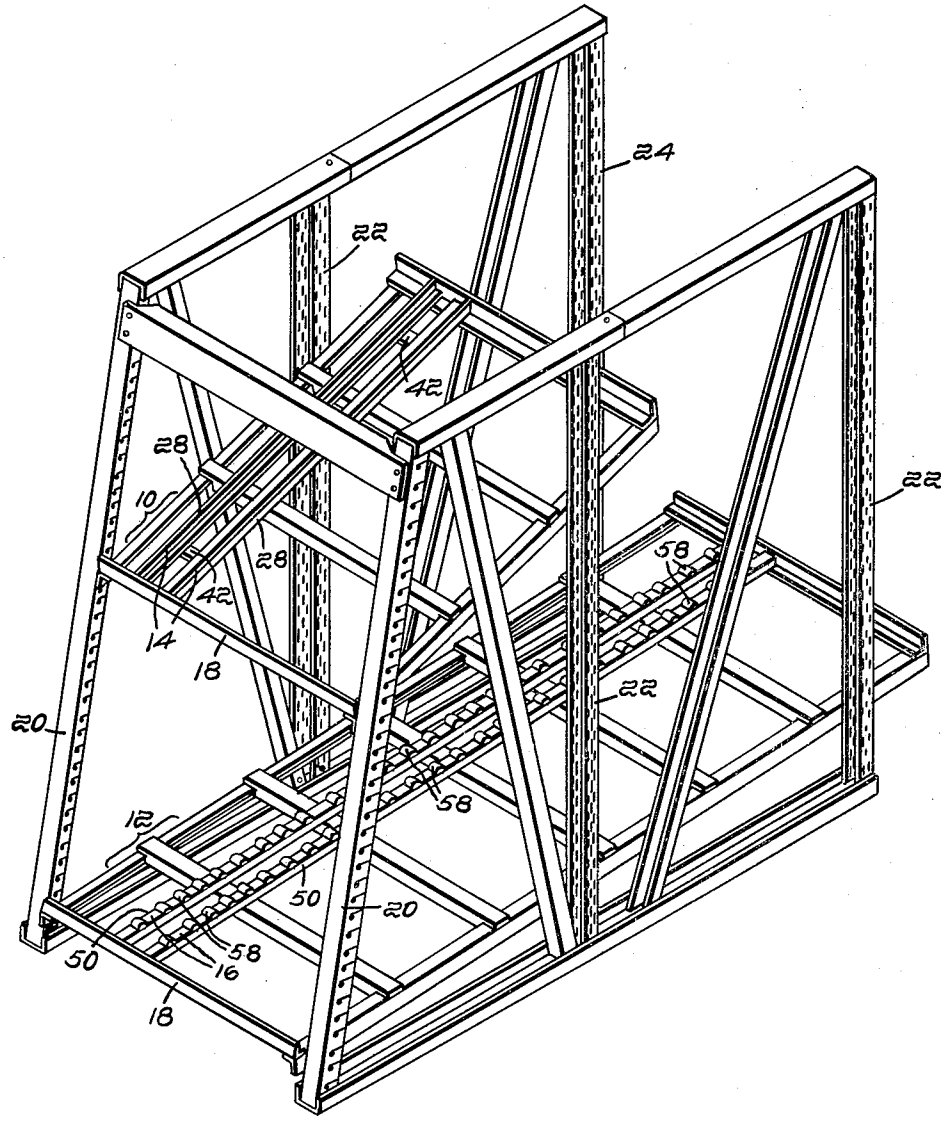
Nov. 13, 1962 J. ST. AMOUR 3,063,534

TRACKWAY FOR STORAGE AND DISPENSING RACKS

Filed April 21, 1961 3 Sheets-Sheet 1

Fig. 1.



Inventor:
Joseph St Amour,
By Emery, Booth, Miller & Townsend Attys

Nov. 13, 1962 J. ST. AMOUR 3,063,534

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Fig. 2.

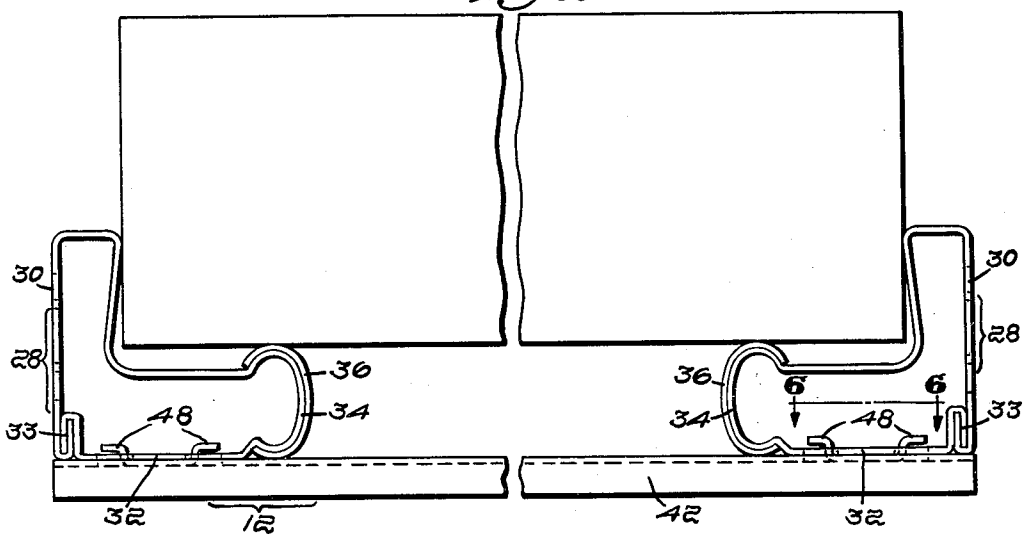


Fig. 4.

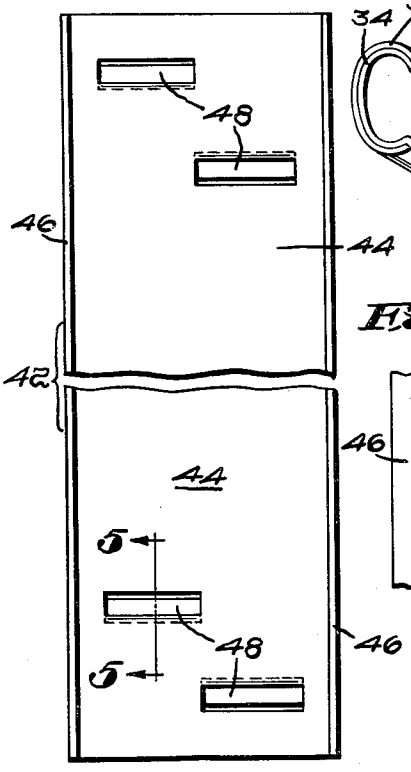


Fig. 3.

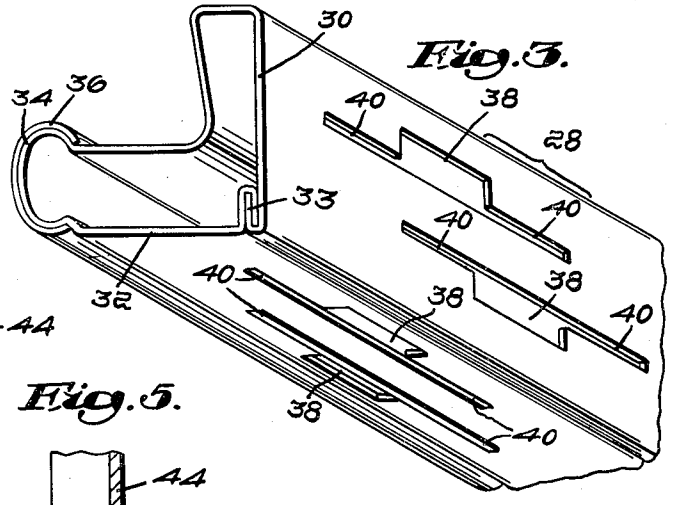
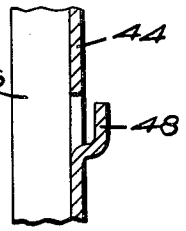


Fig. 5.



Inventor:
Joseph St. Amour,
By Emery, Booth, Miller & Townsend
Attys

Nov. 13, 1962 J. ST. AMOUR 3,063,534

TRACKWAY FOR STORAGE AND DISPENSING RACKS

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Fig. 6.

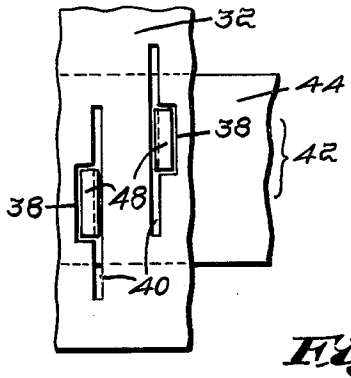


Fig. 7.

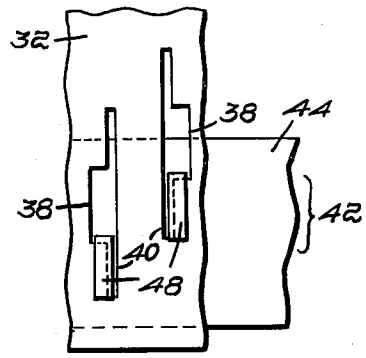


Fig. 8.

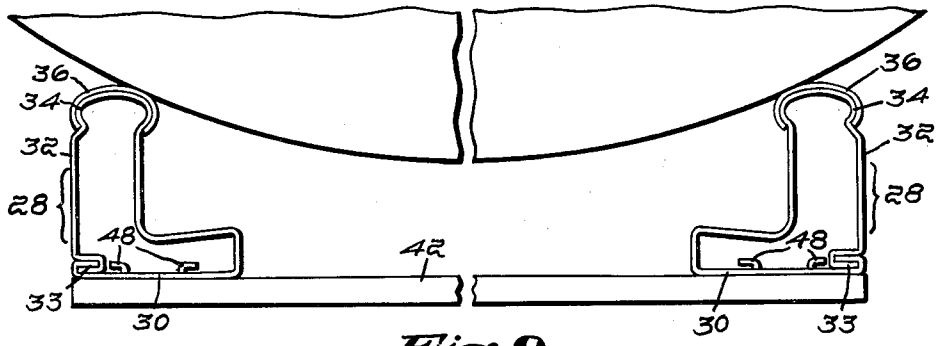


Fig. 9.

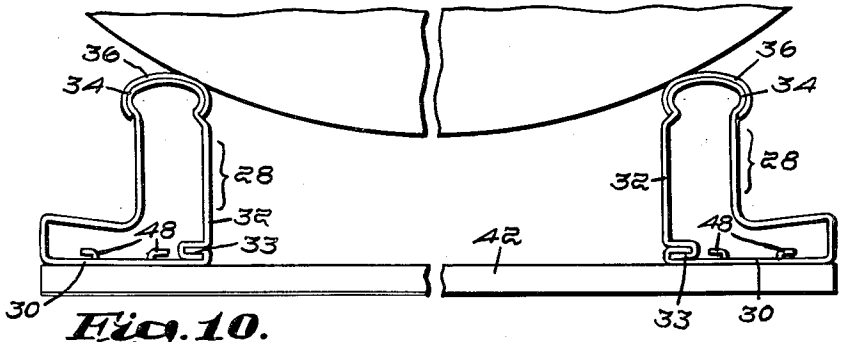
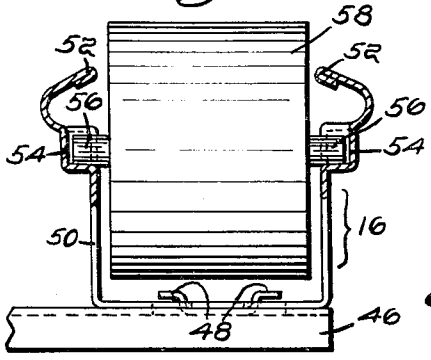


Fig. 10.



Inventor:
Joseph St Amour,
by Emery, Booth, Miller & Townsend
Attys

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TRACKWAY FOR STORAGE AND DISPENSING RACKS

Joseph St. Amour, Newmarket, N.H., assignor to Kingston Manufacturing Co., Inc., Newfields, N.H., a corporation of New Hampshire

Filed Apr. 21, 1961, Ser. No. 126,731
6 Claims. (Cl. 193—38)

The present invention relates to storage and dispensing racks of the type commonly used in retail establishments operating on the self-service principle. The particular object is to provide certain improvement in the trackways on which packages are placed and along which they move as items are removed from one end of the line.

My invention will be well understood by reference to the illustrative embodiment shown by way of example in the accompanying drawings wherein:

FIG. 1 is a perspective showing a unit storage rack;

FIG. 2 is a cross section of a track as organized for carrying boxes of ordinary prismatic form;

FIG. 3 is a perspective of a portion of a rail;

FIG. 4 is a bottom plan of a sleeper, broken away at the middle;

FIG. 5 is a section on line 5—5 of FIG. 4;

FIGS. 6 and 7 are views taken from line 6—6 of FIG. 2 with parts broken away and illustrate successive stages of the assembly of a rail with a sleeper.

FIGS. 8 and 9 are transverse sections on a scale smaller than FIG. 3 showing other arrangements of rails and sleepers to provide a track; and

FIG. 10 is a section through a roller carrying rail with a sleeper as shown in the other figures engaged therewith.

In many retail establishments at the present day, more particularly those operating on the self-service principle, goods are stored on and taken by the purchaser from racks of the general type shown in FIG. 1 and consisting of a terraced series of shelves. For the sake of simplicity only two such shelves, **10** and **12**, are shown in the drawing but obviously there may be a number of superposed shelves of each type. The front edges of the shelves in a stack are usually set progressively further to the rear so that the forward portion of each shelf is exposed to permit inspection of the goods at the forward portion thereof, and to permit the customer to pick up the leading article in a row and take it away.

Columns of packages or articles are arranged on the shelves, ordinarily on tracks such as the track **14** on the shelf **10** or, in the case of the shelf **12** which stands at a low angle, a roller trackway **16**. Only one track is shown in each case, but it will be understood that a number may be set side by side on the various shelves and each receives a column of goods which is replenished at the rear as articles are taken away at the front. A flange **18** at the front of each shelf makes a stop for the head of the column.

To provide for the progressive setting back of the front edges of the shelves their forward ends may be supported from rearwardly inclined uprights **20** and their rearward ends from vertical uprights **22** in the case of the shorter shelves **10** and **24** in the case of the longer shelves **12**.

Only a single bay or section of the rack is shown in the drawings. It might be duplicated side by side and if extended toward the right in the figure the right-hand uprights **20**, **22** and **24** would provide for the support of the opposed edges of two sets of shelves. That is, two bays would require only three uprights, three bays four sets of uprights, etc.

The present invention relates more particularly to the construction of the trackways which may be installed in

a rack of known conventional form provided the shelves are built to give them sufficient underriding support, and stop flange **18** or its equivalent is provided.

In describing the track I shall use various words which are familiar to everyone because they designate portions of the ordinary railroad track, and these words will be readily understood and their application to a different yet somewhat analogous element of the construction to be described will be apparent. Thus a "track" may include two "rails" in spaced relation over which the moving object travels and the rails may have "heads" with which the moving objects or a portion thereof (the wheel and its flange in the case of a railway vehicle) actually makes contact. The tracks are carried by, supported and held in spaced relation by transverse members or "sleepers" to which they are attached at intervals. I use the word "sleepers" rather than the word "ties" because "tie" has another and more general significance and while sleepers actually do tie the rails together, that is not their only function.

Referring now to FIG. 3 I there show a preferred construction of the rail **28** which may be rolled from a strip of sheet metal into a hollow box form having the general cross section of a right-angle with one leg **30** and another **32**, locked together by an internally disposed seam **33**. Herein the leg **32** terminates in a railhead **34** which as seen may be offset somewhat from the plane of the outer wall of leg **32**, so as to lie inwardly of the plane of the same and, on the other hand, extends outwardly beyond the interior wall of that leg. This provides alternatively usable bearing surfaces as shown respectively in FIGS. 2 and 9 and as will further be explained. The extreme boundary of the inner face of leg **32** may project inwardly as well.

The railhead **34** may be covered over by a covering **36** of smooth and slippery material designed to facilitate sliding movement of the articles supported over the railhead. This may be an extruded length of some such plastic as polyethylene or of the fluorinated copolymer of ethylene and propylene. This may be extruded to form, and be slightly expanded and snapped in place hugging the rounded edges of the railhead.

The rails are provided in suitable lengths and, since in the form shown they are designed for use in different positions as will appear, the exterior walls of both legs of the angle are provided adjacent their ends and at any convenient intermediate intervals with means whereby sleepers **42** may be engaged therewith to hold the pair of rails apart and form a track. Herein, by way of example, keyhole slots are provided with an enlarged central portion **38** from one side of which extend, longitudinally of the rail, the narrower portions **40** preferably in both directions. The slots might be termed double keyhole slots. Two of these keyhole slots are provided adjacent one another but transversely and longitudinally offset for purposes which will appear.

FIG. 3 shows two rails as thus described, joined by sleepers **42** which are shown in FIGS. 4 and 5 the sleeper being in the form of a channel having a wide web **44** and depending stiffening flanges **46**. The web of the sleeper is designed to rest flat against one or the other of the outer walls of the legs **30** and **32** of the rail. Carried by the web are means for grappling the edges of cooperating openings in those walls, in the example illustrated herein the keyhole slots already described. For this purpose oppositely facing hooks **48** (see FIG. 5) are struck up from the web which hooks have a width corresponding substantially to the length of the slots **38** and provided in similarly positioned pairs. The bent over ends of the hooks are spaced from the web of the sleeper a distance approximating the thickness of the wall of the rail.

It will be clear that the sleeper may be applied to the face of the rail and that these hooks will enter the enlarged portions **38** of the slot (see FIG. 6) and if there is then effected a relative sliding movement lengthwise of the rail the upright portions of the hooks will enter the narrower slots **40** as seen in FIG. 7 and their overhanging portions will overlie the adjacent interior surface of the rail leg to grapple the same and clasp it firmly. The hooks face in opposite directions and provide a two-point interlock resisting any twisting or wracking movement of the assembly.

FIG. 2 shows an arrangement of the track suitable for supporting boxes of goods having generally the shape of a rectangular prism. The gage of the track, that is the distance between adjacent rails, may be varied by using different length of sleeper. Herein the box shown rests on the portion of the railhead **34** which projects at the interior side of leg **32** of the right angle and the other leg **30** of the rail extends upwardly and forms a guard rail.

The rails as shown in FIG. 3 may also be assembled as shown in FIGS. 8 and 9 by rotating them through an angle of 90 degrees, and either turning them end for end or exchanging their relative positions right and left. In this case the sleepers are engaged with the keyhole slots in the legs **30** of the rail. A track of this type is adapted more particularly to support a cylindrical object such as a can or a roll of toilet paper by engagement with elements of its cylindrical surface. Again the gage may be altered by using different lengths of sleeper but FIGS. 8 and 9 show how by interchanging the two rails, right and left, a difference in gage may be obtained from the same length of sleeper, the bearing portions of the head of the rail being closer together in FIG. 9 than in FIG. 8, although the length of the sleeper is the same.

In the case of a roll-carrying track, as **16** in FIG. 1, rails **50** may be provided having a hollow form like an open topped box or deep channel the side walls being stiffened by reversely bent edges **52**. Recesses **54** in the sides may receive from above the spindles **56** of rollers **58**. The bottom of the rail **50** is provided with keyhole slots similar to those in the headed rail already described, and they are joined by sleepers **46** with hooks **48**, in the same way as the angularly shaped rails of the other figures.

It will be apparent that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and the present embodiment should therefore be considered in all respects as illustrative and not restrictive, as is in fact clear in several matters from the description itself. Reference is to be had to the appended claims to indicate those principles of the invention exemplified by the particular embodiment described and which it is desired to secure by Letters Patent.

I claim:

1. A rail for use in constructing a track for merchandise display and delivery racks comprising an elongated member of hollow box construction having the cross section of a right angle and having a railhead at the extremity of one leg of the angle, the head having a bearing portion projecting inwardly beyond the inner wall of that leg, the two outwardly presented walls of the legs of the angle each having a series of short openings therethrough each for receiving a sleeper-carried locking element for grappling a margin of the opening.

2. A track for merchandise display and delivery racks comprising a pair of elongated rails each of hollow box construction having the section of a right angle and having a railhead at the extremity of one leg of the angle presenting bearing surfaces in the plane of the leg and inwardly of the angle, the two outwardly presented walls of the rail having keyhole slots therein, and sleepers for relatively positioning the rails having flat surfaces to engage externally a selected leg and ears projecting from said surfaces, each receivable within the wider portion of a keyhole slot in said leg and shiftable to interlock the edge of the narrower portion of said slot.

3. A track for a merchandise display and delivery rack comprising two rails, each an elongated member of hollow box construction having the cross section of a right angle and having a railhead at the extremity of one leg of the angle, the head having a bearing portion projecting inwardly beyond the inner wall of that leg, the exterior wall of that leg which carries the head having a series of short openings therethrough and sleepers extending between the rails and on which the exterior wall of that leg rests, the sleepers having projections entering the openings and grappling the margins thereof.

4. A convertible track for display and delivery racks comprising elongated rails having the cross section of a right angle and having a railhead at the extremity of one leg of the angle presenting bearing surfaces in the plane of that leg and inwardly of the angle and sleepers spanning the two rails, the ends of the sleepers and both outer faces of the angle having complementary portions providing for attaching either of said faces to the sleepers.

5. A track for merchandise display and delivery racks including two elongated elements the base portions of which present downwardly a surface from which arise two flanges defining a hollow within the base portion, keyhole slots at intervals along said elements, and sleepers for spacing the rails comprising channels having webs engaging said downwardly presented surfaces and overhanging lugs struck from the webs of a size to pass the larger portions of the keyhole slots and, on shifting therefrom to grapple a margin of the smaller portions of said keyhole slots.

6. A track as in claim 5 wherein the keyhole slots are in groups of two, the two offset both longitudinally and transversely of the elements and the lugs of the sleepers are correspondingly offset to hold the elements at spaced points and resist relative angular movements between the elements and sleepers.

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