Oct. 21, 1947. G. J. ROMPRE 2,429,586

ONE-PIECE SHEET METAL SHELF BRACKET

Filed Oct. 16, 1944 2 Sheets-Sheet 1

Fig. 1.

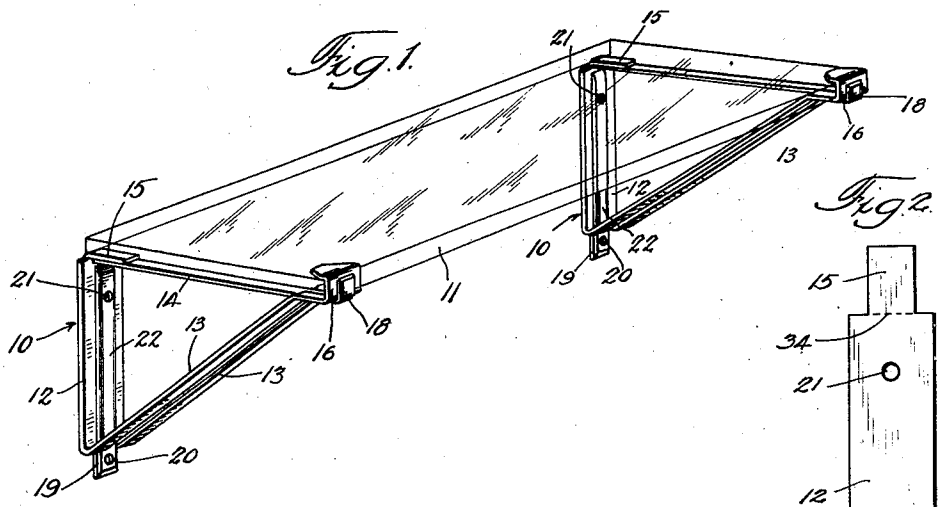


Fig. 2.

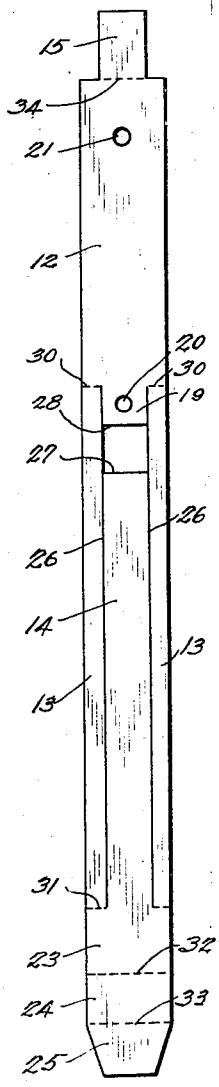


Fig. 3.

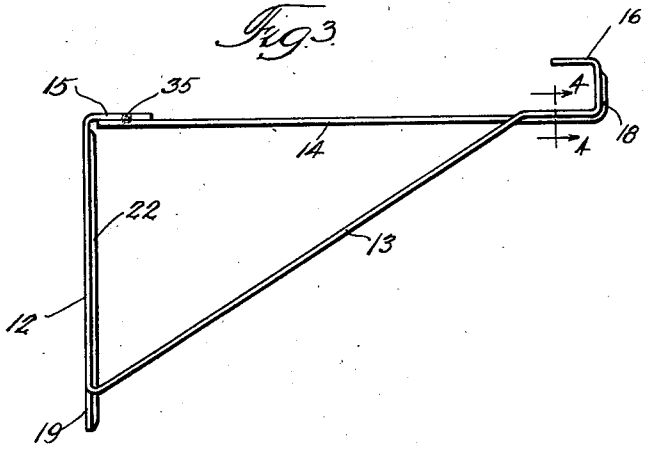
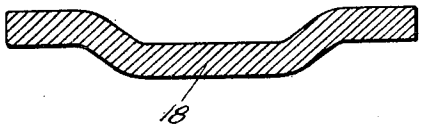


Fig. 4.



Inventor:
Gerard J. Rompre.
By: Thies, Thies & Trieckenburger
Attys.

Oct. 21, 1947. G. J. ROMPRE 2,429,586

ONE-PIECE SHEET METAL SHELF BRACKET

Filed Oct. 16, 1944 2 Sheets-Sheet 2

Fig. 5.

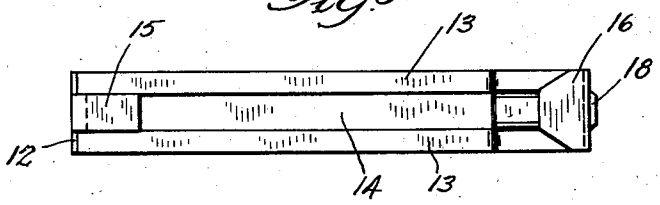


Fig. 6.

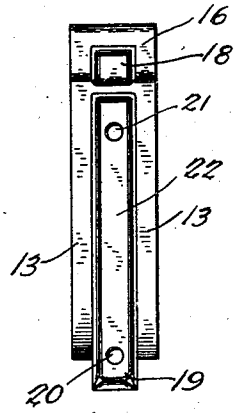


Fig. 8.

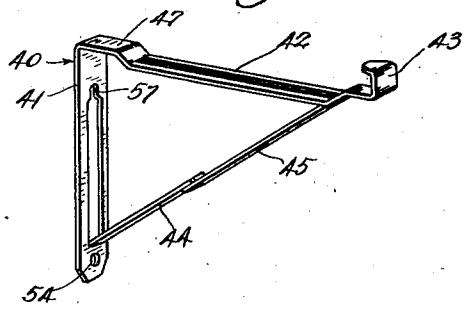
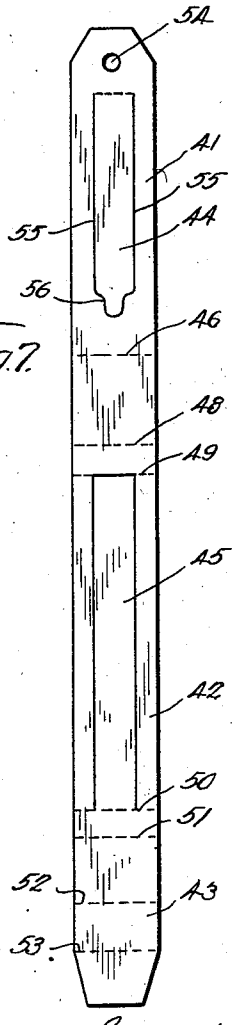


Fig. 7.



Inventor:
Gerard J. Rompre.
By Theiss, Olson & Mecklenburger.
Attys

Patented Oct. 21, 1947

2,429,586

UNITED STATES PATENT OFFICE

2,429,586

ONE-PIECE SHEET METAL SHELF BRACKET

Gerard J. Rompre, Waterbury, Conn., assignor to The Autoyre Company, Incorporated, Oakville, Conn., a corporation of Connecticut

Application October 16, 1944, Serial No. 558,857

2 Claims. (Cl. 248—248)

1

This invention relates to shelf brackets and methods of manufacturing, more particularly to one-piece metal shelf brackets and methods for forming such a bracket from a single sheet of metal, and the invention has for an object the provision of improved shelf brackets and methods of this character.

Various types of shelf brackets of a substantially triangular construction, consisting of a vertically disposed wall-engaging arm, a horizontally disposed shelf-supporting arm and a diagonally extending bracing arm, and adapted to support glass, wood or similar shelves in bathrooms, kitchens, lavatories and the like, have heretofore been proposed and have been manufactured and sold as relatively inexpensive articles. With the present prospects of increased production of low cost houses and low rental apartment projects, the provision of inexpensive, reliable and decorative bathroom and kitchen fixtures and accessories becomes increasingly important. Increasing costs of both material and labor, however, render exceedingly difficult the problem of supplying articles of this character at or below previously established prices, and it is a further object of this invention to provide a method of manufacture for producing an improved shelf bracket utilizing a minimum amount of material and requiring a minimum amount of labor.

In carrying out the invention in one form, a one-piece shelf-bracket of substantially triangular construction is formed from a single strip of material of a length not substantially greater than the sum of the lengths of two of the arms of the finished bracket by slitting a portion of the strip to form a longitudinally extending tongue, bending the strip along a transverse line adjacent the free end of the tongue to form two of the arms of the bracket, bending the tongue out of the plane of one of the two arms and securing the free end of the tongue to a portion of the other one of the two arms to form the third arm of the substantially triangular bracket structure.

For a more complete understanding of the invention, reference should now be had to the drawings in which:

Fig. 1 is a perspective view of a pair of brackets embodying the present invention supporting a shelf;

Fig. 2 is a plan view of the strip, from which the brackets of Fig. 1 are formed, after the strip has been slit but before bending;

Fig. 3 is a side view of one of the shelf-supporting brackets shown in Fig. 1;

2

Fig. 4 is an enlarged sectional view taken on the line 4—4 of Fig. 3;

Fig. 5 is a top plan view of the brackets shown in Fig. 3;

Fig. 6 is a front elevational view of the bracket shown in Fig. 3;

Fig. 7 is a plan view similar to Fig. 2 of a blank from which a bracket constituting a further embodiment of the invention may be formed; and

Fig. 8 is a perspective view of a shelf-supporting bracket formed from the blank of Fig. 7.

Referring now to the drawings, the invention is shown as embodied in shelf-supporting brackets 10, two of which are illustrated in Fig. 1 as supporting a glass shelf 11. Since the two brackets 10 are identical, only one bracket and its method of manufacture will be described. As shown, each of the brackets 10 comprises a wall-engaging arm 12 from the lower end of which a pair of spaced-apart strips 13 extends diagonally upward to form a bracing arm, a single narrower strip 14 extending rearwardly from the upper ends of the strips 13 to form, in conjunction with a strip or tongue 15 extending forwardly from the wall-engaging arm 12, the shelf-supporting arm of the bracket. Extending forwardly from the juncture of the tongue or strip 14 of the shelf-supporting arm and the strips 13 of the bracing arm, is a shelf-engaging hook 16 which is adapted to engage the front edge of the shelf 11 so as suitably to position it on the bracket. A portion of the shelf-engaging hook 16 is preferably embossed, as indicated by the reference numeral 18, the embossment extending about the front and lower walls of the hook 16, and the strip 14, which extends rearwardly from the hook portion 16, is preferably coplanar with the embossment 18 so that the upper surface of the tongue 15 and the upper surfaces of the lower wall of the hook 16 on opposite sides of the embossment are at the same level whereby the shelf is supported on these surfaces at its front and rear edges.

Projecting downwardly from the wall-engaging arm 12 beyond the strips 13 which form the diagonal bracing arm is a projection 19 in which is disposed a screw-receiving aperture 20, and a similar aperture 21 is provided adjacent the upper end of the wall-engaging arm 12 so that the bracket may be secured to a wall or similar support by screws or other suitable fasteners. Preferably, the wall-engaging arm 12 is embossed throughout substantially its entire length, as shown, to provide a strengthening embossment 22.

In Fig. 2, which illustrates the blank or strip of sheet metal from which the bracket is formed, the same reference numerals have been used in order to identify the portions of the strip from which the various elements of the completed bracket are formed. It will be observed that the strip or blank is of a length only slightly greater than the sum of the lengths of the wall-engaging arm 12 and the bracing arm formed by the strips 13, the increased length being taken up by the tongue 15 and the portions 23, 24 and 25 which, upon proper bending, form the shelf-engaging hook 16.

As shown in Fig. 2, parallel slits 26 which extend throughout the length of the portion of the blank from which the strips are formed are connected at one end by a transverse slit 27 to form the tongue 14. A second transverse slit 28 defines the lower edge of the projection 19 in which the screw hole or aperture 20 is formed, and thus the only waste material in the entire blank is the small square of material defined by the slits 26, 27 and 28, the small rectilinear portions that are cut out at one end of the blank to form the tongue 15, and the small triangular portions which are cut from the other end of the blank to define the tapered end section 25 of the hook 16.

After the blank has been slit and cut as above described, it is bent along the transverse line 30 so that the strips 13 forming the bracing arm extend diagonally upward from the lower end of the wall-engaging arm 12, and the tongue 14 is then bent upwardly out of the plane of the strips 13 to the substantially horizontal position shown in Fig. 3. Likewise, portion 23, which forms the lower wall of the shelf-engaging hook 16, is bent along the line 31 to a horizontal position and the hook is brought to its desired shape by additionally bending the material along the lines 32 and 33. The tongue 15 on the other end of the strip is bent forwardly from the plane of the wall-engaging arm 12 along the line 34 so that it overlaps the free end of the tongue 14, and the tongues 14 and 15 are then secured together preferably by spot welding, as indicated by the reference numeral 35 (Fig. 3).

It will of course be understood that the various manipulative steps need not be performed in the order above stated, since, if desired, the tongues 14 and 15 may be bent out of the plane of the blank before the blank is bent about the line 30 to bring the wall-engaging arm 12 and the spaced strips 13 into the desired angular relation. Likewise, the embossing operation for providing the embossments 18 and 22 may be performed at any desired and convenient stage of the forming operation.

It will be observed that the one-piece brackets 10 are formed from a minimum amount of material with a minimum amount of waste, and that the forming operation consists substantially entirely of simple bending steps, only one welding or similar securing operation being necessary. Consequently, the brackets may be manufactured at very low cost. By forming the bracing arm of the diagonal strips 13, free access is provided by means of which a screw driver or similar tool may be inserted through the space between the strips 13 to engage a screw or other fastener in the hole 21 when securing the bracket to a wall.

In the embodiment of the invention shown in Figs. 7 and 8, the bracket 40 consists of a wall-engaging arm 41, a shelf-supporting arm 42 on

the front end of which is a shelf-engaging hook 43, and a diagonally bracing arm which is formed by two tongues 44 and 45 which are respectively taken from the metal of the wall-engaging arm 41 and the shelf-supporting arm 42. Thus the arms 41 and 42 consist of spaced-apart strips throughout portions of their length. The manner in which the blank is formed to provide the bracket 40 is shown in Fig. 7, and it will be observed that in this case the length of the blank exceeds the sum of the lengths of the wall-engaging arm 41 and the shelf-supporting arm 42 only by the material employed to form the shelf-engaging hook 43. After the blank shown in Fig. 7 has been slit to provide the tongues 44 and 45, it may be bent along the transverse line 46 to bring the wall-engaging arm 41 and the shelf-supporting arm 42 in substantially right angular relation, and the tongues 44 and 45 are then bent out of the respective arms 41 and 42 to the diagonal position shown in Fig. 8, so that the ends of the tongues overlap, and the overlapping ends may then be secured together by spot welding or other suitable securing means.

It will be observed in Fig. 8 that the central portion of the shelf-supporting arm 42 is depressed and consequently the shelf will be suitably supported at the front and rear edges by the lower wall of the shelf-engaging hook 43 and a suitable platform 47 at the rear of the shelf-supporting arm 42. Depression of the central portion of the shelf-supporting arm 42 is effected by bending the strip along the transverse lines 48, 49, 50 and 51, and proper shaping of the hook portion 43 is accomplished by properly bending the blank along the transverse lines 52 and 53. In order to provide for securement of the bracket to a wall, the wall-engaging arm 41 is provided adjacent its lower end with a screw-receiving aperture 54 and the ends of the slits 55, which define the tongue 14, are connected together by a curved slit 56 (Fig. 7) to form a portion of a keyhole slot 57 (Fig. 8) for receiving a screw or other suitable fastener.

Since in this form of the invention the diagonal bracing arm formed by the tongues 44 and 45 is directly opposite the center line of the wall-engaging arm 41, a screw driver or other suitable tool would have to be inserted diagonally so as to clear the bracing arm. Consequently, in mounting this bracket it is advisable to locate the screw in the wall before the bracket is put in place and then place the bracket over the screw, the slot formed by bending the tongue 44 out of the wall-engaging arm 41 being large enough to receive the head of the screw, and after the bracket is moved downwardly so that the screw is in the small part of the keyhole slot 57, a few more turns on the screw will serve to secure the bracket in place.

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

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A one-piece shelf bracket formed of sheet metal comprising a wall-engaging arm, a shelf-supporting arm and a bracing arm extending diagonally between said wall-engaging and shelf-supporting arms, said bracing arm being of less width than the other arms and being formed by

tongues slit and bent out of central portions of said other arms, the slots formed in said other arms by said tongues terminating short of the juncture of said other arms to provide an uninterrupted juncture portion, the respective free ends of said tongues being secured together to form said bracing arm.

2. A one-piece shelf bracket formed of sheet metal comprising a wall-engaging arm, a shelf-supporting arm and a bracing arm extending diagonally between said wall-engaging and shelf-supporting arms, said bracing arm comprising spaced-apart strips, and said shelf-supporting arm comprising a tongue bent out of the plane of said bracing arm to provide said spaced-apart strips, the free end of said tongue being secured to said wall-engaging arm to form a substantially triangular structure.

GERARD J. ROMPRE.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
557,111	Cotter	Mar. 31, 1896
624,723	Allis	May 9, 1899

FOREIGN PATENTS

Number	Country	Date
18,715	Great Britain	Aug. 31, 1903
20,213	Great Britain	1898