May 3, 1949. B. H. KENNEDY 2,469,232

UTILITY STAND

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Fig. 1.

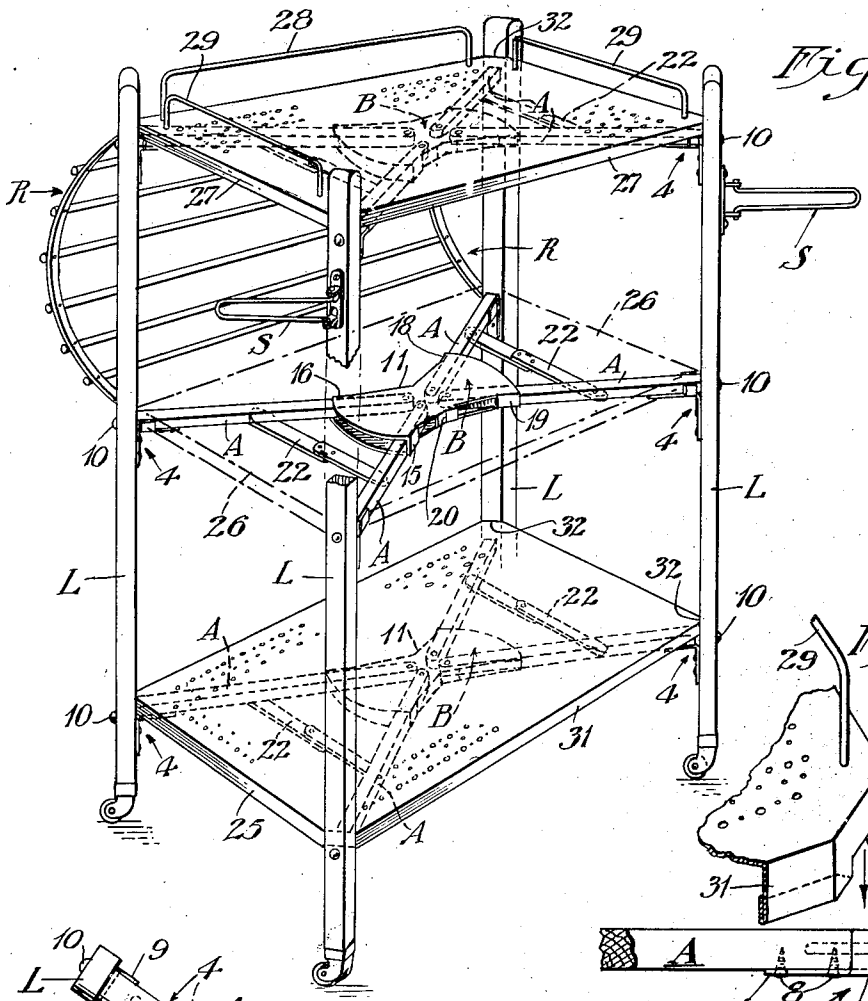
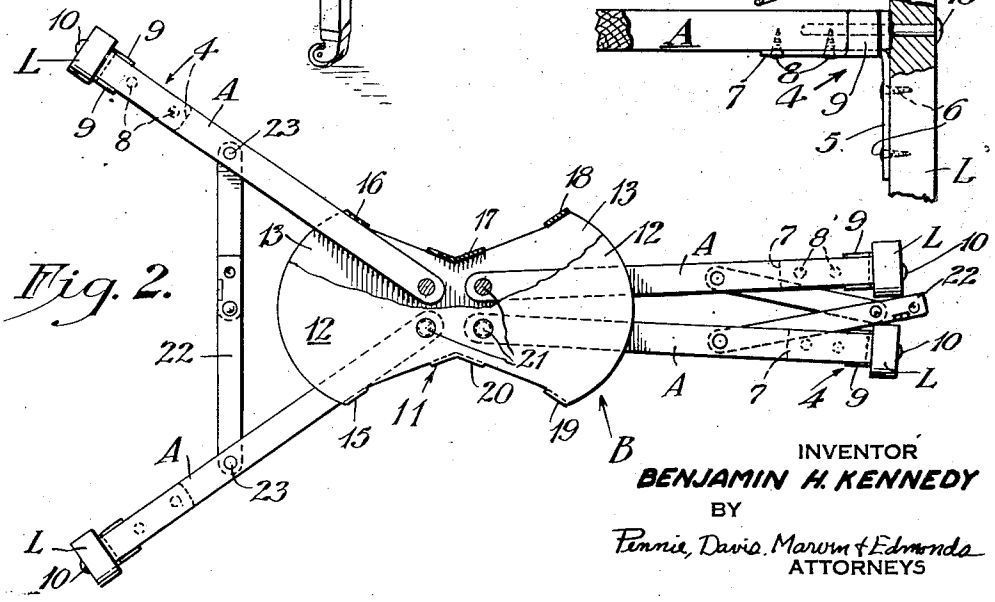


Fig. 3.

Fig. 2.



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Fig. 4.

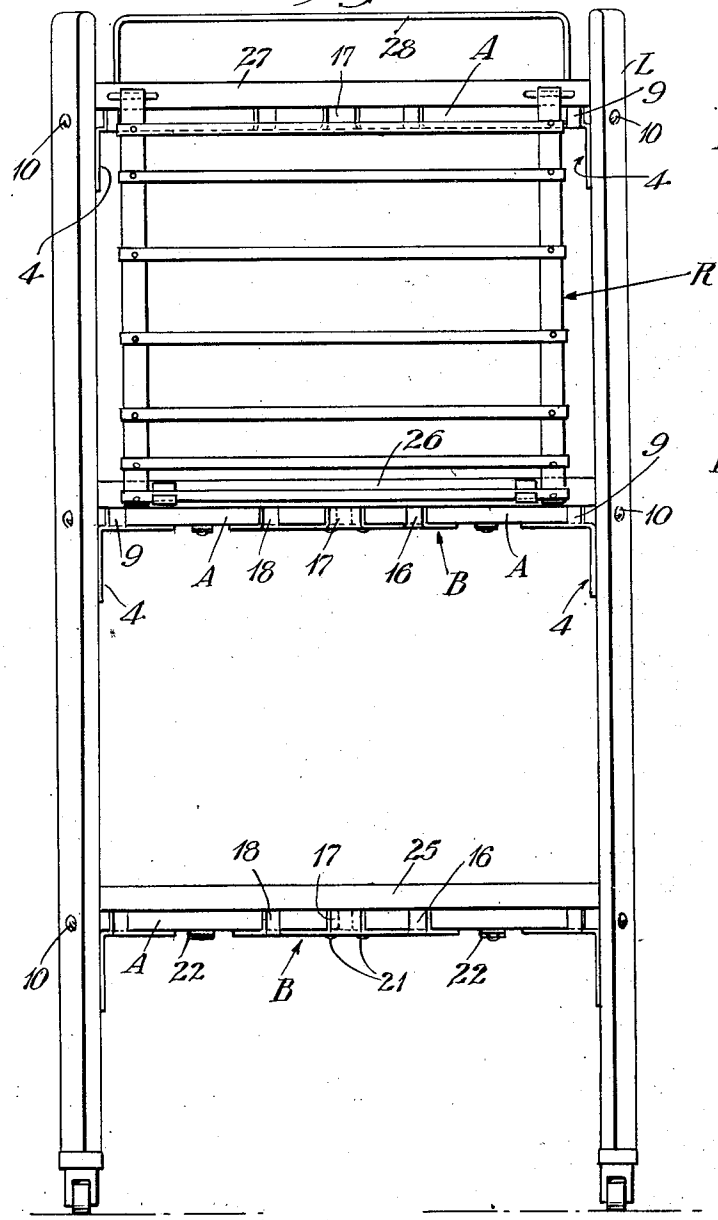
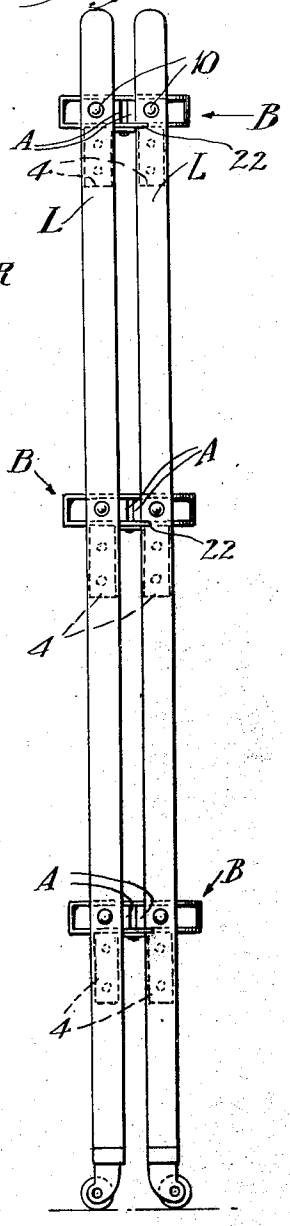


Fig. 5.



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UTILITY STAND

Benjamin H. Kennedy, Pittsford, N. Y.

Application October 20, 1945, Serial No. 623,495

5 Claims. (Cl. 211—178)

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This invention relates to stands and has for its object the provision of a foldable utility stand which is so constructed and arranged that it may easily be folded to an inoperative compact position for shipment or storage and unfolded or erected to an operative position. The invention aims to provide a utility stand that is of simple sturdy construction comprising several supporting legs with a plurality of easily removable shelves supported by the legs, together with means for bracing the legs to secure them in their rigid supporting position.

In accordance with the invention, I provide two pairs of legs with means interconnecting the legs together permitting one pair of legs to be folded into substantial parallelism with the other pair of legs. Advantageously such means is in the form of an X-brace with the four arm extremities connected to the legs and with means for securing the arms of the X-brace in a rigid pivotal connection. I prefer to employ two or more removable shelves which rest upon the X-braces with means on the shelves which engage the arms of the X-brace and secure them in their rigid extended position. To this end, I may provide removable shelves with corner notches which engage the arms near the legs to lock or bind the legs to the shelves when in their unfolded or erected positions.

These and other novel features of the invention will be better understood after considering the following discussion taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a perspective of a utility stand embodying my invention;

Fig. 2 is a plan view of the stand with shelves removed showing folded and unfolded legs;

Fig. 3 illustrates a detail of the shelf and brace connection;

Fig. 4 is a rear elevation of the stand of Fig. 1; and

Fig. 5 is an end elevation of the stand of Fig. 1 with the shelves removed and the legs folded.

The utility stand illustrated in Figs. 1 to 5 comprises upright legs L resting on casters or the like with three identical connecting X-braces B. The legs may be formed of wood or tubular metal and are preferably permanently connected to the X-braces. While any suitable connecting means may be used for this purpose, I prefer to use a special bracket 4 (Figs. 2 and 3) comprising a vertical plate 5 connected by screws 6 to the leg L which has a right angle bend 7 connected by screws 8 to an arm A of the X-brace. For purposes later to be explained, I provide upright

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bearing plates 9 which lie against the sides of the arms. Dowel pins or lag screws 10 may be used to assist in effecting a rigid connection of the legs to the arms.

As shown in the drawings, I provide three X-braces each comprising a sheet metal frame or hub 11 having top and bottom plates 12 and 13 connected together with web spacers 15, 16, 17, 18, 19 and 20 with a space between the plates just sufficient to permit free movement of the arms A which are pivotally connected to the plates by the rivets 21. The webs 15, 16, 18 and 19 serve as stops for the arms A when they are in their extended positions and insure their proper positions for receiving the shelves. As best shown in Fig. 2, the arms of the braces and their connected legs may be folded as shown at the right, or unfolded to the erected position as shown at the left. To insure stability of the unfolded legs, I may provide a stay-hinge 22, the ends of which are pivotally connected to the arms by screws or rivets 23.

The shelves 25, 26 and 27 are identical with the exception of top shelf 27 which has a rear rail 28 and side rails 29. While any suitable shelving may be used, I prefer to use shelves formed of stamped sheet metal with decorative perforations at the center and downwardly turned side edges 31 (Fig. 3). Advantageously the corners are formed with a short side 32 (Fig. 3) to bear against the flat inside of the legs and are provided with a rectangular notch 33 which straddles the arm, fitting snugly against the bearing plates 9. These notches and bearing plates cooperate to secure the stand in its rigid erected position. The frame or hub 11 bears against substantial lengths of the arms and secures them in their pivoting plane, thereby reducing the tendency for the stand to wiggle.

In order to increase the uses for the stand, for example, as a nursery item in the care of infants, I provide a foldable rack R at the back which may be bowed to the position for use as shown in Fig. 1, or left hanging in a flat position parallel to the legs when not in use. A rack of this type is described and claimed in my copending application Serial No. 620,270, filed October 4, 1945. Other racks or brackets, such as the swinging hanger brackets S, may be attached in convenient places, such as to the legs as shown. These brackets may easily be removed or swung out of the way.

It will be apparent from the foregoing that the utility stand of Figs. 1 to 5 is of simple sturdy construction and that it may easily be folded to

an inoperative position for storage or shipment and unfolded or erected for use without the use of tools. Moreover, it possesses the important characteristic of rigidity when erected.

I claim:

1. A utility stand which comprises a plurality of upright supporting legs, a plurality of X-braces each brace consisting of a hub having diagonally extending arms, each arm being pivotally connected to said hub at its inner extremity and to a supporting leg at its outer extremity, said X-braces providing means by which the supporting legs are folded or unfolded together in pairs, a plurality of removable shelves arranged to be supported by the arms, and means at the corners of each shelf for engaging the arms of the X-braces to secure the legs in their unfolded positions.

2. A utility stand which comprises a plurality of upright supporting legs, a plurality of X-braces each brace consisting of a hub having diagonally extending arms, each arm being pivotally connected to said hub at its inner extremity and to a supporting leg at its outer extremity, said X-braces providing means by which the supporting legs are folded or unfolded together in pairs, each hub including parallel plates between which the arms pivot to secure and guide the arms thereof and thereby prevent wiggling of the legs when in their unfolded positions, a plurality of removable shelves mounted over the X-braces, and notch means at the corners of the shelves to engage the arms to secure the legs in their unfolded positions.

3. A utility stand which comprises a plurality of upright supporting legs, a plurality of X-braces each brace consisting of a hub having diagonally extending arms, each arm being pivotally connected to said hub at its inner extremity and to a supporting leg at its outer extremity, said X-braces providing means by which the supporting legs are folded or unfolded, a flat metal plate on each of two opposite sides of the hub between which the arms of the brace pivot, said plates securing the arms in the plane in which they pivot, a plurality of removable shelves each mounted in a position overlying an X-brace, and means at the corners of the shelves for securing the legs in their unfolded position.

4. In a utility stand having four supporting legs, the improvement which comprises at least two X-braces, each brace consisting of a hub having diagonally extending arms, each arm being pivotally connected to said hub at its inner extremity and to a supporting leg at its outer extremity, said X-braces providing means by which the supporting legs are folded or unfolded together in pairs, the hubs including means by which the arms are securely held in a plane while folding and unfolding and the legs are accordingly prevented from wiggling, at least two removable shelves one mounted over each X-brace, and means at the corners of each shelf for securing the legs in their unfolded positions.

5. In a utility stand having four supporting legs, the improvement which comprises at least two X-braces each of which has four arms pivotally connected to the legs at one end, a pivotal mounting means for the four arms of each X-brace to which the other end of each arm is pivotally connected and by means of which the arms are securely held in a plane while folding and unfolding and the legs are accordingly prevented from wiggling, two stay-hinges for at least one X-brace, each stay-hinge being connected to two arms whereby the arms may be folded or unfolded and locked in their unfolded positions, and a removable shelf mounted in a position overlying each X-brace and having notches at the corners operatively connecting the shelves to the arms.

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