No. 790,219. PATENTED MAY 16, 1905.

C. J. MILLER.

STORE SERVICE APPARATUS.

APPLICATION FILED NOV. 17, 1903.

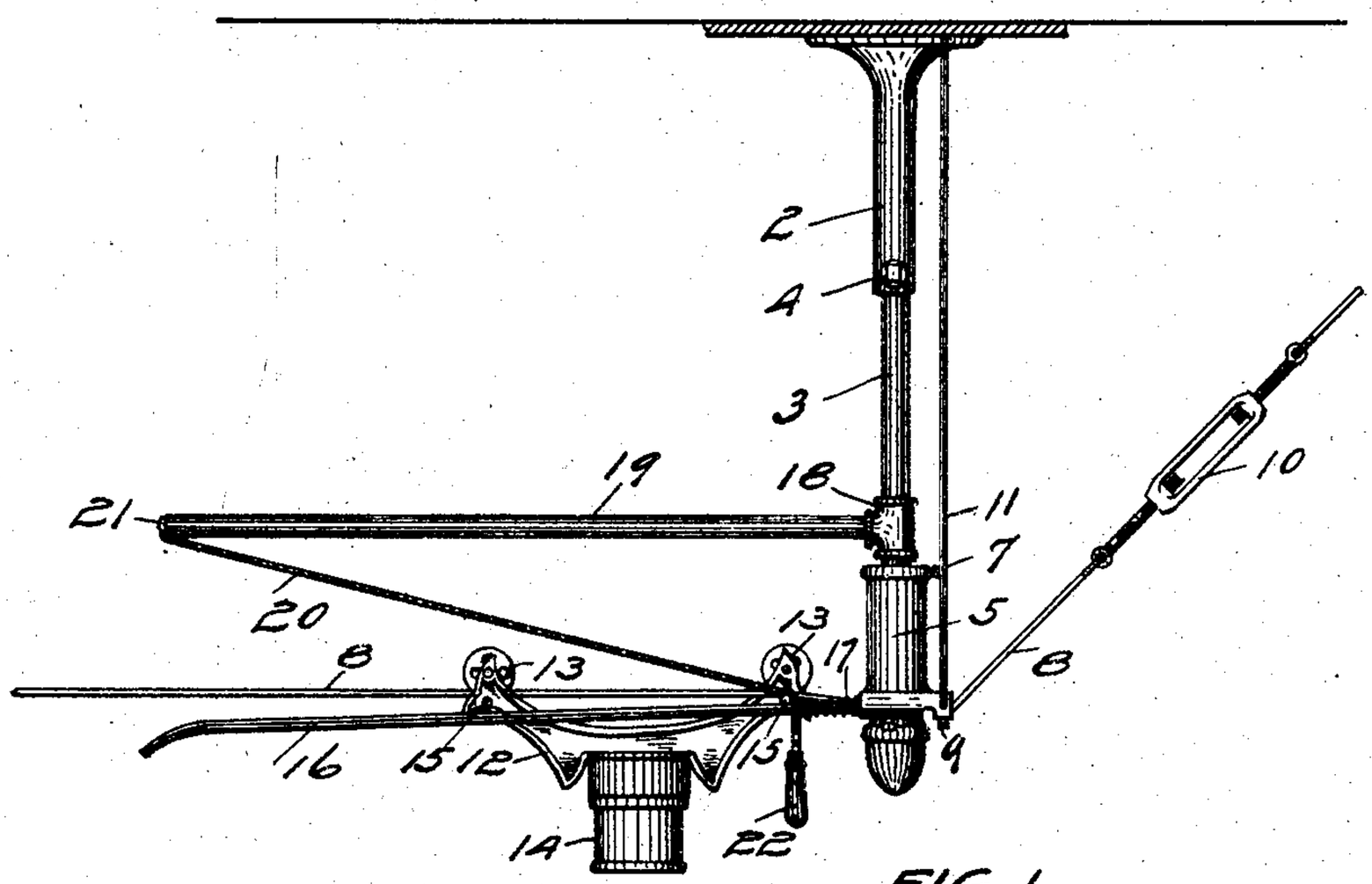

FIG. 1.

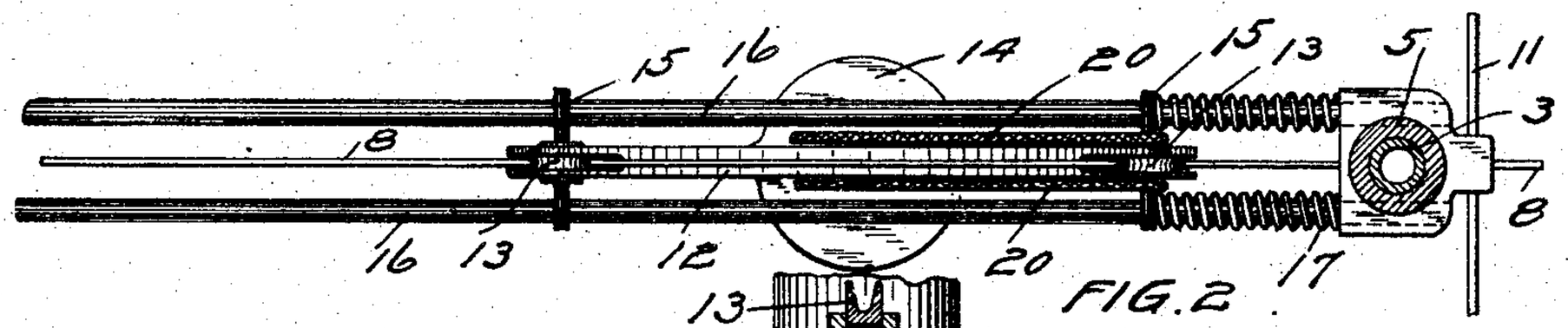

FIG. 2.

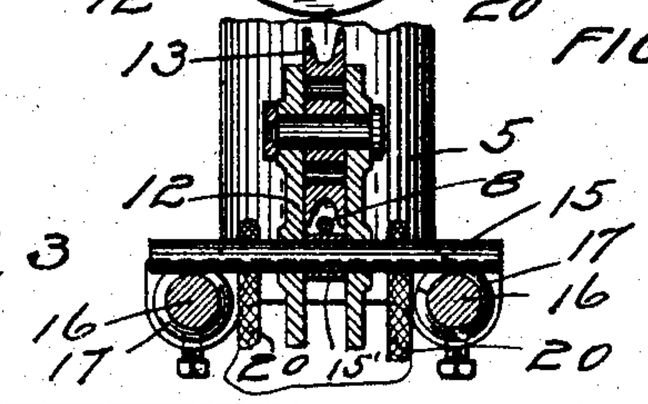

FIG. 3.

FIG. 4.

WITNESSES

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HIS ATTORNEYS

No. 790,219. Patented May 16, 1905.

UNITED STATES PATENT OFFICE.

CHARLES J. MILLER, OF MINNEAPOLIS, MINNESOTA.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 790,219, dated May 16, 1905.

Application filed November 17, 1903. Serial No. 181,495.

To all whom it may concern:

Be it known that I, CHARLES J. MILLER, of Minneapolis, Hennepin county, Minnesota, have invented certain new and useful Improvements in Store-Service Apparatus, of which the following is a specification.

My invention relates to cash or bundle carriers; and the object of the invention is to provide means whereby the force exerted by the operator to move the carrier from one station to another can be applied directly to the carrier without the intervention of any springs, pulleys, or equivalent devices that are usually employed to propel a carrier from one station to another.

A further object is to provide a propelling means that is more simple and economical in construction than the devices of this kind usually employed and generally more efficient for the purpose designed.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in various constructions and combinations, all as hereinafter described, and particularly set forth in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of a carrier-station with my invention applied thereto. Fig. 2 is a horizontal section of the same. Fig. 3 is a transverse vertical section. Fig. 4 is a vertical section of the carrier and the hanger wherefrom the line is supported.

In the drawings, 2 represents a hollow hanger depending from the ceiling or other convenient place in the room where the station is to be located, and 3 is a tube adjustably secured at one end within the hanger 2 by a set-screw 4. A casting 5 has a socket 6 to receive the lower end of the tube 3, and a set-screw 7 adjustably secures said casting on said tube.

8 is a wire forming a line between the stations, that passes through the lower end of the casting 5, being secured therein by a set-screw 9 and is connected at its end by a turnbuckle 10, that is secured by any suitable means (not shown) to the wall or other support. A wire 11 also passes through the casting 5 transversely with respect to the wire 8 and is held against movement by the set-screw 9. The wire 11, with the turnbuckle 10, and its connections act as stays to hold the hanger 2 and the tube 3 in a substantially vertical position.

Mounted on the wire 8 is a carrier-frame 12, having the usual grooved-faced wheels 13 to ride upon the wire and the usual cash-carrier 14. For convenience of illustration I have shown a cash-carrier in connection with the frame 12; but it will be understood that my invention is equally well adapted for use with a bundle or package carrier. The frame 12 is provided at each end with laterally-projecting pins 15, that ride upon friction-arms 16, that are supported at one end in the casting 5 at a point near the wire 8 and diverge downwardly from said wire toward their opposite ends. These arms constitute the friction-stops that are fully illustrated and described in Letters Patent of the United States, granted to me October 28, 1902, No. 712,398, and I make no claim, broadly, to the same herein, except in combination with the novel features of my present invention. These friction-arms serve to arrest the carrier when it approaches the station and to take up the impetus or momentum thereof and prevent the usual jar or shock and the accompanying noise when the carrier reaches its destination. The pins 15 slide over the friction-arms, and as a further means of retarding the carrier I prefer to provide springs 17, coiled around the inner ends of the arms 16 in position to engage one of the pins 15. Antifriction-rollers 15′ are mounted on the pins 15 to engage the wire 8 and prevent wear thereon.

The mechanism heretofore described is similar to that set forth in my patent above referred to, and I will now proceed to describe that portion of the apparatus that relates particularly to my present invention.

Upon the tube 3 I provide a collar 18, supporting a pipe 19, that extends out horizontally over the line-wire 8 and substantially parallel therewith and a sufficient distance above the arms 16 to clear the carrier. The end of the pipe 19 is screwed in against the tube 3 and locks the collar 18 thereon in any

desired position. Cords 20 are secured to the outer end of the pipe 19 in any suitable way, as by a plug 21, and these cords are carried down in the rear of the inner carrier-pin 15 and provided with a suitable handle 22 at the lower end.

The operation of the device is as follows: The carrier being in the position shown in the drawings and the operator desiring to move it from one station to another will grasp the handle 22, and a quick vigorous pull thereon will result in driving the carrier forward off the friction-arms and send it with sufficient momentum to reach the other station. After the carrier has left the station the cords will hang down vertically from the end of the pipe 19 until the carrier is returned, when they will be engaged by one of the pins 15 and returned to the position shown in the drawings. These cords may be elastic or inelastic and of any suitable material, either hemp or cotton rope or wire-cable, and, if desired, I may even use inflexible rods in the place of the cords without departing from my invention.

I claim as my invention—

1. In a store-service apparatus, the combination, with a station and a wire or track supported thereby, a carrier, friction-arms arranged below the line-wire to arrest the momentum of the carrier as it approaches said station and a propelling means supported above and in advance of the normal station position of said carrier and having a lower free end depending in the rear of said carrier and arranged to move into sliding engagement therewith when drawn down to a vertical position.

2. In a store-service apparatus, the combination, with a station and a wire or track supported thereby, of a carrier mounted on said wire, friction guiding-arms provided below said carrier, pins provided on said carrier and arranged to engage said arms, and a flexible propelling means secured at one end above and in advance of said carrier and having its other end depending in the rear of said carrier and in sliding engagement with one of said pins.

3. The combination, in a store-service apparatus, with a station and a wire or track supported thereby, of a carrier arranged upon said track, guiding means for said carrier, an arm provided above said carrier and extending in a direction substantially parallel with said track, and cords secured to said arm in advance of the normal station position of said carrier and having their other ends depending in the rear of said carrier to engage and propel the same when swung to a vertical position.

4. In a store-service apparatus, the combination, with a station and a line-wire supported thereby, of a carrier arranged upon said wire and having transversely-projecting pins, friction-arms provided below said wire in position to engage said pins and take up the momentum of said carrier as it approaches the station, and coil-springs provided on said arms in the path of said pins, for the purpose specified.

5. In a store-service apparatus, the combination, with a station and a line-wire supported thereby, of a carrier, friction-arms arranged below said line-wire to engage said carrier and arrest movement of the same, and a flexible device for applying the propelling force directly to said carrier to drive it from one station to another.

6. In a store-service apparatus, the combination, with a station and a line-wire, of a carrier, friction-arms arranged to engage and arrest the movement of said carrier as it approaches a station, and means for applying the propelling force directly to said carrier to drive it from one station to another, substantially as described.

In witness whereof I have hereunto set my hand this 12th day of November, 1903.

CHARLES J. MILLER.

In presence of—
RICHARD PAUL,
M. HAGERTY.