June 25, 1929. R. WRIGHT ET AL 1,718,512

SELF SERVING STORE

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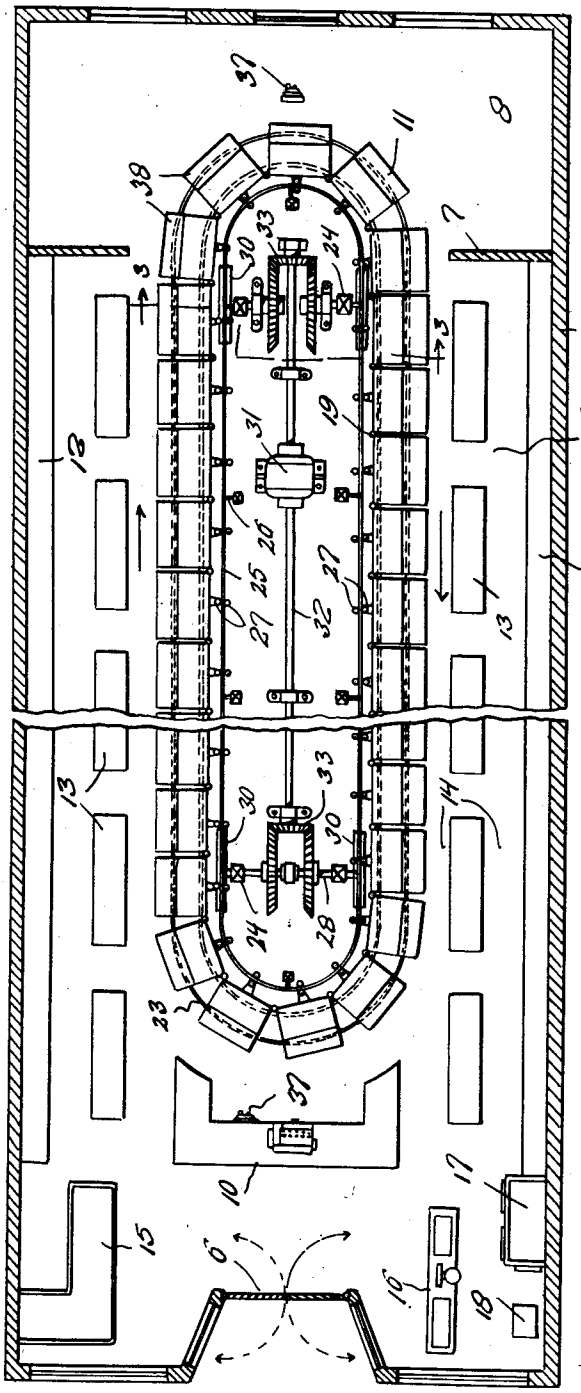


Fig. 1.

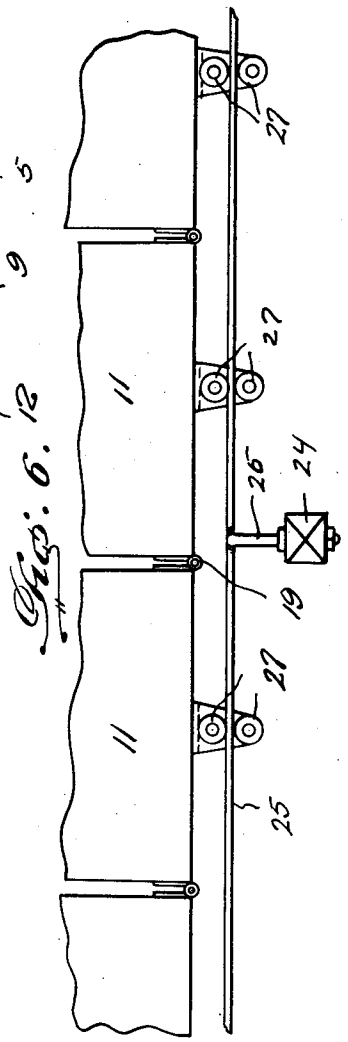


Fig. 6.

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SELF SERVING STORE

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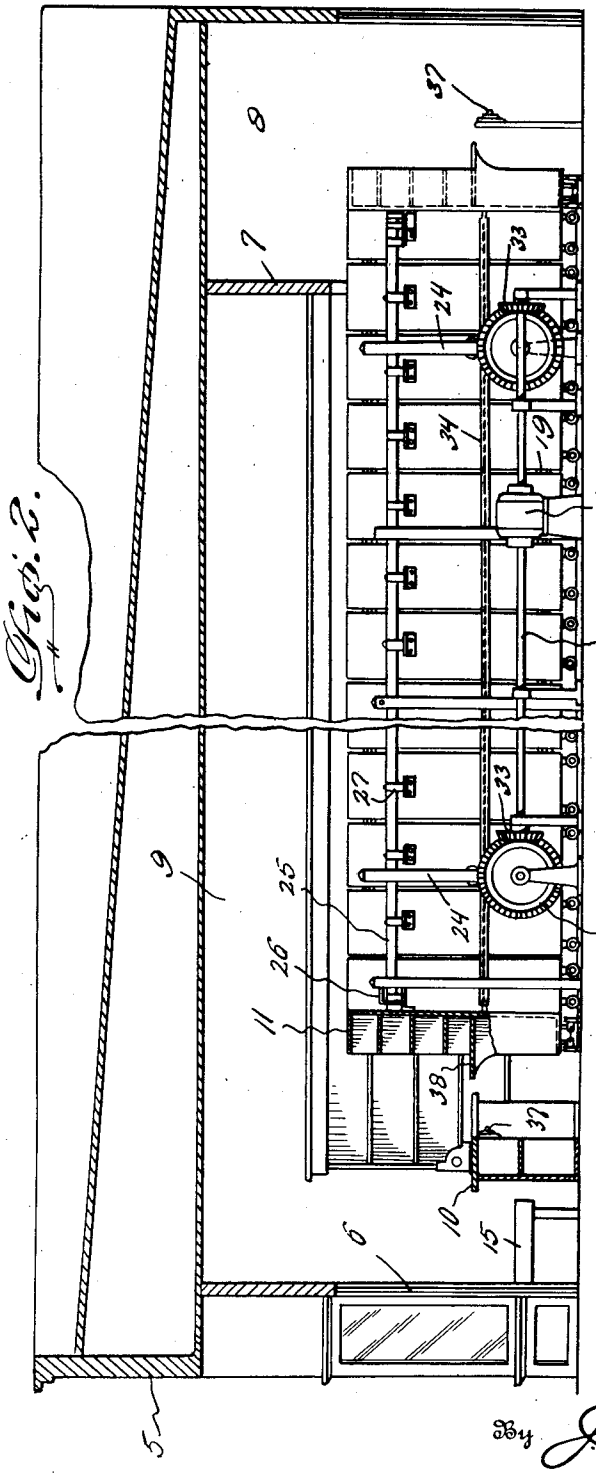


Fig. 2.

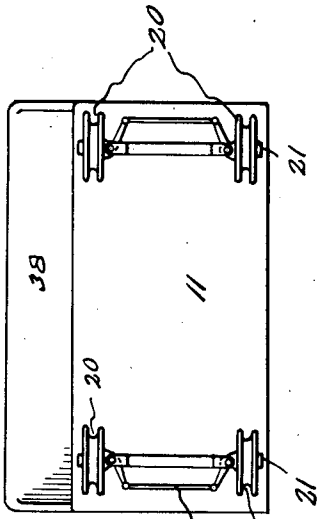


Fig. 1.

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Fig. 5.

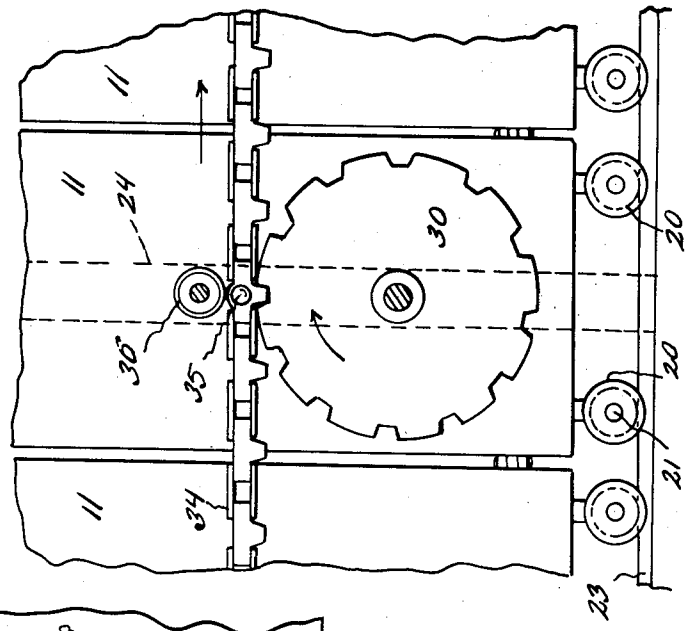


Fig. 3.

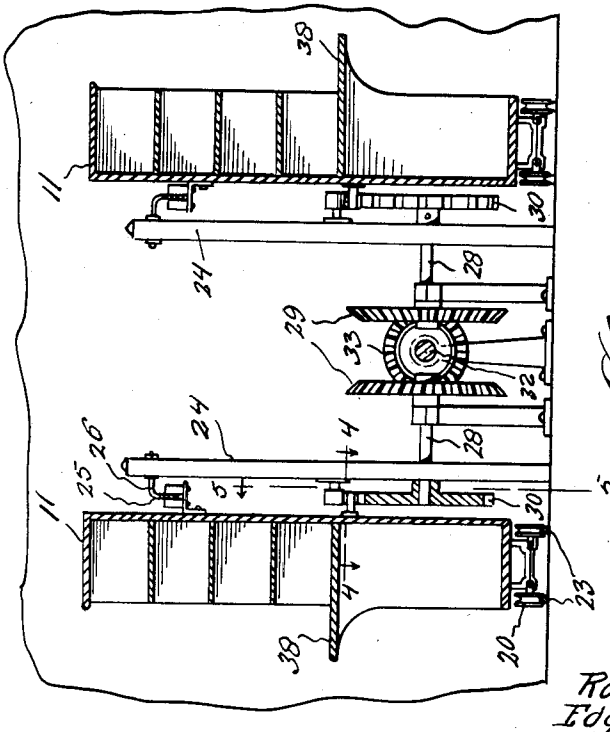
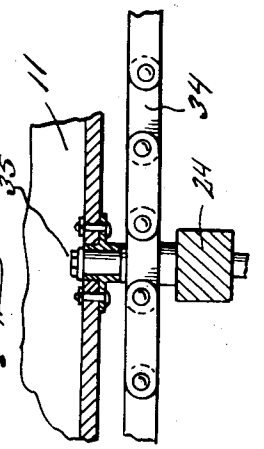


Fig. 4.



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UNITED STATES PATENT OFFICE.

RAYMOND WRIGHT AND EDGAR B. KELLOGG, OF PORTERVILLE, CALIFORNIA.

SELF-SERVING STORE.

Application filed July 11, 1928. Serial No. 291,857.

This invention relates to improvements in self serving stores, wherein the goods are arranged and displayed on shelves so that the customers may wait on themselves.

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 when the store is crowded, access to the various goods can only be had with difficulty and the expenditure of considerable time.

The primary object of the present invention, therefore, is to provide a store of the above kind with traveling display cabinets, whereby the task of the customers in waiting on themselves may be greatly facilitated.

Another objectionable feature of the self serving stores now in existence is that the stationary shelves must be inspected and restocked from time to time by the store attendants who must carry the merchandise to the shelves, thus interfering more or less with the customers and necessitating the expenditure of considerable time and labor.

A further object of the present invention, therefore, is to so arrange the traveling display cabinets relative to the stock room of the store that the attendant may readily inspect and restock the cases or cabinets from the stock room without being obliged to carry the goods into the portion of the store traversed by the customers.

A still further object is to provide means whereby the travel of the cabinets may be controlled from the stock room to permit proper re-stocking of the shelves and replacement of goods on the proper shelves when dearranged by the customers through inadvertent erroneous selection of goods.

Another object is to provide means whereby the travel of the cabinets may be controlled from the cashier's desk at the front of the store so that the cabinets may be allowed to remain still when no customers are in the store, and so that the cabinets may be readily placed in motion for promptly serving a single customer or a small number of customers from the cashier's desk when desired.

Still another object is to provide an improved arrangement of traveling cabinets and moving means therefor, in a store of the above kind.

Other objects will appear as the nature of the invention is better understood, and the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings and claimed.

In the drawings:—

Figure 1 is a diagrammatic plan view of a self serving store embodying the present invention.

Figure 2 is a substantially central vertical longitudinal section thereof.

Figure 3 is an enlarged fragmentary transverse section on line 3—3 of Figure 1, with parts omitted for sake of clearness.

Figure 4 is an enlarged fragmentary horizontal section on line 4—4 of Figure 3.

Figure 5 is an enlarged fragmentary vertical section on line 5—5 of Figure 3.

Figure 6 is an enlarged fragmentary plan view, showing the manner of connecting and guiding the display cabinets; and

Figure 7 is a bottom plan view of one of the display cabinets.

Referring more in detail to the drawings, the embodiment of the invention illustrated consists of a suitable building 5 having a central front entrance 6 and divided by a transverse partition 7 into a relatively small rear stock room 8 and a larger front room 9 in which the merchandise is displayed for convenient access by the customers as will presently appear.

A cashier's desk 10 is arranged in the front sales room 9 adjacent the front entrance 6, and mounted to travel in an orbital path centrally of the store is a power driven endless chain of display cabinets 11. The path of travel of the cabinets 11 is elongated longitudinally of the store and extends from a point adjacent but to the rear of the cashier's desk 10 rearwardly through the partition 7 into the stock room 8, thus enabling the attendant at the desk to wait on a single customer or a small number of customers as the cabinets move slowly past the cashier's desk, and permitting an attendant in the stock room 8 to readily restock the shelves of the cabinets 11 as they slowly pass into and out of the stock room.

Stationary shelving 12 may be provided along the side walls of the sales room 9 for receiving such goods as do not have a large demand or as cannot well be placed on the travelling cabinets, and arranged at each side of the chain of travelling cabinets is a longitudinal series of narrow tables or counters 13 which serve as convenient rests for the baskets carried by the customers while mak-

ing their selections of goods. The tables 13 are spaced from the shelving 12 and the traveling cabinets 11 to leave longitudinal aisles 14 at opposite sides thereof along which the customers may pass to gain access to the shelving and the traveling cabinets or to pass from the same to the cashier's desk. The front corner portions of the sale room 9 at opposite sides of the front entrance 6 and the cashier's desk 10 may be used to respectively accommodate a bread and vegetable counter 15 and a meat counter 16 with associated necessary fixtures, such as a refrigerator 17 and chopping block 18 behind the meat counter.

The adjacent sides of the display cabinets 11 are preferably hingedly connected near the backs thereof as at 19 to form an endless chain of cabinets capable of assuming different angular relations when traveling in the elongated orbital path of movement thereof, and each cabinet is mounted on coaxial front and rear supporting wheels 20 carried by swinging steering axles 21 of the stub-axle type having steering arms interconnected by rods 22. The wheels 20 are flanged to run upon and be guided by an elongated endless track composed of spaced rails 23 suitably rigidly fastened on the floor of the store to define the desired path of movement of the traveling cabinets.

Rigidly mounted at intervals along the inner track rail 23 are uprights or posts 24 from the upper ends of which is supported a continuous elevated guide rail 25 through the medium of hangers 26, and fixed to the backs of the cabinets 11 are guide elements having spaced vertical rollers 27 adapted to engage and run on opposite sides of the guide rail 25 to steady the traveling cabinets and prevent swaying thereof, especially in passing around the curves at the ends of the endless or continuous track.

Supported by the opposed posts 24 at each end of the elongated space enclosed by the traveling cabinets are a pair of transversely alined horizontal counter shafts 28 having bevel gears 29 fixed on the adjacent inner ends thereof and sprocket wheels 30 fixed on their outer ends. An electric motor 31 is mounted in the space within the chain of cabinets 11 and has a longitudinally arranged power shaft 32 whose ends project in opposite directions and carry terminal bevel gears 33 which mesh with the respective gears 29 at opposite ends of the space within the chain of traveling cabinets.

An endless horizontally flexible sprocket chain 34 is arranged about the inner side of the chain of traveling cabinets and attached to the backs of the latter as at 35 in position to engage and mesh with the sprocket wheels 30, rollers 36 being journaled on the adjacent posts 24 above the axes of the sprocket wheels 30 so that the chain 34 will pass thereunder and be positively meshed with said sprocket wheels. It is thus evident that when the motor 31 is placed in operation, the sprocket wheels 30 will be driven to actuate the chain 34 attached to the cabinets and cause the desired travel of the latter on the track rails 23 at the required slow speed to enable the customers to readily make their selections of goods from the shelves of the traveling cabinets as the latter pass such customers. Switches 37 are mounted near the cashier's desk 10 and in the stock room 8 adjacent the traveling cabinets, for selective use in starting or stopping the motor 31 and placing the chain of cabinets into or out of operation as found necessary or desirable.

Each cabinet 11 has a wide lower shelf 38 which provides a projecting part on which the customers may replace goods erroneously selected through inadvertence, which goods may be readily returned to their proper shelves by the attendant in the stock room when the cabinets are in motion.

By providing the store system above described, a customer will be able to gain access to the entire stock of goods on the traveling cabinets irrespective of the number of people in the store, provided he can find any place at which to stand and have access to the cabinets as they move past such place. Moreover, the cabinets need only be placed in motion when a large number of customers are in the store, and the cashier may have access to the cabinets for waiting on a small number of customers.

Minor changes may be made without departing from the spirit and scope of the invention as claimed.

What we claim as new is:

1. In a self serving store, the combination of a front sales room having a front customer's entrance, a rear stock room, with an endless chain of traveling display cabinets at the center of the sales room and movable into and out of the stock room, means for operating the endless chain of display cabinets, a cashier's desk in front of said endless chain of display cabinets and in proximity to the latter and said entrance, and means at the cashier's desk for controlling the operating means for said endless chain of display cabinets.

2. In a self serving store, the combination of a front sales room having a front customer's entrance, a rear stock room, with an endless chain of traveling display cabinets at the center of the sales room and movable into and out of the stock room, means for operating the endless chain of display cabinets, a cashier's desk in front of said endless chain of display cabinets and in proximity to the latter and said entrance, and means to selectively control said operating means from the cashier's desk or the stock room.

3. In a self serving store, the combination

of a front sales room having a front customer's entrance, a rear stock room, with an endless chain of traveling display cabinets at the center of the sales room and movable into and out of the stock room, means for operating the endless chain of display cabinets, an endless track including spaced rails fixed upon the floor of the store, said display cabinet having steering and supporting wheels adapted to run upon said track rails, an elevated guide rail of endless form mounted adjacent and within said chain of traveling display cabinets, and guides fixed upon the backs of said cabinets and engaging said guide rail to restrain the cabinets against swaying when traveling.

4. In a self serving store, the combination of a front sales room having a front customer's entrance, a rear stock room, with an endless chain of traveling display cabinets at the center of the sales room and movable into and out of the stock room, means for operating the endless chain of display cabinets, said operating means comprising an endless flexible sprocket chain attached to the backs of said traveling cabinets, pairs of tranversely alined horizontal countershafts mounted within and at opposite ends of the space enclosed by said chain of cabinets and having sprocket wheels fixed thereon in mesh with said sprocket chain, and a longitudinal motor driven power shaft geared to said countershafts.

5. In a self serving store, the combination of a front sales room having a front customer's entrance, a rear stock room, with an endless chain of traveling display cabinets at the center of the sales room and movable into and out of the stock room, means for operating the endless chain of display cabinets, said operating means comprising an endless flexible sprocket chain attached to the backs of said traveling cabinets, pairs of transversely alined horizontal countershafts mounted within and at opposite ends of the space enclosed by said chain of cabinets and having sprocket wheels fixed thereon in mesh with said sprocket chain, a longitudinal motor driven power shaft geared to said countershafts, at opposite ends of the latter.

6. In a self serving store, the combination with a front sales room and a rear stock room, said sales room having a front entrance, a cashier's desk in proximity to said entrance, stationary shelves along the sides of said sales room, an endless chain of traveling display cabinets at the center of the store movable past and in close proximity to said cashier's desk and into and out of the stock room, means for operating said endless chain of display cabinets, and longitudinal series of tables disposed at opposite sides of the endless chain of traveling cabinets and adapted to form basket rests, said tables being spaced from the stationary shelves and the traveling cabinets to leave aisles between the same and the traveling cabinets, and between the same and the stationary shelves.

7. In a self serving store, the combination of a front sales room having a front customer's entrance, a rear stock room, with an endless chain of traveling display cabinets at the center of the sales room and movable into and out of the stock room, means for operating the endless chain of display cabinets, a continuous track fastened upon the floor of the store, steering and supporting wheels for the traveling cabinets mounted to run on said track, means hingedly connecting said traveling cabinets so as to permit the latter to assume different angular relations in traveling in the path defined by said track, an elevated guide rail mounted within said chain of traveling display cabinets, and means carried by the display cabinets and engageable with said elevated guide rail for steadying and preventing overturning of said cabinets when traveling upon said track.

8. In a self serving store, the combination of a front sales room having a front customer's entrance, a rear stock room, with an endless chain of traveling display cabinets at the center of the sales room and movable into and out of the stock room, means for operating the endless chain of display cabinets, each of said traveling display cabinets having a plurality of shelves for the display and convenient removal of goods, one of said shelves of each cabinet having a projecting portion extending outwardly beyond the remaining shelves to receive goods inadvertently removed from the cabinets.

In testimony whereof we affix our signatures.

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EDGAR B. KELLOGG.