May 22, 1956 M. E. WELSH 2,746,609

WIRE SHELF FOR CLOSETS AND THE LIKE

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Fig. 1.

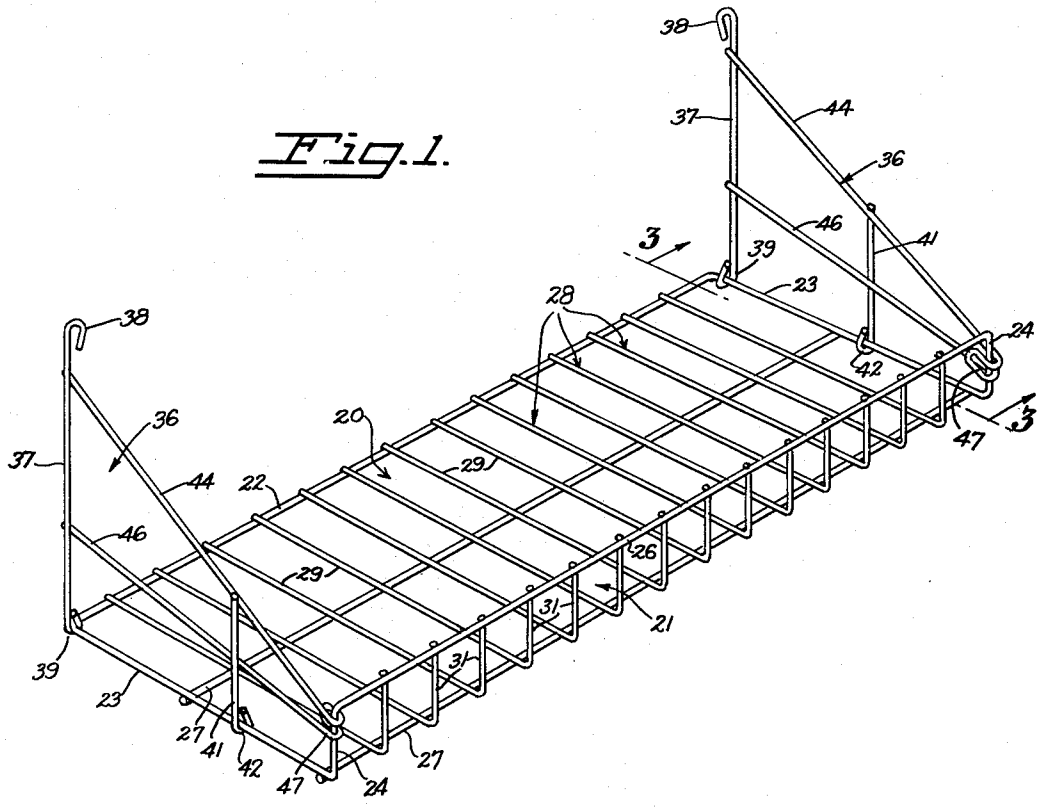
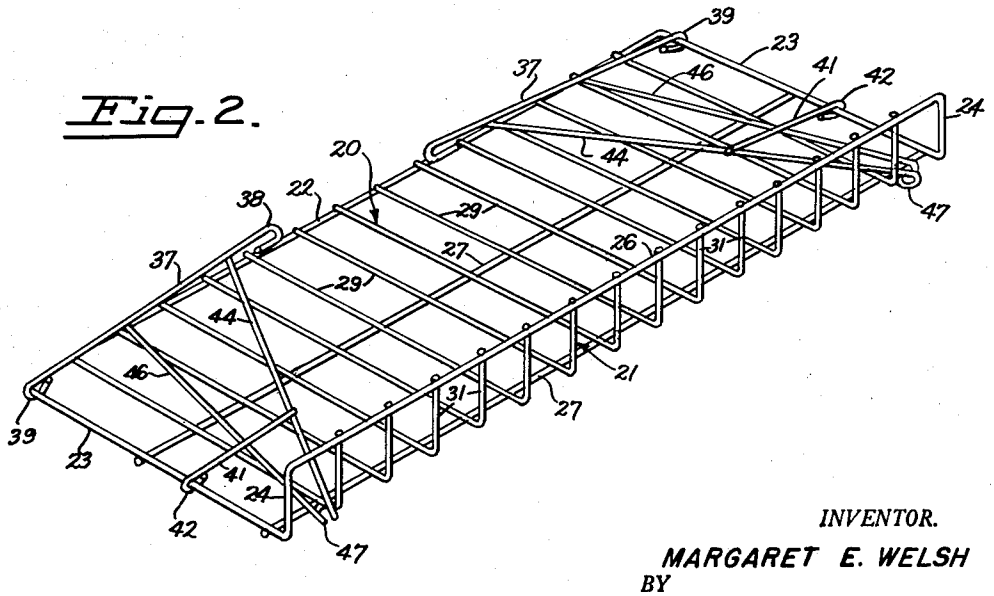


Fig. 2.



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Fig. 3.

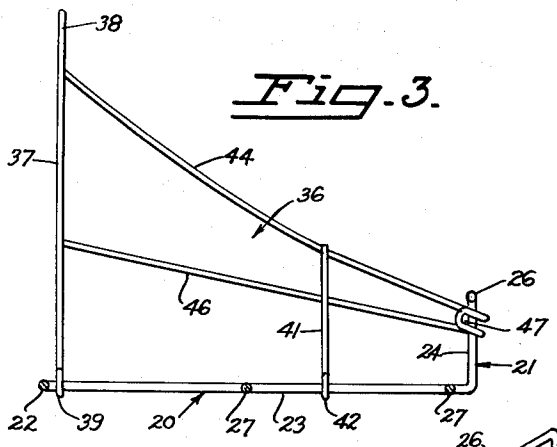


Fig. 6.

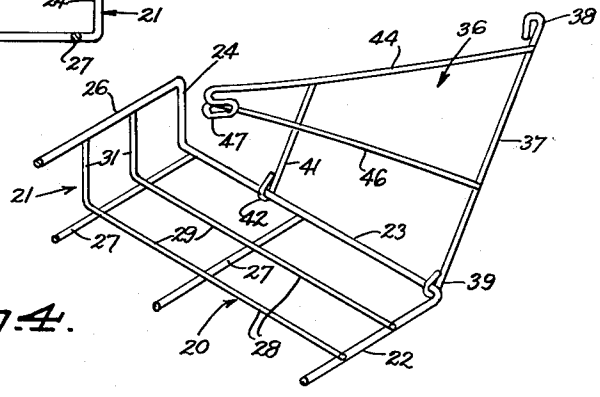


Fig. 4.

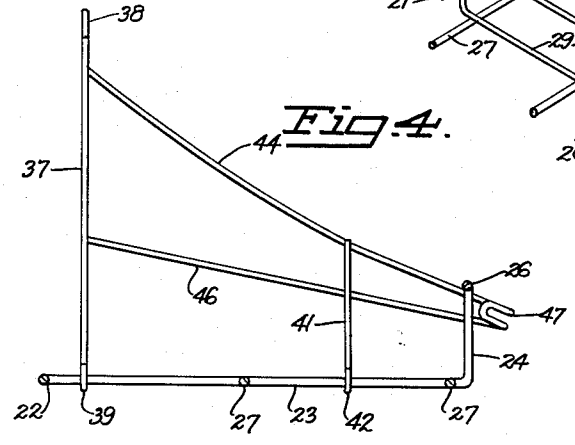
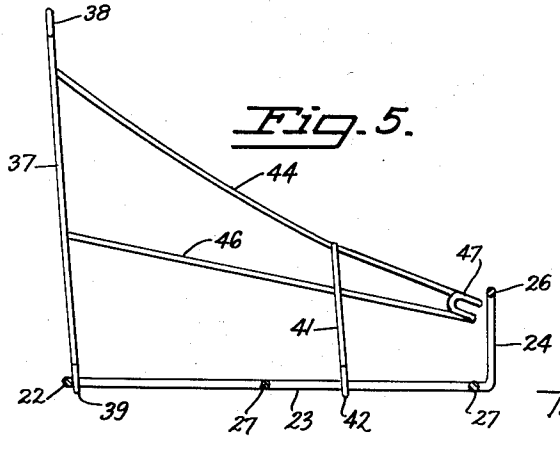


Fig. 5.



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WIRE SHELF FOR CLOSETS AND THE LIKE

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Application June 10, 1955, Serial No. 514,556

2 Claims. (Cl. 211—93)

This invention relates to a new and improved foldable wire shelf for use in closets, on doors, and in similar locations.

A principal object and feature of the present invention is that it folds substantially flat for transportation and for convenient storage, yet may be readily unfolded to a position of use for installation.

A further feature of the invention is the open construction which facilitates placing and removing articles on the shelf and permits visual observation of the contents through the bottom when the shelf is above eye level. In addition, the open construction prevents accumulation of dust on the shelf.

A further feature of the invention is that when the shelf is erected into position of use, the arms hook onto the shelf in such position and relationship that the weight of the contents of the shelf operates to secure the arms in position.

Another feature of the invention is the fact that it is of such size and construction as to fit conveniently in closets and on ordinary size doors with a minimum of effort and skill required in installation.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings in which similar characters of reference represent corresponding parts in each of the several views.

In the drawings:

Fig. 1 is a perspective view of the arms in erected position;

Fig. 2 is a perspective view of the shelf with the arms in collapsed position;

Fig. 3 is a transverse vertical section taken substantially along the line 3—3 of Fig. 1 and showing a support arm in erected position;

Fig. 4 is a similar view to Fig. 3 showing the support arm partially disconnected from the shelf preliminary to folding the support arm;

Fig. 5 is a view similar to Fig. 3 showing the support arm deformed in order to fold the same inwardly; and

Fig. 6 is a fragmentary perspective view showing the support arm in a position intermediate the positions of Figs. 4 and 5.

The present invention comprises a shelf having a main frame 20 and a front ledge 21 formed of wire which may be suitably painted or otherwise coated to prevent rusting. The main frame 20 may be formed of a single piece of wire bent to provide a longitudinally extending back rail 22 having forwardly extending side rails 23, the front ends of which are bent vertically upwardly to provide vertical side portions 24 of the ledge 21. The upper ends of the vertical side portions 24 are bent inwardly to provide the top rail 26 of the ledge which extends horizontally at an elevation greater than that of the back rail 22. A pair of longitudinally extending bottom reinforcing members 27 are secured to the side rails 23, one of the reinforcing members 27 being located at about the midpoint of the side rail 23 and the other being located

at the forward end thereof very close to the bottom end of the vertical side portions 24.

A plurality of L-shaped pieces 28 extend transversely of the rails 22 and 26 and are spaced apart equal distances across the width of the shelf. Each L-shaped piece 28 has a horizontal leg 29 which lies on top of the back rail 22 and the reinforcing members 27 and is suitably secured thereto by welding or the like. The vertical legs 31 of the L-shaped pieces extend up and are joined to the inside of the top rail 26 by means of welding, soldering, or the like.

On either side of the shelf is a supporting arm 36. Each arm 36 comprises a vertical member 37 at the rear thereof, which is formed with an inverted U-shaped loop 38 at the top and an eye 39 which encircles the side rail 23 at the bottom. An intermediate vertical member 41 is formed with an eye 42 at its lower end encircling the side 23 at a position spaced forwardly from the midpoint of the side 23. The supporting arm 36 is completed by a reversely bent piece of wire having a downwardly slanted top portion 44 which is attached at its rear end adjacent the upper end of the rear vertical member 37 and extends forwardly and downwardly to a position at the forward end of the ledge 21 where it is formed in a hook 47 and then extends rearwardly and at a slightly upwardly inclined stretch 46 which terminates at rear vertical member 37. The hooked member 47 is so formed that it extends from the outside around the front of and rearwardly on the inside of the vertical side portion 24 and then is formed with a reverse bend which repeats the configuration so that in top plan the hooked portion 47 resembles a U.

Turning now to Figs. 3–6, inclusive, it will be seen that in assembled position, as shown in Fig. 3, the hooked portion 47 engaging the vertical side 24 supports the weight of the shelf and contents. In order to fold the arms 36 into collapsed position, the arms are moved forwardly so that the hook 47 is disengaged from the vertical side 24, as shown in Fig. 4. Thereupon, the arm 36 is moved rearwardly and deformed slightly by flexing the wires, until the hook 47 clears the inside of the vertical leg 24 and hence can be folded into the collapsed position shown in Fig. 2.

Fig. 6 illustrates a position intermediate Figs. 4 and 5 in which the arm 36 is folded outwardly after the hook 47 has been disengaged from the member 37. As is apparent from Fig. 2, in folded position the shelf occupies a minimum of space which facilitates transportation and storage. Furthermore, the forward portion of the supporting arm 36 projects through the space between adjacent vertical legs 24 and the closest adjacent L-shaped piece 28 and hence is secured in folded position until purposely unfolded.

Although the foregoing invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be practiced within the spirit of the invention and scope of the appended claims.

I claim:

1. A foldable wire shelf comprising an outer marginal wire boundary comprising a horizontal rear stretch, a horizontal forwardly extending side stretch on each side of the shelf, a vertical stretch at the forward end of each side stretch and a horizontal front stretch connecting said vertical stretches, a plurality of L-shaped pieces attached to and extending forwardly from said horizontal rear stretch into attached engagement with said horizontal front stretch, and a pair of support arms, one at each side, each said support arm having a front and a rear vertical member pivotally connected at its lower end to said side stretch, said rear vertical member having a loop

at its upper end to fasten said shelf to a primary supporting surface, and a forwardly extending wire connecting said vertical members and formed with a hook at its forward end to hook around said vertical stretch of said boundary wire.

2. A foldable shelf according to claim 1 in which each said support arm is normally disposed so that its forward edge projects forwardly of said vertical stretch of said boundary wire whereby when said arm is folded inwardly said arm is latched in inwardly folded position to a respectively associated L-shaped piece, said support arm being deformable whereby the forward edge of said support arm clears said vertical stretch to allow unfolding of said support arm when said support arm is deformed.

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