May 10, 1932. W. N. VANCE 1,858,064

RACK

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Fig. 1

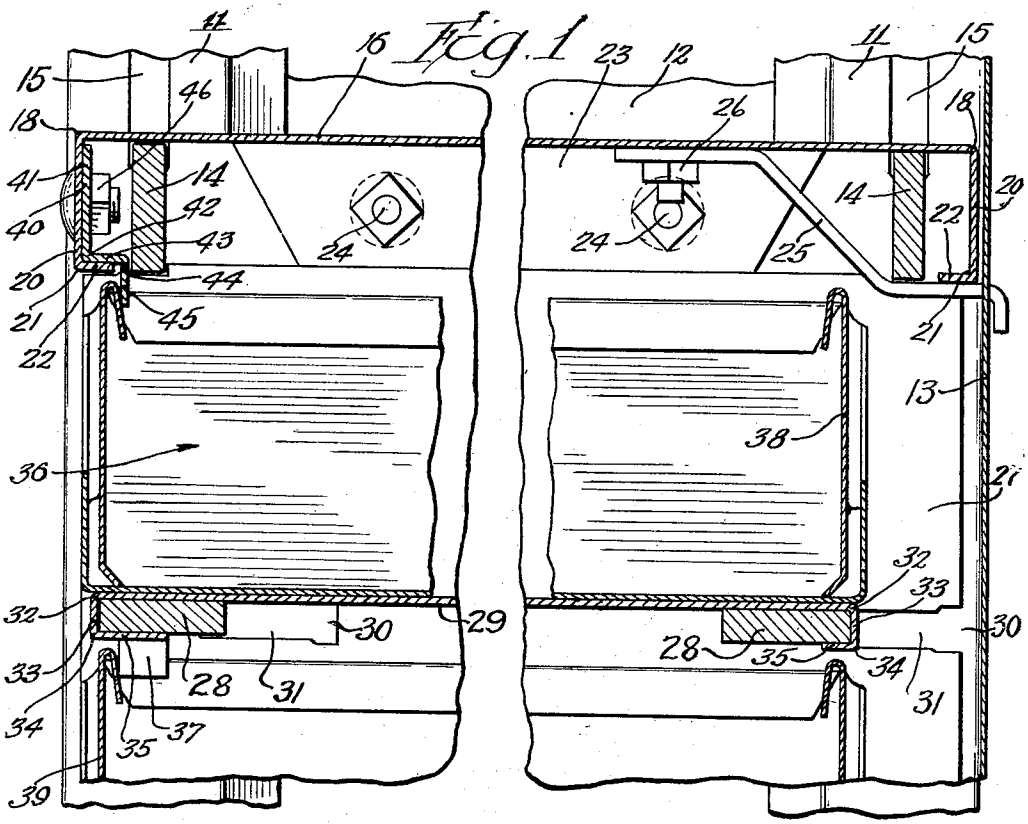

Fig. 2

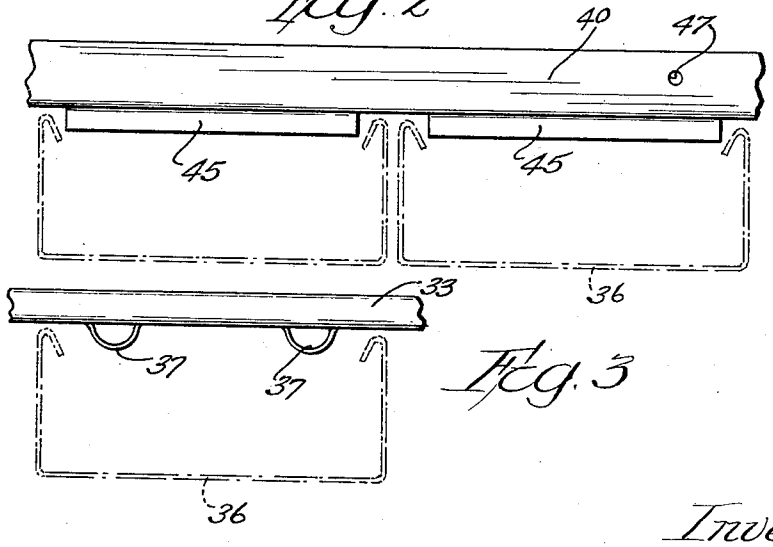

Fig. 3

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FIG. 4.

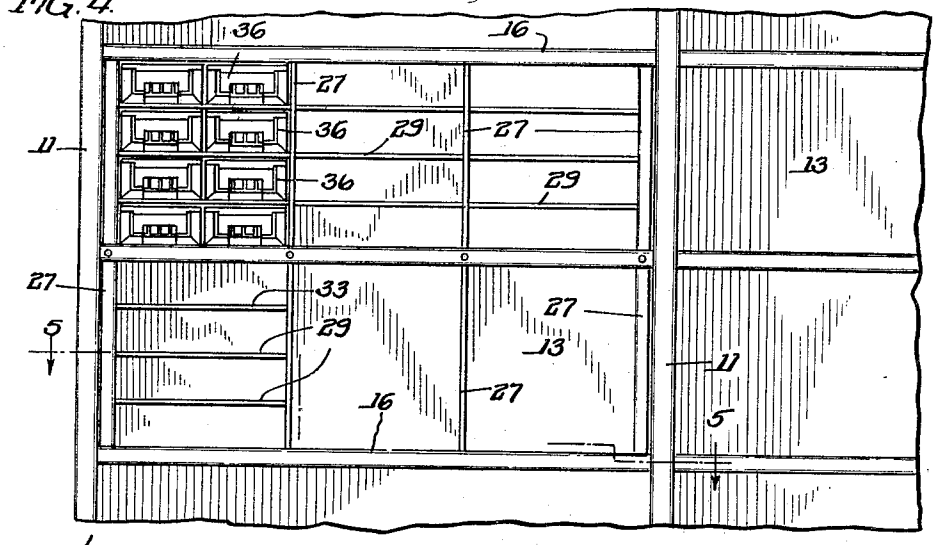
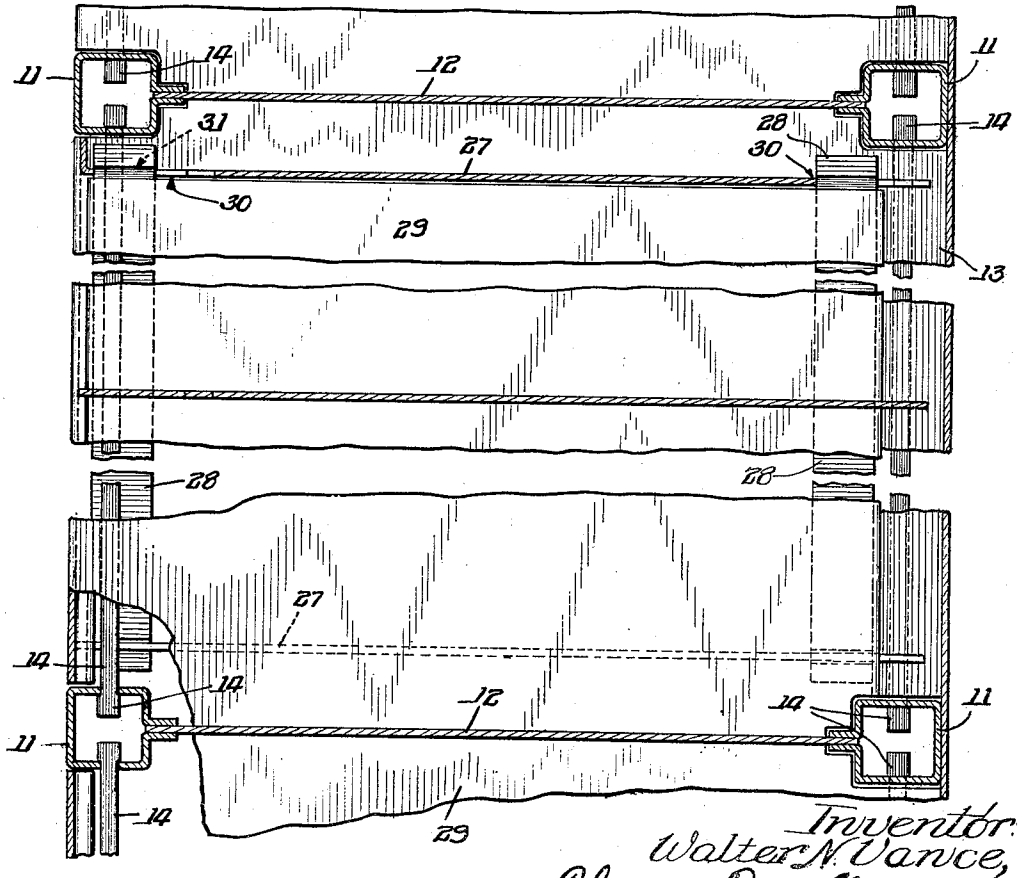


FIG. 5.



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Patented May 10, 1932 1,858,064

UNITED STATES PATENT OFFICE

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RACK

Application filed June 20, 1929. Serial No. 372,303.

This invention relates in general to metal shelving, and particularly though not exclusively to a shelf rack for supporting shelf boxes or drawers.

The primary object of the invention is to provide metal shelving for supporting shelf drawers, which shelving has means for preventing the drawers from being accidentally withdrawn from the shelving and consequent spilling of contents.

Another object is to provide means on a drawer shelf which is engageable with the inner sides of the front and back of a drawer to limit the sliding movement of the drawer.

Another object is to provide a drawer shelf which has parts struck out therefrom extending below the shelf and engageable with a drawer thereon to limit the sliding movement of the drawer.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

The invention comprises in general a main shelf assembly which provides a housing for an auxiliary shelf rack. A plurality of uprights are provided which receive shelf bearers. Shelves are arranged on these bearers which support a plurality of shelves spaced in tiers. A clip is fastened to an inturned edge of the shelf, or a loop is struck out from the shelf which engages the inner side of a drawer front and back to limit the sliding movement of the drawers.

The accompanying drawings illustrative a selected embodiment of the invention and the views therein are as follows:

Fig. 1 is a fragmentary section taken from the front to rear of a shelf assembly, showing a drawer positioned beneath the top shelf and part of a drawer positioned directly below, and the structures for preventing complete withdrawal of each drawer.

Fig. 2 is a front elevation showing the structure employed for preventing complete withdrawal of the top drawer.

Fig. 3 is a front elevation showing the structure employed for preventing complete withdrawal of lower drawers.

Fig. 4 is a front elevation of a main shelf rack assembly and embodying the invention.

Fig. 5 is a detail plan section on the line 5—5 of Fig. 4.

This application is a continuation in part of applicant's Patent No. 1,745,518.

A main shelf assembly provides a housing for an auxiliary shelf rack, and the main shelf assembly comprises a plurality of spaced front and rear tubular uprights 11. Each pair of uprights are connected by a vertical front to rear side wall 12. A rear wall 13 is arranged between a pair of rear uprights 11, and front and rear shelf bearers 14 are supported in slots 15 in the uprights. Main shelves 16 extend between adjacent supports and are supported at the front and rear by the shelf bearers 14. The slots 15 are elongated as shown in Fig. 1 and are formed in the opposed faces of the tubular uprights 11 and engage the bearers in locked position. By engaging the bearers 14 in appropriate slots, the shelves may be positioned at any desired height depending upon the number and position of the slots.

The front and rear edges of the shelves 16 are bent at 18 into the depending flanges 20, which in turn are bent inwardly at 21 to form horizontal flanges 22. The edges of these flanges terminate a predetermined distance from the opposing faces of the shelf bearers 14. The main shelves 16 also may be bent at their side edges to form depending side flanges 23 which may be secured by bolts and nuts 24 to the side walls 12.

The rear wall 13 may be secured in place by angular bracing members 25 which are bolted at 26 to the under surface of the main shelves 16. These braces extend downwardly beneath the rear bearers 14 and project through suitable slots in the rear wall 13 in hooked relation. The space between any pair of superimposed shelves 16 and opposing side walls 12 is employed for housing an auxiliary shelf rack. This auxiliary shelf rack comprises a plurality of front to rear upright panels 27, front and rear shelf bearers 28, and drawer shelves 29. The drawer

shelves 29 are supported on corresponding front and rear bearers 28. A front and rear series of T-shaped slots 30 are formed in the opposing upright panels 27 which are positioned horizontally between the uprights. The slots 30 have a narrow or locking portion 31 which is disposed forwardly in the panel.

It will be manifest that the shelves may be adjusted to receive a drawer of any desired height by engaging the front and rear bearers 28 in appropriate slots 31. The front and rear edges of each drawer shelf 29 are bent at 32 to form depending flanges 33 which engage the outer faces of the shelf bearers 28. The flanges 33 are bent at 34 to form inwardly extending horizontal flanges 35 which engage the bottom faces of the bearers 28. The front horizontal flange 35 is somewhat wider than the rear horizontal flange for a purpose of providing stops which will later be described.

Drawers 36 are supported upon the shelves 16 and 29 and may be of any preferred construction. Accidental withdrawal of the lower drawers from their shelves is prevented by means of one or more depending loops 37 which are punched or pressed from the front horizontal flanges 35. The loops 37 are adapted to engage the rear wall 38 of a drawer 36 which is positioned on the shelf below. The loops also engage the front wall 39 of the drawer to limit its inward movement.

In the present invention, accidental withdrawal of the top drawer 36 is prevented by a drawer stop 40 which is formed of a metal plate 41 and bent at 42 to form an inwardly extending horizontal flange 43. This flange 43 is bent downwardly at 44 into a depending flange 45 which is adapted to engage the inside of the rear wall 38 of the shelf drawer 36. The flange 45 also engages the inside of the front wall of the drawer to limit its inward movement.

When it is desired to withdraw the drawer completely from the rack, it is drawn forwardly until the stop 40 engages the rear wall of the drawer, whereupon the front end of the drawer is lifted until its lower rear edge is clear of the front edge of the drawer shelf 29. The rear of the box may then be lowered and disengaged from behind the stop 40.

The drawer stop 40 is positioned within the front flange of the shelf 16 so that the flange 43 will rest upon the flange 22. The flange 43 extends slightly beyond the flange 22 where it is bent downwardly to form the flange 45. The drawer stop 40 is securely fastened within the main shelf flanging 20 by means of bolts and nuts 46 which pass through cooperating holes 47 in the shelf flanging and drawer stop. It will be understood, however, that other suitable fastening means may be employed.

The invention provides a structure having adjustable shelf bearers which are supported in slots in the uprights. Shelves are carried by the bearers and they have parts arranged thereon or struck therefrom to form stops, which limit the sliding movement of the drawers. The stops may be quickly and readily made and promise a rigid and inexpensive means for limiting the movement of the drawers.

Changes may be made in the form, construction, and arrangement of the parts without departing from the spirit of the invention or sacrificing any of the advantages thereof, and the right is hereby reserved to make all such changes as fairly fall within the scope of the following claims.

The invention is hereby claimed as follows:

1. The combination of a main shelf structure, comprising tubular uprights, shelves supported by said uprights and provided at their front edges with depending horizontally extending flanges bent at their bottom edges to provide return flanges projecting inwardly of the shelf structure, a rack housed within said shelf structure, drawers mounted in said rack, and a drawer stop secured within the front flanges of said shelves and provided with a depending portion engageable with a drawer to limit the opening and closing movement of said drawer.

2. The combination of a main shelf structure, comprising tubular uprights, shelves supported by said uprights and provided at their front edges with depending horizontally extending reinforcing flanges bent at their bottom edges to provide return flanges projecting inwardly of the shelf structure, a rack housed within said shelf structure and comprising a plurality of vertical uprights and a vertical series of shelf members mounted between said uprights, drawers supported on the uppermost shelf members of said series of shelf members, and a drawer stop secured within the front flanges of said shelves and provided with a depending portion engageable with the top of a drawer to limit its opening and closing movement.

3. A shelf structure comprising tubular uprights and a vertical series of shelves mounted between said uprights and provided at their front edges with depending horizontally extending reinforcing flanges bent at their bottom edges to provide return flanges projecting inwardly of the shelf rack, drawers supported on said shelves, and means positioned within the front flanges of said shelves for limiting the opening and closing movement of said drawers.

4. In combination, a rack comprising front and rear supports, cross bearers connecting said supports, shelves supported by said cross bearers, drawers on said shelves, shelf bearers arranged between said uprights and be-

tween a shelf and a drawer, shelves supported by said last named shelf bearers, drawers slidably mounted on said last named shelves, means on said first named shelves for limiting the sliding movement of said first named drawers, and loops struck out from the last named shelves for limiting the sliding movement of the last named drawers.

5. The combination of a rack comprising spaced main shelves, auxiliary shelves arranged between the main shelves, drawers slidably mounted on said main and auxiliary shelves, removable means depending from the forward edges of the main shelves for limiting the sliding movement of the drawers on a lower auxiliary shelf, and means struck from the auxiliary shelves and integral therewith for limiting the sliding movement of a drawer arranged below said auxiliary shelf.

6. The combination of a rack comprising supporting members, main shelves removably carried by said supporting members, auxiliary shelves removably positioned between the main shelves, drawers slidably mounted on all of said shelves, means removably carried at the forward edge of said main shelves and depending therebelow for limiting the slidable movement of the drawers mounted on an auxiliary shelf, and loops struck out from an auxiliary shelf and near the forward end thereof for limiting the slidable movement of a drawer mounted below said auxiliary shelf.

In witness whereof, I have hereunto subscribed my name.

WALTER N. VANCE.