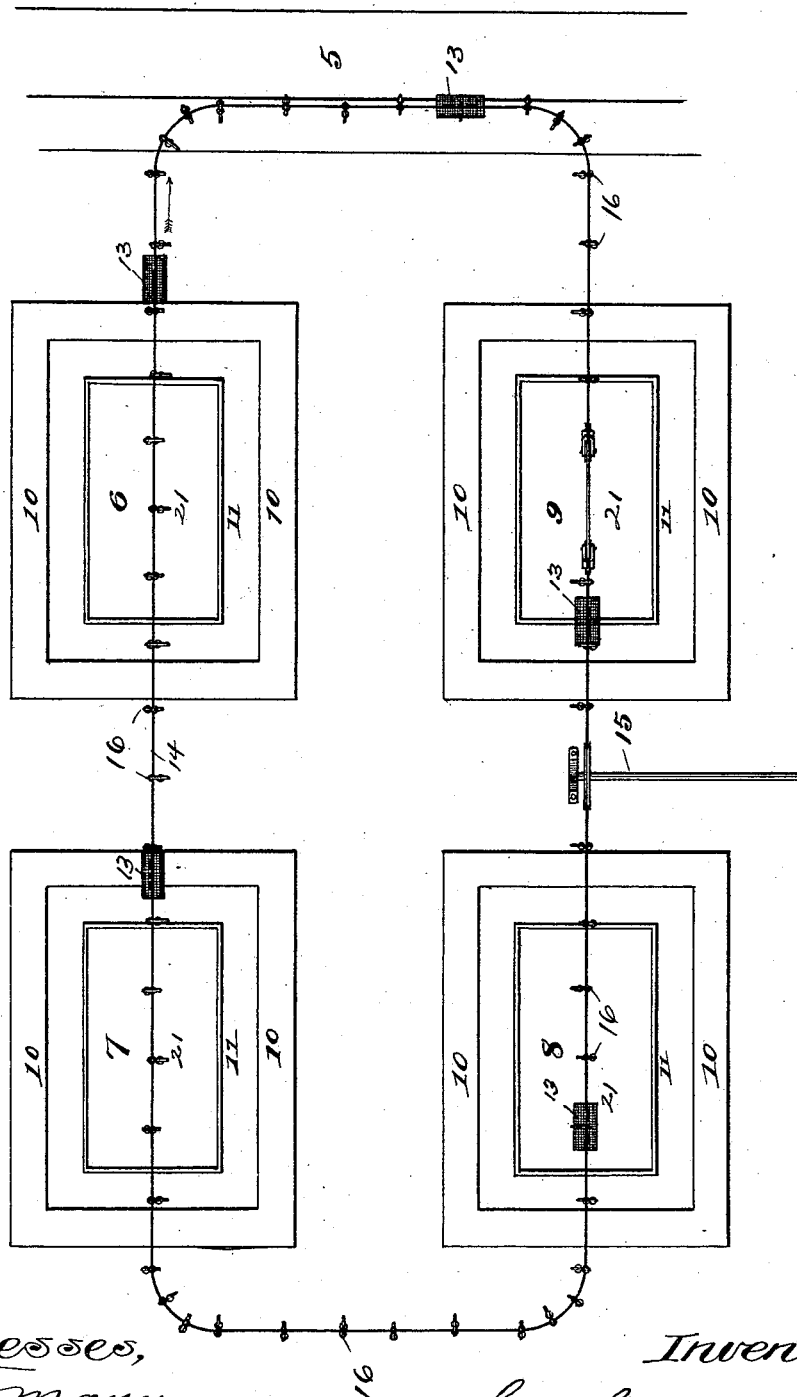


L. G. BOSTEDO.
STORE SERVICE.

No. 523,455.

Patented July 24, 1894.

Fig. 1.



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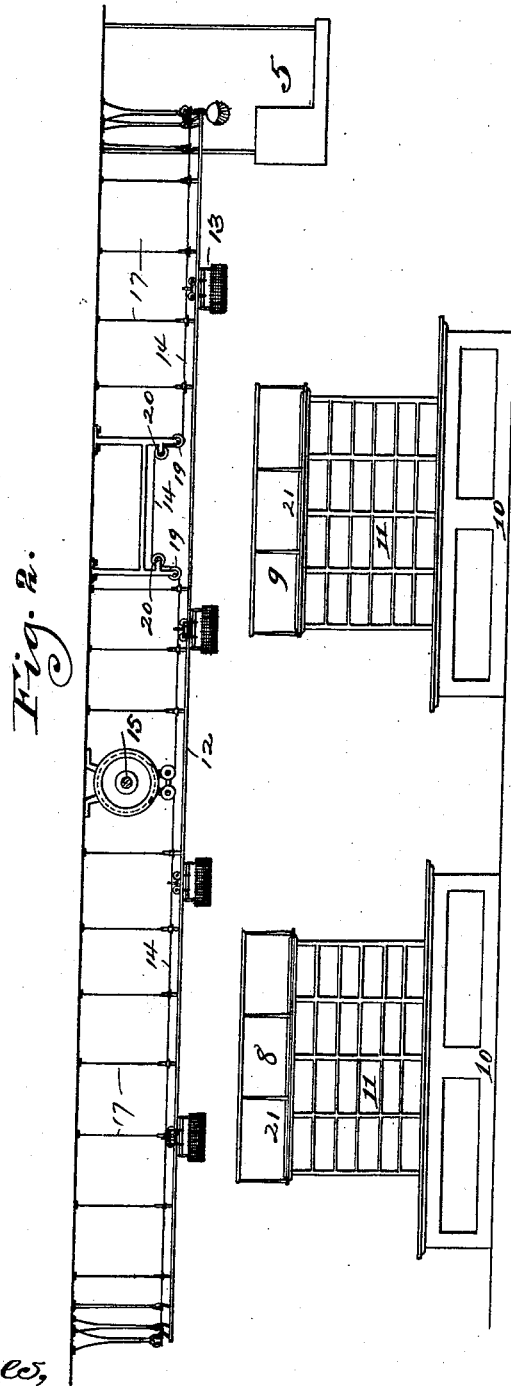
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No. 523,455.

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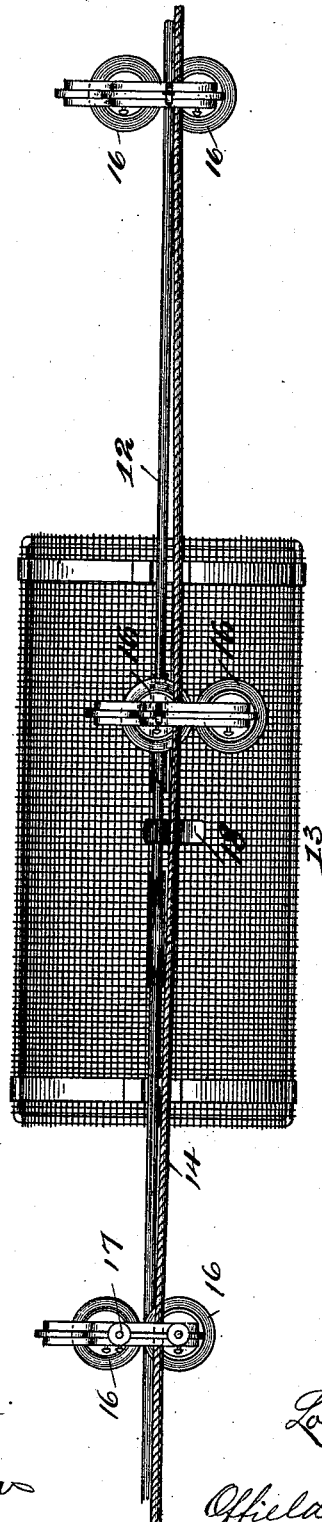
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No. 523,455.

Patented July 24, 1894.

Fig. 3.



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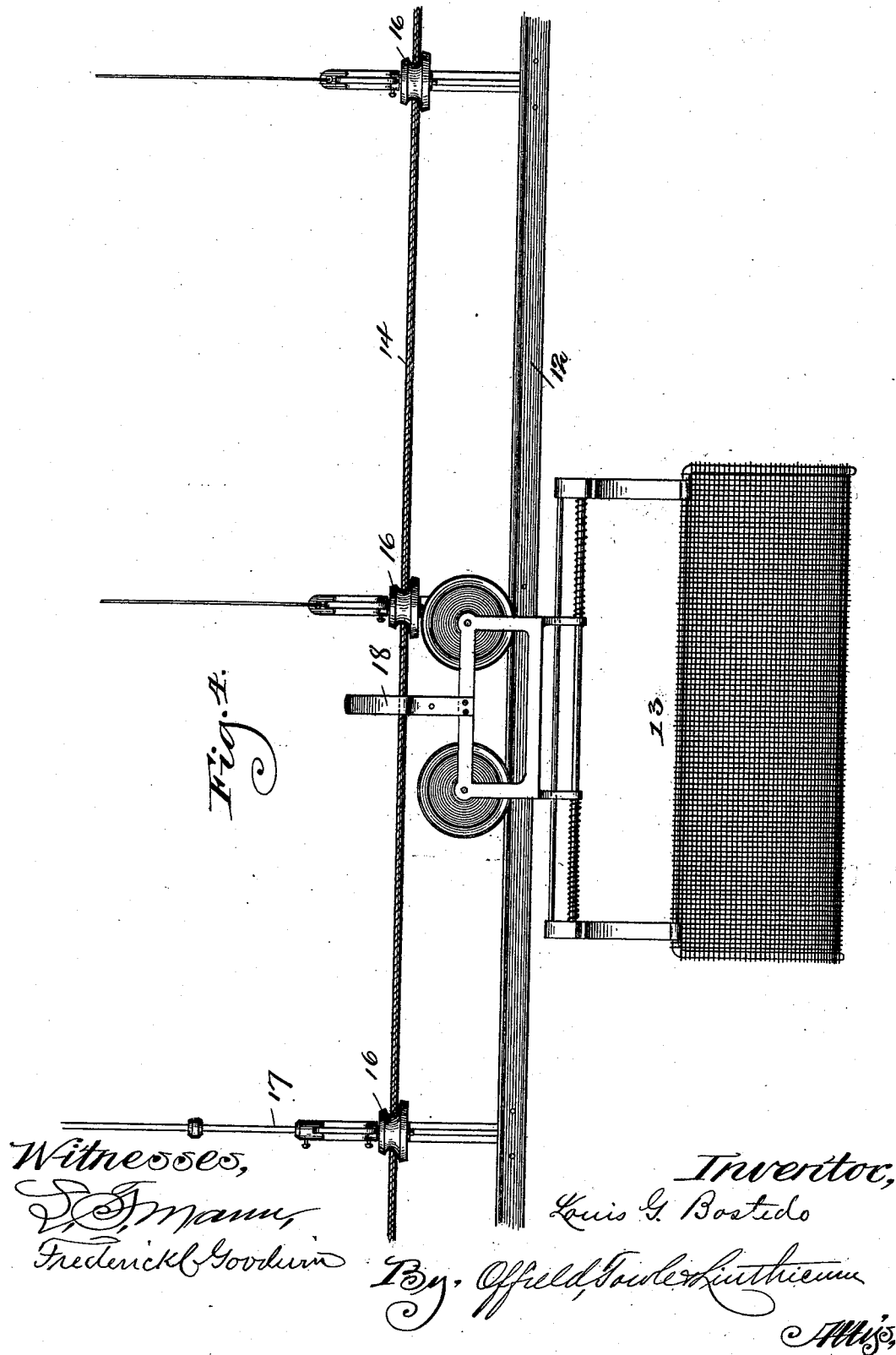
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No. 523,455.

Patented July 24, 1894.



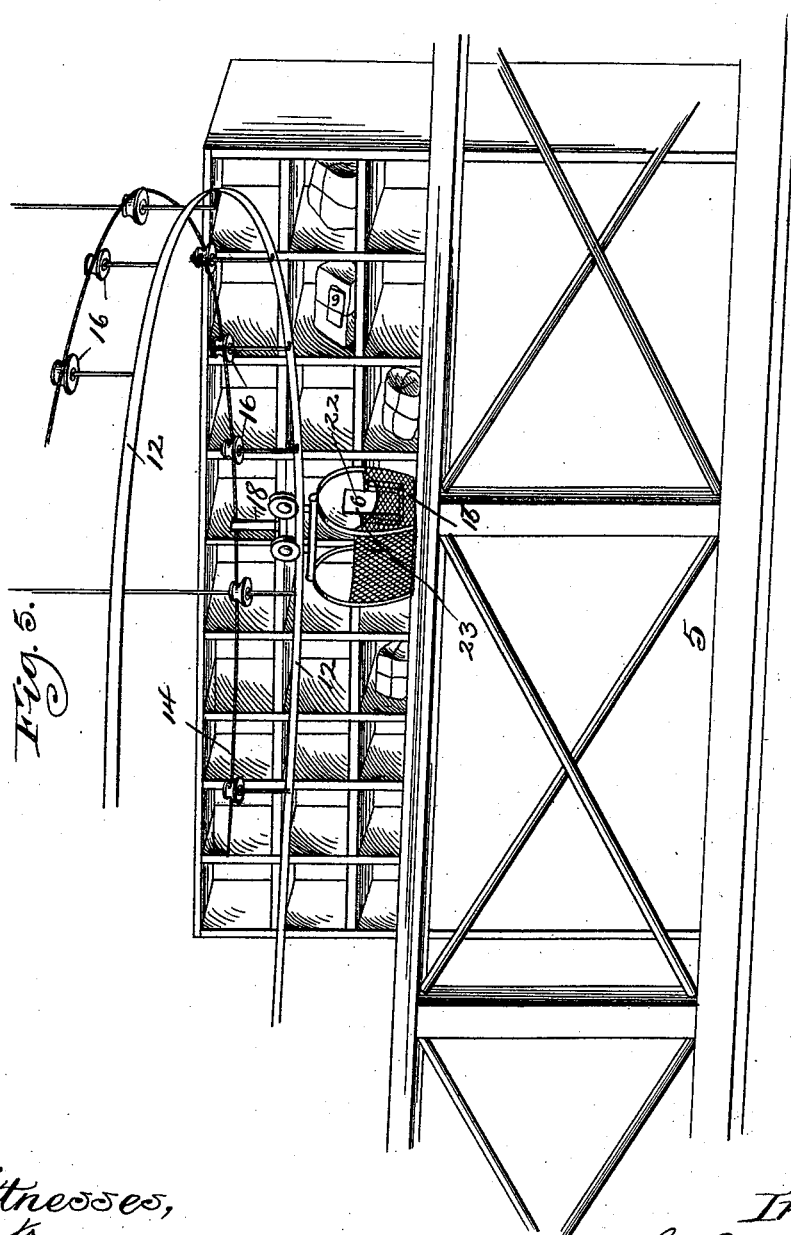
(No Model.)

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UNITED STATES PATENT OFFICE.

LOUIS G. BOSTEDO, OF CHICAGO, ILLINOIS.

STORE-SERVICE.

SPECIFICATION forming part of Letters Patent No. 523,455, dated July 24, 1894.

Application filed July 13, 1891. Serial No. 399,343. (No model.)

To all whom it may concern:

Be it known that I, LOUIS G. BOSTEDO, a citizen of the United States, residing at Chicago, Illinois, have invented a certain new and useful Improved Store-Service, of which the following is a specification.

Modern retail stores usually employ some mechanical system of carrying parcels and cash from the salesman's station to the cashier's desk and wrapping station, and for returning the parcels and change, if any, to the salesman. The systems in general use at the present time are of three kinds. In the first, wires are employed radiating from the wrapping and cashier's desk to the various salesman's stations upon which carriers for cash or parcels are propelled by a spring or equivalent device for giving them an initial impulse. In some instances these radiating wires are arranged so as to be reversely inclined by manipulation in order that the carrier may run from the salesman's station to the cashier's desk and return upon the same wire under the action of gravity. In the second type, fixed oppositely inclined tracks have been employed running from the wrapping desk and cashier's desk to the several sales stations at each of which elevators are provided for raising the carriers to the outgoing track and for receiving and lowering them from the return track. And selective devices have been employed whereby this lowering or switching of the elevators with the carriers thereon has been automatically performed. In these systems above described the salesman operates the device, that is to say, he must release the initial impulse appliance, reverse the direction of inclination of the wire, or hoist the elevator. Lately it has been proposed to relieve the salesman of this work by having a special operator who shall wait upon a number of salesmen; but in this last named system the elevator, switch and selective devices are employed; and in all systems in use at the present time the articles to be carried are placed in the basket or carrier and dispatched to the wrapping table where the carrier is delayed until the articles are ready to return, in the same carrier, to the starting point. In most cases the carriers have to be removed from the track and shifted to the return track, and fre-

quently have to be left standing upon the table until the change is made or the goods wrapped. The result is an absence of carriers from the salesman's station when they are most needed and a congestion of carriers at the wrapping table where they are in the way.

I propose to construct a system which will entirely obviate any accumulation of carriers at the wrapping department, and in which a sufficient number of carriers will always be provided at all parts of the store to dispatch articles without delay and this without the use of switches, elevators, or any mechanism to be operated either by the salesman or by the wrappers.

My system embodies an endless track or way upon which the carriers are moved from the sales station to a central station where the goods are wrapped and the change is made. For convenience I prefer to so arrange the sales stations that a number of salesmen shall be served from a single station, and by preference I employ an operator at each sales station to dispatch the carriers and to arrest those belonging to that station, remove the goods and change and return the parcel and change to the salesman.

The essential idea and characteristic of this system and its chief utility reside in the fact that any empty carrier passing through a sales station is or may be utilized for the dispatch of goods and cash to the central station and that any empty carrier at or passing the central station may be utilized for the return of the goods and change to the starting point, and this without any special mechanism, such as graduated stops, switches, elevators, and the like, the only requisite being that each carrier or its contents shall be marked or otherwise designated with the number or name of the station from which it is dispatched, and then the carrier is only detained long enough at the wrapping station to remove the goods when it may be used to convey back to its station any parcel which is wrapped and ready for return, or dispatched empty to be arrested at any station where a salesman or the operator is waiting to dispatch goods.

By a simple system of designating each carrier, both on its in-going and return trip, so

that it can be known to which station it belongs the attendant at that station is readily advised to stop the carrier for the purpose of removing the goods, when he may immediately
 5 redispach it on its way.

The mechanical appliances for carrying out my invention may be considerably varied so long as there is provided an endless way around which the carriers are propelled and
 10 means for distinguishing the carriers or goods.

In the accompanying drawings I have illustrated an endless track and wheeled carriers having baskets suspended therefrom, an endless cable and appliances for attaching the
 15 carriers to the cable. I have also shown a central station where the change is made and the goods are wrapped, and four stations where the goods are sold and each of which
 20 stations is served from the same track.

In the accompanying drawings, Figure 1 is a plan view showing the general arrangement of the salesmen's stations, the central station, the endless track and cable and the carriers
 25 upon said track. Fig. 2 is a side elevation of the same. Fig. 3 is a plan view of a section of the cable and track and showing one of the carriers; and Fig. 4 is a side elevation thereof. Fig. 5 is a broken perspective view showing
 30 the wrapping station and a part of the track and cable and one of the carriers with a designating mark or tag thereon.

In the accompanying drawings 5 represents the central station where the goods are wrapped and change is made, and 6, 7, 8, and
 35 9 represent, respectively, four salesmen's stations. Each of these stations is surrounded by the counters 10 and has the rows of shelving 11 for the goods. Any number of
 40 salesmen may be employed behind the counters in each of the four stations. Ordinarily from six to twenty can be served from a single station.

12 represents a suspended track which
 45 passes over the four sales stations to the central or wrapping station 5. This track is adapted for wheeled carriers 13 which are propelled along the track by means of an endless cable 14 which may be driven by the
 50 gearing 15, (Fig. 1.)

Instead of employing an endless cable, obviously the carriers might be propelled along the track by a suitable motor applied to each carrier and driven by electricity or other suitable power. If driven by electricity the cable 14 would be a trolley wire, the grip would be a trolley, and the track 12 a conductor of electricity, and the electric motor would be applied to the wheeled carriage. I prefer,
 60 however, to employ the mechanical apparatus shown in the drawings, and while this may be varied in its details, I prefer to construct the carrier and to provide for connecting it to the cable in substantially the manner shown in the drawings. As shown the cable is supported
 65 by sheaves 16, which are arranged in pairs and which may be carried by the hangers

17, which support the track rails. The faces of these sheaves are curved and the pairs are set alternately out of line as shown in Fig. 3
 70 so that the cable has a continuous bearing in the groove of one of the pulleys, while free from its fellow, as shown in Fig. 3 of the drawings where three pairs of the sheaves and a section of the cable are represented, the
 75 latter bearing upon the outer sheaves of the two end pairs while it bears upon the inner member of the middle pair of sheaves.

The carrier is provided with a gripping device consisting of a pair of gripping jaws 18
 80 which are turned out or spread apart at their upper ends so as to receive the cable between them and adapt them to grasp the cable sufficiently tight to lock the carrier therewith and to cause it to be propelled along the track
 85 by the movement of the cable. The sheaves are so set that the gripping jaws may pass between them and by reason of their being arranged in pairs in the manner above described the cable is prevented from dropping
 90 between them and is also caused to bear or rest in the groove of one member of each pair. This particular arrangement will be somewhat modified in passing around curves in which case the cable may bear upon the
 95 sheave nearest the center of the curve. By this simple mechanical device the carriers may be secured with the cable so as to be propelled along the track thereby or released therefrom by simply lifting the cable out of
 100 contact with the gripping jaws; or if preferred the cable may at proper intervals be carried out of the grasp of the jaws by being turned over suitable guiding pulleys 19, 20, (Fig. 2,) located above the plane of the cable, whereby
 105 the carrier is automatically released at this point, and when it is ready to be dispatched upon the return journey it may be pushed by hand along the track until it engages the cable.

22 represents a tag, mark or sign which is adapted to be detachably connected to the carriers. This tag may consist of a card or ticket secured to or placed in the pocket of a pocket book 23, the latter being intended to
 110 receive the cash and sales slip. Or the number may be painted on the pocket book or it may be a metal number secured thereto or, in fact, any identifying mark or sign may be employed. When a pocket book is used it
 115 may be conveniently placed in a receptacle in the end of the basket 15 and in such position that it will face in the direction in which the carrier moves so that it will be readily
 120 recognized by the attendant.

In the operation of this system each of the salesmen at the several stations will be provided with cash books or boxes bearing the salesman's name or number and these will be kept in a convenient receptacle near the operator who stands upon an elevated platform
 125 21 constructed above the shelving. All of the cash books or boxes used at a station are preferably distinguished from those used at the

other stations by a letter or by a color, the latter being preferred. The operator at each station will have a suitable mark, for example, a tag, readily attachable to and detachable
5 from the carrier, and preferably will have several of each number corresponding to the number of the salesmen and their cash books. Now, supposing that clerk, No. 1, in section No. 6, has made a sale. After receiving the
10 money he places it, together with his cash or bill, in his cash box, marked with the number corresponding to his own, all of the cash boxes at this station having a like color or designating letter, and hands the cash box
15 together with the goods to the operator. The latter will place the goods and the cash box in the first empty carrier passing his station and will also send with the carrier or goods a tag identified with his station, or the cash
20 box may be used for the purposes of identification. The carrier is then connected to the cable by engaging the latter within the gripping jaws and the carrier travels along the track to the wrapping counter where it is ar-
25 rested by the wrapper who removes the sign, goods and cash box, and dispatches the carrier on its way. After the goods have been wrapped and the change made, or amount checked by the cashier, the goods and cash
30 box are placed in the first empty carrier at hand and the carrier, marked with the sign or tag corresponding with the station from which it was received, is dispatched upon its way. When it reaches the operator who sent the
35 package it will be recognized by its mark, arrested, the package, cash box and sign removed and the goods and change delivered to the salesman who sent it.

It will be seen that any required number
40 of carriers may be continually traveling the circuit and if necessary each operator may have any number of carriers in reserve to be added to the circuit as necessary, and the wrapper may also have carriers in reserve.
45 In this way there will be no delay at the sales stations caused by waiting for the carriers, for the carriers will be dispatched as rapidly as sales are made. The time of the salesman is not taken from his regular work of selling
50 goods to operate the carriers. A single op-

erator at each station will thus save the time of a number of salesmen. There are no elevators to raise and lower nor switches to manipulate nor carriers to remove or replace
upon the tracks, and above all there is no
55 waiting for a particular carrier to be returned from the wrapping station in order to be again dispatched with a fresh parcel, but instead thereof the first carrier which passes is utilized. Thus time is not only saved to the
60 salesmen but the customer is also served much more promptly by reason of the saving in time effected in thus rapidly dispatching the goods to be wrapped and in returning them to the station when the proper change
65 is made.

It is evident that the means of propelling the carriers, the manner of distinguishing them, and the position of the operators may all be modified or varied in accordance with
70 existing circumstances, and that these things are not of the essence of my invention.

I do not herein claim the specific appliances used in operating the system as I intend to make the same the subject matter of another
75 application for Letters Patent.

Without limiting my invention, therefore, in any of the particulars above enumerated, I claim—

The improved method of operating store
80 service devices, which consists in providing an endless track or way, mounting thereon a series of unidentified carriers adapted to continuously travel on said way, placing the goods and money in the carriers at any sales
85 station on the way without removing the carriers from the track and placing on the carrier in which the goods of any one station are put a readily distinguishable mark identifying the goods with said station and allowing
90 the carrier to proceed to the wrapping or cashier's station, there removing the goods and money and identification mark from the carrier and allowing the then unidentified carrier to proceed upon its way, substantially
95 as described.

LOUIS G. BOSTEDO.

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