May 26, 1964 R. L. HUFFER 3,134,192

MUSICIAN'S FOLDING STAND

Filed March 22, 1963

FIG. 1.

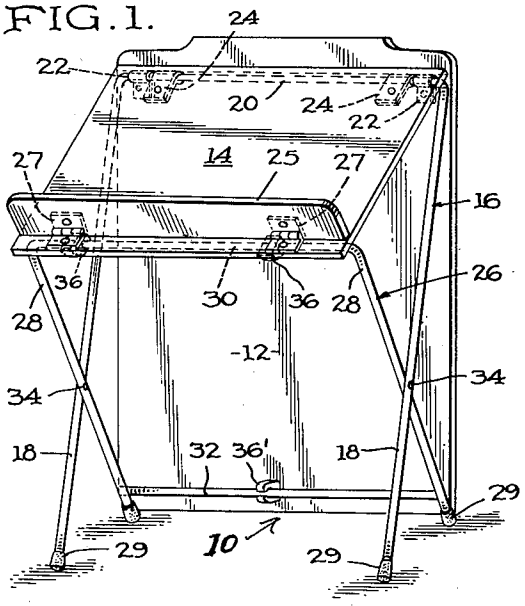



FIG. 2.

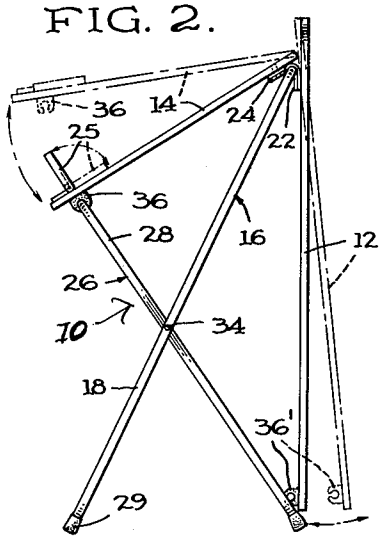



FIG. 3.

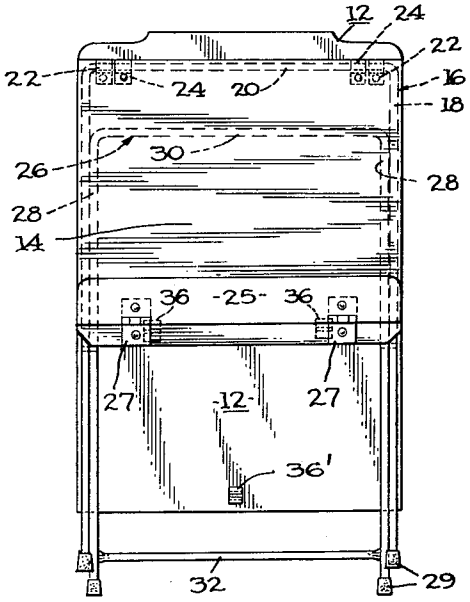



FIG. 4.

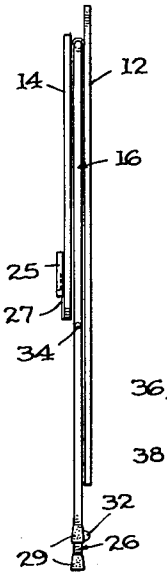



FIG. 5.

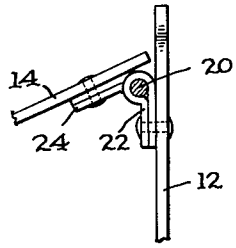
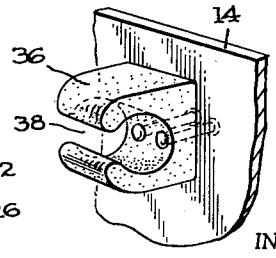



FIG. 6.




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# MUSICIAN'S FOLDING STAND

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This invention relates to folding stands and more particularly to a novel type of folding stand especially adapted for supporting sheet music and the like during use by a performing musician.

It is an object of this invention to provide a folding stand for supporting sheet music or the like which is of uncomplicated construction and which can be easily erected or folded as required.

It is a further object of the invention to provide a folding stand having a minimum number of parts and which may be moved either to erected position or to folded position without the use of any special tools or securing devices.

It is a further object of the invention to provide a folding stand particularly suited for use as a music stand which can be manufactured economically and sold at a moderate price.

It is another object of the invention to provide a folding stand having a supporting leg structure which provides a four-point support for the stand, and including structural means which permits compensating the stand for uneven floors or supporting surfaces.

It is another object of the invention to provide a folding stand particularly suited for use as a music stand or the like which is light in weight and folds to a compact size for transportation or storage.

It is another object of the invention to provide a folding stand particularly suitable for use as a music stand, including a structural member which adds strength to the stand and is also adapted to receive and display indicia thereon, such as the name or insignia of a school or other organization or of a band or orchestra.

In the achievement of these objectives, there is provided in accordance with a preferred embodiment of this invention a folding stand particularly suited for use as a music stand, including a supporting framework having first and second U-shaped supports, each support having two legs connected at their upper ends by a cross member or bight. The support members are formed of tubular or rod-like material and have their corresponding legs pivotally connected together intermediate their ends. A normally vertically extending front panel is hingedly connected to the bight or cross piece at the upper end of the first U-shaped support member. The lower end of the front panel is detachably connected by a resilient clip to a cross piece mounted adjacent the lower end of the second support member. An inclined tray panel is connected by tube clamps to the bight portion of the first U-shaped support member, while the lower edge of the tray panel is detachably connected by resilient clips to the bight portion at the upper end of the second support member. An important feature of the construction is that one horizontal edge of the tray panel may be slidably moved laterally along the bight at the upper end of one of the U-shaped support members while the opposite horizontal edge of the tray panel is held fixed, so as thereby to impart a cant or twist to the support structure of the stand and thus compensate for any unevenness of the floor.

Further objects and advantages of the invention will become apparent from the following description taken in conjunction with the accompanying drawing which depicts a presently preferred embodiment of the invention in which:

FIGURE 1 is a perspective view of a folding stand constructed in accordance with the invention, viewed from the rear and showing the stand in erected, operative position;

FIG. 2 is a side elevation view of the erected stand of FIG. 1;

FIG. 3 is a plan view of the stand in folded position;

FIG. 4 is a side elevation view of the folded stand of FIG. 3;

FIG. 5 is a view in side elevation, partially broken away, showing a detail of the hinge assembly between the tray panel and the front panel of the music stand; and

FIG. 6 is a perspective view showing details of the resilient snap clip used for retaining the stand in assembled position.



Referring now to the drawing, the folding stand of the invention is generally indicated at **10** and includes a normally vertical front panel **12** and a tray panel **14** which is normally in the expanded, operative condition of the stand, non-vertical, or inclined relative to the front panel **12** and which is hingedly connected to the rear surface of the front panel as will be more fully described hereinafter. Panels **12** and **14** are formed of composition board or of any other suitable strong, stiff and relatively thin sheet material.

The folding stand also includes a supporting framework including a U-shaped support or outer frame member generally indicated at **16** which is preferably formed of tubular metal or of other suitable material, but may also be formed of metallic rod stock. Support member **16** includes two spaced legs **18** connected at their upper ends by a cross member or bight portion **20**. Front panel **12** is hingedly secured to bight **20** by a pair of oppositely disposed tube clamps **22** which are fastened to the rear surface of panel **12** adjacent the upper edge thereof. Tray panel **14** is also hingedly secured to bight portion **20** of outer frame member **16** by a pair of oppositely disposed tube clamps **24** secured to the rear or under surface of tray panel **14** adjacent the upper edge thereof. Tube clamps **22** and **24** serve as bearings which permit hinge movement of panels **12** and **14** relative to outer frame member **16** and hinge movement of panels **12** and **14** relative to each other. Tube clamps **22** and **24** are preferably secured to panels **12** and **14** by tubular rivets.

With the corresponding lateral edges of panels **12** and **14** in alignment with each other, the tube clamps **22** attached to front panel **12** and tube clamps **24** attached to tray panel **14** are juxtaposed at sufficient lateral spacing from each other to become engaged on lateral movement of the panel on the bight portion beyond a predetermined limit and yet permit any necessary adjusting movement of the upper edge of tray panel **14** to compensate for unevenness of the floor and provide stable support for the stand, as will be described hereinafter.

The tray panel **14** is hingedly connected to the inside or rear surface of front panel **12** as just described along a line several inches below the upper edge of the front panel, thereby leaving space adjacent the upper edge of the front panel for attaching a light, if desired.

The second support member generally indicated at **26** includes a U-shaped inner frame member formed of tubular or rod-like material having a pair of oppositely-disposed legs **28** which are connected together at their upper ends by a cross member or bight portion **30**. A lower cross member or bight **32** is connected to the opposite legs **28** a short distance above the lower ends of the legs. Legs **18** of support member **16** are pivotally secured to legs **28** of support member **26** at pivot points **34**, the pivots preferably being formed by tubular rivets. The lower ends of the legs **18** and **28** are covered with rubber or plastic tips **29**.

It is important that the pivot axis **34** of the outer

frame member 16 be sufficiently farther from the bight portion 20 thereof than the aligned pivot axis 34 of the inner frame member 26 is from its bight portion 30. This permits the two frame members to be pivoted into a folded condition or relation in which both lie in the same single plane, with the bight portion 30 of the inner frame member underlying the bight portion 20 of the outer member, as shown in FIGS. 3 and 4. It is important also, in order to permit the parts to assume this folded relation, that the eyes of the tube clamps 22 and 24 which encircle the respective bight portions be displaced from the planes of the surfaces of the respective panels, so that the eye of each of the pivoting clamps 22 stands out from the rear surface of the front panel 12 and the eye of each of the pivoting clamps 24 stands out from the under surface of the tray panel 14. Thus, in the folded condition or relation of the two frame members, with the members disposed in a single plane as shown in FIG. 4, the front panel 14 will be disposed in a plane paralleling and close to that plane and in front of it, and the tray panel 14 will be disposed in a plane paralleling and close to that plane and behind it, as shown in the figure.

An upright member 25 having substantially the same width as the tray panel 14 and having a height sufficient to retain a stack of sheet music in position is hingedly connected to the upper surface of tray panel 14 by means of hinges 27 which are secured to the tray panel 14 adjacent the lower edge thereof and to the outer surface of the upright 25. Upright member 25 may be folded about its hinge connections 27 either into substantially parallel relation to the outer and upper surface of tray panel 14 when the music stand is not in use or alternatively may be moved into a position substantially perpendicular to the surface of tray panel 14 when the music stand is in use.

A pair of resilient clip members 36 preferably formed of a resilient plastic material are secured in laterally spaced relation to each other by tubular rivets or the like to the under surface of tray panel 14 adjacent the lower edge of the tray panel. Each of the clip members 36 is provided with a peripheral opening 38, best seen in FIG. 6, which is of smaller diameter than the diameter of the bight portion 30 of support member 26. As best seen in the views of FIGS. 1 and 2, when the music stand 10 is in erected position, the resilient clip members 36 engage the bight portion 30 of support 26 to retain the pivotally connected support members 16 and 26 in a fixed angular relation to each other.

Similarly, the front panel 12 is provided on its rear surface and adjacent the lower edge thereof with a single resilient clip member 36' similar to the clip 36 shown in FIG. 6 and which is preferably secured to panel 12 by tubular rivets. Clip 36' is adapted detachably to secure the lower end of panel 12 to the lower cross member 32 of support 26.

To move stand 10 from its erected or expanded condition to its inoperative or folded condition, the clip members 36 on the under surface of tray panel 14 are disengaged from the bight 30 of support 26, and the resilient clip 36' at the lower end of front panel 12 is disengaged from the lower cross member 32 of support 26. Pivotally connected supports 16 and 26 may then be moved about their pivotal connections 34 into a substantially parallel relation to front panel 12, and tray panel 14 may then be folded into substantially flat, parallel, superimposed relation to the inwardly folded supports 16 and 26 and to front panel 12.

To move the folding stand 10 to its erected position from the folded positoin of FIGS. 3 and 4, the pivotally connected support members 16 and 26 are moved about their pivotal connections 34 to the opened, crossed position shown in FIGS. 1 and 2, and the resilient clips 36 on the under surface of panel 14 are snapped into engagement with the upper cross member or bight 30 of support 26. The resilient clip 36' at the lower end of the inside surface of front panel 12 is snapped into engagement



with the lower cross member or bight 32 of support 26. The hinged upright member 25 is swung upwardly about its hinges 27 to a perpendicular position with respect to tray panel 14, and the stand is then ready for use as a music stand or the like.

It will be noted that the two legs 18 and the two legs 28 provide a four point suspension for the folding stand 10 when the stand is in erected position. With prior art stands having four point suspensions, a problem is presented when the floor surface on which the stand is positioned is uneven, since a floor which is not level will cause such a stand to be unstable. The stand of the present invention has an important advantage over such prior art stands since the hinged connection of the tray panel 14 to the bight 20 of frame member 16 provides means for compensating the stand for floors which are not level, as will now be described.

As hereinbefore explained, tray panel 14 is hinged at its upper end to the bight 20 of frame member 16 by means of tube clamps 24 which are slidably movable with respect to the tube clamps 22 which connect the upper end of front panel 12 to bight 20. Furthermore, the connections of tube clamps 24 to panel 14 and of tube clamps 22 to panel 12 are so located as laterally to space tube clamps 22 and 24 slightly from each other, sufficiently for any adjusting movement which may be required to compensate for unevenness of the floor.

To effect this compensation, the upper edge of tray panel 14 is slidably moved in a lateral direction, with tube clamps 24 slidably moving along bight 20 of frame member 16. This sliding adjustment of the upper end of tray panel 14 imparts a slight twist to the member 26 relative to member 16 to provide a levelling action on the stand 10 which compensates for any unevenness of the floor. The degree of sliding movement of the upper edge of tray panel 14 may be varied to adjust the degree of levelling action.

A similar levelling action to compensate for unevenness of the floor may be obtained by shifting the lower end of tray panel 14 while maintaining the upper end of the tray panel fixed. When the lower end of the tray panel is moved, the resilient clips 36 attached to the under surface of the tray panel adjacent the lower edge thereof slide along the bight 30 of member 26.

In a commercial embodiment of the folding stand hereinbefore described, the front panel 12 is made 27 inches high and 21 inches wide, and the tray panel 14 is 16 inches high or long and 21 inches wide. When this stand is erected, it has a height of substantially 27 inches at the front and substantially 20 inches at the rear.

It is believed to be evident from the foregoing that there is provided in accordance with this invention a folding stand particularly suitable for supporting sheet music and the like which is of uncomplicated construction and which can easily be erected or folded as required. The stand can be manufactured economically and sold at a moderate price. The stand is light in weight and may be folded to a compact size for transportation or storage. The structure of the stand also adapts it to receive suitable decoration such as the name or insignia of a school, band, or orchestra, with the indicia-supporting member also serving as a structural support for the stand. The stand has the further important advantage that the tray panel may be adjusted to impart a twist or cant to the support structure for the stand to compensate for any unevenness of the floor supporting the stand.

While there has been shown and described a particular preferred embodiment of the invention, it will be obvious to those skilled in the art that various changes and modification may be made therein without departing from the invention and therefore it is aimed to cover by the appended claims all such changes and modifications as fall within the true spirit and scope of the invention.

What I claim as my invention is:

1. A musician's folding stand comprising a relatively

wide U-shaped outer frame member and a slightly narrower U-shaped inner frame member,

each having a pair of opposite parallel legs connected at their normally upper ends by a horizontal bight portion,

means pivotally connecting the corresponding legs of the two frame members together substantially midway their ends, with the legs of the wider, outer member outermost and with the pivot axis of said member sufficiently farther from the bight portion thereof than the pivot axis of the inner member is from its bight portion to permit the two members to be pivoted between an expanded flaring angular relation and a folded condition in which the two members are nested in a single plane,

a normally vertical front panel having outstanding from the rear surface of its upper portion an eye encircling the bight portion of the outer frame member and pivotally mounting said front panel thereon in a plane forwardly displaced from the bight portion of the outer frame member,

a normally non-vertical tray panel having outstanding from the under surface of its forward portion an eye encircling the bight portion of the outer frame member and pivotally mounting said tray panel thereon in a plane upwardly displaced from the bight portion of the outer frame member,

and means separably connecting the rear portion of the tray panel to the bight portion of the inner frame member when the frame members are in expanded relation,

whereby the stand can be folded by separating said connection and nesting the frame members in said single plane with the two panels hanging from the bight portion of the outer member in parallel planes respectively in front of and behind said single plane and closely adjacent thereto.

2. The folding stand claimed in claim 1, including a separable connection for securing the rear surface of the lower portion of the front panel to the lower portion of the inner frame member when the frame members are in expanded relation.

3. The folding stand claimed in claim 1, including a cross member connecting the lower portions of the legs of the inner frame member and a separable connection for



securing the rear surface of the lower portion of the front panel to said cross member when the frame members are in expanded relation.

4. The folding stand claimed in claim 3 in which said separable connection and said means separably connecting the bight portion of the inner frame member to the rear portion of the tray panel when the frame members are in expanded relation are resilient clip means.

5. The folding stand claimed in claim 1, including a pair of laterally spaced eyes pivotally mounting the front panel on the bight portion of the outer frame member and a pair of laterally spaced eyes pivotally mounting the tray panel on said bight portion, the eyes of one pair being positioned inwardly of the eyes of the other pair and adjacent eyes of the respective pairs being juxtaposed so as to be engageable on lateral movement of the panels on said bight portion beyond a predetermined limit.

6. The folding stand claimed in claim 1 in which the eye pivotally mounting the tray panel on the outer frame member is frictionally slidable along the bight portion of said member to shift the tray panel thereon and impart a slight twist to said frame member so as to compensate for inequalities in the supporting floor.

7. The folding stand claimed in claim 1 in which the means separably connecting the rear portion of the tray panel to the bight portion of the inner frame member is fixed on the tray panel and is frictionally slidable along said bight portion to impart a slight twist to said frame member so as to compensate for inequalities in the supporting floor.

8. The folding stand claimed in claim 1, including a retaining abutment for sheet music or the like comprising an elongated member having its bottom edge hinged to the upper surface of the rear portion of the tray member and being movable between an operative position upstanding from the tray member in the expanded condition of the stand and an inoperative position folded down on the tray member in the folded condition of the stand.

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