Feb. 21, 1939. M. V. LILLISTON 2,147,905

FOLDING STEP CHAIR

Filed May 5, 1937

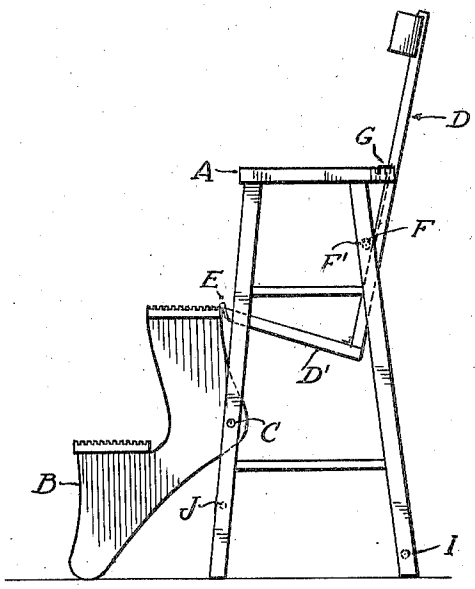


FIG. 1

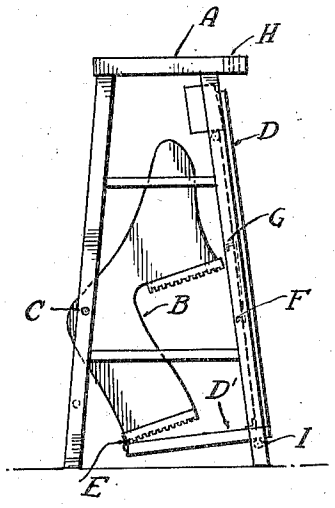


FIG. 3

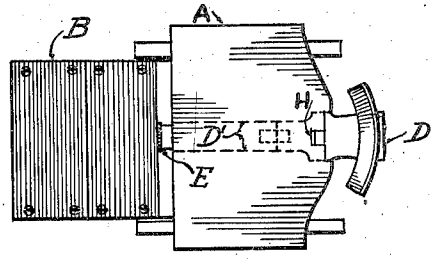


FIG. 2

FIG. 4

INVENTOR.

BY M. Vernon Lilliston

ATTORNEY.

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FOLDING STEP CHAIR

Mount Vernon Lilliston, Oak Park, Ill.

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2 Claims. (Cl. 155—42)

My invention relates to improvements in combination step stools and chairs in which the manual operation of one element to its service position automatically moves a second element to its service position; and the objects of my improvements are, first, to provide a compact unit which may be easily moved about or used simply as a stool; second, to provide a unit which when open to its position of greatest utility, may then be used as a step ladder or a chair having a substantially rigid back; third, to provide means for the automatic movement of the tread or step portion to its service position by the manual movement of the chair-back portion to its service position. These and other important objects of my invention will become evident as the description proceeds.

I attain the purposes of my invention by the mechanism disclosed in the accompanying drawing, in which—

Fig. 1 is a side elevation of my invention when opened for service as either a chair or a step ladder; Fig. 2 is a corresponding plan view; Fig. 3 is a side elevation showing the unit closed for service simply as a stool; and Fig. 4 is an enlarged view of certain sections of Fig. 1, which more clearly discloses some of the smaller parts of my invention.

Referring to the drawing,—in Fig. 1, A represents a stool structure comprising a seat or top and a plurality of legs therefor. B is a step portion having one or more treads. This element B is pivoted to a pair of legs of the element A, at the point C. D is a back member to which the part D' is joined in substantially a perpendicular relation, the two elements D, D' therefore constituting a rigid L-shaped structure. This unitary structure D, D' is hinged at E to the member B. On D at F is a hook, more clearly distinguishable in Fig. 4. At G on D is a second hook. Both of these hooks have downwardly projecting tips. In the drawing I indicate that these two hooks comprise a unitary element although this is not essential. The hook at F is arranged to engage an upper rung F' of the element A. The hook at G is arranged to engage in a well or hole H near the right-hand edge of the seat on A as shown in the drawing. H is clearly shown in Fig. 2, Fig. 3, and Fig. 4. It will be obvious, theoretically, that the engagement of either the hook F with its complementary element or the engagement of the hook G in its complementary element would be sufficient to secure relative rigidity between the element D, D' and A but by the use of both F and G, I secure a far greater degree of firmness and security.

In order to secure compactness, I arrange to have the L-shaped member D, D' rest on a lower rung I of the stool A when in the storage position as shown in Fig. 3.

Having described the principal structural details of my invention, I shall now describe its use and set forth clearly how my invention attains the objects briefly outlined at the beginning. In this description wherein I refer to the drawing and the movement of the parts, by the right or left, I mean to the reader's right hand or left hand, as the case may be.

Referring to Fig. 1, wherein my invention is shown in the open position which is its position of maximum utility, if one grasps the back D, then raises it slightly so as to disengage the hooks F and G and then moves it to the right and downward, the movement of the rigid element D, D' automatically rotates the element B about its pivot point C. Now when the element D, D' has been lowered until its corner rests on a lower rung of the element A, the several parts will assume the compact position disclosed in Fig. 3. In opening the unit, the reverse operation is employed. D is pulled to the right from its storage position, then manually raised up until the hooks F and G may engage their complementary elements, and simultaneously the element B automatically rotates outward to the left to its service position.

It will now be obvious that the several objects of my invention have been fully attained. When closed, the unit may be used simply as a stool or may be lifted up and moved about without danger of some of its elements falling out and becoming bothersome. When opened, the unit comprises a chair whereon one may rest against a rigid back while the steps provide a convenient rest for the feet, or if desired, the unit may be used as a step ladder, the back being a convenient hand-hold to assist in climbing. And since the manual operation of the back automatically controls the movement of the steps, it is unnecessary to stoop over in opening or closing the unit.

While I have illustrated and described by invention in a preferred form, I realize that in practice, various alterations in construction may be made without departing from the spirit of the invention or scope of the following claims.

I claim,—

1. A folding step chair comprising a stool, a step element pivoted beneath a top edge thereof

at a point intermediate the height of said step element to the lower structure of said stool, a rigid L-shaped member having a substantially vertical portion positioned adjacent said stool on a side opposite said step element and a substantially horizontal portion extending from the lower end of said vertical portion, said horizontal portion projecting beneath said stool and being hingedly joined to an upper portion of said step element, said vertical portion extending above said stool and means on said stool and said vertical portion for securing said vertical portion to said stool to provide a back rest therefor, said securing means being detachable and said vertical portion then being adapted to be lowered to a position within said stool, said L-shaped member serving at the same time as means for rotating said step element about its pivot to inverted position within said stool and to bring the same back to normal position when the vertical portion is raised.

2. A folding step chair comprising, a stool, a tread or step element pivoted to the lower structure of the stool at an intermediate point of the tread element, and a unitary structure having a substantially, horizontal portion in rigid engagement with a substantially vertical portion; the said tread element and unitary structure resting substantially within the stool structure when in their storage position, the tread element being inverted and hingedly connected to the said horizontal portion of the unitary structure and resting above said horizontal portion in said position, the manual withdrawal and raising of the vertical portion of the unitary structure serving to rotate the tread element from the storage to the service position in front of said stool, said vertical portion of said unitary structure being of a length to then extend above the top of said stool, this said vertical portion of the unitary structure and the upper portion of the stool being provided with cooperating means to secure the vertical portion in rigid relation therewith for use as a back rest.

M. VERNON LILLISTON.