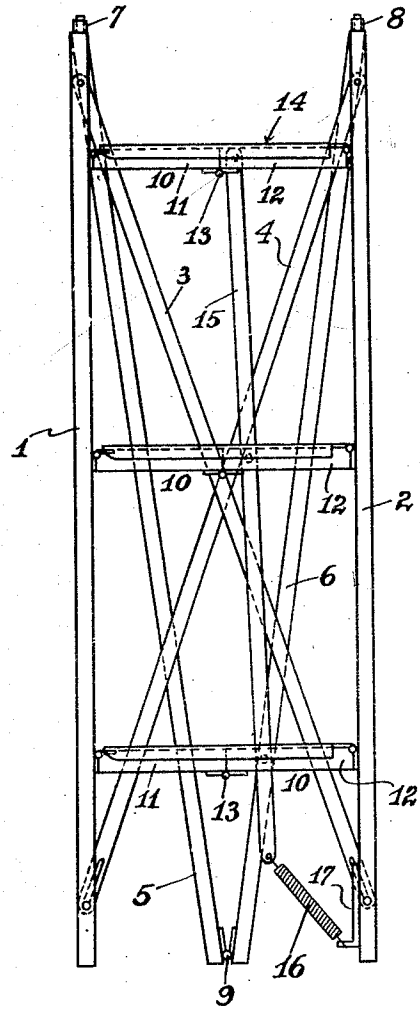

FIG. 2

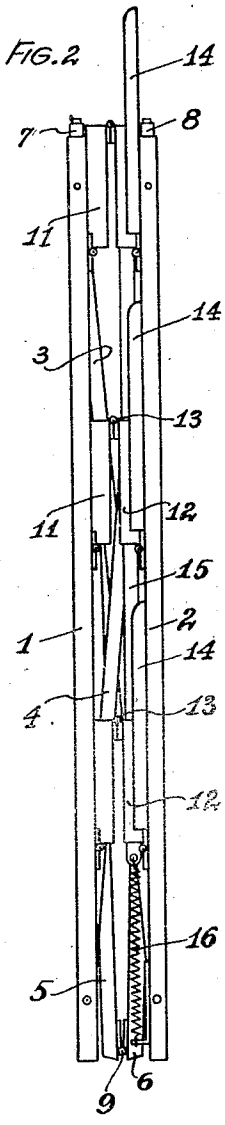

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FIG. 3

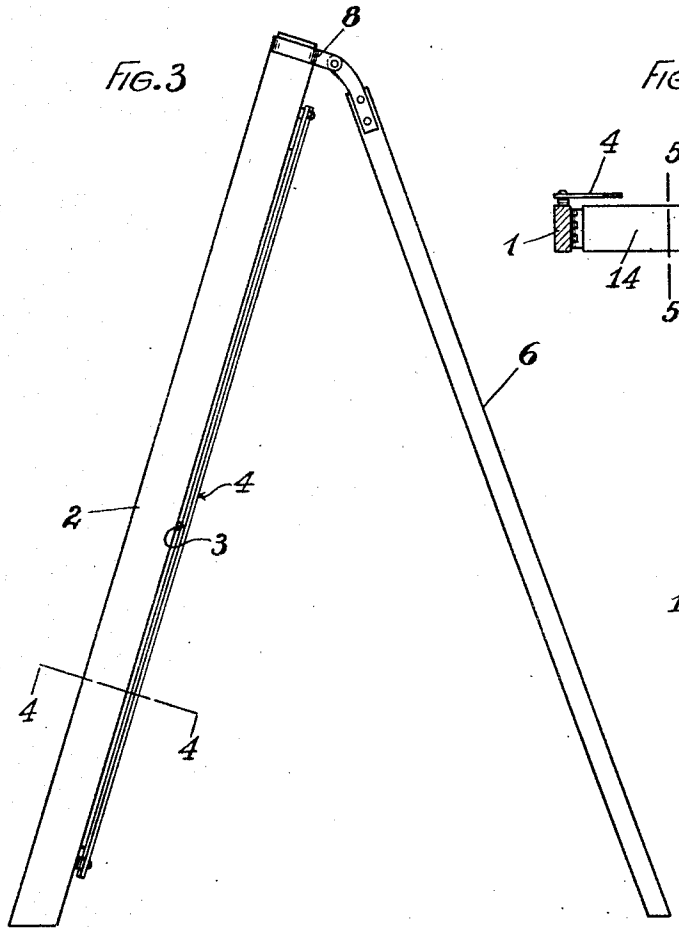


FIG. 4

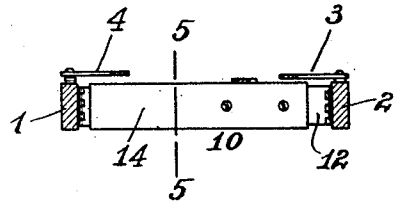
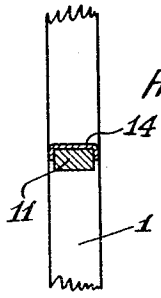


FIG. 5



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Patented Aug. 18, 1925. 1,550,356

UNITED STATES PATENT OFFICE.

JACK HARVARD AND LAWRENCE JAMES, OF VISALIA, CALIFORNIA, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-HALF TO SAID JACK HARVARD AND ONE-HALF TO OLIVE KRIDLER, OF MONTEREY, CALIFORNIA.

LADDER.

Application filed August 23, 1923. Serial No. 658,900.

To all whom it may concern:

Be it known that we, JACK HARVARD and LAWRENCE JAMES, citizens of the United States, residing at Visalia, in the county of Tulare and State of California, have invented certain new and useful Improvements in Ladders, of which the following is a specification.

Our invention is an improved folding ladder.

The object of our invention is to provide a ladder which may be folded into a very compact bundle, and which may be unfolded into a rigid structure.

Other advantages and objects will be more specifically pointed out in the following detailed description.

In the annexed drawing in which our invention is illustrated:

Figure 1 is a front view of our ladder in the unfolded position.

Figure 2 is a front view of our ladder in the folded position.

Figure 3 is a side view of the ladder unfolded.

Figure 4 is a sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a sectional view taken on the line 5—5 of Figure 4.

Referring more particularly to the drawing, our ladder comprises a pair of standards 1 and 2, which are suitably braced in the unfolded position by braces 3 and 4, pivoted at their upper ends to the standards 1 and 2 and having slots in their lower ends to permit folding.

Legs 5 and 6 are pivoted at their upper ends to straps 7 and 8 respectively which are secured to the standards 1 and 2 respectively. These legs are hinged together at their lower ends by a hinge 9.

A plurality of steps 10 are mounted between the standards 1 and 2. The steps consist of a pair of blocks 11 and 12, which are hinged at their outer ends to the standards 1 and 2 respectively, and are hinged together by a hinge 13. A plate 14 is secured to the block 12 and in the unfolded position is adapted to rest upon the block 11, thereby strengthening the step 10. The edges of the plates 14 are flanged downwardly over the blocks 11 and 12 to further reinforce and strengthen the ladder when unfolded.

A vertical link 15 is pivoted to each of the blocks 12 of the steps 10, and a spring 16 is secured to the lower end of said link and to a bracket 17 on the standard 2. This spring tends to hold the steps in the unfolded position and prevents the untimely folding of the ladder; it also assists in unfolding the ladder, tending to swing the steps downwardly.

Having described our invention we claim:

1. A folding ladder comprising a pair of standards, steps between said standards, said steps comprising a pair of blocks, hinged together, and to said standards, and a plate secured to one of said blocks and adapted to bear against the other, a link pivoted to one block of each step, and a tension spring to hold the steps in unfolded position secured to said link and to one of said standards, a pair of crossed braces, each pivoted at one end to a standard, and having a slot formed in the other end, and a pin in the other standard extending through the slot.

2. A folding ladder comprising a pair of standards, steps hinged to said standards, a link pivoted to said steps, and a tension spring to hold the steps in unfolded position secured to said link and to one of said standards, legs pivoted to each of said standards, and hinged together at their lower ends.

In testimony whereof we affix our signatures.

JACK HARVARD.
LAWRENCE JAMES.