

No. 743,899.

PATENTED NOV. 10, 1903.

J. D. LYNCH.
ADJUSTABLE STEP LADDER.

APPLICATION FILED APR. 23, 1903.

NO MODEL.

Fig. 1.

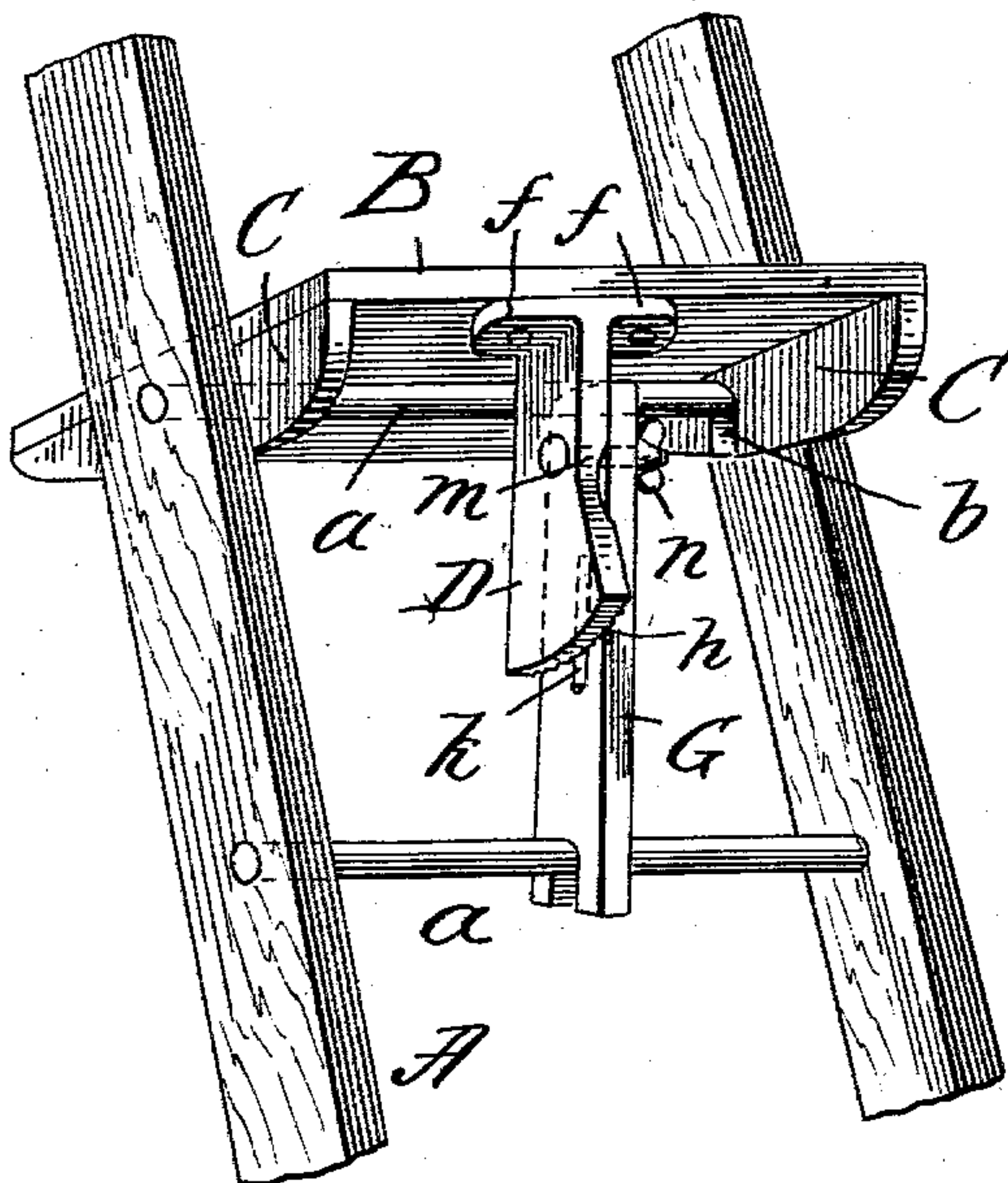


Fig. 2.

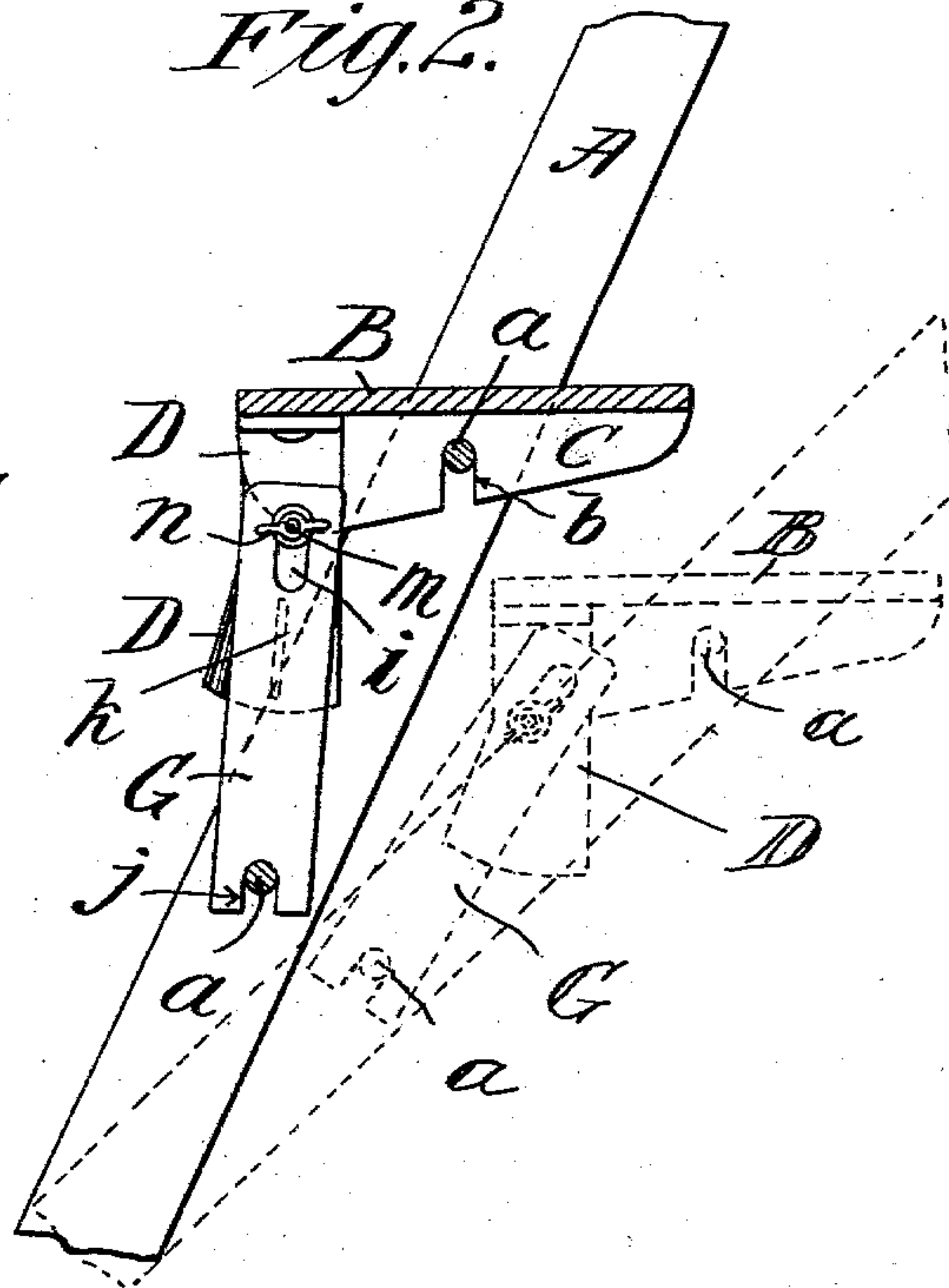


Fig. 4.

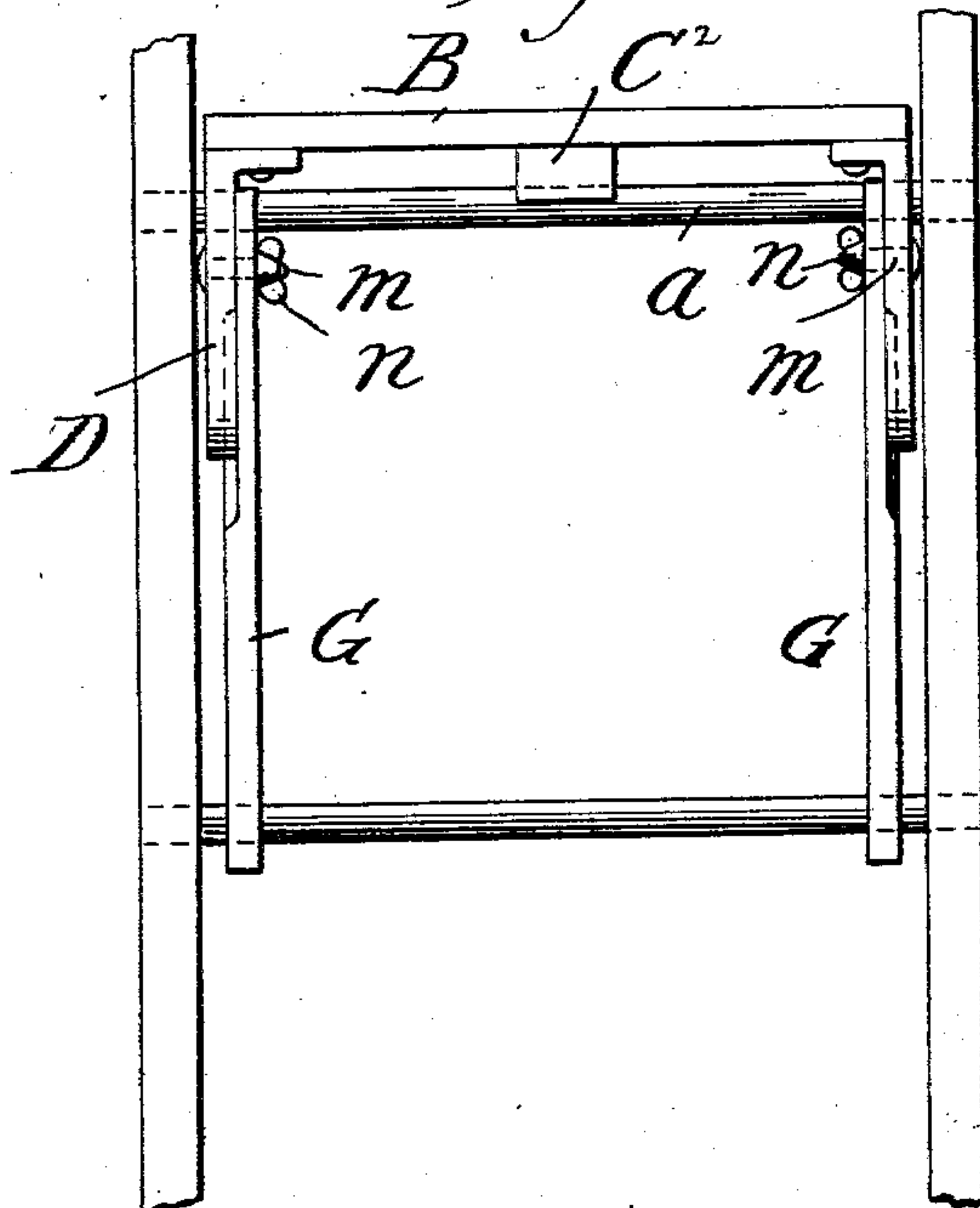
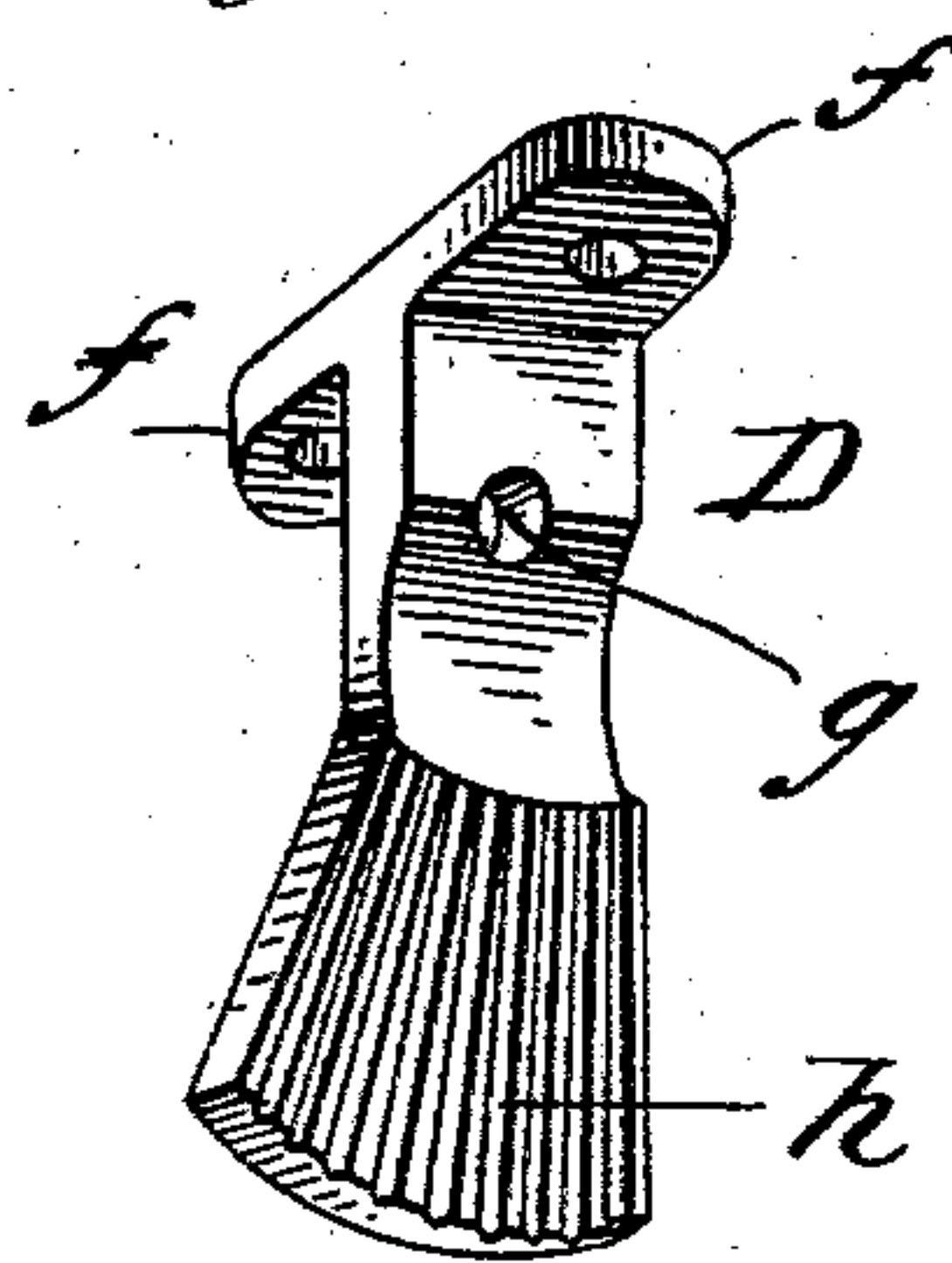


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN D. LYNCH, OF MILLERS FALLS, MASSACHUSETTS.

ADJUSTABLE STEP-LADDER.

SPECIFICATION forming part of Letters Patent No. 743,899, dated November 10, 1903.

Application filed April 23, 1903. Serial No. 153,924. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. LYNCH, a citizen of the United States of America, and a resident of Millers Falls, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Adjustable Steps for Ladders, of which the following is a full, clear, and exact description.

This invention relates to a detachable and adjustable step and the supporting engagement means therefor available for use in connection with any of the rounds of an ordinary ladder, the novel device being especially convenient and useful for painters, carpenters, and others desiring to have a step on which to stand and work at any height on the ladder.

The objects of the invention are to provide a step and adjustable means for supporting and engaging the step on the ladder, so that the step may be higher or lower, as may be desired, and to insure that the top of the step will always be level or as nearly level as desired notwithstanding variations in the inclination of the ladder.

The invention consists in a detachable step for a ladder having a ladder-round engagement member and having a depending bracket, a bar endwise formed to engage another and lower one of the ladder-rounds, having a pivotal and also a longitudinal sliding and adjusting engagement with the depending bracket, and means for confining the bar and bracket securely in their adjusted relations.

The invention also consists in the combination of parts of specific character, substantially as hereinafter described, and set forth in the claims.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a perspective view showing a portion of an ordinary ladder and the novel adjustable and detachable step as in its supporting engagement on the ladder. Fig. 2 is a central vertical section of the same with a dotted line representation of changed relative positions of the parts necessitated by a changed inclination of the ladder. Fig. 3 is a perspective view of the depending bracket, which is a fixture of the step. Fig. 4 is a

front elevation of a ladder and the step having fixtures and appliances therefor duplicated and in a somewhat modified arrangement, but still embodying the same novel and essential characteristics of the arrangement shown in Fig. 1.

Similar characters of reference indicate the same or substantially similar parts throughout the various views.

A represents a portion of an ordinary form of ladder, of which *a a* are the rounds.

B represents the step, the same having the form of a sufficiently wide platform, the length of which is slightly less than the distance between the opposite ladder side.

C represents the ladder-round engagement member shown as in the form of duplicated depending cheeks or lugs as of one part with the step and having in each the downwardly-opening recess *b*, the boundaries of which engage about one of the rounds *a* of the ladder.

D represents the depending bracket, the same having one or more detachment-lugs *f f*, whereby it is screwed to the under side of the step B, said bracket having the transverse perforation *g*, and has one of its faces provided with a plurality of serrations or notches *h*, preferably arranged as radiating from the center of the hole *g*. The bracket has its location relatively to the step forwardly from the point of engagement which the member C has with the ladder-round.

G represents the support-bar, the same having near its upper end the longitudinal slot *i*, the lower endwise-opening recess *j* to engage the next lower round from that engaged by the member C, and this bar has a facewise projecting rib *k*.

m represents a headed bolt engaged with and penetrating by its shank the perforated bracket, such bolt further extending through and beyond the slot in the support-bar *g*, receiving at its extremity the binding-nut *n*. This bolt and its nut arranged as described constitutes a pivotal connection between the bracket and the support-bar G and permits when the nut is loosened, so that the bar may be facewise offset and freed from the bracket, so that the aforementioned rib *k* becomes disengaged from the notches *h* in the bracket, the sliding movement longitudinally of the

support-bar relatively to the bracket of the step, so that distended relations of the step and support-bar may be established to enable the engagements of the parts to be made with two of the ladder-rounds, thereafter permitting approached relations of the step and support-bar to perfect the engagement, and in cases where the inclination of the ladder is to be changed—as, for instance, from that represented by full lines to that represented by dotted lines in Fig. 2—it manifestly is only necessary to temporarily loosen the binding-nut, freeing the engagement between the bracket and support-bar, tilting the step and bracket until the step is level, incidentally swinging the support-bar so that its length is angular or differently related to the length of the bracket, and then reconfining the parts.

In Fig. 1 duplicated ladder-round engagement members C C are shown as provided at the ends of the step, and a single bracket and a single support-bar are provided between the said engaging members; but in Fig. 4 a single intermediate bracket engagement member C² is provided dependent from the step, and duplicated brackets D and duplicated support-bars G, having substantially the same relative arrangements and fastening and adjusting provisions as in the first-illustrated form of the device, are shown as combined with the step at the end portions thereof.

It is a matter of selection which of the forms, whether that of Fig. 1 or that of Fig. 4, would be preferable, that of Fig. 1 being simpler, cheaper, and more quickly adjusted and confined in position, one bracket and support-bar being generally efficient, the form and arrangement of Fig. 4 having the only point of advantage as would result from a greater strength of support acquired by the duplication of the supporting connections.

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

1. A detachable step for a ladder compris-

ing, in combination, the step proper having a member to engage a ladder-round, a bracket immovably affixed to, and depending below the step, a bar formed at its bottom to engage another and lower one of the ladder-rounds, and the said bar and immovably-affixed bracket being constructed, the one with a longitudinal slot, and the other with a bolt, carried thereby, and engaging through the slotted part, and a clamping-nut screw-engaging on the extremity of the bolt and binding the said bracket and bar facewise together in any of their distention or pivotal adjustments.

2. A detachable step for a ladder having a depending ladder-round engagement member, and having a depending bracket, the face of which is serrated, a bar endwise formed to engage another and lower one of the ladder-rounds, having a pivotal, and also a longitudinally-sliding adjusting engagement with the depending bracket, and having a rib extending out from its face to engage in the bracket serration, and means for clamping the bar and bracket in their adjusted relations.

3. A detachable step for a ladder having a depending endwise-recessed ladder-round engaging lug, and having a depending bracket, provided in its face with a series of serrations, a bar endwise recessed to engage another and lower one of the ladder-rounds, a longitudinal intermediate slot, and having the side rib, the headed bolt extended through the thickness of the bracket and through the slot in said bar, and having a clamping-nut screw-engaged on its extremity, substantially as described.

Signed by me at Springfield, Massachusetts, in presence of two subscribing witnesses.

JOHN D. LYNCH.

Witnesses:

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A. V. LEAHY.