

(No Model.)

J. C. CORAM.

DROP CRADLE AND ELEVATOR FOR CASH CARRIERS.

No. 278,510.

Patented May 29, 1883.

Fig 1.

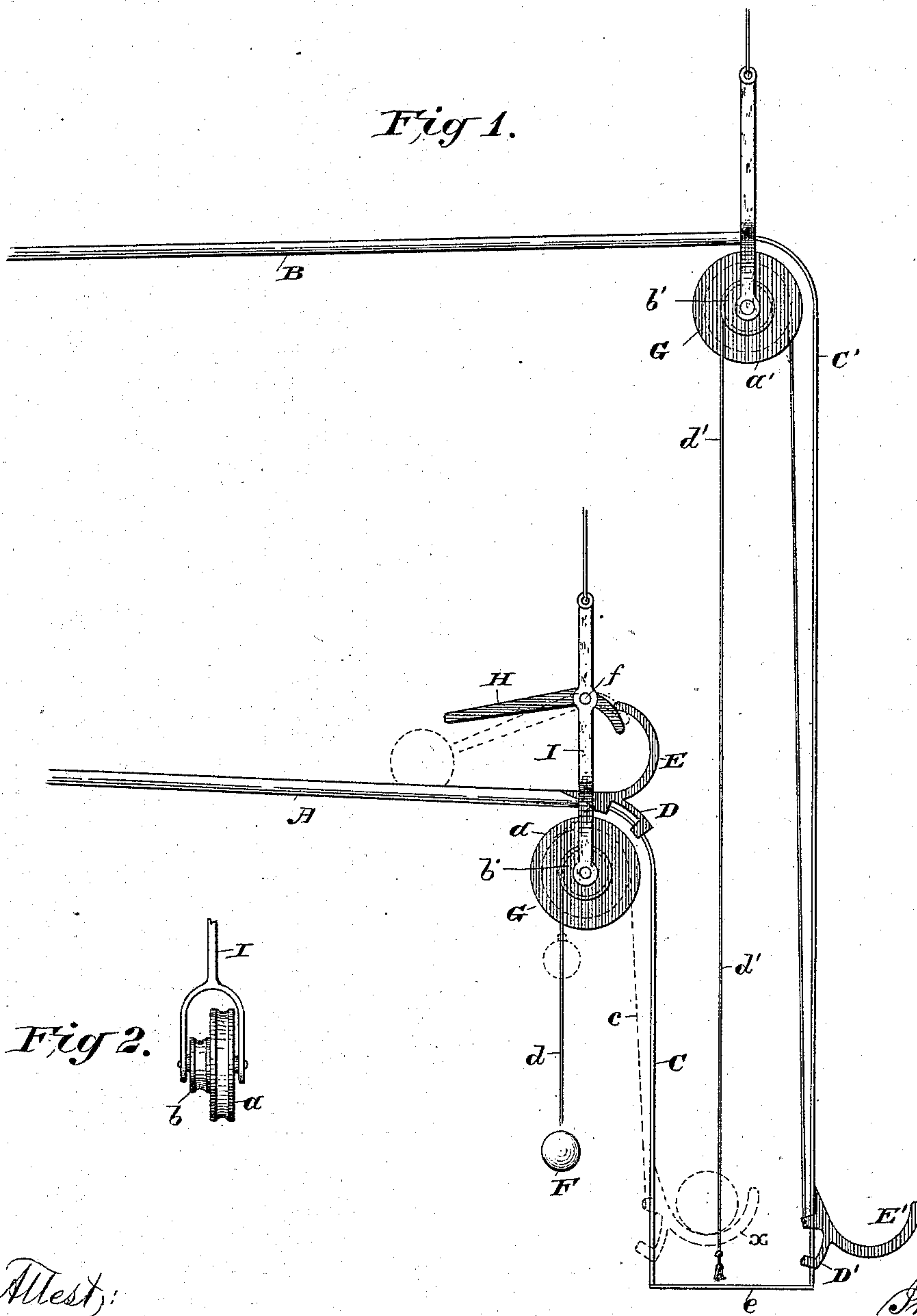


Fig 2.

Attest:

Geo. T. Smallwood,

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UNITED STATES PATENT OFFICE.

JOHN C. CORAM, OF LOWELL, MASSACHUSETTS.

DROP-CRADLE AND ELEVATOR FOR CASH-CARRIERS.

SPECIFICATION forming part of Letters Patent No. 278,510, dated May 29, 1883.

Application filed May 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. CORAM, of Lowell, in the State of Massachusetts, have invented certain new and useful Improvements in Drop-Cradles and Elevators for Cash-Carriers, of which the following is a specification.

This invention is directed, mainly, to means for receiving from the track and for delivering therefrom to the proper point the ball or other receptacle used in cash-carrier and analogous systems for conveying money or other articles from one point to another; but it is also applicable to the elevator which is employed to deliver the cash carrying receiver to the return-track leading from the delivery-point. It can best be explained and understood by reference to the accompanying drawings, in which Figure 1 is a side elevation of a portion of two tracks, the lower one the delivering-track, the upper one the return-track, the former provided with a drop-cradle and the latter with an elevator embodying my invention. Fig. 2 is a view of one of the double sheaves or pulleys.

The lower track, A, is inclined in a direction opposite to the inclination of the upper track, B, as usual. The track A terminates at the point where the carrier is to be delivered. From its end extends downwardly a flat smooth rod, G, preferably of metal, which is intended to form a guide upon which the drop-cradle can slide. At its upper end, where it joins the track, it has an easy curve, so as to permit the drop-cradle to move without cramping.

The cradle itself consists of a bracket or guide-frame, D, which fits and is adapted to slide upon the guide-rod, and curved arms E, or their equivalent, to form a cradle to receive the carrier. The normal position of the cradle is the elevated one shown in full lines in Fig. 1. In this position it stands on the curve part of guide-rod G, and on the prolongation of the track, so as to receive the carrier, which runs from the track into the cradle formed by the arms E. When this takes place the weight of the carrier, superadded to that of the cradle, causes the cradle to descend until it reaches its lowest point, (indicated by dotted lines in Fig. 1,) where it is within easy reach of the person for whom the carrier is intended. In order to impart to the drop-cradle capacity for acting in the manner just indicated, I employ a counter-weight, F, which is heavier than the

cradle alone, so that when the latter is empty it will automatically be brought to and maintained in the position represented in full lines. On the other hand, however, the weight, while heavier than the cradle alone, is lighter than the combined weight of the cradle and carrier, so that when the carrier is in the cradle the latter will at once descend to the position indicated by dotted lines, where the carrier is represented at *x*. I prefer to connect the counter-weight with the cradle by means of a double sheave or pulley, G, consisting of a large peripherally grooved or flanged pulley, *a*, and a considerably smaller pulley, *b*, the two being so united as to revolve in unison. This double sheave or pulley is supported in a suitable hanger below the track. The cradle is connected to the large pulley *a* by a strap or cord, *c*, extending from it, and fastened at the other end to the periphery of the large pulley. The counter-weight is connected to the small pulley by a cord, *d*, which is fastened to the periphery of said pulley, and is wound two, three, or more times around the same. By this arrangement of the two pulleys I am enabled to obtain a considerable range of movement for the cradle with a comparatively small movement of the counter-weight, which is a feature of some importance, particularly when the track, as it often does, comes down near to the shop-counter. The relative weight of the parts can be so adjusted that the drop-cradle will rise and fall with but little noise or jar. The double-pulley arrangement is equally applicable to the elevator on the return-track B, where its use is attended, perhaps, with even more advantage than in connection with the drop-cradle, for the reason that it permits the attendant with but comparatively slight movement of the pulling-cord to raise the elevator to a considerable distance. This arrangement is indicated in the drawings in connection with the upper track, B, where D' E' is the elevator-cradle, C' is the guide-rod, and G' is the double pulley. The pulling-cord *d'*, attached to the small pulley and wound several times around the same, is shown at *b'*, and the large pulley, to which the elevator-cradle is connected by a tape or cord, *c'*, is lettered *a'*. The two guide-rods, with a view to stiffening them, are connected together firmly at the bottom by a cross-rod, *e*.

Inasmuch as the carriers may follow one another on the delivery-track A so closely that the following carrier will reach the terminus before the one in advance can be taken from the cradle, I provide an automatic stop mechanism for arresting the second carrier at the terminus until the cradle can again rise. This mechanism consists of a stop-lever, H, pivoted centrally at *f* in the hanger I at the end of the track, having its end adjoining the point where the cradle comes bent or curved downwardly, as indicated, so as to be in the path of the cradle. The other end of the stop-lever is weighted, or heavier than the bent end, so that when the lever is released from control of the cradle its weighted end will drop into the path of the carrier, which will then be stopped. When the cradle is in its elevated position it will strike and depress the bent end of the stop-lever, and thus raise the lever out of the path of the carrier, as indicated in full lines. As soon, however, as the cradle commences its descent the stop-lever will be released, and will at once fall into the position indicated by dotted lines, where it will remain until the cradle again rises and reassumes its normal position.

The arrangement hereinbefore described is applicable not only to way-stations on the cash-carrier track or tracks, but also to the central station from which the tracks radiate.

I state, in conclusion, that I do not broadly claim the combination, with the track, of an automatically-operating counterweighted drop-cradle; nor do I claim, broadly, the employment, with such a cradle, of a stop mechanism operated from or by the cradle to prevent the passage of a carrier upon descent of the cradle.

What I claim, and desire to secure by Letters Patent, is—

1. The combination of the track, the guide rod or rods extending downward from said track, and the cradle mounted on and adapted to slide up and down on said rod or rods, as and for the purposes set forth.

2. The combination, with the track and the vertically-movable cradle, of the double sheave or pulley, consisting of a large pulley connected by cord or tape to the cradle, and a small pulley carrying a separate cord or strap, by which the double pulley can be rotated in a direction to raise the cradle.

3. The combination of the track, the drop-cradle vertically movable on or in suitable guides, and the double sheave or pulley, consisting of a large pulley connected by cord or tape to the cradle, and a small pulley carrying a separate cord or strap, from which is suspended a counter-weight, substantially as and for the purposes set forth.

4. The combination of the track, the stop-lever, weighted so as to normally drop into or across the path of the carrier traveling upon said track, and the vertically-movable drop-cradle, formed and arranged, when in its elevated position, to tilt or raise said lever out of the path of the carrier, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 2d day of May, 1883.

JOHN C. CORAM.

Witnesses:

A. T. ATHERTON,
GEO. B. CORAM.