April 28, 1942. E. M. FRITZ 2,281,489

STORAGE CABINET

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Fig. 1.

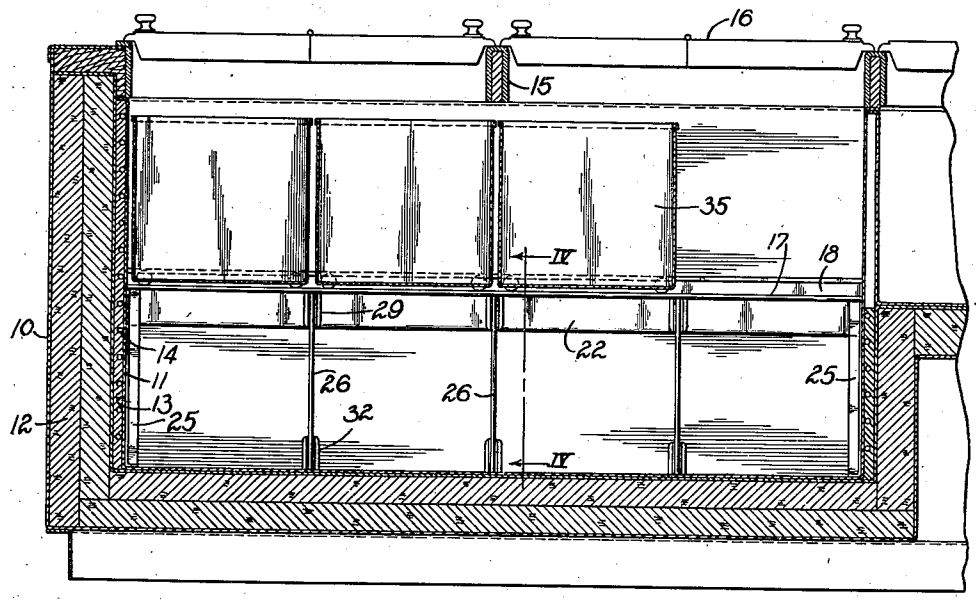
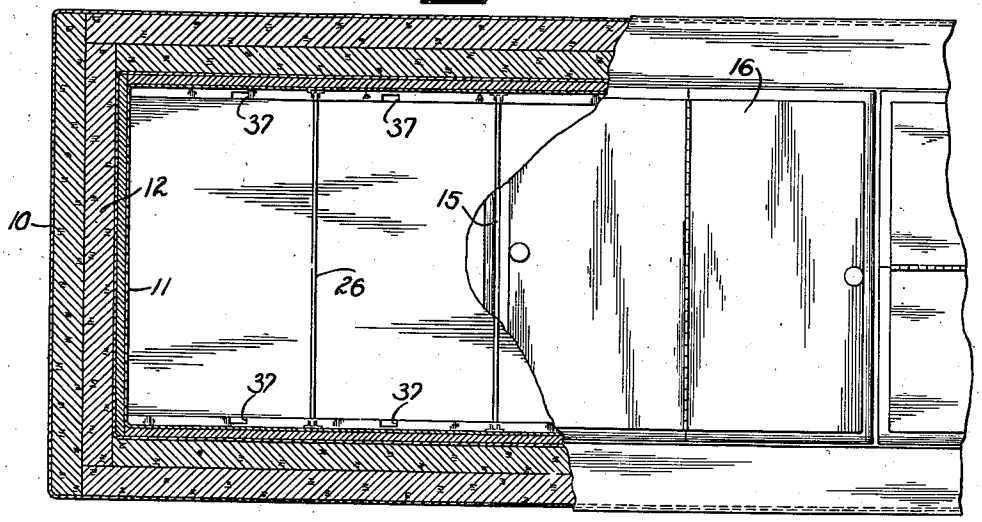


Fig. 2.



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Fig. 3.

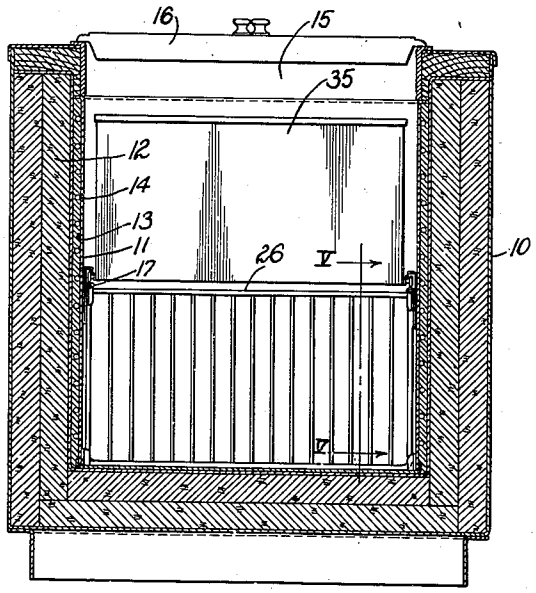


Fig. 4.

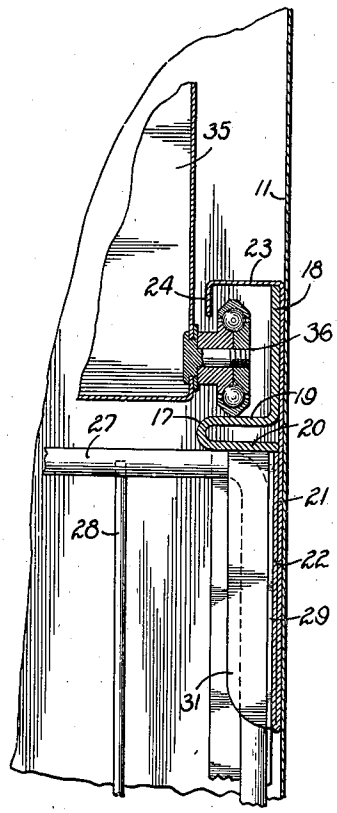
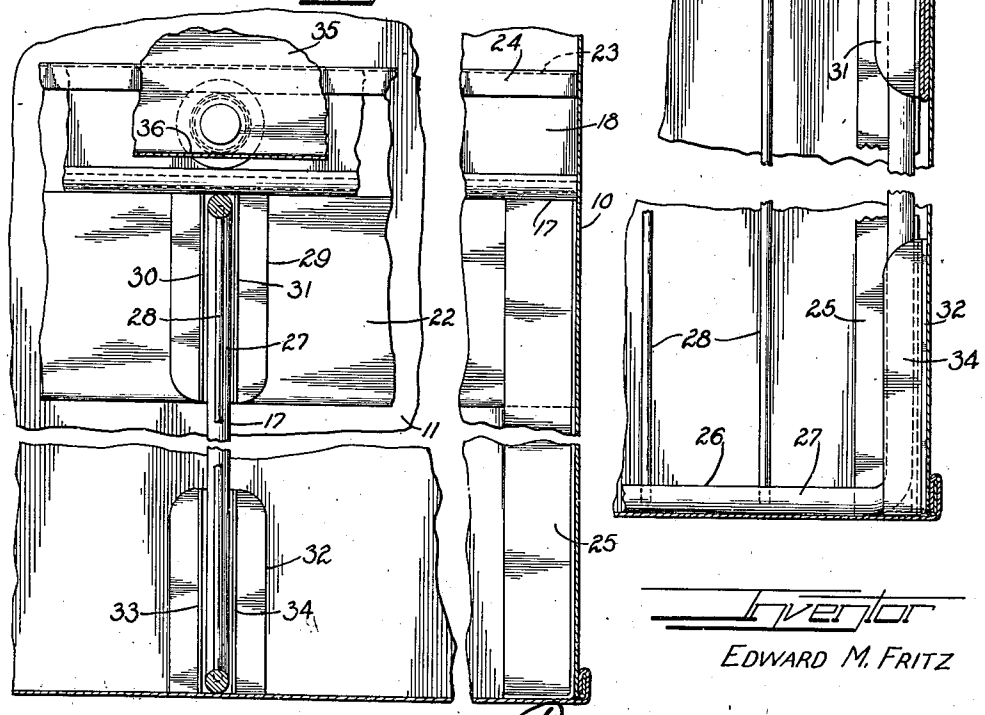


Fig. 5.



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UNITED STATES PATENT OFFICE

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STORAGE CABINET

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Application August 30, 1939, Serial No. 292,602

11 Claims. (Cl. 312—150)

The present invention relates in general to storage cabinets and is in particular concerned with refrigerated cabinets of the type utilized for the cold storage of food, viands, milk, ice cream, and other articles of similar nature.

More specifically, the invention seeks to provide improvements in the internal construction of the cabinet and its associated parts, which will enable more ready access to the stored articles, and which may conveniently be removed to enable cleaning of the cabinet and its being maintained in a sanitary condition.

It has heretofore been proposed to provide cold storage cabinets arranged to have a plurality of shelves or receptacles movably supported in the upper part of the cabinet upon tracks or rails permanently secured to the adjacent side walls. In some arrangements, the track has been disposed in a groove and in others the track has been secured to the wall surface by welding, riveting, et cetera. Not only are such constructions expensive and necessitate installation at the time the cabinet is built, but they are undesirable in cabinets to be utilized for the cold storage of food.

Having the foregoing as well as other objections to the present arrangements in mind, the hereindescribed invention contemplates an improved rail or track construction which is removably supported within the cabinet independently of its wells and may be readily installed in cabinets already in use.

The walls of the cabinet may therefore be made with plain surfaces which may be easily cleaned, and since the track may be readily removed from the cabinet, it may also be easily and thoroughly cleaned, when desired.

A further object is to provide removable partitions within the cabinet, which will mutually cooperate with the rails to retain each other in position, the partitions retaining the rails against inward movement away from the adjacent cabinet walls, and the rails being arranged to maintain the partitions upright and in predetermined spaced relation.

A further object is to provide an improved clip arrangement for supporting the partitions in such manner as to enable their being easily removed from the cabinet, when desired.

It is also an object of the present invention to provide an improved article of manufacture in the form of a track or rail structure which is particularly adapted for use in storage cabinets of the herein described type.

Still another object of the herein described invention is to provide an improved track construction embodying a protective hood.

Other objects and features of the invention will more fully appear from the following detailed description, taken in connection with the accompanying drawings, which illustrate a single embodiment thereof, and in which:

Figure 1 is a fragmentary longitudinal section, taken through a storage cabinet embodying the features of the present invention;

Figure 2 is a fragmentary plan view of the cabinet having a broken away portion showing the interior arrangement;

Figure 3 is a transverse section through the cabinet;

Figure 4 is an enlarged fragmentary view partly in section, showing the cooperative relationship of the cabinet partitions and the track for movably supporting a receptacle in the cabinet, taken substantially on line IV—IV of Figure 1; and

Figure 5 is an enlarged fragmentary view looking toward the inner surface of one of the cabinet walls, showing the cooperative relationship of the partitions, track and receptacle supported for movement thereon, taken substantially on line V—V of Figure 3.

As shown in the drawings:

In the illustrated embodiment of the present invention, the cabinet or box is disclosed as being of substantially rectangular shape and constructed with an exterior wall 10 and an interior or lining 11 separated by suitable heat insulating material such as cork 12. As shown, the sides and end portions of the cabinet may have their inner lining wall made double to provide a space 13 in which a suitable refrigerating medium may be conducted as by coils 14.

The top of the cabinet is open and provided with cross bars 15 which cooperate with the adjacent upper wall margins of the cabinet to form entrance openings permitting access to the interior of the cabinet. These openings are closed by suitable cover members 16 having hingedly connected sections and forming the necessary heat insulation similar to the bottom and side walls of the cabinet.

Extending along each side of the cabinet in its interior is an elongate rail 17 of L-shaped construction, this rail having a leg 18 which is disposed vertically and a horizontal leg having its edge margin bent back upon itself to form spaced leg portions 19 and 20, the edge of the portion 20 lying substantially in the plane of the outer surface of leg 18.

Associated with the rail 17 is a plate 21 which extends longitudinally of the rail and is secured as by welding to the outer surface of leg 18. It will be noted that the lower margin of the plate 21 extends below the leg portion 20 and has a portion 22 bent back upon itself to form a double layer extending below the rail.

The upper marginal edge of the plate 21 is deflected over the upper edge of leg 18 to form a right-angular portion 23 having its edge margin again deflected downwardly at right-angles as shown at 24. The portions 23 and 24 provide a rail hood.

The rail 17 with the connected plate 21 is removably supported above the bottom of the cabinet by means of end posts 25 which are arranged to bear against the bottom of the cabinet at their lowermost ends and are secured to the rail structures at their uppermost ends. Thus, the rail structure with its supporting end posts forms a unitary structure which is not secured to the interior walls of the cabinet in any way and may readily be removed from the cabinet for cleaning, when desired.

The rails are retained against inward lateral movement away from the associated inner walls of the cabinet by means of transversely extending partitions 26 which, if desired, may be of grid-like construction with a heavy rectangular frame 27 having a plurality of parallel spaced apart wires 28 secured therein. The partition members may be spaced at any desired interval longitudinally of the cabinet, and there may be as many partitions as desired. The partitions are respectively supported at their sides by means of U-shaped angular clips 29 secured in the angle between the leg portions 20 and the folded back portion 22, each of these clips having spaced leg portions 30 and 31 for receiving the uppermost corner portion of one side of the partition. The lower corner portion of this side is arranged to be vertically supported by means of a similar clip 32 having spaced legs 33 and 34, this clip being secured in any suitable manner to the adjacent inner wall of the cabinet.

With this construction, it will be apparent that the partitions and track structure mutually cooperate to retain each other in proper position, the partitions retaining the opposite track structures from inward movement away from their associated cabinet walls, and the track structure acting through the clips to maintain the partitions upright. Moreover, the partitions are easily removable as is also the track structure as previously described.

The opposite tracks are supported substantially midway of the cabinet with the partitions being disposed in the lower portion of the cabinet. The upper portion of the cabinet is arranged to contain a plurality of receptacles 35 which are individually supported on the opposite tracks for sidewise movement longitudinally of the cabinet. Any number of receptacles may be provided, although it is preferred to provide one less receptacle than the number of spaces formed in the lower portion of the cabinet by the partition. Such an arrangement enables shifting of the receptacles so as to provide an entrance space in the upper portion of the cabinet to any space in the lower portion of the cabinet desired.

Each receptacle is provided at its ends with a pair of anti-friction devices 36 which may constitute ball bearing mounted rollers.

Referring to Figure 4, it will be noted that these rollers are of greater diameter than the space between the deflected portion 24 of the hood and the leg 19 of the rail member. In order that the rollers may be placed onto the rail or removed therefrom, the hood of each rail is provided with suitably spaced notches or cut-out portions 37—37 for receiving the rollers therethrough when positioning a receptacle on the rail.

From the foregoing description it will be apparent that the present invention provides an improved cold storage cabinet for the storage of foods, viands, milk and other articles of like nature having an improved internal construction which may be installed in cabinets already in use; which may be easily removed for cleaning and enabling the cabinet to be kept in a sanitary condition; which embodies an improved arrangement of partitions and track structure which mutually cooperate to retain each other in position, the partitions retaining the rails against movement away from the interior associated walls of the cabinet and the rails maintaining the partitions upright and in predetermined spaced relation; which embodies improved means for removably supporting the partitions; and which includes an improved track construction with a protective hood that may be fabricated as a separate article of manufacture.

It is, of course, to be understood that although I have described in detail the preferred embodiment of my invention, the invention is not to be thus limited but only insofar as defined by the scope and spirit of the appended claims.

I claim as my invention:

1. A storage cabinet comprising a box having side walls and adapted to contain a storage receptacle, opposite rails adjacent the side walls for supporting said receptacle, partitions extending between said rails and bracing them against inward lateral movement, and clips carried by said rails for retaining said partitions against lateral displacement.

2. A storage cabinet comprising a box having side walls and adapted to contain a storage receptacle, opposite removable rails adjacent the side walls for supporting said receptacle, removable partitions extending between said rails, and clips carried by said rails for retaining said partitions in spaced upright positions, but enabling removal thereof.

3. A storage cabinet comprising a box having side walls and adapted to contain a storage receptacle, opposite removable rails adjacent the side walls for supporting said receptacle, removable partitions extending between said rails, and aligned clips carried by said rails and said side walls for removably supporting the partitions upright.

4. A storage cabinet comprising a box having side walls and adapted to contain a storage receptacle, opposite rails adjacent the side walls for supporting said receptacle, means supporting said rails for removal in a vertical direction, and a removable partition extending between said rails and bracing the rails against inward lateral movement.

5. A storage cabinet comprising a box having side walls and adapted to contain a storage receptacle in its upper part, an upright partition in the lower part of the box below said receptacle, and removably supported means including rail members adjacent the side walls for movably supporting the receptacle, said means normally acting to retain said partition in an up-

right position and oppose its vertical movement, but enable removal of the partition when said means are removed.

6. A storage cabinet comprising a box-like structure having side walls, a plurality of partitions extending between said walls, and means for removably supporting said partitions in upright positions at predetermined spaced intervals within the cabinet, said means including elongate removable rail members adjacent said side walls and supported independently thereof.

7. As an article of manufacture, a removable rail for storage cabinets comprising an elongate L-shaped member, a plate extending longitudinally of said member and secured in face engagement to the outer surface of one leg of said member, said plate having one of its lateral margins folded back upon itself to form a double thickness portion extending substantially at right-angles beyond the other leg of said member, and the other marginal edge being deflected substantially at right-angles to form a hood extending in the same direction as said latter other leg, but spaced therefrom.

8. As an article of manufacture, a removable rail for storage cabinets comprising an elongate L-shaped member, a plate extending longitudinally of said member and secured in face engagement to the outer surface of one leg of said member, said plate having one of its lateral margins folded back upon itself to form a double thickness portion extending substantially at right-angles beyond the other leg of said member, and the other marginal edge being deflected substantially at right-angles to form a hood extending in the same direction as said latter other leg, but spaced therefrom, and U-shaped angle clips spaced along and secured to said double thickness portion.

9. As an article of manufacture, a removable rail and partition supporting means of unitary construction for storage cabinets, said means comprising an elongated L-shaped member having one of its legs folded back upon itself in spaced relation, a plurality of U-shaped clips disposed adjacent said folded back leg, said clips being spaced apart in a direction lengthwise of said member, and means interconnecting the clips and member whereby the latter forms a support for the former.

10. A storage cabinet comprising a box having side walls and adapted to contain a storage receptacle, opposite rails adjacent the side walls for supporting said receptacle, and partitions cooperating with said rails to brace them against inward lateral movement by means of partition retaining clip means interconnecting said rails and said partitions for detachably connecting said rails and partitions together.

11. As an article of manufacture, a removable rail and partition supporting means of unitary construction for storage cabinets, said means comprising an elongated member formed into a rail, a plurality of partition retaining means in juxtaposition to said rail, said partition retaining means being spaced apart lengthwise of the rail, and means interconnecting the partition retaining means and the rail whereby the latter forms a support for the former.

EDWARD M. FRITZ.