(No Model.)

E. B. STOCKING.

CASH AND PARCEL CARRIER.

No. 405,332. Patented June 18, 1889.

Fig. 1.

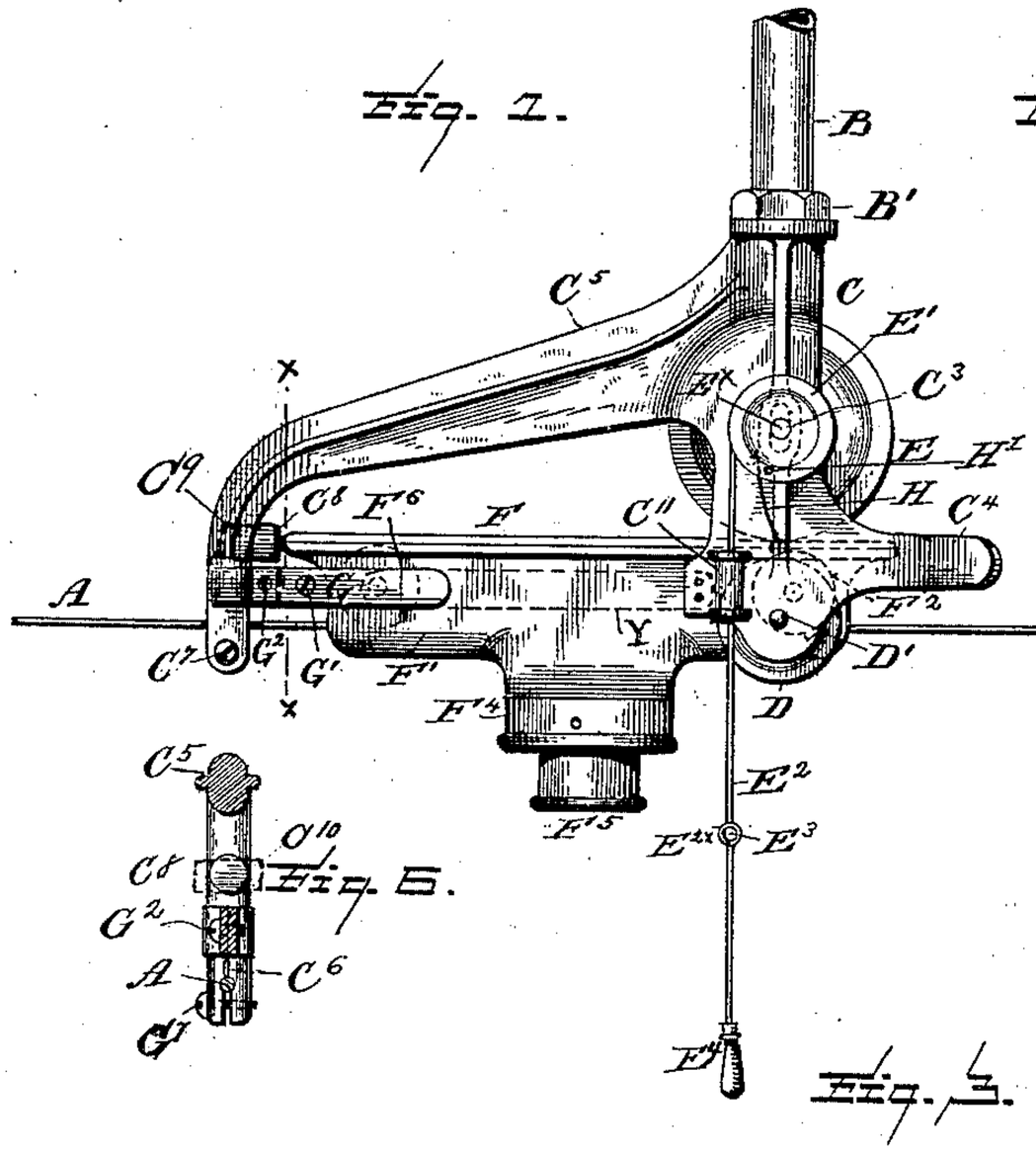


Fig. 2.

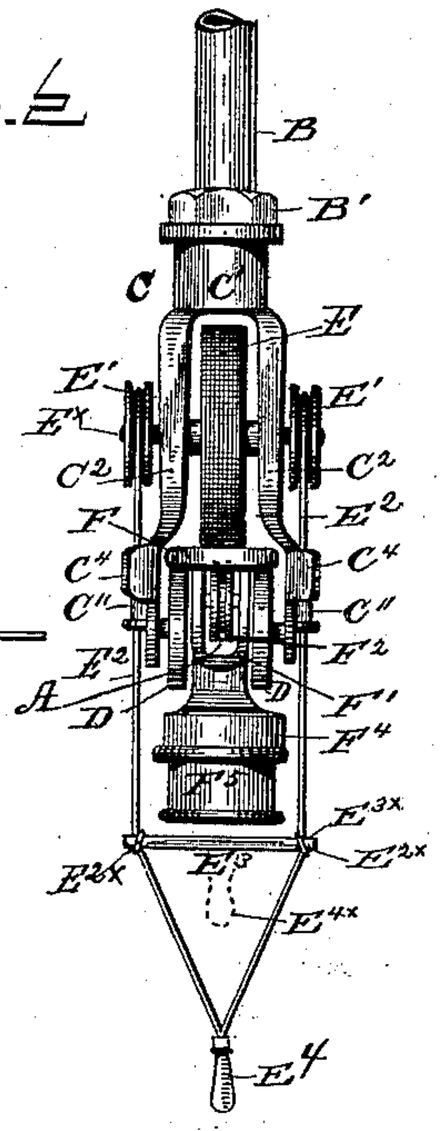


Fig. 5.

Fig. 3.

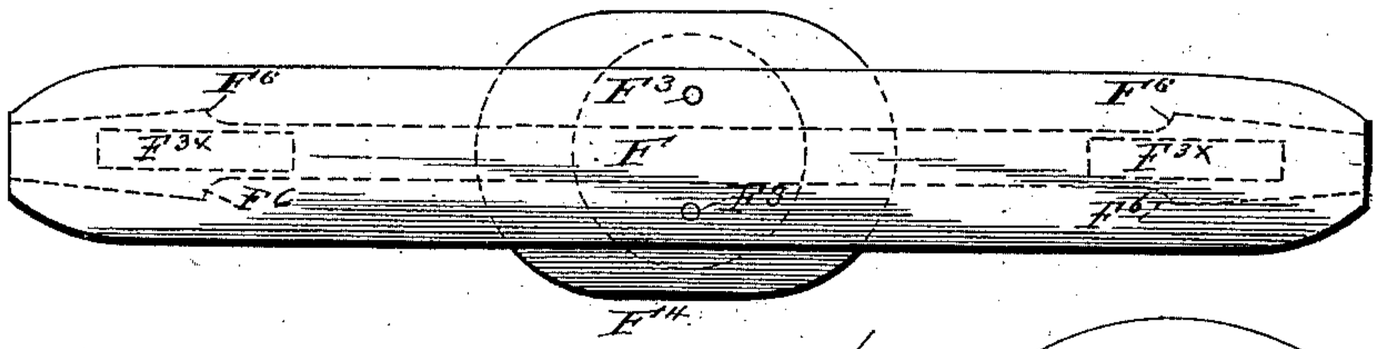


Fig. 4.

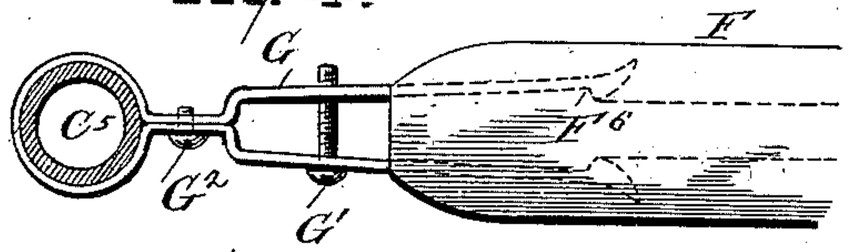


Fig. 7.

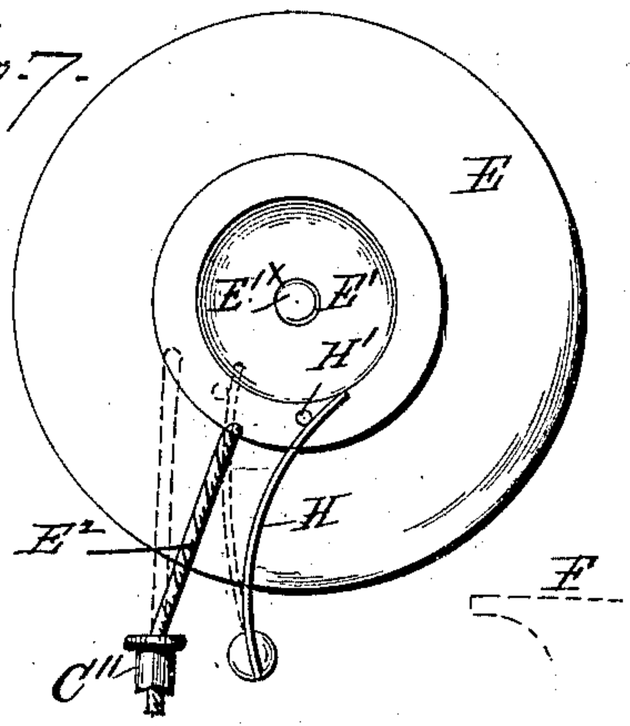
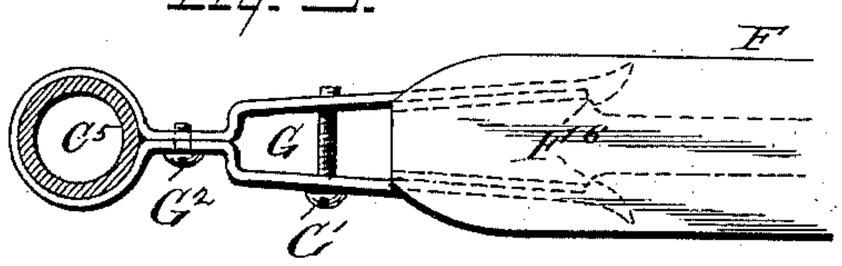


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDGAR B. STOCKING, OF WASHINGTON, DISTRICT OF COLUMBIA.

CASH AND PARCEL CARRIER.

SPECIFICATION forming part of Letters Patent No. 405,332, dated June 18, 1889.

Application filed February 28, 1889. Serial No. 301,528. (No model.)

To all whom it may concern:

Be it known that I, EDGAR B. STOCKING, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Cash and Parcel Carriers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to certain improvements in cash and parcel carriers, which improvements are, while capable of use in connection with various styles of store-service apparatus, more particularly intended to be applied or added to an apparatus involving a frictional propelling device constructed and arranged as disclosed in a patent granted me January 29, 1889, and numbered 396,778.

One object of the invention is the construction of a station-bracket in such a form as to operatively support the propelling device in such a manner or position with relation to the hanger or post as to bring the strain of the pulling-cord in a line with said post, and thus obviate any depression, springing, or vibration of the parts at the station.

Another object of the invention is to simplify and reduce the number of parts comprised in the apparatus.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particulaly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of an apparatus embodying my invention. Fig. 2 is an end elevation. Fig. 3 is a plan of the car. Figs. 4 and 5 are plans of the resistance device set for propelling the car a long and a short distance, respectively. Fig. 6 is a vertical section on the line X X of Fig. 1, and Fig. 7 a detail in side elevation and on an enlarged scale of a preliminary and partial propelling-device setting-spring.

Like letters refer to like parts in all the figures of the drawings.

A represents the track, and B the station hanger or post, both of which are of any usual construction.

C represents the station arm or bracket, by either of which terms I mean any structure capable of operatively supporting a car-propelling device. The bracket C comprises in its make-up a head or sleeve C′, which is adapted to receive or to be secured to the post B. In this instance the sleeve is interiorly screw-threaded to fit the post B, which is also threaded to permit of a vertical adjustment of the bracket, and to firmly secure the same after adjustment a jam-nut B′ is provided.

The sleeve C is provided with a pair of depending legs C^2, having elongated bearings C^3 for the axle $E^\times$ of the propelling device. The legs may or may not be, as desired, extended in the form of car-guides C^4. On the inner side and near the lower end of each leg C^2 is mounted in bearings D′ a bearing-wheel D, the function of which is to prevent the pressure of the propelling device against the car from deflecting the track A.

Without including the car-guides, the above are the only essential characteristics of the bracket C; but to insure the parallelism of the propelling device with the track a brace C^5 may be secured to or formed as a part of the bracket and extended to any desired fixed object. By connecting the brace with the track additional advantages are secured. In this instance the brace is slitted, as at C^6, Fig. 6, and provided with a clamp-screw C^7, so that a firm connection of the brace to the track is secured, also one giving a long bearing-surface, so that any weakening of the track, as with ordinary set-screws, is obviated. The brace also serves as a support for a bumper C^8, which may be seated in a recess C^9, (see dotted lines, Fig. 1,) formed in the brace, or may be in the form of a ring C^{10}, mounted on and encircling the brace. (See dotted lines, Fig. 6.)

E is the propelling device, and in this invention it is in the form of a wheel, the shaft or axle $E^\times$ of which passes through the bearings C^3, and is provided at each end with a pulley E′ for the pulling-cords E^2, which are connected with a spreader E^3 and merged in a handle E^4.

C^{11} are ordinary guide-eyes formed on the legs C^2 for the cords E^2.

Before or after passing the cords E^2 through holes $E^{3\times}$ in the spreader half-hitches or loops $E^{2\times}$ are formed, so that when from usage the cords break at the pulleys E′ the spreader may be lowered to provide additional cord

for a new connection thereof with the pulleys. The spreader also aids in distributing the strain on the pulleys equally when force is applied to propel a car. If desired, the handle E^4 may be on or a part of the spreader, as indicated by dotted lines $E^{4\times}$.

F represents the top of the car, which is in this instance the driving-surface on which the propelling device E operates.

F′ is the frame of the car, and it is U-shaped, and has mounted therein the wheels F^2, which run on the track A, which passes longitudinally through the frame. Lugs, screws, or rivets F^3 serve to connect the top and frame.

$F^{3\times}$ are openings or recesses formed in the top F to receive the upper portions of the wheels, thus contributing to compactness. At the bottom of the frame is cast a heavy hollow case, collar, or ring F^4, the thickness or depth of which is comparatively far beyond its requirements as to strength, this being for the purpose of giving such weight to the car as will enable it to partake more effectively the force given by the propelling device. To overcome as far as possible the resistance of the air when the car is moving, the extra thickness is disposed toward the ends of the car to produce an oval outline, with the longer axis disposed lengthwise of the car.

F^5 is the cash or parcel receptacle or box, which is retained in the case F^4 by a bayonet-joint or any other suitable connecting device. It is apparent that by increasing the diameter of the wheel with or without arranging the pulling-cord and longitudinal bearings parallel with each other a greater leverage can be secured, so that for longer tracks greater impetus can be imparted than for shorter tracks, and this without increasing at the same time the diameter of the pulleys E′, so that a shorter length of cord would be paid off, and consequently the distance through which the hand of the operator travels would be the same, although the power required would be greater in accordance with the increase of the diameter of the wheel. In any case, however, as stated in my above-mentioned patent, the driving-wheel—the propelling device—may be larger or smaller, and the length of the driving-surface F may be increased or diminished, so that the leverage may be as desired. In the propelling device therein and herein shown (which may or may not be adhered to as to size) less than the whole of the periphery thereof is actually employed in propelling a car; but as a wheel is cheaper to manufacture than a sector and does not require particular disposition on the axle, as would a sector, a wheel is preferable.

Instead of changing the diameter or size of the propelling device in accordance with the distance the car is required to travel, I have shown one means directly and detachably connected with the car and not connected with or operated by the pulling-cord; but any other form of resistance device may be substituted.

The resistance device consists of one or a pair of spring-jaws G, mounted on the bracket at any suitable point—for example, on the brace C^5—and extended to receive the car-body F′ between them and to pass over projections F^6, formed at each end on the opposite sides of the car. The holding-faces of the jaws are preferably slightly inclined. Now by means of an adjusting-screw G′ the jaws are caused to more or less snugly embrace the body, so that greater or less power must be exerted on the pulling-cords in order to free the car from the jaws, and therefore the car will be propelled a proportionately greater or less distance. The screw G^2 serves to bind the jaws upon the brace. If desired, the spring-jaws may be mounted on the legs of the bracket back of the guide-eyes C^{11} and project toward the brace, as indicated by dotted lines Y.

The operation of the invention will be apparent from the above description; but I will give a condensed statement of the same. Taking the parts shown in the position in Fig. 1, a downward pull on the handle draws the wheel E against the driving-surface F, with a tendency to rotate the wheel outwardly at the point of contact. This rotation is prevented by the resistance device—the jaws G. The projecting edges of the top of the car are brought upon the bearing-wheels D, thus preventing any sagging of the track. At the instant that the power applied to the wheel overcomes the grip of the jaws (predetermined by adjustment) the car shoots out of the station along the track to its destination, where it is received by similar jaws similarly adjusted and by a similar propelling device, which the incoming car puts into position for its return. The bracket is formed of a single casting and the car is of two castings, which reduces the number of parts and the cost of manufacture. The location of the post, propelling device, the socket, and pulling-cord secures a straight line of force and resistance, so that bending or vibrations of the post and bracket are obviated. If desired, the propelling device and driving-surface may be duplicated, as disclosed in my above-mentioned patent.

H, Figs. 1 and 7, represents a spring secured to the bracket and projecting into the path of a pin H′ on the cord-pulley E′. The object and purpose of this spring are to partially wind the pulling-cords on their pulleys, whereby a limited portion of the driving-surface of the propelling device beyond that which would be brought into position for use by an incoming car is utilized. In other words, a car when it enters a station causes the propelling device to rotate or partially rotate on its axis and winds up the pulling-cords in accordance with said rotation of the propelling device. I find it advantageous to

obviate any lost motion occasioned by a sudden contact of the car with the propeller or otherwise, and to provide for setting for use a longer distance of contact-surface of the propeller. This provision is made by the spring H.

Referring to Fig. 7, the full lines represent the parts at the instant a car F has been propelled from the station, and the dotted lines represent the position the parts assume by the action of the spring H. As the car leaves the station, the cords E^2 are taut and extend from the guide-eyes C^{11} on a line toward the center of the pulley, and the pin H′ is pressing the spring out of its natural position, thereby putting it under tension. As the operator releases the handle E^4, the spring moves to its natural position, (indicated by dotted lines,) bearing against pin H′, and causing the pulley E′ and propelling device E to partially rotate and wind up a slight portion of the cords. An incoming car finds a portion of the cords wound and a portion of the contact-surface of the propelling device preliminarily set. It then winds up additional cord and sets for use additional contact-surface of the propeller, the extent of each being in accordance with the length of driving-surface of the said car which comes into contact with the propeller during an entrance of the car into the station. This is, as shown, less than the length of the car.

In my above-mentioned patent similar devices similarly arranged are provided to insure the rewinding of the cords—in that case the purpose being to obviate the necessity of rewinding the same by the incoming car; so that the present purpose is not only different, but the arrangement is different in that the spring is adjusted for partially winding the cords and moving the propeller in position to operate after the portion wound by contact with the car has been utilized in propelling the car. If a spring has a tension sufficient to insure wholly the rewinding of the cord, it would act to prevent a satisfactory entrance of the car into the station unless means were provided to prevent contact of an incoming car with the propeller; but in the present adjustment of the tension of the spring it simply preliminarily winds a slight portion of the cord, leaving the balance to be done by the entering car. I have found that this not only overcomes any accidental slipping of the parts one upon the other, but neutralizes or obviates the effect of any lost motion otherwise produced.

What I claim is—

1. A bracket having a post-socket, bearings for a propelling device, and bearings for bearing-wheels, all arranged in line with each other, in combination with bearing-wheels and with a car having a plate which rests on the bearing-wheels, substantially as specified.

2. A bracket having a brace bored for the longitudinal passage of the track, slitted in intersection of the bore, and provided with a binding-screw, substantially as specified.

3. A bracket having a post-socket and depending legs provided with bearings for a propelling device and for bearing-wheels, and having an integral brace adapted for connection with a track, substantially as specified.

4. A car having a U-shaped body, a top forming a driving-surface, and a depending integral heavy case, substantially as specified.

5. The combination of a car having a driving-surface, a propelling device arranged to take contact thereon, a bracket having elongated bearings, and a socket and a station-post, the bearings, socket, and post being in line with each other, substantially as specified.

6. The combination of a track, a car adapted to travel thereon and having a driving-surface, a propelling device mounted in a bracket having bearings elongated on lines at right angles to the track, and a pulling-cord depending from the propelling device and in line with the bracket, substantially as specified.

7. The combination of a car having a depending receptacle, pulling-cords depending at the sides of the car and in advance of its receptacle when at rest and merging in a common handle, and a spreader to prevent contact of the cords with the receptacle, substantially as specified.

8. The bracket C, having the socket C′, legs C^2, provided with the bearings C^3 D′, and the brace C^5, having socket C^9 and slitted, as at C^6, substantially as shown and described.

9. The car consisting of the top F and separate body F′, the body F′ and the case F^4 being formed in a single piece and adapted for connection with the top, substantially as specified.

10. The combination, with a car, a propelling device adapted to be put in operative condition by the car, and a spring constructed and arranged to remain quiescent during the greater portion of the operation of the propelling device for preliminarily and partially putting said propelling device into operative position, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

EDGAR B. STOCKING.

Witnesses:
H. SUTHERLAND,
C. S. CHAMPION.