Sept. 11, 1951 O. FAUSER, JR 2,567,370

HOUSING AND STAND FOR BOTTLED GAS

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Fig. 1.

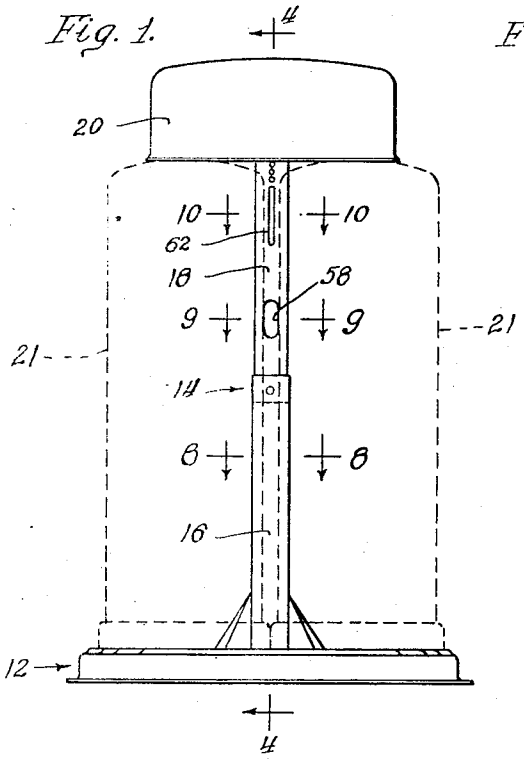


Fig. 4.

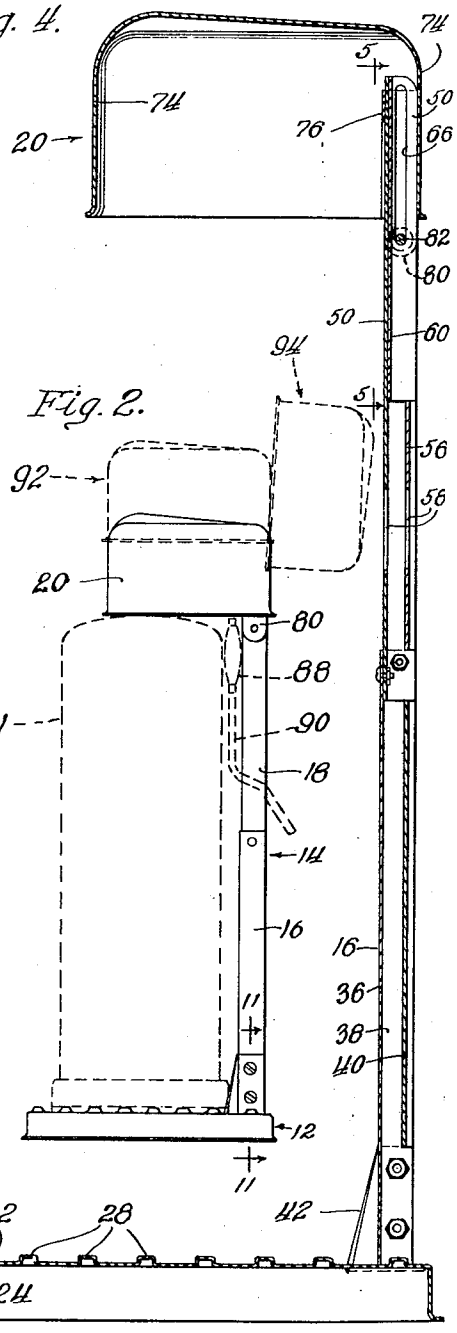
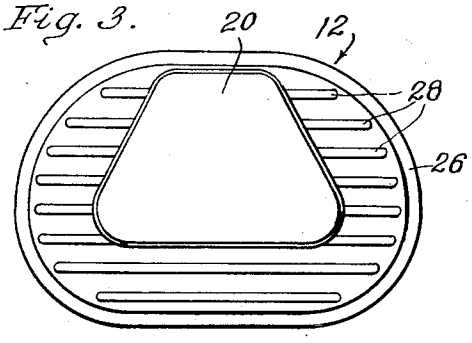


Fig. 2.

Fig. 3.



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Fig. 5.

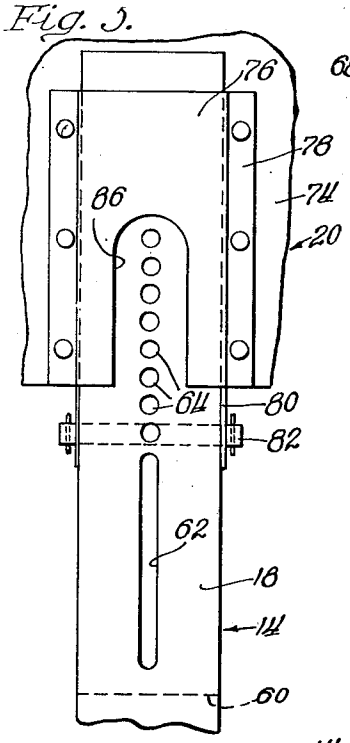


Fig. 6.

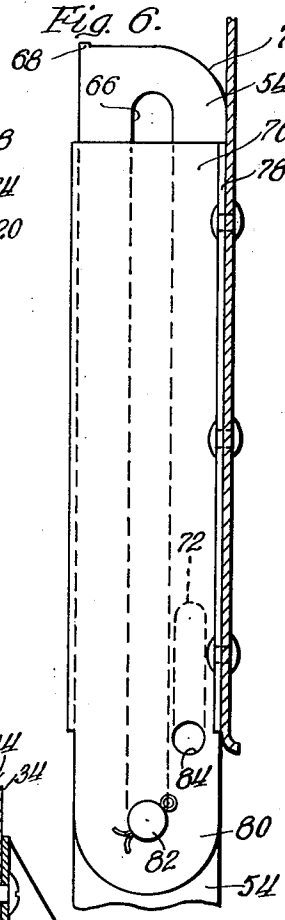


Fig. 10.

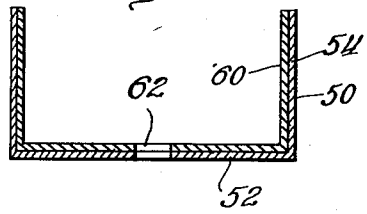


Fig. 9.

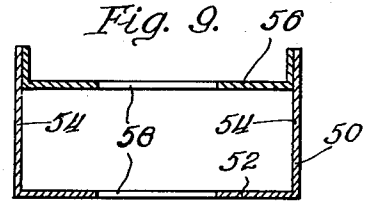


Fig. 8.

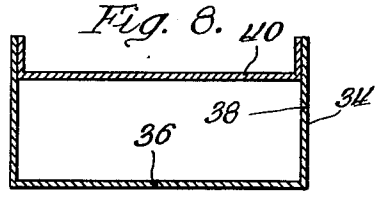


Fig. 11.

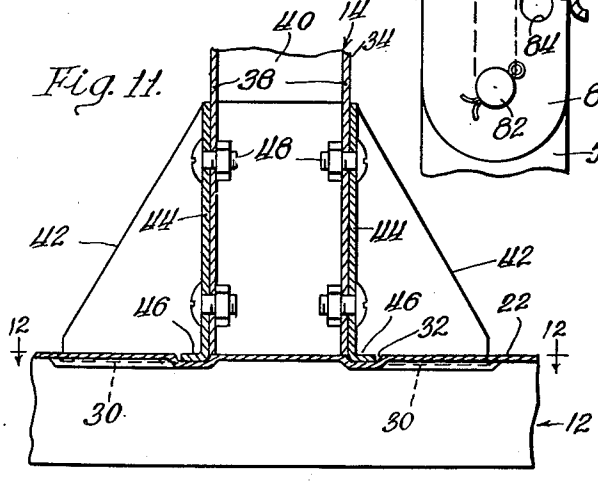


Fig. 7.

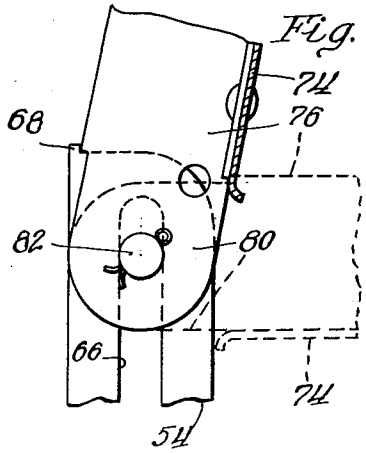
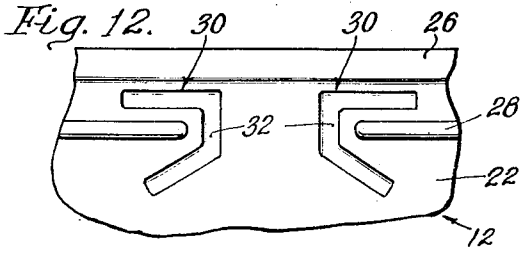


Fig. 12.



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Patented Sept. 11, 1951 2,567,370

UNITED STATES PATENT OFFICE

2,567,370

HOUSING AND STAND FOR BOTTLED GAS

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Application December 23, 1946, Serial No. 717,897

10 Claims. (Cl. 312—100)

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This invention relates to a stand and housing for bottled gas.

As is well known such bottles of gas may be used for several purposes, such as welding, for domestic gas stoves, etc., and the present invention is designed for supporting such bottles and providing means for covering and locking the bottles to prevent unauthorized use of them.

The device of the present invention includes a flat base, an upright standard secured at one side of the base, and a housing or hood secured to the top of the standard, which extends over the base. The bottles of gas are placed on the base, and the housing covers the upper ends of the bottles, upon which are the usual valves for regulating the flow of gas.

An object of the present invention is the provision of such a stand and housing which is made entirely of stampings, resulting in an economical article, and which possesses great strength.

Another object of the invention is the provision of means for locking the housing in position over the valves of the bottles, and raising the housing on the standard up off the ends of the bottles, for gaining access to the bottles.

A further object is the provision of a novel slip-hinge which permits the housing to be swung back from its position over the base, when it is raised to its upper position on the standard.

A further object resides in the fact that the stand is collapsible or separable, that is, the base, standard, and housing can all be detached from one another, and in addition, the standard itself can be knocked down into separate sections.

A still further object of the invention is the provision of ribs formed in the upper surface of the base, which has the dual function of reinforcing the base and spacing the bottles of gas upwardly to permit thorough draining from the upper surface of the base.

Another advantage resides in the fact that the base is hollow so that it can be filled with concrete if desired for imparting stability to the stand.

Still another advantage resides in the fact that the standard can accommodate bottles of different sizes, within limits, so that the housing can be locked in position over the upper ends of the bottles at different points for accommodating different lengths of bottles.

A still further advantage of the invention resides in the fact that means is provided for accommodating different sizes of connections for

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the valve accessories of the bottles. Most accessories are provided with standard design means for securing them, but of course, some vary from the standard dimensions, and in the latter case they can still be secured easily in position in the stand of the present invention.

Still another advantage resides in the fact that the upright standard, although formed of stampings, is provided with reinforcing means in such a way as to resist torsion.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in the claims and illustrated in the accompanying drawings, in which:

Figure 1 is a front view of the stand, showing bottles of gas in position, in dotted lines;

Figure 2 is a side view of the device, also showing the bottles in position in dotted lines, and showing different positions of the housing when raised off of the bottles;

Figure 3 is a top view of the device;

Figure 4 is an enlarged vertical sectional view of the device taken on line 4—4 of Figure 1;

Figure 5 is an enlarged view taken on line 5—5 of Figure 4, showing the upper end of the standard, and the means for connecting the housing thereto;

Figure 6 is a view from the right of Figure 5, on an enlarged scale;

Figure 7 is a fragmentary view adapted from Figure 6 showing the connection between the standard and the housing when the housing is in raised position;

Figure 8 is an enlarged sectional view taken on line 8—8 of Figure 1;

Figure 9 is an enlarged sectional view taken on line 9—9 of Figure 1;

Figure 10 is an enlarged sectional view taken on line 10—10 of Figure 1;

Figure 11 is an enlarged sectional view taken on line 11—11 of Figure 2, showing the brackets for securing the standard to the base; and

Figure 12 is a fragmentary view taken on line 12—12 of Figure 11 on a reduced scale, showing the depressions in the surface of the base for securing the brackets of Figure 11 thereto.

Referring in detail to the drawings, the stand includes a base 12, and a standard 14 extending upwardly therefrom, and including sections 16 and 18. Secured to the upper end of the standard is a housing 20. The base 12 is of generally oval shape, having its longer dimensions disposed

transversely, and is designed to support two bottles of compressed gas, as indicated in dotted lines at 21.

The base 12 is a unitary stamping in the form of an open shell having an upper surface 22, and a downwardly extending skirt 24 with an out-turned flange 26 therearound. Formed on the upper surface 22 of the base are a plurality of upwardly extending ribs 28 extending transversely across the base and spaced apart laterally. The ribs 28 may be formed in the original stamping operation which forms the base itself. The ribs 28 space the bottles of gas up from the main surface of the base to provide complete draining of the base, and prevent freezing of the bottles to the base in the winter. In addition, the ribs 28 furnish increased strength in the base.

Formed also in the upper surface 22 of the base are a pair of depressions 30 (Fig. 12), each roughly in the form of a U, and each having corresponding sides thereof shown at 32 in parallel spaced relation.

The standard 14 is of channel-shaped stampings, with reinforcements therein. The lower section 16 of the standard 14 includes a main outer rectangular channel 34 (Figure 8) having a web 36 and flanges 38. Secured across the open side of the channel 34 is another channel 40 shallower than the channel 34, and oriented in the same direction. The flanges of the channel 40 are secured to the outer extremities of the flanges 38 of the channel 34, as by spot welding. The means for securing the section 16, and thereby the standard 14 to the base includes a pair of upwardly extending brackets 42 (Fig. 11). These brackets 42 in horizontal cross-section are of the shape of the depressions 30 in the base, and are fitted therein. Each of the brackets 42 includes a segment or wall 44, which fits in the corresponding segment 32 of the depression 30, so that the segments 44 are spaced apart, and in parallel relationship. The lower extremities of the segments 44 of the bracket 42 are provided with flanges 46 for imparting strength thereto and providing a means for solidly securing the brackets 42 in the depressions 30.

The spacing of the segments 44 of the brackets 42 is such that the flanges 38 of the lower section 16 of the standard fit between them. Bolts 48 are then inserted for securing the standard to the brackets. The reinforcing channel 40 terminates at its lower end at the upper extremity of the brackets 42 to permit access to the bolts 48.

The upper section 18 of the standard 14 is formed similarly to the lower section. By reference to Figure 9, it will be seen that the upper section 18 includes a channel 50 having the usual web 52 and flanges 54. The upper section 18 is slightly smaller than the lower section so that it will telescope into the latter, and the two sections are secured together as by bolts (see Figure 4). Similarly to the lower section 16, the channel of the upper section 18 is reinforced with a shallower channel 56 having its flanges secured to the outer extremities of the flanges 54 of the channel 50.

Spaced a short distance above the connection point between the sections 16 and 18 of the standard is an opening 58 formed in the webs of the channels 50 and 56.

The reinforcing channel 56 in the upper section 18 of the standard extends approximately half the length of the section, and in the upper part of the section 18 is a reinforcing lining 60 also of channel shape. The lining 60 is substantially the same shape of the channel 50, and fits entirely into the latter, reinforcing its web and flanges. Formed in the web 52 of the channel 50 and the web of the lining 60 at the upper part of the standard are a vertical slot 62 and a plurality of holes 64 above the slot, and in vertical alignment therewith.

The flanges 54 and the flanges of the lining 60 at the upper extremity of the standard are provided with vertical slots 66 terminating adjacent the upper extremity of the standard (Figs. 4 and 6). The web 52 at its upper extremity forms a slight projection 68, and the flanges 54 are rounded at their upper corners, as indicated at 70.

A shorter slot 72 is formed in one of the flanges 54 and the flanges of the lining 60 toward the lower end of the respective slot 66 and positioned adjacent thereto.

The housing 20 is of shell-like formation, having vertical side walls 74 and positioned with its open side down. The housing 20 tapers outwardly from the standard 14, so that its wide outer end will cover the valves of the two bottles of gas, and the housing is of sufficient depth to cover any type of valve accessories used in connection with bottled gas installations.

Secured to the inside of the vertical wall 74 at the shorter side thereof is a sleeve 76 fitting over the standard and having both its upper and lower end open. The sleeve 76 has lateral flanges 78 for securing the sleeve to the housing, as by means of rivets. Extending downwardly from the lower end of the sleeve 76 are laterally positioned ears 80, which fit over the outer surfaces of the flanges 54. The ears 80 are provided with holes for insertion of a connecting pin 82 which is inserted through the holes in the ears 80 and through the slots 66 in the flanges 50, and secured therein as by means of cotter keys. One of the ears 80 is provided with a hole 84 which registers with the slot 72 in the standard in certain positions.

The web of the sleeve 76 is provided with a slot 86 at its lower end to expose all of the openings 64 in the standard.

Use and operation

When the bottles of gas are in place in the stand, a valve accessory indicated generally at 88 therefor may be secured to the standard in the slot 62 and holes 64. Valve accessories as herein referred to include any connections between the bottles of gas, their valves, and any regulating equipment; they also include regulating equipment with any type of gauge, manifold, or other connections attached thereto and used in the installation of bottled gas equipment. Such accessories ordinarily are provided with standard spaced connections, but in the event they are not, the various holes 64 will accommodate various spacings of connections. If the spacings of the holes 64 are not accurate, then the slot 62 may be brought into use therewith to permit greater latitude of connection. Also, widely spaced connections can be accommodated considering the distance between the upper hole 64 and the bottom of the slot 62. A tube 90 may lead from the accessory 88 and brought out through the opening 58 in the standard.

When the housing 20 is in position for locking over the bottles, it is as shown in full lines in

Figures 1, 2 and 4. The relationship, when the housing is in lowered position, between the standard and the sleeve **76** of the housing, is shown in Figures 5 and 6. The connecting pin **82** is at the lower end of the slots **66**, and the sleeve **76** is slid down over the upper end of the standard. The slots, of course determine the lower limit to which the housing can go. It will be noted that all of the holes **64** are exposed when the housing is lowered, because of the slot **86** in the sleeve **76**.

When the housing is in such lowered position, a padlock can be inserted through the opening **84** and slot **72**, for locking the housing in place. The housing can be raised, when locked, to the extent of the length of the slot **72**. This will not permit access to the bottles, but permits limited movement to accommodate slightly different lengths of bottles, and to provide the play usually necessary in such pieces of equipment.

When it is desired to raise the housing, the padlock is of course removed and the housing raised merely by sliding it on the standard. When the connecting pin **82** reaches the upper end of the slots **66**, the lower edge of the web of the sleeve **76** can be hooked over the projection **68** on the upper extremity of the web of the standard. This relationship is shown in Figure 7, and the position that the housing, as a whole, assumes is shown in dotted line position in Figure 2, is indicated at **92**. The sleeve **76** rests on and is supported by the standard which supports the housing in its raised position. The angle of the sleeve as shown in Figure 7 is exaggerated for a clear illustration. In such raised position the housing **20** is nearly horizontal as indicated at **92**, or its outer end is slightly raised.

The connection between the sleeve **76** and the standard may be known as a slip-hinge. If it is desired to swing the housing back away from its position over the bottles, it is merely tilted back after it is in its raised position. Figure 7 also shows this relationship, where in dotted line position it will be noted that the sleeve **76** and thereby the vertical wall **74** of the housing are in substantially horizontal position. At that point, the lower edge of the housing **74** bears against the edges of the flanges **54** in the upper end of the standard. Figure 2 shows the position of the housing when it is swung back from the standard, as indicated in dotted lines at **94**.

It will be seen from the foregoing that I have produced a stand and housing which is made entirely of stampings, resulting in an extremely economical article. Because of the design of the various parts, and strengthening members at appropriate points, a strong and effective stand results; for example, the reinforcing channels **40** and **56** in the standard serve greatly to resist torsion in the standard, and the lining **60** furnishes additional strength for supporting the housing.

If desired, the hollow base **12** can be filled with concrete to provide stability for the stand.

While I have shown a particular embodiment of my invention, it will be undersood of course that I do not wish to be limited thereto since many modifications may be made, and I therefore contemplate by the claims appended hereto to cover any such modifications or substitutions of equivalents as fall within the true spirit and scope of my invention.

I claim:

1. In a stand of the type described, a base, an upright standard secured to said base, said standard being polygonal in cross-section, a shell-like housing having its open side facing downwardly, a sleeve secured to the inner surface of said housing on one of the vertical surfaces thereof, said sleeve being similar in cross-section to said standard and telescoping over the upper end thereof, the lower end of said sleeve being substantially flush with the lower edge of the housing, said sleeve having laterally spaced depending ears extending below the lower edge of the housing, said ears having openings therein and said standard having slots therein for insertion of a connecting pin therethrough, said housing being vertically movable, the distance between the upper ends of said slots and the upper end of the standard being no greater than the dimension of said ears above the openings therein, said standard having an upstanding projection on its upper end on the side thereof remote from said one vertical surface of said housing, said sleeve being adapted to engage said projection when said housing is in its upper position.

2. In a stand of the type described, a base, a rectangular upright standard secured thereto, the upper portion of said standard being channel-shaped and having a channel-shaped reinforcing lining therein, the web of the channel having a plurality of vertically aligned holes therein and a vertical slot in alignment with the holes, the web of the channel extending slightly above the flanges thereof and forming an upward projection, the flanges of the channel having vertical slots therein, said slots extending to a point adjacent the upper ends of said flanges, a housing, and means in the slots in the flanges of the channel for securing the housing to the standard, said housing being slidably vertical for the length of the slots in the flanges, said projection being adapted for supporting said housing in its upper position.

3. In a stand of the type described, a base having an upper horizontal surface and a surrounding depending flange, said upper surface having a plurality of laterally spaced parallel ribs and a pair of depressions formed therein, an upstanding bracket secured in each depression, said brackets having facing, spaced parallel walls, a channel-shaped upright standard detachably secured between said brackets, reinforcing means secured across the open side of the channel of the standard, the upper end of the web of the channel of the standard having a plurality of vertically aligned openings formed therein for securement thereto of valve accessories used in connection with bottles of gas, the upper end of the flanges of the channel of the standard having vertical slots formed therein, said slots extending to a point adjacent the upper ends of said flanges, a housing, and connecting means inserted in said slots for securing said housing on said standard, said housing being normally positioned over said base, said connecting means being slidable in said slots for sliding said housing on said standard, said housing being swingable out of its position over said base at the upper limit of its sliding movement.

4. In a stand of the character described, a base, an upright standard secured to the base at one side thereof, and a housing secured to the upper end of said standard, said standard having a first vertical slot in the upper end thereof, said housing having an opening, a pin in said slot and opening for securing said housing to said standard, said housing having vertical movement

to the extent of said slot, said standard having a second slot of substantially less length than said first slot, said housing having a second opening, said second slot and second opening being adapted for insertion therethrough of locking means, said housing having movement to the extent of said second slot when said cover is locked.

5. In a stand of the character described, a base, an upright polygonal standard secured to said base, a shell-like housing mounted on the upper end of said standard with its open side facing downwardly, a polygonal sleeve secured to the inner side of one of the vertical surfaces of said housing, said sleeve being telescoped over said standard and vertically slidable thereon, a plurality of vertically spaced openings in said standard adjacent the top thereof and on the side thereof which is remote from said one surface of said housing, a portion of said openings being disposed above the bottom of said sleeve when the latter is in its lower position, said sleeve having a cut-away portion adapted to register with said portions of said openings.

6. In a device of the character described, a base having an upper horizontal surface and a surrounding depending flange, said upper surface having a pair of depressions therein, each depression having a segment spaced laterally from and disposed parallel with a similar segment in the other depression, said base being adapted for mounting of a standard thereon between said parallel segments, and said depressions being adapted for mounting therein of brackets for securing said standard to the base.

7. In a device of the character described, a base having an upper horizontal surface and a surrounding depending flange, said upper surface having a pair of depressions therein, each depression having a central segment and end segments disposed at an angle to the central segment, said depressions being disposed with said central segments in laterally spaced parallel relation, said base being adapted for mounting of a standard between said parallel segments, and said depressions being adapted for mounting therein of brackets of shapes similar to the depressions for securing said standard to the base.

8. In a device of the character described, a base having an upper horizontal surface and a surrounding depending flange, said upper surface having a pair of depressions therein, each depression having a central segment and end segments disposed at an angle to the central segment, said depressions being disposed with said central segments in laterally spaced parallel relation, a standard mounted on said base between said parallel segments, brackets secured in said

depressions, said brackets being similar in cross sectional shape to said depressions, said brackets having flat surfaces facing each other and engaging said standard and secured thereto.

9. In a stand of the type described, a base, an upright standard secured to one side of the base, a housing, a sleeve secured to the housing telescoping over said standard, a pin and slot connection between said sleeve and standard for securing said sleeve and thereby the housing on said standard, said pin being slidable in said slot and said housing being thereby movable vertically on said standard an extent substantially equal to the length of said slot, said sleeve being raised substantially off of the upper end of the standard when said housing is raised to its upper position, said standard having a projecting portion adjacent its upper end and within the vertical projection thereof, said sleeve being adapted to rest on said projecting portion in the upper position of the housing, and said housing being swingable on said pin and thereby on said standard in the upper position of the housing.

10. In a stand of the type described, a wide area base, an upright standard secured to the base at one side thereof, and a housing secured to the upper end of said upright standard, said housing being normally movable vertically on said standard, means for limiting the normal vertical movement of said housing, said housing and standard having cooperating openings for locking means, one of said openings having substantially the same dimensions in cross directions, and the other of said openings being an elongated slot, said slot being of a length less than the range of normal vertical movement of said housing, whereby said housing, when locking means is inserted in said openings, has vertical movement on said standard to an extent less than its movement when unlocked.

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