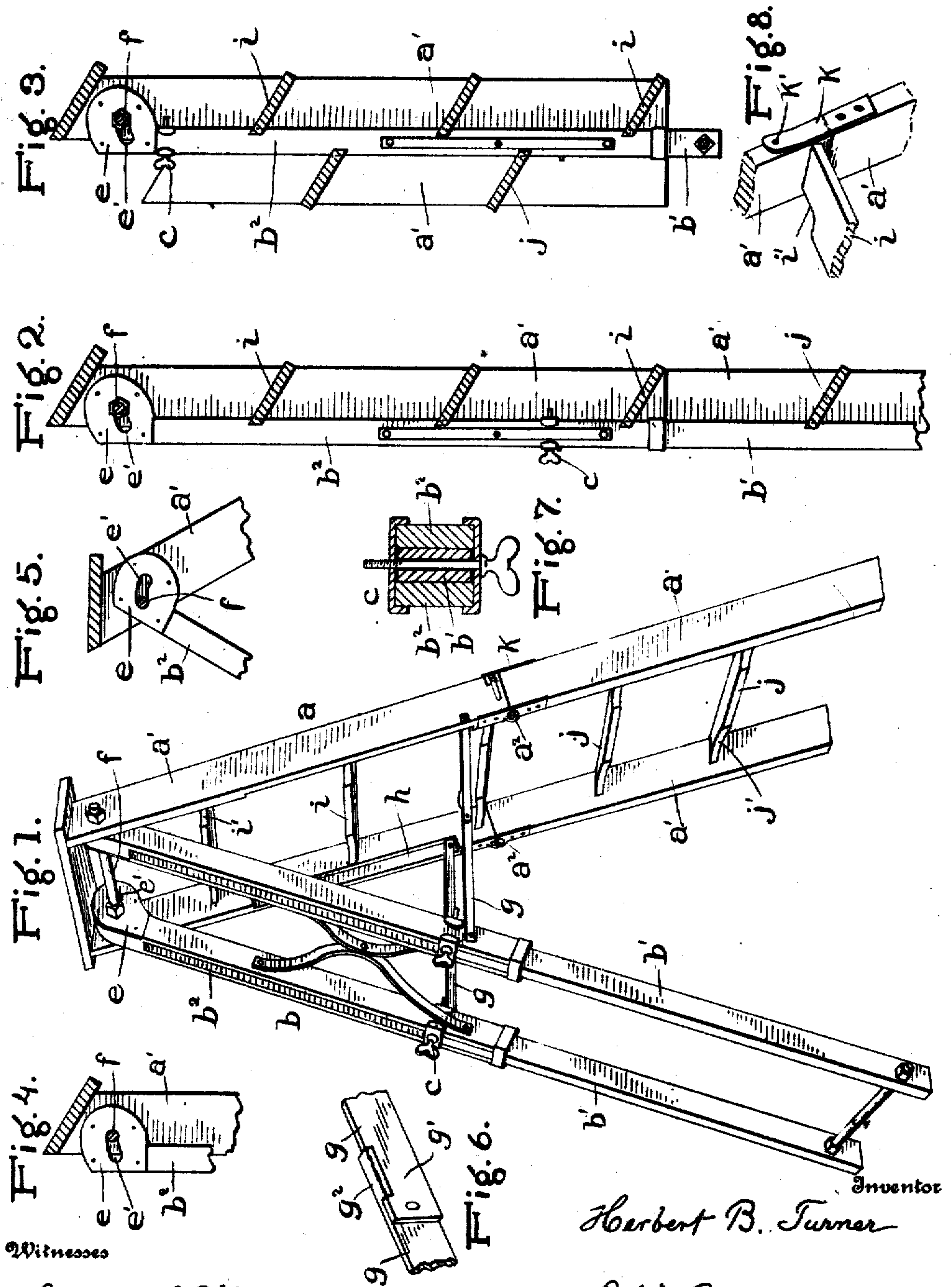


H. B. TURNER.
STEP LADDER.
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930,333.

Patented Aug. 3, 1909.



Witnesses

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HERBERT B. TURNER, OF LINTON, INDIANA.

STEP-LADDER.

No. 930,333.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERBERT B. TURNER, citizen of the United States, resident of Linton, in the county of Greene and State of Indiana, have made a certain new and useful Invention in Step-Ladders; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of my ladder. Fig. 2 is a fragmentary vertical sectional view of the same, with the prop closed against the step section. Fig. 3 is a similar view with the prop collapsed and the lower part of the step section turned back against the same. Fig. 4 is a detail section of the upper part of the ladder with the prop closed. Fig. 5 is a detail section of the upper part of the ladder with the prop thrown out. Fig. 6 is a detail perspective view of the joint of the brace arms. Fig. 7 is a detail cross section of the clamp for the parts of the prop. Fig. 8 is a detail perspective view of the catch for the parts of the step section.

The invention has relation to folding or collapsible step ladders having for its object the provision of an improved ladder the step and prop sections of which are separately foldable, the entire ladder folding into a small space for storage or shipping purposes.

Other objects and advantages will herein-after appear.

In the accompanying drawings, illustrating the invention, the letter *a*, designates the step section of the ladder and *b*, the prop section. This step section is made in two parts *a'*, *a''*, having hinged connection at *a²*, at the rear of the same. The prop section is made in two parts *b'*, *b''*, having telescoping or sliding engagement with each other, the slidable engagement being fixed by means of a screw clamp *c*, carried at the upper end of the lower part *b'*, and embracing both prop parts. Both rails of the upper part *b''*, of the prop have enlarged upper or head portions *c*, *c'*, provided with slots *c'*, *c'*, having engagement with a transverse rod *f*, forming the prop hinge and located at the

rear portion of the rails of the step section of the ladder.

g, is a hinged brace, pivotally connected to opposite rails of the step and prop sections of the ladder, one arm of each brace having a reduced inner end portion *g'*, and the other arm thereof having a lateral top flange *g''*, designed to come into bracing engagement with the portion *g'*, when the two arms are in alinement.

In folding the ladder into small space the lower part of the prop section is first slid upward within the upper part thereof, the screw clamp being first released and afterward tightened to secure the adjustment. The braces *g*, *g*, are then bowed upward and the folded prop turned upon its hinge toward the step section, the folded arms of the braces fitting within notched portions *h*, *h*, at the inner rear portions of the step section rails, and the prop, which is of width less than or equal to the interval between the rails of the step section, fitting partly within the rails of the upper part of the step section and within notches *i'*, *i*, formed at the rear of the steps *i*, *i*, thereof. The slots *e'*, *e'*, are for the purpose of bringing the prop hinge in line with the prop when in use, and when the prop is folded to the steps allowing a neat parallel folding. The step sections are next folded together, the two parts of each rail folding back to back and at each side of and inclosing the part of the folded prop not received within the rails of the upper part of the step section, the steps *j*, of the lower part of the step section being notched at *j'*, *j'*, to receive the outer portion of the folded prop.

In unfolding the ladder for use the parts of the step section have stop abutment at their inner ends when the parts are in alinement, it being impossible for the parts to fold together while the ladder is in use as the strain upon the ladder tends to make this stop abutment more secure. At the same time a spring catch device *k*, is employed at the meeting ends of the parts having automatic engagement with a pin *k'*, of one part when the two parts are alined. The disengagement of this spring catch device is equally automatic. It is also impossible for the parts of the prop section to move with relation to each other when adjusted to position, owing to the screw clamps, which effectually clamp the parts

together. The braces connecting the step and prop sections are prevented from dropping below the horizontal or out of line. A six foot ladder can thus be folded and stored in a three foot space, yet when unfolded and ready for use it is strong and equally serviceable as the ordinary step ladder.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A step ladder having a step section composed of two parts having a hinge connection, a prop section composed of two slidable parts having means for maintaining the same in position as adjusted, the parts of the step section having inner seats for receiving between them when folded the folded parts of the prop section.

2. A step ladder having a step section composed of two parts, a prop section having upper end portions provided with slots having end walls in line with the prop and composed of two slidable parts having means for maintaining the same in position

as adjusted, a hinge rod carried by the step section engaging said slots and capable of abutting against said end walls when the prop is turned outward, whereby the two sections of the ladder may be folded in parallel relation, the parts of said step section having inner seats for receiving between them when folded the folded parts of the prop section.

3. A step-ladder having a step section composed of two parts having a hinge connection at the rear, and the steps of which have rear notches, a prop section composed of two slidable parts having clamp means for maintaining the same in position as adjusted and capable when folded of fitting in the step notches of both step section parts.

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

HERBERT B. TURNER.

Witnesses:

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