Sept. 13, 1932. G. LIDSEEN 1,876,983

FOLDABLE STAND

Filed Feb. 13, 1930 3 Sheets-Sheet 1

Fig. 1

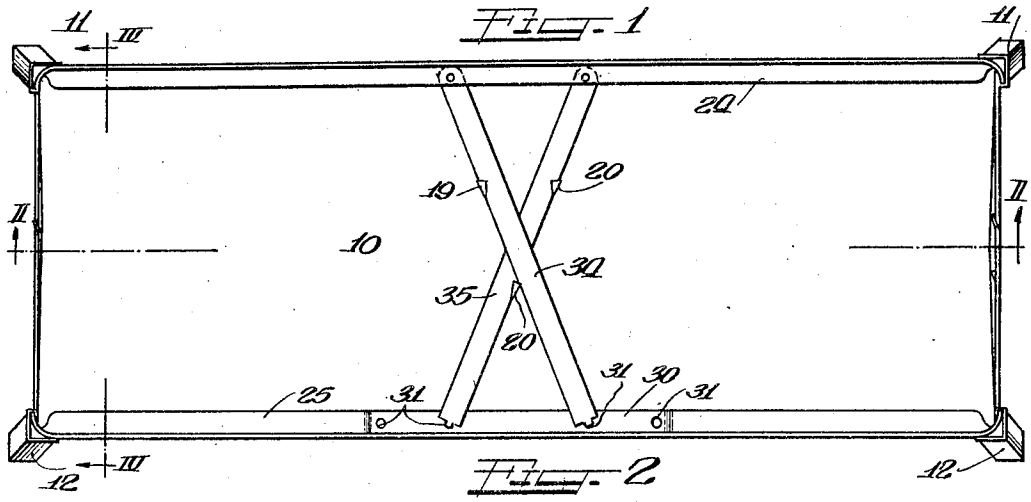


Fig. 2

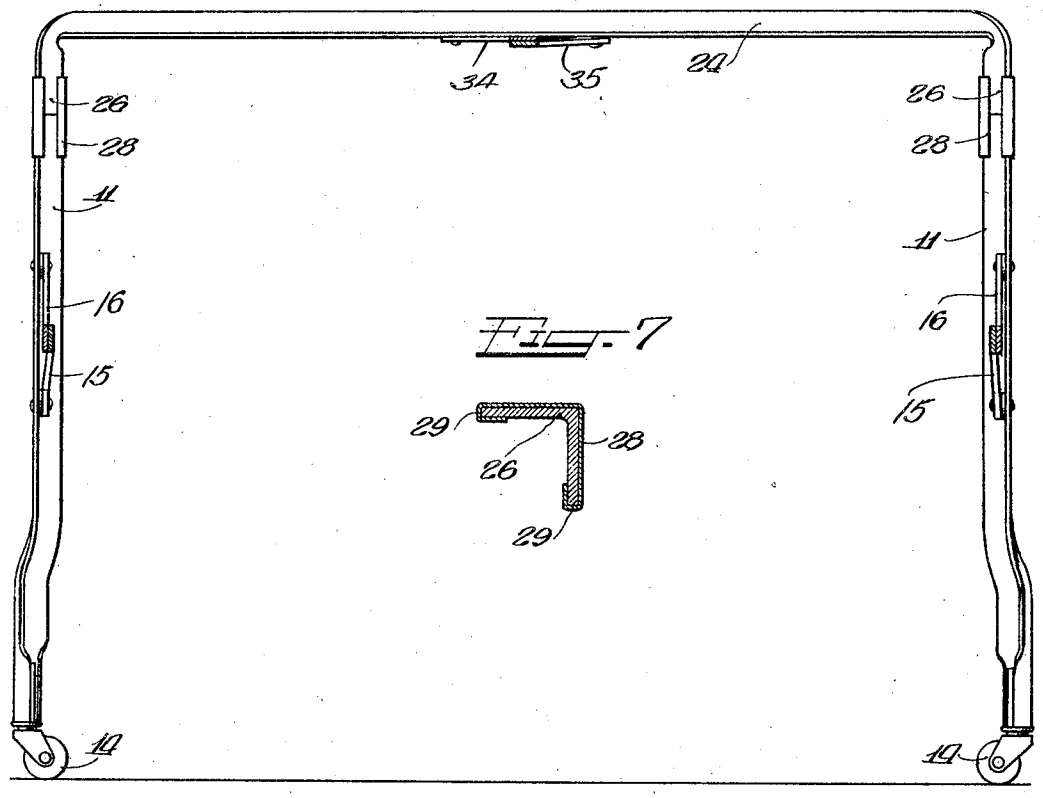


Fig. 7

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By: Charles R. Wells
Atty.

Sept. 13, 1932. G. LIDSEEN 1,876,983

FOLDABLE STAND

Filed Feb. 13, 1930 3 Sheets-Sheet 2

Fig. 4

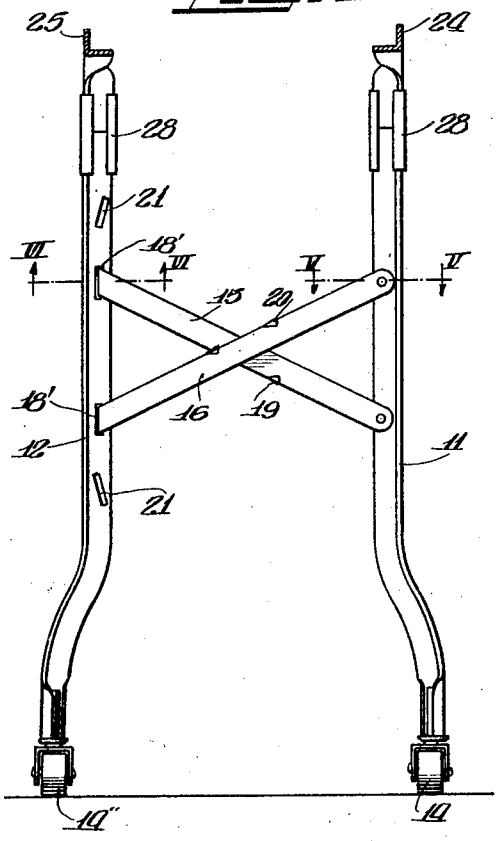


Fig. 3

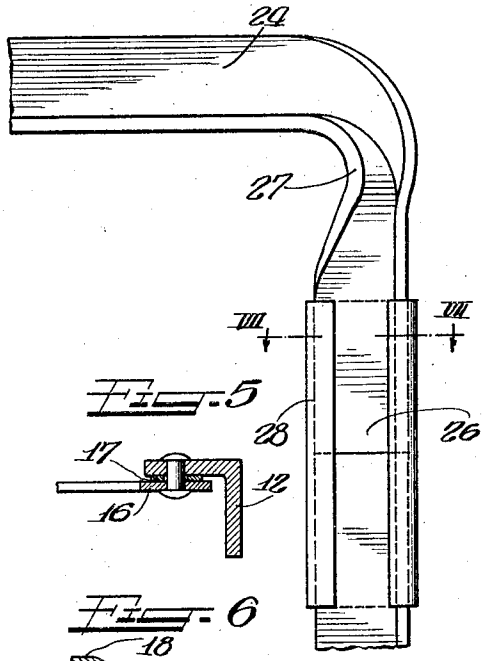


Fig. 5

Fig. 6

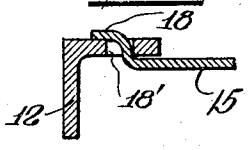


Fig. 8

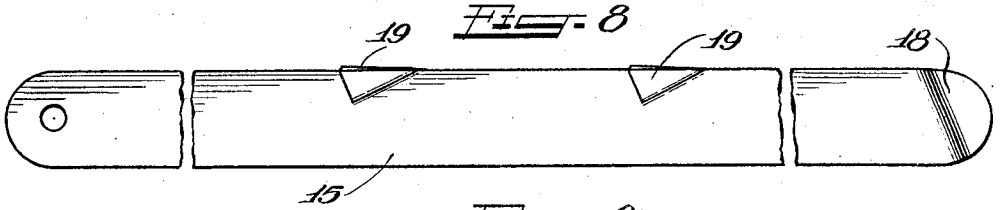
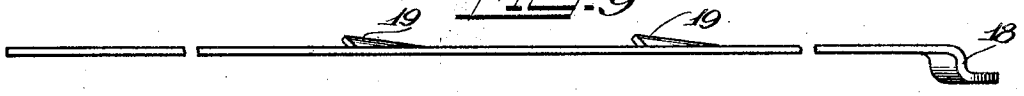


Fig. 9



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Sept. 13, 1932. G. LIDSEEN 1,876,983

FOLDABLE STAND

Filed Feb. 13, 1930 3 Sheets-Sheet 3

Fig. 11

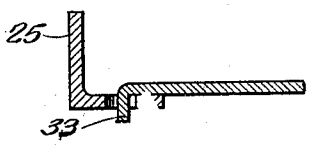


Fig. 10

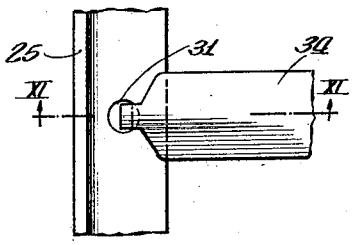


Fig. 12

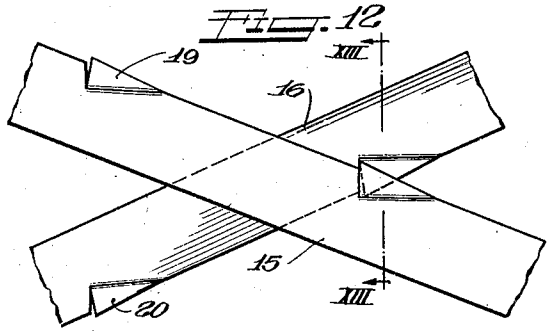


Fig. 13

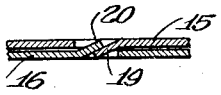


Fig. 15

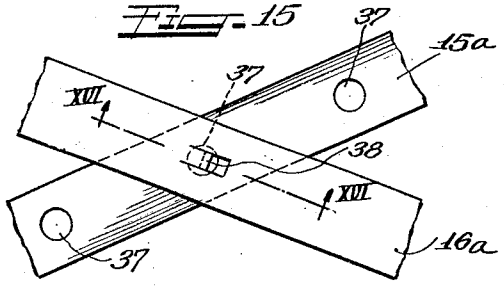


Fig. 17

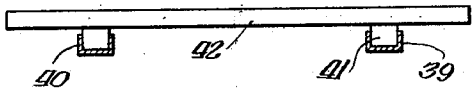


Fig. 14

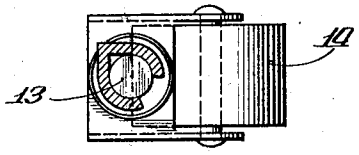


Fig. 16

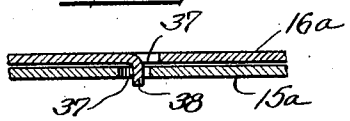
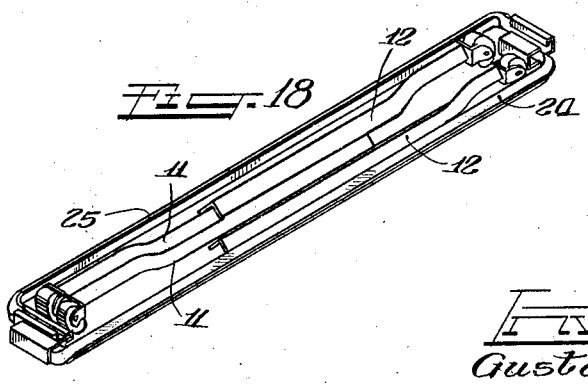


Fig. 18



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Patented Sept. 13, 1932 1,876,983

UNITED STATES PATENT OFFICE

GUSTAVE LIDSEEN, OF CHICAGO, ILLINOIS

FOLDABLE STAND

Application filed February 13, 1930. Serial No. 428,029.

This invention relates to foldable stands, and more particularly, its object is to provide improved adjustable and collapsible stands for tables, trays and other similar articles.

Heretofore, devices of this type have proved objectionable in many instances in that they comprise numerous parts which are bolted or otherwise insufficiently secured together, so that, after comparatively short usage, the securing means continually become loose, thus frequently resulting in tipping over of the table, or the like, or otherwise not providing the desired rigidity, thereby being the cause of inconvenience and vexation. Moreover, formerly known devices of this character in most instances were not foldable into as compact a form as desired for permitting the collapsed device to be shipped in a relatively small container.

In this invention, the foldable stand is constructed of comparatively light material and comprises four upright legs firmly secured together in spaced relationship by criss-cross interlocking braces. The legs are slidably held in supporting abutment with the downwardly extending end portions of a pair of parallel longitudinally disposed members, which members are arranged for receiving a table top or other similar articles. The members are held in spaced position by criss-cross bracing elements, which bracing elements are readily movable so that the ends of the bracing means engage different apertures in certain of the legs and one of the longitudinal members, for permitting the device to be quickly adjusted to a desired width. Each of the bracing elements is provided with interengaging members for interlocking adjacent bracing elements in position, thereby providing maximum rigidity to the stand. The stand is also provided with casters or rollers of the conventional type to permit the assembled device to be readily moved to any desired place. This construction permits a ready and quick assembly and collapse of the stand, and the stand, when collapsed, assumes an exceedingly compact form which permits the parts thereof to be packed in a comparatively small container, thus facilitating the packing and shipping of the collapsed stand.

It is an object of the present invention to provide a portable stand for tables or other similar articles, which, upon being collapsed, is adapted to be compactly packed in a relatively small container for facilitating storage and shipping of the stand.

Another object of this invention is to provide a foldable stand which is adequately braced throughout, and, when adjusted, possesses a high degree of inherent rigidity which is not lessened in any degree by repeated use of the device.

Still another object of this invention is to provide a foldable stand which readily and quickly can be set up and rigidly retained in position without the aid of screws, bolts or the like.

A further object of this invention is to provide an improved foldable stand which is readily adjustable for accommodating different size table tops or other similar articles.

Other and further important objects of this invention will be apparent from the disclosures in the specification and the accompanying drawings.

An embodiment of the invention is illustrated in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a plan view of a device embodying the principles of the present invention, shown adjusted to a position for receiving a table top or like article to be supported.

Figure 2 is a side elevational view partly in section taken on the line II—II of Figure 1.

Figure 3 is an enlarged fragmentary corner view showing the means of attaching the legs to the downwardly projecting end portions of the top members, as seen looking at the upper right hand corner of Figure 2.

Figure 4 is an end elevational view partly in section taken on the line IV—IV of Figure 1.

Figure 5 is an enlarged sectional view taken on the line V—V of Figure 4 illustrating the bracing means pivotally secured to the leg of the stand.

Figure 6 is an enlarged sectional view taken on the line VI—VI of Figure 4, illus-

trating one end of the bracing member interlocked in the apertures of one of the legs.

Figure 7 is an enlarged sectional view taken on the line VII—VII of Figure 3.

Figure 8 is an enlarged elevational view of one of the bracing members embodying this invention.

Figure 9 is an enlarged plan view of the bracing member shown in Figure 8.

Figure 10 is an enlarged fragmental plan view showing the manner of latching the bracing members to the top members.

Figure 11 is a vertical sectional view taken on the line XI—XI of Figure 10.

Figure 12 is an enlarged fragmentary plan view showing the method of interlocking the bracing members.

Figure 13 is a sectional view taken on the line XIII—XIII of Figure 12.

Figure 14 is a plan view partly in section illustrating the means of securing the casters to the legs of the stand.

Figure 15 is an enlarged plan view of a modified form of interlocking the bracing members in position.

Figure 16 is a vertical section taken on the line XVI—XVI of Figure 15.

Figure 17 is an end view partly in section illustrating a modification of the table receiving means.

Figure 18 is a perspective plan view illustrating the foldable table in its collapsed position ready for packing.

As shown on the drawings:

In the illustrated embodiment of the invention there is shown a foldable stand 10 constructed, principally of comparatively light angle iron for supporting table tops, trays, and other similar articles, but it is noted that material of various other shapes may be employed, such as channels, rectangular stock and the like. Moreover, it is to be understood that many other varied uses or devices may be adopted or formed, embodying features of the present invention, as will be apparent to one skilled in the art, without departing from the spirit and scope of the invention.

The form of stand selected to illustrate an embodiment of the present invention comprises upright angle legs 11 positioned at the corners on one side of the stand 10, and opposed angle legs 12 at the corners on the opposite side of the stand. Each of the legs 11 and 12 has its lower end portions shaped substantially as an apertured heart (Figure 14) for receiving and acting as a bearing housing for a shank 13 of a roller caster 14 of the conventional type commonly used, for permitting the stand to be moved to a desired place of use without the necessity of lifting the stand and the supported article off the floor.

The opposed legs 11 and 12 are rigidly held in spaced relationship by criss-cross bracing members 15 and 16, an end of each member is pivoted to the central portion of a leg 11 and spaced therefrom by means of a washer 17 (Figure 5). The use of the washer 17, while preferred for spacing the bracing members from the legs for preventing the paint or finish being scraped or otherwise marred, may be omitted if desired. The outer ends of the members 15 and 16 are inclined in opposite directions and are provided with suitable offset ends 18 inserted in suitable apertures 18′ for engaging the inner and outer faces of inwardly projecting portions of the legs 12. The respective bracing members 15 and 16 are provided with tapered triangular tongues 19 and 20 struck from the sides thereof. The tongues 19 on the member 15 and the tongues 20 on the member 16 project in opposite directions from adjacent sides of the members for permitting the tongues 19 to engage and interlock with the adjacent tongues 20 (Figure 13), thereby providing rigidity to the structure.

It is to be noted that the legs 12 are provided with oppositely inclined spaced apertures 21 for receiving the offset ends 18 of the bracing members 15 and 16, so that the distance between the legs may be diminished for supporting table tops or other articles of smaller sizes. While only spaced apertures 18′ and 21 are shown, it is to be understood that any desired number of spaced apertures may be provided for receiving the offset ends 18 of the bracing member for varying the distance between the legs, in order to support different size articles.

An angle member 24 having downwardly turned ends 26 is connected to the upper ends of the legs 11 while a similar angle member 25 having downwardly turned ends is connected to the upper ends of the legs 12. The legs 11 and 12 are slidably secured in abutting alignment with the end portions 26 of the members 24 and 25 by means of sleeves 28 formed about the outside faces of the ends 26. Each of the sleeves 28 is provided with an integral U-shaped portion 29 which is pressed into engagement with the inside portions of an end 26 (Figures 3 and 7). The lower portions of the sleeves 28 receive the upper ends of the legs 11 and 12, which legs are slidably insertable in the sleeve for permitting ready removal of the legs whenever desired.

The members 24 and 25 are spaced apart and lie in a horizontal plane with the inner faces inwardly disposed as best illustrated in Figure 4, for receiving portion of a table top, tray or other article to be supported. The inwardly disposed portion of member 25 is provided with an offset central portion 30 having a plurality of spaced apertures 31 therethrough for receiving downwardly turned end portions 33 of a pair of criss-cross bracing members 34 and 35. The other

ends of the bracing members 34 and 35 are pivotally mounted on the member 24, and these braces are provided with tapered triangular interlocking tongues 19 and 20 similar to the tongues hereinbefore described, for permitting the bracing members 34 and 35 to be rigidly interlocked in position, thereby, providing maximum rigidity to the stand for more firmly supporting tables, trays and other similar articles.

It is also to be observed that legs 11 and 12 are offset intermediate their lower end portions for providing a greater spread between the opposed end legs, thereby greatly adding to the rigidity of the stand 10.

Figures 15 and 16 illustrate a modification of the manner of latching the bracing members 15*a* and 16*a* in position. The member 15*a* (Figure 15) is provided with a plurality of spaced apertures 37 for receiving a downwardly extending prong 38 struck from the member 16*a*. The member 16*a* may be provided with one or more or any desired number of tongues 38 for engagement with any one of the apertures 37 in the member 15*a* for permitting the stand to be suitably adjusted to any desirable width.

In Figure 17 a modification of the table top supporting means is illustrated in a form of channel irons 39 and 40 used in place of angle members 24 and 25 as hereinbefore described in another form of the invention. The channel members 39 and 40 act as a guide and also as a means of securing the downwardly projecting rectangular members 41 of a table top 42 to the stand. In this form of the invention the table top 42 extends beyond the side portions of the stand so that any desirable size of table top or other articles having equally spaced rectangular projecting members may be easily inserted into and removed from the channel members without the necessity of adjusting the stand.

In Figure 18 the stand is illustrated in its collapsed position and it is to be noted that when so collapsed the several units of the stand lie within the compass of side members 24 and 25 positioned on the outside with their turned end portions 26 overlapping each other to form a rectangular space, in which space the legs 11 and 12 are neatly arranged with their casters positioned at opposed ends thereof, and the inner ends of legs 12 overlapping the outer or lower end portions of the legs 11. It is apparent that such an arrangement of the parts of the collapsed stand assume a compact form which permits the stands to be packed in relatively small containers, thus greatly facilitating the packing and shipping of stands in collapsed condition.

The operation of assembling the stand from its collapsed position is briefly as follows:

The upper end of the legs 11 are slidably inserted into sleeves 28 which are connected to the downwardly extending end portions 26 of the angle member 24 and the ends of the legs 11 are forced into abutment with lower ends of the portions 26. The bracing elements 15 and 16 pivotally connected to legs 11 are inclined in opposite directions as viewed in Figure 4 so that the members 16 will overlie the members 15 and the tongues 19 of the members 15 will engage the tongues 20 on the adjacent sides of the members 16 for firmly interlocking the members together. The leg members 12 are positioned adjacent the free end portions of the members 15 and 16 with the apertures 18′ in alignment with offset end portions 18 of each of the members. The inner faces of the legs are outwardly positioned opposite to that shown in Figure 4. In this position the apertures 18′ are in alignment with the ends 18 of the braces 15 and 16, and the inner faces of the portions not apertured are positioned adjacent the free ends of the members 15 and 16 for permitting the offset end portion 18 to be inserted into the apertures 18′, thereafter the legs 12 are twisted to readily permit the offset end portion 18 to project through the aperture 18′ engaging the inner and outer face portions, adjacent the apertures of the leg as more clearly illustrated in Figure 6.

The member 25 is then applied to the top end portions of the legs 12 with its downwardly extending end portions 26 in alignment therewith. The sleeves 28 attached to the end portions 26 of the member 25 are then slid downwardly over the upper end of the legs 12 until the end portions 26 are in aligned abutment with the upper ends of the legs 12 and in this position the legs are rigidly secured to the members 24 and 25.

The bracing members 34 and 35 pivoted to the member 24 are then moved so that the member 34 will overlie the member 35 and tongue 19 of the member 34 will engage a corresponding tongue 20 of the member 35 for firmly interlocking the bracing members together. The downwardly projecting ends 31 of each of the members 34 and 35 are then slipped into the spaced aligned apertures 31 extending through the central offset portion of member 25, thereby permitting the member 24 to be firmly locked in spaced relationship with the member 25, as clearly disclosed in Figure 1. This construction permits ready and easy insertion of the table top, tray or other similar article between the inner faces of the members 24 and 25 for rigidly and firmly supporting the table top and the like.

It is to be observed that the angle member 25 is provided with an offset central portion 30 so that when the ends of the bracing members engage the corresponding apertures, the top face of the bracing members 34 and 35 will be substantially flush or a little below

the top of the inwardly disposed portion of the member 25, so as to permit a table top, tray or other similar article to be slidably moved along the bottom face portion of members 24 and 25 without coming in contact with any portion of the bracing members 34 and 35.

The stand 10 is readily adjustable for accommodating table tops or other similar articles of different sizes, the adjustment is quickly accomplished by spreading the bracing members 15 and 16 so that the offset end portion will engage the corresponding aligned apertures 21 in the legs 12 and then spreading the bracing members 34 and 35 to permit the downwardly turned end portion to engage other apertures 31 in the offset central portion 30 of the member 25, and in this position the associated tongues 19 and 20 will be interlocked, thereby decreasing the width of the span for accommodating table tops and articles of smaller size. However, while the stand is illustrated and described as being adjustable in two different positions, it is to be understood that the length of the bracing members and the number of apertures for receiving the members may be varied to provide greater adjustability for accommodating different sized tables or similar articles without departing from the spirit and scope of the invention.

In the modified form of the invention disclosed in Figures 15 and 16 the bracing members are assembled in a similar manner as disclosed in the other form of the invention hereinabove described, with the exception that one of the bracing members is provided with a series of apertures 37 therethrough for receiving the downwardly projecting prongs 38 struck from the other bracing member.

It is apparent that I have provided a foldable stand or similar device which is readily and easily assembled and adjusted to its operative position and in which position the stand possesses inherent rigidity and stability, and is so constructed that it may be readily and quickly collapsed and arranged in extremely compact form for packing in a relatively small compass.

It readily can be seen that I have provided a foldable stand of simple and inexpensive construction which can readily and easily be adjusted to accommodate various sizes of articles to be supported by the stand.

It is obvious also that I have provided a foldable stand which readily and easily can be assembled and rigidly secured in position without the necessity of using any screws, bolts or the like.

The invention has been described herein more or less precisely as to details, yet it is to be understood that the invention is not to be limited thereby, as changes may be made in the arrangement and proportions of parts and equivalents may be substituted without departing from the spirit and scope of the invention.

I claim as my invention:

1. In a foldable stand, a plurality of legs, bracing means for said legs, a plurality of load carrying members supported by said legs, means for bracing said members, and tongues struck from said last mentioned means for interlocking said bracing means.

2. In a foldable stand, a plurality of spaced legs, interlocking bracing means for said legs, a plurality of members having downwardly extending elements in abutment with the ends of said legs, means for securing said members to said legs, and bracing means for said members.

3. In a foldable stand, a plurality of spaced members, bracing means for said members, a pair of legs provided with spaced apertures connected to one of said members, a second pair of legs connected to another of said members, and bracing means pivotally connected to said last mentioned legs and insertable in certain of said apertures for maintaining said legs in spaced relationship.

4. In a device of the character described, a plurality of members arranged for receiving an article to be supported, bracing means pivotally carried by one of said members and interengageable with the others of said members for maintaining said members in spaced relationship, means for supporting said members, and bracing means for said last means.

5. In a device of the character described, spaced members arranged for receiving an article to be supported, bracing means for said members, a plurality of legs for supporting said members, and bracing means pivotally secured to certain of said legs and interengageable with other of said legs for rigidly maintaining said legs in spaced relationship.

6. In a foldable stand, a plurality of supporting members having downwardly extending end portions, one of said members having an offset portion provided with a series of apertures, bracing elements pivotally secured to the other of said members, each of said bracing elements being inclined in opposite directions and having their free ends insertable in said apertures for rigidly securing said members in spaced relationship, supporting means for said members, and interlocking bracing means for said last mentioned means.

7. In a foldable stand, spaced members arranged for receiving an article to be supported, criss-cross bracing means connecting said members, said means having interlocking elements thereon for enabling said members to be rigidly braced, in a plurality of different angular positions, a plurality of legs for supporting said members, and means for slidably connecting said legs to said members.

8. In a foldable stand, members arranged

for receiving an article to be supported, bracing means for maintaining said members in spaced relationship, a plurality of legs for supporting said members, and criss-cross bracing means for said legs, said means having tongues struck therefrom forming interlocking elements for enabling said legs to be rigidly braced in a plurality of different angular positions.

9. In a foldable stand, members arranged for receiving an article to be supported, bracing means pivotally carried by one of said members and insertable in certain portions of the other of said members for rigidly securing said members in a certain position, said bracing means being adjustable to permit said members to be rigidly secured in a different position, means for supporting said members, and adjustable means for bracing said last mentioned means.

10. In a foldable stand, spaced members arranged for receiving an article to be supported, said members having downwardly extending end portions, attaching means mounted on the ends of said members, a plurality of legs slidably insertable in said last means and abutting the end portions of said members, and adjustable bracing means for said members and said legs.

11. In a foldable stand, a plurality of spaced legs, interlocking bracing means for said legs, members having downwardly projecting elements in abutment with the upper ends of said legs, means carried by said members and slidable over portions of said legs for maintaining said elements in abutting alignment with said legs, and bracing means for said members.

12. In a foldable stand, a plurality of spaced legs, transverse members having downwardly projecting ends removably connected to said legs, and means for bracing said members and said legs in a plurality of adjusted positions.

13. In a foldable stand, a pair of top members having downwardly extending ends, braces for securing said members in spaced relationship, a plurality of legs slidably connected to said ends, bracing members for said legs, all of said elements being removably connected whereby said stand, when collapsed, is of a width substantially the length and width of one of its top members.

In testimony whereof I have hereunto subscribed my name at Chicago, Cook county, Illinois.

GUSTAVE LIDSEEN.