Oct. 24, 1950 H. S. OVERMAN 2,527,228

SHELF

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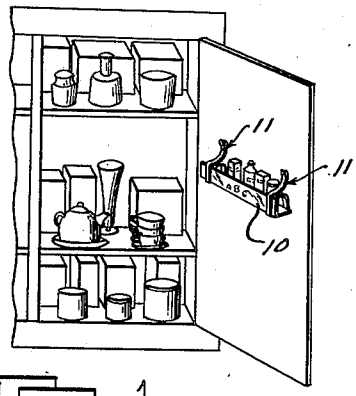



FIG. 1.

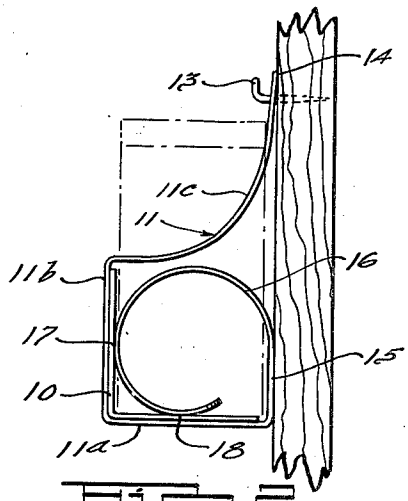



FIG. 2.

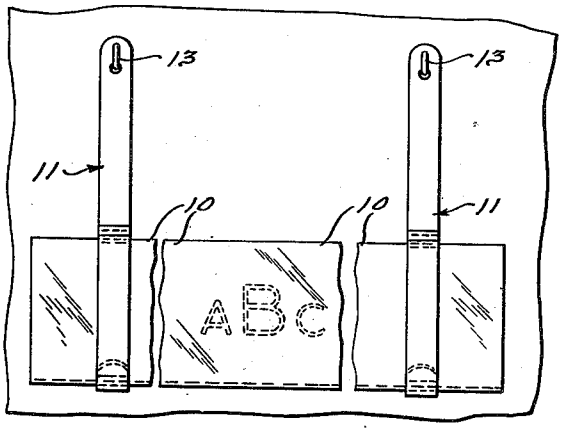



FIG. 3.

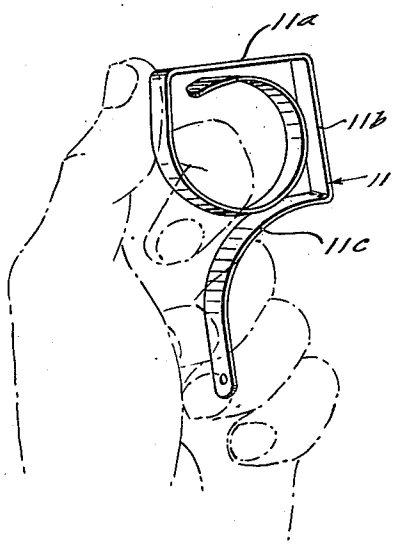



FIG. 5.

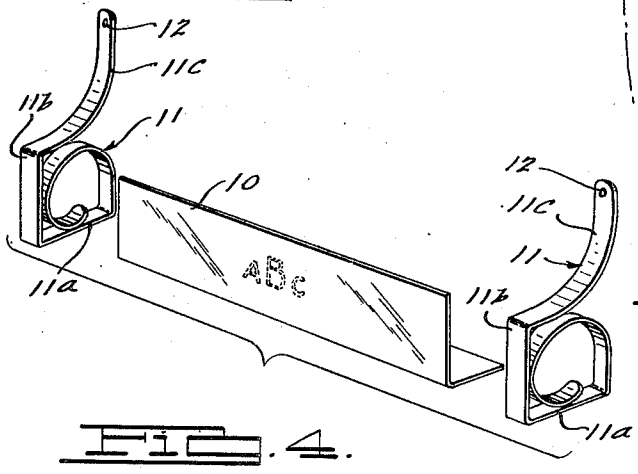



FIG. 4.

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## SHELF

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8 Claims. (Cl. 211—90)

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This invention relates to shelves and more particularly to an improved shelf for relatively small articles, which shelf is adapted to be installed or attached to a wall or a swinging door of a closure such as a kitchen cupboard or a bathroom medicine cabinet.

One of the objects of the present invention is to provide an improved shelf for a closure, such as a kitchen cupboard, in which shelf disadvantages of prior constructions are overcome and largely eliminated.

Another object of the invention is to provide an improved shelf adapted to be attached to the door of a cupboard at the inner surface or side thereof and to clear the shelves inside the cupboard by a sufficient distance, when closed, and when so installed to provide a convenient support for small items, such as spice cans and boxes, which often become covered by larger articles, and while occupying space, are often very difficult to find unless some of such larger articles are first taken out of the cupboard.

A further object of the invention is to provide an improved shelf of the foregoing character which, when installed, has article-retaining walls or barriers provided at all of its sides except the top, and yet no appreciable portions of any of the supported articles are covered and therefore concealed by the shelf, but such articles and their labels remain in full view of the observer.

A still further object of the invention is to provide an improved shelf of the character specified in the preceding paragraph and satisfying fully the object stated therein without the use of glass shelving common in medicine cabinets; it is appreciated that the use of glass would make a shelf of this general character prohibitively thick, heavy, undesirably large, present the danger of breakage, and would require molding of special glass section, which is an expedient of very high and often prohibitive cost.

A still further object of the present invention is to provide an improved shelf for small articles, which can be easily attached to a wall or the inner side of the door of a closure and be modified to suit the requirements of space and installation, without the use of complicated telescoping and similar constructions which are expensive and, because of jamming or requiring small parts easily lost, have serious functional disadvantages.

A still further object of the invention is to provide an improved shelf of the character specified in the preceding paragraph, which shelf consists only of a few parts and can be compactly packed for shipment either in the fully assembled or in the disassembled condition; and, if received disassembled by the user, to be assembled and installed in a matter of a few minutes only.

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A still further object of the present invention is to provide an improved shelf of the foregoing character, which is of such of a construction as to provide an opportunity to impart to it an exceedingly pleasing appearance, as well as striking colors, attractive independently or as a part of the color scheme of the entire room, all without additional cost or the necessity of painting, lacquering and the like.

A still further object of the invention is to provide an improved shelf of the foregoing character which is of such a construction that corners and other similar places accumulating crumbs, dust, and dirt are entirely eliminated; and, the shelf may be easily taken off, disassembled in a very simple manner, wiped clean, reassembled and remounted in a similarly simple manner.

A still further object of the invention is to provide an improved shelf of the character specified in the preceding paragraph, which is very light and yet is of sturdy construction and possesses requisite rigidity and strength, both when operatively mounted and as a self-sustaining structure.

A still further object of the invention is to provide a shelf of the foregoing character, on which shelf individualized ornamentations, such as monograms and trademarks embossed in gold or color may be easily and inexpensively provided, which operation is difficult and more costly, if metal or glass are used as the material for the ornament receiving portions of the shelf.

A still further object of the present invention is to provide an improved shelf of the foregoing character which is exceedingly simple in construction, safe and dependable in use, is inexpensive to manufacture, and may be made in any number of lengths without any special tooling up or having a larger number of special models.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification, wherein like reference characters designate corresponding parts in the several views.

Fig. 1 is a perspective view showing a shelf embodying the present invention operatively mounted on the door of a cupboard.

Fig. 2 is an end view of the shelf shown in Fig. 1.

Fig. 3 is a front view of the shelf shown in Fig.

2 with a portion broken away to reduce the size of the figure.

Fig. 4 is an exploded view of the shelf.

Fig. 5 illustrates one of the methods of handling brackets in assembling and disassembling the shelf.

Before explaining in detail the present invention it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

Referring to the drawing, there is shown by way of example a shelf embodying the present invention. The shelf illustrated in the drawing is shown attached to the door of a cupboard and it has the dimensions and proportions making it particularly adapted for such an application. It will be understood however that the same shelf may be attached to a wall of a living room to hold ornamental articles such as small statuettes and the like, or be secured to a drawing board or a wall to hold ink, paint bottles or similar articles. It will also be understood that the shelf may be made of different sizes and proportions and adapted to support such articles as flower pots and the like.

The shelf illustrated in the drawings comprises generally an angular member 10 and brackets 11, 11 mountable on the member 10 and adapted to be attached to a wall, a door of a cupboard or a similar shelf-supporting structure. The member 10 is preferably made of a uniform angular or L-shaped cross section from a transparent and relatively flexible plastic material, such as acrylic resin, cellulose acetate, various polyvinyl chloride-acetate compounds, and the like. Such materials possess sufficient strength, are relatively flexible, i. e. possess flexibility permitting their bending and twisting, without cracking, in the degree very likely to be encountered in their intended uses; they are not readily inflammable, and are relatively inexpensive. Acrylic resins, in particular, are stable dimensionally, do not warp, and are available in a great variety of exceedingly pleasing colors. Transparency of the material is important in order that labels or other designations or indications of the contents of small cans and bottles contained in the shelf do not become concealed requiring taking several cans or bottles out before the one desired is thus found. It is also preferable to make the member 10 of integral construction, rather than from two separate angularly disposed members, thereby preventing separation of the parts, decrease in rigidity and similar disadvantages. I prefer to make the member 10 by bending a flat sheet of material, heating the sheet either bodily or only along the line of bending. However, the use of molded or extruded angular sections may also be of advantage, particularly if the same are already available as standard sections for cutting into any desired lengths. The term "L-shaped cross section" is used herein to designate both any angular cross section, or a cross section resembling the letter L, i. e. having a low vertical bar at the end of the horizontal bar.

The brackets 11, 11 are preferably identical, and of an integral construction, one portion forming a continuation of the other. Each of said brackets 11 comprises an angular portion consisting of a horizontal leg or bar 11*a* and a vertical leg or bar 11*b*. The terms such as "horizontal," "vertical," "upper," "lower" and the like are used herein for the purposes of description only, to designate portions of the construction herein disclosed which occupy, are disposed or extend, in the position of the construction shown in the drawing, in a manner described by such terms. The angular portion of each bracket is adapted to underlie and to support the angular shelf member 10 as shown in the drawing. At the upper end of the bar 11*b* there is provided a suspension or supporting bar 11*c* bent rearwardly to bring its extremity substantially into the vertical plane passing through the end 11*a* of the angular portion. The extremities of the supporting bar of each bracket is adapted to be connected to the wall or other shelf-supporting structure in any suitable manner, such as by the provision of holes 12 for the passage of screws or of hooks such as shown at 13. Use of hooks permits taking the shelf off without the use of screw drivers or similar tools. It is preferable to impart to the portion 11*c* downwardly directed curvature in order to form a side barrier for the articles contained in the shelf, which barrier does not extend upwardly for such a distance as to interfere with grasping the top of an article standing against the bracket.



Means are provided to retain the brackets 11, 11 yieldingly in a desired position on the shelf member 10. In the present embodiment of the invention said means are integral with the brackets 11, 11 and are exemplified by curled portions provided on the ends of the horizontal bars 11*a* of the angular portions of the brackets. It is preferable to have such curled portion to include a straight portion 15 extending for a sufficient distance to provide a flat portion bearing against the wall and merging into a curved, preferably spiral, or similar portion 16 bent to contact the shelf member 10 at one or more places. In the embodiment shown, the curled portion contacts the member 10 at two places 17 and 18. The brackets 11 are made of a material possessing some resiliency, and are of integral construction. It is preferable to make them from metal, such as polished spring steel, brass, copper and the like, although brackets molded of plastic materials may also be used with success.

The curvature imparted to the coil or spiral 16 is preferably such that before the brackets 11 are put on the shelf member 10, there is some clearance at places where the spiral 16 is to contact the member 10, but such clearance is somewhat less than the thickness of the member 10. By such an expedient, assembling the shelf member 10 and brackets 11 is made easier, and when the shelf is assembled, the spiral 16 exerts on the shelf member a certain yielding pressure sufficient to retain the brackets and the shelf member in their relative positions.

The manner in which each bracket may be assembled to the shelf member 10 is illustrated in Fig. 5. After taking hold of the bracket, as shown, or in any other suitable manner, the bracket is spread and simply slipped on the member 10, from either end thereof, into its intended position. Scratching of the member 10 is thus prevented.

It will now be clear in view of the foregoing that by virtue of the construction disclosed above my improved shelf possesses a number of important advantages both in its manufacture and in its use. Its construction is reduced to ex-

treme simplicity. In its operative position it has, in effect, all the advantages of an open box and has article retaining walls from all sides except the top. Yet all items contained therein are in full view from the very bottom to the top, and can be easily distinguished, removed for use and returned to their respective places. The shelf is strong and rigid both in its operative position and when taken off, with no parts falling out. It is adapted to be individualized by embossing in gold or in any color of various monograms and similar ornamentations, as illustrated in Figs. 3 and 4. Embossed with a trade-mark of a product, my shelf forms an excellent premium or advertising gift item.

The proportions of the angle bars of the member 10 and brackets may be varied as desired, to provide a wide shelf with a low front wall, or vice versa, or to incorporate any desired relationship between the length and the width. More than one of my shelves may be used in one cupboard or on a wall, thus providing more useful or adequate facilities or particularly attractive ensembles. The plastic materials such as disclosed are easily broken along a scratched line, and therefore, should a user wish to reduce the length of the shelf member, all that is necessary is to move the bracket to the place desired, scratch the member 10 with a sharp or pointed tool along the edge of the bracket and break off the portion of the member 10, thus bringing such member to the desired length. By shifting brackets on the member 10, the shelf may be adapted for a great variety of suspension conditions and be connected to the wall at practically any desired location.

For some applications it may be desirable to effect a very tight attachment of the shelf to the wall or other supporting structure. For such a requirement the use of screws instead of hooks such as 13 is desirable. With such or similar means of attachment, the head of the screw draws the upper end of the bracket very tightly against the wall, consuming the clearance resulting from the fact that the shape of the portion 11c is such that in the free suspension of the shelf such as on hooks, it is only the very tip or end of the portion 11c that touches the wall, as is shown at 14 in Fig. 4. Therefore, tightening of the screws or similar connectors, draws the upper ends of the portions 11c at holes against the wall, which in turn causes the portions 15 of the brackets to bear with certain pressure against the wall, thereby ensuring tight and yet resilient attachment of the shelf.

My improved shelf may be used in a great variety of applications, as a spice shelf in a cupboard, as a shelf for a bathroom medicine cabinet; a shelf used on the side of a drawing table or on the adjacent wall as an ink or paint bottle holder, and in many other useful applications.

By virtue of the construction described above the objects of the invention listed above and numerous additional advantages are attained.

I claim:

1. A shelf including a bracket made of a bent strip of spring material of uniform cross section, said bracket comprising an angular portion disposed at the front of the bracket adapted to receive an angular shelf member, a curled portion forming a continuation of the back end of the angular portion and adapted to exert yielding pressure on the shelf member, and a suspension portion forming a continuation of the front end of said angular portion and adapted to contact the shelf-supporting structure for attachment of the shelf thereto.



2. A shelf comprising a shelf member made from a sheet of relatively flexible and transparent plastic material bent to form a member of a uniform L-shaped cross section; and at least one bracket made from a strip of resilient material formed to provide an angular portion having a vertical bar and a horizontal bar adapted to underlie said shelf member for supporting it, a curled portion formed at the end of said horizontal bar and adapted to exert yielding pressure on both portions of said L-shaped shelf member to press it against said angular portion, and a suspension portion provided at the end of said vertical bar and adapted to be connected to the wall.

3. A construction as defined by the preceding claim 2, the curled portion of the bracket including a straight wall-contacting portion providing a bearing area for the shelf.

4. A shelf comprising a shelf member made from a relatively flexible plastic material in the form of an elongated member of an L-shaped cross section; two brackets made from strips of resilient metal each bent to provide an angular portion having a vertical bar and a horizontal bar adapted to underlie said shelf member for supporting it with the lower edge of said member disposed adjacent the wall, a curled portion formed at the end of said horizontal bar and adapted to exert yielding pressure on both portions of said L-shaped shelf member to press it against said angular portion, and a suspension portion provided at the end of said vertical bar and bent to overlie the shelf member and adapted to be connected to the wall.

5. A construction as defined by the preceding claim 4, said brackets being of integral one-piece construction.

6. A shelf comprising at least one bracket made of a bent strip of spring material and an angular shelf member; said bracket comprising an angular portion disposed at the front of the shelf and adapted to receive at its inner surfaces said angular shelf member, a curled portion forming a continuation of the back end of the angular portion and adapted to exert yielding pressure on each of the two angularly disposed portions of said shelf member, and a suspension portion forming a continuation of the front end of said angular portion of the bracket and adapted to contact the shelf-supporting structure for attachment of the shelf thereto.

7. A shelf as defined in the claim 6, with the shelf member being made of transparent relatively flexible material.

8. A shelf as defined in the claim 6, with the suspension portion being provided with a screw receiving hole at the portion thereof spaced from the shelf-supporting structure.

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