July 20, 1954 D. H. BUCKLEY 2,684,193

STEPLADDER

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FIG. 1.

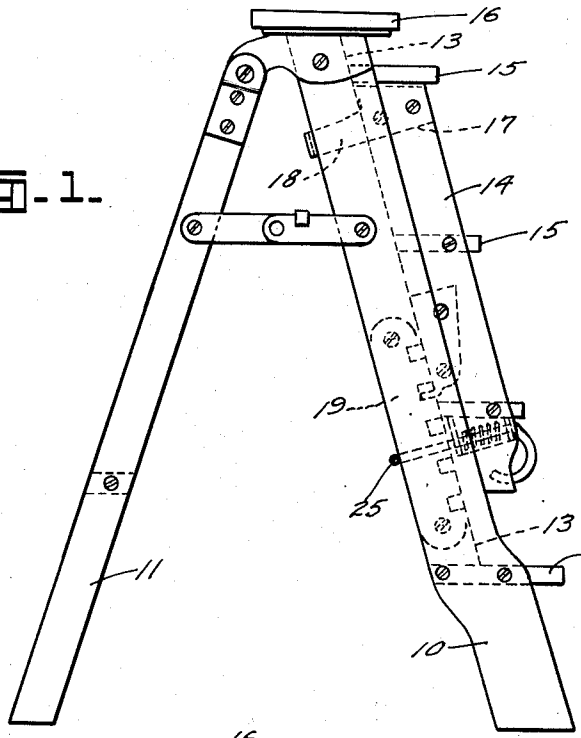


FIG. 2.

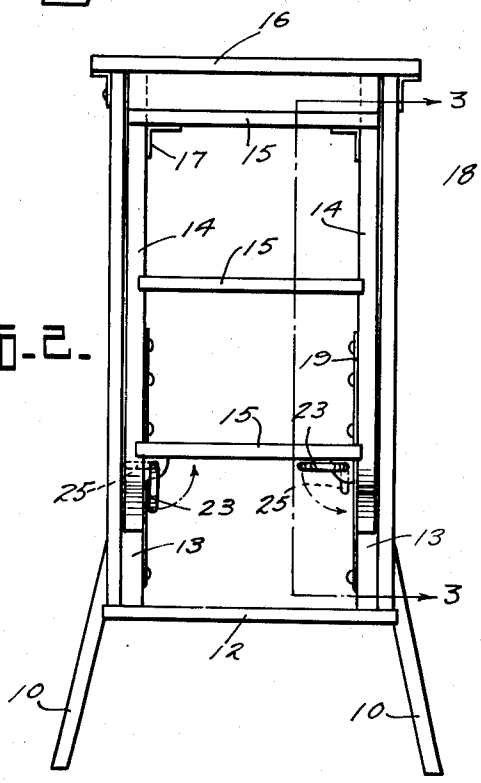
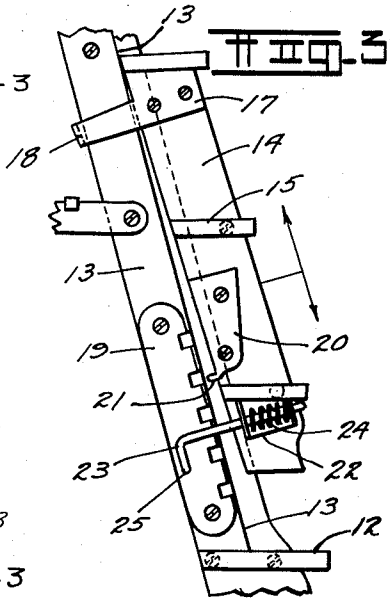


FIG. 3.



INVENTOR.
Duer H. Buckley.
BY W. B. Harpman
ATTORNEY.

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STEPLADDER

Duer H. Buckley, Vienna, Ohio, assignor to Francis G. Medley, Poland, Ohio

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2 Claims. (Cl. 228—29)

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This invention relates to a stepladder and more particularly to a stepladder in which the steps thereon are movable with respect thereto.

The principal object of the invention is the provision of a stepladder having the steps thereof adjustable vertically so as to enable a person using the stepladder to position the steps at a convenient height.

A further object of the invention is the provision of a stepladder, the step portions of which are formed as a separate construction including the steps and side rails and movably mounted on the stepladder.

A still further object of the invention is the provision of a stepladder incorporating means for holding a movable step portion thereof in stationary relation to the remainder thereof.

The stepladder disclosed herein comprises an improvement in the art relating to such devices in that a construction is disclosed wherein the step portion is formed as an individual ladder section positioned for vertical movement on the vertical supporting surfaces of the stepladder. The construction enables the user of the stepladder to adjust the step portion of the ladder to any desired height. For example, the user may move the step portion of the ladder upwardly with respect to the remainder thereof, secure it in position and thereby provide a suitable platform with respect to reaching an object above the ladder. If upon trial the object is not comfortably reached by the user, the steps may be re-adjusted so that the user of the device may comfortably reach the object desired. This is particularly advantageous in the painting and washing of ceilings, stair wells and the like wherein a conventional stepladder provides no suitable support and particularly with respect to the height thereof.

The stepladder disclosed herein may be economically formed, readily adjusted and occupies but little more space than a conventional stepladder with stationary steps.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being the intention to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

The invention is illustrated in the accompanying drawing, wherein:

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Figure 1 is a side view of a stepladder.

Figure 2 is a front view of a stepladder.

Figure 3 is a vertical section on line 3—3 of Figure 2 on an enlarged scale.

By referring to Figure 1 of the drawings it will be seen that a stepladder has been disclosed which includes a pair of spaced front legs 10 and a pair of spaced rear legs 11. The legs 10 and 11 are preferably bowed outwardly at their lower ends (as best shown in Figure 2 of the drawings) and secured to one another by means of a fixed step 12. The step 12 extends frontwardly of the legs 10.

The legs 10 have recessed longitudinally extending flanges 13 formed thereon (as best shown in Figure 3 of the drawings) in oppositely disposed relation for the reception of a movable ladder section comprising a pair of spaced side rails 14 secured to one another by a plurality of steps 15. The side rails 14 slidably engage the recessed flanges 13 on the legs 10 of the step ladder and are capable of vertical movement therealong. The upper ends of the legs 10 are secured to a top portion 16 and the ladder section comprising the side rails 14 and the steps 15 is capable of vertical movement on the recessed flanges 13 of the legs 10 between the top portion 16 and the fixed step 12 heretofore referred to.

In order that the ladder section comprising the rails 14 and the steps 15 may be secured at a desired location between the top portion 16 and the fixed step 12, several brackets are secured to the rails 14 and the legs 10 for selective interengagement. These brackets comprise a pair of guide brackets 17 secured to the rails 14 immediately beneath the uppermost step 15 and have rearwardly extending L-shaped sections 18, portions of which engage the back sides of the flanges 13, as best shown in Figure 3 of the drawings. The brackets 17 thereby loosely secure the upper end of the rails 14 of the movable ladder section to the flanges 13 and thus to legs 10.

A pair of slotted plates 19 are positioned on the opposed surfaces of the flanges 13 of the legs 10 and a pair of secondary brackets 20 having projecting lugs 21 thereon are positioned on the rails 14 of the ladder section of the device so that the lugs 21 will register with the slotted plates 19.

It will thus be seen that when it is desired to move the ladder section carrying the steps 15 vertically with respect to the legs 10, the lower portion thereof is moved outwardly to disengage

the lugs 21 from the slotted plates 19 and the desired movement effected.

In order that the ladder section carrying the steps 15 can be secured against accidental movement, a pair of retaining clamps are positioned on the rails 14 and comprise U-shaped mounting brackets 22 having openings therein through which clamps 23 are slidably positioned. Springs 24 normally tend to rotate the clamps so that offset end portions 25 normally lie behind the flanges 13 of legs 10 and thereby hold the ladder section carrying the steps 15 in engagement with the recessed flanges 13 and with the lugs 21 engaging the slotted plates 19. Movement of the ladder section carrying the steps 15 is possible only when the clamps 23 are partially revolved, as best shown in Figure 2 of the drawings, which permits the offset end portions 25 thereof to slide forwardly alongside the slotted plates 19, as best shown in Figure 3 of the drawings.

It will thus be seen that a stepladder has been disclosed which includes a fixed lower step 12 and a fixed top portion 16 and that the plurality of steps 15 are mounted on the side rails 14 which are slidable vertically along the legs 10 which carry the top portion 16 and the fixed step 12. Thus, a person using the ladder may position these steps at any desired height to make a comfortable platform with respect to an object above the ladder to be reached by the user.

It will also be seen that the construction is such that it may be economically formed, readily assembled and easily operated and which adds but little weight and bulk to the conventional stepladder in which all of the steps are fixed.

Having thus described my invention, what I claim is:

1. A stepladder having a fixed lowermost step and a top portion and rail receiving formations extending longitudinally between said fixed step and top portion, a ladder section including side rails and steps fixed therebetween slidably mounted on said rail receiving formations, notched plates on said rail receiving formations, projecting brackets on said side rails engaging said notched plates when said side rails are positioned on said rail receiving formations and releasable clamps on said side rails for releasably securing said side rails to said stepladder.

2. A stepladder including spaced vertically standing front legs having recessed flanges formed on the inner opposed sides of said legs and a ladder section including spaced side rails and fixed steps therebetween mounted on said recessed flanges for vertical movement therealong, L-shaped brackets on the upper end of said ladder section, portions of which engage the back sides of said legs, notched plates on said recessed flanges and lug carrying brackets on said ladder sections, said lugs engaging said notched plates and movable clamps on said ladder section for engaging the back sides of said legs to hold said ladder section in fixed position on said recessed flanges and acting to permit said ladder section to be moved away from said recessed flanges to disengage said lugs from said notched plates whereby said ladder section may be moved vertically on said recessed flanges.

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