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FOLDING STEP STOOL
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Fig. 1.

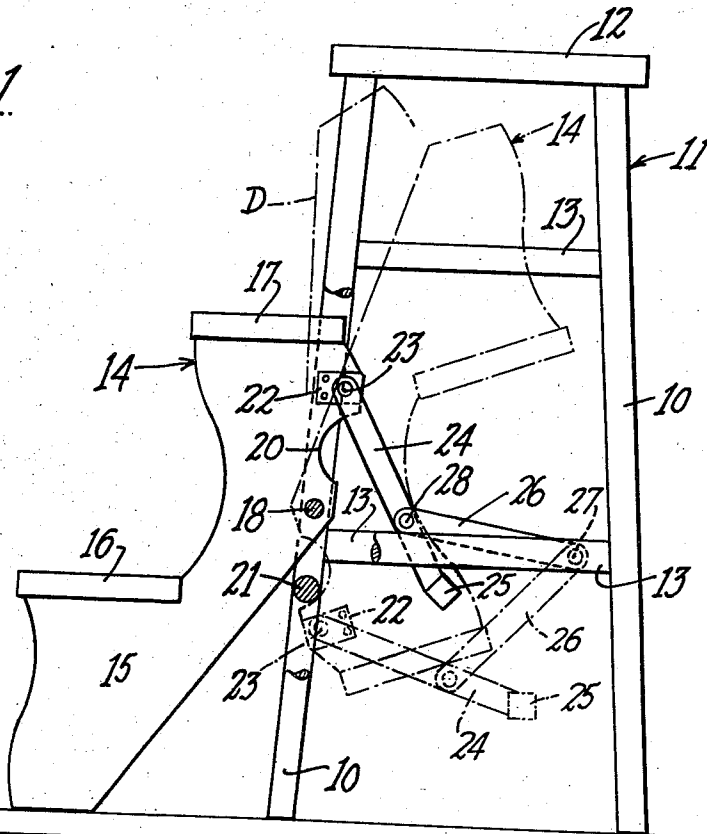
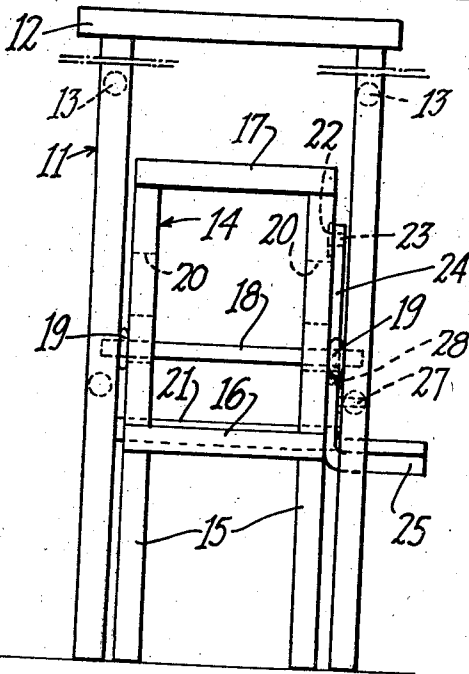


Fig. 2.

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FOLDING STEP STOOL

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4 Claims. (Cl. 155—42)

This invention relates to step stools and in particular to a stool embodying means for throwing the step portion of the stool either closed or open by foot pressure.

5 A particular object of the invention is to provide, in a step stool of the character referred to, a foot operated means for throwing the steps of the stool outwardly or to open position ready for use as a step ladder, and for throwing the steps
10 inwardly or closed to a position beneath the stool out of the way when the stool is not in use as a ladder or is in use as a stool only.

It is a further object of the invention to provide a pedal lever and linkage arrangement for the purpose of throwing the steps outwardly and inwardly by the downward pressure of the foot
15 on the pedal lever so that it is unnecessary to use the top of the toe portion of a shoe in any operating movement of the steps. The foot pedal is
20 pressed down to open the steps and is again pressed down to close the steps.

A further object of the invention is to provide a mechanism for the purpose described which will be simple in construction, easy and
25 light to operate, will afford a convenience to the housewife or other user who may wish to mount the step stool to store a number of articles that engage both hands, it being possible with a slight
30 toe pressure on the pedal lever to open the steps for use without the necessity of employing the hands.

In the construction of the step stool, it is also possible to operate the step portion of the stool by the hands if desired, although the use of
35 the foot pedal obviates stooping either to open or close the steps, and thus saves labor and time. In the mechanism, the parts are so arranged that the step portion is pivotally mounted and balanced so that a throw of the steps in either opening or closing movement to a point beyond the
40 balance or dead center of pivot point will cause the step portion to assume the open or closed position under the influence of gravity.

With the above and other objects in view, the
45 invention consists in the novel combination, construction and arrangement of the parts as will be hereinafter more fully described and illustrated in the accompanying drawing, in which:

Figure 1 is a view in side elevation showing in
50 full lines, the open position of the step portion of the stool, and in outline the closed position of said step portion, parts being broken away for better illustration, and

Figure 2 is a view in front elevation showing
55 the arrangement of the parts as they would ap-

pear when the step portion of the stool is in the open position as seen in Figure 1.

Referring to the drawing in detail, 10 indicates the supporting legs of a stool 11, having a top 12 and rungs 13 to provide a stool of well known
5 character commonly used in kitchens and arranged to serve the dual purpose of stool and step ladder by the incorporation in the stool of a set of steps, the tops of the steps and the top of the stool being preferably provided with
10 a non-slipping surface such as a rubber mat. This construction is well known and in my present invention, I wish to eliminate the necessity of stooping over to lift the steps to usable position or close them after use and to this end, I
15 provide a step portion 14, comprising sides 15 and steps 16 and 17. The step portion is mounted for pivotal swinging movement on a cross rod 18 extending between front legs 10 and positioned
20 in suitable openings in said legs at the time of assembling the stool in manufacture. The step portion of the stool is maintained in laterally fixed position by suitable wood washers or any other spacing means 19 and the cross rod 18
25 passes through the sides 15 of said step portion.

The rear edges of the sides 15 are cut out as at
20 to clear and provide a stop seat for the rung 21 extending across the front of the stool, so that, as the step portion is swung to the outline
30 or closed position as illustrated in Figure 1, it will be limited in its inward swinging movement by the rung 21.

To one side 15 of the step portion, I mount a pivot plate 22, on a stud 23 on which is pivoted one end of a downwardly extending pedal lever
35 24 whose lower end is extended horizontally beyond one side of the stool to provide a footpiece 25 on said pedal lever. Any type of footpiece may be provided. Intermediate the footpiece 25
40 and the pivoted end of the pedal lever 24, the latter is connected by a link 26 to a stud 27 mounted on one of the side rungs 13 of the tool. The link 26 is pivoted to the lever 24 by a pivot pin 28 so that free movement between the parts
45 is provided.

When the step portion 14 is in the open position as seen in Figure 1, the foot piece is in a somewhat raised position, and downward pressure thereon, will cause the pedal lever to swing the step portion about its pivot rod 18. As the foot
50 piece reaches its lower point, which is the position indicated by the outline D position in Figure 1, the momentum of the swinging foot portion 14 will continue said step portion to its closed position and cause the raising movement of the foot-
55

piece 25 of the pedal lever so that said foot piece will occupy the outline position indicated in Figure 1 when the step stool part 14 is fully closed under the stool top. With the foot piece 25 in this position, it can be pressed down to throw the step portion 14 upwardly and outwardly and the momentum of the swinging part will carry it over its dead center and under the influence of gravity will be caused to fall to open position. The influence of gravity is also responsible for the closing movement of the step portion after it passes the dead center area. It is evident that a downward thrust on the foot piece 25 by the toe of the shoe is sufficient to open or close the step portion 14 without using the hands and this downward movement to either open or close the step portion is of importance in that the top of the shoe is not marred and also greater pressure can be exerted more quickly by a downward pressure than by an upward one.

It is evident therefor, that I have provided a novel step stool construction which can be quickly and easily operated to open or close the steps thereof and one which is inexpensive to manufacture, is light in weight and requires no knowledge in its operation.

My invention is not to be restricted to the precise details of construction shown since various changes and alterations therein may be made without departing from the spirit of the invention or sacrificing the advantages derived from its use.

What I claim is:

1. In a step stool, in combination, a stool top, a supporting structure including legs and rungs, a step portion presenting sides and steps, mounted between said legs for pivotal swinging movement to a position inwardly and outwardly of said supporting structure, a depending pedal lever, pivoted to the step portion, a link connecting said lever with said supporting structure for guiding the lever in its downward movement to

swing the step portion inwardly and said link serving as a fulcrum for the lever in its downward movement to swing said step portion outwardly.

2. In a step stool, in combination, a stool structure, a step portion pivoted to said structure, for swinging movement to positions inwardly and outwardly of said structure, a pedal lever pivoted to the step portion, a link connecting the lever with said structure for guiding the pedal lever in downward movement to swing the step portion inwardly and said link serving as a fulcrum for said pedal lever in its downward movement to swing said step portion outwardly.

3. In a step stool, in combination, a stool structure, step portion pivoted to said structure for swinging movement to positions inwardly and outwardly of said structure, a pedal lever pivoted to the step portion, a link connecting the lever with said structure for guiding the pedal lever in its downward movement to swing the step portion inwardly and said link serving as a fulcrum for said pedal lever in its downward movement to swing said step portion outwardly, and means for limiting the inward swinging movement of the step portion.

4. In a step stool, in combination, a stool structure, a step portion pivoted to said structure for swinging movement to positions inwardly and outwardly of said structure, a pedal lever pivoted to the step portion and presenting a foot piece extending beyond said structure, a link connecting the lever with said structure for guiding the pedal lever in downward movement to swing the step portion inwardly and said link serving as a fulcrum for said pedal lever in its downward movement to swing said step portion outwardly, and means for limiting the inward swinging movement of the step portion.

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