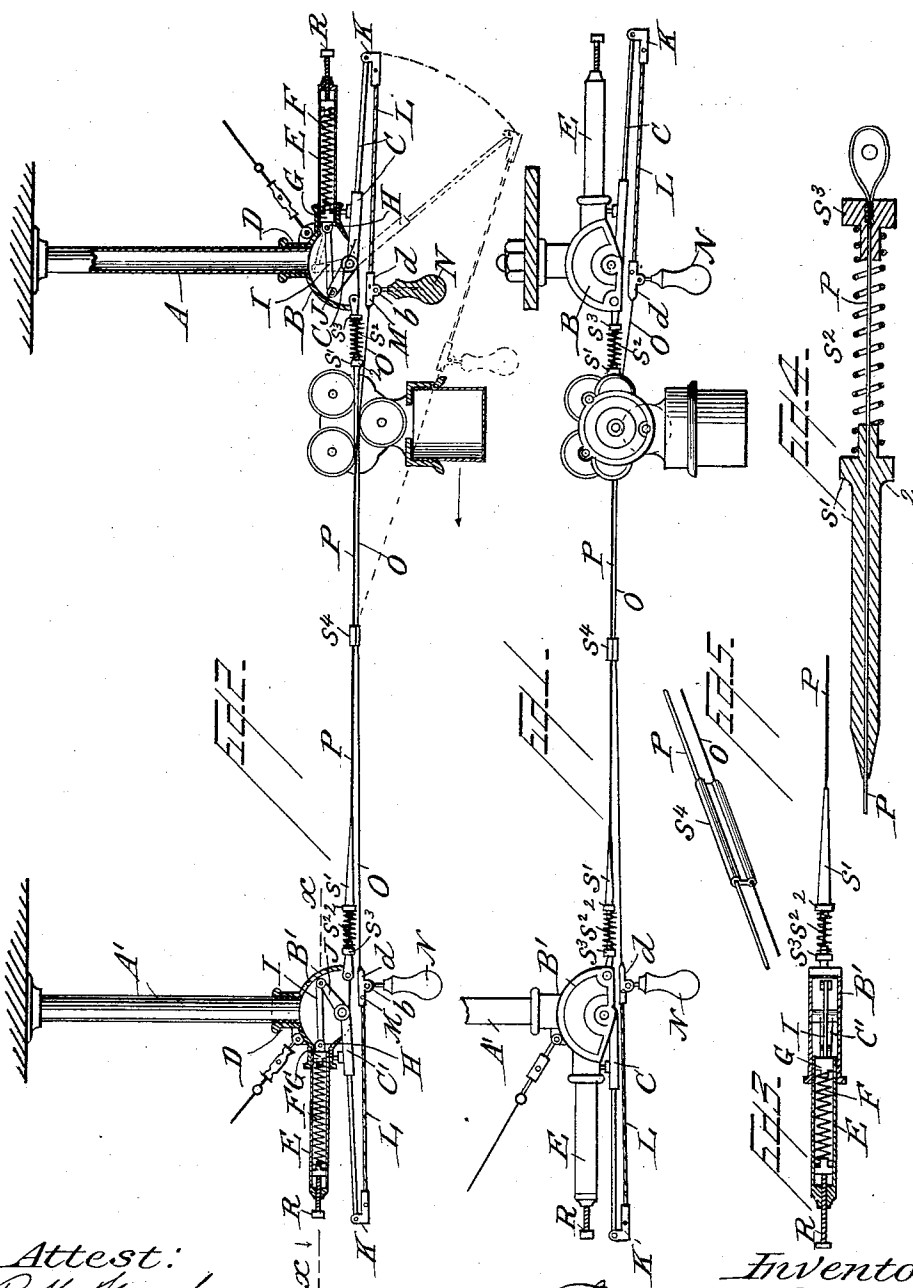


2 Sheets—Sheet 1.

No. 484,547.

Patented Oct. 18, 1892.



Attest:
R. W. Fenwick
D. H. Naylor

Inventor
Thomas E. Barron
by his attorney
E. J. Fenwick

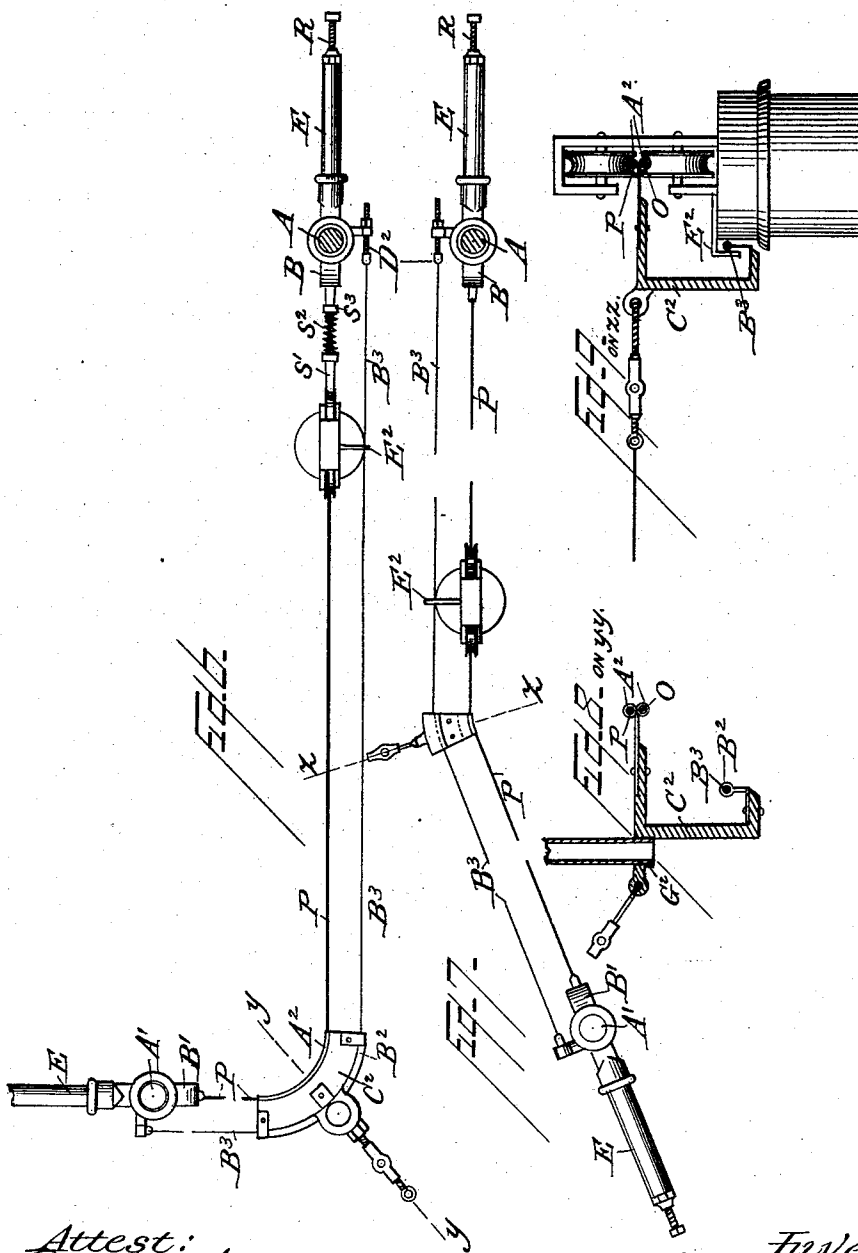
(No Model.)

2 Sheets—Sheet 2.

T. E. BARROW.
STORE SERVICE APPARATUS.

No. 484,547.

Patented Oct. 18, 1892.



Attest:
R. H. Fenwick
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UNITED STATES PATENT OFFICE.

THOMAS E. BARROW, OF MANSFIELD, OHIO.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 484,547, dated October 18, 1892.

Application filed December 10, 1891. Serial No. 414,632. (No model.)

To all whom it may concern:

Be it known that I, THOMAS E. BARROW, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Store-Service Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in store-service apparatus, and especially to what is commonly known as "cash-carriers;" and it consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 represents a longitudinal sectional view of a cash-carrier line complete. Fig. 2 is a side elevation of the same slightly modified. Figs. 3 and 4 represent the stop and retainer. Fig. 5 is a perspective view of my improved clip for holding the wires in proper position and preventing a wedge being formed in front of the car. Fig. 6 is a side elevation of a curved cash-carrier line, and Fig. 7 is a similar view of a line having an angular turn. Fig. 8 is a section in the line *yy* of Fig. 6, and Fig. 9 is a section in the line *xx* of Fig. 7 and showing a guide-wire applied to the car.

A A' represent hangers or supports, which are secured to the ceiling in the usual manner.

B B' are feet, which are cast hollow to receive the pivoted levers C C', the upper portion of the feet being provided with a screw-threaded sleeve D to secure the said feet to the hangers or supports. As both supports or hangers and the devices connected to them are the same, a description of one will suffice for both.

E is a tubular projection extending laterally from the foot, in which is placed a coil-spring F, the said spring being provided with the guide G at its outer end, and the latter is provided upon its outer end with a bifurcation H, in which is pivoted the connecting rod or bar I. This bar or rod connects with the upper end of the lever C and the coil-spring F. The expansion of the coil-spring holds the lever C in the position shown.

K indicates a link-like connection, which is pivoted to the outer end of the lever C and in which is secured one end of a flexible connection L, such as leather cord, wire cord; or any other suitable flexible material. I regard the use of this flexible connection as a very important feature of my invention, as by its use an operator can send a car forward and return the same to himself without changing his position, whereas if a rigid connection was employed an operator could not return the car without spreading both ends of the line, thereby forming a wedge at the front as well as in rear of the car-wheel, which would cause the car to stop about midway of the length of the line.

M indicates a metallic connection, which is composed of a tubular sleeve *a*, and in this is secured the flexible connection L. The under side of said sleeve is provided with the perforated lug *b*, and in this is secured the handle N. To the outer end of the sleeve M is secured the lower or propelling wire O, which extends from station to station, making a connection between the two levers C and C'.

P is a stationary track-wire, which is secured at each of its ends to the feet B and B'. The track-wire P may be stretched by an ordinary turnbuckle. The tension of the spring F is regulated by a set-screw R, as shown.

In Figs. 3 and 4 I have shown a combined catch and stop, which preferably surrounds the stationary wire P at each station. It consists of a rubber sleeve or tube S', tapered at its outer end and provided with collars or shoulders 2 and S², between which shoulders a coil-spring S² or other elastic cushion is interposed.

The utility of the stop and retainer is this: The wheels of the car are permitted, by reason of the tapered formation of the stop, to ride onto the same and be gradually stopped. When the car strikes the shoulder 2, the spring-cushion is depressed, which obviates any sudden jar and noise.

S⁴ represents a clip or sleeve which is grooved into two tubes, the stationary track-wire P passing through the upper tube and rigidly secured in the same, and the lower or propelling wire O passing loosely through the lower tube. The purpose of this clip is to prevent

any wedge being formed in front of the car, either in sending the car from or returning the car to the operator, but especially in returning the car. This clip keeps the wires close together in the center, as clearly shown in the drawings.

In Fig. 6 I have shown an improvement in the construction of the curved portion, and in Fig. 7 an improved construction of the angular portion of a cash-carrier system which will permit a car to be sent and returned around a curve or angular portion with the same motive power that is used on a straight line. The device C² for the curved or angular portions of the wires consists of two parts which are connected by means of three brackets, one being at each end and one in the center. This latter bracket is provided with a threaded sleeve by which it is attached to a hanger or support.

The curved tubes A² and B² follow the curvature or angle of the brackets C², the wires O and P passing through the tubes A², and the guide-wire B³ passing through the tube B². The guide-wire B³ extends from station to station and is parallel with the track-wire, being held at a proper distance apart by a bracket cast on the side of the foot and is stretched by the bolt D² to a proper tension. The only difference between the bracket for an angular line and the brackets on each end of the curve is that it is made wider at the back than in the front. On the upper face of the hollow case forming the lower portion of the car a loop E² is secured which projects outwardly, the object of the loop being to hold the car vertical and to prevent all lateral or swinging motion and at the same time to guide the car onto the curve or angle brackets. The guide-wire B³ is placed between the car and the loop, as clearly shown in the drawings in Fig. 9.

It is obvious that the tubes E and the spring F might be placed in front of the feet B B' instead of in the rear and a close coil-spring be employed, the rest of the construction being precisely the same as that heretofore described, excepting in this construction by pulling down on the handle the spring will be expanded instead of contracted.

The operation is as follows: If the operator wishes to send the car to the opposite end of the line, he pulls downward with the handle N, which operates the pivoted lever C, as shown in dotted lines. This allows the lever C' to remain at rest and spreads the propelling-wire O at the rear of the car, propelling the same from station to station. If the operator wishes to return the car to himself, he pulls backward and on a line with the track-wires which operate the lever C' at the opposite station, spreading the wire at the rear of the car, which propels the car back to him. I am enabled to accomplish this by means of the flexible connection L, and I regard this as one of the most important features in this invention.

What I claim as my invention is—

1. In store-service apparatus, the combination of suitable supports or hangers, a track-wire connected to the supports, a propelling-wire, spreading-levers pivoted to the hangers, springs applied to automatically return the levers to their normal position, operating-handles secured to the propelling-wire, and flexible connections between the operating-handles and the spreading-levers, substantially as described.

2. In store-service apparatus, the combination of suitable supports or hangers, a track-wire connected to the supports, a propelling-wire, spreading-levers pivoted to the hangers, springs applied to automatically return the levers to their normal position, operating-handles secured to the propelling-wire, link-like connections pivoted to the lower end of the levers, and flexible connections between the operating-handles and the link connections, whereby a car can be propelled and returned from the same end of the line, substantially as described.

3. A stop or retainer for store-service apparatus, comprising in its construction a longitudinally-slidable and laterally compressible or yielding sleeve tapered at its outer end and provided with a shoulder at its inner end, a stationary collar, and a spring interposed between the stationary stop and the sleeve, the yielding sleeve being adapted to receive the impact of a car and to retain the car thereon and the car to be gradually stopped by the joint action of the yielding sleeve and the spring, substantially as described.

4. In a store-service apparatus, the combination of the stationary track-wire and the propelling-wire with the clip S⁴, which latter comprises in its construction two tubes, through the upper one of which the stationary track-wire is passed and rigidly secured in the same and through the lower tube the propelling-wire loosely passes, substantially as and for the purpose described.

5. In a store-service apparatus, the combination of the stationary track-wire, the propelling-wire, and the guide-wire with the bracket C² for a curved or angular portion of a line, said bracket having secured at its upper end two tubes through which the propelling and track wires pass, respectively, and at its lower end a single tube through which the guide-wire passes, substantially as described.

6. A store-service apparatus comprising suitable hangers or supports, a stationary track-wire secured to the hangers, a propelling-wire, spreading-levers pivoted to the hangers, flexible connections between the propelling-wire and the spreading-levers, means for operating the propelling-wire and levers, springs for returning the levers to their normal position, and clip S⁴, having two tubes for the passage of the track and propelling-wires, the apparatus being adapted to send and return a car from either station, substantially as described.

7. In a store-service apparatus, the combination of a suitable hanger or support having a foot and a tubular extension, a spring located in said extension, a plunger to compress the spring, a pivoted spreading-lever, a bar pivotally connected to the plunger and lever, a stationary track-wire, a propelling-wire, and flexible connections between the pro-

PELLING-WIRE AND THE SPREADING-LEVER, SUBSTANTIALLY AS DESCRIBED. 10

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

THOMAS E. BARROW.

Witnesses:

J. C. GASER,

H. A. SLOANE.