

May 13, 1952

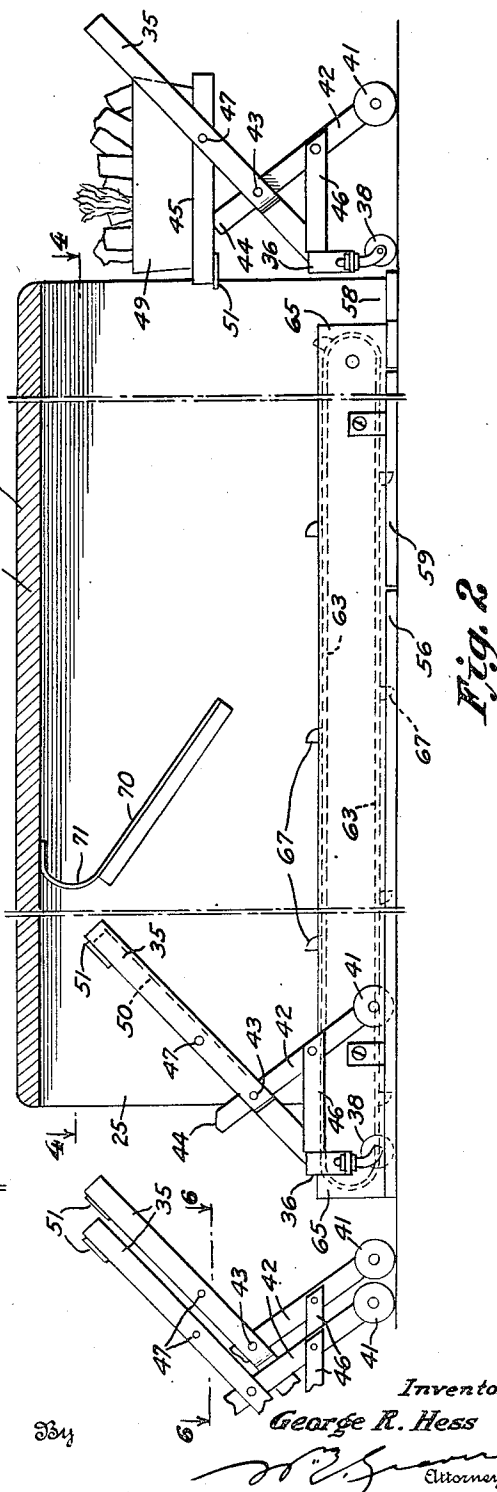
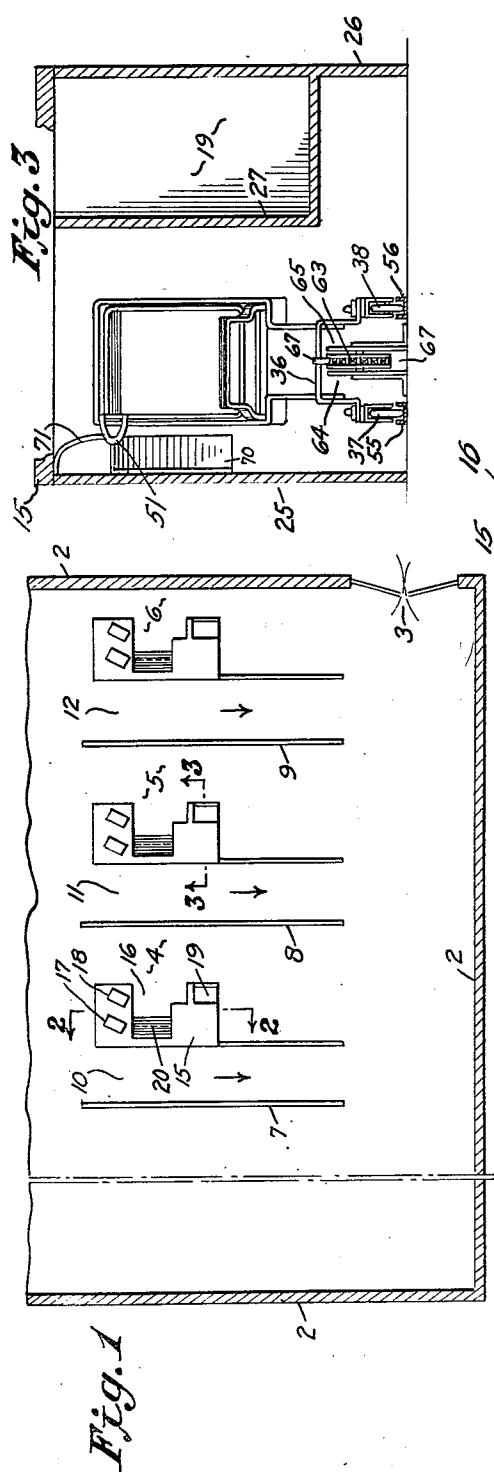
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2,596,686

CHECKING STATION FOR SELF-SERVICE STORES

Filed April 24, 1946

4 Sheets-Sheet 1



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CHECKING STATION FOR SELF-SERVICE STORES

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4 Sheets-Sheet 2

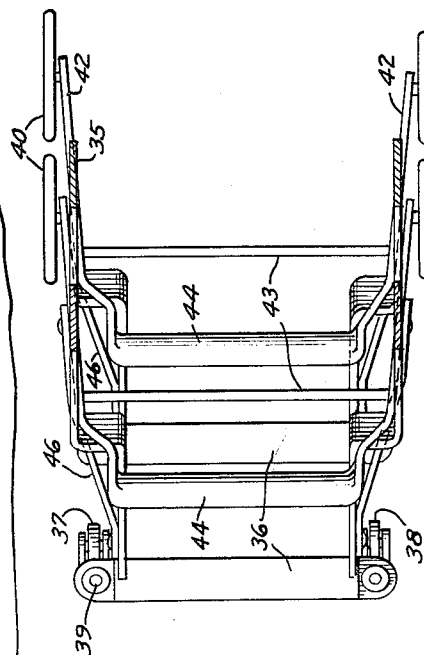
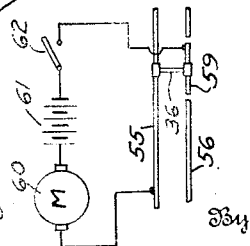
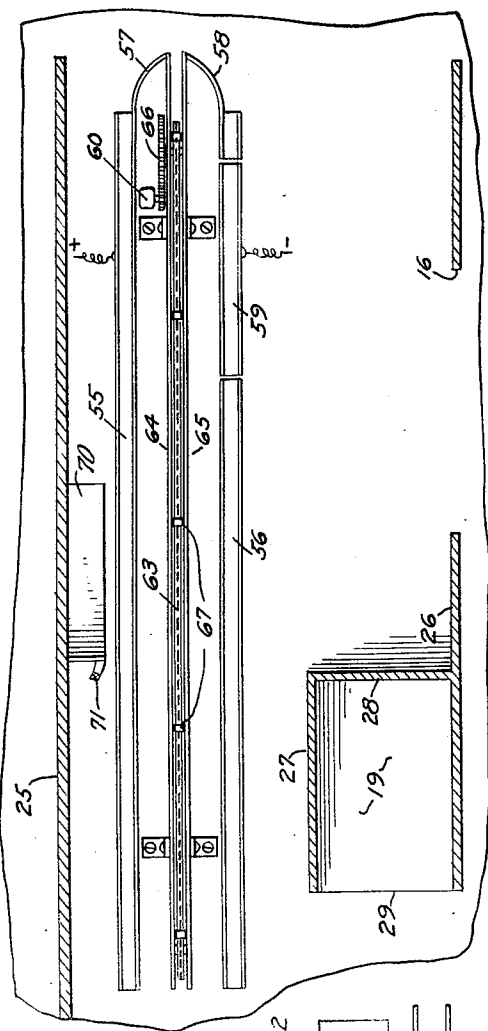


Fig. 6

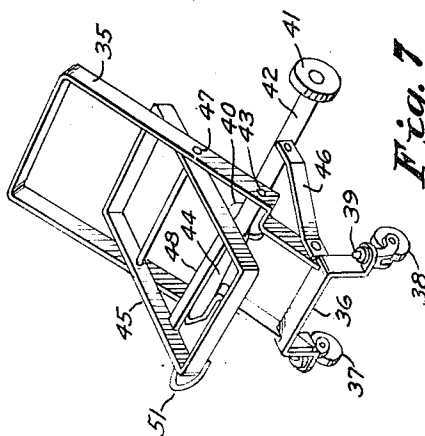


Fig. 7

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4 Sheets-Sheet 4

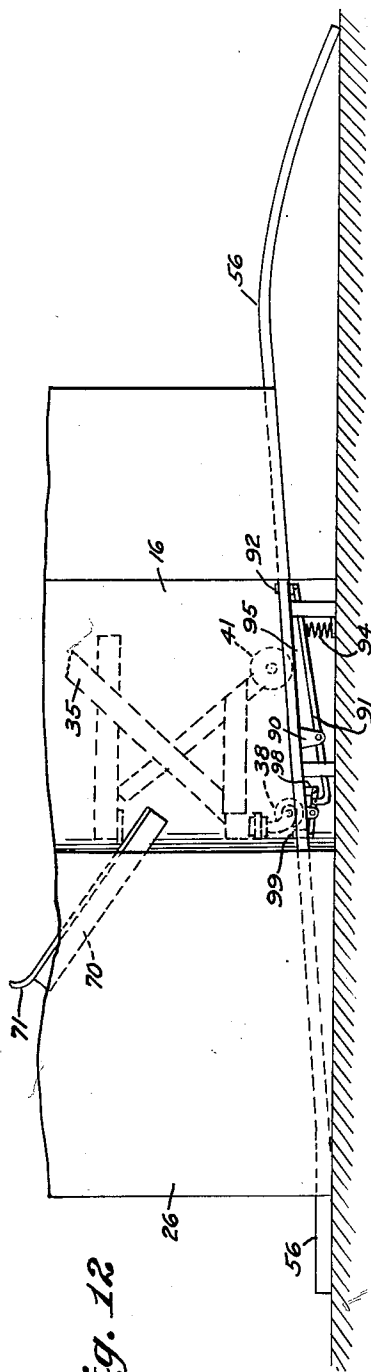


Fig. 12

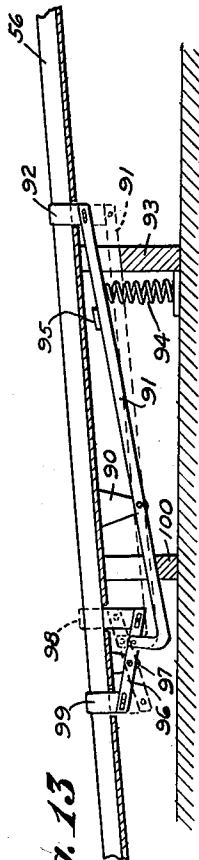


Fig. 13

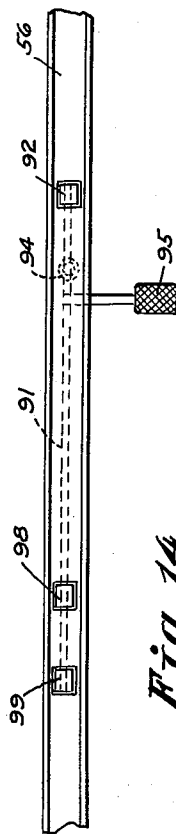


Fig. 14

Fig. 16

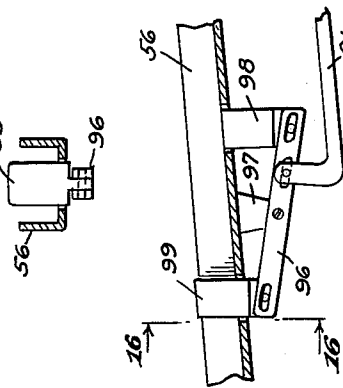


Fig. 15

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UNITED STATES PATENT OFFICE

2,596,686

CHECKING STATION FOR SELF-SERVICE STORES

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16 Claims. (Cl. 186—1)

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This invention relates to store service equipment and more particularly to a checking station for self-service stores, having for its object to provide a construction which is simple in parts, more efficient in operation, and less costly to install and to maintain than those heretofore proposed.

With these and other objects in view the invention resides in the novel details of construction and combinations of parts as will be disclosed more fully hereinafter and particularly covered by the claims.

Referring to the accompanying drawings forming a part of this specification and in which like numerals designate like parts in all the views:

Fig. 1 is a schematic representation of a portion of a store to which this invention has been applied;

Fig. 2 is a vertical longitudinal sectional view taken as on the line 2—2 of Fig. 1 and looking in the direction of the arrows;

Fig. 3 is a vertical transverse sectional view taken as on the line 3—3 of Fig. 1 and looking in the direction of the arrows;

Fig. 4 is a horizontal sectional view taken as on the line 4—4 of Fig. 2 and looking in the direction of the arrows;

Fig. 5 is a wiring diagram of an electrical circuit employed with the construction shown in Fig. 4;

Fig. 6 is a horizontal sectional view of two nested carriages, said view being taken as on the line 6—6 of Fig. 2 and looking in the direction of the arrows;

Fig. 7 is a perspective view of a form of carriage for use in connection with this invention;

Fig. 8 is a side elevational view of a checking station at which there is provided a modification of the carriage moving mechanism;

Fig. 9 is an end view of the parts shown in Fig. 8;

Fig. 10 is a perspective view of one end of the mechanism illustrated in Fig. 8 for moving a carriage;

Fig. 11 is a detail view illustrating a means for engaging a carriage for moving the same in accordance with the modification shown in Fig. 8;

Fig. 12 is a side elevational view of the checking station at which there is provided another modification of a carriage moving means;

Fig. 13 is a detail longitudinal view partly in section illustrating the carriage arresting mechanism operated by the checker and for use in connection with the modification shown in Fig. 12;

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Fig. 14 is a horizontal plan view of the parts illustrated in Fig. 13;

Fig. 15 is an enlarged detail view of one of the carriage arresting members illustrated in Fig. 13;

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Fig. 16 is a transverse sectional view taken as on the line 16—16 of Fig. 15 and looking in the direction of the arrows.

This invention is intended for use in stores where the customer picks up a wheeled carriage, places an empty basket on the carriage, and trundles the carriage through the store, selecting from the display stands such articles of merchandise as he desires to purchase and which articles he places in said basket. The carriage with its load of selected merchandise is then trundled to a checking station where a store employee (checker) removes the articles of merchandise from the carriage, evaluates the price of the goods or merchandise, and accepts payment from the customer for the merchandise selected and checked. The basket, emptied of its merchandise, and the carriage from which it was removed, are then delivered to areas where they may be reused by following customers. Such a system of merchandising is commonly known as self-service, the customer waiting upon himself in the selection of the merchandise, thereby reducing the number of employees that would otherwise be required in the store.

This invention is directed to that part only of such merchandising which deals with the presentation of the selected goods to the checker, and the handling of the carriage, basket, and goods by the checker, in a manner which materially expedites and renders more efficient this phase of the merchandising operations, and the delivery of the empty baskets and carriages to store areas in manners materially lessening the floor space heretofore occupied by such empty baskets and carriages, the such delivery also making easier the selection by a following customer of a carriage and basket for use by him in his trip through the store for the merchandise that he is seeking. Also by this invention the loaded baskets and carriers are orderly presented by the customer to the checking station, whereby the usual and present day interference and congestion, with respect to the loaded carriages of other customers, is avoided at the receiving end of the checking station.

In Fig. 1 there is represented more or less diagrammatically a portion of a self-service store provided with a plurality of checking stations, the walls of such store being indicated by the

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numeral 2 with the entrance door shown at 3. The checking stations are substantial duplicates of each other and are generally identified by the numerals 4, 5 and 6, with the usual railings 7, 8 and 9 associated therewith for providing the aisles 10, 11 and 12 in front of the checking stations for the passage of the customers, the direction of movement of the customers therein being indicated by the arrows.

Each checking station comprises a table or counter such as 15 provided with an opening or bay such as 16 within which the checker stands, one end of said counter being provided with the usual weighing scale indicated at 17 and the cash register indicated at 18, and the other end of the counter is provided with a bin 19 into which the checker deposits the empty basket after the merchandise has been abstracted therefrom and checked for its evaluation, the scale, the cash register and said bin being located within easy reach of the checker, as well understood. The opening or bay 16 extends substantially across the width of the counter, to overlie the path within which the customer's carriage passes through the checking station, the tracks for guiding said carriage and the conveyor chain for motivating said carriage through the checking station being generally indicated at 20 and which will be described hereinafter in detail.

The counter 15 is supported by suitable opposed walls such as 25 and 26, the bin 19 having a floor but being freely open at its top, and boxed on three of its vertical sides as by the partitions 27 and 28 and the counter-supporting wall 26, the fourth vertical side of the bin being open as indicated at 29 (see Fig. 4) in order that an empty basket contained therein may be easily abstracted by an entering customer.

The carriage preferably is of the usual folding metallic frame type substantially as shown in Fig. 7, and comprises a relatively fixed inverted U-shaped handle portion 35 extending angularly downwardly and forwardly and terminating in a bridge-like front truck portion 36 having on its opposite side ends a pair of guiding wheels 37 and 38 each of which is of the nature of a caster having a vertical stem 39 which is mounted in a bearing in the end of said truck whereby said stem may have revolution about its longitudinal axis in a manner that will be readily understood, said wheels being spaced apart a certain distance.

The rear wheels such as 40 and 41 are rigidly mounted as followers on the ends of the bracket members such as 42, which bracket members are joined as at 43 to the handle member of the carriage but extend therebeyond upwardly and forwardly to terminate in a cross support 44 for the basket shelf 45, a brace such as 46 on each side of the carriage rigidly interconnecting bracket members 42 with the lower forward ends of the handle portion of the carriage whereby the rear wheels are fixedly spaced rearward of the front wheels. Said rear wheels are spaced laterally from each other a distance which is greater than the corresponding spacing of the front wheels whereby two similarly constructed carriages may be nested one within the other, with the front wheels of the following carriage disposed within the space between the rear wheels of the forward carriage.

The basket shelf 45 is pivotally mounted as at 47 to the handle portion of the carriage at a point thereon which is substantially in the horizontal plane of the cross support 44, the pivot 47 preferably comprising a rod which extends across

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said shelf and has bearings in the handle portion 35, said rod together with another member such as 48 extending across said shelf, constituting means engaging and supporting the bottom of a basket 49. Said shelf by such pivotal mounting may be swung upwardly about the axis of said mounting into a folded position within the handle portion as indicated in Fig. 2 by the dotted line 50 to make possible the nesting of one carriage within another carriage as shown at the extreme left of said figure of drawing. At one of the forward corners of said shelf and extending laterally therefrom is an arm 51 for a purpose that will be disclosed hereinafter, said arm additionally serving as a stop when said shelf is folded upwardly into the handle portion 35.

Extending through the checking station and secured to the floor is a pair of spaced metallic tracks identified by the numerals 55 and 56, preferably formed of channel shaped structural members, and in which the forward wheels of a carriage are adapted to travel. Guide means are provided to insure said wheels entering the end of said tracks, in Fig. 4 the such means being indicated as arcuate members 57 and 58 in alignment at one end with the inner flanges of said tracks, the opposite ends being curved inwardly as indicated.

One track such as 55 is continuous, but the other track comprises plural sections to provide one section of track such as 59 which is disjoined with respect to the other sections. The reason for this is to enable an electric current to be passed through the continuous track 55, but only into and through the section 59 of the opposite track, said current affecting the circuit illustrated in Fig. 5 and comprising an electric motor 60, a source of current 61, and a switch 62, which may be of push-button type, said switch being located for easy manual operation by the checker. The forward truck 36 including the metallic front wheels of a carriage, constitutes a path for said current when the said front wheels are in engagement with the track section 59.

An endless conveyor chain, generally identified by the numeral 63 and disposed in a vertical plane, is positioned intermediate of and coextensive with the tracks 55 and 56, said chain being housed between vertical plates 64 and 65 supported by the floor, said plates providing bearings for the chain sprockets. The shaft of one of said sprockets has any suitable geared connection, indicated at 66, with the shaft of the electric motor 60, which motor need only be powerful enough to move said chain and, through said chain, a loaded carriage (a $\frac{1}{20}$ H. P. motor may be found sufficient), said chain being provided at spaced intervals with a plurality of outwardly directed dogs 67 for engaging the front truck of a carriage, all as will be clear from Figs. 2, 3 and 4.

Thus it will be understood that the customer brings his loaded carriage to and pushes the same under the counter 15, in which position of the carriage one of the front wheels thereof will be resting upon the track section 59, and then takes his place in the aisle in front of the checking station. When the checker has finished with the preceding customer, he operates and maintains closed the switch 62 thereby energizing the conveyor circuit and activating the chain 63, whereupon a dog 67 will be advanced by the moving chain into contact with the front truck 36 of the carriage which has just been placed by

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the waiting customer and cause the loaded carriage to be propelled forwardly.

However, the length and position of the track section 59 is such that forward impetus will be given said carriage to a degree only sufficient to cause it to roll to and come to a stop with its contained loaded basket in substantial registry with the bay 16 for operation thereupon by the checker; the checker if necessary may reach forwardly and continue or retard the movement of said carriage if the basket is not in such registry. As soon as the front wheel of the carriage passes from the enlivened track section 59, onto the "dead" section of the track, the electric circuit will be broken automatically through the conveyor circuit and stop further movement of the chain, at which time the checker releases and thereby opens said switch.

During the movement of said conveyor chain, the preceding unloaded carriage also will be propelled forwardly from its position at the bay of the checking station and, by successive operations of the chain, will be ultimately moved to the discharge end of the conveyor where it will automatically nest with a carriage in front of it, as indicated at the extreme left end of Fig. 2. The rear wheels of each carriage, being more widely separated in a transverse direction of the carriage than the front wheels, will not engage the tracks 55 and 56 but will be disposed to the outer side thereof and hence they will not affect the conveyor circuit.

With a loaded carriage stopped in registry with the checker's bay, the checker lifts successively the individual items of merchandise from the basket onto the upper surface of the counter and performs his weighing and evaluation operations, thereby making unnecessary the heretofore and usual lifting strain by the checker of the entire weight of a loaded basket, which sometimes is a considerable weight, and after evaluation operation the merchandise may be bagged and removed by the customer, and the empty basket transferred by the checker from its carriage to the bin 19 to be nested or stacked therein with a preceding empty basket. Then the checker again operates and maintains closed the switch 62, which causes activation of the chain to propel the empty carriage forward and to bring the next loaded carriage of the following customer into registry with the checking bay for a repetition of the operations just recited. The chain dogs are so spaced from each other that, when a carriage is in registry with said bay, only one following carriage can be positioned therebehind with its front wheel on the track section 59 ready for mechanical forward propulsion when the conveyor circuit is next closed.

While an unloaded carriage is being mechanically propelled forwardly from the checker's bay, the basket shelf 45 thereof is automatically tilted about its pivotal axis 47 to cause said shelf to become folded or nested within the confines of the handle portion 35 of said carriage as indicated by the dotted line 50 in Fig. 2. Any suitable means may be provided for this purpose, but in the drawings there has been illustrated an obliquely disposed cam member 70 secured to the inner surface of the front wall 25 of the checking station, said cam so positioned as to engage the arm 51 extending laterally from a front corner of the basket shelf and, during the forward propulsion of the unloaded carriage, cause said arm to ride upwardly on the inclined surface of said cam, disengagement of said arm with said cam occurring at the limit of its upward

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travel thereon, at which time the pivotal axis of said shelf is passing beyond the upper extremity of said cam, whereupon the shelf will flip over and fall within the confines of the carriage handle.

To insure this flip-over movement, the upper end of said cam is provided with a member 71 which is arcuately or angularly directed inwardly as indicated in Fig. 3 toward the cam-supporting wall 25 so that the arm 51 will smoothly ride upwardly and off of the edge of the member 71. With the basket shelf thus folded into the handle of the carriage, the advancing fore part of the carriage is free to nest into the rear portion of a preceding carriage. Such nested unloaded carriages will accumulate or stack successively in the open floor space to the left of the checking station, the foremost nested carriage being available for pick-up by an incoming customer who also picks up the topmost empty basket from the bin 19 and places it on the carriage after unfolding the basket shelf thereof down onto the shelf support 44 of his picked-up carriage.

The advantage of delivering the unloaded carriages in nested condition from the checking station is to minimize the floor space occupied by said carriages, which floor space under present operating methods is considerable because the loaded baskets are removed from their carriages at the receiving end of the checking station, and either the customer or the checker shoves the unloaded carriages promiscuously from said station to make room for the next loaded carriage. This results in haphazard arrangement of the unloaded carriages on the floor, said carriages becoming inter-hooked with each other and separated with difficulty and effort, and having to be trundled by a store employee to that part of the floor where the incoming customers may pick them up. According to this invention, on the other hand, all carriages are fed in an orderly manner to and into the checking station and automatically leave said station in nested compact arrangement so that the foremost carriage can be rolled easily by an incoming customer from out of its nested position for immediate use, thereby saving not only floor space, and the labor of a store employee from other duties to transport an unloaded carriage to the pick-up location, but also minimizing if not actually preventing material damage to carriages incident to the present haphazard knocking about and inter-hooking thereof, and preventing possible bodily injury to a customer in his walking about and between such haphazardly disposed and inter-hooked carriages in his effort to abstract one for his use.

Referring to the modification illustrated particularly in Figs. 8, 9, 10 and 11, manual means are provided instead of electrical means for propelling a loaded carriage through the checking station, said manual means comprising a slidable frame generally identified by the numeral 75 and manipulated through the instrumentality of the handle 76 by the checker within the bay 16, said frame being disposed generally for sliding movement in a horizontal plane. Said frame comprises the side members 77 and 78 interconnected at one end by an elevated bridge 79 having secured thereto a pair of similar pivoted spring-mounted dogs or detents 80 which are adapted to engage the upper crosspiece of the handle portion 35 of a carriage, so that said

detents will propel the carriage through the checking station when the frame is moved to the left, as seen in Fig. 8, but will yield due to their pivoted spring mounting and pass over the upper cross piece of the handle portion of the next following carriage when said frame is moved in the opposite direction, as will be readily understood.

Said side members are spaced apart a distance sufficient to permit a carriage to pass therebetween and, on their outer sides, carry rollers such as 81 at spaced intervals, which rollers are adapted to travel in channel-like tracks. That is to say, one of the tracks 82 is secured in any suitable manner to the wall 25 supporting the counter 15, and the other and opposite track 83 is supported preferably by brackets such as 84 from the floor, the track 83 if desired being made in plural sections as indicated in Fig. 8, said sections disposed on opposite sides of the bay 16. Stops such as 85 are provided at the extreme ends of said tracks in order to limit the sliding movement of said frame.

Thus it will be understood that after a loaded carriage has been trundled by the customer to a position beneath the counter 15, with its front wheels engaged in the heretofore described floor carriage tracks 55 and 56 to control the guiding of said carriage through the checking station, the checker will move the sliding frame 75 to its extreme right-hand position as seen in Fig. 8 to cause the detents 80 to snap over and behind the handle portion 35 of said carriage. Then a reverse movement of said frame is given by the checker, whereupon said detents will cause the loaded carriage to be propelled forwardly, the such forward movement being halted when the frame contacts a stop 85, at which time the loaded basket of the carriage will be positioned at the counter opening or bay 16, to enable the checker to abstract the merchandise as well as the basket from the carriage through said opening in the counter.

After the checker has evaluated such merchandise, and a following loaded carriage has been positioned by the next customer under said counter, the checker slides the frame 75 again to the right as seen in Fig. 8 so that the detents thereof may similarly engage the handle portion of said following carriage, and then slides the frame reversely to propel that carriage to the counter opening for removal of its merchandise. Said following carriage will contact, in its forward movement, the previously unloaded carriage and propel the same forwardly beneath the counter. The inclined cam 70 previously described may also be provided in this modification of construction to pivotally move the emptied basket shelf of a preceding carriage into its folded position within the handle portion, to permit the ultimate nesting of unloaded carriages at the discharge end of the checking station. Since this modification contemplates manual propulsion of the carriages, the electrification of the floor tracks 55 and 56 need not be provided.

The modification illustrated in Figs. 12 to 16 contemplates the propulsion of the carriages through the checking station under the urge or influence of gravity instead of by the electrical and/or manual means heretofore described. According to this modification the floor tracks such as 55 and 56 for guiding the carriage through the checking station, are mounted upon a ramp or support which is inclined with respect to the floor in an amount sufficient to cause a

loaded carriage to travel forwardly and downwardly thereon under the urge of gravity, the elevated ends of said tracks at the receiving end of the checking station being connected with the floor level of the store by any suitable ramp or reversely inclined track sections, as will be readily understood with particular reference to Fig. 12. Any suitable means are provided, under the control of the checker, for limiting the forward movement of a loaded carriage on the inclined tracks, whereby to insure a halt of a loaded carriage with its basket in registry with the counter opening or bay 16.

One such practical means is illustrated in these figures of drawings, comprising stops which are movable by the checker through the web or bottom portion of the track. That is to say, there is provided a bracket 90 depending from the under surface of a track for pivotally supporting the lever 91 whose rear end pivotally engages a stop 92 adapted for vertical reciprocal movement through an aperture in the bottom of the track, this rear end of the lever being limited in its downward extent by an abutment 93 and being under the tension of the heavy duty coil spring 94, and provided with a laterally extending foot treadle 95 for manipulation downwardly by the foot of the checker so as to move said stop downwardly through said aperture until the top surface of said stop comes into substantially flush registry with the wheel engaging surface of said track, as when said lever reaches said abutment.

The opposite or forward end of said lever has a pivotal connection with a link or second lever 96 pivotally supported on another bracket 97 also depending from the under-side of said track, the opposite ends of said link having pivotal connection respectively with stops 98 and 99 which are substantial duplicates of the stop 92 and reciprocate vertically in apertures in the bottom of the track in a manner similar thereto. The lever 91 is connected to said link at a point intermediate the bracket 97 and the rearmost stop 98, as a result of which construction, when the lever is oscillated in one direction, the stops 92 and 99 will be in their elevated positions, and extending above the bottom of said track, when the stop 98 is in its lowered position and flush with the wheel engaging surface of the track as illustrated in Figs. 13 and 15, but when said lever is reversely oscillated the stop 98 will be elevated and stops 92 and 99 will be depressed. These stops thus are alternately and reciprocally movable by the operating lever 91, and may be applied to one or both of the carriage tracks, only one such application being herewith illustrated in the interest of simplicity. A second abutment 100 may be provided if desired for limiting the downward movement of the left end of said lever.

By this modification of construction it will be understood that the customer trundles his loaded carriage up onto the elevated end of the tracks and advances said carriage under the counter until a front wheel of said carriage contacts the rearmost stop 92, and then takes his place in the aisle in front of the checking station. The checker then exerts downward pressure upon the foot treadle 95 to oscillate lever 91 about its fixed pivot at bracket 90, which causes stop 92 to be depressed and stop 98 elevated. This permits the loaded carriage to roll, under the urge of gravity, slowly down the inclined tracks and come to a halt when its front wheel contacts

elevated stop 98 which is so positioned that the carriage at that time will be in registry with the counter opening or bay 16.

The checker then removes his foot from the treadle, whereupon the strong spring 94 oscillates lever 91 in a reverse direction, thereby raising stops 92 and 99 but depressing stop 98, thus permitting slight forward advance of the loaded carriage until its wheel contacts the raised stop 99. Stops 98 and 99 are relatively closely spaced from each other, but stop 92 is spaced from them a distance sufficient to permit the loaded carriage to roll from its customer-placed position to the open bay 16. The checker then performs his unloading and evaluation operations, but permits the unloaded carriage to remain in the open bay until the next following loaded carriage has been positioned by the new customer at the receiving end of the checking station with its front wheel in halted contact with the rearmost and elevated stop 92.

The checker then depresses treadle 95 which lowers stops 92 and 99 but elevates stop 98, whereupon the unloaded carriage at the bay is free to roll forward toward the discharge end of the checking station, and the new loaded carriage rolls under the urge of gravity downwardly into the open bay to be halted therein by stop 93. The checker then releases the treadle, whereupon the spring 94 oscillates lever 91 to depress stop 93 but to elevate stops 92 and 99, thereby permitting the new loaded carriage to roll forward the short distance until halted by stop 99. The checker then performs his unloading and evaluation operations incident to this second or new carriage. In the forward movement of an unloaded carriage, the basket shelf thereof is pivotally moved into its folded position by the inclined cam 73 as heretofore described, as the result whereof said carriage may nest with a preceding carriage.

It is obvious that those skilled in the art may vary the details of construction and arrangements of parts without departing from the spirit of this invention, wherefore it is desired not to be limited to the exact foregoing disclosure except as may be required by the claims.

What is claimed is:

1. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter provided with an opening at the position occupied by the clerk, and means for causing a carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening.

2. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, tracks disposed beneath said counter and extending longitudinally thereof, said tracks adapted

to receive thereon at least two of the wheels of a carriage for guiding the carriage through said station, said counter provided with an opening disposed over said tracks at the position occupied by the clerk, and means governed by the clerk for causing the carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening.

3. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, tracks disposed beneath said counter and extending longitudinally thereof, said tracks adapted to receive thereon at least two of the wheels of a carriage for guiding the carriage through said station, said counter provided with an opening disposed over said tracks at the position occupied by the clerk, and electrically activated means cooperating with said track and the carriage wheels engaged therewith for causing a carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening.

4. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, tracks disposed beneath said counter and extending longitudinally thereof, said tracks adapted to receive thereon at least two of the wheels of a carriage for guiding the carriage through said station, said counter provided with an opening disposed over said tracks at the position occupied by the clerk, and electrically activated means governed by the clerk and cooperating with said tracks and the carriage wheels engaged therewith for causing the carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening.

5. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having metallic wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, metallic tracks disposed beneath said counter and extending longitudinally thereof, said tracks adapted to receive thereon at least two of the wheels of a carriage for guiding the carriage through said station, an electric circuit comprising one of said tracks, a section of the other of said tracks, an electric motor, the carriage wheels engaging said tracks, a source of current, and a switch under the control of the

clerk, said counter provided with an opening disposed over said tracks at the position occupied by the clerk, and means for causing a carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening, said means comprising a member activated by said motor upon the closing of said switch.

6. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having metallic wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, metallic tracks disposed beneath said counter and extending longitudinally thereof, said tracks adapted to receive thereon at least two of the wheels of a carriage for guiding the carriage through said station, an electric circuit comprising one of said tracks, a section of the other of said tracks, an electric motor, the carriage wheels engaging said tracks, a source of current, and a switch under the control of the clerk, said counter provided with an opening disposed over said tracks at the position occupied by the clerk, and means for causing a carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening, said means comprising a member activated by said motor upon the closing of said switch, said means operative only when a carriage wheel is in engagement with said track section.

7. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having metallic wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, metallic tracks disposed beneath said counter and extending longitudinally thereof, said tracks adapted to receive thereon at least two of the wheels of a carriage for guiding the carriage through said station, an electric circuit comprising one of said tracks, a section of the other of said tracks, an electric motor, the carriage wheels engaging said tracks, a source of current, and a switch under the control of the clerk, said counter provided with an opening disposed over said tracks at the position occupied by the clerk, and means for causing a carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening, said means comprising an endless chain provided at spaced intervals with carriage-engaging members, said chain activated by said motor upon the closing of said switch, said chain operative only when a carriage wheel is in engagement with said track section.

8. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having

wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, tracks disposed beneath said counter and extending longitudinally thereof, said tracks adapted to receive thereon at least two of the wheels of a carriage for guiding the carriage through said station, said counter provided with an opening disposed over said track at the position occupied by the clerk, and slidable means manually operable by the clerk for causing a carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening.

9. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, tracks disposed beneath said counter and extending longitudinally thereof, said tracks adapted to receive thereon at least two of the wheels of a carriage for guiding the carriage through said station, said counter provided with an opening disposed over said tracks at the position occupied by the clerk, and slidable means manually operable by the clerk for causing a carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening, said means comprising a frame adapted to straddle the carriage and provided with yieldable carriage-engaging members.

10. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, tracks disposed beneath said counter and extending longitudinally thereof, said tracks adapted to receive thereon at least two of the wheels of a carriage for guiding the carriage through said station, said counter provided with an opening disposed over said tracks at the position occupied by the clerk, and slidable means manually operable by the clerk for causing a carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening, said means comprising a frame adapted to straddle the carriage, said frame having an elevated bridge provided with spring-mounted detents for engaging the carriage.

11. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk

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is positioned, said station comprising a counter, means for causing a carriage to be propelled past said counter as well as to stop at a position where the merchandise as well as the basket may be removed from the carriage shelf by the clerk, and automatic means for pivotally moving the carriage shelf into a position whereby the unloaded carriage may nest within a preceding carriage.

12. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, a track disposed beneath said counter and extending longitudinally thereof, said track adapted to receive thereon at least two of the wheels of a carriage for guiding the carriage through said station, said counter provided with an opening disposed over said track at the position occupied by the clerk, means for causing a carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening, and automatic means for pivotally moving the carriage shelf into a position whereby the unloaded carriage may nest within a preceding carriage in its continued travel on said track.

13. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, said counter provided with an opening at the position occupied by the clerk, means for causing a carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening, and automatic means disposed below said counter beyond said opening for pivotally moving the carriage shelf into a position whereby the unloaded carriage may nest within a preceding carriage at the discharge end of said counter.

14. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a pivoted shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter provided with an opening at the position occupied by the clerk, means for causing a carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the car-

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riage shelf by the clerk through such opening, and automatic means for pivotally moving the carriage shelf into a position whereby the unloaded carriage may nest within a preceding carriage.

15. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a pivoted shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter, tracks disposed beneath said counter and extending longitudinally thereof, said tracks adapted to receive thereon at least two of the wheels of a carriage for guiding the carriage through said station, said counter provided with an opening disposed over said tracks at the position occupied by the clerk, electrically activated means cooperating with said tracks and the carriage wheels engaged therewith for causing the carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening, and automatic means for pivotally moving the carriage shelf into a position whereby the unloaded carriage may nest within a preceding carriage.

16. For a store wherein desired articles of merchandise are selected by a customer from display stands and loaded by him into a basket removably supported upon a pivoted shelf of a carriage having wheels by which the carriage is trundled by the customer past the stands and ultimately to a checking clerk for evaluation of the selected merchandise, a checking station at which the clerk is positioned, said station comprising a counter provided with an opening at the position occupied by the clerk, slidable means manually operable by the clerk for causing the carriage to be propelled beneath said counter to bring the loaded basket into registry with the counter opening for removal of the merchandise as well as the basket from the carriage shelf by the clerk through such opening, and automatic means for pivotally moving the carriage shelf into a position whereby the unloaded carriage may nest within a preceding carriage.

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