May 7, 1957 F. W. STAIRWALT 2,791,336

DEMOUNTABLE AND COLLAPSIBLE RACK

Filed July 3, 1953

Fig. 1

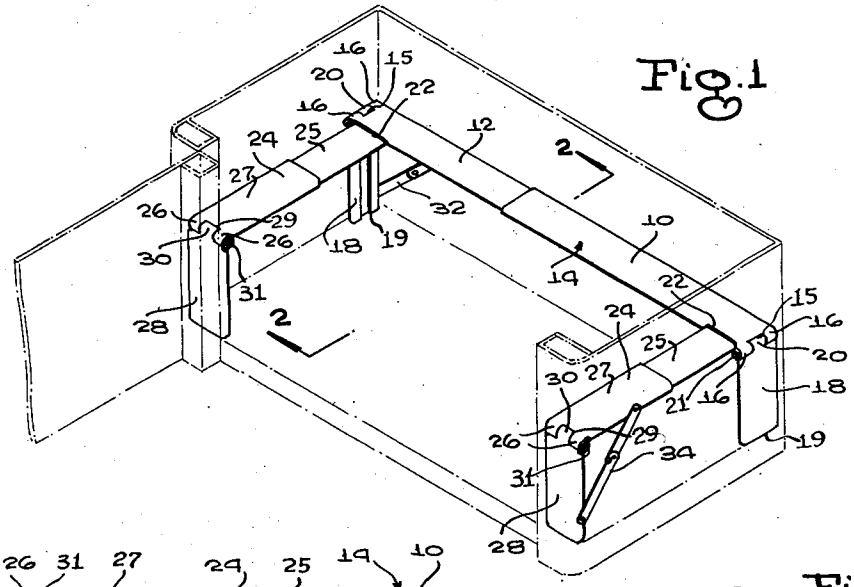


Fig. 2

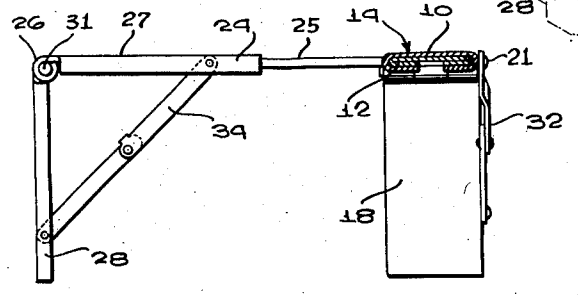
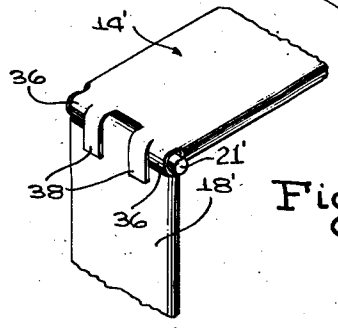


Fig. 3

Fig. 4



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United States Patent Office

2,791,336

Patented May 7, 1957

2,791,336

DEMOUNTABLE AND COLLAPSIBLE RACK

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Application July 3, 1953, Serial No. 365,863

2 Claims. (Cl. 211—149)

This invention relates to an improved rack which is demountable, collapsible, and extensible, and which is especially suitable for use in a kitchen cabinet or the like to provide additional shelf space at the sides and back of the cabinet.

The primary object of the present invention is to provide a more practical and efficient rack of this kind which occupies a minimum of space in a cabinet, has unusual strength without excessive bulk and weight, which collapses to a compact flat condition, and which can be made in a serviceable and attractive form at relatively low cost.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

Figure 1 is a perspective view of a rack in accordance with the present invention, showing it installed in a cabinet outlined in broken lines;

Figure 2 is an enlarged sectional view taken substantially on the line 2—2 of Figure 1;

Figure 3 is an exploded view of the rack in an inverted position; and

Figure 4 is an enlarged perspective view of a portion of a modified form of rack.

Referring to the drawings in detail, the illustrated rack comprises a rear horizontal shelf **14** composed of a pair of flat tubes **10** and **12** telescopically and slidably engaged with each other at their inner ends. The tubes **10** and **12** have outer ends **15** provided with pairs of transversely spaced hinge barrels **16**. Flat tubular rear, normally vertical legs **18** have free lower ends **19** to rest upon a cabinet shelf or the like, and upper ends **17** having single hinge barrels **20** thereon which are engaged between the hinge barrels **16**, the hinge barrels being traversed by removable headed hinge pins **21**, in such an arrangement that the legs **18** are stopped in erect positions by engagement of the related ends of the tubes **10** and **12** and the legs **18**, and the legs **18** lie flat against the undersides of the tubes **10** and **12** when collapsed. The forward sides of the tubes **10** and **12** are provided with longitudinal slots **22** for the reception of side shelves **24**.

The side shelves **24** comprise pairs of rear and forward tubes **25** and **27**, respectively, the rear tubes **25** being slidably engaged in the slots **22**.

The forward ends **29** of the forward tubes **27** have pairs of hinge barrels **26** thereon which receive therebetween single hinge barrels **30** on the upper ends of front legs **28**, the barrels **26** and **30** being traversed by removable hinge pins **31**. The front legs **28** are of flat tubular form like the rear legs **18** and are disposed at right angles to the rear legs **18**.

In order to hold the legs **18** and **28** erect, ladder-type toggle braces **32** are pivotally connected to the rear shelf **14** and the rear legs **18** and similar braces **34** are connected to the side shelves **24** and the front legs **28**. It will thus

be seen that when the legs **18** and **28** are erected, as shown in Figure 1, they are held erect by the braces **32** and **34**.

In the modified form of the invention illustrated in Figure 4, a shelf designated generally **14'** corresponding substantially to the shelf **14** is provided adjacent opposite ends with hinge barrels **36** and with stop fingers **38** which are adapted to engage the outer side of an associated leg **18'** corresponding in all respects to the legs **18**.

In use, the device is extended, as illustrated in Figure 1, and placed within the cabinet to provide additional shelf space for small items, such as spice boxes or the like. When it is desired to collapse the rack for transportation or storage, the side shelves **24** are extracted from the slots **22** and the braces **34** are broken to permit the legs **28** to fold against the undersides of the side shelves **24** in substantial parallel relation therewith. Likewise, the braces **32** are broken to permit the legs **18** to be folded against the underside of the rear shelf **14** to lie in substantial parallel relation therewith. By telescoping the tube **12** of the rear shelf **14** into the tube **10** thereof, it will be obvious that the device will occupy but a minimum amount of space and the parts may be readily placed one against the other to provide a compact bundle capable of being stored in a relatively small space.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What is claimed is:

1. In a rack, a rear horizontal shelf comprising a pair of slidably telescoped flat tubes having outer ends and undersides, rear legs having upper ends hinged on said outer ends to swing on axes extending crosswise of the rear shelf from erect positions to collapsed positions against the undersides of said tubes, said tubes having forward sides provided with slots adjacent to the outer ends of the tubes and extending longitudinally of the tubes, horizontal side shelves extending forwardly from said rear shelf, said side shelves having undersides and comprising slidably telescoped flat rear and forward tubes, the rear tubes having rear ends slidably engaged in said slots, said forward tubes having forward ends, front legs having upper ends hinged on the forward ends of the forward tubes to swing on axes extending crosswise of the side shelves from erect positions to collapsed positions against the undersides of the side shelves, and foldable brace means individually connected between the rear legs and the rear shelf and between the front legs and the side shelves for holding the legs in erect positions.

2. In a rack, a rear horizontal shelf comprising a pair of slidably telescoped flat tubes having outer ends and undersides, rear legs having upper ends hinged on said outer ends to swing on axes extending crosswise of the rear shelf from erect positions to collapsed positions against the undersides of said tubes, said tubes having forward sides provided with slots adjacent to the outer ends of the tubes and extending longitudinally of the tubes, horizontal side shelves extending forwardly from said rear shelf, said side shelves having undersides and comprising slidably telescoped flat rear and forward tubes, the rear tubes having rear ends slidably engaged in said slots, said forward tubes having forward ends, front legs having upper ends hinged on the forward ends of the forward tubes to swing on axes extending crosswise of the side shelves from erect positions to collapsed positions against the undersides of the side shelves, and foldable brace means individually connected between the rear legs and the rear shelf and between the front legs and the side

shelves for holding the legs in erect positions, the tubes of the rear shelf and of the side shelves being in horizontal planes and the front legs being in planes perpendicular to the rear legs in the erect positions of the legs.

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