

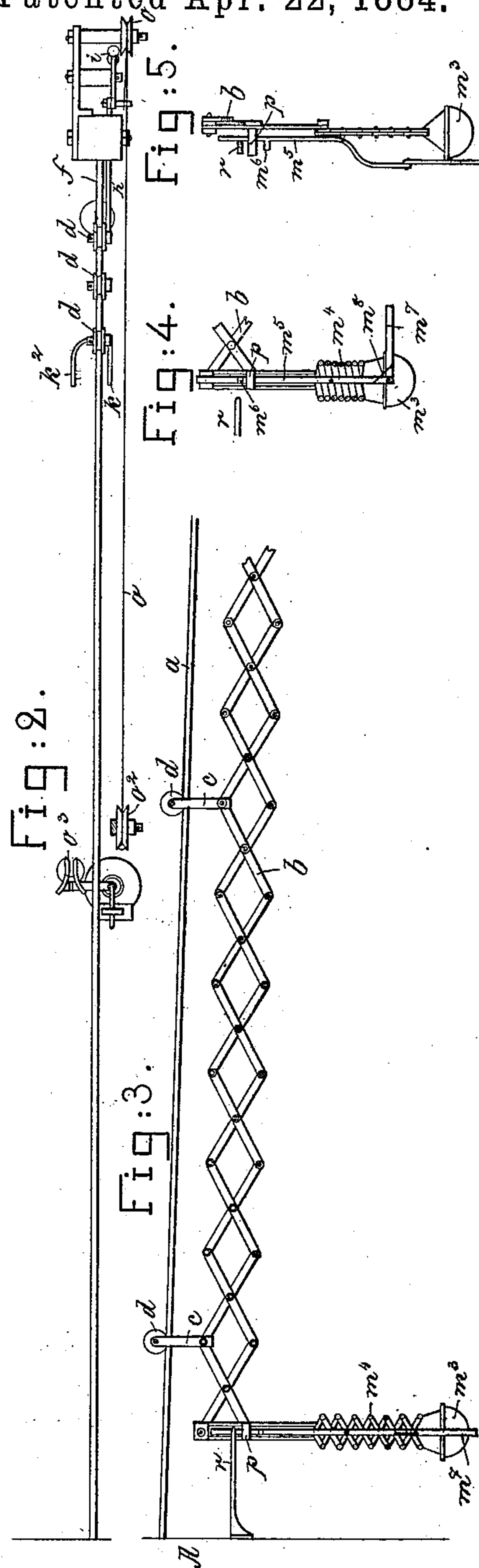
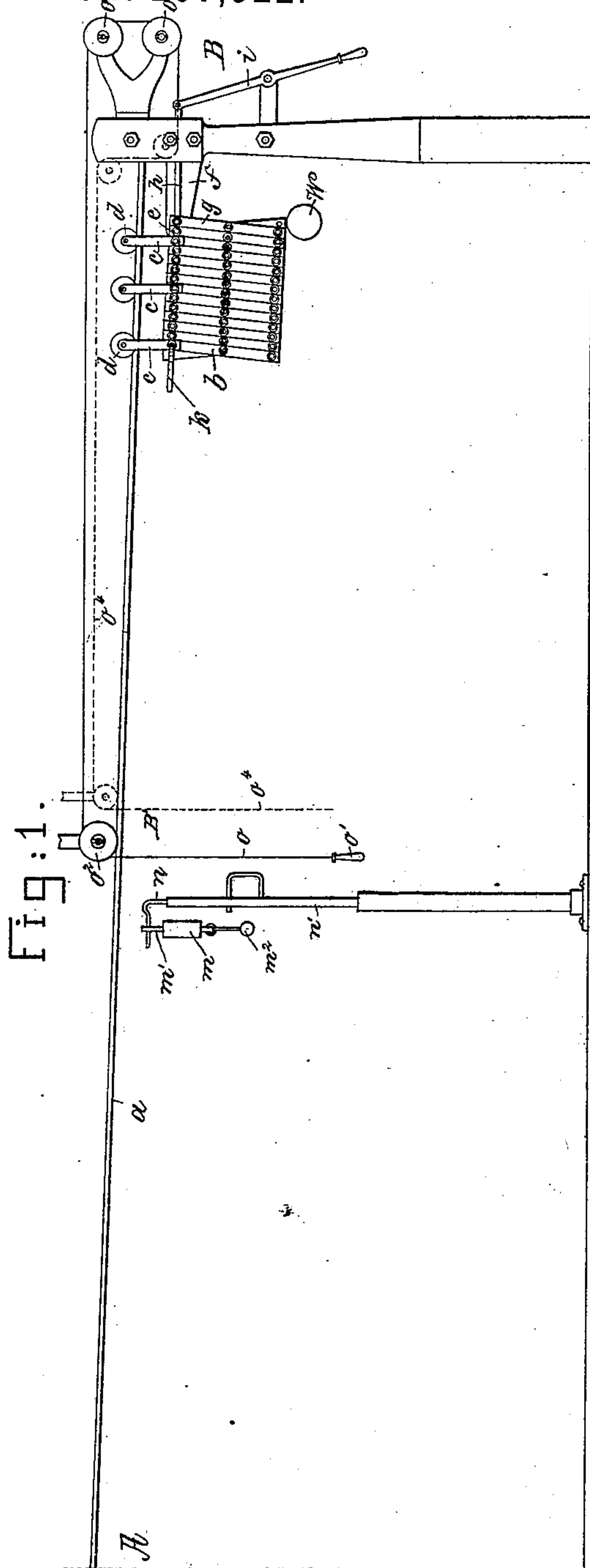
(No Model.)

T. M. KENNEY.

## CASH SYSTEM.

No. 297,522.

Patented Apr. 22, 1884.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## CASH SYSTEM.

SPECIFICATION forming part of Letters Patent No. 297,522, dated April 22, 1884.

Application filed March 24, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS M. KENNEY, of Cambridge, county of Middlesex, State of Massachusetts, have invented an Improvement in Cash Systems, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention, relating to a cash-carrying apparatus for use in stores, has for its object to provide means for positively and rapidly conveying the cash-receptacles or other parcels back and forth between different stations in the store.

The invention consists, essentially, in the combination of one or more tracks connecting or passing through the different stations, with a system of levers or lazy-tongs supported and guided by the said tracks, and provided with means to carry the receptacles, and also with means for actuating it from the different stations.

Figure 1 shows in side elevation an apparatus connecting a main or central station or cashier's desk with two sub-stations, the system of conveying levers or lazy-tongs being contracted, as required, for receiving or delivering a burden or cash receptacle at the station most remote from the cashier's desk, which is not shown; Fig. 2, a plan view thereof; Fig. 3, a side elevation, showing the conveying-levers or lazy-tongs extended in position to receive or deliver a burden at the cashier's desk, it showing also a modified form of the carrier or appliance for connecting the burden with the actuating lazy-tongs; and Figs. 4 and 5, details showing the said carrier in other positions.

The cashier's desk or main station, located at or near A, is connected with the different sub-stations or counters, two of which are shown at B B', by a suitable track, *a*, shown in this instance as consisting of a stretched wire, which may be either horizontal or inclined in one or the other direction, and will be sufficiently high not to interfere with persons or objects on the floor beneath, it being shown in this instance as inclined somewhat downward from the cashier's desk at A.

The cash-receptacle or other parcels, burdens, or articles to be conveyed are carried along the line of the tracks *a* by a series of jointed levers, *b*, constituting what is known as a "lazy-tongs," one or more of the joints of which are suspended by suitable hangers, *c*, from the track *a*, the said hangers being provided with rollers *d*, or otherwise adapted to travel easily on the said track. One of the joints *e* of the said lazy-tongs, near one end thereof, which may be called the "rear" end, is pivoted upon a fixed support or standards, *f*, and the arm *g* of the said lazy-tongs is connected by a link or bar, *h*, with a lever, *i*, provided with a suitable handle within reach of the clerk or operator, the said bar and lever constituting the actuating mechanism by which the apparatus is operated by the attendant at the station B. The other end of the lazy-tongs is provided with a carrier, (shown in Fig. 1,) as a finger, *k*, connected with the joint at the forward end suspended from one of the hangers *c*, so that the said carrier-finger moves in a path parallel with the track *a*, and will carry a parcel or receptacle hung upon it along the said track.

When there are intermediate stations, as at B', between the ends of the track; the cash-receptacle or burden *m* may be applied to the carrier *k* as the latter moves past the station, thus avoiding the necessity of arresting the movement of the lazy-tongs. In order to thus apply the receptacle *m* to the carrier *k*, the said receptacle is provided with a suspending ring or eye, *m'*, and is held with the said ring in the path of movement of the carrying-finger *k*, so that the latter enters the said ring and picks up the receptacle as it passes. As shown in this instance, the receptacle is supported on another finger, *n*, mounted on a rod, *n'*, movable vertically from the position where the receptacle *m* is accessible to the operator up to the position shown in Fig. 1, where the said receptacle will be caught by the carrier as it passes. The lazy-tongs may be actuated from the station B' by means of a cord, chain, or band, *o*, provided with a handle, *o'*, and extended over suitable pulleys, *o''*, to the station B, where the said cord is connected with



the bar  $h$ , so that by pulling the handle  $o'$  the same effect is produced as by moving the lever  $i$  at station B. As the lazy-tongs will be stationary when burdens are applied or removed at station B, the receptacle may be hung directly on the said finger, and when there are two or more stations along the line of track the receptacle may be delivered each at the proper stations in the return movement of the conveying lazy-tongs, as follows: The lazy-tongs is provided with a return-carrier,  $k^2$ , preferably in the opposite side to the one  $k$ , it thus moving in a path parallel with the guide or rail  $a$ , but different from the path of the carrier  $k$ . When there is but one intermediate station, as B', the receptacles  $m$  belonging to the said station are provided with a detaching device, shown as a ball or projection,  $m^2$ , which will be caught by a detacher,  $o$ , in the return movement of the lazy-tongs from the cashier's desk, thus arresting the receptacle at the intermediate station. The receptacles belonging to the terminal station B will not have any detaching device, and will consequently pass the station B' without being caught and detained.

When there are several intermediate stations, the balls  $m^2$  of the receptacles corresponding to the different stations are of different size, the largest belonging to the receptacles of the station nearest the cashier's desk, and the detachers  $o$ , consisting of two fingers, which catch the balls  $m^2$ , will be properly set to engage the detaching devices of the receptacles belonging to the same station, but will permit the smaller balls of the receptacles belonging to stations more remote from the cashier's desk to pass through.

The lazy-tongs may be operated positively in both directions by the actuating mechanism before described, the cord  $o$  extending to all the stations from which it is to be operated, and there being another cord, as shown in dotted lines at  $o'$ , to move the rod  $h$  in the other direction; but it is preferable to move lazy-tongs positively in one direction only, making the track  $a$  somewhat inclined, as shown, so that it will return or move in the opposite direction by the action of gravity, and a weight, W, connected with one of the arms of the lever, may be employed to actuate in whole or in part the levers in making their return movement.

When there are no intermediate stations, the carrier (illustrated in Figs. 3, 4, 5) may be conveniently employed, it consisting of a receptacle,  $m^3$ , supported on a vertically-movable lazy-tongs,  $m^4$ , which, when contracted, as in Fig. 4, raises the receptacle high enough to clear objects beneath in its movement. The lazy-tongs  $m^4$  is supported in its raised or contracted position by a bar,  $m^5$ , provided with a latch,  $m^6$ , which is then engaged by the upper edge of a guide,  $p$ , connected with the lazy-tongs  $b$ . When the receptacle arrives at the end of the track, the upper end of

the bar  $m^5$  is engaged by a tripping device,  $r$ , disengaging the latch  $m^6$  from the guide  $p$ , and permitting the receptacle to drop by its own weight, as shown in Figs. 3 and 5. The bar  $m^5$  is provided with a hinged extension,  $m^7$ , by which the receptacle may be again raised to catch the latch of the bar  $m^5$ , after which the said extension  $m^7$  is released, and will be drawn up by a spring,  $m^8$ , as shown in Fig. 4, so as not to interfere with objects below during the movement of the receptacle.

When desired, the track  $a$  may be curved, as the lazy-tongs can bend a considerable amount in a lateral direction, and in some cases the track might be dispensed with altogether by providing a suitable guide for one of the joints of the lazy-tongs.

When there is but one intermediate station, a single carrier, as  $k$ , will be sufficient to convey the articles in both directions; but when there is a greater number of stations it is preferable to have a separate carrier for conveying the articles in each direction, as otherwise it would be desirable, if not necessary, to remove the detachers from the path of the receptacles when they are going toward the cashier's desk; but by having separate carriers the detachers may be stationary without danger of interfering with the movement of the receptacles.

I claim—

1. In a carrying apparatus, the combination, with a track or guide, of a lazy-tongs supported and guided by the said track and actuating mechanism for contracting and expanding the said lazy-tongs, whereby the latter may convey articles between stations on the said track, substantially as described.

2. The combination, with the lazy-tongs and actuating mechanism for expanding and contracting the same, of a carrier connected with the said lazy-tongs and moved thereby, substantially as described.

3. The lazy-tongs provided with a carrier, combined with a support for holding an article in position to be engaged by the said carrier in the movement of the lazy-tongs, substantially as described.

4. The lazy-tongs and carrier connected therewith, combined with a detacher adapted to engage an article supported on the said carrier and remove it therefrom, substantially as described.

5. The lazy-tongs provided with carriers, combined with a support for holding an article in position to be engaged by one of the said carriers in the movement of the lazy-tongs in one direction, and a detacher in position to engage an article supported on one of the said carriers and remove it therefrom in the movement of the lazy-tongs in the other direction, substantially as described.

6. The lazy-tongs having at one end a joint connected with a fixed pivot and at its other end a carrier, combined with actuating mechanism for expanding the said lazy-tongs and



an actuating-weight or equivalent for contracting the said lazy-tongs, substantially as described.

7. The lazy-tongs and actuating mechanism therefor, combined with a vertically-movable carrier connected with the said lazy-tongs, substantially as described.

8. The lazy-tongs provided with a carrier, combined with the flexible actuating device connected with the said lazy-tongs, whereby the latter may be actuated from different points or stations, substantially as described.

9. The main lazy-tongs and actuating mechanism therefor, combined with a carrier, receptacle, and vertically-movable lazy-tongs

connecting the said receptacle with the main lazy-tongs, substantially as described.

10. The main lazy-tongs, combined with the vertically-movable lazy-tongs connected with one end thereof, and the actuating-bar for the vertically-movable lazy-tongs and hinged extension of the said bar, substantially as described.

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

THOMAS M. KENNEY.

Witnesses:

JOS. P. LIVERMORE,  
W. H. SIGSTON.