March 11, 1930. J. F. SMILEY 1,750,060

SELF SERVICE STORE EQUIPMENT

Filed Nov. 12, 1928 4 Sheets-Sheet 1

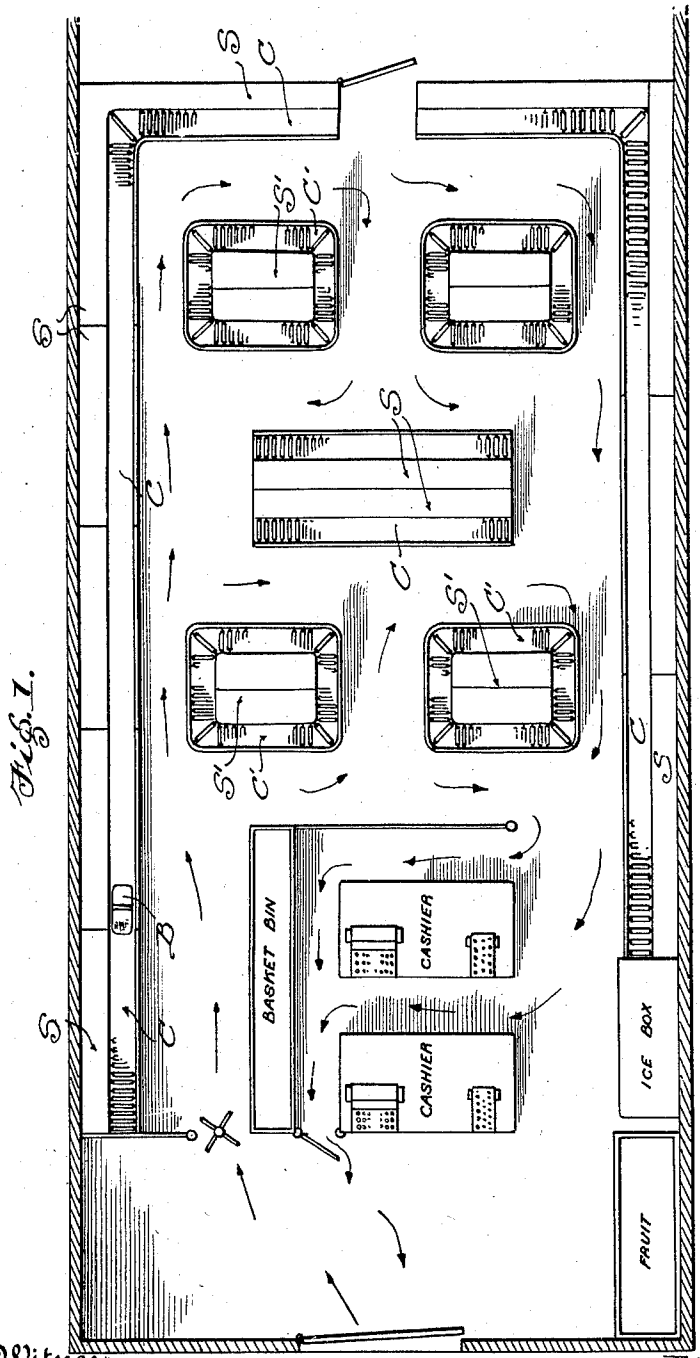


Fig. 1.

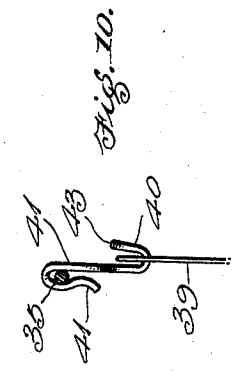


Fig. 10.

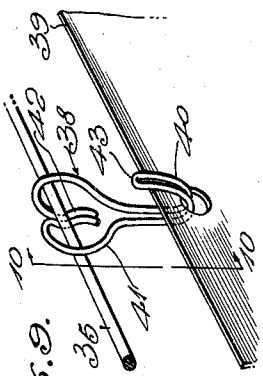


Fig. 9.

Witness
H. Woodard

Inventor
J. F. Smiley
By H. B. Williamson & Co
Attorneys

March 11, 1930. J. F. SMILEY 1,750,060

SELF SERVICE STORE EQUIPMENT

Filed Nov. 12, 1928 4 Sheets-Sheet 2

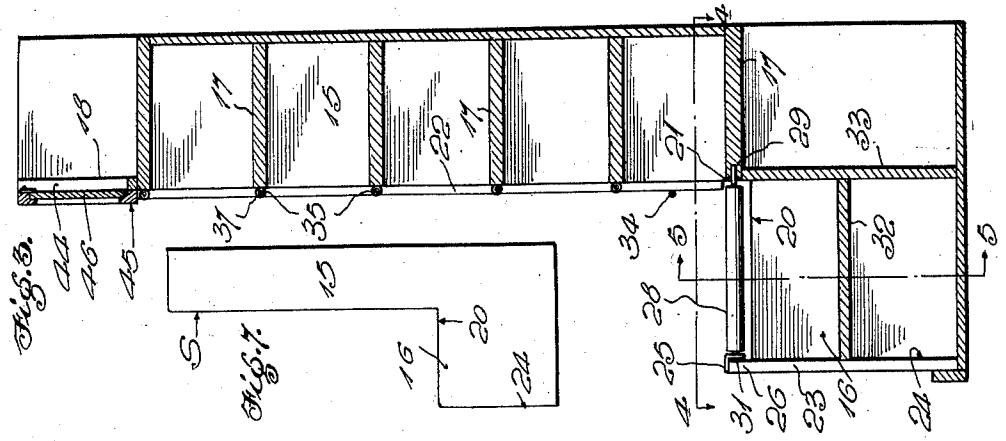


Fig. 3.

Fig. 4.

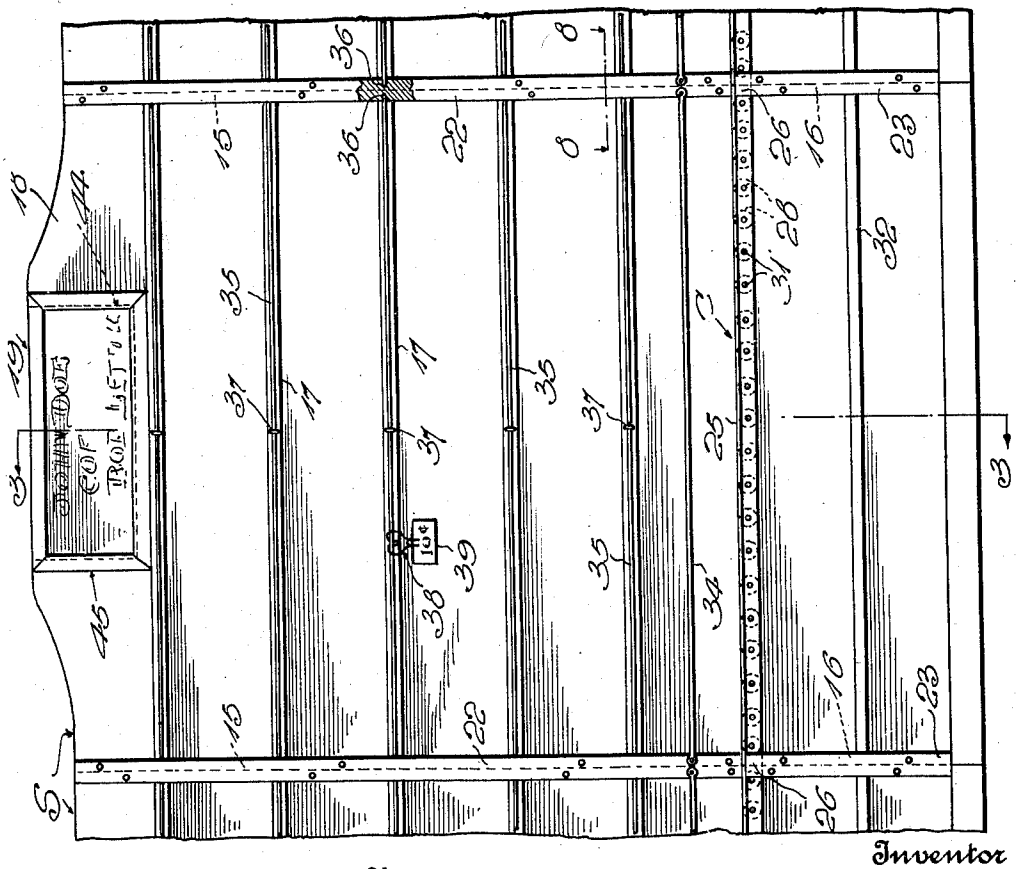


Fig. 2.

Witness
H. Woodard

Inventor
J. F. Smiley

By A. B. Williamson & Co
Attorneys

March 11, 1930. J. F. SMILEY 1,750,060

SELF SERVICE STORE EQUIPMENT

Filed Nov. 12, 1928 4 Sheets-Sheet 3

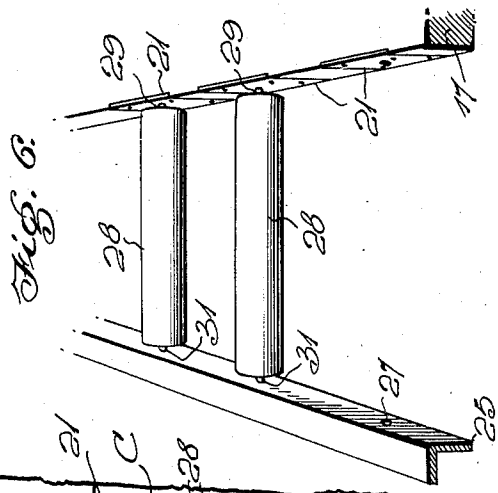


Fig. 6.

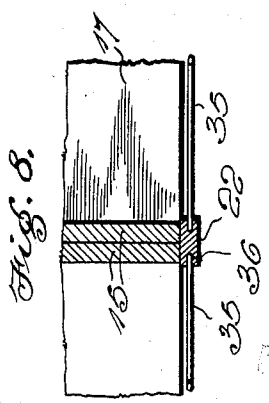


Fig. 8.

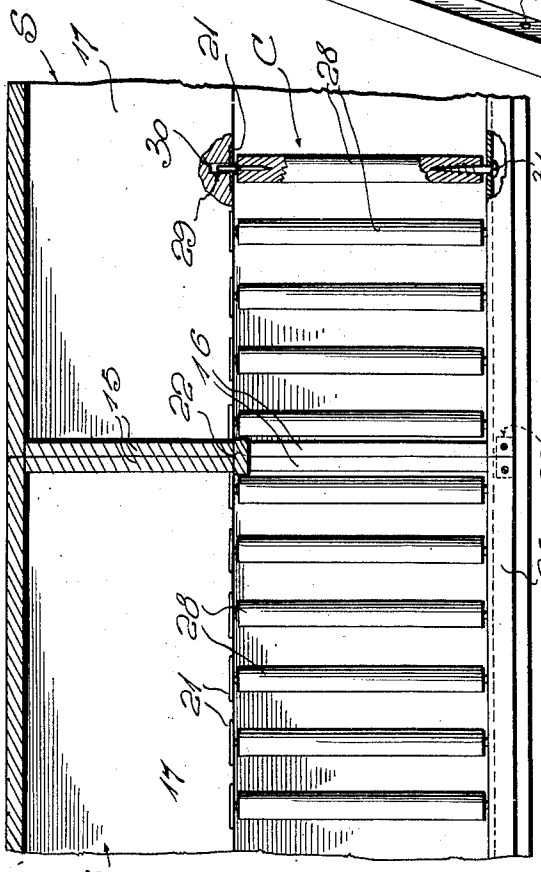


Fig. 4.

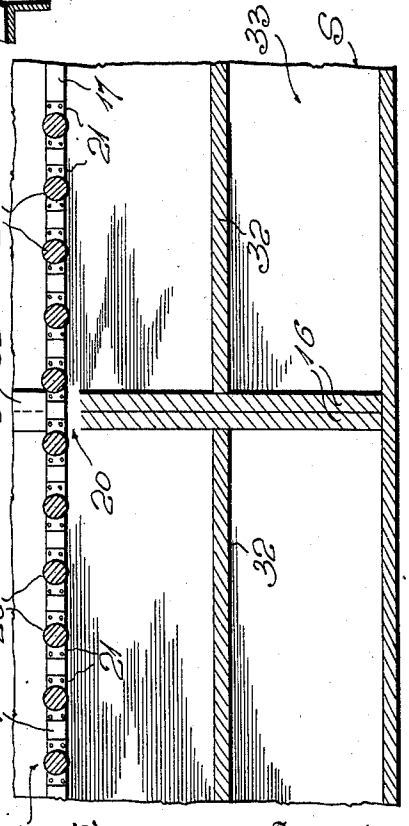


Fig. 5.

Witness
H. Woodard

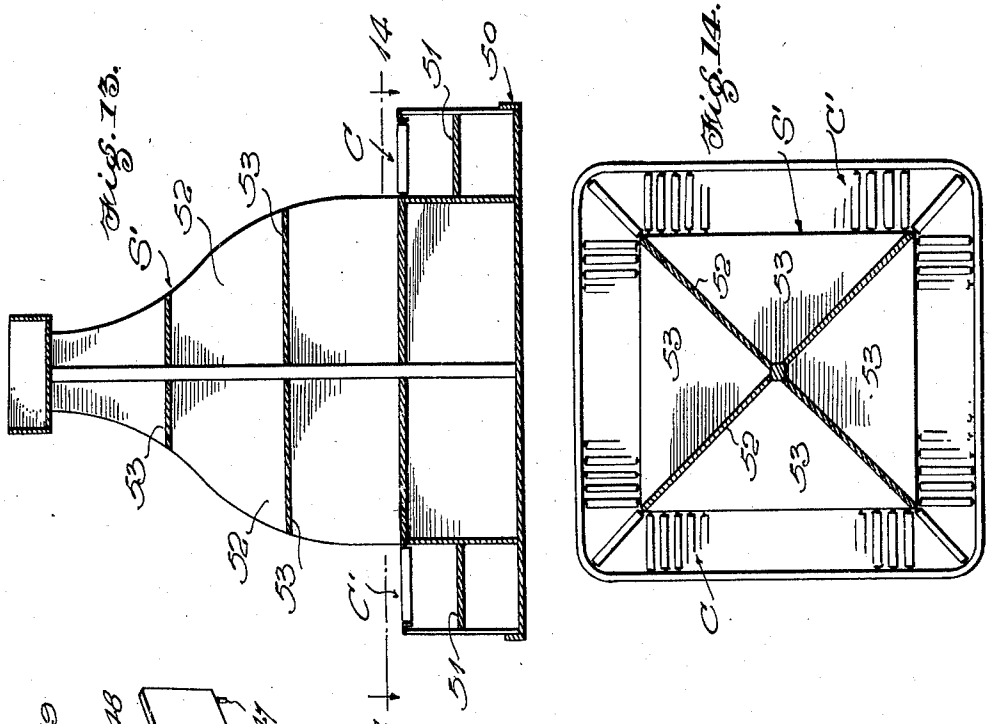
Inventor
J. F. Smiley

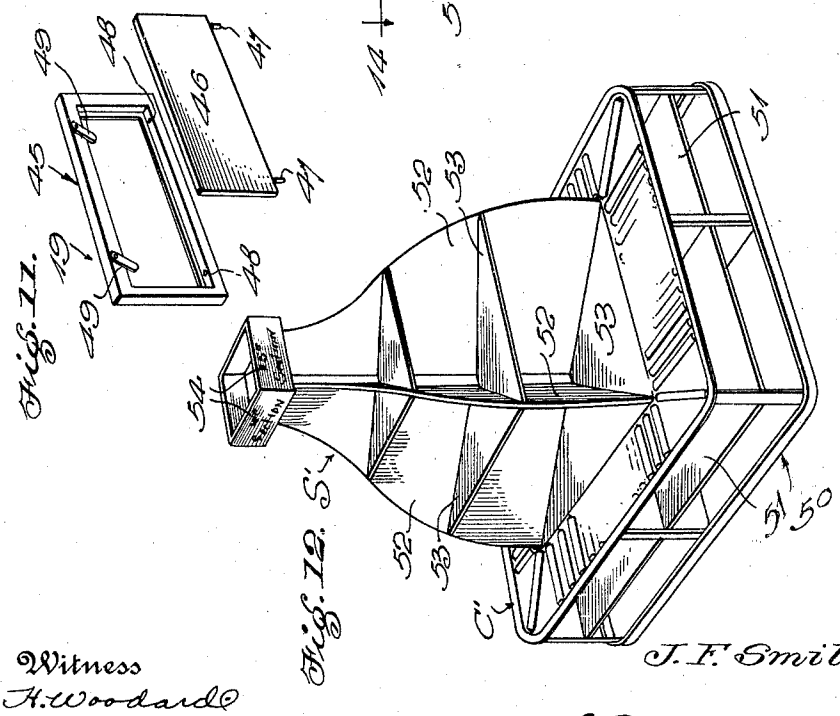
By A. B. Williamson & Co
Attorneys

March 11, 1930. J. F. SMILEY 1,750,060

SELF SERVICE STORE EQUIPMENT

Filed Nov. 12, 1928 4 Sheets-Sheet 4





Witness
H. Woodard

Inventor
J. F. Smiley

By H. B. Wilson & Co
Attorneys

Patented Mar. 11, 1930 1,750,060

UNITED STATES PATENT OFFICE

JOHN F. SMILEY, OF DALLAS, TEXAS

SELF-SERVICE-STORE EQUIPMENT

Application filed November 12, 1928. Serial No. 318,853.

The invention relates primarily to shelving for self-service stores and it is the principal object of said invention to provide a new and improved construction of shelving embodying a roller conveyor supported in a novel manner and acting as a support for the usual baskets so that they may be pushed or pulled along the shelves, instead of being carried.

Further objects are to provide new and improved price tag-supporting means and to make novel provision whereby special sales may be advertised upon blackboards of unique mounting, disposed at the top of the shelving.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, description being accomplished by reference to the accompanying drawings.

Fig. 1 is a diagrammatic view of a self-service store embodying my improvements.

Fig. 2 is a front elevation of a portion of the shelving with its roller conveyor, price tag-supporting means and special sale advertising means.

Fig. 3 is a vertical sectional view on line 3—3 of Fig. 2.

Figs. 4 and 5 are respectively, a horizontal and a vertical sectional view on the correspondingly numbered lines of Fig. 3.

Fig. 6 is a sectional perspective view showing a portion of the roller conveyor.

Fig. 7 is a side elevation of one of the vertical shelf-supporting walls.

Fig. 8 is an enlarged detail horizontal section substantially on line 8—8 of Fig. 2 illustrating the manner of supporting the ends of the price tag-supporting rods.

Fig. 9 is a perspective view of one of the price tag-supporting clips in operative relation with a tag and one of the rods.

Fig. 10 is a vertical section on line 10—10 of Fig. 9.

Fig. 11 is a perspective view of the special sale advertising blackboard and its holding frame.

Fig. 12 is a perspective view showing shelving and a roller conveyor associated therewith, different from that illustrated in other views.

Fig. 13 is a vertical section of the structure shown in Fig. 12.

Fig. 14 is a horizontal section on the correspondingly numbered line of Fig. 13.

From Fig. 1, it will be seen that shelving sections S are disposed around the sides of the store and otherwise located if desired, said sections each having a roller conveyor section C. Then too, additional shelving S′ has been indicated in this view provided with roller conveyors C′. Other features illustrated in Fig. 1 are conventional as will be understood from the printed legends. The patrons obtain baskets B from the usual bin, and instead of carrying them through the store, slide them along the conveyors C while they are selecting the merchandise which they wish.

Each shelving section S and its conveyor C are of novel construction, reference being made more particularly to Figs. 2, 3, 4, 5, 6 and 7 for the details of such construction. In these views, the numbers 15 denote parallel vertical shelf-supporting walls whose lower ends 16 are forwardly widened. The shelves 17 extend between and are rigdly secured to the walls 15 and at the upper end of each section S, there is a panel 18 which carries a special advertisement holder 19 hereinafter described. The shelves 17 extend between the relatively narrow major portions of the walls 15 and in the construction shown, the lowermost of these shelves is slightly above the upper edges 20 of the widened wall ends 16, the front edge of this shelf being provided with spaced bearing plates 21 for a purpose to hereinafter appear. Vertical finishing strips 22 are secured to the front edges of the walls 15 and it will be seen that these walls of one section S abut the adjacent walls of contiguous sections. These finishing strips are instrumental in supporting price tag-suspending means as hereinafter described, and additional finishing strips 23 which are secured to the vertical front edges 24 of the wall ends 16, are instrumental in supporting a horizontal rail 25 which forms part of the roller conveyor C. In the present showing, the strips 23 project slightly above the edges 20 as indicated at 26, and the rail 25

is formed of angle metal with a horizontal flange secured upon the upper extremities of the strip ends 26 and with a vertical flange projecting downwardly behind said strip ends. This downwardly projecting flange is formed with bearing openings 27 horizontally alined with similar openings in the bearing plates 21.

A plurality of rollers 28 extend horizontally between the rail 25 and the lowermost shelf 17, the rear ends of these rollers being provided with trunnions 29 rotatably received in the bearing openings of the plates 21 and in sockets 30 formed in said shelf. Other trunnions 31 are provided for the front ends of the rollers and are received in the bearing openings 27. By preference, the trunnions 29 are in the form of pins driven into the rear ends of the rollers 28 and the trunnions 31 merely in the form of screws, these details being shown in Fig. 4. The rollers are in most instances constructed from wood but being provided with metallic bearings, they rotate freely and the rollers of the several sections S constitute an uninterrupted conveyor due to the end to end relation of said sections.

I am aware that association of a roller conveyor with shelving is not broadly new, but the novel construction which I have devised is advantageous, in that the lowermost of the shelves 17 supports the rear ends of the rollers, and the finishing strips 23 in addition to acting as such, support the rails 25 which in turn support the rollers. The space beneath these rollers is utilized for additional shelving 32 extending between the widened wall ends 16 and preferably terminating at a back wall 33 which supports the front edge of the shelf 17 against sagging.

Guard rails 34 preferably are mounted above the rear portion of the conveyor C, and price tag-supporting rods 35 are disposed at the front edges of the various shelves 17. The ends of these rods 35 are received in sockets 36 formed in the edges of the finishing strips 22 as seen in Figs. 2 and 8, so that in addition to acting as finishing strips, these strips support the ends of the rods. Appropriate supports 37 are carried by the shelves 17 to hold the intermediate portions of said rods against sagging. Unique supporting clips 38 for the price tags 39 are engageable at any desired locations with the rods 35, the clip construction being shown in Figs. 9 and 10. In these views, 40 denotes a J-shaped hook for passage through an opening in the tag 39, 41 has reference to an open frame whose lower portion is joined to the upper end of the hook shank, and 42 denotes a downwardly projecting curved finger behind the frame 41. This finger is resilient and is intended to snap behind the rod 35 when the frame 41 is disposed against the front of said rod and the entire clip 38 pulled downwardly. Thus, the frame 41 and the finger 42 frictionally grip the rod 35 to yieldably hold the clip 38 in any position at which it may be set, the yielding grip permitting sliding of the clip from one position to another if desired.

Preferably, the entire clip 38 is formed from a single piece of resilient wire. This wire is bent upon itself at the bill 43 of the hook 40 and the two reaches of said wire are disposed in close relation to form the entire hook 40 and the finger 42, said reaches however being outwardly bowed from each other to provide the frame 41. The ends of the wire at the free end of the finger 42 may either be soldered or otherwise connected with each other or may remain free as may be desired.

Each of the panels 18 above described, is formed with an opening 44 from front to back, which opening is preferably in the form of a notch extending through the upper edge of the panel. Secured to the front of this panel at the edges of the opening 44, is a frame 45. Within this frame is a blackboard 46 upon which specials may be readily advertised, the blackboard being detachably mounted in the frame so that it may be readily removed, written upon and replaced. Preferably, the blackboard 46 is provided with downwardly projecting pins 47 receivable in sockets 48 in the lower side of the frame 45, the pins being removable from the sockets when the blackboard is tilted rearwardly at its upper edge. Such tilting however, is normally prevented by turn-buttons 49 or any other desired latch means. Not only does this or an equivalent construction possess the advantage already pointed out but it allows the various blackboards to be removed for thorough cleaning before placing new written or printed matter upon them, and the manager of a chain of stores may at his headquarters have all of the special ads written and then have them delivered to the various stores to be quickly and easily slipped into the receiving frames, should such procedure be desired.

By reference now to Figs. 12, 13 and 14, the shelving S′ and its conveyor C′ will be described. In these views, 50 denotes a preferably rectangular base having shelving 51 and supporting the conveyor C′, this conveyor being of the roller type and being continuous around the peripheral portion of the base. Rising rigidly from the central portion of the base 50 are radially disposed shelf-supporting walls 52, between which shelves 53 are mounted, the lowermost of these shelves serving to support the inner ends of the conveyor rollers in the same manner as the lowermost of the shelves 17 supports the rear ends of the rollers 28.

The construction described divides the shelving into various sections, which sections may contain goods marked at different prices, the prices being shown by signs 54 at the tops of said sections. The shelving S′ with its

conveyor C′ may be used in any desired location which is also true of the other shelving, and in all uses, will be found to be very advantageous.

While I preferably make use of all features of construction herein described, in a single self-service store, it is obvious that certain groups of elements need not necessarily be used with other groups. When they are all embodied in one establishment however, it possesses an element which is unusually acceptable to the purchasing public.

I claim:—

1. In self-service store shelving, a plurality of shelves one of which is provided at its front edge with spaced bearings, a horizontal rail rigidly mounted in advance of said one shelf and having bearings alined with those aforesaid, an open space being provided between said shelf edge and said rail, and basket-supporting rollers in said space extending between said rail and said one shelf and supported by said bearings.

2. In self-service store shelving, a group of upper shelves, lower shelving below said group and forwardly offset therefrom, a plurality of horizontal rollers over said lower shelving and extending forwardly from the lowermost shelf of said upper group, a rigidly mounted rail having bearings supporting the front ends of said rollers, said lowermost shelf of the upper group being provided with bearings supporting the rear ends of said rollers, and a back wall supporting the rear of said lower shelving and also supporting said lowermost shelf of the upper group against sagging.

3. In self-service store shelving, a plurality of parallel vertically elongated shelf-supporting walls each having a forwardly widened lower end, shelves extending between the relatively narrow major portions of said walls, one of said shelves being substantially at the upper edges of the widened lower ends of said walls and having spaced bearings at its front edge, a horizontal rail extending between the outer extremities of said widened lower ends and having bearings alined with those aforesaid, means rigidly supporting said rail upon said outer extremities of said widened ends, and rollers extending between said rail and said one shelf and supported by said bearings.

4. In self-service store shelving, a plurality of parallel vertically elongated shelf-supporting walls each having a forwardly widened lower end provided with a vertical front edge, shelves extending between the relatively narrow major portions of said walls, one of said shelves being spaced a slight distance above the upper edges of said widened lower ends of the walls and having spaced bearings at its front edge, finishing strips secured to the vertical front edges of said widened lower ends of said walls and projecting slightly above the upper edges of said wall ends, an angle metal rail having a horizontal flange secured upon the uper extremities of said finishing strips and a vertical flange projecting downwardly behind the upwardly projecting ends of said strips, said vertical flange having bearings alined with those aforesaid, and rollers extending between said vertical flange and said shelf edge and supported by the bearings thereof.

In testimony whereof I have hereunto affixed my signature.

JOHN F. SMILEY.