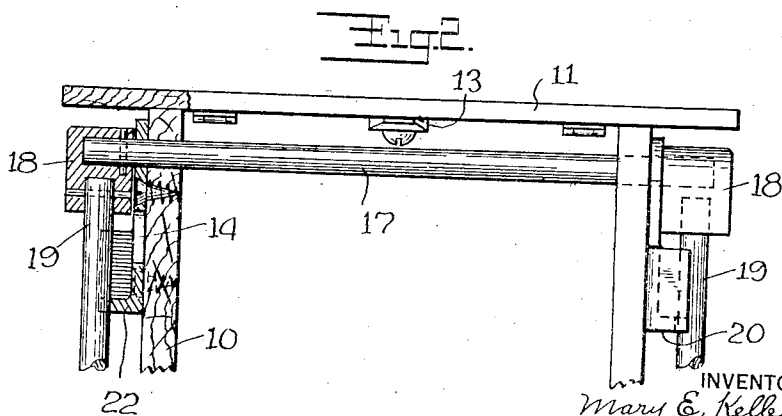
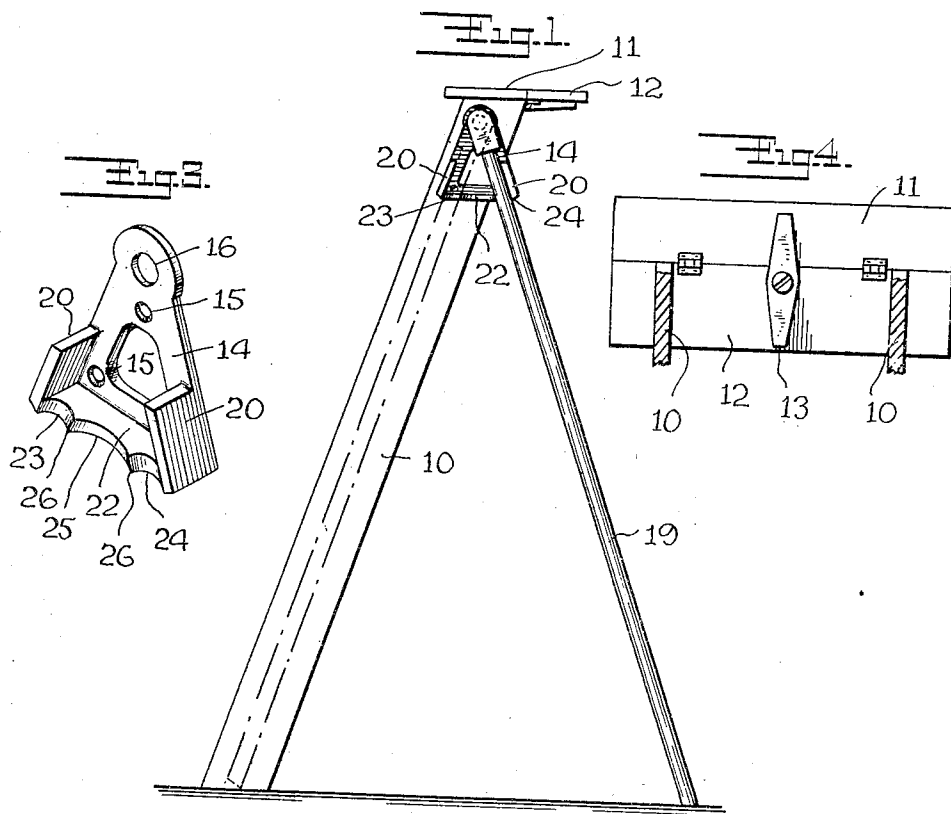


M. E. KELLEHER.
 STEPLADDER.
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STEPLADDER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MARY E. KELLEHER, a citizen of the United States, and a resident of Rutland, Rutland county, Vermont, have
5 invented a new and useful Improvement in Stepladders, of which the following is a full, clear, and exact description.

My invention relates to improvements in
10 stepladders, and the object of my invention is to produce a simple attachment for step-ladders by which the legs which support
and prop the ladder will be locked automatically in either open or closed position,
15 according as the ladder is opened or closed, and will thus prevent accidental closing or opening. My invention can be applied to advantage to a step-ladder and leg construction such as shown in Letters Patent
20 of the United States No. 821,834, dated May 29, 1906. In the patent referred to means is employed to limit the swing of the legs forward and backward, but this does not prevent the legs from swinging part way in
either direction, and so an accident may
25 occur. With my improvement, however, the legs may be operated as freely as usual, but as they reach the limit of their movement either in opening or closing, they spring into a socket which locks them securely
30 in place. As will be presently seen the locking means can be applied to either one or both legs, but it is better to apply the lock to both legs. My invention is further intended to produce a structure of this kind
35 which is very simple and inexpensive, and which can be very easily applied to the ladder.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar reference characters indicate corresponding parts in all
40 the views.

Figure 1 is a side elevation of an open step-ladder showing my improvement.

45 Fig. 2 is a broken vertical section partly in elevation, of the upper portion of the ladder showing particularly the locking means.

Fig. 3 is a perspective view of the locking bracket which is applied to the ladder,
50 and

Fig. 4 is an inverted sectional plan showing the top part of the ladder.

55 The step portion 10 of the ladder can be of any usual construction, and I have shown it only in side elevation, because the steps

and risers, and even the side pieces themselves, can be of any usual or preferred construction without affecting the invention. I have shown the ladder provided with the
60 customary top 11 and swinging shelf 12 which can be held open by a button 13. My improvement lies particularly in the bracket 14 which is applied to the sides of the ladder
65 near the top, and is provided with screw holes 15 to facilitate its attachment to the ladder sides, but obviously it can be fastened in any suitable and convenient way. Each
70 bracket is provided with holes 16 to receive the shaft 17 which extends transversely through the ladder near the top, and has a suitable connection 18 at the ends with the
legs 19 which can conveniently be of tubular metal, or can be of any preferred material. It is better to have the legs 19 rigidly
75 connected to the shaft 17 so that the two legs and the shaft form a unitary support which swings in and out with reference to the step portion 10 of the ladder.

Each bracket 14 is of generally triangular
80 shape and is provided near the lower end and near opposite edges with outwardly projecting flanges 20 which limit the swinging movement of the legs 19, and each bracket has also a horizontal and out-
85 wardly extending bottom flange 22 which is provided near opposite ends with concave sockets or seats 23 and 24, each adapted to receive the leg 19 as it nears its limit of
90 movement in or out. The flange 22 is also preferably concaved in the center as shown at 25, thus leaving two cam-like projections 26 which form the inner walls of the
sockets or seats 23 and 24.

It will be seen then that when the legs 19
95 are swung inwardly so as to lie parallel with the body of the step-ladder, they will spring over the projection or cam surface 26 and lie snugly in the sockets or seats 23 so as to remain closed under ordinary usage, and the
100 step-ladder can then be moved about and handled conveniently without fear of the legs flying open. When on the other hand the ladder is to be opened, the legs can be swung outward and the spring of the metal
105 and of the joints permits them to swing over the projections 26 and seat themselves in the sockets or seats 24, the flange 20 serving to limit the movement, and the sockets serving to lock the legs. If the legs were of other
110 material than metal the effect would be the same, and it will be seen that my improve-

ment holds the ladder securely in either open or closed position, thus facilitating its handling when closed, and guarding against its use when partly open. This often happens with the conventional step-ladder, and accidents frequently occur for this reason; but with my construction one would know that the ladder is never ready for use until the legs spring into their locking seats 24.

10 As above remarked, this locking bracket can be used on one side of the ladder, but it is preferably used on both sides, and the shape of the bracket may be changed and the construction of the step-ladder may be varied at will without affecting the principle of the invention, and while it is desirable to have the legs a unitary structure connected by the top shaft, it will be seen that the lock can be applied to swinging legs of any usual or preferred kind.

I am aware that spring attachments have been used to keep the legs of step-ladders in open or closed position, but such devices are generally unsatisfactory in actual use, as the springs do not properly fulfil their functions. But with my invention no springs are relied on, but an actual engagement occurs between the legs and their locking sockets so that the lock is always dependable. Moreover it is very simple to make and apply.

I claim:—

1. The combination with a step ladder having a swinging brace or prop, of a bracket adapted to be attached to the side of the step portion of the ladder and inside the prop, said bracket having an outwardly extending flange with socket portions in its outer edge and near opposite ends adapted to engage the brace or prop.

2. The combination with a step ladder

having a swinging brace or prop, of a bracket attached to the side of the ladder and inside the prop, said bracket having an outwardly extending flange with sockets in the outer edge and near the end portions thereof to engage the brace or prop and having also limiting stops extending upward from the end portions of the aforesaid flange.

3. The combination with a step ladder, of a generally triangular bracket adapted to be secured to the side of the ladder between the ladder and the brace or prop, said bracket having an outwardly extending bottom flange with sockets spaced apart thereon to engage the brace or prop, and with upwardly extending and converging limiting stops arranged adjacent the ends of the aforesaid flange.

4. The combination with a step ladder having swinging legs or props, of brackets on the sides of the ladder opposite the legs or props, said brackets serving as journals for the pivots of the legs or props and having outwardly extending horizontal flanges with sockets therein to engage the legs or props when the latter are in either open or closed position.

5. A step-ladder having swinging legs, outwardly extending flanges on the sides of the ladder opposite the legs and upon which the legs ride, said flanges being recessed or narrowed in their middle portion and provided with sockets near their edge portions to receive the legs when the latter are in either open or closed position.

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