Sept. 29, 1959 S. SIMON 2,906,487

SHELF HARDWARE

Filed April 25, 1955

Fig. 1.

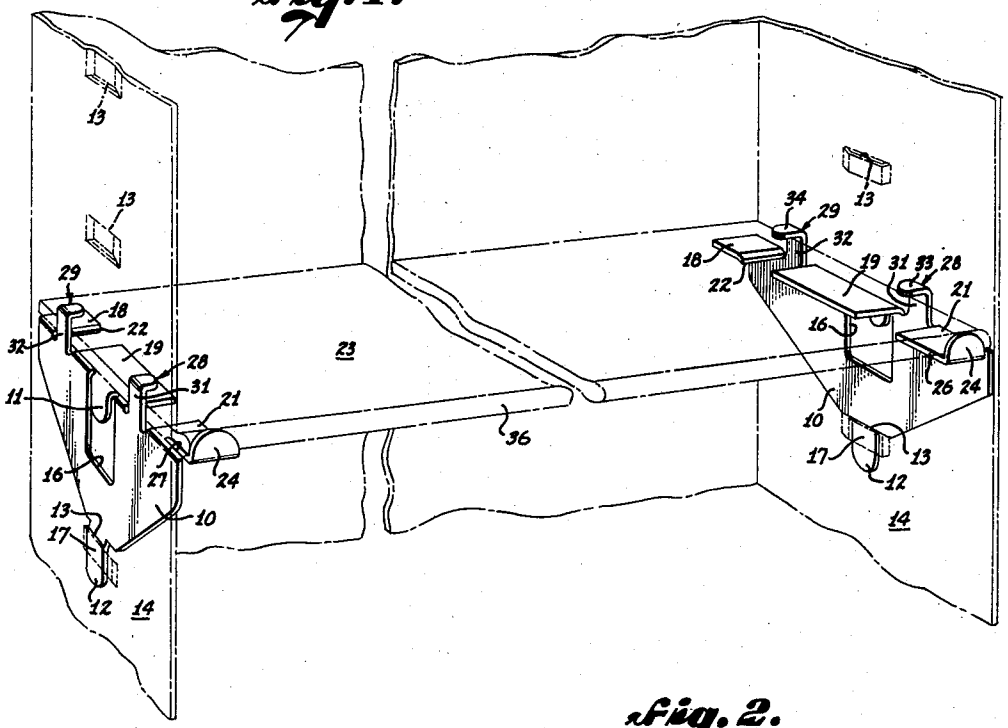


Fig. 2.

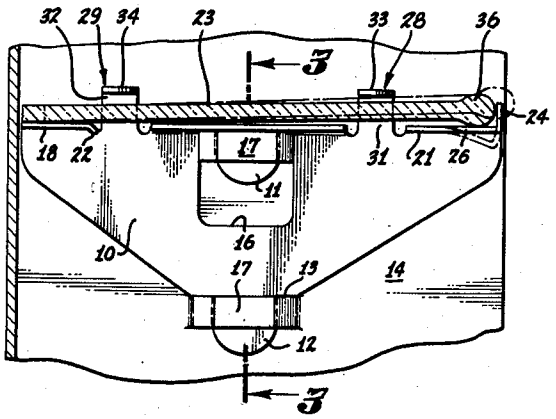


Fig. 3.

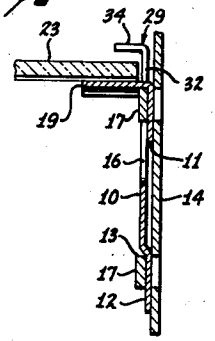
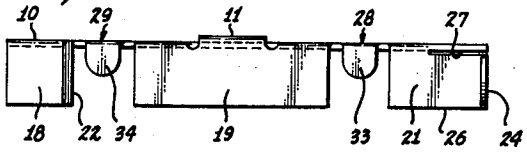


Fig. 4.



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SHELF HARDWARE

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4 Claims. (Cl. 248—248)

The present invention relates to shelf supports or brackets, and particularly to supports for shelves of wall cabinets such as medicine cabinets.

The ideal shelf support should be capable of convenient and simple installation, preferably without the use of auxiliary screws or bolts and without the use of tools such as screw drivers or wrenches. The shelf support also should permit rapid and convenient removal of the supported shelf or shelves for cleaning purposes or for raising or lowering the shelf to accommodate taller or shorter bottles, or other supported items. In addition, the shelf support should be safe and absolutely tilt-proof and slide-proof to guarantee against accidental tipping which usually results in personal injury and destruction of shelf contents. Furthermore, the shelf support should be capable of mass production at relatively low cost from materials that will not tarnish or corrode.

Accordingly, it is an important object of my invention to provide a shelf support that is capable of repeated, rapid and convenient installation on, and removal from, the side walls of a cabinet without the use of auxiliary fasteners or tools.

Another object is to provide a shelf support having the above-described desirable properties at low cost from strong, corrosion-resistant materials.

Additional objects will become apparent from the following description.

Broadly stated, my invention provides a shelf support made of a plate or sheet of metallic or non-metallic material shaped to form a vertical support plate and a horizontal support portion adapted to support a shelf. Two tongues, preferably aligned vertically are formed on the vertical support plate and are adapted to engage grooves cut into a vertical wall such as a cabinet wall. The forward end of the horizontal support portion is provided with a lip to prevent forward sliding of a supported shelf and the vertical support plate is provided with fingers to overlie the supported shelf and guarantee against lifting or tilting the shelf accidentally. A slit is cut adjacent the lip on the horizontal support portion to impart resilience to the lip for ease of shelf installation and for safely locking the installed shelf in place.

A more detailed description of a specific embodiment of my invention is given with reference to the drawing, wherein:

Figure 1 is a partial perspective view showing two shelf supports mounted on the side walls of a cabinet and supporting a transparent shelf;

Figure 2 is a cross-sectional elevational view showing the shelf in position in the shelf support;

Figure 3 is a cross-sectional view taken on the line 3—3 of Figure 2; and

Figure 4 is a plan view of the shelf support, showing a horizontal support portion and horizontal tips of support fingers.

The vertical support plate **10** is formed or cut from a sheet metal stamping, for example, to contain an upper tongue **11** and a lower tongue **12**. The upper tongue

11 preferably is made to extend downward from the top of the support plate **10** and the lower tongue **12** preferably is made to extend downward from the bottom of the support plate **10**. The two tongues **11** and **12** preferably are aligned vertically and are formed to lie in the same plane. This plane of the tongues preferably is positioned somewhat behind that of the support plate **10**, as shown in Figures 1, 3 and 4, so that the tongues **11** and **12** can be tightly slipped into slots **13** formed in vertical side walls **14**. The material of support plate **10** adjacent upper tongue **11** is cut or punched out to form an opening **16** of sufficient width and length to readily accommodate a raised portion **17** (Figures 2 and 3) of the side wall below a slot **13** in the vertical side walls **14**.

Vertical support plates **10** can be made of any convenient shape, such as the generally triangular shape shown in the drawing, with lower tongue **12** at the apex of the triangle and upper tongue **11** at about the middle of the base of the triangle. At the top of the triangular support plate **10** is formed a horizontal shelf-supporting portion consisting of a rear section **18**, a middle section **19** and a front section **21**. The rear section **18** is the shortest of the three horizontal portions and has its forward edge **22** (Figures 1, 2 and 4) rounded or bent downward as shown. The middle section **19** is the longest of the three portions and is entirely in the horizontal plane for maximum support of the shelf **23**. The front section **21** is of intermediate length and is provided with an upwardly extending lip **24**, extending from the outer edge **26** almost to the top of triangular support plate **10**, but spaced therefrom because of slit **27**.

Slit **27** preferably is cut parallel with the outer edge **26** of the front section **21** and adjacent triangular support plate **10** (Figures 1, 2 and 4). It is made of any convenient width and is made of sufficient length to impart appreciable flexibility and resiliency to the forward portion of the front horizontal section **21** carrying lip **24**. Also extending from the top portion of support plate **10** are two fingers **28** and **29** having their vertical portions **31** and **32**, respectively, in the same plane as that of support plate **10**, and having horizontal tip portions **33** and **34**, respectively, equidistant above the horizontal shelf-supporting sections **18**, **19** and **21**. Finger **28** is formed between front and middle horizontal sections **21** and **19** and finger **29** is formed between rear and middle horizontal sections **18** and **19**. The height of the vertical portions **31** and **32** is made sufficient to conveniently accommodate the thickness of shelf **23** (see Figures 2 and 3), but is not made great enough to permit slipping the bead **36** over the lip **24**. It will be seen that lip **24** and fingers **28** and **29** retain the installed shelf **23** in position against accidental slippage forward or lifting upward and forward in a cabinet, such as a medicine cabinet. In other words, the shelf is tilt and slide-proof. Such accidental upward and forward movement of a shelf laden with medicine bottles and supported by conventional shelf hardware results in tipping the shelf and is, of course, disastrous.

To install the shelf supports in a cabinet, such as a medicine cabinet, wherein the side walls **14** are provided with horizontal slots **13**, right and left hand pairs of supports are mounted at the same elevation on the side walls with their lips **24** toward the front of the cabinet, as shown in Figure 1. Each support is mounted on the wall **14** by simultaneously sliding upper and lower tongues **11** and **12** (Figure 2) into two adjacent slots **13**. This attaches the supports to the cabinet walls and prevents them from tipping. A shelf **23** is then slid into a right and left hand pair of mounted shelf supports with the bead **36** to the front of the cabinet and with the plain edge passing between the horizontal tip portions

33 and 34 and the horizontal shelf supporting sections 18, 19 and 21 to the rear of the cabinet. The downward bend 22 at the forward edge of rear horizontal section 18 prevents lodging of the rear edge of shelf 23 at the forward edge of section 18.

After the shelf 23 has been slid into the cabinet as far as it will go between the pair of supports, the lower portion of bead 36 rests upon the upper edge of lip 24. Each end of the shelf 23 is then tapped firmly with the heel of the hand against the bead 36. This causes the bead 36 to force downwardly the lip 24, as shown in phantom in Figure 2, and causes the shelf 23 to snap into position as shown in solid lines. The resiliently mounted lip 24 snaps back into position and prevents shelf 23 from moving forward out of the pair of supports. As previously described, lip 24 and fingers 28 and 29 make the installed shelf 23 slide-proof and tilt-proof.

Each one of the shelves 23 is, in turn, installed in the cabinet as described above. Each shelf is removed from the cabinet for cleaning, or any other desired purpose, by lifting one of the pair of shelf supports out of its mounting by sliding the upper and lower tongues 11 and 12 thereof out of the slots 13. The shelf 23 is then readily removed from both of the pair of shelf supports.

The foregoing description is largely explanatory and is given primarily to illustrate a specific embodiment of my invention. It is understood that many variations in the structural and design details of the shelf supports described above will occur to one skilled in the art. Accordingly, it is understood that such changes and modifications in the structure, design and details of the specific embodiment of my invention illustrated and described above may be made within the scope of the appended claims without departing from the spirit of the invention.

What I claim is:

1. A shelf support comprising a vertical support plate, two tongues aligned vertically and formed integrally on the support plate for engaging slots in a vertical wall, three coplanar horizontal portions formed integrally on the plate and adapted to support an end of a shelf, a rounded forward edge formed integrally on the rear horizontal portion; an upwardly extending lip formed integrally on the forward edge of the front horizontal portion, the forward part of the front horizontal portion being separated by a slit from the vertical support plate to impart resilience to the lip portion of the front horizontal portion, the middle horizontal portion being of plane rectangular configuration, two vertical fingers formed integrally on the vertical support plate, one of the fingers being positioned between the rear horizontal portion and the middle horizontal portion and the other finger being positioned between the middle horizontal portion and the front horizontal portion, and a horizontal portion formed integrally on each of the fingers for overlying an end of a shelf and for maintaining said end in a horizontal position against tilting.

2. A shelf support member comprising a base plate provided on one face thereof with means adapting the base plate to be detachably secured onto a vertical side wall with the upper edge thereof in a substantially horizontal plane, a shelf-end supporting platform extending outwardly from the said upper edge of said base plate from the opposite face of the base plate, said platform having a substantially uniform width adapted to engage one end of a shelf disposed thereon, a plurality of spaced apart upstanding hook-ended fingers on said upper edge of said base plate, the hook ends of said fingers overlying and being disposed in close spaced parallel relationship to said supporting platform, the spacing therebetween being adapted to restrain a shelf end seated on said platform against vertical movement thereon, said platform having a front portion provided with an integral resilient lip adapted to engage the side edge of a shelf end to secure the shelf end against horizontal movement.

3. The combination of claim 2, said platform consisting of a plurality of spaced-apart sections and said hook-ended fingers being disposed in the space gaps therebetween.

4. A shelf support member comprising a base plate provided on one face thereof with means adapting the base plate to be detachably secured onto a vertical side wall with the upper edge thereof in a substantially horizontal plane, a shelf end supporting platform extending outwardly from the said upper edge of said base plate from the opposite face of the base plate, said platform having a substantially uniform width adapted to engage one end of a shelf disposed thereon, a plurality of spaced apart upstanding hook-ended fingers on said upper edge of said base plate, the hook ends of said fingers overlying and being disposed in close spaced parallel relationship to said supporting platform, the spacing therebetween being adapted to restrain a shelf end seated on said platform against vertical movement thereon, said platform consisting of a plurality of spaced apart sections, the front section thereof being provided with a flexing slit end section, the side edge of which slit end is provided with a vertically upstanding flange adapted to engage the side edge of a shelf end disposed on said platform to secure the shelf end against horizontal movement.

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