Aug. 26, 1947. S. W. ALDERFER 2,426,573

COLLAPSIBLE BENCH

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Fig. 1.

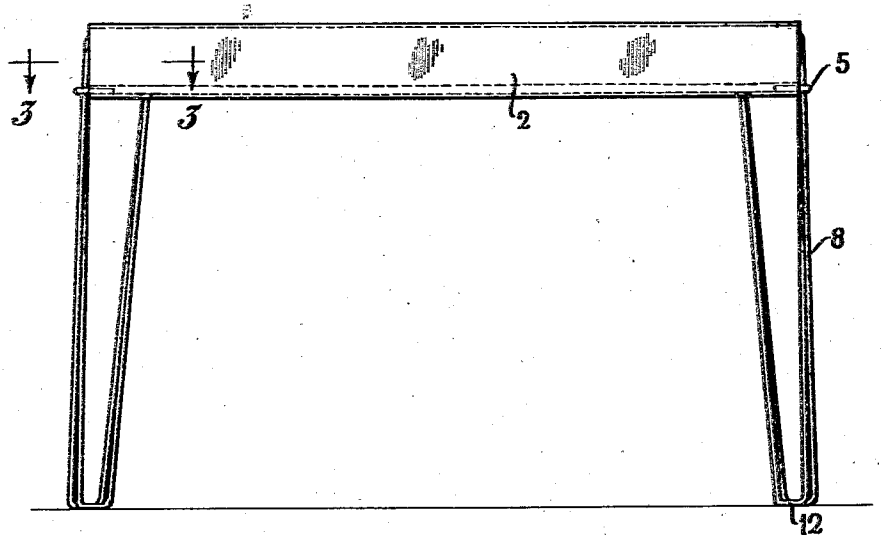


Fig. 2.

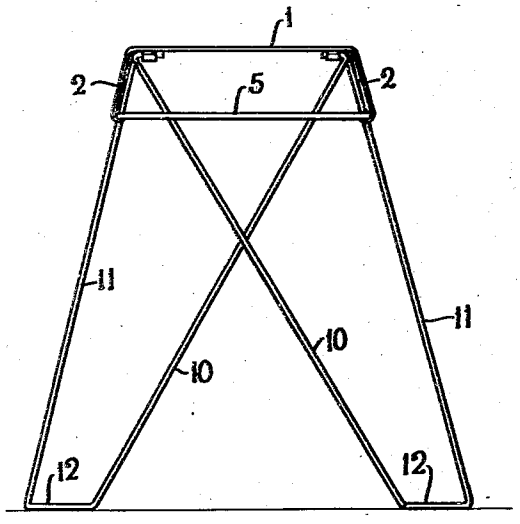
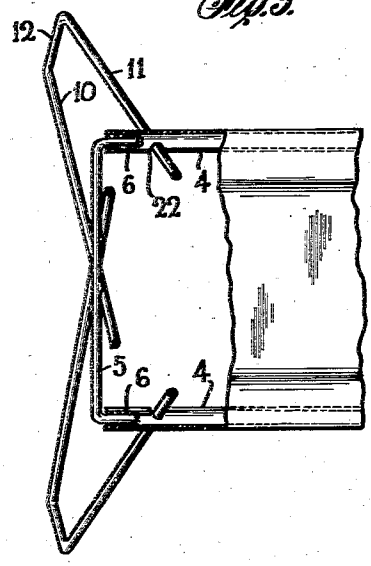


Fig. 3.



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Fig. 4.

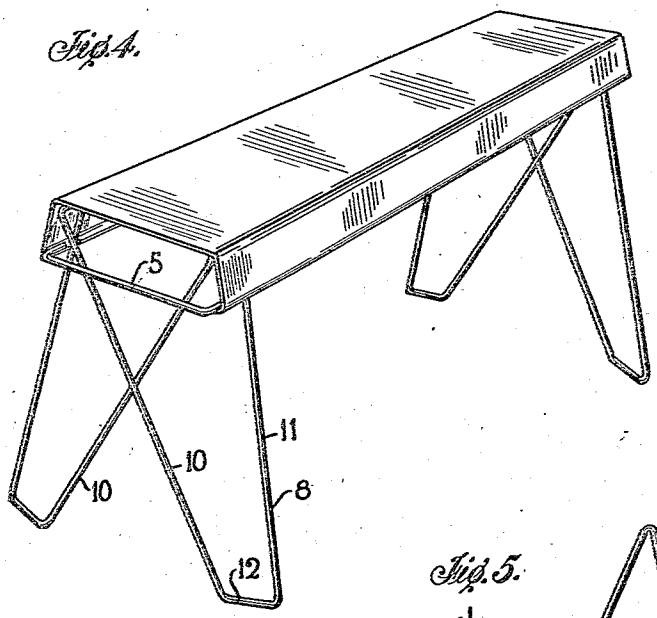


Fig. 5.

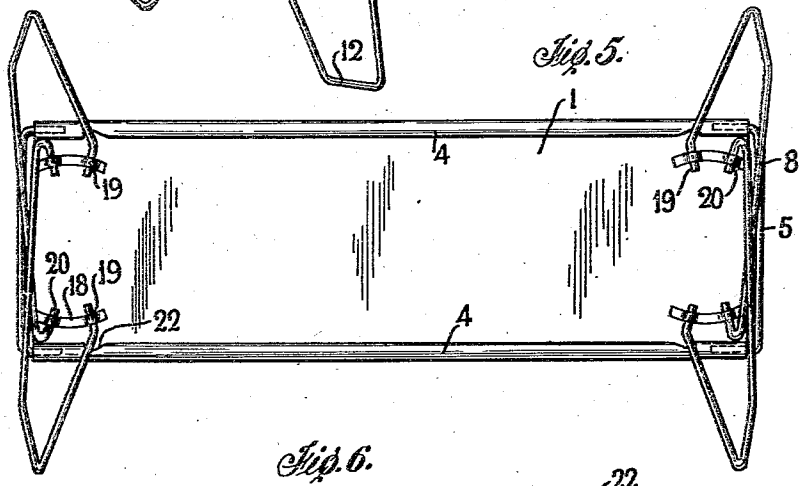
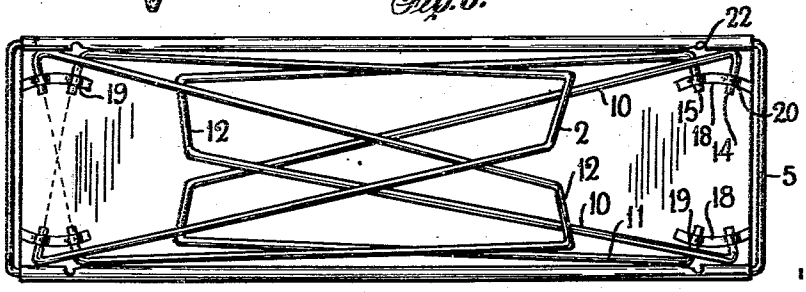


Fig. 6.



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COLLAPSIBLE BENCH

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7 Claims. (Cl. 155—150)

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The present invention relates to a new and improved collapsible article of furniture, and while the invention may be applied to many different articles, it probably has its most advantageous application in the manufacture of collapsible benches.

One of the primary objects and advantages of the invention is that while the article is light and may be made relatively inexpensively, it is very strong and solid and capable of sustaining weights which the ordinary collapsible stool or table would be unable to withstand. A further advantage of the design shown herein is that the points of support for the erected bench are well outside of its perimeter and hence a stable device is provided which it is practically impossible to tip over. The peculiar arrangement of the folding legs makes a very compact article when collapsed.

These and other advantages will appear from the following detailed description of the preferred form of the invention which is illustrated in the accompanying drawings. It will be understood that the device is shown in its best known and preferred form, but this form may be modified or even improved upon without departing from the basic features of the invention.

In the drawings:

Fig. 1 is a side view of the bench in erected condition;

Fig. 2 is an end view thereof;

Fig. 3 is a partial section on the line 3—3 of Fig. 1;

Fig. 4 is a perspective view;

Fig. 5 is a view looking at the underside of the bench in its erected position; and

Fig. 6 is a similar view, but showing the bench in collapsed condition.

The main seat or deck portion 1 of the article is made from a sheet of metal, preferably having its long edge portions bent downwardly so as to flare outwardly in inclined flange portions 2—2 which form skirts along the edges of the bench. The lower edges of the skirts are rolled to approximately half-round so as to form beads 4 on the underside of the bench. At each end of the bench there is provided a brace rod 5, the ends of which are bent at right angles to the central portion and are received in the beads where they are welded in position as shown at 6. These rods serve not only to hold the bench in rigid condition, but also act as braces for the collapsible legs 8.

The legs 8 are made of steel rods bent to the form shown and pivotally mounted on the under-

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side of the deck portion 1. Each leg consists of a relatively long diagonal reach 10 and a shorter diagonal reach 11 connected by a shorter transverse portion 12 which serves as the foot. Each reach 10 terminates in a return or bent portion 14 and each shorter reach 11 has a return or bent portion 15.

On the underside of the bench and in each corner is an arc-shaped metal strap 18 which is welded in place and is provided with two raised loops 19 and 20. These straps hold the legs in position.

There are four legs and four retaining straps and the bent end 14 of each longer reach of a leg is received beneath the loop 20 of a strap, while the bent end 15 of the shorter reach is received beneath the loop 19 on the strap which is on the opposite side of the bench from the first named strap. The arrangement gives to each leg a peculiar outward swinging movement which causes the feet 12 to rest on the ground in angular positions located beyond and outwardly of the adjacent corner of the bench. Each shorter reach 11, therefore, extends from the foot to the adjacent corner of the bench where it is parallel to the skirt portion, while each longer reach 10 extends to the opposite corner. Each leg, therefore, acts as a diagonally placed strut with its base outwardly beyond the perimeter of the bench in both directions and with its points of anchorage on opposite end corners.

It will further be noted that when the legs are spread outwardly, the longer reach 10 of one of the pairs of legs at one end of the bench will bear against the brace rod 5 and the reach 10 of the other leg will bear against its companion reach. Any tendency of the legs to spread under load is, therefore, resisted by the brace rod 5 which permits neither leg to go beyond its appointed position.

Each leg is locked in its expanded or erected position by the engagement of the shorter reach 11 in a notch 22 formed in the bead 4. As shown in Fig. 6, each of these notches is cut on an incline on the side from which the leg approaches so as to permit the leg to snap into place readily. The other side of the notch is abrupt, however, to assist in holding the leg from further spreading. The spring quality of the legs permits the leg to snap into its locked and erected position.

Due to the fact that the axis of rotary movement of each leg is on a diagonal and that the diagonals for each pair of legs intersect, as shown, for example, in Fig. 6, the legs will nest compactly within the area defined by the perimeter

of the deck, but when erected the foot portions are located outwardly of the four corners of the deck.

Having described my new and improved collapsible article in its best known and preferred form, it will be appreciated that certain of the details are not essential and may be varied or modified. While the greatest utility for the device may be as a collapsible bench, this will not prevent the adaptation of the invention to other uses and for other purposes.

What is claimed is:

1. A collapsible bench or the like comprising a deck having outwardly and downwardly flaring skirts along opposite edges thereof, a brace across each end of the bench and secured in the lower edge portions of the skirts, a pair of legs at each end of the bench, each leg comprising a long and a short reach connected by a foot portion, and a pivotal mounting for each leg on the underside of the deck, the axes of pivotal movement of the legs being arranged at an acute angle to the longitudinal sides of the bench so as to project the foot portions outwardly of the perimeter of the deck when the bench is erected.

2. A collapsible bench or the like comprising a deck having outwardly and downwardly flaring skirts along opposite edges thereof, a brace across each end of the bench and secured in the lower edge portions of the skirts, a pair of legs at each end of the bench, each leg comprising a long and a short reach connected by a foot portion, and a pivotal mounting for each leg on the underside of the deck, the axes of pivotal movement of the legs being arranged at an acute angle to the longitudinal sides of the bench so as to project the foot portions outwardly of the perimeter of the deck when the bench is erected and to cause the long reaches of the legs to rest against the brace.

3. A collapsible seat or the like comprising a deck having outwardly and downwardly flaring flanges along opposite edges thereof, a pair of swinging legs on the underside of the deck at each end thereof, each leg comprising a long and a short reach, pivotal bearings for the ends of said reaches on the underside of the deck, the axes of pivotal movement being arranged at an acute angle to the flanges, and intersecting recesses formed in the flanges to receive and hold the shorter reaches of the legs when in erected position.

4. A collapsible seat or the like comprising a deck, a pair of swinging legs at each end of the deck, each leg having a long reach and a short reach connected by a foot portion, and means to mount the legs on the underside of the bench for pivotal movement about a diagonal axis so

arranged that the foot portions are outside of the perimeter of the deck when in erected position and all four legs are within the perimeter of the deck when folded together against the deck.

5. A collapsible seat or the like comprising a deck, a pair of swinging legs at each end of the deck, each leg having a long reach and a short reach connected by a foot portion, and a pivotal mounting for the end of each long and short reach located on the underside of the deck, the axis of pivotal movement of each leg being diagonally arranged with respect to the longitudinal side of the deck whereby the legs may be moved from a position nested within the perimeter of the deck to a position where the foot portions are located outwardly from the four corners of the deck when the seat is erected.

6. A collapsible seat or the like comprising a deck, a pair of swinging legs at each end of the deck, each leg having a long reach and a short reach connected by a foot portion, a pivotal mounting for the end of each long and short reach located on the underside of the deck, the axis of pivotal movement of each leg being diagonally arranged with respect to the longitudinal side of the deck whereby the legs may be moved from a position nested within the perimeter of the deck to a position where the foot portions are located outwardly from the four corners of the deck when the seat is erected, and transverse braces across the ends of the deck against which the legs abut when in erected position.

7. A collapsible seat or the like comprising a deck, four legs pivotally mounted on the underside of the deck, each said leg consisting of a long diagonal reach and a short diagonal reach connected by a foot portion, a pivotal mounting for the end of the longer reach at one corner of the deck, and a pivotal mounting for the shorter reach at the opposite corner of the deck, the axis of pivotal movement being diagonally arranged with respect to the longitudinal side of the deck whereby the foot portion is movable from a position within the perimeter of the deck to a position outwardly of the corner thereof.

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