(No Model.) 2 Sheets—Sheet 1.

R. E. BRAWN.

SPRING MOTOR CASH CARRIER.

No. 365,459. Patented June 28, 1887.

Fig. 1.

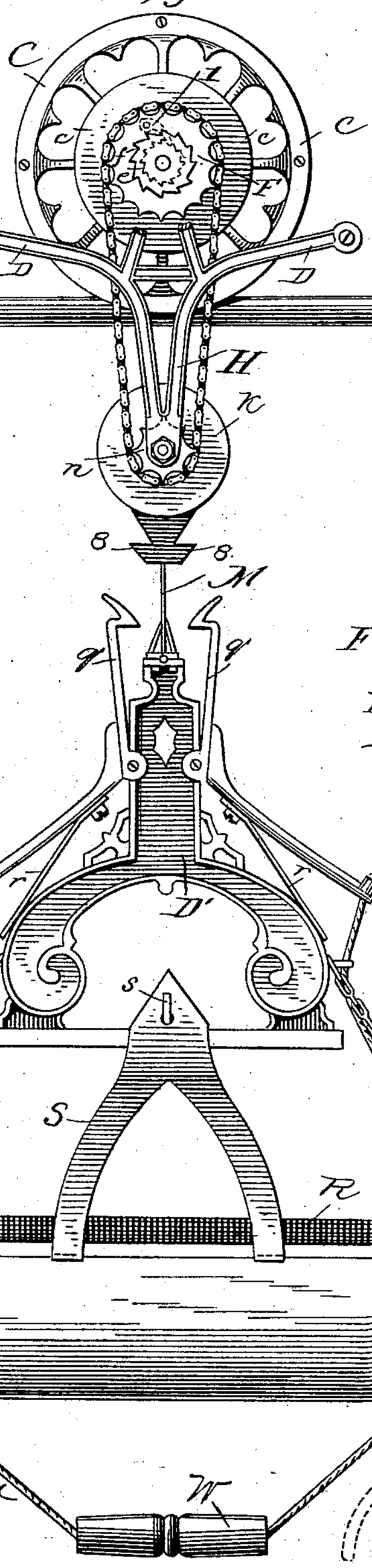


Fig. 2.

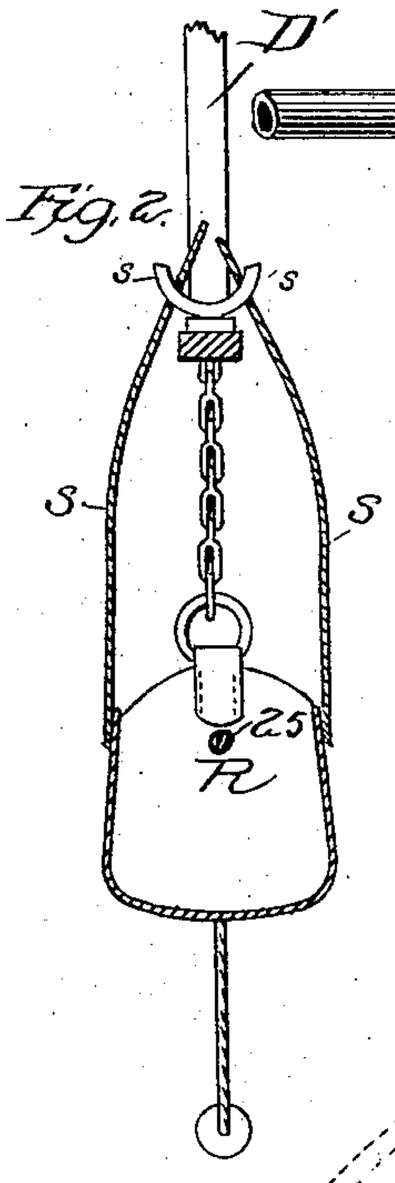
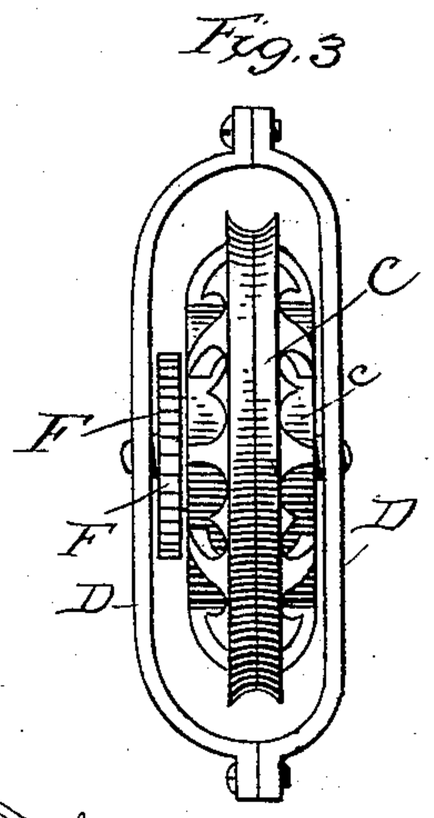


Fig. 3



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(No Model.) 2 Sheets—Sheet 2.

R. E. BRAWN.

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Fig. 4.

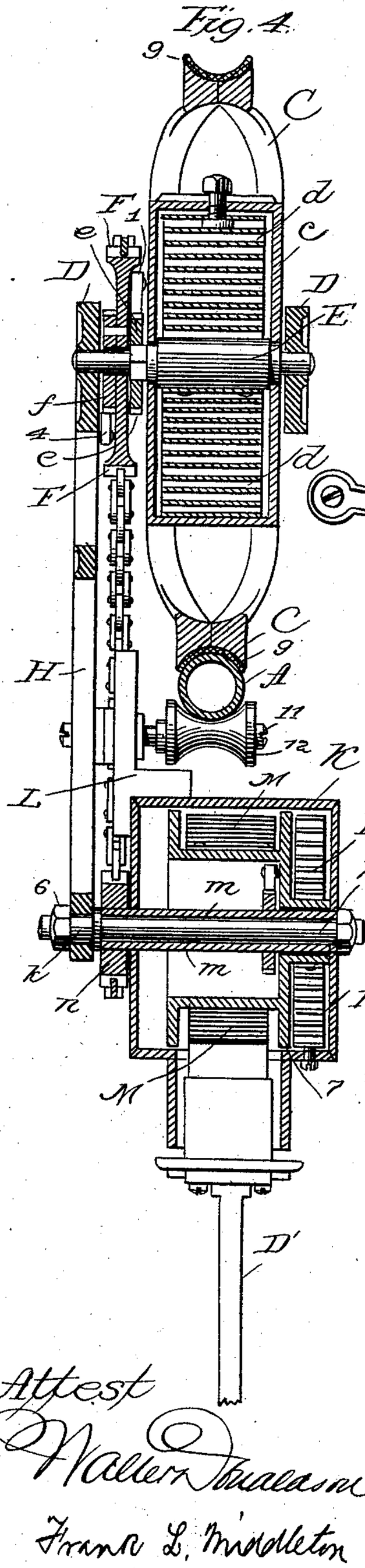
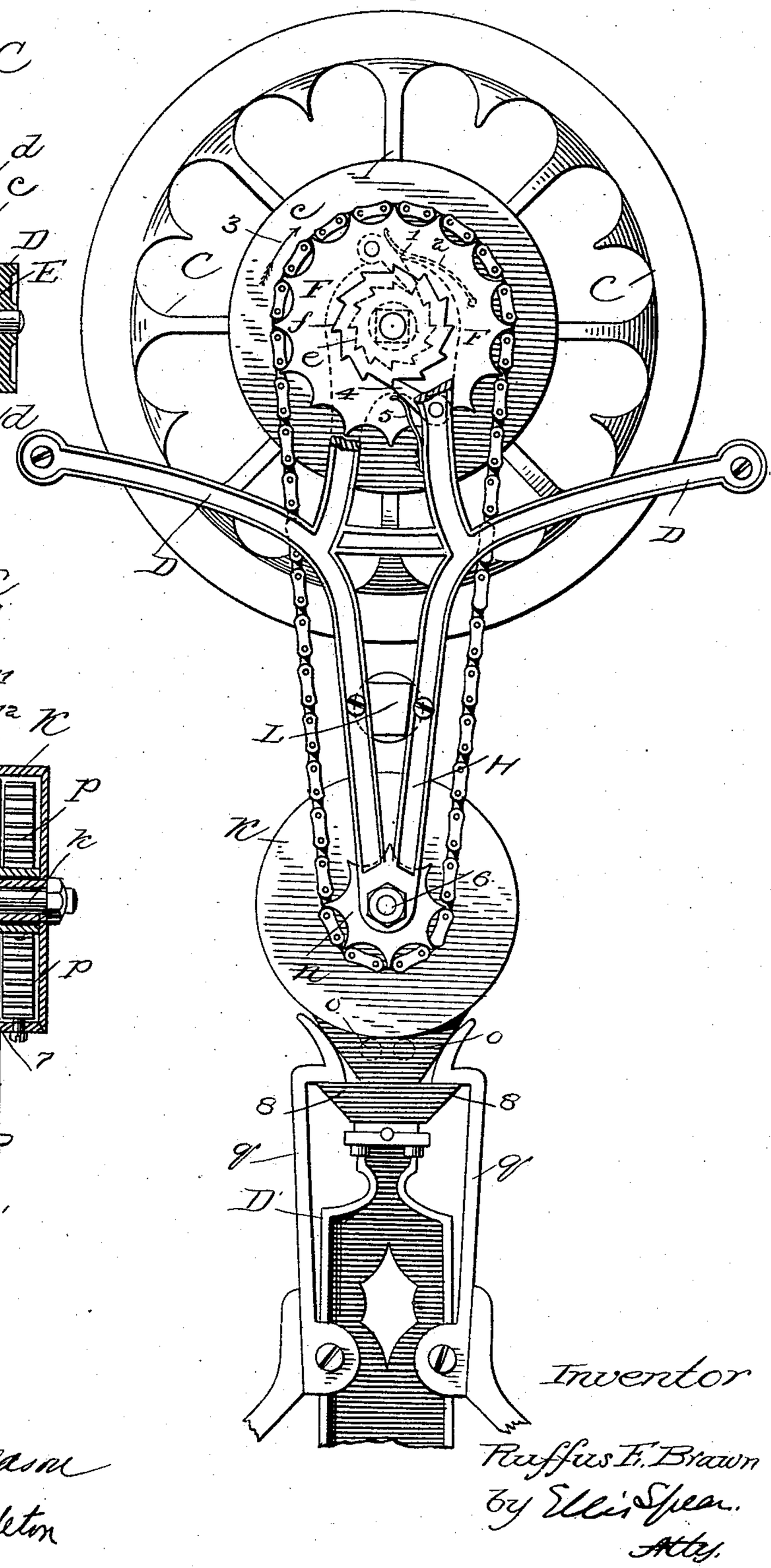


Fig. 5.



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UNITED STATES PATENT OFFICE.

RUFFUS E. BRAWN, OF NEWBURYPORT, MASSACHUSETTS, ASSIGNOR TO NATHANIEL WILSON, OF WASHINGTON, DISTRICT OF COLUMBIA, AND BYRON A. OSGOOD, OF WAKEFIELD, MASSACHUSETTS.

SPRING-MOTOR CASH-CARRIER.

SPECIFICATION forming part of Letters Patent No. 365,459, dated June 28, 1887.

Application filed July 13, 1886. Serial No. 207,915. (No model.)

To all whom it may concern:

Be it known that I, RUFFUS E. BRAWN, of Newburyport, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Automatic Spring-Motor Cash and Parcel Carriers; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to cash and parcel carriers of that class in which the carrier is supported upon wheels on a suspended track and is propelled by a spring carried within itself, whereby it is made automatic in its movements. It is designed to run back and forth upon a single track, and to be balanced upon the track by the weight of the carrier and by that part of the mechanism which is suspended below the track.

The invention consists in the devices and in the combination of devices hereinafter to be described.

In the invention are also included details of construction, all as hereinafter fully set forth, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the carrier, representing, also, a section of the track, with a modified form of handle shown in dotted lines. Fig. 2 is a detail view of the receptacle. Fig. 3 is a plan view of the driving-drum and supporting-wheel. Fig. 4 is a vertical section through the supporting-wheel and driving mechanism of the carrier. Fig. 5 is an enlarged view, in side elevation, of the upper half of the carrier.

In the drawings, A represents a suitable track, which may be made of round rod or tubing, with sections suitably connected and suspended or supported in any well-known manner. I contemplate, however, supporting this track upon standards the bases of which are set upon the counter. By this construction the apparatus may be set up or taken down very easily and without any injury to the store or any of its furniture. Further, the construction and operation of the carrier as I contemplate using it make it desirable, in order that the full capacity of the carrier may be obtained, that the track be an endless one, turning both at the cashier's desk and at the salesman's counter, giving a direct and return track from the cashier to the salesman. From this it will be understood that the carrier is constructed to run in one direction only, and is not a reversible carrier in itself. A main carrier supporting and driving wheel, C, runs in bearings in the frame D and is grooved to fit the track. Within this wheel, about the axle, is a drum, *c*, in which is a strong coiled spring, *d*, the outer end of which is attached to the drum of the wheel, while the inner end is attached to the axle E.

On the square part of the axle outside of the drum is a ratchet-wheel, *e*. Outside of this square part, which receives the ratchet-wheel, *e*, the axle is rounded and receives a sprocket-wheel, F. This is chambered on each side, and upon the inner face carries a pawl, 1, which a spring, 2, causes to engage with the ratchet-wheel *e*. When, therefore, the sprocket-wheel is turned in the direction of the arrow 3, it winds up the spring, which is so arranged that its force tends to turn the main wheel C in the same direction; but it permits the wheel to run freely when the force of the spring has been expended, the pawl 1 then riding over the teeth of the ratchet-wheel *e*.

On the outside face of the sprocket-wheel F is a concentric ratchet-wheel, *f*, the teeth of which engage with a pawl, 4, pressed into contact by a spring, 5, on the inner face of the standard *h* of the frame. This ratchet-wheel holds the spring after it is wound up, and throws the force of it against the wheel, so that the uncoiling of the spring tends to turn the wheel. The frame D, in which this wheel C is journaled, has a downward extension, H, the lower end of which, projecting to one side of the track when the wheel is in place thereon, carries a lower drum, K. The supporting-shaft *k* of this lower drum is fixed to the lower end of the arm H, being connected thereto by a nut, 6, which clamps the lower end against a collar on the bolt. This drum or case K is supported in a fixed position, being attached at its upper part to a bracket, L, fixed to the lower arm extension, H. Within the drum or case is a sleeve, *m*, adapted to turn freely on the

bolt, and on this sleeve, outside of the drum and between the drum and the collar next to the arm H, is a sprocket-wheel, *n*. A steel band (any equivalent thereof may be used) marked M is connected to the sleeve and extends down between small friction-rollers *o o* in the lower part of the drum, and its outer end is attached to the upper end of the frame D′, which supports the cash or parcel receptacle. The sprocket-wheel *n* is connected by a chain to the upper sprocket-wheel on the shaft of the wheel C, so that when the strap M is drawn down through the sprocket-wheels and chain, it winds the spring in the main wheel.

In the end of the drum or case K is a spring, *p*, wound reversely to the strap M, and separated therefrom by a partition, 7. The inner end of this spring is attached to the sleeve *m*, and the outer end is attached to the case, and as the strap M is drawn down the spring is wound up on the sleeve *m*, and its recoil tends to draw back the strap and wind it upon the sleeve.

On the lower part of the case or drum K is a stud having projections S S, and through this stud the strap passes. On the upper part of the frame D′, which supports the receptacle, are spring-catches *q*, which engage with the projections upon the stud and hold the receptacle-frame to the drum or case, thus retaining the receptacle in an elevated position.

I have shown in the drawings, Fig. 1, two methods for operating the catches when the same are to be released from the projections. For the sake of clearness of illustration one is represented in dotted lines, and, as this form is the one preferred by me, I will proceed to describe it first.

The lower part of the spring-catches, as shown in dotted lines, Fig. 1, extends down in the form of a bow, 20, on each side, encircling the receptacle, and the lower ends are formed to fit the hand, so that they may be grasped and pressed together to release the catches, and at the same time the hand is in position to pull down the receptacle. The springs are conveniently applied, as shown at *r*, to throw the arms out and cause the catches to engage; but these springs may be applied in any convenient way.

The receptacle for cash or parcels is shown at R. It may be supported pivotally at 25 on the bows, so that as the carrier swings laterally it may always maintain a horizontal position; or it may be suspended by chains or cords. For convenience in carrying bundles, I have provided straps S on each side, which may be connected with hooks *s* on the frame after bundle is in place. The bows shown in dotted lines may be omitted and a pull-down cord and handle, W, be used.

The periphery of the main carrier-supporting wheel has a rubber covering, 9, in order to cause the wheel to better adhere to the track.

The weight of the carrier will give sufficient adhesion to the track. I may extend the frame downward, in order to prevent the car from leaving the track, or I may use a stud, 11, with or without an anti-friction roller, 12, supported on a bracket and extending underneath the tracks.

The spring is intended to be of sufficient capacity to run the carrier the entire length of the track for which it is designed. When the car arrives at its terminus, the cashier or salesman, as the case may be, reaches to the handles of the spring-arms, and by pressing them together releases the catch and draws down the carrier to a convenient position for taking out or putting in the cash or parcel. He then releases the carrier, and the spring P in the lower drum draws it up and coils the strap upon the sleeve, as above described.

If the spring of the carrier-wheel be not sufficiently wound up by one movement of the strap, a second or any number of turns can be given to put the full amount of tension required upon the spring. The carrier is thus adapted to travel upon a straight or curved track. Any suitable kind of stops or switches may be used in connection therewith.

I claim as my invention—

1. In a cash and parcel carrier having a carrying-wheel, the combination of a driving-spring connected directly thereto, a winding mechanism independent of the carrying-wheel but in connection therewith, and a cash or parcel receptacle in connection with the winding mechanism, the said winding mechanism being arranged intermediate of the carrying-wheel and cash-receptacle, substantially as described.

2. In a cash and parcel carrier, and in combination, the carrier-wheel adapted to run upon a track, an impelling-spring carried thereby, one end of which is secured directly to the carrier-wheel and the other to the axle thereof, a sprocket-wheel on the axle, and pawl-and-ratchet mechanism, whereby the shaft is turned to wind the spring when said sprocket-wheel is operated, mechanism below the track, geared with the sprocket-wheel, a cash or parcel carrier connected to said mechanism by a strap, whereby the pulling down of the carrier rotates the sprocket-wheel and winds the spring, and mechanism for holding the parts against backward movement when the carrier is raised to its normal position, substantially as described.

3. In combination, the wheel C, having its bearings in the frame and having a drum, a coiled spring within the drum, with one end attached to the drum and the other to the axle, a sprocket-wheel loose on the shaft, with pawl-and-ratchet connections between it and the shaft and pawl-and-ratchet connections between it and the frame, a sprocket-wheel mounted on a sleeve on a fixed shaft, *k*, and connected to the upper sprocket-wheel by a chain, and a strap connected to the sleeve and to the cash or parcel receptacle, all substantially as described.

4. The combination of a carrying-wheel provided with an impelling-spring, a winding

mechanism therefor, a receptacle extensibly connected to the winding mechanism, and holding devices in addition to the extensible connection for supporting the carrier, substantially as described.

5. In combination with the carrier-wheel and its impelling-spring, an upper sprocket-wheel and pawl-and-ratchet mechanism, a winding mechanism, a lower sprocket-wheel in connection therewith, a chain connecting the upper and lower sprocket-wheels, a cash or parcel receptacle connected to the winding mechanism by a strap, whereby the pulling down of the receptacle winds up the driving-spring within the carrier-wheel, and a spring for drawing back the receptacle, substantially as described.

6. In combination with the carrying-wheel and its impelling-spring, the winding mechanism, the cash or parcel receptacle below the winding mechanism, a strap connecting the two, the catches for supporting the receptacle in its normal position, and the bowed arms and handles for releasing the said catches, substantially as described.

7. In combination with the bowed handles arranged in connection with the catches and the strap, as described, of the receptacle pivoted to the bows, as at 25, all substantially as described.

8. The combination, with the receptacle having the flexible straps S, of the frame D', provided with hooks *s*, substantially as described.

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

RUFFUS E. BRAWN.

Witnesses:
RODNEY LUND,
WM. A. COPELAND.