

(No Model.)

M. KENNEY & F. E. MASON.

CASH CARRIER.

No. 331,245.

Patented Nov. 24, 1885.

Fig. 1.

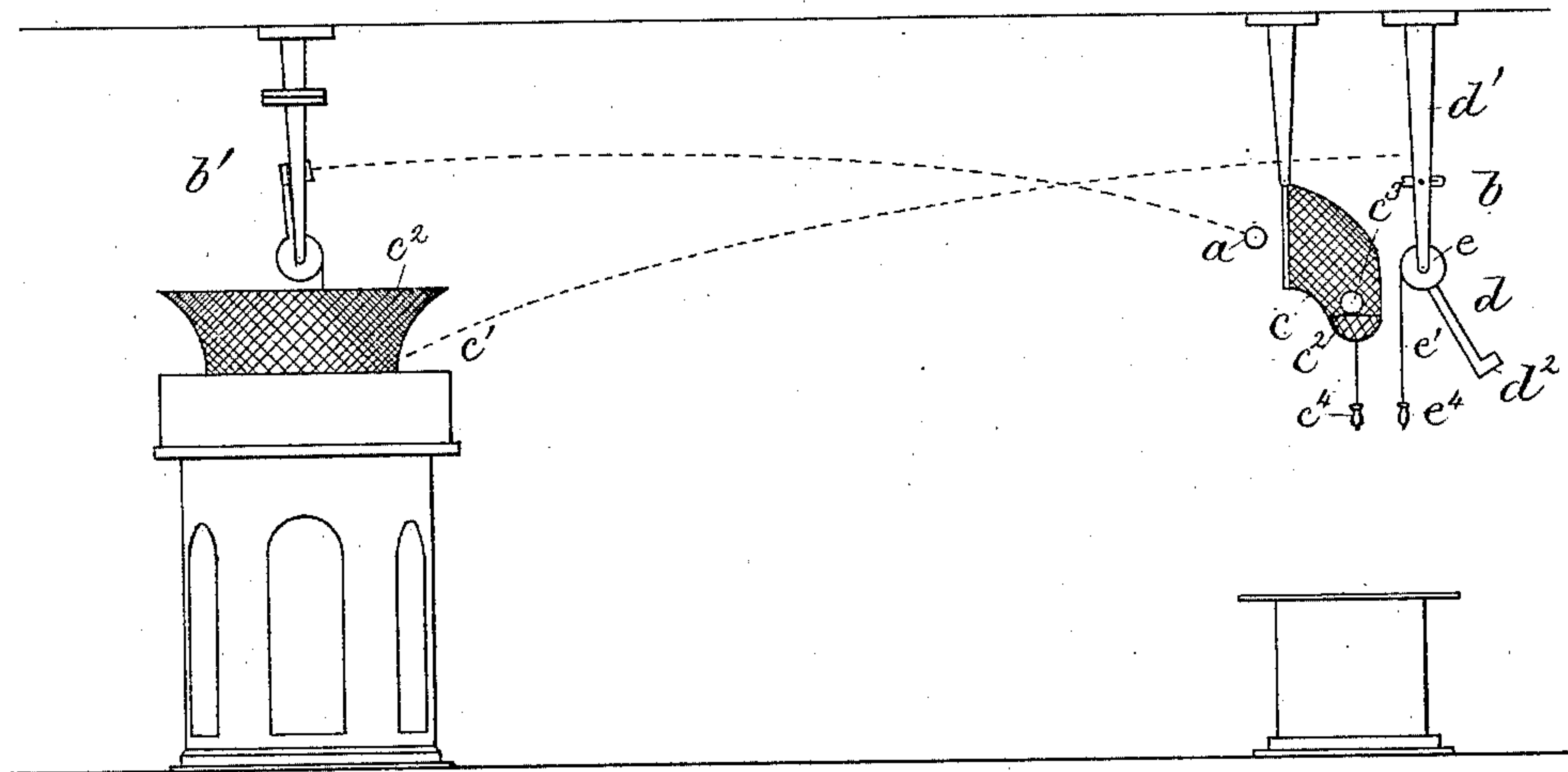


Fig. 2.

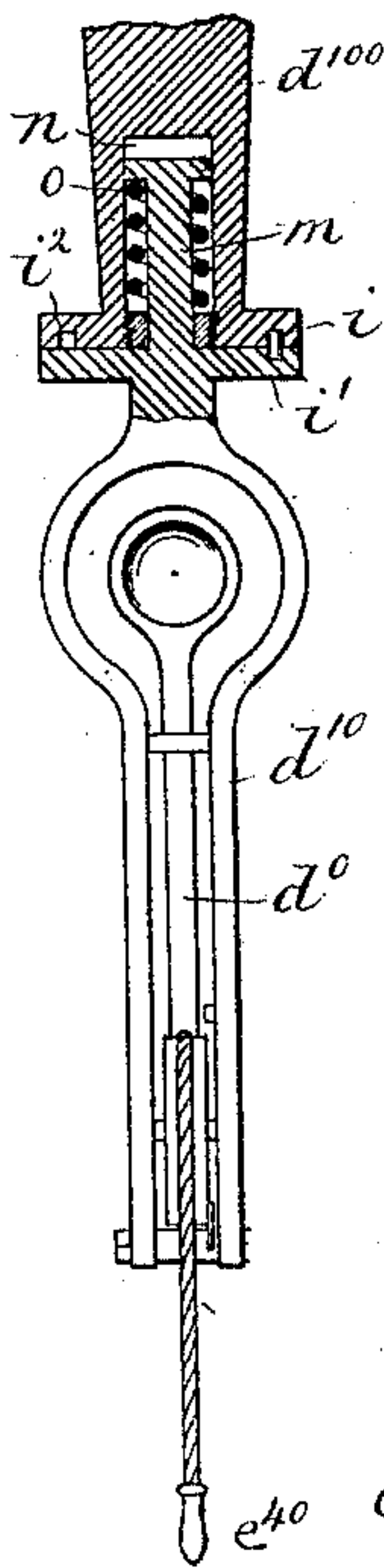


Fig. 3.

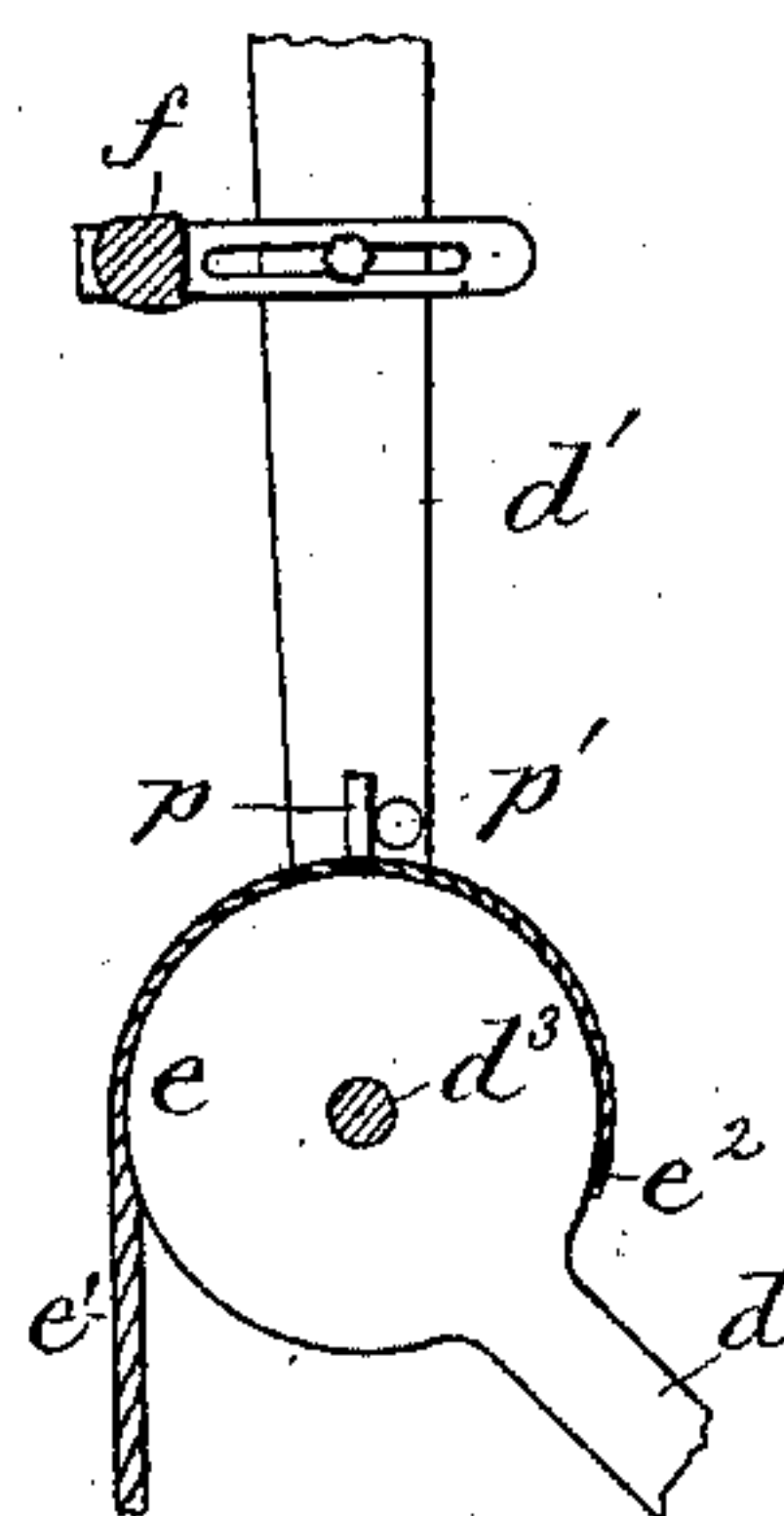
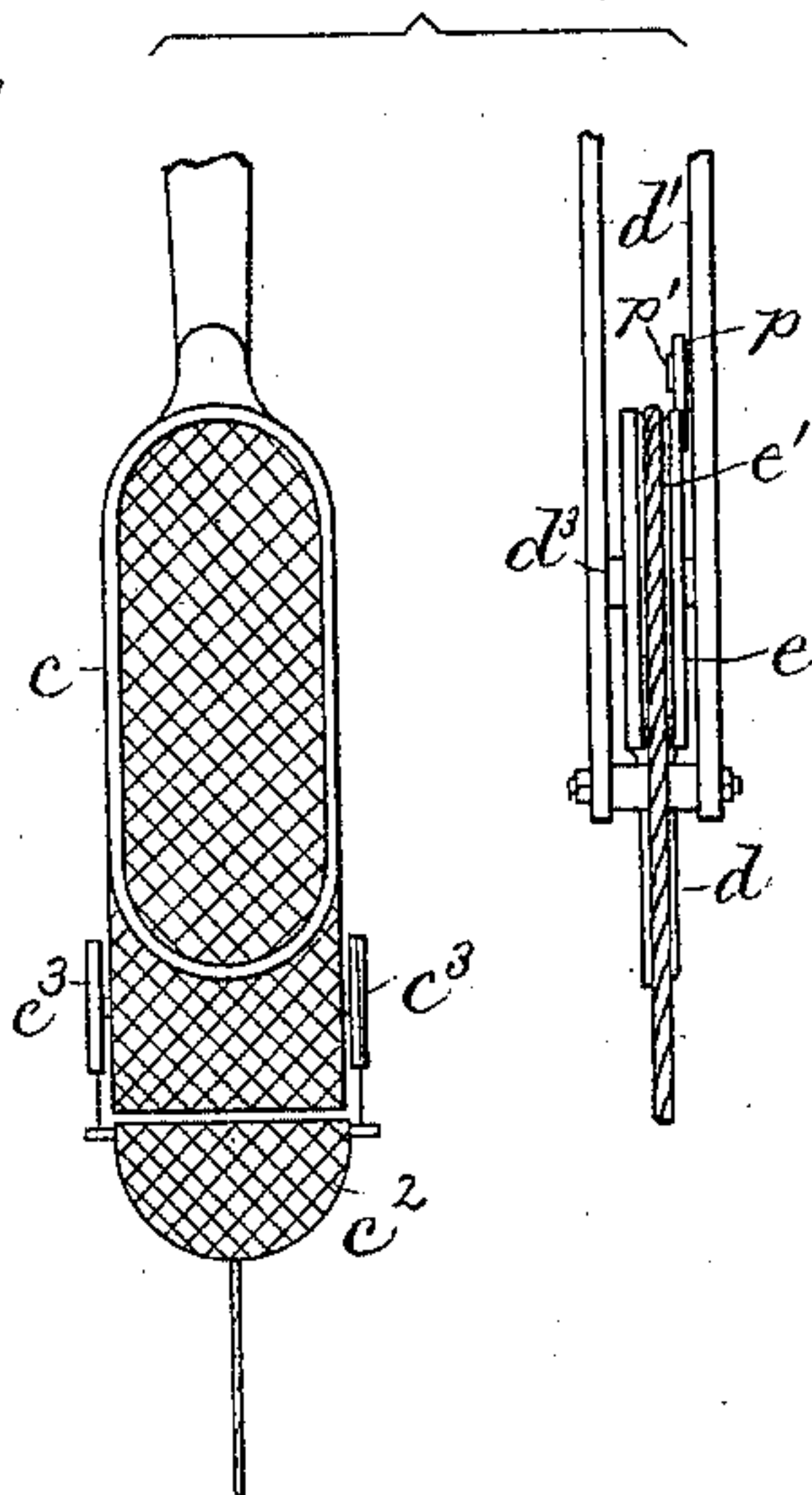


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## CASH-CARRIER.

SPECIFICATION forming part of Letters Patent No. 331,245, dated November 24, 1885.

Application filed August 13, 1885. Serial No. 174,273. (No model.)

*To all whom it may concern:*

Be it known that we, THOMAS M. KENNEY and FRANK E. MASON, of Boston, (Cambridge,) Middlesex county, State of Massachusetts, have  
5 invented an Improvement in Cash-Carriers, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 Our invention relates to a conveying apparatus or cash-carrier for store-service or other similar purposes, and is intended to produce a simpler and more efficient apparatus than heretofore devised for this purpose.

15 The essential feature of the invention consists in throwing or shooting the carriers or receptacles for cash or other articles to be conveyed through the air between the different stations, thereby avoiding the necessity of  
20 tracks or ways, which are an unsightly encumbrance to a store.

The invention is embodied in an apparatus comprising throwing or shooting devices at the different stations for projecting the carriers  
25 in the proper direction, and receiving devices to catch the carriers at the points toward which they are thrown, there being no track or connection of any kind between the different stations.

30 As shown in this instance of our invention, the cashier's desk or central station is provided with a receiver co-operating with the throwing devices at all the outer stations, and is also provided with a throwing device capable of  
35 having its position or direction changed so as to co-operate with all or any desired number of the outer stations.

In the present application we have shown apparatus of simple form for throwing and  
40 receiving the carriers; but it is to be understood that the invention is not limited to the construction shown of the said separate devices, as they can be varied in numerous ways, several of which have been devised by us  
45 separately or jointly, and will form the subject of other applications for Letters Patent.

Figure 1 shows in side elevation a central station or cashier's desk and an outer station at one of the counters of the store provided  
50 with transferring or cash-carrying apparatus embodying this invention; Fig. 2, a front ele-

vation of the throwing device at the central or cashier's station on a larger scale; Fig. 3, a detail showing a portion of one of the throwing devices at an outer station, and Fig. 4 a  
55 detail showing in elevation a portion of the throwing and receiving devices at an outer station as seen looking from the central station.

The cash or other article or material to be  
60 conveyed will be placed in a suitable receptacle, preferably spherical, one of which is shown at *a*, Fig. 1, as just about to enter the receiving device at one of the outer stations over the salesman's counter. The throwing devices  
65 *b b'*, at the outer and central stations, and the receiving devices *c c'*, are placed at a sufficient height above the floor, so that the carrier *a*, when thrown from one to the other, preferably  
70 as nearly point blank as possible, will be above the heads of persons on the floor and above other obstacles which may exist in the store.

The throwing device *b* at the outer station, as shown, in this instance comprises an arm,  
75 *d*, pivoted in a suitable support shown as a forked post or bracket, *d'*, fixed upon and depending from the ceiling, and the said arm *d* is provided at its extremity with a receptacle or holder, *d''*, and into which the carrier or receptacle *a* may be readily placed when the  
80 said arm *d* is hanging downward from the post *d'*, as shown in Fig. 1, the end *d''* then being preferably above the head, but within easy reach of the attendant. By revolving the arm *d* rapidly about the pivot *d'* and then suddenly  
85 arresting this movement, the carrier *a* will be thrown off in a path tangential to the circle traversed by the receptacle or holder *d''*, the throwing apparatus operating on the well-known principle of the catapult. The arm *d*  
90 preferably revolves in a vertical plane, as shown, and will thus define accurately the range of the trajectory of the carrier or projectile *a*, and by using a sufficient impelling force to give the said arm substantially the  
95 same velocity at each operation the carriers with their contents, although differing slightly in weight, will always be thrown nearly at the same elevation, it being possible to reduce the variation to almost any desired limit, and in  
100 practice it is easy to throw the different receptacles through the distance of at least fifty



feet, which is usually all that will be required, with a variation of less than a foot in a vertical direction, and not more than an inch or two laterally. Thus by providing a receiver having a mouth or opening of an area of a foot or more in vertical dimensions and six inches more or less (horizontal dimensions) the different carriers may be thrown into the same with absolute certainty. The receiver  $c'$ , at the central station, is shown in this instance as having an annular mouth, which may be from one to two feet wide in a vertical direction, and extends entirely around the cashier's desk, which is circular or polygonal in shape, so that the said receiver will catch the receptacles from all sides, it being provided with a curved flexible or yielding wall,  $c^2$ , which may be composed of netting or other material which will check the velocity of the carriers without causing any rebound; or, if there is any rebound, it will be such as to still cause the carrier to drop downward toward the lower end of the receiver, which may be open so that the carriers will be accessible to the attendant at the cashier's station, where they can be immediately taken by the cashier and the contents properly manipulated in the usual manner.

The receiver  $c$  at the outer stations consists of a pocket composed of netting supported on suitable frame-work, which may be of wire, the mouth of which is preferably oblong, as shown in Fig. 4, the receiver catching the carriers  $a$  in much the same manner that the pockets of a billiard-table receive the billiard-balls, the said carriers dropping to the lower end of the receiver without regard to the velocity with which they enter. The pocket or netting of the receiver may be provided with a tube or guide extending down to the counter, or it may have a movable basket or receptacle,  $c^2$ , connected with it at its lower end and supported on cords or chains winding on suitable spring-rollers,  $c^3$ , so that the said receptacle may be drawn down by the attendant by means of a suitable handle,  $c^4$ , in order to remove the carrier  $a$  therefrom.

The throwing or shooting device may be actuated by a spring or power derived from any suitable source, but the simplest manner, which is shown in this instance for the purpose of illustration, and which will be efficient in most cases, is to have them actuated by the attendant. For this purpose the arms  $d$  are provided with a central wheel or pulley,  $e$ , on which is placed an actuating cord or chain,  $e'$ , attached at one end, as at  $e^2$ , (see Fig. 3,) to the arm or wheel, and provided at its other end with a suitable handle,  $e^4$ . Thus by pulling sharply downward on the handle  $e^4$  the receptacle  $d^2$  and carrier therein is revolved rapidly about the pivot  $d^3$ , and by suddenly arresting the arm when at or near the vertical position the carrier will be thrown outward from the receptacle  $d^2$  in a nearly horizontal direction, its path between the stations in either direction being indicated in

dotted lines in Fig. 1. The arm  $d$  is thus arrested at the proper moment by a stop,  $f$ , preferably consisting of soft rubber or other elastic or yielding material. The said stop  $f$  is shown in this instance as adjustably connected with the post  $d'$ , so as to enable it to be set in different positions for the different stations, according to their distance from the central station.

The throwing device  $b'$  at the cashier's desk is constructed in substantially the same manner as those at the outer stations, except that the bracket  $d^{10}$ , in which the throwing-arm  $d^0$  is pivoted, is itself pivotally connected with or swiveled in the post  $d^{100}$ , so that it can be turned to direct the projectile in any desired direction from the cashier's desk. In order that it may be fastened when turned to the proper position to throw the carrier into the receiver of any desired outer station, it is provided with a locking device shown as consisting of a projection,  $i$ , upon a flange,  $i'$ , at the upper end of the bracket  $d^{10}$ , adapted to enter any desired one of a series of recesses,  $i^2$ , in the flange  $i^3$  at the lower end of the post  $d^{100}$ . The bracket  $d^{10}$  is provided with a shank,  $m$ , entering a socket,  $n$ , in the post  $d^{100}$ , and acted upon by a spring,  $o$ , tending to force the shank up into the socket and pressing the flange  $i'$  against the flange  $i^3$ , holding the pin  $i$  in one of the sockets  $i^2$ , which correspond in position to the different outer stations. Thus, when a carrier is to be returned to any desired outer station, the operator at the central station first pulls downward on the bracket  $d^{10}$  sufficiently to disengage the projection  $i$  from the socket  $i^2$  in which it may happen to be, and then turns the bracket  $d^{10}$  until directed toward the desired station, when the spring  $o$  will force the projection  $i$  into the corresponding recess, thus rigidly fastening the bracket  $d^{10}$  with relation to the post  $d^{100}$ . The operator will then pull sharply on the handle  $e^{40}$ , (see Fig. 2,) and will thus cause the carrier or projectile to be thrown in the desired direction. As in this plan the carriers will all be thrown at substantially the same elevation from the central station, the receivers  $c$  at the different outer stations may be placed at different heights, according to their distance from the central station, the more remote being placed lower, as the carrier will drop more in traversing the longer distance. A throwing device of this kind may deliver a carrier at any desired distance above the floor, but will when turned down to receive the carrier have the receptacle  $d^2$  readily accessible to the operator. A stop,  $p$   $p'$ , (see Fig. 3,) may be employed to limit the downward movement of the arm  $d$ , if desired.

It is obvious that the construction of the different parts of the apparatus might be widely varied without departing from the invention, which consists, essentially, in throwing and receiving devices co-operating with one another to transfer the carriers back and forth between different points through the air with-



out a track or other material connection between said points.

5 The throwing and receiving devices are preferably placed a slight distance apart, as shown in Fig. 4, so that the paths traversed by the carriers toward and from the central station do not intersect one another, so that there is no danger of a collision.

15 If desired, separate receiving devices might be employed at the central station—one corresponding to each outer station—or there might be separate receiving devices, each corresponding with two or more (not the whole) of the outer stations, as herein shown, and in similar  
20 manner there might be more than one throwing device at the central, and, if desirable, there might be a separate one for each outer station, so that it would always throw in the same path, instead of, as herein shown, being capable of  
25 throwing in several different paths. These latter details of construction will vary according to the requirements of the different places in which the apparatus is used, and we propose in some cases to use deflectors by which  
the path of a carrier may be changed while the latter is in motion; but we do not herein describe and claim such a device, as it will form the subject of another application.

We claim—

30 1. A conveying or cash-carrying apparatus comprising a throwing or shooting instrument at one station, and a co-operating receiving or catching device at another station, substantially as described.

35 2. In a conveying or cash-carrying apparatus, a throwing or shooting instrument for projecting a carrier or projectile in a definite path through the air from a given station, and a receiving device at the same station for catching  
40 carriers projected toward it, substantially as described.

3. In a conveying or cash-carrying apparatus, a main or central station, as the cashier's desk, having receiving apparatus for carriers projected through the air from various points  
45 or outer stations toward the said central station, substantially as described.

4. A conveying or cash-carrying apparatus comprising the following elements: a carrier which receives within it the cash or article to  
50 be conveyed, and throwing and catching devices at different stations by which the said carrier is thrown through the air from one point and properly received at another point, substantially as described.

55 5. A throwing device adapted to be turned to direct a projectile in different directions, combined with a locking device for fastening the same in different definite positions, and a series of receiving devices corresponding with  
60 the different positions in which the said throwing device is thus fastened, substantially as described.

6. In a conveying or cash-carrying apparatus, a throwing device consisting of a pivoted  
65 arm provided at its end with a carrier receptacle or holder and a wheel or pulley at its pivoted end, combined with an actuating-cord attached to and passed around the said pulley, and a stop for arresting the pivotal movement  
70 of the said arm, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

THOMAS M. KENNEY.  
FRANK E. MASON.

Witnesses:

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JAS. J. MALONEY.