

April 18, 1961

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2,980,211

GENERAL MERCHANDISE SELF-SERVICE STORE

Filed May 14, 1959

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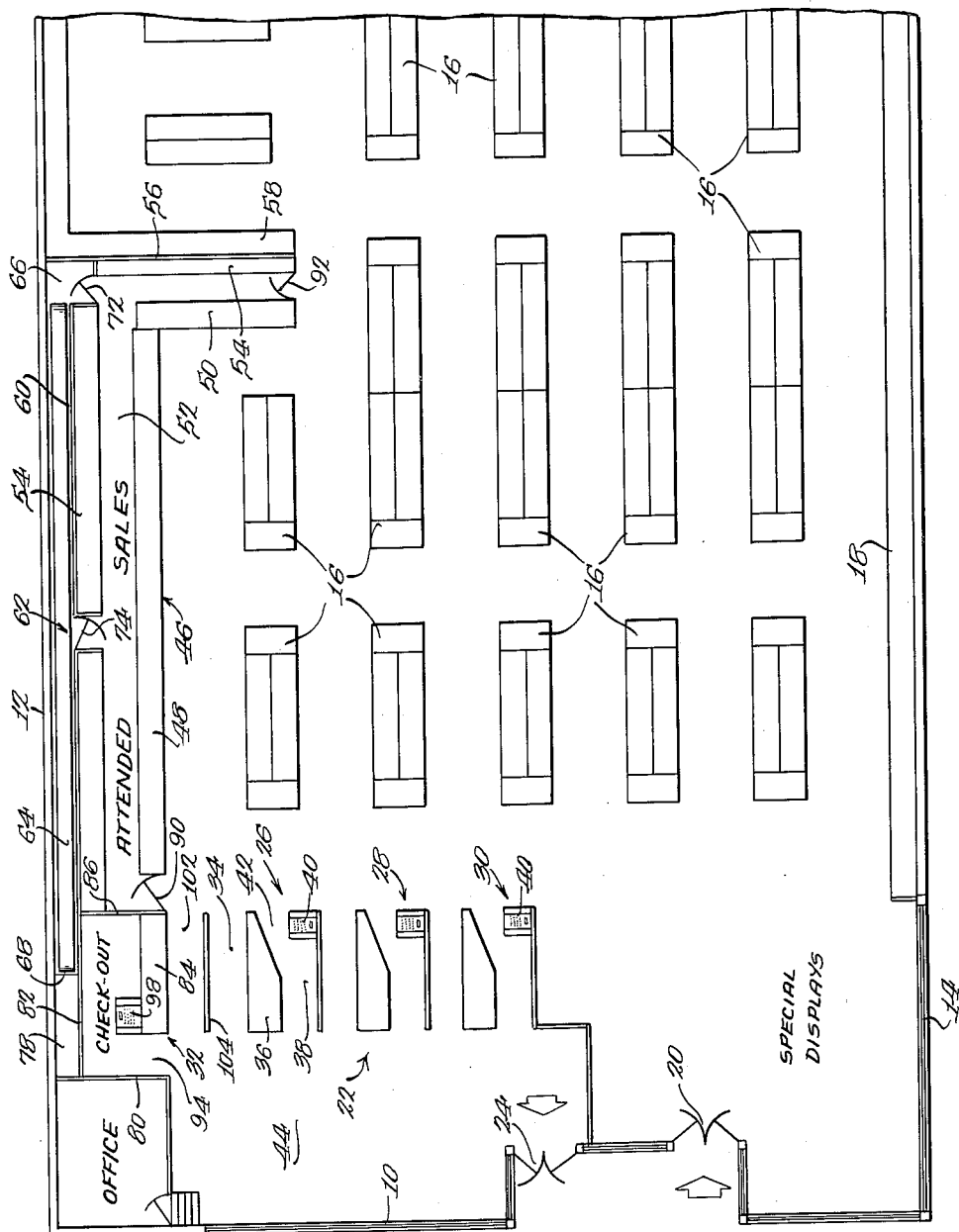


Fig. 1.

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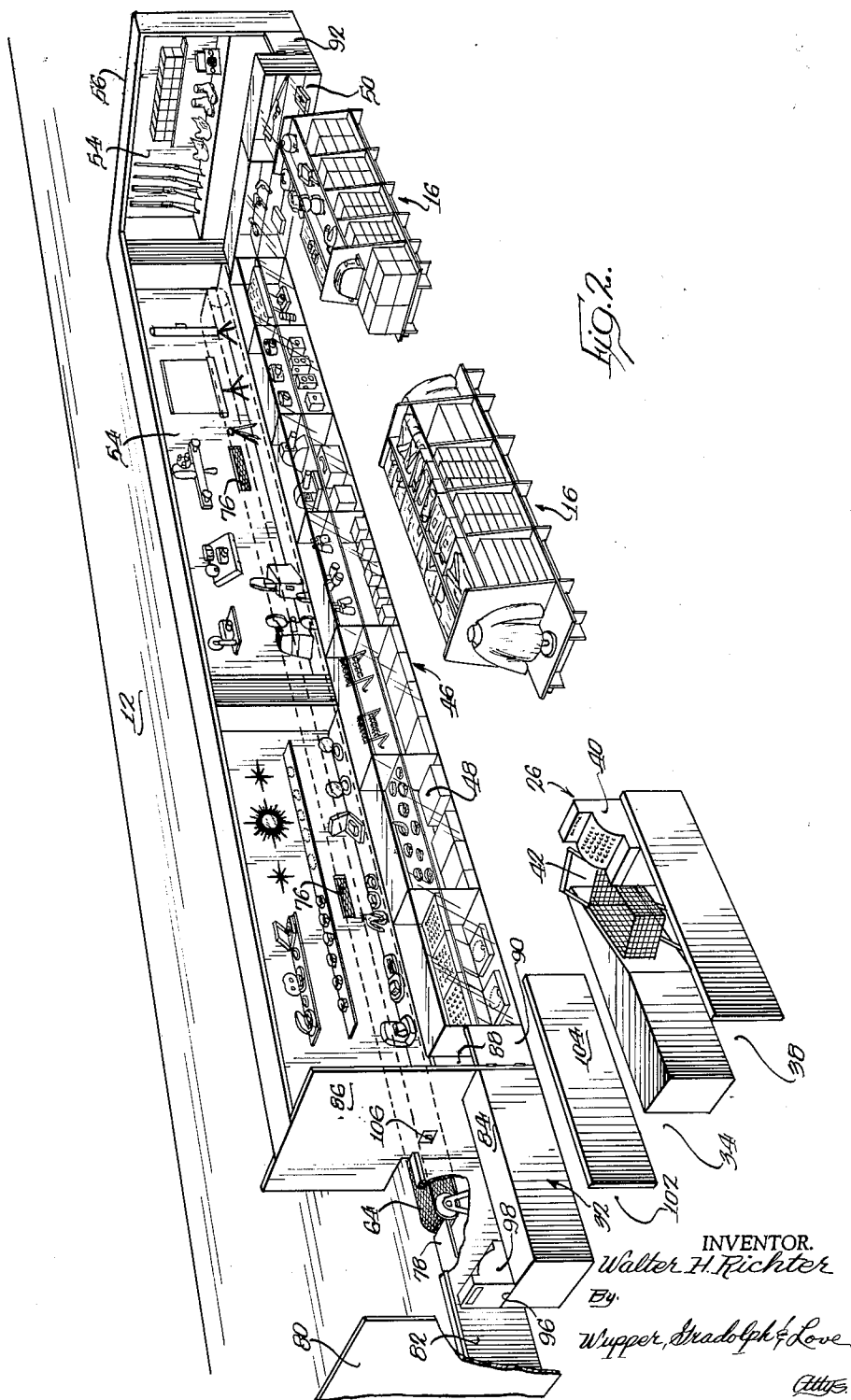
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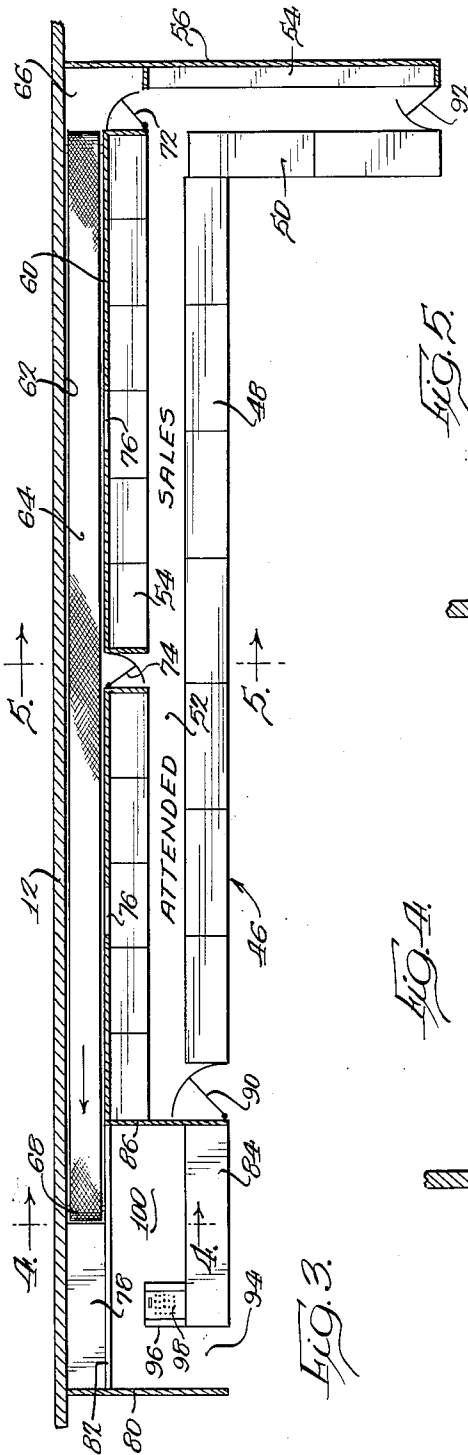


FIG. 3.

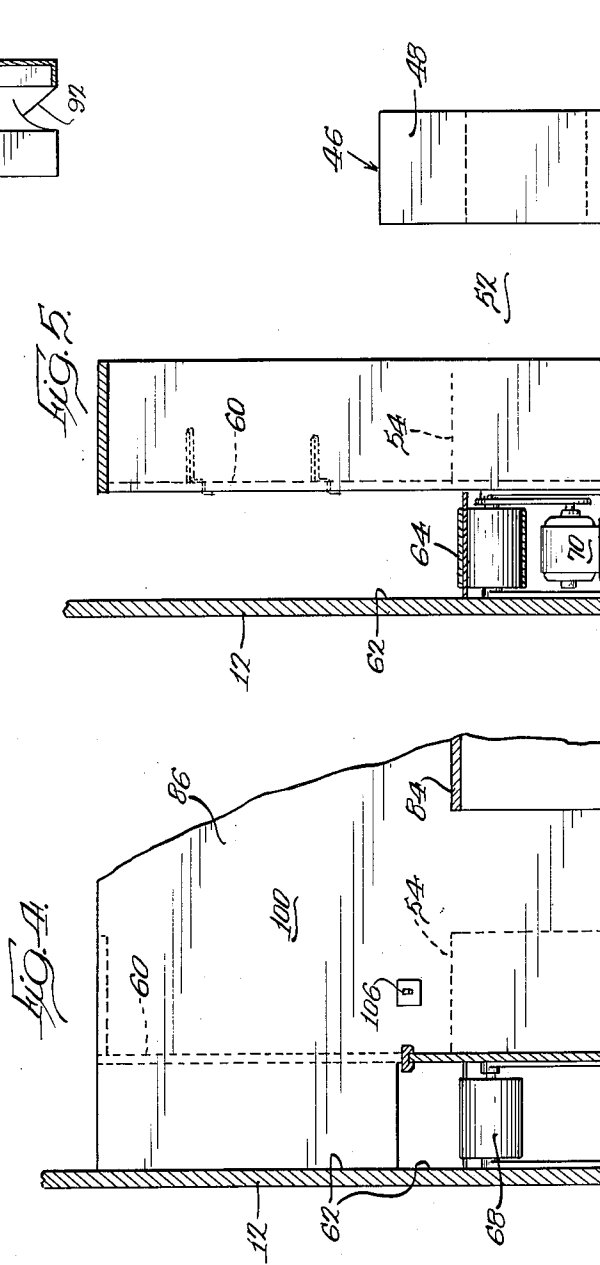


FIG. 5.

FIG. 4.

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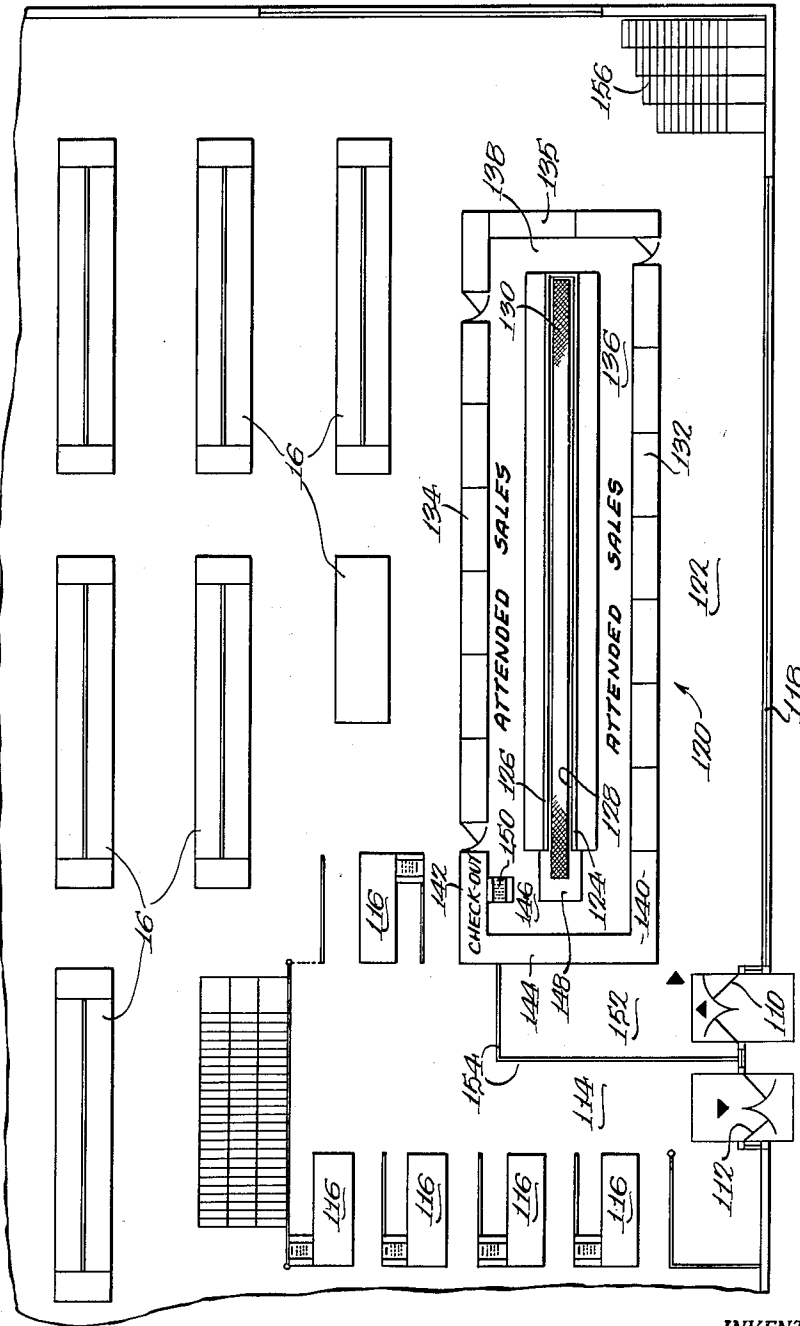
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GENERAL MERCHANDISE SELF-SERVICE STORE

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FIG. 6.



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GENERAL MERCHANDISE SELF-SERVICE STORE

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6 Claims. (Cl. 186—1)

The present invention relates to general merchandise stores, particularly to one of the self-service, self-stocking type.

One of the objects of the present invention is to provide a self-service store in which general merchandise is displayed and where primarily the customer picks out whatever he wishes and takes it to a check-out counter in a push cart for instance, and in which there is special provision for the incorporation in such a store of an attended selling section without the attended selling section interfering with the operation of the self-service portion of the store.

Another object is to provide in a store of essentially the self-service, self-stocking character an arrangement for the display and sale of special items that cannot safely be handled on a self-stocking, self-service basis.

Still another object is to provide a novel store arrangement particularly adapted for the sale of watches, cameras, and other small items of a high valuation in a store that is essentially self-service in character.

Other objects and advantages will become apparent from the following description of a preferred embodiment of my invention which is illustrated in the accompanying drawings.

In the drawings, in which similar characters of reference refer to similar parts throughout the several views,

Fig. 1 is a floor plan of the major portion of a store incorporating the features of the present invention;

Fig. 2 is a perspective view of the significant portion of the store, the floor plan of which is illustrated in Fig. 1;

Fig. 3 is a horizontal sectional view drawn to larger scale and illustrating a portion of the store, this portion being illustrated along the upper edge of Fig. 1;

Fig. 4 is a transverse vertical sectional view that may be considered as taken in the direction of the arrows substantially along the line 4—4 of Fig. 3;

Fig. 5 is a transverse vertical sectional view which may be considered as taken in the direction of the arrows substantially along the line 5—5 of Fig. 3; and

Fig. 6 is a floor plan similar to Fig. 1 but illustrating an alternative arrangement embodying the inventive features.

A relatively recent development in the general merchandising field is to provide stores handling any of a number of comparatively standard articles available for sale in such fashion that a sample of each of the articles on sale is displayed where it can be viewed and handled by the customer, with this display sample being situated in each case in close juxtaposition to several of the same articles in their original containers. The intention is that the customer will walk through the store and select from the samples on display the article or articles desired, and then pick out one of these articles in its original container from a closely adjacent shelf, and put this box into a push cart and take it to a check-out counter. At the check-out counter the articles are removed from the push cart by an attendant who makes the sale and de-

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livers the one or more articles still in their original containers to the customer.

The above described store arrangement is very satisfactory as a low cost approach for the merchandising of many articles such as small appliances, houseware items, towels and linens, toys, infants' accessories, men's and women's wear, travel accessories, sporting goods, garden appliances and the like. All of the items listed have, in general, the characteristic that they are not easily concealed or accidentally slipped into the customer's pocket, and the danger, therefore, of such articles disappearing from the store without being paid for is relatively slight.

On the other hand, such articles as rings, pins, watches, cameras, and the like, are small and have a relatively high valuation. It is quite apparent that articles of this type cannot safely be permitted to lie in the open out of view of the store personnel. In addition to items of the type last described above, there are certain other articles which, although they are large enough so that they cannot be easily concealed, they nevertheless should have some attention at the time of selling, since some explanation to the customer may be necessary in order to prevent a misunderstanding, or because there may be some police regulation associated with the sale of the article. Examples of articles which may fall into the latter category are guns and ammunition, and perhaps some photographic accessory equipment, such as projectors and the like.

Articles of the type discussed above which need some attended selling could, of course, be handled in the conventional fashion by sales people who make the sale and put the money received into a cash register, but such attended selling has the disadvantage in a self-service store, where the essential principle is to merchandise articles at the lowest cost consistent with good service, that it requires extra cash registers and extra training of sales personnel in their use, and furthermore it results in customers leaving the store with some articles which have already been paid for and other articles which are to be paid for at the check-out counter, and this dual nature of the store results in confusion and requires the employment of additional personnel to cope with the situation.

Referring now to Fig. 1 of the drawings in which is shown a floor plan of a portion of a typical store embodying the features of the present invention, it will be seen that the front of the store is indicated at 10, with two side walls being shown at 12 and 14, the fourth wall being broken away, since the essential character of the store will be understood from the portion illustrated. Although it is not necessary, frequently a store of this character will be constructed as a separate building, or, in the alternative, it may be a portion of a building having other stores or facilities therein, but in any event the portion of the building comprising the store in question will usually be separated from the remaining portion of the building, or from the outside, by solid walls. The wall 12 of the structure shown may, therefore, be considered as an outside solid wall, or as a solid wall which separates the store forming the subject matter of the present invention from the next adjacent store or the like.

Although the store may have any desired area, the essential feature is that throughout the principal portion of the floor space there are a plurality of stands or cases 16 which may be of any suitable character, although I prefer those of the type forming the subject matter of my patent application Serial No. 741,642, filed June 12, 1958, for "Display Stand." In general, the arrangement of the stands is such that they provide shelves or bins within which articles to be sold are stacked in their original containers. Above these, the stand 16 provides

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a top shelf on which samples of the articles to be sold are displayed, so that a customer can examine the samples which are somewhat below eye level and make his selection. Thereafter, he can reach down to the shelf or bin below the sample and pick out the identical article in its carton and put it in his push cart.

A slight variation of this arrangement is provided by the display panels and shelves 18 which may be erected along at least a portion of the walls of the store. Here certain types of merchandise can be displayed upon the walls, such as by being fastened to pegboard panels for instance, while shelves containing the boxed merchandise are located below these displays. In any event, the essential principle of operation of a store of this character is that the customer enters the store through the front doors 20 and selects a push cart, after which he proceeds throughout the store without attention, selecting whatever he desires. At the conclusion of the shopping expedition, he takes his push cart to one of several check-out counters indicated generally by the numeral 22, where the merchandise is removed from the cart and paid for, after which he leaves the store by way of the doors 24.

In the floor plan illustrated, there are three substantially identical check-out counters indicated at 26, 28, and 30, and one special check-out counter at 32. Each of the check-out counters 26, 28, and 30 is provided with an aisle 34 through which the customer passes, and a table top forming member 36 which separates the customer from the attendant located in the space 38 in front of the cash register 40. Between the cash register 40 and the main portion of the table 36 there is an aisle 42 at a slight slant so that as the customer approaches the check-out counter he passes through the aisle 34 while his push cart is separated from him and passed through the slanting aisle 42 where the attendant can remove the articles from the push cart and place them upon the table top 36 and receive payment for these articles. Thereafter the customer leaves the store with the articles, the push cart being shoved on through into the space 44 at the front of the store. Periodically a group of these push carts is transferred from the exit side of the store to the entrance side.

Along one of the outside walls of the store, the wall 12 in Fig. 1, there is arranged a section 46 labeled "Attended Sales." This particular section, as is perhaps best shown in Fig. 2, consists of a line of glass showcases 48 which extend longitudinally into the store in a relationship parallel to the outside wall 12 for a suitable distance. At the inside end of the showcases 48 they are joined by a short section 50 of showcases which extend at right angles outwardly into the floor space away from the wall 12.

This L-shaped arrangement of showcases 48 and 50 separates the sales personnel in the aisle 52 therebehind from the customers. Behind the aisle 52 is an arrangement of wall type showcases or pegboard panels or the like 54 for the display of additional merchandise not accommodated in the showcases 48 and 50. The wall type showcases or pegboard panels 54 which are behind and parallel to the showcase 50 are placed against an interior vertical partition 56 which extends through to the outside wall 12 and provides sales and display facilities on the rearward side thereof as indicated at 58 which are similar to those at 18.

The showcases or panels 54, which are parallel to the low level counter type showcases 48, are also backed up by an interior partition 60, but this partition is spaced outwardly from and parallel to the outside wall 12. The distance between the wall 12 and the partition 60 is a little less than two feet, and the space 62 between these members houses a horizontal conveyor belt 64 which extends from the corner 66 adjacent the juncture between the interior partition 56 and the outside wall 12 toward the front of the store so that its opposite end 68 is at about the same distance from the front of the store as

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the center of the check-out counters 36, although the exact position of this forward end of the conveyor belt is not critical as will appear presently. The conveyor belt is of such width that it substantially fills the space 62 from side to side.

The conveyor belt is driven by an electric motor and speed reducer 70 so that its top flight travels toward the front of the store as indicated by the arrow in Fig. 3. A pair of doors 72 and 74 provide access to the space 66 at the rearward end of the conveyor belt and at approximately the midpoint of the conveyor belt, clearance being provided through the wall type showcases 54 to accommodate these doors. In addition, a pair of slots 76—a matter of six inches or so, by approximately a foot long—are cut through the vertical partition 60 in a position just above the top flight of the conveyor belt 64.

Any article placed upon the conveyor belt 64 travels toward the front of the store, and at the front end of the belt, indicated at 68, such articles slide from the belt into a hopper 78 which conveniently may be a shelf slightly downwardly pitched away from the belt so that the articles will slide free of the conveyor. This hopper is bounded on the outside by the outside wall 12 and at its forward end by a wall 80 which in the drawings is shown as forming a portion of an enclosure or office to be used by the store manager. The inside wall of the hopper 78 is indicated at 82 and is essentially a low level continuation of the partition 60 at about desk height.

An enclosed counter 84 is provided with its outside face substantially flush with the outside faces of the line of showcases 48, and this counter is separated from the first of the showcases 48 by a transverse panel 86 which extends from a position substantially flush with the outside faces of the showcases 48 through to the outside wall 12 so as to completely separate the counter 84 and the bin 78 from the space occupied by the sales personnel behind the showcases 48. Communication to the space behind the showcases may be had through an aisle 88 between the panel 86 and the first of the showcases 48, this aisle normally being closed by a low level swinging door 90. A similar swinging door 92 closes the opposite end of the L-shaped aisle 52 occupied by the sales people.

The forward end of the counter 84 is adjacent the wall 80 of the manager's office so as to provide an aisle 94 for access to the space behind the counter 84. At its forward end the counter 84 extends inwardly somewhat so as to provide a wing 96 to support a cash register 98 for a cashier located within the space 100 behind the counter 84.

The arrangement operates as follows. Whenever a customer desires something from the attended sales section 46, he receives attention from one of the sales personnel behind the showcases, and makes his selection. He does not receive the article, however, nor does he pay for it at this location. Instead, the article is put in a sack which can be subsequently identified, for instance by having serially numbered paper slips bearing the same number at both ends, such that the slip can be torn in two, one half being stapled to the sack while the other half is handed to the customer. At this time the sales person also writes the price of the article upon the sack or slip. After this transaction, the sales person simply passes the sack through one of the openings 76, and lays it upon the conveyor belt. If the article is large, such as a gun or a projection screen for instance, one of the doors 74—72 is opened so that the article can be passed through and laid upon the conveyor belt 64.

Thereafter, the customer may wander through the store making whatever other purchases he desires, putting the cartons having the articles therein into his push cart, as was previously explained. Whenever he is ready to leave the store, instead of passing through one of the regular check-out counters 26, 28, and 30, he passes through the aisle 102 separated from the aisle 34 for

the first of the regular check-out counters by a low level vertical partition 104. The cashier at the cash register 98, in addition to checking out the articles the customer has in his push cart, will also take his half of the numbered paper slip and remove from the hopper 78 the sack having the slip with the same number thereon, and add the price marked upon the sack by the sales person to the prices of the other articles and receive payment for all of the merchandise at once. At this time he delivers the sack containing the article purchased at the attended sales section to the customer who is no longer within the merchandise display section of the store.

This arrangement, it will be seen, has, among other things, the advantage that the attended sales, including the operation of selling, receiving payment, and delivering the articles to the customer, do not in any manner interfere with the overall operation of the self-service aspect of the store, and that there is the advantage of confining the handling of the money and the making of change to the line of cash registers near the front of the store. Thus, the sales personnel can devote full attention to the needs of the customer before them without the necessity for interrupting their selling activity to receive payment for the articles purchased. In addition, there is no possibility with this arrangement of having a customer within the store who has in his possession some articles which have been paid for and other articles which are yet to be paid for at the check-out counter. Furthermore, it does not permit the customers to have in their possession while they are within the store small inconspicuous articles of high value, such as watches and other jewelry for instance.

The person behind the check-out counter 84 can lean back and view the entire length of the conveyor belt 62, and it is convenient, therefore, to provide a switch 106 for the electric motor 70 which is easily accessible to this check-out attendant, so that during periods of low activity within the store the conveyor drive motor may be switched off. If, however, an article is placed upon the conveyor belt, the check-out attendant behind the counter 84 will be able to see this article upon the belt and actuate the switch 106 so as to start the motor, thereby causing the conveyor belt to bring the article to the hopper 78 where it can be delivered to the customer.

An alternative arrangement forms the subject of Fig. 6. Here the store room is of considerable width with the Entrance and Exit doors for customers indicated at 110 and 112 respectively. An aisle 114 leads straight away from the exit doors 112, and several—in this instance, four—check-out stations 116 feed into this exit aisle 114 from the left.

Toward the right of the entrance doors 110, the front wall 118 of the store is almost entirely of glass so that activity within the store may be observed from the outside. The attended selling section 120 in this store extends to the right of the entrance doors and in a position generally parallel to the glass outside wall 118. It is spaced from the glass wall by a distance sufficient to provide a comparatively wide aisle 122 along which all of the traffic from the doors into the major portion of the store is directed.

The attended selling section 120 is comprised of a pair of front and back free standing walls 124 and 126 respectively. These walls are parallel to each other and to the glass wall 118 and provide space 128 therebetween for a conveyor belt 130. The outside surfaces of these walls provide a facility for the display of merchandise for sale. A row of show cases 132 is arranged in a position parallel to the front free standing wall 124 and a similar row 134 is positioned beyond the back freestanding wall 126. These two rows at their right ends are joined by a short strip of show cases 135 so that the show cases form a deep U-shaped structure enclosing the walls 124 and 126 excepting at their left hand ends. As with the previous example, the show

cases are spaced from the walls sufficiently to provide an aisle 136 for sales people. Similarly also, the walls 124 and 126 have openings therethrough so that the sales people can place purchased articles upon the conveyor belt. The equivalent of doors 74—72 may also be provided if desired at intermediate locations or at the right hand end 138 between the ends of the walls 124 and 126.

At the left hand end of the structure, a pair of counters 140 and 142 act as continuations of the show cases 132 and 134 and are joined at their outer ends by a transversely extending counter 144. These counters enclose a space 146 having a table top 148 therein at the ends of the walls 124—126 upon which the conveyor belt 130 discharges. The space also provides for a cash register at 150 so that the counter top 142 in alignment with the far side show cases 134 serves as a check-out counter so positioned that the traffic thereby feeds into the previously mentioned exit aisle 114.

Conveniently, the space 152 in front of the counter 144 may be used for customer service and may have access directly to the entrance door 110. It is shown as being isolated from the remainder of the store by a low railing 154.

This arrangement has some advantage over the one first described in that it provides more attended selling facility in a store that is short from front to back and, since it is directly inside and parallel to the glass outside wall 118, the merchandise displayed in the show cases 132 and upon the wall 124 may be seen from outside the store. Furthermore, the traffic into the store passes along one side and across the end of the attended selling section, thereby providing a better opportunity for the customers to observe the articles for sale at the attended selling section.

Conveniently, the shopping carts 156 may be located against the outside wall beyond the end of the attended selling section so that incoming customers will not be encumbered with these carts until they have passed at least the major portion of the attended selling section. This helps to prevent the space in front of the show cases 132 and 135 from becoming congested with the carts, thereby providing more space for shoppers and providing a more attractive and uncluttered view from outside the store.

From the above description of a preferred embodiment of my invention it will be appreciated that variations may be made in the structure without departing from the spirit or scope of the invention, and that the scope of the invention is to be determined by the scope of the accompanying claims.

Having described my invention, what I claim as new and useful and desire to secure by Letters Patent of the United States is:

1. In a self-service store having facilities for the open display of general merchandise and a plurality of check-out stations, means providing a pair of spaced parallel walls, a conveyor belt disposed in the space between said walls and extending substantially the full length of said space, means providing a row of show cases generally parallel to said walls on one side of at least one of said walls and spaced from the adjacent wall a distance sufficient to provide space for sales personnel behind said show cases, said adjacent wall having openings therethrough accessible only from the space behind said show cases to the space above said conveyor belt, a receiving station beyond the end of said adjacent wall, means for driving said conveyor belt to convey merchandise thereon to said receiving station, and means providing the facilities of a checkout station contiguous to said receiving station.

2. In a store of generally self-service character, means providing an outside wall and a vertical partition generally parallel to said wall and spaced inwardly therefrom so as to provide a narrow space between the partition and the wall, conveyor means extending a sub-

stantial portion of the full length of the space between said partition and said wall and generally disposed from sight, means providing a row of show cases generally parallel to said partition on the side of said partition away from said wall and spaced from said partition a distance sufficient to provide space for sales personnel behind said show cases, said partition having openings therethrough accessible only from the space behind said show cases to said conveyor means, means for driving said conveyor means to convey merchandise thereon to a position beyond the end of said partition, and means providing the facilities of a check-out counter contiguous to said position.

3. In a self-service store, means providing a store area having a plurality of self-service merchandise and sample supporting shelves, a plurality of check-out counters in alignment at one end of said store area, means providing an outside wall and a vertical partition generally parallel to said wall and spaced inwardly therefrom so as to provide a narrow space between the partition and the wall, a conveyor extending a substantial portion of the full length of the space between said partition and said wall, means providing a row of show cases generally parallel to said partition on the side of said partition away from said wall and spaced from said partition a distance sufficient to provide space for sales personnel behind said show cases, said partition having openings therethrough accessible only from the space behind said show cases to the space above said conveyor, means for driving said conveyor to convey customer selected articles thereon to a position beyond the end of said partition, means providing the facilities of a check-out counter contiguous to said position, and said contiguous check-out counter being in substantial alignment with said plurality of check-out counters.

4. In a self-service store having a plurality of merchandise displaying and stacking shelves and a plurality of aligned general check-out counters, means providing a pair of vertical walls spaced apart to provide a narrow space therebetween, conveyor means inaccessible to public sight and contact within said narrow space for conveying objects in one direction, means providing a row of show cases generally parallel to said walls on the side of one of said walls away from the other of said walls and spaced from the first said wall a distance sufficient to provide space for sales personnel behind said show cases, the wall adjacent said show cases having openings therethrough giving access from the space behind said show cases to the conveyor means, means to receive objects conveyed in said one direction by said conveyor means, and means providing the facilities of a special check-out counter contiguous to said receiving means, said special check-out counter being substantially aligned with said general check-out counters.

5. In a self-service store having facilities for the open display of general merchandise and a plurality of check-out stations, means providing a pair of spaced, free standing, parallel walls unattached at their ends to other walls, a conveyor belt disposed from public view in the space between said walls and extending substantially the full length of said space, means providing two rows of show

cases generally parallel to said walls with each row spaced from the adjacent wall a distance sufficient to provide space for sales personnel behind said show cases, said walls having openings therethrough giving access from the spaces behind said show cases to the space above said conveyor belt, a receiving station beyond the ends of said walls in one direction, means for driving said conveyor belt to convey merchandise thereon to said receiving station, means providing the facilities of a check-out station at said receiving station, a group of show cases beyond the ends of said walls in the direction opposite said receiving station, and the last said group of show cases connecting said two rows of show cases so as to form a U-shaped structure of show cases which together with said receiving station completely surrounds said walls, said walls and all of said show cases displaying merchandise having special characteristics.

6. In a self-service store having facilities for the open display of general merchandise and a plurality of check-out stations, means providing a pair of spaced, free standing, parallel walls unattached at their ends to other walls, a conveyor belt disposed from public reach and view in the space between said walls and extending substantially the full length of said space, means providing two rows of show cases generally parallel to said walls with each row spaced from the adjacent wall a distance sufficient to provide space for sales personnel behind said show cases, said walls having openings therethrough giving access from the spaces behind said show cases to the space above said conveyor belt, said walls above the level of said show cases providing a surface for the display of merchandise, a receiving station beyond the ends of said walls in one direction, means for driving said conveyor belt to convey customer desired articles thereon to said receiving station, means providing the facilities of a check-out station at said receiving station, a group of show cases beyond the ends of said walls in the direction opposite said receiving station, the last said group of show cases connecting said two rows of show cases so as to form a U-shaped structure of show cases which together with said receiving station completely surrounds said walls, said store having a doorway for the entrance of customers and a glass outside wall extending away from said doorway in one direction, one of said rows of show cases being disposed substantially parallel to said glass wall and spaced from said glass wall to provide an aisle therebetween for the passage of customers from said doorway to the major portion of the interior of said store, whereby merchandise on the free standing wall and in the show cases on the side toward said glass wall may be seen from outside the store through said glass wall.

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