Sept. 23, 1941. J. G. HUYE 2,257,057

HAT PACKING STAY

Filed Jan. 30, 1940 2 Sheets-Sheet 1

Fig. 1.

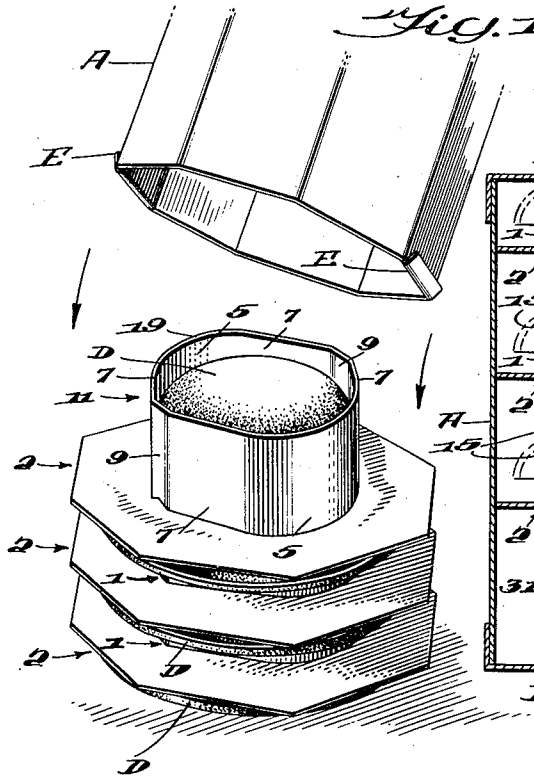


Fig. 2.

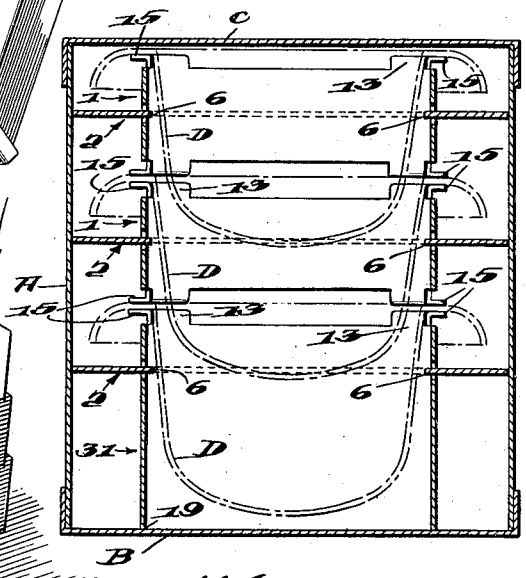


Fig. 3.

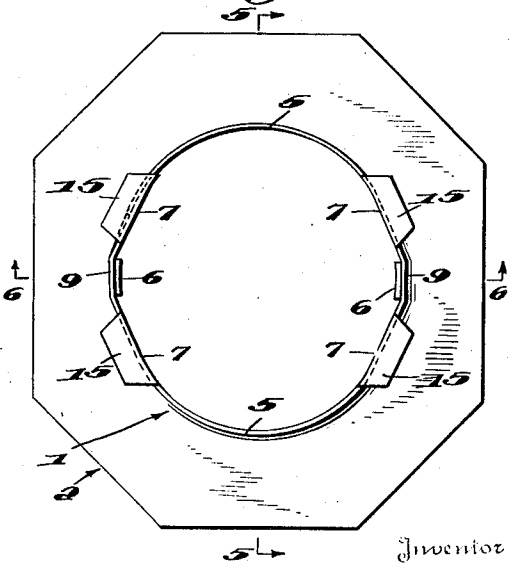
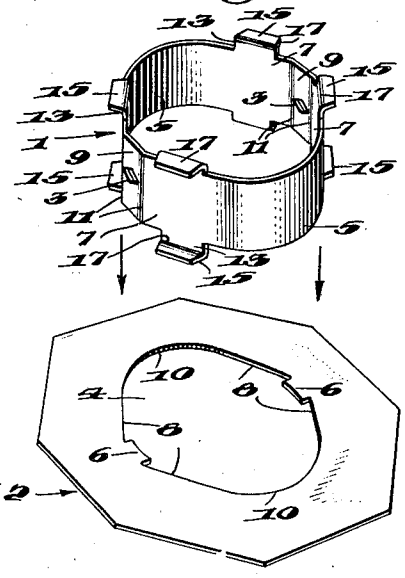


Fig. 4.



Inventor

Joseph G. Huye,

By Babcock & Babcock

Attorneys

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Fig. 5.

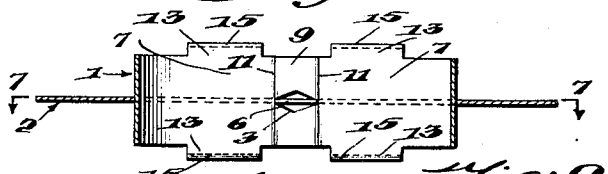


Fig. 6.

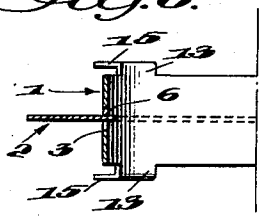


Fig. 8.

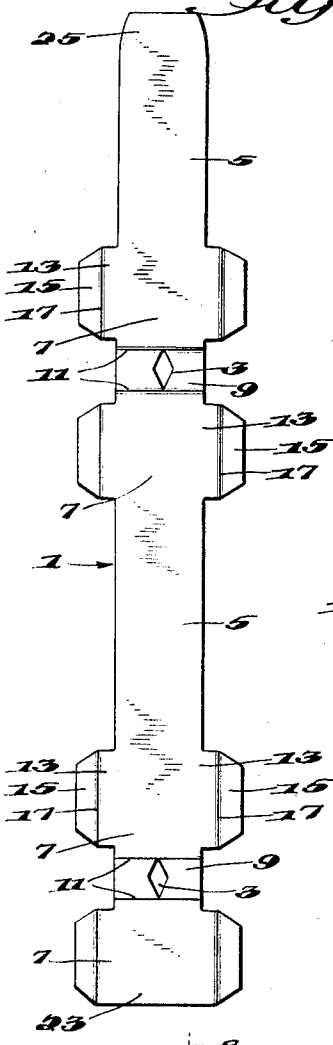


Fig. 9.

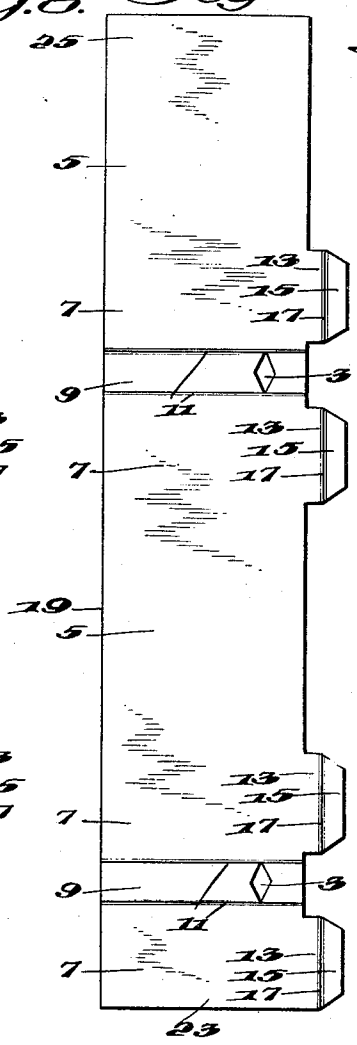


Fig. 7.

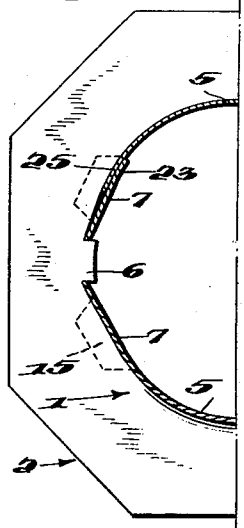


Fig. 10.

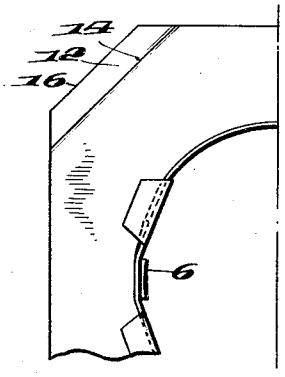
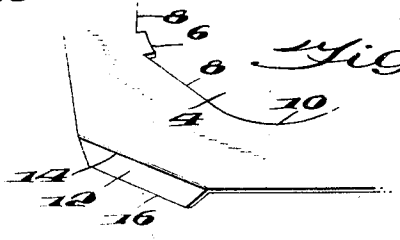


Fig. 11.



Inventor

Joseph G. Huye,

Babcock & Babcock

Attorneys

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HAT PACKING STAY

Joseph G. Huye, New Orleans, La.

Application January 30, 1940, Serial No. 316,409

4 Claims. (Cl. 206—8)

This invention relates to hat packing stays especially adapted for use in cooperative relationship with each other in packing a plurality of hats in a single container, although one embodiment of such stays is also adapted for use in packing hats individually.

The primary objects of the invention are: to provide such a stay consisting of two stay members assembled in novel manner to form my improved hat stay; to so construct such a stay as to maintain all portions of a hat disposed therein out of contact with either the box sides or any sharp stay edges; to provide novel means for maintaining the several members of my stay in properly assembled condition; to shape the aperture of the flat stay member of my invention, with consequent shaping of the tubular stay member disposed therein so that the crown of a hat disposed in said tubular member will be maintained out of engagement with the edges of locking members disposed through the sides of said tubular member; to provide such stays which may be economically manufactured by suitable sheet material stamping operations, in which the various stay members may be stored in flat condition prior to assembly, and in which the stay members may be easily and quickly assembled by unskilled labor to form complete stays; and to provide such stays which in packing operations are adapted to be assembled with their respective hats in inverted stack formation to be freely axially slidably received in a hat box placed over said stack in inverted position.

In the accompanying drawings:

Figure 1 represents a perspective view showing a plurality of the stays of my invention assembled in cooperative stacked relation, together with a plurality of hats, prior to placing the hat box or container over said stack of hats and stays during packing operations;

Figure 2, an axial section of a box in which is packed a plurality of hats, each supported and positioned by one of my improved stays;

Figure 3, a top plan view of one of the stays of my invention;

Figure 4, an "exploded" view of the stay shown in Figure 3 prior to assembly of the two stay members thereof;

Figure 5, a section on the line 5—5 of Figure 3, looking in the direction of the arrows;

Figure 6, a fragmentary section on the line 6—6 of Figure 3, looking in the direction of the arrows;

Figure 7, a fragmentary section along the line 7—7 of Figure 5, looking in the direction of the arrows;

Figure 8, a plan view of a blank which may be used to form a tubular stay member of the type embodied in the intermediate and upper stays illustrated in Figure 2;

Figure 9, a similar plan view of the blank from which is formed the tubular stay member of the type embodied in the bottom stay illustrated in Figure 2;

Figure 10, a fragmentary top plan view of a slightly modified form of stay; and,

Figure 11, a detail fragmentary plan view of one of the modified stay members embodied in the stay illustrated in Figure 10.

Referring now in detail to the accompanying drawings, the letter A designates any conventional type of hat box or container having a bottom B and the usual removable lid or top C. The box A may be of any suitable usual cross-sectional shape though it is shown in the drawings as being of octagonal cross-section. If desired, and as an added convenience in handling, the upper edges of the box may be provided with outwardly and downwardly folded integral flaps E which in the assembled condition of the box A and top C press resiliently against the rim of the top C to maintain the top firmly in closed position even though said top C is of greater size than the rim of box A. A further advantage of said flaps E is that in lifting and handling the box A the fingers of one hand may be inserted under the rim of the box top C between one of said flaps E and the adjacent side of the box A, whereby the box A may be easily lifted and handled without danger of the top C coming off.

By way of illustration of the preferred use of my invention I have shown a plurality of the hat stays of my invention disposed in cooperative relationship in the box A to pack a plurality of hats D therein, however it is to be understood that the hat stays of my invention in one form are equally well adapted for use in packing hats singly in individaul boxes or containers without departing from my invention.

It will be noted on referring to Figure 2 of the drawings that where a plurality of hats are to be packed in a single box I use two slightly different types of stay, both however embodying my invention. One of these types is illustrated in the bottom or lowermost stay which is so arranged as to support the lowermost hat D with its crown out of engagement with the box bottom B, and the other type of stay, which will be

first described in detail, is illustrated in the uppermost and intermediate stays.

Stays of the latter type each comprise a flat stay member 2 formed with a substantially oval shaped preferably centrally disposed aperture 4 on opposite sides of which are disposed inwardly projecting preferably integral locking tongues or projections 6, and a tubular stay member 1 disposed axially through said aperture 4 and having slots 3 formed in the sides thereof to receive said locking tongues 6 in order to maintain said stay members 1 and 2 in properly assembled operative relationship.

Since one function of the flat stay member 2 is to engage the sides of the container or box A in order to prevent lateral movement or shifting of the assembled stay and hat in box A and to prevent the brims of the hats D from contacting the box sides, and incidentally to reinforce and strengthen the sides of said box A against crushing from external pressure, it is desirable to have the external marginal edge of the stay member 2 of the same cross-sectional shape as the box, and of such dimensions as to make a freely axially slidable fit therein. Accordingly the stay member 2 shown in the drawings is of octagonal shape around its external marginal edge or periphery in the present instance, though it is to be understood that this shape would be varied for use in various shaped boxes or containers.

The tubular stay member 1 of my invention, which is assembled in the aperture 4 of flat stay member 2, comprises a tubular body portion which in the preferred embodiment of the invention is of such dimensions that in the assembled condition of the stay it fits snugly within the aperture 4 and presses radially resiliently against the marginal edges thereof, and accordingly the cross-sectional shape of the tubular stay member 1 is governed by, and made to conform to, the shape of aperture 4 of flat stay member 2.

Having due regard to the above it may be seen that it is highly desirable to so shape aperture 4, with consequent shaping of the tubular member 1 disposed therein, that the crown of a hat disposed within said tubular member 1, as shown in Figures 1 and 2, will not come into contact with the edges of the projections 6 and be injured thereby, it being understood of course that said projections 6 will extend radially inwardly only for such a distance as will enable them to be securely retained in position in slots 3 of member 1.

To this end, each side of aperture 4 between the curved end edge portions 10 thereof is preferably defined by a pair of straight edge portions 8 disposed at an obtuse angle and in symmetrical relation to each other on either side of the medially disposed projection 6 of that side.

In order that the cross-section of stay member 1 shall more readily conform to the shape of aperture 4 as hereinbefore described it is preferred that the tubular body portion of stay member 1 shall consist of curved opposed end panels 5 to conform to the curved aperture end edges 10, flat side panels 7 to conform to the straight aperture side edge portions 8, and flat center panels 9 respectively medially disposed on opposite sides of the body portion of stay member 1, each said center panel 9 being disposed between and connected at its side edges, preferably along axially extending score or fold lines 11, to the adjacent edges of the side panels 7. Each said center panel 9 is formed with a slot 3 to receive one of the cooperating locking projections or tongues 6 of the flat stay member 2, as hereinbefore set forth.

It may be seen that when the aperture 4 and stay member 1 are thus shaped in accordance with the preferred embodiment of my invention the crown of a hat disposed in the stay, as shown in Figure 2, cannot be moved into engagement with or injured by the edges of projections 6, as each of said projections 6 according to my preferred construction is disposed in the corner, or at the vertex of the angle, formed by the respective adjacent flat side panels 7 of tubular stay member 1. Consequently any movement of the hat D towards one of the projections 6, as when the box A is tilted or turned on its side, is prevented by engagement of the sides of the hat crown with the flat panels 7 before the hat crown engages said projection 6.

As shown in the drawings, the slots 3 are preferably medially disposed in their respective panels 9 and are preferably of diamond shape with the longest dimensions of the diamond disposed in a circumferential direction, this diamond shaped aperture 3 being designed to facilitate easy insertion and positioning of the locking tongues 6 during assembly of the completed stay. However it is to be understood that the slots 3 may be of any shape adapted to receive the locking tongues or projections 6 and may be disposed adjacent the top or bottom edges of the stay member 1.

In order to prevent the edges of tubular stay members 1 of my invention from cutting into and damaging the hat brims by contact therewith, it is desirable to provide brim engaging and supporting means carried by the tubular stay member 1, and preferably integral therewith, said supporting means together with the inner face of the body portion of tubular member 1 being the only portions of the stay which actually engage a hat operatively disposed therein or adjacent thereto.

In the form of stay now being described such hat brim engaging and supporting means are disposed on both the upper and lower edges of the body portion of stay member 1, preferably being disposed on the upper and lower edges respectively of each side panel 7 thereof, though this is not essential.

Each such means comprises an axially projecting preferably integral base or portion 13, and a preferably resiliently radially outwardly folded portion or foot 15 connected along a fold or score line 17 to portion 13, all of the uppermost or upwardly disposed feet 15 of the stay member 1 lying in the same plane above the upper edge of the tubular stay body, to engage the brim of and support a hat D disposed in operative position with its crown received in said stay body; and similarly all of the lowermost or downwardly disposed feet 15 of the stay are disposed in the same plane beneath the lower edge of the stay body to rest on the brim of the hat D disposed therebeneath, where a plurality of hats are packed in a single box A, as in Figure 2.

The bottom or lowermost stay shown in Figure 2 is as hereinbefore mentioned of a slightly different type than the hereinbefore described intermediate and upper stays shown in Figure 2.

In the bottom stay the flat stay member 2 is the same as that hereinbefore described, and the upper portion and cross-sectional shape of the tubular stay member 31 of said stay are similar to those of the hereinbefore described stay member 1, however member 31 is made of greater axial length than the crown of the hat D disposed therein and is provided with a preferably

smooth axially perpendicular lower edge 19 adapted to rest squarely on the box bottom B, the lowermost set of hat brim engaging feet 15 as utilized in the intermediate and uppermost stays preferably being omitted therefrom, all to the end that the bottom hat D may be supported with its crown clear of the box bottom B.

The aforesaid bottom stay is also particularly adapted for use in packing hats individually in which event it may be seen that the axial dimensions of the box will be such that the brim of the hat will be supported by the upwardly disposed feet 15 of the stay in engagement with the box top to prevent axial movement of said hat and stay.

The hat stays of my invention are particularly adapted to be manufactured economically by mass production methods from cardboard or other preferably stiffly resilient sheet material, it being obvious that the flat stay members 2 thereof may be stamped out in a single operation by well known sheet material stamping operations. The tubular stay members 1 and 31 of my invention may likewise be stamped out in flat blanks, as shown in Figures 8 and 9 respectively, and the hereinbefore described score lines 11 and 17 may be formed therein as part of the stamping operation.

To form a complete tubular stay member 1 or 31 from one of the blanks shown in Figures 8 and 9 respectively it is necessary only to bring together the opposed end portions 23 and 25 thereof in overlapping relation and fasten said ends together in any suitable manner, as by gluing or stapling, as clearly shown in Figure 7, and after thus being formed said stay members 1, 31 may be folded along their diametrically opposed score lines 11 to lie flat and be stacked or stored away in a very small space while awaiting use.

In assembling the stays of my invention by inserting the tubular members 1 or 31 in the aperture 4 of a flat stay member 2 the sides of the stay member 1 or 31 may be indented along the fold or score lines 11 to reduce the diameter thereof during insertion and thereafter expanded so that the projections 6 will be properly received in slots 3.

In the use of my improved hat stays in packing a plurality of hats in a single container I find that the quickest and most efficient method of packing is as follows. Assuming for example that the hats are to be packed three to a box, as in Figure 2, I first place the first hat D in upright position on any suitable supporting surface, then place the uppermost hat stay over the hat; thereafter the second hat D is placed in nesting relation over the first hat and the intermediate stay is placed over said second hat; and finally the third hat is placed in nesting relation over the second hat and the bottom stay is placed over said third hat. After the hats and stays have thus been assembled in inverted stack formation the box A, with the top removed, is inverted and placed over said stack, all as illustrated in Figure 1, after which the box A with its contents is turned to upright position, and the top C placed thereon to complete the packing operation.

It may be seen that as thus packed the lower feet 15 of the two uppermost stays, each resting on the upper surface of the hat brim therebeneath, are supported through said brim by the respective registering upper feet 15 of the stay therebeneath, whereby deformation of the hat brims is prevented.

Also as thus packed it may be seen that sidewise or radial movement of the entire stack of hats is prevented by engagement of the stay members 2 with the box sides, and axial movement is prevented by engagement of the lower stay edge 19 and the brim of the uppermost hat D with the box bottom and top respectively.

In the modified form of stay shown in Figures 10 and 11 the inner tubular stay member is the same as heretofore described and may be either of the type designated generally by the numeral 1 or of the type designated by the numeral 31.

The flat stay member shown in Figures 10 and 11 however has been reinforced by the addition of a plurality of flaps 12 connected along fold lines 14 to alternate straight peripheral edge portions of an octagonal flat stay member. Said flaps 12 are adapted to be folded in an axial direction to when placed in a box, such as that shown in Figures 1 and 2, lie flush against the box sides, each adjacent pair of flaps 12 serving to stiffen and prevent transverse folding or collapsing of the marginal portion of the stay member lying between said adjacent pair of flaps 12.

Such reinforced stay members are particularly adapted for use with stays in which hats of the "ten gallon" type or other broad brimmed hats or hats of more than normal weight are to be packed. It may be seen that without such reinforcing flaps 12 or their equivalent, unless excessively heavy or stiff, and consequently expensive cardboard or other material were used in the stay construction, there would be a tendency when the box or container A was turned on its side or tilted for the lower marginal portion of the flat stay member disposed between the lower box side and the hat crown, and supporting the weight of the hat and stay, to collapse or fold and allow the hat brim to be crushed against the lower side of the box.

I claim:

1. A hat stay comprising a flat octagonal shaped cardboard stay member formed with a centrally disposed substantially oval shaped aperture and integral radially inwardly disposed locking projections medially positioned on opposite sides of said aperture, each side of said aperture being defined by a pair of straight edge portions disposed at an obtuse angle and in symmetrical relation to each other on opposite sides of the locking projection of their respective aperture side; in combination with a tubular stay member disposed axially through the aperture of said flat stay member, said tubular member comprising a body portion formed with curved opposed end panels conforming in shape to the aperture end edge portions, flat side panels conforming in shape to the straight aperture side edge portions, and a pair of opposed flat center panels, each said center panel being disposed between and connected at its side edges along axially extending score lines to its adjacent flat side panels, and each said center panel being formed with a diamond shaped slot to receive the respective adjacent cooperating locking projection of the flat stay member; and integral hat brim engaging and supporting means carried respectively at the upper and lower edges of each said flat side panel of the body portion, each of said means comprising an axially projecting base and a resiliently radially outwardly folded foot integral with said base, all the uppermost feet lying in the same plane above the upper edge of the tubular stay body, and all of the lowermost feet lying in

the same plane beneath the lower edge of the tubular stay body.

2. A hat stay comprising a flat cardboard stay member formed with a centrally disposed substantially oval shaped aperture and integral radially inwardly disposed locking projections medially positioned on opposite sides of said aperture, each side of said aperture being defined by a pair of straight edge portions disposed at an obtuse angle and in symmetrical relation to each other on opposite sides of the locking projection of their respective aperture side; in combination with a tubular stay member disposed axially through the aperture of said flat stay member, said tubular member comprising a body portion formed with curved opposed end panels conforming in shape to the aperture end edge portions, flat side panels conforming in shape to the straight aperture side edge portions, and a pair of opposed flat center panels, each said center panel being disposed between and connected at its side edges along axially extending score lines to its adjacent flat side panels, and each said center panel being formed with a slot to receive the respective cooperating adjacent locking projection of the flat stay member; and integral hat brim engaging and supporting means carried by each said flat side panel of the tubular body portion, each of said means comprising an axially projecting base and a resiliently radially outwardly folded foot integral with said base, all of said feet being disposed in planes spaced axially from the adjacent edge portions of their respective flat side panels.

3. A hat stay comprising a flat stiffly resilient sheet material stay member formed with a substantially oval shaped aperture and integral radially inwardly extending locking projections medially positioned on opposite sides of said aperture, each side of said aperture being defined by a pair of straight edge portions disposed at an obtuse angle and in symmetrical relation to each other on opposite sides of the locking projection of their respective aperture side, in combination with a tubular stay member disposed axially through the aperture of said flat stay member, said tubular member comprising a body portion formed with curved opposed end panels conforming in shape to the aperture end edge portions, flat side panels conforming in shape to the straight aperture side edge portions, and a pair of opposed flat center panels, each said center panel being disposed between and connected at its side edges along axially extending fold lines to its adjacent flat side panels, and each said center panel being formed with a slot to receive the respective cooperating adjacent locking projection of the flat stay member.

4. A hat stay comprising a flat sheet material stay member formed with a substantially oval shaped aperture and radially inwardly extending locking projections medially positioned on opposite sides of said aperture, each side of said aperture being defined by a pair of straight edge portions disposed at an angle to each other on opposite sides of the locking projection of their respective aperture side, in combination with a tubular resilient sheet material stay member disposed axially through the aperture of said flat stay member, said tubular member comprising a body portion formed with curved opposed end panels conforming in shape to the aperture end edge portions, flat side panels conforming in shape to the straight aperture side edge portions, and a pair of opposed flat center panels, each said center panel being disposed between adjacent flat side panels and being formed with a slot to receive the respective cooperating adjacent locking projection of said flat stay member.

JOSEPH G. HUYE.