June 28, 1927. 1,633,907

W. P. RYLANDER

STORAGE AND DISPLAY APPARATUS FOR MERCHANDISE

Filed July 3, 1926 2 Sheets-Sheet 1

Fig. 1.

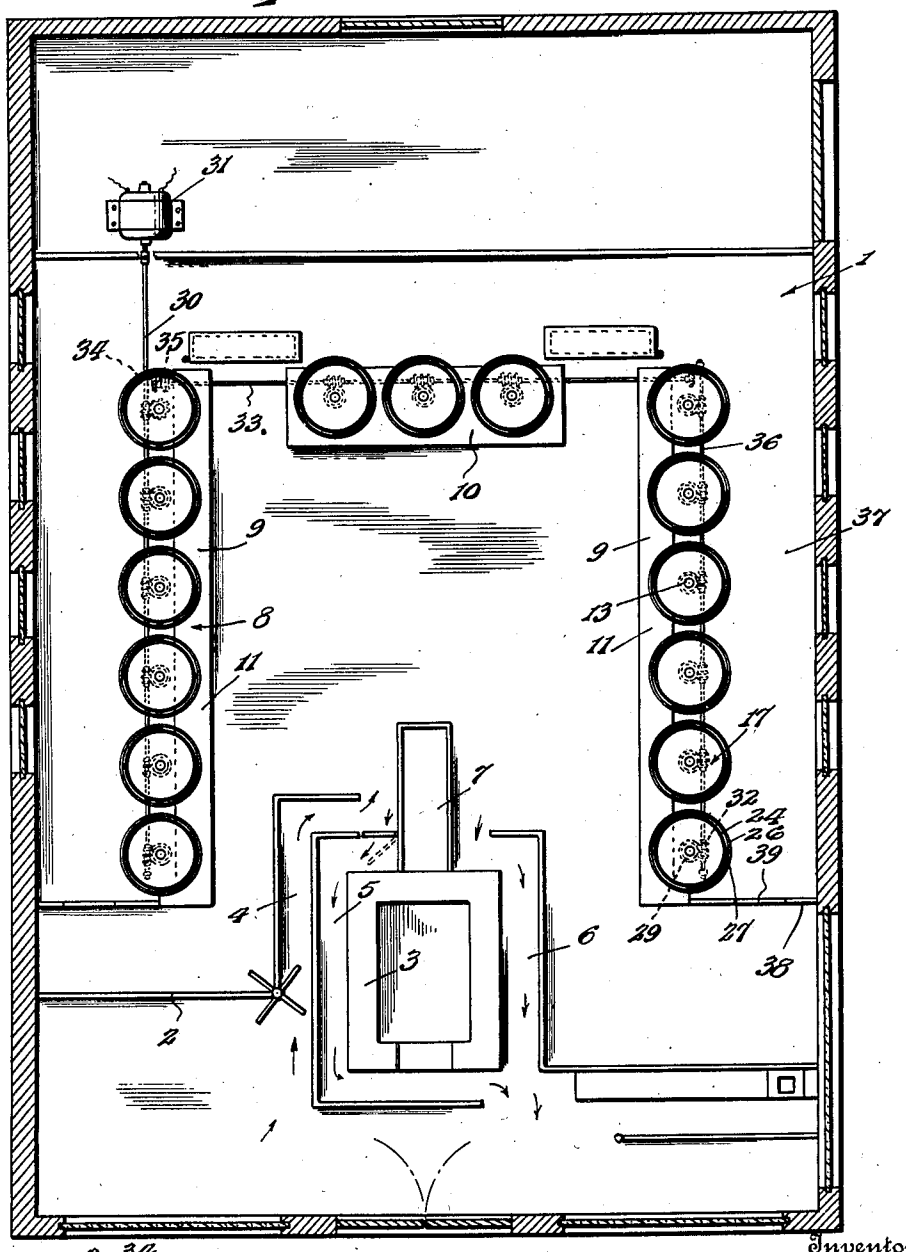
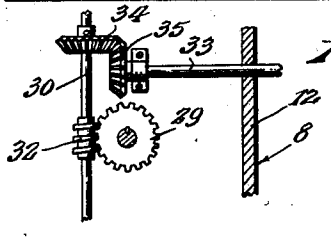


Fig. 4.



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Fig. 2.

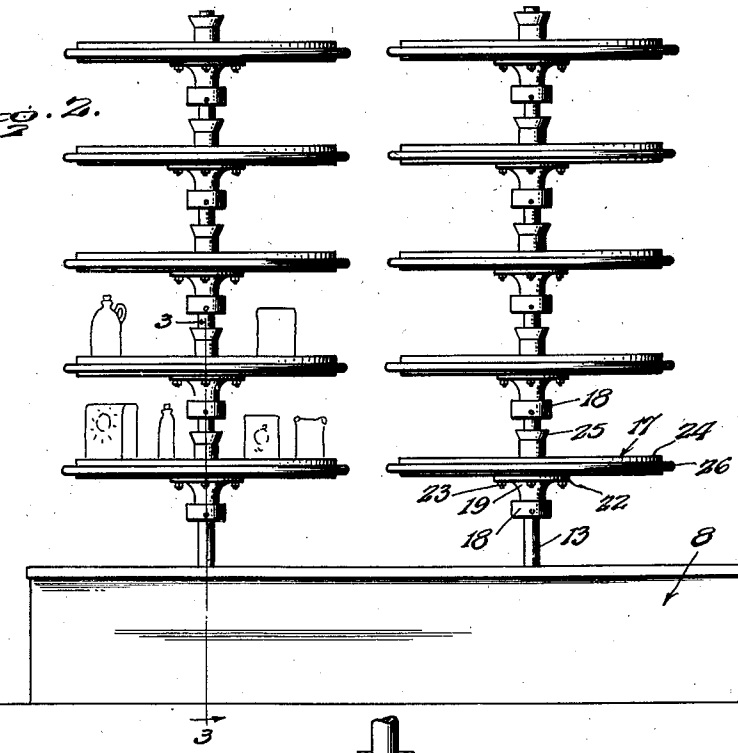
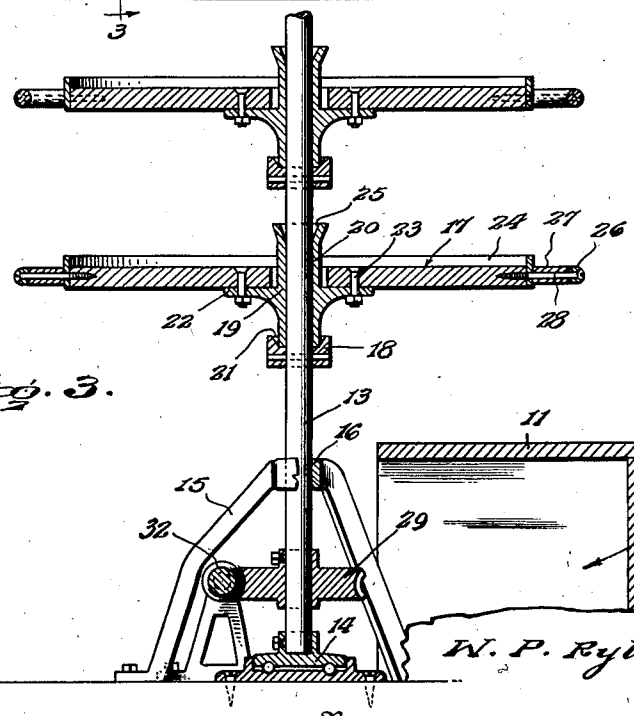


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM P. RYLANDER, OF AUSTIN, TEXAS, ASSIGNOR OF ONE-THIRD TO THOMAS F. CALDWELL, OF AUSTIN, TEXAS, AND ONE-THIRD TO PARRISH H. RYLANDER, OF SAN ANTONIO, TEXAS.

STORAGE AND DISPLAY APPARATUS FOR MERCHANDISE.

Application filed July 3, 1926. Serial No. 120,480.

This invention relates to store service and display apparatus.

In self-serving stores such as are now in existence, the merchandise is arranged upon stationary shelves from which the customers make their selections, and these shelves are restocked from time to time by the store attendants who carry the merchandise to the shelves and arrange the same thereon, thus interfering more or less with the selection of merchandise by the customers and likewise necessitating the expenditure of considerable time and labor. Likewise, in such store arrangements, inasmuch as the shelves are stationary, the merchandise does not attract the attention to any particular degree inasmuch as a customer will merely locate and remove such articles of merchandise as he is of a mind to purchase without paying any particular attention to any other merchandise displayed. Therefore, the present invention has as one of its objects to provide novel means whereby merchandise may be stored in considerable quantities and displayed in a manner to attract the attention of the customers, the arrangement being such that the displayed merchandise is kept continuously in motion, different kinds of merchandise or different articles of merchandise of the same general class being successively brought to the attention of the observer. It is a well known fact that a moving display attracts more attention than a stationary one and, therefore, the invention contemplates a storing and display means for merchandise which will display the merchandise in the most attractive manner.

Another object of the invention is to provide display apparatus for the purpose stated so constructed that while motion is constantly imparted to the supporting means for the articles of merchandise, the motion of any one or more of the said supporting means may be arrested by a purchaser to permit of inspection of the articles of merchandise carried thereby and a selection of merchandise therefrom without in any way interfering with the continuity of motion of any other displayed merchandise.

Another object of the invention is to provide display and service apparatus having the general characteristics above outlined and so constructed that a maximum quantity of goods may be displayed in a minimum space without the employment of the usual parallel arrangement of tiers of shelves common in self-serving stores, so that practically the entire central floor space of the store in which the apparatus embodying the invention is installed, may be devoted to the free movement of the customers about the interior of the store, so that if a customer desires to purchase certain kinds of goods only, he may directly proceed to the part of the store room in which are arranged the supporting devices for the particular merchandise, without having to pass a number of tiers of shelves holding other merchandise in which he may have no interest.

In the accompanying drawings:

Figure 1 is a plan view of the apparatus embodying the invention and illustrating schematically the general manner in which the apparatus will be installed in a self-serving store of the ordinary kind.

Figure 2 is a view in elevation of two of the shelf units of the apparatus and the counter above which they are arranged.

Figure 3 is a detail vertical sectional view taken substantially on the line 3—3 of Figure 2, looking in the direction indicated by the arrows.

Figure 4 is a detail view partly in plan and partly in horizontal section, illustrating a part of the gearing of the apparatus.

Figure 1 of the drawings, illustrates in a schematic manner, the arrangement of the apparatus in a self-serving store, which store is indicated in general by the numeral 1 and the store room has arranged within it the usual front partition or railing 2 and settlement station 3 defining an entrance passageway 4 and parallel exit passageway 5. The exit passageway 5 is an emergency exit and the main exit passageway, indicated by the numeral 6, may extend at the side of the settlement station 3 opposite the exit 5. A basket rack 7 may be arranged to extend rearwardly from the settlement or checking station and define the exit from the entrance passageway 4 into the store room and the entrance to the exit passageways 5 and 6 as well as to hold the baskets to be used by the customers. In fact, any of the ordinary arrangements of these various parts of a self-serving store may be resorted to as in themselves they constitute no part of the present invention. However,

the invention does contemplate the arrangement within a store room, of a plurality of counters 8 and, in connection with the counters, a number of the storage and display units embodying the invention. The counters, in the illustrated embodiment shown in Figure 1, are preferably so arranged that two of these counters will extend in parallelism to each other along opposite sides of the store room and in spaced relation to the side walls thereof, these particular counters being indicated by the numeral 9, and a third counter 10 being arranged to extend transversely between the rear portions of the counters 9. This is, of course, only illustrative of one arrangement of a number of counters and it will be understood that the counters are to be arranged in any manner best suited to the size and shape of the store room. However, it is preferred that the counters be so arranged that there will be an unobstructed floor area more or less completely bounded by the counters. The counters are relatively low and each comprises a top 11 and a front 12, and the counters are designed primarily as rests upon which the customers may dispose their baskets while they are selecting merchandise from the storing and displaying units of the invention, although they incidentally conceal from view the means by which motion is imparted to the said units.

Figures 2 and 3 of the drawings illustrate in detail the storage and display units and each of these units comprises an upright shaft 13 mounted at its lower end in a stepped bearing 14 secured upon the floor of the store room in rear of the respective counter. A stand 15 is likewise preferably provided in connection with each shaft and has a bearing 16 at its upper end accommodating a portion of the shaft above the lower end of the shaft so that the shaft is securely braced in upright position and is yet permitted to rotate with minimum friction, by the operation of means which will presently be described. Each shaft 13 supports a number of shelves which are indicated in general by the numeral 17 and in mounting the shelves upon the shaft a collar 18 is fixed to the shaft approximately at the elevation at which each shelf is to be supported, and a hub 19 is freely rotatably fitted upon the shaft to cooperate with each of the collars 18. Each hub 19 comprises a sleeve-like body having a bore 20 to fit the shaft and the lower end of the hub body seats in a concavity 21 formed in the upper side of the respective collar 18. The hub 19 is provided with an outstanding circular flange 22 having a preferably flat upper supporting face upon which the central portion of the shelf 17 is disposed to rest, bolts 23 being secured through the said central portion of the shelf and through the flange 22, thus securing the shelf upon the flange. The shelf 17 is circular in form and may be of wood or any other material found suitable for the purpose, and the shelf may be of any desired diameter. Likewise, the shelves may be spaced apart, one above another any desired distance, depending upon the sizes of the packages of merchandise to be arranged thereon. Preferably, if the shelves are of wood, a band 24 of metal will be applied about the periphery of each shelf so as to provide a shallow upstanding flange to prevent articles of merchandise slipping from the shelf, or, if the shelves are made of metal, such flanges may, of course, be integrally formed therewith. There will be sufficient frictional contact between the lower end of the hub of each shelf and the respective collar and likewise sufficient frictional contact between the wall of the bore 20 of each hub and the surface of the shaft to insure of rotation of the shelf with the shaft, and if desired, the upper end of each hub may be interiorly flared, as indicated by the numeral 25, to provide a pocket so that a small quantity of lubricant may be supplied to the hub to avoid any noise which might otherwise attend the operation of the shelf unit and likewise to reduce friction under conditions which will now be explained. As stated above, all of the shelves of each unit will be rotated in unison and continuously so as to display the articles of merchandise upon the shelves, to the best advantage and likewise attract and hold attention by reason of the variety of displays which is produced through the continuous motion of the displayed articles. As stated, however, the shelves are frictionally driven from the shaft and, therefore, the motion of any shelf may be arrested to permit of a customer inspecting the merchandise thereon and making his selection, and in order that the motion of any one of the shelves may be conveniently arrested, it is preferable that an annular hand rail 26 be arranged about the periphery of each shelf in spaced relation thereto and with this end in view, spacing members 27 are arranged between the annular hand rail and the periphery of each shelf and screws or other securing elements 28 are driven through the hand rail and spacers and into the peripheral portion of the shelf.

In the arrangement illustrated in Figure 1 of the drawings, and in detail in Figures 3 and 4, a worm gear 29 is fixed upon each shaft near the lower end thereof, and a power shaft 30 is mounted counter to the shaft 13 of the series of units extending along one of the counters 9, for example, and is driven from an electric or other motor, indicated by the numeral 31. The shaft 30 is provided at intervals with worms 32 which mesh with the worm gears 29 so that rotary

motion is imparted to all of the units in unison. In order that motion may be imparted to the units arranged beside the counter 10, a shaft 33 is mounted at right angles to the power or driving shaft 30 and is driven therefrom by beveled gears 34 and 35 fixed upon the said shafts 30 and 33 respectively. This shaft 33 is likewise provided with worms which mesh with the worm gears of the shaft of the units at the counter 10, and by a similar arrangement of beveled gears such as the gears 34 and 35, rotary motion is imparted to a shaft 36 which is mounted to extend at right angles to the shaft 33 and along the series of units positioned at the other one of the counters 9. This shaft 36 will, of course, be provided with worms at intervals meshing with worm gears upon the shaft of the units with which it is associated. It will be understood, of course, that any conventional means may be employed for imparting rotary motion to each storage and display unit and that the invention is, therefore, not restricted to the use of any particular type of motion transmitting means.

As previously stated, in the embodiment shown in Figure 1 of the drawings, the series of units are arranged in spaced relation to the walls of the store room so that aisles 37 are provided along which the attendants of the store may pass for the purpose of replenishing the supply of merchandise on the shelves of the various units without in any way interfering with the customers in the store room, and partitions or rails 38 may be provided to extend between the forward end of each of the counters 9 and the adjacent wall of the store room and furnished with gates or doors 39 through which the store attendants may enter and leave the aisles 37.

From the foregoing description of the invention it will be understood that all of the storage and display units are continuously rotated so as to display the merchandise upon the shelves to the best advantage, and that, as previously stated, any one or more of the shelves of any and all of the units may be held stationary by a customer while merchandise is being inspected and removed from the shelves. Likewise, as previously explained, the counters 8 serve as convenient rests for the baskets carried by the customers while making their selection of goods.

Having thus described the invention, what I claim is:

In apparatus for storing and displaying merchandise, an upright shaft, means whereby rotary motion may be imparted to the shaft, a collar fixed upon the shaft and having a recess in its upper side surrounding the shaft, a hub having a bore fitting the said shaft and engaging at its lower end in the recess of the collar, a flange outstanding from the said hub circumferentially thereof, and a shelf disposed centrally upon the said flange and secured thereto and rotatable with the shaft through frictional engage ment of the hub with the said collar and with the shaft, the upper end of the hub being extended above the shelf and provided with a pocket for receiving oil to be conducted to the recess of the collar.

In testimony whereof I affix my signature.

WILLIAM P. RYLANDER. [L. S.]