W. W. WOODRUFF.

TRANSFER BIN.

APPLICATION FILED NOV. 21, 1910.

1,089,518. Patented Mar. 10, 1914.

Fig 1

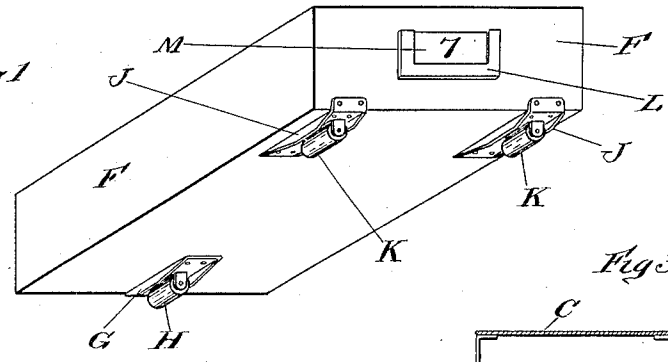


Fig 2

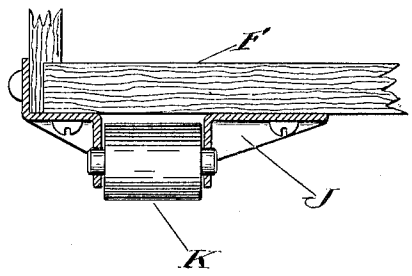
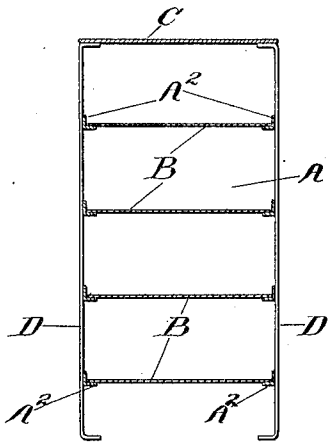


Fig 3



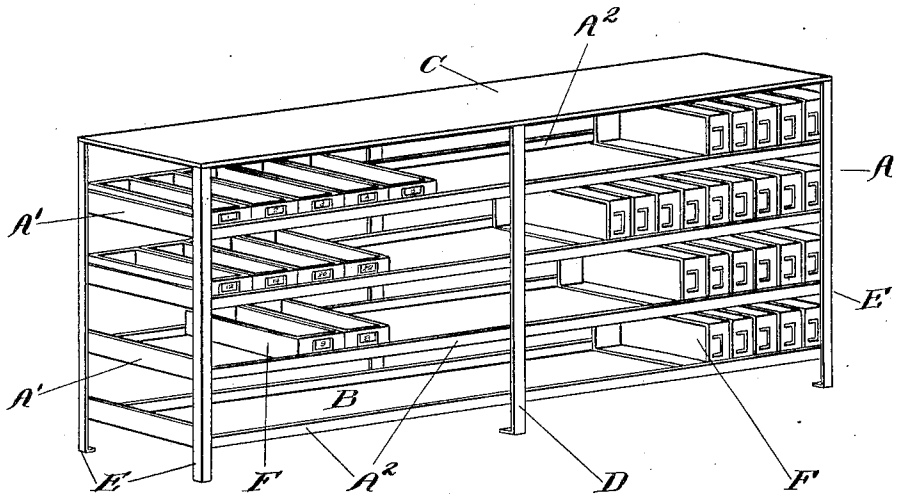


Fig 4

Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM WARREN WOODRUFF, OF ARDMORE, PENNSYLVANIA, ASSIGNOR TO THE LAMSON COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF NEW JERSEY.

TRANSFER-BIN.

1,089,518. Specification of Letters Patent. **Patented Mar. 10, 1914.**

Application filed November 21, 1910. Serial No. 593,474.

To all whom it may concern:

Be it known that I, WILLIAM W. WOODRUFF, of Ardmore, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Transfer-Bins, of which the following is a specification.

My invention relates to improvements in movable trays for receiving parcels in the transfer department from the various departments of a dry goods store. Packages arriving in the transfer department bear a number, the same number being used by the same purchaser for all packages purchased and each of the packages bearing the same number is placed in the same tray. The common method of caring for these packages is to have permanent bins built up from the floor and numbered consecutively. By this method it is necessary to have as many bins as there will be purchases or transfers issued during the day. Although the purchases covering a single transfer may occupy only a small fraction of the day, the bin would be empty or idle during the balance of the day and the attendants would be obliged to walk at times the full length of the series of bins to find the proper bin in which to place the package. By the use of these movable trays only the trays in actual service are in place to receive the packages. The balance may be stored at the end of the racks, it not being necessary that the trays be consecutively numbered, although the numbers placed in the card holder on the tray would follow each other in numerical order. As an illustration, the parcel may be received marked #12. One of the trays would be put in place on one of the shelves designed to take care of numbers 1 to 50 and a label with #12 on it placed on said tray by the attendant, and all packages marked #12 would be placed in it. The next number received might be #14 and another tray would be placed with #14 tag in the holder. The next might be #22. The next following number might be #20, in which case the #22 tray would be moved far enough to permit the insertion of another tray between #14 and #22 which would bear the tag #20, the object of this being to place the trays in proper order so that the number may be readily found.

In the accompanying drawings which illustrate a construction embodying my invention, Figure 1 is a perspective view of one of the transfer trays. Fig. 2 is a detailed side elevation of one of the rollers and part of the tray. Fig. 3 is a center cross sectional view through Fig. 4. Fig. 4 is a perspective view illustrating some of the boxes in place for use to receive packages and the others stored at the end.

Like letters of reference refer to like parts throughout the several views.

The frame A consists of the solid bottom plates B, of which four are shown for supporting the trays and the steel corners E and braces D for holding the plates B in position, with a suitable cover C.

The trays F are provided with two rolls K at the forward end pivoted in the lugs J riveted to the trays F and at the rear end a suitable roller H is pivoted in the lug G riveted to the tray F, thereby forming a three point bearing for the trays. At the front of the trays a suitable holder L in which cards carrying numbers are adapted to be placed so that all packages received in the transfer department having a certain number will be placed in the box of the corresponding number which is placed in said tray by the attendant when packages begin to arrive. The ledges A^2 at the front and rear project above the bottom of the plate or shelf B and serve the purpose of retaining the trays in place and the front ledge also acts as a guide for sliding the trays apart by pulling the tray forward against this ledge then moving same sidewise. If the packages received are too numerous for a single tray, two trays may be placed side by side bearing the same number. At the desired time the bundles may be removed from the tray and wrapped and marked for delivery.

It will be noted that the rollers are not only mounted so that their axes are held against swiveling but that further the rollers are preferably attached to the bottoms of the trays and in such manner that when the trays are stacked edgewise, as shown to the right in Fig. 4, said rollers enter the respective interiors of adjoining trays. This further economizes space and permits of greater movement of operatively disposed trays of a given series lengthwise of the shelf upon which they are mounted.

Having thus described the nature of my invention and set forth a construction em-

bodying the same, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A parcel sorting apparatus comprising a cage having a plurality of horizontal shelves arranged one above the other, a series of trays of considerably greater width than depth removably mounted in said cage on said shelves, each of said trays having a depth considerably less than the space between the shelf on which it rests and the shelf immediately above, to provide relatively large openings through which parcels may be readily inserted for emplacement upon or withdrawal from said trays when the latter are in position upon the shelves, each of said shelves adapted to hold a number of trays but normally having an insufficient number of the latter operatively disposed thereon to completely fill said shelf, rollers upon which said trays ride, the axes of said rollers being held against swiveling and disposed at right angles to the length of said shelves whereby lateral pressure upon any one of said trays, applied in the direction of the length of the corresponding shelf, may be readily communicated to one or more adjacent trays to facilitate a sidewise movement of a plurality of trays by pressure upon merely said one, for opening a space in a series of trays on a given shelf into which an additional tray may be inserted, the width of said trays being less than the distance between shelves to permit the trays when out of use being stacked on edge to afford room for the said sidewise movement of operatively disposed trays.

2. A parcel sorting apparatus comprising a cage having a plurality of horizontal shelves arranged one above the other, a series of trays removably mounted in said cage on said shelves, each of said trays having, in the front at least thereof, a depth considerably less than the space between the shelf on which it rests and the shelf immediately above, to provide relatively large openings through which parcels may be readily inserted for emplacement upon or withdrawal from said trays when the latter are in position upon the shelves, each of said shelves being adapted to hold a number of trays but normally having an insufficient number of the latter operatively disposed thereon to completely fill said shelf, rollers upon which said trays ride, the axes of said rollers being held against swiveling and disposed at right angles to the length of said shelves whereby lateral pressure upon any one of said trays, applied in the direction of the length of the corresponding shelf, may be readily communicated to one or more adjacent trays to facilitate a sidewise movement of a plurality of trays by pressure upon merely said one, for opening a space in a series of trays on a given shelf into which an additional tray may be inserted.

3. A parcel sorting apparatus comprising a cage having a plurality of horizontal shelves arranged one above the other, a series of trays of considerably greater width than depth removably mounted in said cage on said shelves, each of said trays having a depth considerably less than the space between the shelf on which it rests and the shelf immediately above, to provide relatively large openings through which parcels may be readily inserted for emplacement upon or withdrawal from said trays when the latter are in position upon the shelves, each of said shelves adapted to hold a number of trays but normally having an insufficient number of the latter operatively disposed thereon to completely fill said shelf, rollers upon which said trays ride, the axes of said rollers being held against swiveling and disposed at right angles to the length of said shelves, whereby lateral pressure upon any one of said trays applied in the direction of the length of the corresponding shelf may be readily communicated to one or more adjacent trays to facilitate a sidewise movement of a plurality of trays by pressure upon merely said one, for opening a space in a series of trays on a given shelf into which an additional tray may be inserted, the width of said trays being less than the distance between shelves to permit the trays when out of use being stacked on edge to afford room for the said sidewise movement of operatively disposed trays, said rollers being attached to the bottoms of said trays and being spaced in from the edges of the latter to permit of said rollers entering into the interior of an adjoining tray when stacked on edge in manner aforesaid, whereby a further economy of space is effected.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses, this 17th day of November A. D. 1910.

WM. WARREN WOODRUFF.

Witnesses:
WM. T. ABELL,
JAMES H. BRADFORD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."