Oct. 30, 1945. B. STECHBART 2,388,192

FOLDING STAND

Filed May 22, 1944

Fig. 1

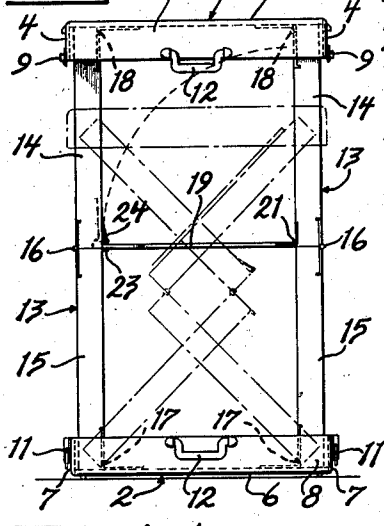


Fig. 2

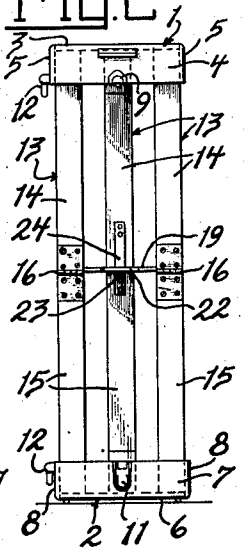


Fig. 3

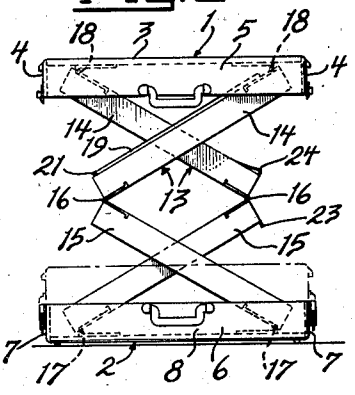


Fig. 4

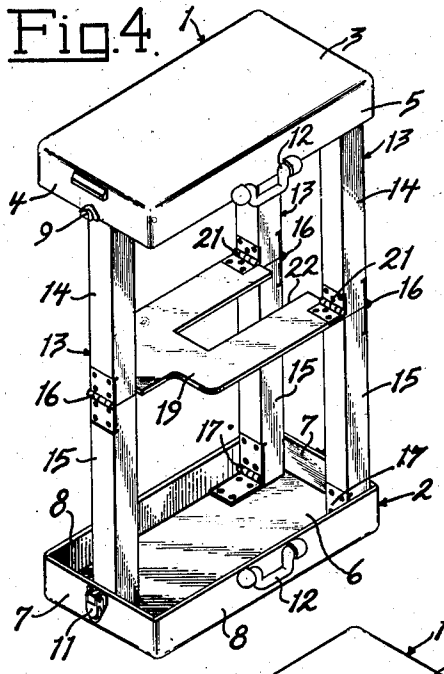


Fig. 5

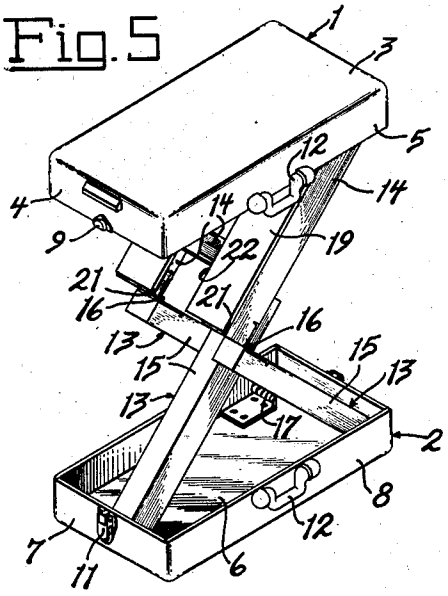
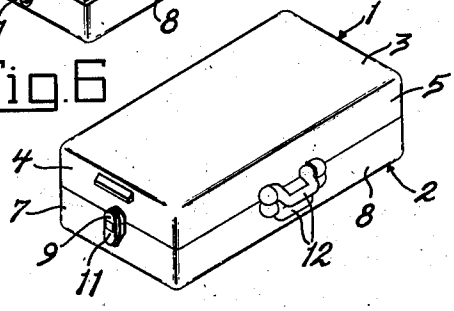


Fig. 6



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Patented Oct. 30, 1945 2,388,192

UNITED STATES PATENT OFFICE

2,388,192

FOLDING STAND

Bruno Stechbart, Park Ridge, Ill., assignor to The Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Application May 22, 1944, Serial No. 536,746

4 Claims. (Cl. 248—166)

My invention relates particularly to a folding stand which is adapted for supporting picture projectors while projecting pictures.

Objects of my invention reside in the provision of a novel folding stand which provides a rigid stand well adapted for supporting picture projectors while projecting pictures, which is compactly collapsible, which provides a closure for the collapsible support means thereof, which provides adequate height of the stand without necessitating the stand when collapsed being of undesirably large size, which permits of the closure thereof being in the form of a carrying case for convenient portability, and which provides a useful shelf below the top of the stand.

The invention will be better understood by reference to the accompanying drawing in which:

Figure 1 is a side elevation of a folding stand embodying my invention and in extended stand forming condition;

Figure 2 is an end elevation of the same;

Figure 3 is a side elevation of the stand in partially collapsed condition;

Figure 4 is a perspective view of the stand in extended stand forming condition;

Figure 5 is a perspective view of the stand in partially collapsed condition; and

Figure 6 is a perspective view of the stand in fully collapsed condition in which it is conveniently portable.

Referring to the drawing, a closure comprises two separable closure members, generally designated respectively at 1 and 2, of which the closure member 1 comprises an elongated rectangular wall 3 and narrow side walls 4 and 5 respectively at the narrow and long sides of the wall 3, and of which the closure member 2 similarly comprises an elongated rectangular wall 6 of the same dimensions as the wall 3 and narrow side walls 7 and 8 respectively at the narrow and long sides of the wall 6, these closure members forming the closure when the exposed edges of the narrow and long sides of one closure member are engaged in registry respectively with those of the other closure member as shown in Figure 6. Conventional releasable latches, comprising cooperating latch parts 9 and 11, are operative between the intermediate portions of the side walls 4 and 7 at the narrow sides of the walls 3 and 6 to releasably secure the closure members together in closure forming relation, and carrying handles 12 are secured at the intermediate portions of registering walls 5 and 8 at the long sides of the walls 3 and 6 so that the closure may be conveniently carried.

Three leg members, generally designated 13, each comprises two longitudinal leg parts 14 and 15 of equal length and pivotally connected together by means of hinges 16 for movement of the leg parts of each leg member to and from extending leg part alined and leg part folded relation. The leg members 13 are pivotally connected at corresponding ends thereof by means of hinges 17 with the wall 6 of the closure member 2 within the side walls 7 and 8 thereof, and two of the leg members are so pivotally connected on and spaced along one axis in the region of and extending along one narrow side 7 of the closure member 2 and the third leg member is so pivotally connected on a second axis parallel to said one axis in the region of and extending along the other narrow side 7 of the closure member 2 and is disposed intermediate the said two leg members longitudinally of said axes. The leg members 13 are also correspondingly pivotally connected at their other ends by means of hinges 18 with the wall 3 of the closure member 1 within the side walls 4 and 5 thereof on axes parallel to the axes of the pivotal connections of the leg members with the closure member 2, and the axes of the pivotal connections between the leg parts 14 and 15 are parallel to the axes of the pivotal connections of the leg members 13 with the closure members 1 and 2.

The leg members 13, as so constructed and connected with the closure members 1 and 2, provide collapsible support means operative between the closure members to maintain the closure members in separated relation to form a stand of which the opposite walls 3 and 6 provided by the closure members respectively form the top and base thereof, the leg members being movable to and from extending leg part alined stand forming positions, as shown in Figures 1, 2 and 4, and collapsed leg part folded positions within the closure comprising the closure members 1 and 2, in which collapsed leg part folded positions of the leg members, the closure members are in adjoining closure forming relation as shown in Figure 6 for convenient portability of the stand in compactly collapsed condition.

The leg members 13, respectively pivotally connected with the closure members 1 and 2 in the regions of the opposite narrow sides of the opposite walls 3 and 6 of the closure members, collapse or fold toward each other in interleaved relation, as best shown in Figures 3 and 5 which show the stand in partially collapsed condition, thus promoting compactness while providing adequate height of the stand, it being observed that the

offsetting of the leg members along their pivotal axes permits of such interleaved relation.

Abutment of the ends of the leg members 13 with the opposite walls 3 and 6 of the closure members and of the adjacent ends of the leg parts 14 and 15 limits movement of the leg members and leg parts in the extending leg part alined direction, and a flat shelf forming strut member 19 is extendable and operative between the intermediate portions of the leg members when they are in extended leg part alined stand forming relation to so maintain the same, as shown in Figures 1, 2 and 4, and the strut member is pivotally connected by hinges 21 with the leg parts 14 of the two leg members 13 which are pivotally connected with the closure member 2 on and spaced along an axis in the region one narrow side of the wall 6 of the closure member 2 and which are correspondingly pivotally connected with the closure member 1, and the strut member is so pivotally connected with these two leg members on an axis extending correspondingly with the plane of the strut member and parallel to the axes of the pivotal connections of the leg members with the walls 3 and 6 of the closure members and to the axes of the pivotal connections between the leg parts 14 and 15 for movement of the strut member to and from extending relation with these two leg members and compactly folded relation therewith within the closure comprising the closure members 1 and 2, the folded relation of the strut member being best shown in Figures 3 and 5. The strut member 19 is provided with an opening 22 extending inwardly from the end thereof in the region of its pivotal axis which opening is alined with said third of the leg members 13 for the passage of this leg member therethrough in the movement of the leg members.

A releasable positioning device comprising a lug 23 and a cooperating spring latch member 24, respectively mounted on the adjoining portions of the leg parts 15 and 14 of the said third leg member 13, engage the free end of the strut member 19 to releasably secure the strut member in its position extending and operative between the intermediate portions of the leg members 13 to maintain the leg members in extending leg part alined stand forming positions as shown in Figures 1 and 2.

While I have thus described my invention, I do not wish to be limited to the precise details described, as changes may be readily made without departing from the spirit of my invention, but having thus described my invention, I claim as new and desire to secure by Letters Patent the following:

1. In a folding stand, the combination of a closure comprising two separable closure members forming opposite walls of the closure, and collapsible support means operative between said closure members to maintain said closure members in separated relation to form a stand of which said walls respectively form the top and base thereof and comprising three leg members pivotally connected at corresponding ends thereof with one of said closure members and of which two of said leg members are so pivotally connected on and are spaced along one axis and the third of said leg members is so pivotally connected on a second axis parallel to said one axis and is disposed intermediate said two leg members longitudinally of said axes and said leg members being correspondingly pivotally connected at their other ends with the other of said closure members on axes parallel to said first mentioned axes and each leg member comprising two longitudinal leg parts of equal length pivotally connected together on an axis parallel to said first mentioned axes for movement to and from extending leg part alined stand forming positions and collapsed leg part folded positions within said closure.

2. In a folding stand, the combination of a closure comprising two separable closure members forming opposite walls of the closure, collapsible support means operative between said closure members to maintain said closure members in separated relation to form a stand of which said walls respectively form the top and base thereof and comprising at least two leg members pivotally connected at corresponding ends thereof with one of said closure members and on parallel axes and said leg members being correspondingly pivotally connected at their other ends with the other of said closure members on axes parallel to said first mentioned axes and being offset along said axes and each leg member comprising two longitudinal leg parts of equal length pivotally connected together on an axis parallel to said first mentioned axes for movement to and from extending leg part alined stand forming positions and collapsed leg part folded positions within said closure, and a strut member extendable and operative between the intermediate portions of said leg members when they are in said extending leg part alined positions to so maintain the same and pivotally connected with one of said leg members intermediately of this leg member on an axis parallel to said first mentioned axes for movement to and from extending relation with said one leg member and folded relation therewith within said closure.

3. In a folding stand, the combination of a closure comprising two separable closure members forming opposite walls of the closure, collapsible support means operative between said closure members to maintain said closure members in separated relation to form a stand of which said walls respectively form the top and base thereof and comprising three leg members pivotally connected at corresponding ends thereof with one of said closure members and of which two of said leg members are so pivotally connected on and spaced along one axis and the third of said leg members is so pivotally connected on a second axis parallel to said one axis and is disposed intermediate said two leg members longitudinally of said axes and said leg members being correspondingly pivotally connected at their other ends with the other of said closure members on axes parallel to said first mentioned axes and each leg member comprising two longitudinal leg parts of equal length pivotally connected together on an axis parallel to said first mentioned axes for movement to and from extending leg part alined stand forming positions and collapsed leg part folded positions within said closure, and a strut member extendable and operative between the intermediate portions of said leg members when they are in said extending leg part alined positions to so maintain the same and pivotally connected with said two leg members intermediately of these leg members on an axis parallel to said first mentioned axes for movement to and from extending relation with these leg members and folded relation therewith within said closure and said strut member being provided with an opening extending inwardly from the end thereof in the region of its pivotal axis and alined with said third leg

member for the passage of this leg member therethrough.

4. In a folding stand, the combination of a closure comprising two separable closure members forming elongated rectangular opposite walls of the closure, collapsible support means operative between said closure members to maintain said closure members in separated relation to form a stand of which said walls respectively form the top and base thereof and comprising three leg members pivotally connected at corresponding ends thereof with one of said closure members and of which two of said leg members are so pivotally connected on and spaced along one axis in the region of and extending along one narrow side of the said wall of said closure member and the third of said leg members is so pivotally connected on a second axis parallel to said one axis and in the region of and extending along the other narrow side of the said wall of said one closure member and is disposed intermediate said two leg members longitudinally of said axes and said leg members being correspondingly pivotally connected at their other ends with the other of said closure members on axes parallel to said first mentioned axes and each leg member comprising two longitudinal leg parts of equal length pivotally connected together on an axis parallel to said first mentioned axes for movement to and from extending leg part alined stand forming positions and collapsed leg part folded positions within said closure, and a flat shelf forming strut member extendable and operative between the intermediate portions of said leg members when they are in extending leg part alined stand forming positions to so maintain the same and pivotally connected with said two leg members intermediately of these leg members on an axis extending correspondingly with the plane of said strut member and parallel to said first mentioned axes for movement to and from extending relation with these leg members and folded relation therewith within said closure and said strut member being provided with an opening extending inwardly from the end thereof in the region of its pivotal axis and alined with said third leg member for the passage of this leg member therethrough.

BRUNO STECHBART.