

(No Model.)

J. C. WHITE.
Store Service Apparatus.

No. 229,783.

Patented July 6, 1880.

Fig. 1.

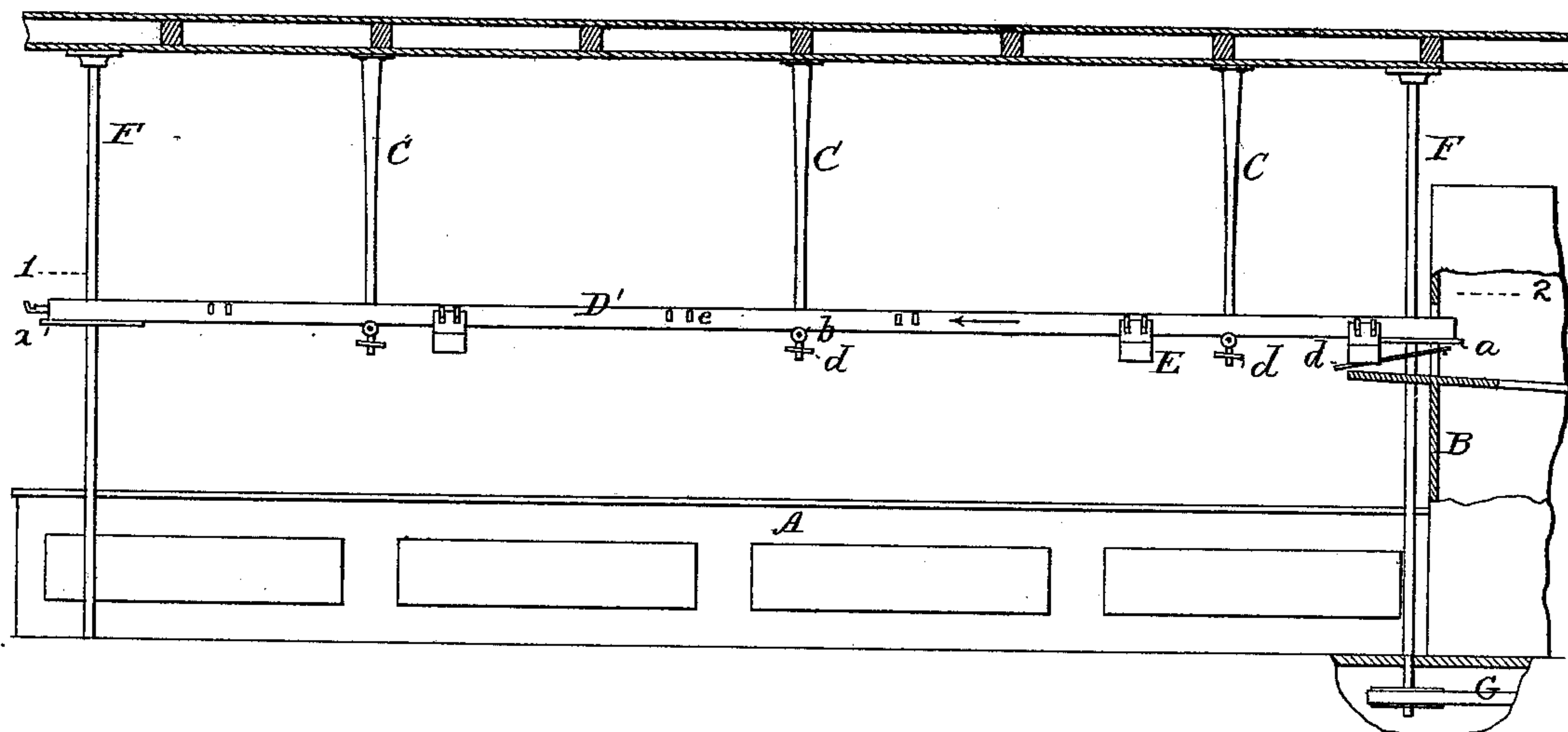


Fig. 2.

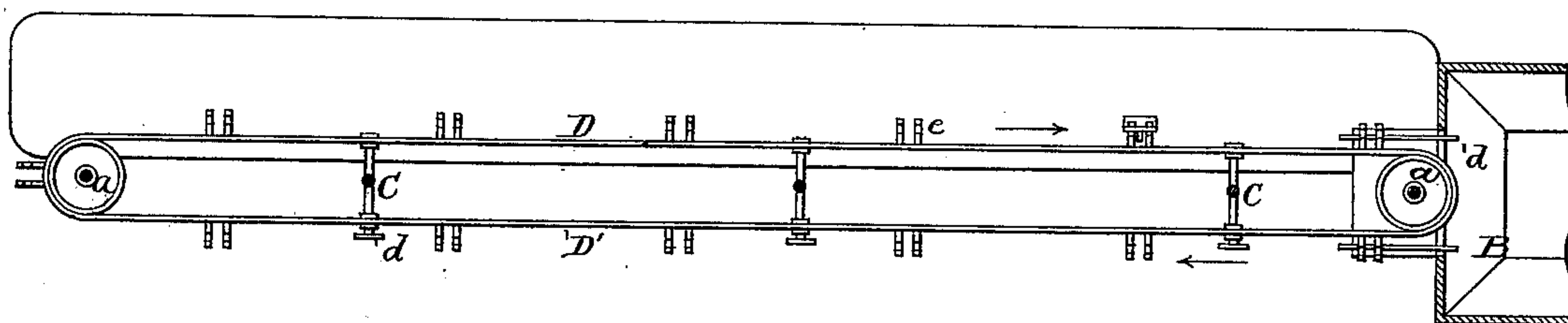


Fig. 3.

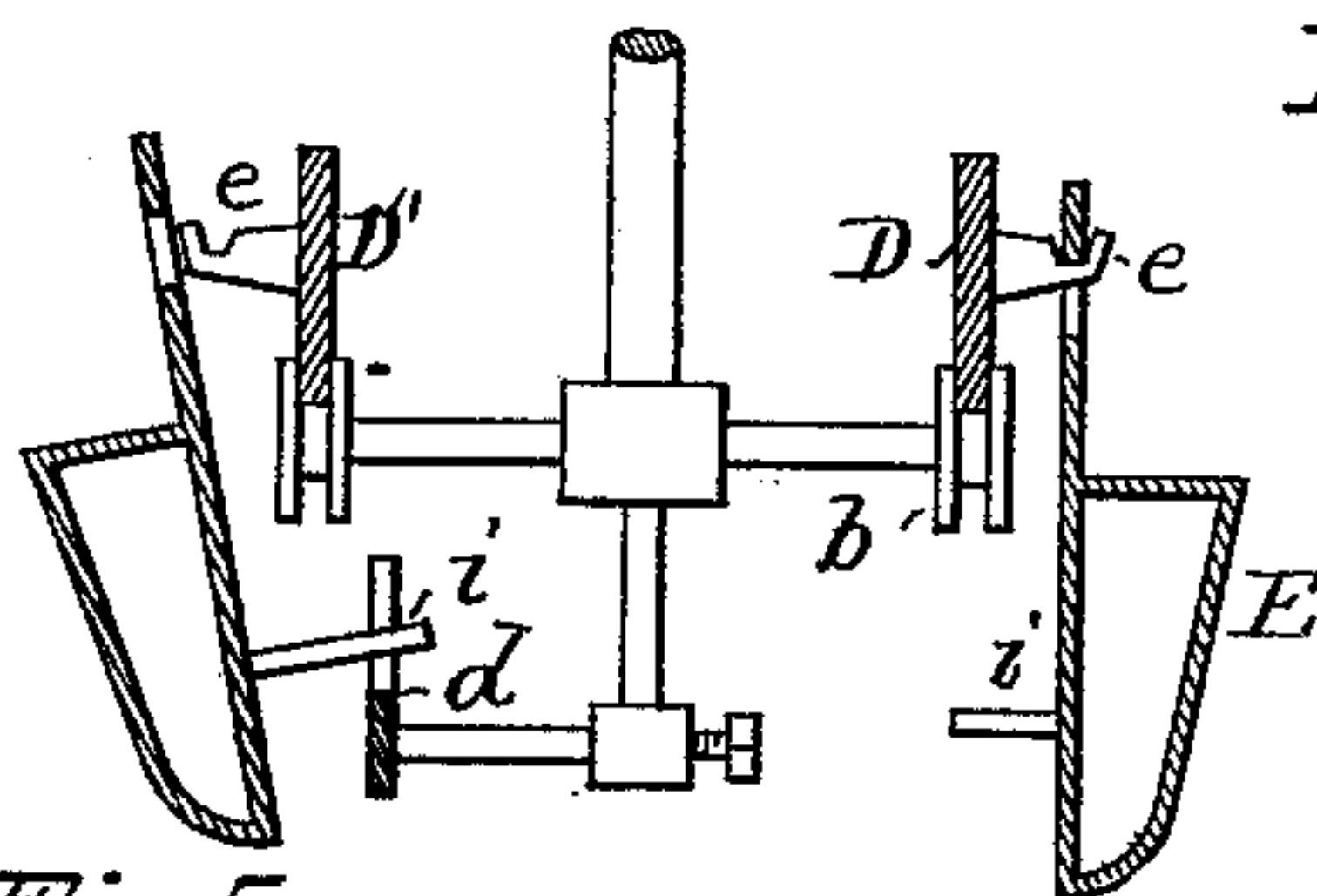


Fig. 4.

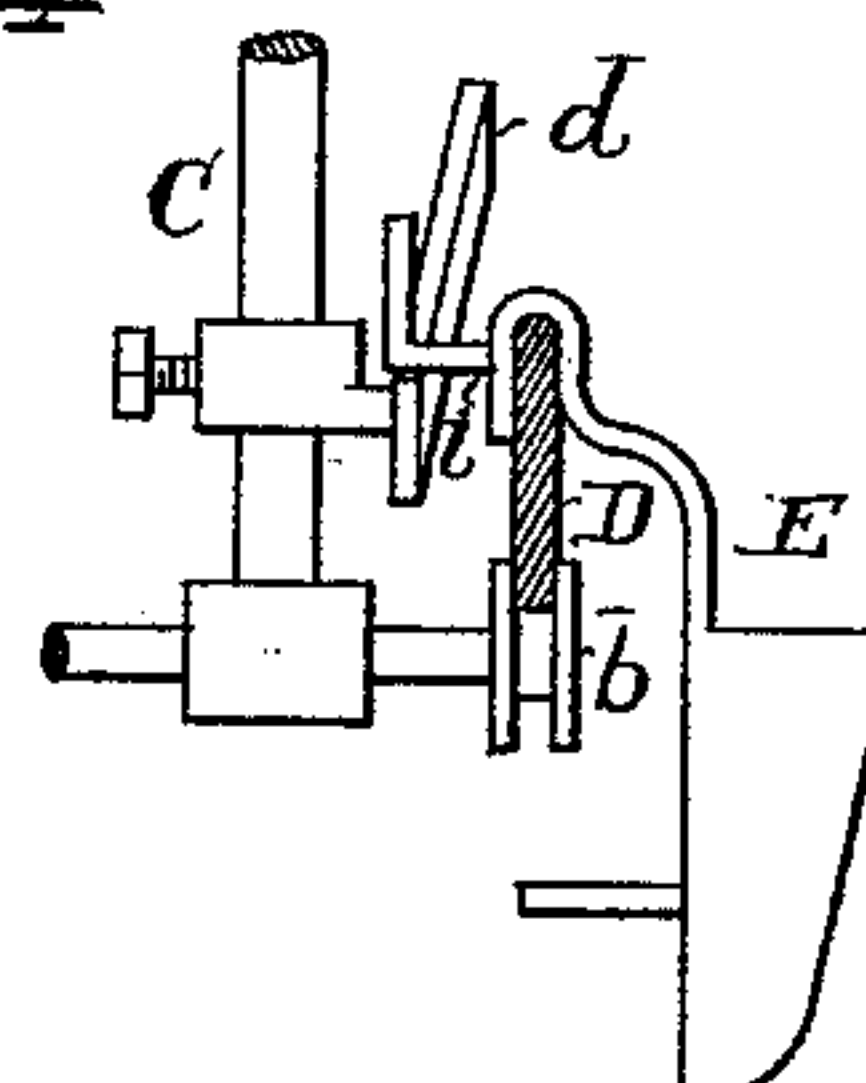
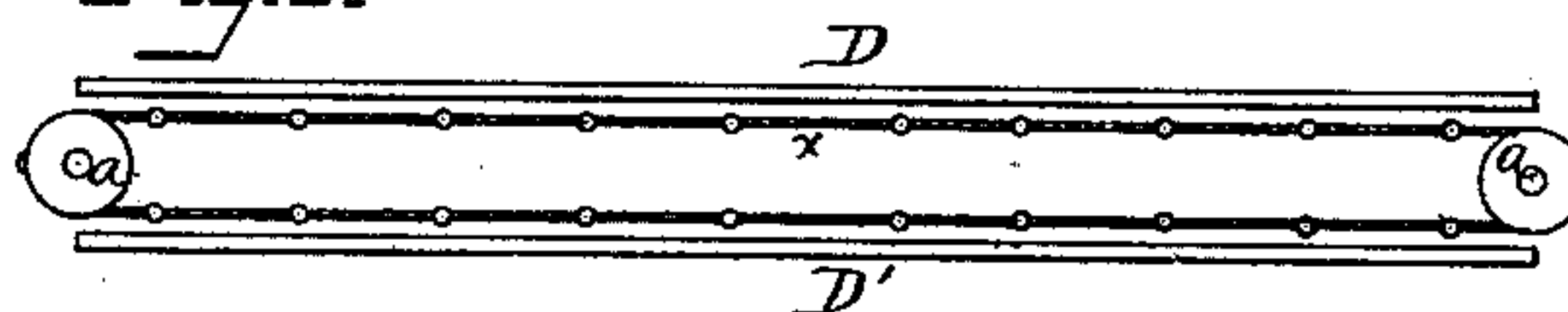


Fig. 5.



Attest:
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UNITED STATES PATENT OFFICE.

JOSEPH C. WHITE, OF NEW YORK, N. Y.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 229,783, dated July 6, 1880.

Application filed April 26, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. WHITE, of the city, county, and State of New York, have invented an Improvement in Store-Service Apparatus, of which the following is a specification.

My invention relates to that class of apparatus whereby articles are carried from the counters of a store to a central desk, and each back to the counter from which it was sent; and my invention consists in combining with the carriers certain means for driving the same along their courses by positive movements derived from suitable motors.

In the accompanying drawings, forming part of this specification, Figure 1 is an elevation of a store-room, showing the counters, desk, and carrying apparatus. Fig. 2 is a plan on the line 1 2, Fig. 1; Fig. 3, a detailed section, showing part of a hanger and carrying appliances, with a device for automatically detaching the carriers; Figs. 4 and 5, views showing modifications.

In applications for patents heretofore filed by me and in Letters Patent granted to me on the 11th day of November, 1879, I have shown and described a store-service system in which inclined rails extending over the counters to and from the main desk constitute the ways on which carriers can pass automatically by gravity, conveying money and articles from each counter to the central desk and back again to the counter.

This invention therefore does not consist, broadly, of an automatic communication between the counters and the desk of a store, but consists of different means for carrying out this central feature, having for its object to provide means for positively operating the carriers from some suitable motor.

Various appliances may be used in effecting this result, one means being shown in the accompanying drawings, in which—

A represents a line of counters in a store; B, a desk to which the money or goods are to be conveyed; C, hangers for supporting the ways, and D D' a pair of said ways, consisting, in this case, of the opposite parallel portions of a horizontal continuous band of steel, leather, or other flexible material passing around pulleys *a* on vertical shafts F and rest-

ing upon grooved pulleys *b*, supported at suitable intervals by the hangers C.

A traveling motion is imparted to the band by a belt, G, driving one of the shafts F, or by gearing of any suitable character driven from a steam-engine or any available motor.

Each carrier E is constructed in any shape necessary to retain the articles to be conveyed, and is provided with some means whereby it may be supported on the ways D D', slots adapted to hooks *e*, projecting from the ways, being shown in Fig. 3, and hooks whereby the carrier may be hung directly upon the ways being shown in Fig. 4. In either case any carrier may be placed upon the way D by the attendant at any counter, and will then be carried, by a positive movement, in a horizontal line to the desk, and thence back to the counter.

It is most important that means be provided whereby each carrier may be automatically arrested when it reaches the desk, and also when it reaches the counter from which it was sent.

Certain means are described in my aforesaid patent, and other means will constitute the subject of separate applications for Letters Patent. I therefore do not limit myself to any specific devices, but illustrate one only—that is, a pin, *i*, or other projection upon each carrier and an inclined rod or plate, *d*, supported by the hanger, or by a bracket near the desk, in such position that the pin will ride over the same as the carrier is propelled in its course, thereby lifting the carrier from the way, so that succeeding carriers may pass.

The pins and plates of the respective carriers are relatively so proportioned and arranged that each carrier, on its return from the desk, will strike only the plate *d* at the counter from which it was sent, so as to automatically arrest each carrier at its destination. All the carriers, however, are disconnected at the desk.

In the apparatus above described the band D D' constitutes both the ways and propelling device. This, however, is not essential, as the ways D D' may be stationary rods, bars, or plates, as shown in Fig. 5, and the propelling device may be a flexible cord, belt, or band, *x*, traveling in proximity to the ways and provided with projections for bearing against some portion of the carriers supported by the ways, or constructed so as to bear frictionally against

the carriers, and thereby propel the latter until they are arrested by suitable appliances.

Any other available means may be made use of, however, for driving the carriers. For instance, the carriers may be propelled in tubular ways by compressed air.

I wish it to be understood that by the terms "means for driving the carriers" and "operating appliances" I do not include any appliances combined with and carried by said carriers, but only motors outside and independent of the carriers.

Although I have shown the ways arranged above the counters, I contemplate, in some instances, placing them beneath the counters or even beneath the floor. Without, therefore, limiting myself to the precise construction shown,

I claim—

1. The combination, with the counters and desk of a store, of a way extending from a position adjacent to each counter to a desk, a

way extending from the desk to or past said counter, and operating appliances whereby carriers placed upon said ways are propelled to and from the desk.

2. The combination of counters, desk, ways, and carriers, and appliances whereby each carrier is automatically driven along its way from the counter to the desk, and from the desk back to said counter, substantially as set forth.

3. The combination, with the counters and desk, of a band and appliances for operating the same to conduct the carrier to the desk, and from the latter to the counter from which it was sent, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH C. WHITE.

Witnesses:

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H. H. HAYDEN.