Oct. 3, 1961 NOBORU YONEMOTO 3,002,239

HANGING DEVICE

Filed Oct. 6, 1958

Fig. 1

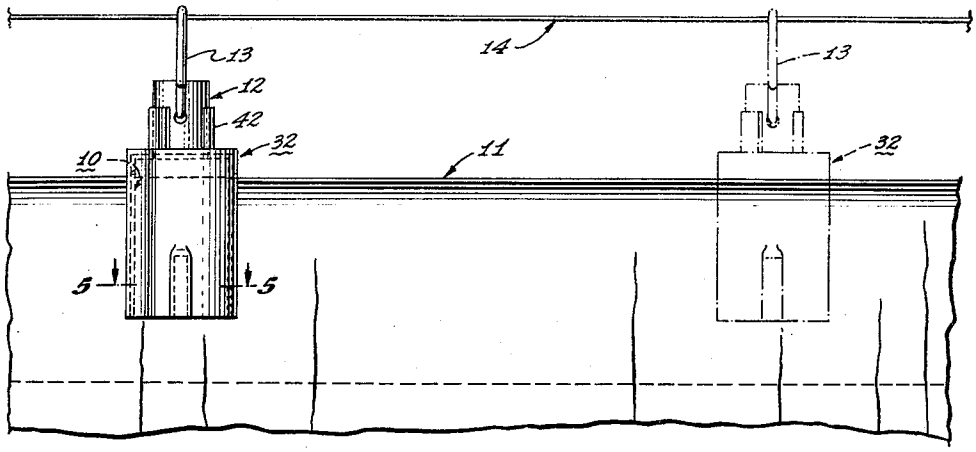


Fig. 2

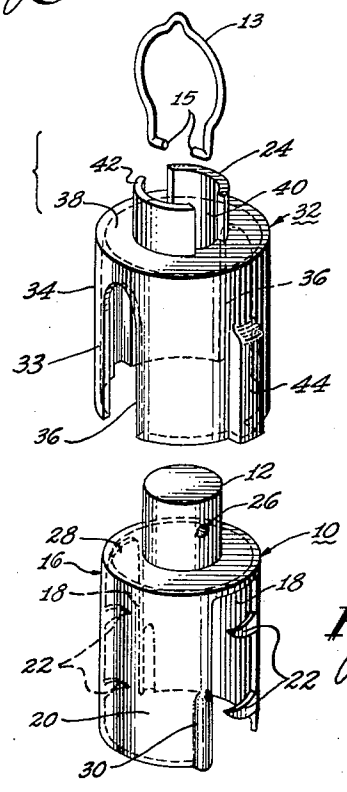
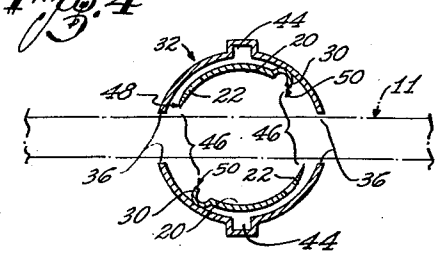


Fig. 3

Fig. 4



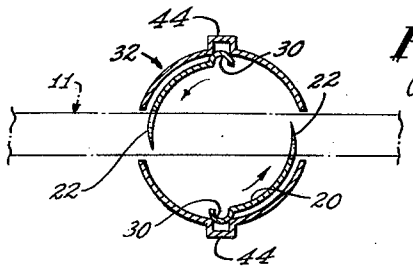


Fig. 5

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HANGING DEVICE

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This invention relates to drapery hanging and shaping devices, and, in particular, involves a novel device especially adapted to hang draperies, curtains and other sheet-like fabrics vertically from horizontal supports.

The hanging of draperies, particularly those formed of heavy fabrics, requires the use of supporting elements which are capable of suspending the fabrics along their upper edges in such a manner as to avoid tearing them. Desirably this requirement is met by a hanging device which engages the fabrics at a plurality of points in any given area, thereby to distribute the weight of the drape in such area over a number of different support points.

Any hanging device of this character should be simple in construction so that it may easily be attached by a housewife or unskilled person to a drapery, and mounted on an available horizontal support. The device should also be attractive in appearance so as not to detract from the aesthetics of the drapery, and should further be adapted to assist in shaping the draperies with which they are employed.

The device should further lend itself to inexpensive fabrication in order that the use of the number of them which may be required to provide adequate support for heavy draperies will not be too expensive, and so discourage their use.

The present invention attains all of the foregoing requirements and desiderata, and in the broadest aspects thereof comprises an element having prongs or the like for piercing and thus positively engaging the drapery for support thereby, together with a cooperating element for holding the pronged element against accidental movement from the position in which the prongs thereof are engaged with the drapery. In the illustrated embodiment of the present invention, the two elements comprise a pair of concentric cylindrical shells, which are part way slotted vertically along diametrically opposite areas to receive a section of the upper edge of the drape. The drapery is pendantly supported by the inner shell through engagement by two pairs of prongs or hooks which extend horizontally from one of each of the slot defining edges of the inner shell.

In the preferred embodiment of the present invention, the outer shell is provided at its upper end with an integral, radially inwardly extending shoulder defining a circular orifice coaxial with the shell. The inner shell is provided with a concentric sleeve which is extendable through the orifice in the outer shell, projected beyond the upper rim of the inner sleeve, and integrally joined with the inner shell by an annular transverse wall. The projecting sleeve, in the now preferred embodiment of the present invention, includes means for mounting elements to be releasably connected to a horizontal support for the drape, such as a rod or wire.

To hold the inner shell against accidental rotation relative to the outer shell and thereby prevent the prongs to be disengaged from the fabric, once the inner shell has been rotated to its support position with the prongs thereof engaged through the drape, means are provided for releasably latching the two shells against relative rotation. These latching means are made operative by movement of the inner shell into its support position. The latching means thus not only holds the two shells against relative rotation, but also serves to indicate to the user

that the inner shell has been moved into its proper support position relative to the drape.

Other features and advantages of the present invention will be apparent from the following description taken in connection with the accompanying drawing, in which:

FIGURE 1 is an elevation showing the manner in which a drapery may be hung by the device of the present invention;

FIGURE 2 is a perspective view of the outer shell element and the wire loop which is employed with the inner element;

FIGURE 3 is a perspective view of the inner shell element;

FIGURE 4 is a section on the line 5—5 of FIGURE 1 showing the manner in which the two elements are arranged prior to engaging the drapery fabric with the prongs of the inner element; and

FIGURE 5 is a similar section showing the actual engagement of the fabric by the prongs and locking of the inner element against rotation relative to the outer element..

The illustrated embodiment of the present invention, referring now to the accompanying drawing and more particularly FIGURE 1 thereof, comprises a cylindrical support unit 10 to be engaged with the drape 11 and including an inner sleeve 12 for releasably mounting a spring clip 13 to be engaged over a horizontal support for the drape such as a rod or wire 14. The support unit 10 comprises a cylindrical shell 16 which is slotted along diametrically opposed vertical areas 18, extending at least part-way upwardly from the lower edge of the cylindrical element 15. In forming the slots 18, a plurality of prongs 22 are provided to extend circumferentially at least part way into the slotting 18. These prongs are pointed to enable them to pierce the drapery fabric. In the preferred embodiment illustrated in the drawings, a coaxial extension sleeve 12, of lesser diameter than the shell 16, and pierced by holes 26 to receive the ends 15 of the loop 13, is integrally joined at its lower end to the upper rim of the shell 16 by a transverse wall or web 28.

A cap 32, which is constructed to receive and cover the element 16, is similarly formed as a tubular shell 33, but of an inside diameter slightly in excess of the outside diameter of the shell 16. The wall 34 of the shell 33 is similarly slotted at areas 36 to receive the upper edge of the drapery. An annular shoulder 38 extends radially inwardly from the upper rim of the shell 33 to define a concentric circular orifice 40 of sufficient diameter to permit the inner sleeve 12 of the element 16 to be passed therethrough.

A slotted guide sleeve 42 may also be provided to extend upwardly from the inner edge of the shoulder 38, but this extension 42 is not necessary and may, if desired, be dispensed with.

The wall 34 is formed with a pair of diametrically spaced outwardly protruding channels 44. These channels 44 extend vertically upwardly from the lower edge of the wall 34 a sufficient distance to receive for locking engagement a pair of similarly spaced bosses 30 provided in the shell 16.

In use, the shell 16 is slipped up into the cap 32 and twisted to align the cap slot 36 with the space 46 between the tips 48 of the prongs 22 and the adjacent edge 50 of the wall 20 of the inner element, in the manner shown in FIGURE 4. The upper edge of the drapery is then pressed into the coaligned slotting 36 and space 46, whereupon the inner shell 16 is rotated counterclockwise approximately 45°. This rotation forces the prongs 22 into the fabric of the drapery, and simultaneously moves the bosses 30 of the inner element into the channels 44 of the cap 32, thereby locking the shell 16 and

cap 32 against rotation relative to each other, so that disengagement of the prongs from the drape fabric may not occur inadvertently. The wire loop 13 may then be dropped over the wire or rod 14, and its free ends 15 are pulled apart and snapped into the holes 26 in the inner sleeve 12.

It will be found that a drapery, hung by devices of the present invention, will be securely suspended from a wire or rod 14 by means of the prongs 22, and can not become disengaged therefrom without tearing of the fabric, until the bosses 30 are pried out of the channels 44 and the shell 16 is rotated back clockwise to its position shown in FIGURE 4. Tearing of the fabric is not likely, however, if the drapery is heavy and of any quality, since the fabric is pierced and held by the prongs at four points for each device so employed.

The complete unit, being preferably cylindrical in configuration, readily lends itself to fitting within the pleats which are usually placed in draperies, so that very little of the shell may actually be exposed. Moreover, it may be constructed either of metal or plastic and of colors which may be selected to match or harmonize with the drapery fabric.

If the unit is made of plastic, it may be simply and inexpensively molded. If made of metal, most of the parts may be stamped out by suitable dies. It may thus be made relatively inexpensively in quantity.

The assembly of the unit is extremely simple so that its use should present no problems to a person unskilled in drapery hanging.

It will be readily appreciated that a number of variations in the form of the device may be devised, which variations employ the principles of the embodiment illustrated in the drawings and described hereinabove. All of these variations, however, are intended to be comprehended within the scope of the present invention.

I claim:

1. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with means to engage said fabric to hold the same against downward movement relative to said inner element upon partial rotation of the inner element relative to the outer element, the outer element being provided with first means, and the inner element being provided further with second means, said first and second means cooperating to limit the relative movement of the inner element upwardly through the outer element, and said second means including a fixture for attaching said inner element for suspension from said support.

2. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with prongs extending circumferentially part way into its slotting, to engage said fabric to hold the same against downward movement relative to said inner element upon partial rotation of the inner element relative to the outer element, the outer element being provided with first means, and the inner element being provided further with second means, said first and second means cooperating to limit the relative movement of the inner element upwardly through the outer element, and said second means including a fixture for attaching said inner element for suspension from said support.

3. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabric, the inner of said elements being provided with means to engage said fabric to hold the same against downward movement relative to said inner element upon partial rotation of the inner element relative to the outer element, the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice, and the inner element being provided further with a transverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly through the outer element, and said inner element including a fixture extendible through the orifice for attaching said inner element for suspension from said support.

4. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with means to engage said fabric to hold the same against downward movement relative to said inner element upon partial rotation of the inner element relative to the outer element, the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice, and the inner element being provided further with a transverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly through the outer element, said inner element including a concentric tubular portion of an outer diameter such as to pass slidably through said orifice, said tubular portion being secured to said transverse wall, and means for attaching said tubular portion for suspension from said support.

5. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with prongs extending circumferentially part way into its slotting to engage said fabric to hold the same against downward movement relative to said inner element upon partial rotation of the inner element relative to the outer element, the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice, and the inner element being provided further with a transverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly through the outer element, and said inner element including a fixture extendible through the orifice for attaching said inner element for suspension from said support.

6. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically op-

posite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with prongs extending circumferentially part way into its slotting, to engage said fabric to hold the same against downward movement relative to said inner element upon partial rotation of the inner element relative to the outer element, the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice, and the inner element being provided further with a transverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly through the outer element, and said inner element including a concentric tubular portion of an outer diameter such as to pass slidably through said orifice, said tubular portion being secured to said transverse wall, and means for attaching said tubular portion for suspension from said support.

7. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with means to engage said fabric to hold the same against downward movement relative to said inner element upon partial rotation of the inner element relative to the outer element, the outer element being provided with first means, and the inner element being provided further with second means, said, first and second means cooperating to limit the relative movement of the inner element upwardly through the outer element, said second means including a fixture for attaching said inner element for suspension from said support, and means to lock the inner and outer elements against rotation relative to each other when the inner element is received within the outer element.

8. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with prongs extending circumferentially part way into its slotting, to engage said fabric to hold the same against downward movement relative to said inner element upon partial rotation of the inner element relative to the outer element, the outer element being provided with first means, and the inner element being provided further with second means, said first and second means cooperating to limit the relative movement of the inner element upwardly through the outer element, said second means including a fixture for attaching said inner element for suspension from said support, and means to lock the inner and outer elements against rotation relative to each other when the inner element is received within the outer element.

9. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with means to engage said fabric to hold the same against downward movement relative to said inner element upon partial rotation of the inner element relative to the outer element,

the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice, and the inner element being provided further with a transverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly through the outer element, said inner element including a fixture extendible through the orifice for attaching said inner element for suspension from said support, and means to lock the inner and outer elements against rotation relative to each other when the inner element is received within the outer element.

10. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically opposite vertically extending areas from the lower edge thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with means to engage said fabric to hold the same against downwardly movement relative to said inner element upon partial rotation of the inner element relative to the outer element, the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice and the inner element being provided further with a transverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly through the outer element, said inner element including a concentric tubular portion of an outer diameter such as to pass slidably through said orifice, said tubular portion being secured to said transverse wall, means for attaching said tubular portion for suspension from said support, and means to lock the inner and outer elements against rotation relative to each other when the inner element is received within the outer element.

11. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with prongs extending circumferentially part way into its slotting to engage said fabric to hold the same against downward movement relative to said inner element upon partial rotation of the inner element relative to the outer element, the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice, and the inner element being provided further with a transverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly through the outer element, and said inner element including a fixture extendible through the orifice for attaching said inner element for suspension from said support, and means to lock the inner and outer elements against rotation relative to each other when the inner element is received within the outer element.

12. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with prongs extending circumferentially part way into its slotting, to engage said fabric to hold the same against downward movement relative to said inner element upon

partial rotation of the inner element relative to the outer element, the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice, and the inner element being provided further with a transverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly through the outer element, and said inner element including a concentric tubular portion of an outer diameter such as to pass slidably through said orifice, said tubular portion being secured to said transverse wall, means for attaching said tubular portion for suspension from said support, and means to lock the inner and outer elements against rotation relative to each other when the inner element is received within the outer element.

13. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, the wall of at least one of said elements being yieldably resilient in reference to the wall of the other element, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with means to engage said fabric to hold the same against downward movement relative to said inner element, upon partial rotation of the inner element relative to the outer element, the outer element being provided with first means, the inner element being provided further with second means, said first and second means cooperating to limit the relative movement of the inner element upwardly through the outer element, said second means including a fixture for attaching said inner element for suspension from said support, said inner element being provided with a vertically extending boss projecting radially outwardly, and said outer element having a vertically extending channel to receive said boss, whereby, when said boss is so received in said channel, the inner and outer elements are locked against rotation relative to each other.

14. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, the wall of at least one of said elements being yieldably resilient in reference to the wall of the other element, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with prongs extending circumferentially part way into its slotting, to engage said fabric to hold the same against downward movement relative to said inner element, upon partial rotation of the inner element relative to the outer element, the outer element being provided with first means, and the inner element being provided further with second means, said first and second means cooperating to limit the relative movement of the inner element upwardly through the outer element, said second means including a fixture for attaching said inner element for suspension from said support, said inner element being provided with a vertically extending boss projecting radially outwardly, and said outer element having a vertically extending channel to receive said boss, whereby, when said boss is so received in said channel, the inner and outer elements are locked against rotation relative to each other.

15. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, the wall of at least one of said elements being yieldably resilient in reference to the wall of the other element, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabric, the inner of said elements being provided with means to engage said fabric to hold the same against downward movement relative to said inner element, upon partial rotation of the inner element relative to the outer element, the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice, and the inner element being provided further with a transverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly through the outer element, said inner element including a fixture extendible through the orifice for attaching said inner element for suspension from said support, said inner element being provided with a vertically extending boss projecting radially outwardly, and said outer element having a vertically extending channel to receive said boss, whereby, when said boss is so received in said channel, the inner and outer elements are locked against rotation relative to each other.

16. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, the wall of at least one of said elements being yieldably resilient in reference to the wall of the other element, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with means to engage said fabric to hold the same against downward movement relative to said inner element, upon partial rotation of the inner element relative to the outer element, the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice and the inner element being provided further with a trasnverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly through the outer element, said inner element including a concentric tubular portion of an outer diameter such as to pass slidably through said orifice, said tubular portion being secured to said transverse wall, means for attaching said tubular portion for suspension from said support, said inner element being provided with a vertically extending boss projecting radially outwardly, and said outer element having a vertically extending channel to receive said boss, whereby, when said boss is so received in said channel, the inner and outer elements are locked against rotation relative to each other.

17. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, the wall of at least one of said elements being yieldably resilient in reference to the wall of the other element, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with prongs extending circumferentially part way into its slotting to engage said fabric to hold the same against downward movement relative to said inner element, upon partial rotation of the inner element relative to the outer element, the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice, and the inner element being provided further with a transverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly

through the outer element, and said inner element including a fixture extendible through the orifice for attaching said inner element for suspension from said support, said inner element being provided with a vertically extending boss projecting radially outwardly, and said outer element having a vertically extending channel to receive said boss, whereby, when said boss is so received in said channel, the inner and outer elements are locked against rotation relative to each other.

18. A device for suspending from a horizontal support a vertically disposed fabric, said device comprising a pair of concentrically disposed tubular elements, said elements being at least partially rotatable relative to each other, the wall of at least one of said elements being yieldably resilient in reference to the wall of the other element, each said element being slotted along diametrically opposite vertically extending areas from the lower edges thereof upwardly for a predetermined distance, said slotting being of sufficient width to receive the fabrics, the inner of said elements being provided with prongs extending circumferentially part way into its slotting, to engage said fabric to hold the same against downward movement relative to said inner element, upon partial rotation of the inner element relative to the outer element, the outer element being provided with an annular shoulder extending radially inwardly from its upper rim to define an orifice, and the inner element being provided further with a transverse wall also extending inwardly from its upper rim, said shoulder and wall cooperating to limit the relative movement of the inner element upwardly through the outer element, said inner element including a concentric tubular portion of an outer diameter such as to pass slidably through said orifice, said tubular portion being secured to said transverse wall, means for attaching said tubular portion for suspension from said support, said inner element being provided with a vertically extending boss projecting radially outwardly, and said outer element having a vertically extending channel to receive said boss, whereby, when said boss is so received in said channel, the inner and outer elements are locked against rotation relative to each other.

References Cited in the file of this patent

UNITED STATES PATENTS

531,641	Payne	Jan. 1, 1895
1,144,113	Dygert	June 22, 1915
1,275,538	Derr	Aug. 13, 1918
1,386,918	Westrup et al.	Aug. 9, 1921
1,578,231	Deses et al.	Mar. 23, 1926
2,544,516	Walters	Mar. 6, 1951
2,638,028	Francesco	May 12, 1953
2,656,640	Johnson et al.	Oct. 27, 1953
2,817,133	Mills	Dec. 24, 1957

FOREIGN PATENTS

421,926	Italy	June 3, 1947