Feb. 2, 1932. F. E. HALL 1,843,280

CONVEYER FOR SELF SERVING STORES

Filed July 22, 1930 3 Sheets-Sheet 1

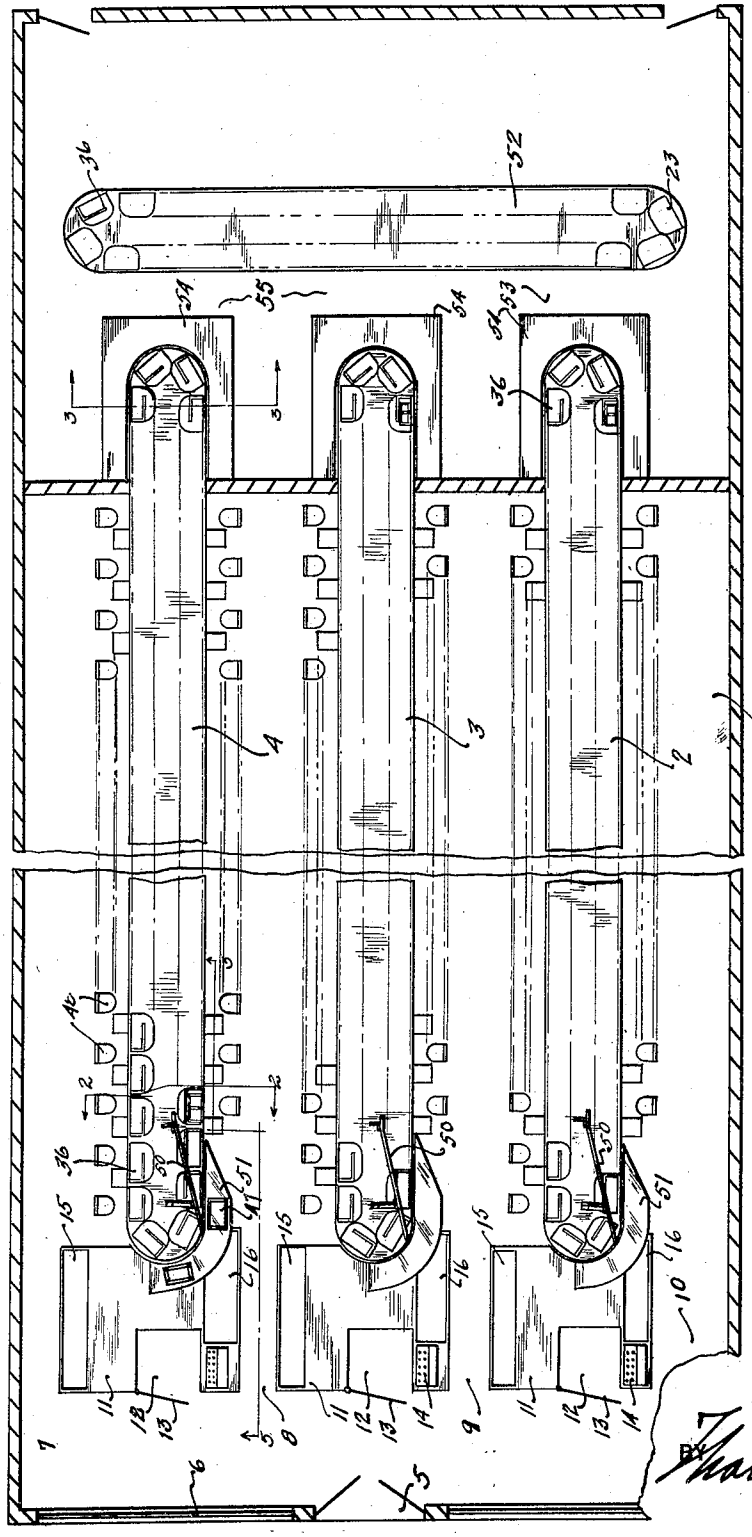

Fig. 1

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CONVEYER FOR SELF SERVING STORES

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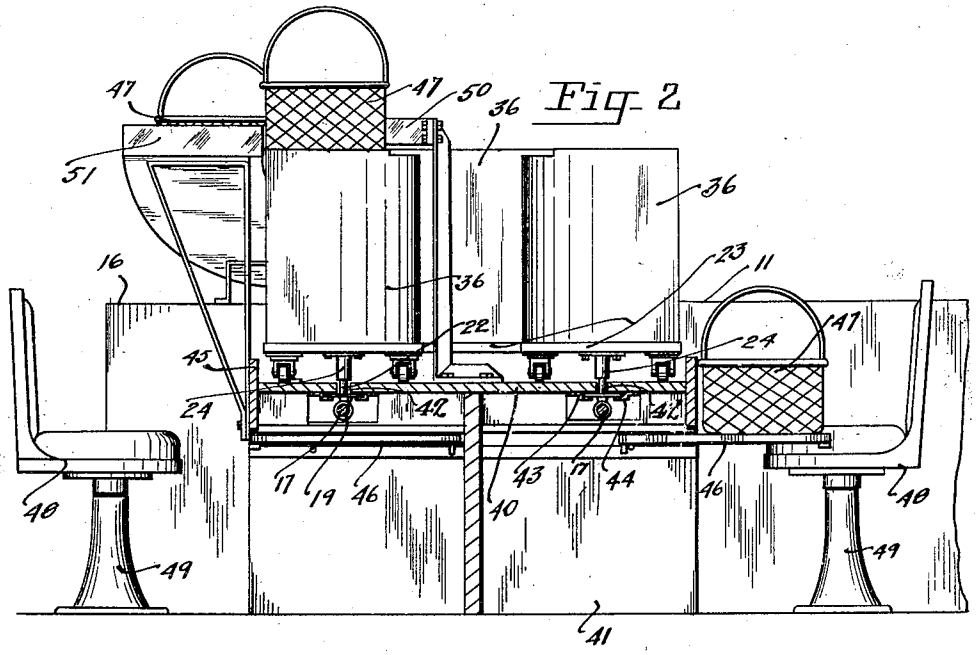

Fig. 2

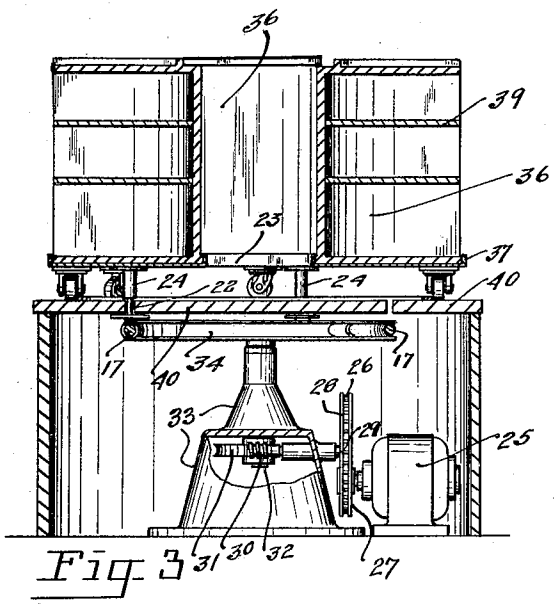

Fig. 3

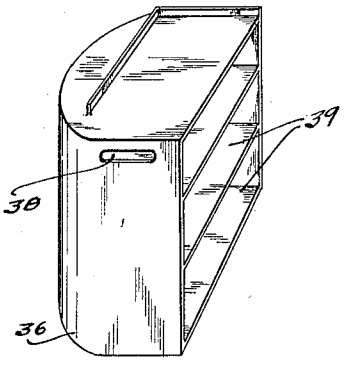

Fig. 11.

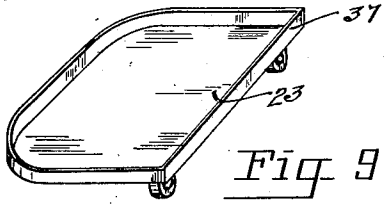

Fig. 9

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CONVEYER FOR SELF SERVING STORES

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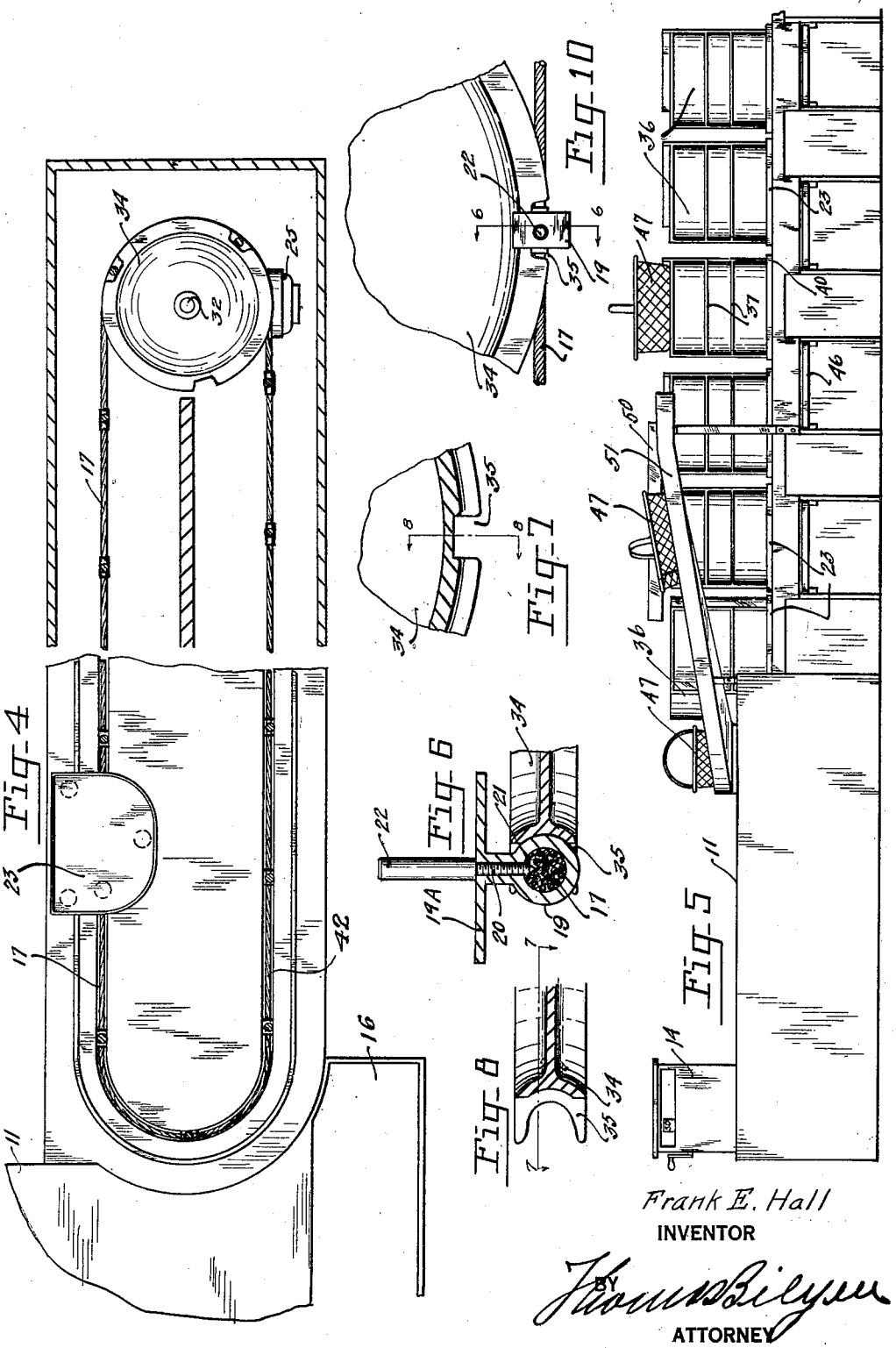

Patented Feb. 2, 1932 1,843,280

UNITED STATES PATENT OFFICE

FRANK E. HALL, OF BOISE, IDAHO

CONVEYER FOR SELF SERVING STORES

Application filed July 22, 1930. Serial No. 469,681.

My invention is primarily intended for use in conjunction with self serving stores where the stock of merchandise, or samples of stock of merchandise, are to be carried past the customer, for display and purchase.

The invention consists primarily of an elevated platform having removable display units placeable upon the platform and each of which is adapted for being driven by attachment to an endless driving element, as a cable. The display units are preferably made of a size to facilitate individual handling of the same in order that the display unit may be easily placed upon and removed from placement from the endless driving element.

The device is so arranged that the customers are seated in spaced relationship with each other and adjacent the line of travel of the endless conveyer upon which the units containing the merchandise are placed, in order that the total display carried by the endless conveyer will pass the customer, or patron while in a seated position to thereby enable him to remove the purchased articles from the conveyer, as purchased, the patron being required to leave the establishment and go past a wrapping counter and pay station. Where a plurality of endless conveyers are disposed within the same establishment, a secondary conveyer may be placed at the rear of the merchandising establishment which runs transversely of the primary display conveyers and from which the purchaser makes his selection.

The purpose of the secondary transfer conveyer is to permit the serving of the primary conveyers. The receptacles in which the merchandise is to be displayed are comprised of units having shelves disposed therein to facilitate the making of as large a display as possible of the merchandise to be displayed and sold.

The primary object of my invention is to provide facilities for carrying merchandise for sale past the customer to facilitate the sale and to increase the total volume of merchandise within a limited space.

A further object of my invention consists in providing means for the display and sale of merchandise that will facilitate the displaying of the articles, most in demand, at different periods of the day.

A further object of my invention consists in providing merchandising facilities through the use of which the merchandise may be most attractively displayed and thereby increase the volume of sales that will result within a given period of time.

And a still further object of my invention consists in providing facilities for the displaying of merchandise composed of individual units, each of which may be placed upon and be removed from the display counter and from the endless conveyer to which the same is to be attached.

With these and incidental objects in view, the invention consists in certain novel features of construction and combination of parts, the essential elements of which are set forth in the appended claims, and a preferred form of embodiment of which is hereinafter shown with reference to the drawings which accompany and form a part of this specification.

In the drawings:

Fig. 1 is a top, plan view of the merchandise establishment illustrating three units of primary endless conveyers parallelly disposed within a merchandising and sales room and illustrating a secondary conveyor disposed within the store room that is disposed adjacent the sales room and runs transversely of the primary conveyors.

Fig. 2 is a sectional, end view of one of the primary conveyers, the same being taken on line 2—2 of Fig. 1, looking in the direction indicated.

Fig. 3 is a sectional, end view of the assembled device, the same being taken on line 3—3 of Fig. 1 looking in the direction indicated.

Fig. 4 is a fragmentary, top plan view, partially in section, of the assembled device.

Fig. 5 is a fragmentary, side view of the front end of the assembled device.

Fig. 6 is a fragmentary, sectional, end view of the endless conveyer cable, the sprocket about which the same passes and the conveyer stub pin to which the display

units may be manually attached and detached.

Fig. 7 is a fragmentary, sectional, top plan view of a portion of the sprocket about which the endless conveyer is trained, the same being taken on line 7—7 of Fig. 8, looking in the direction indicated.

Fig. 8 is a fragmentary, sectional, side view of the sprocket about which the endless conveyer passes, the same being taken on line 8—8 of Fig. 7, looking in the direction indicated.

Fig. 9 is a perspective, end view of the wheel supported carriage into which the display unit is placed for being transferred.

Fig. 10 is a fragmentary, top plan view of the sprocket about which the endless conveyer passes and illustrating the cable and the stool in place thereupon, and as being passed about the sprocket.

Fig. 11 is a perspective, end view of the display cabinet shown removed from the supporting carriage.

Like reference characters refer to like parts throughout the several views.

I preferably place my device within a store room 1, having a plurality of primary conveyers parallelly disposed therein and spaced apart as illustrated at 2, 3 and 4. The patron of the establishment enters through an entrance door 5 that is disposed central of the store front 6. Passageways 7, 8, 9 and 10 are provided where three primary display conveyers are to be installed in a single storeroom. Where one, or more, are used a passageway is provided to permit customers being admitted to either side of the conveyer. Wrapping counters and a pay station 11 are provided at the head of each of the endless conveyers with a well 12 being provided within the wrapping head. A gate 13 prevents the admission of the public into the well. A cash register 14 is disposed adjacent the well with a receptacle 15 being provided at one side of the wrapping counter and a receptacle 16 is provided at the oppositely disposed side of the counter upon which the selected articles are placed to facilitate the wrapper for inspecting and displaying the same or for the maintaining of popular sellers thereupon during the rush period. An endless conveyer, as a cable 17, is trained about sprockets which are disposed at the oppositely disposed ends of the display counter and about which the endless conveyer 17 is made to pass. Stools 19 are placeable in spaced relationship upon the cable and are adapted for being fixedly positioned thereon by any suitable fastening means, as by having a stem 20 threadably disposed therein, the point 21 of the stem may be made to engage and to fixedly position the stools upon the cable. A stub shaft 22 upwardly extends from the stool to which the carriage 23, illustrated in Fig. 9 may be removably disposed. A socket 24 downwardly extends from the under side of the carriage and is adapted to be removably disposed about the stub shaft 22.

A prime mover 25 is provided for driving the conveyer and I have found splendid results may be obtained wherein a silent chain 26 is trained about a sprocket 27 disposed upon the armature of the prime mover and a sprocket 28 that is disposed upon the worm shaft 29. A worm shaft 30 is adapted for coacting with the worm wheel 31 disposed upon the vertical shaft 32 that is journaled within the housing 33 which not only journals the shaft 32 but also the worm wheel shaft 29.

The driving sprocket 34 that is disposed upon the upper end of the shaft 32, has cutouts 35 disposed in the outer periphery thereof into which the stools 19, secured to the cable 17, are made to engage.

The stools are placed upon the cable in definite spaced relationship with each other in order that the stools, when engaged within the cutouts, may be utilized as the driving element for driving the cable.

Display cabinets 36 are adapted for placement within the carriage 23, the carriage 23 having an upturned rim 37 for maintaining the display cabinets 36 in precise placed position. Hand holes 38 are provided at opposite ends of the cabinet to facilitate handling of the same. Shelving 39 is provided within the cabinet to facilitate the displaying of the products therein and thereupon.

A counter 40 is provided that is supported upon a skirt 41 that extends downward from the counter and stiffens and supports the same. An endless slit 42 is provided and extends through the top of the counter through which the stub shafts 22 pass. Guides 43 and 44 are disposed at either side of the slit and under the counter into which the bearing plates 19A of the stools 19 are made to engage in order to maintain the stool and the cable in precise position. A barge board 45 upwardly extends around the counter therefrom. Secondary pull counters 46 are disposed in spaced relationship under the counter, the purpose of which is to enable the customer to place a receptacle, as a basket 47, thereupon. Seats 48 are disposed adjacent each side of the display and the pull counters. The seats are preferably of the type adapted to swivel about a base 49 to thereby accommodate the greatest number adjacent the display.

When the basket has been filled, or the purchase has been completed, the same may be carried by the purchaser to the wrapping counter and pay station, or it may be placed upon one of the display cabinets 36 and carried therealong until the same reaches the ejector bar 50 that is disposed in the line of travel of the basket which automatically re-

moves the same to the inclined chute 51 from where the same slides directly upon the wrapping counter.

A secondary counter and transfer 52 is disposed transversely of the store room 53 and transversely of the filling end 54 of each of the display counters. A work aisle 55 is provided between the secondary cross transfer from where the display cabinets may be taken, when filled, and placed upon the primary endless display counters and conveyers.

While the form of mechanism herein shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein shown and described, as it is susceptible of embodiment in various forms, all coming within the scope of the claims which follow.

What I claim is:

1. In a device of the class described, the combination with a display counter, a power driven endless cable rotatably disposed centrally underneath the counter, an endless opening disposed centrally through the top of the display counter and in direct alignment with the cable, a plurality of stools detachably attached in spaced relation about the cable, a stub upwardly extending from each stool and through the opening in the counter, guides disposed upon the under side of the counter immediately adjacent the opening, said guides being adapted to maintain the stools in precise alignment, and a carriage removably disposed upon each of the stub shafts.

2. In a device of the class described, the combination with a display counter, sprockets disposed in spaced relation and in the same horizontal plane underneath the counter, one of said sprockets being the driving sprocket and having a plurality of cut outs uniformly disposed within its outer periphery, an endless cable disposed about the sprocket and adapted to coact with the cut outs, a plurality of stools disposed in spaced relationship about the cable, the uniformity in the spacing of the cut outs in the driving sprocket and the placement of the stools on the cable being identical, means for moving a plurality of carriages upon the counter, and means for permitting the removal of any of the carriages from the first mentioned means.

3. In a device of the class described, the combination with a display counter, sprockets disposed under the oppositely disposed ends of the counter, an endless cable disposed about the sprockets, means disposed within the outer periphery of one of the sprockets for rotating the endless cable, means secured to the cable adapted to coact with the driving means disposed within the sprocket, the means disposed upon the cable having stub shafts upwardly extending therefrom, an endless opening disposed centrally of the counter through which the stub shafts pass, guides disposed underneath the counter immediately adjacent the opening for maintaining the means disposed upon the cable in precise position, and a carriage adapted to ride upon the upper surface of the counter removably disposed upon each one of the stub shafts.

4. A carriage to be used with a device of the class described comprising a body element having an upwardly extending rim, rollers disposed at each corner of said carriage, and a socket centrally disposed and downwardly extending from the under side of the carriage.

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