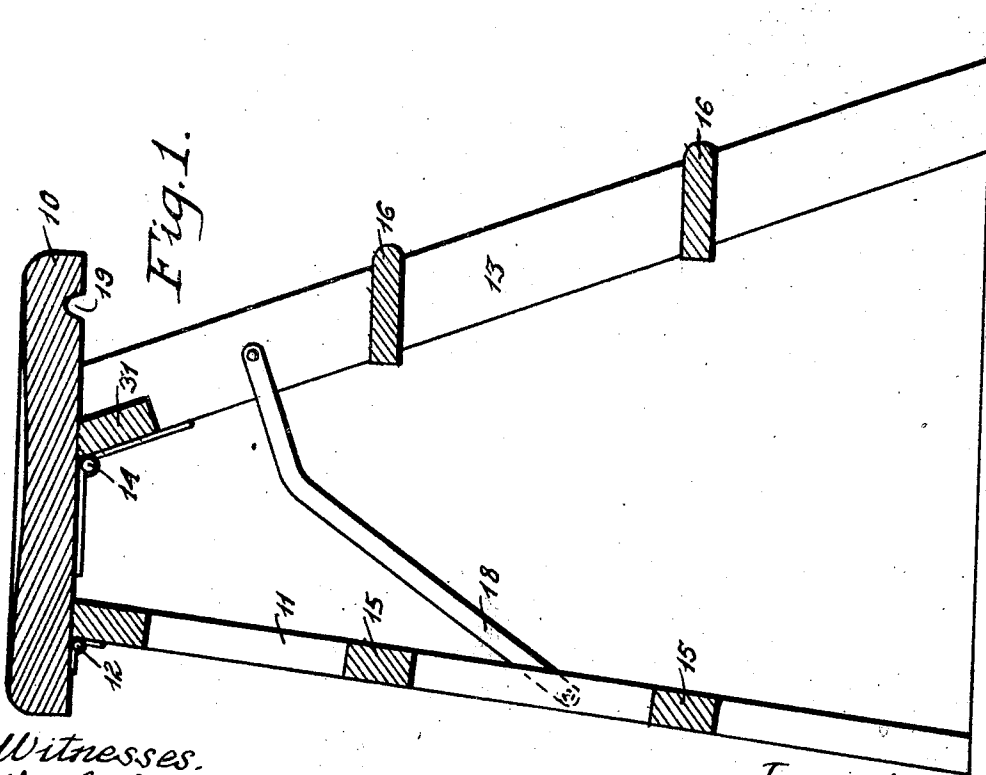
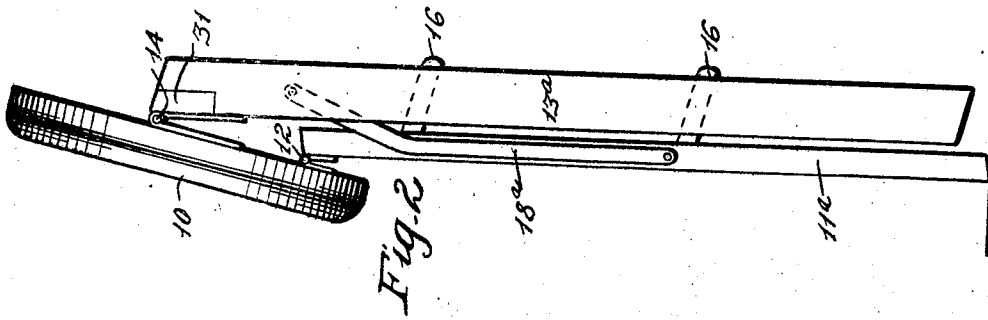


A. A. CASSIDY.
FOLDING STOOL.
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Patented June 10, 1913.



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UNITED STATES PATENT OFFICE.

ALICE A. CASSIDY, OF DES MOINES, IOWA.

FOLDING STOOL.

1,064,289.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALICE A. CASSIDY, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented a new and useful Folding Stool, of which the following is a specification.

The object of my invention is to provide a combined folding stool and step ladder of the kind designed to provide a broad, flat seat, adapted for convenient use as a stool, which may be folded into a small and compact space with the legs and broad flat-seat all substantially in parallel planes to occupy a minimum of space.

A further object is to provide a combined stool and step ladder of this class, in which the legs may be readily, quickly, and easily extended by the operator's act of grasping the seat only, and when so extended, the legs will be firmly and securely braced as required for use, and further to provide a device of this kind, which may be folded by the operator's act of grasping the front edge of the broad, flat seat, and using it, together with the legs and braces, as a series of levers for folding the seat and legs to substantial parallel position, so that the act of folding or unfolding the device, may be performed readily and easily with the operator's one hand.

My invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawing, in which—

Figure 1 shows a central, vertical, sectional view of a folding stool embodying my invention; in its open or extended position. Fig. 2 shows a side elevation of the stool in its folded position.

In the accompanying drawings, I have used the reference numeral 10 to indicate the seat of the stool, which may be in various forms, but is preferably made round as shown. In the rear of the lateral diameter of the seat 10, a pair of legs 11 and 11^a are secured to the seat by means of hinges 12. The legs 11 and 11^a are designed to fold rearwardly and the hinges 12 are therefore secured to the seat 10 and the legs 11 and 11^a on the side of said legs away from the center of the seat. The legs 11 and 11^a extend downwardly and rearwardly from the seat

10 in lateral diverging planes. The upper ends of the legs 11 and 11^a are slightly beveled so that the seat 10 rests squarely upon them when the stool is in its extended position. A second pair of legs 13 and 13^a are hinged to the lower surface of the seat 10 in front of the lateral diameter thereof, by means of hinges 14, in such a manner as to fold rearwardly. The seat extends beyond the legs 13 and 13^a in front thereof and said legs extend downwardly and forwardly from the seat 10 in divergent planes and their upper ends are slightly beveled to fit squarely against the under surface of the seat 10 when the stool is in its extended position. The legs 11 and 13 swing in the same or parallel planes. The legs 11^a and 13^a swing in the same or parallel planes. Between the legs 11 and 11^a are cross bars or braces 15. The legs 13 and 13^a are relatively of considerable width. Secured between the legs 13 and 13^a at suitable points are horizontal steps 16. In the upper ends of the legs 13 on the side adjacent to the hinges 14, are cut angular notches, in which are set the ends of a cross brace 31, which is secured to the legs 13 and 13^a and to the hinges 14. The upper surface of the cross brace 31 is beveled to fit squarely against the lower surface of the seat 10 when the stool is in its extended position.

Pivoted to the leg 11 is an arm 18, which extends upwardly and toward the leg 13 when the stool is in its extended position. The arm 18 is composed of two portions, which form an obtuse angle with each other. The upper end of the arm 18 is pivoted to the leg 13. The purpose of the bend in the arm 18 will be hereinafter more fully explained. An arm 18^a similar to the arm 18, is pivoted to the legs 11^a and 13^a. In the under surface of the seat 10, near the front thereof, assuming that the side to which the legs 13 and 13^a are secured is the front, is formed a notch 19, whereby a handle is formed for grasping the seat 10. The arms 18 are secured to the legs 11 and 13 and the arms 18^a are secured to the legs 11^a and 13^a at such points that when the legs are folded rearwardly, the arms will permit the pairs of legs to approach to position parallel and adjacent to each other, as shown in Fig. 2.

In the practical use of my improved folding stool, assuming the stool to be in its extended position, shown in Fig. 1, if it is de-

sired to fold the same into small space for moving it or packing it, the seat is grasped with the fingers of the operator received in the notch 19, and is lifted upwardly. When the edge of the seat 10 which forms the handle, is thus raised upwardly by means of the legs drop to vertical position and are folded rearwardly with reference to the said seat, until the legs 11 and 13, and 11^a and 13^a, respectively, are in position parallel and adjacent to each other, as shown in Fig. 2. The purpose of the bend in the arm 18 is now seen. On account of said bend, the legs are permitted to fold to their position adjacent to each other, and the arms 18 are not interfered with by the steps 16. When it is desired to change the stool to its extended position, the front and rear edges of the seat 10, may be grasped and the seat moved to horizontal position. The legs will then move to their extended positions, shown in Fig. 1. The device may also be moved from its collapsed to its extended position by grasping the seat by the handle, resting the rear legs on the floor and pushing the upper end of the seat to horizontal position, the upper ends of the rear legs serving as a fulcrum, the seat being a lever and the front legs the load, and the arms 18 moving the front and rear legs apart.

It is believed that my stool has many advantages over any of those now known. In a combined folding stool and step ladder, it is difficult to secure a sufficiently broad seat and at the same time so connect and arrange the legs that they may fold into a smaller space than the width of the seat. In my device, the pairs of legs fold to position approximately parallel with the seat. Where, as in ordinary step ladders, one pair of legs is fixed, and the other hinged, the ladder cannot be packed into a smaller space than the length of the seat or top from front to rear. While capable of folding into comparatively small space, my stool is firmly braced when in its extended position. The legs 11 and 11^a are braced by the cross bars 15 and the legs 13 and 13^a are braced by the steps 16. The legs 11 and 13 and the legs 11^a and 13^a respectively are secured together by the arms 18. Thus the upper ends of all the legs are braced at intermediate points. The width of the legs 13 and 13^a, enables me to firmly secure the steps 16 to said legs and also furnishes a broad support for the seat 10.

In many folding stools and the like, the arms or braces connecting the front and rear legs are joined or hinged. Applicant desires particularly, to call attention to the arms 18, 18^a, which are hinged, which do not interfere with the steps 16 and which firmly brace the legs in their extended position. On account of the manner in which the legs

are hinged to the seat and the location and construction of the arms 18, 18^a, all that is necessary in folding my improved stool, is to lift it by means of the handle, and its legs will drop on account of their own weight, to their folded position. Where a jointed arm is used for connecting the legs, it is usually, if not always necessary, to use both hands for folding the stool, one hand for lifting the stool, and one for breaking the joint.

In the following claim I have designated the element which serves as a seat by the term combined lever, handle and seat, for the reason that it performs the function of a lever, when the ladder member is resting upon a floor the operator may, by engaging the handle portion of the seat, use the seat as a lever with its fulcrum on top of the ladder portion, the rear end of the seat serving the function of elevating the leg members to space the upper ends apart from the ladder member. While this is being done the braces also perform the function of levers and braces because they serve the function of positively moving the lower ends of the leg members upwardly away from the ladder portion to the full limit of the movement of the leg members. These braces also serve the function of braces, when in use, to limit the movement of the leg members away from the ladder member and I have therefore in the following claim referred to said braces as combined levers and braces.

I claim as my invention:

A portable folding step ladder and stool comprising a ladder member having two legs and a number of steps, a leg member having two legs connected by cross pieces, the top of the ladder member being beveled or inclined so that it will be in a horizontal position when the ladder member is inclined at the proper angle for forming a ladder, a combined seat, handle and lever hinged to the rear portion of the beveled or inclined top of the ladder member and a part of said combined seat, handle and lever being extended forwardly beyond the front of the ladder member, and this forwardly projecting part being formed with a handle, the said leg member being hingedly connected to the bottom of the combined seat, handle and lever near the rear thereof when the seat, handle and lever is in a horizontal position and two combined braces and levers pivoted at one end to the ladder member and extended downwardly and pivoted at the other end to the leg member, said parts being so arranged and proportioned that the lower ends of the ladder member may be placed on a floor and the upper end of the ladder may be used as a fulcrum and the front of the combined seat, handle and lever may be grasped and when moved downwardly it will serve as a lever to raise the leg member and move it rearwardly away

from the ladder member until the combined
seat, handle and lever rest flat upon the in-
clined beveled top of the ladder member and
when the forward end of the combined seat,
5 handle and lever is elevated the upper end
of the leg member will be moved thereby
downwardly and to position substantially
parallel and adjacent to the ladder member,
the said combined braces and levers being
10 so arranged that when the upper end of the
leg member is moved upwardly and away
from the ladder member the said braces will
serve as levers and cause the lower end of

the leg member to move away from the
lower end of the ladder member, and when 15
the said seat member is resting flat upon the
top of the ladder member the said combined
braces and levers will then serve as braces to
prevent the lower ends of the ladder mem-
ber and leg member from spreading.

Des Moines, Iowa, December 15, 1911. 20

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Witnesses:

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