(No Model.) 3 Sheets—Sheet 1.

S. W. BARR.

STORE SERVICE APPARATUS.

No. 413,476. Patented Oct. 22, 1889.

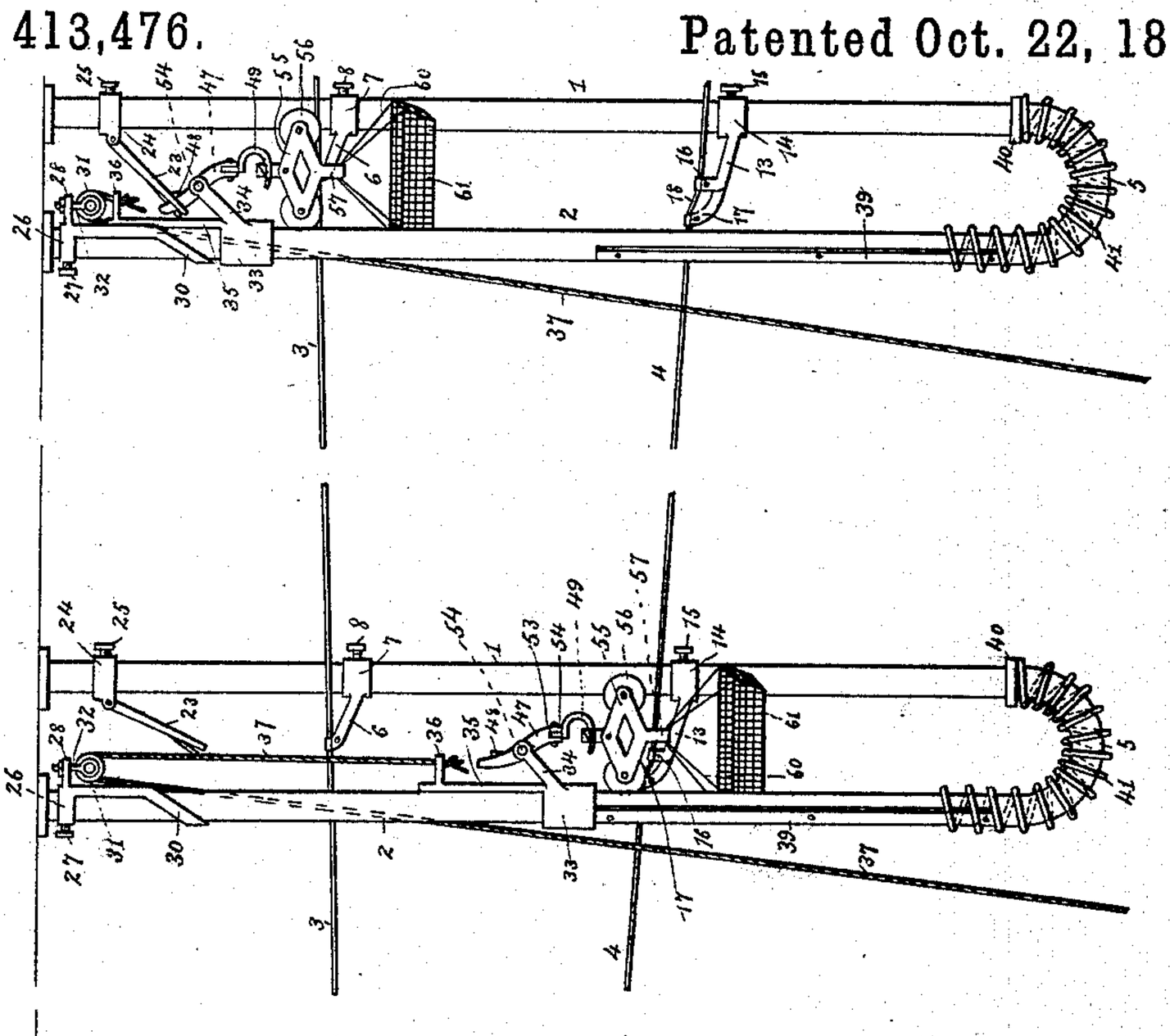

FIG. 1.

FIG. 2.

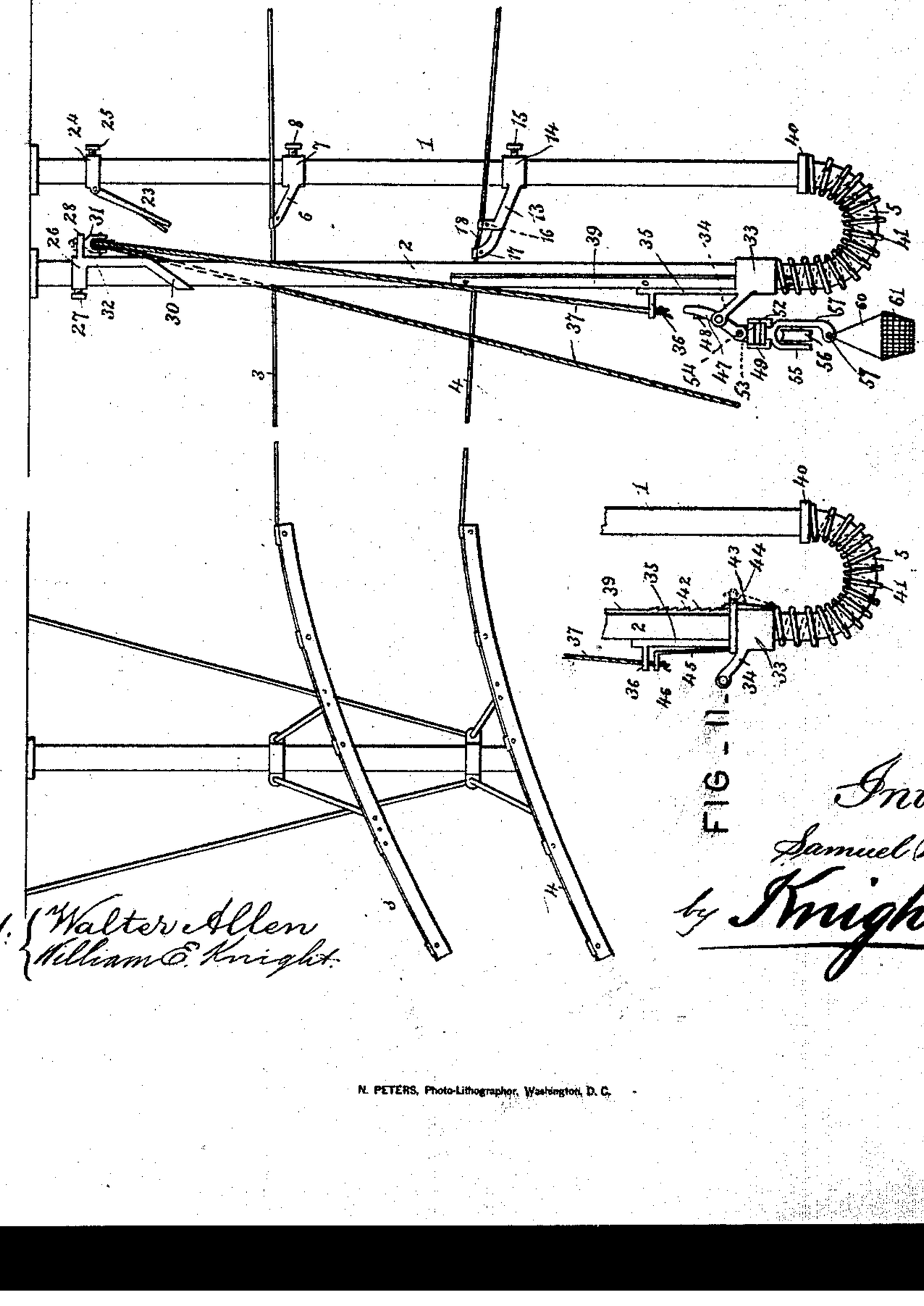

FIG. 3.

FIG. 4.

Attest: Walter Allen, William C. Knight.

Inventor: Samuel W. Barr by Knight Bros. attys.

(No Model.) 3 Sheets—Sheet 2.

S. W. BARR.

STORE SERVICE APPARATUS.

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FIG _IV_

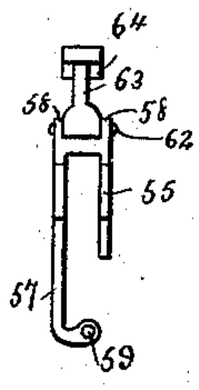


FIG _III_

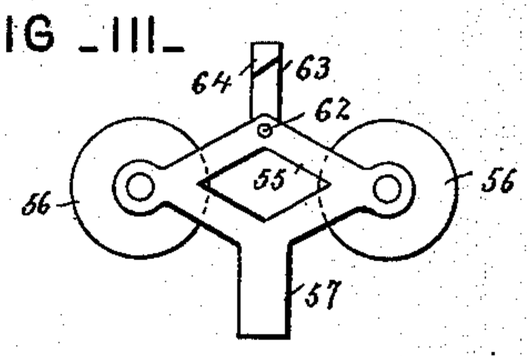


FIG _V_

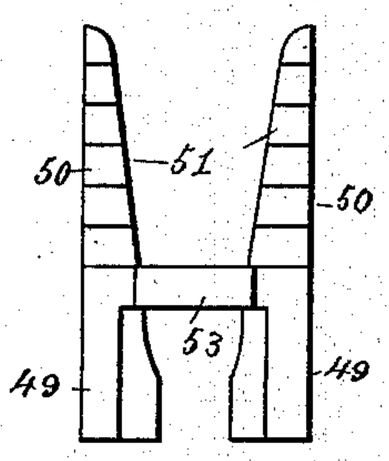


FIG _VI_

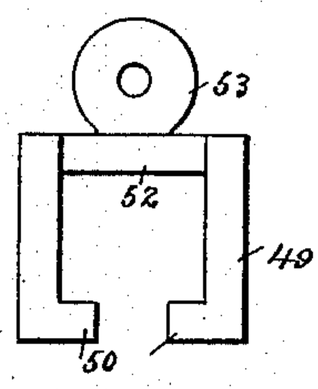


FIG _VII_

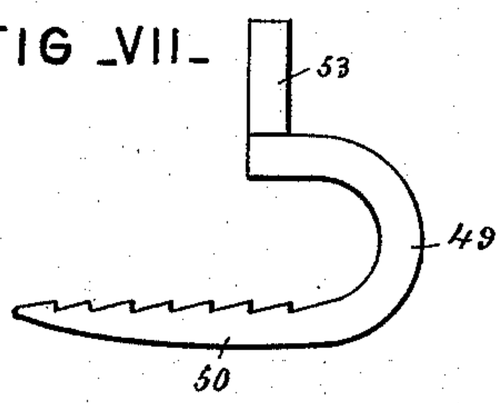


FIG _VIII_

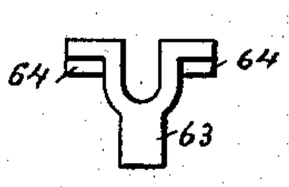


FIG _IX_

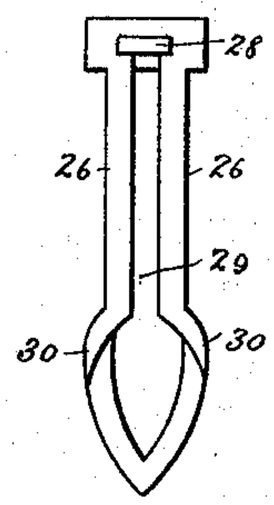


FIG _X_

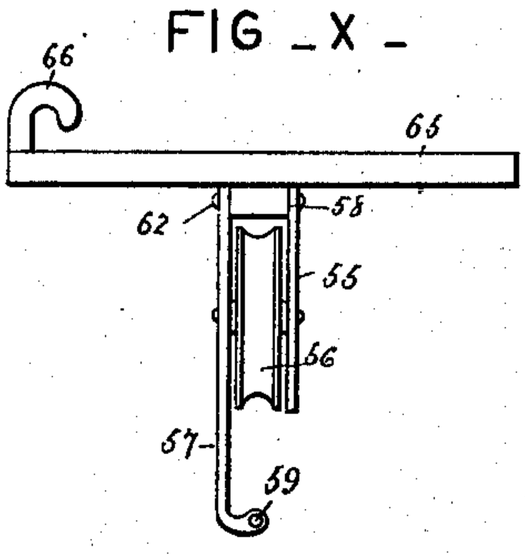


FIG _XI_

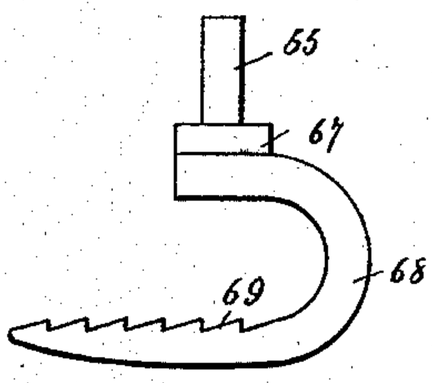
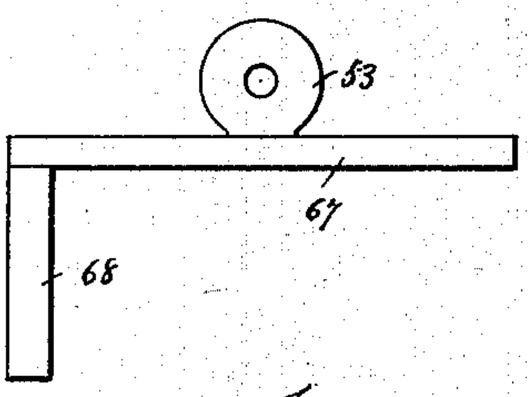


FIG _XII_



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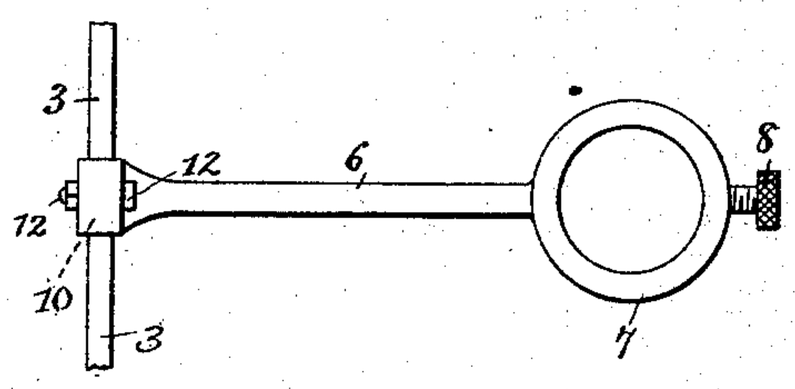
S. W. BARR.

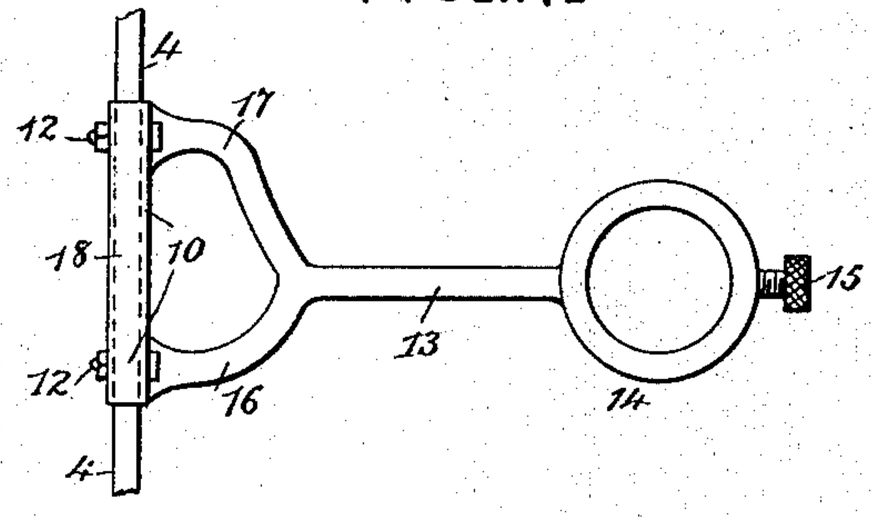
STORE SERVICE APPARATUS.

No. 413,476. Patented Oct. 22, 1889.

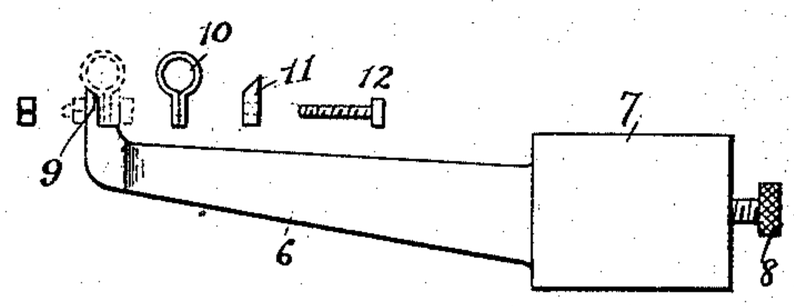
FIG_XIII_



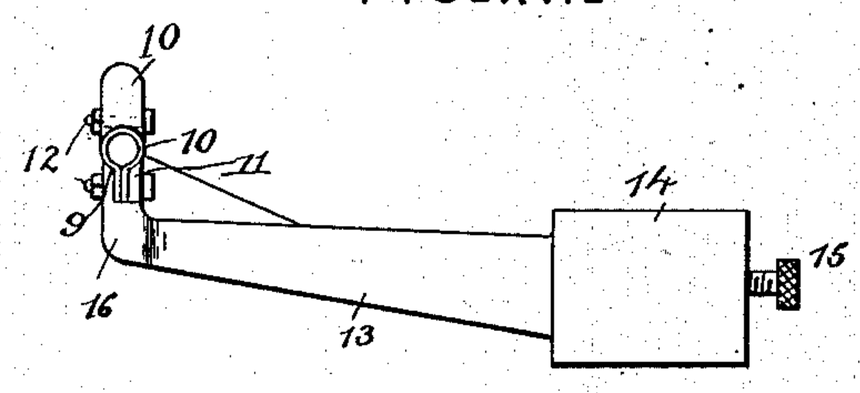
FIG_XV_



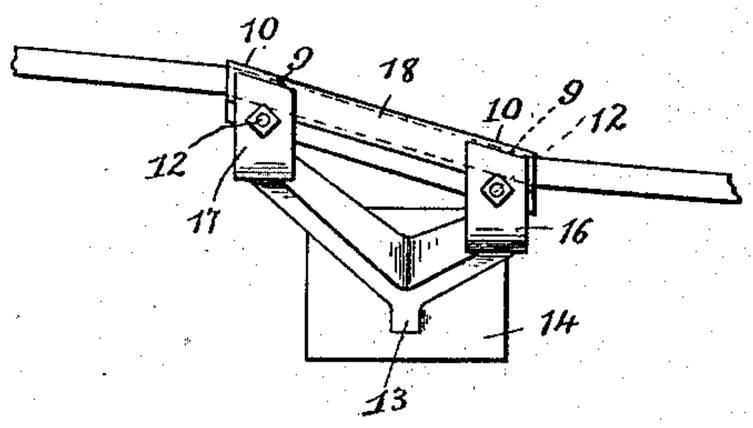
FIG_XIV_



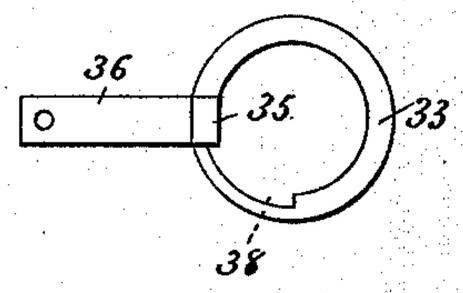
FIG_XVI_



FIG_XVII_



FIG_XVIII_



Attest:
Jas. K. McCathran
Walter Allen

Inventor:
Samuel W. Barr
by Knight Bros.
attys.

UNITED STATES PATENT OFFICE.

SAMUEL W. BARR, OF MANSFIELD, OHIO.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 413,476, dated October 22, 1889.

Application filed April 4, 1889. Serial No. 305,948. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL W. BARR, a citizen of the United States, and a resident of Mansfield, in the county of Richland and State of Ohio, have invented new and useful Improvements in Store-Service Apparatus, of which the following is a specification.

The object of my invention is to afford the merchant a simple and durable carrier apparatus which will not be liable to get out of order.

My invention relates to a gravity package-carrier apparatus for store-service; and my improvement consists in the construction of said apparatus, as hereinafter described, and pointed out in the claims.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure I is a perspective view of the apparatus, showing three stations, the construction being similar at each station. Fig. II is a perspective view of the tubular support, showing the cushioning-spring and the carrier-elevator thereon. Fig. III is a side view of a carrier. Fig. IV is an end view thereof. Fig. V is a top view of a carrier-elevator hook. Fig. VI is a rear view thereof. Fig. VII is a side view of the same. Fig. VIII is a side view of the T-block on the carrier which is engaged by the carrier-elevator hook. Fig. IX is a side view of a skeleton sleeve for turning or guiding the carrier-elevator sleeve. Fig. X is an end view of a carrier, showing a modified form of the lifting-block. Fig. XI is a side view of a modified form of lifting-hook on the carrier-elevator. Fig. XII is a rear view thereof. Fig. XIII is a top view of an arm supporting the upper track-wire. Fig. XIV is a side view thereof, the parts being separated. Fig. XV is a top view of an arm supporting the lower track-wire. Fig. XVI is a side view thereof. Fig. XVII is a front view of the same. Fig. XVIII is a top view of the carrier-elevator.

1 2 are two arms of a U-shaped tube or a pair of pipes secured to and depending from a ceiling or overhead floor, forming cylindrical supports for upper track-wire 3 and lower track-wire 4, respectively inclined in opposite directions and leading from and to the sales-clerk's station, and to and from the wrapping-counter. The ends of the tube or pipes are joined by a bend 5. These supports are placed at intervals along the line where a station is desirable, and the space between the arms of the tube or pipes is sufficient to allow a bundle or basket to pass freely. The track-wires are stretched tight and may be either straight or curved. In the drawings I have shown three stations. The upper track-wire 3 is supported on arms 6, secured to and adjustable on the tube or pipe 1 by means of a collar 7, surrounding the tube or pipe, and held at the desired height by means of a set-screw 8. Each arm 6 is widened at the outer end, and the point 9 is beveled. A small piece 10 of tin or other suitable material is wrapped around the wire and held to the arm by means of a washer 11, preferably square in form, and a small bolt, screw, or rivet 12.

13 is an arm for supporting the lower track-wire 4, secured to and adjustable on the tube or pipe 1. This arm is longer than the arm of the upper wire, and is provided with a collar 14, surrounding the tube or pipe 1, and is held at the desired height by means of a set-screw 15. The latter arm is forked at the outer end, so as to provide fingers 16 and 17 of different heights, the finger 16 being lower than the finger 17 to maintain a depression 18 in the track-wire at each station. This depression or bend in the track-wire is a little more than the depth of the flanges of the wheels of the carrier, so that the truck or frame of the carrier may be carried off the track-wire without being raised. Strips or pieces 10 of tin or other suitable material are used to maintain the depression or bend, the points 9 being beveled, the strips or pieces wrapped around the track-wire, and bolts, screws, or rivets 12 passed through the fingers and suitable washers 11, as shown.

23 is a forked bar hinged near the top of the arm 1 to a collar 24, surrounding the latter and adjustable thereon, and secured in desired position by means of a set-screw 25. The bar is supported in inclined position and is employed for releasing the carrier. Fitting around the upper end of the arm 2, and secured adjustably thereto by means of a set-screw 27, is a skeleton sleeve 26, formed with a projecting lug 28, longitudinal opening or

channel 29, and beveled portion 30, providing a flaring opening leading to the longitudinal opening or channel. This flaring opening forms a guide to the channel.

31 is a pulley having swiveled support 32 on the lug. Free to slide on the arm 2 is a carrier-elevator 33, having a projecting arm 34 and an upwardly-extending stem 35, formed with a projecting lug 36. To this lug an elevating rope, cord, or chain 37 is secured, and from thence passed over the pulley to a point beneath in a convenient position for handling, the ends of the rope, cord, or chain extending downward on each side of the arm 2. The carrier-elevator 33 is further provided with a longitudinal notch 38.

Rigidly secured to the lower portion of the arm 2 is a longitudinal strip 39 of iron or other suitable material. This strip occupies the notch 38, so as to form a guide for the carrier-elevator from and to the seat for the latter, the strip extending upward to a point above the lower track-wire.

Around the lower end of the arm 1, just above the bend 5, is a flange or collar 40, forming a seat for a cushioning-spring 41, coiled around the bend and forming a support or spring-seat for the carrier-elevator.

Referring to the modification shown in Fig. II, the strip 39 may be formed with teeth 42 at the lower end. To the carrier-elevator 33 is hinged a dog or pawl 43, carrying at its upper end a ring 44, having an upwardly-extending stem 45, formed with a projecting eye-lug 46 and conforming in shape to the stem 35 and lug 36 of the carrier-elevator. The dog or pawl is adapted to engage the teeth in the strip when the ring is in its normal position. In this modification the end of the cord, rope, or chain is passed through the eye-lug 36 and engaged with the eye-lug 46 beneath. When the rope, cord, or chain is pulled to raise the carrier-elevator, the stem 45 is first lifted and disengages the pawl by swinging the latter outward. When the carrier-elevator drops on the spring, the latter is compressed, and the dog or pawl automatically engaging the teeth the rebound of the spring is prevented. Pivoted to the arm 34 of the carrier-elevator is a bar or lever 47, formed with a catch or projection 48 in front at its upper end.

49 is a carrier-elevator hook provided with curved prongs 50, having rearwardly-inclined teeth 51, and with a cross-bar 52, having an eye 53.

54 is a pivot-pin, by which the hook-eye is connected with the lower end of the lever or bar 47.

55 is the car-truck or carrier-frame, mounted on grooved wheels 56 and provided with an extension or pendent hook 57 and cheek-plates 58. The hook may be formed with a perforation or eye 59 to receive the bails 60 of a basket or car 61. Secured to the cheek-plates 58 by means of a pivot-pin 62 is a T-block 63, having knife-edges 64 for engaging the teeth of the prongs of the carrier-elevator hook. In Fig. VIII, I show the center of the block cut away. The block is graded to suit the carrier-elevator hook, and the neck is increased in thickness from one-eighth of an inch by eighths to two inches or more. The difference between blocks of one-eighth of an inch is deemed sufficient, yet the difference may be more or less. The space between the prongs of the hooks also increases by one-eighth of an inch to two inches or more, and therefore the carrier-elevator hook is adapted to catch and hold the carrier, having a block formed with a neck adapted to fit the carrier-elevator hook. A carrier-elevator hook with prongs two inches wide would allow all the carrier to pass it, except the carrier having a block formed with a neck two inches wide. By this arrangement each carrier will be stopped at the station to which it belongs.

In Fig. X, I show a substitute for the T-block 63 in the form of a cross-bar 65, having a hook or staple 66.

Referring to Figs. XI and XII, I show a carrier-elevator hook 67, having a single prong 68, formed with teeth 69 and adapted to catch the hook or staple 66. The position of the hook on the block and the position of the prong on the carrier-elevator hook may be varied along their respective bars. The hook on the block and the prong on the carrier-elevator hook being in the same position along their bars, the carrier is caught by the single prong at the station to which it belongs. After going through the changes of position on one plane the hook 66 and prong 68 can be raised to a higher plane and go through the same changes. The same changes are also possible with the two-prong or double hook. These various changes are indefinite and make it possible to have any number of stations along a single track.

The carrier operates as will now be described. At the three stations shown the carrier is seen in as many different positions. At the left-hand station the carrier is down within reach of the sales-clerk. At the middle station the carrier is caught by the elevator-hook. At the right-hand station the carrier is on the upper track, ready to start on its mission. In sending a carrier to the wrapping-counter the sales-clerk pulls the rope, cord, or chain which runs over the pulley near the top of the arm 2 and draws the carrier-elevator and carrier up till the stem touches the beveled portion 30 of the sleeve 26 and, entering the flaring opening, is guided into the longitudinal opening or channel 29, when the forked bar 23 engages the catch or projection 48 on the lever 47 and tilts the carrier over the upper track-wire. Then by slackening the rope, cord, or chain the carrier moves off and the carrier-elevator descends to rest on the top of the strip 39 in position to catch the carrier when it is returned. It is caught by the hook and its momentum

turns the carrier-elevator until the longitudinal notch 38 in the latter comes to a position over the strip 39, when the carrier and carrier-elevator drop on the spring 41. In this last operation the carrier-elevator and carrier rotates nearly a half-circle before it drops.

I do not confine myself to the particular construction described in this apparatus, as some of the parts may need slight change or modification to perfect the apparatus, and as I feel able to make whatever change may be necessary to complete it I reserve the right to do so.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination of the supporting-arm 1, the track-wire 4, and the arm 13, secured to the supporting-arm and having fingers 16 and 17 of different heights for maintaining a depression 18 in the track-wire, substantially as described.

2. The combination of the supporting-arm 1, track-wire 4, and the arm 13, having the adjustable collar 14 and set-screw 15, and formed with fingers 16 and 17 of different height for maintaining a depression 18 in the track-wire, substantially as described.

3. The combination of the supporting-arm 2, the carrier-elevator having lever 47, provided with projection 48, and the tilting forked bar 23, hinged to the arm, substantially as described.

4. The combination of the supporting-arm 2, the carrier-elevator having lever 47, provided with projection 48, the adjustable collar 24, having set-screw 25, and the tilting forked bar 23, hinged to the collar, substantially as described.

5. The combination of the supporting-arm 2, the sleeve 26, secured thereto, having projecting lug 28, longitudinal channel 29, and beveled portion 30, providing a flaring opening leading to the channel, and the pulley 31, having swiveled support 32 on the lug, substantially as described.

6. The combination of the supporting-arm 2, the carrier-elevator 33 free to slide thereon, having a projecting arm 34 and an upwardly-extending stem 35, formed with a lug 36, the lever 47, and the hook 49, substantially as described.

7. The combination of the cylindrical support, having the longitudinal strip 39 extending upward to a point above the lower track-wire, the carrier-elevator 33, having a longitudinal notch 38, means for elevating the carrier-elevator, and means for turning the latter above the strip, substantially as described.

8. The combination of the U-shaped support having arms 1 and 2 and bend 5 between the arms, the collar 40 on one arm, and the cushioning-spring 41, coiled around the bend, substantially as described.

9. The combination of the supporting-arms 1 and 2, having the bend 5, the flange 40, the cushioning-spring 41, the longitudinal guide-strip 39, and the carrier-elevator 33, having a longitudinal notch 38, substantially as described.

10. The combination of the supporting-arm 2, the cushioning-spring 41, the longitudinal strip 39, having teeth 42, the carrier-elevator 33, having a longitudinal notch 38, and the pawl 43, hinged to the carrier-elevator, having a ring 44, provided with an upwardly-extending stem 45, having a lug 46, substantially as described.

11. The combination of the supporting-arm 2, the cushioning-spring 41, the longitudinal strip 39, having teeth 42, the carrier-elevator 33, having a longitudinal notch 38, and an upwardly-extending arm 35, formed with a lug 36, and the pawl 43, hinged to the carrier-elevator, having a ring 44, provided with an upwardly-extending stem 45, formed with a lug 46, substantially as described.

12. The combination of the supporting-arms 1 and 2, having the bend 5, the flange 40, the cushioning-spring 41, the longitudinal strip 39, having teeth 42, the carrier-elevator 33, having a longitudinal notch 38, and an upwardly-extending stem 35, formed with a lug 36, and the pawl 43, hinged to the carrier-elevator having a ring 44, provided with an upwardly-extending stem 45, formed with a lug 46, substantially as described.

13. The combination of a carrier-frame 55, having grooved wheels 56, pendent hook 57, and cheek-plates 58, the block connected with the cheek-plates, and the carrier-elevator having a hook, substantially as described.

14. The combination of the carrier-elevator 33, having a projecting arm 34, the lever 47, pivoted to the arm formed with a projection 48, and the hook, substantially as described.

15. The combination of the carrier-elevator 33, having a projecting arm 34, the lever 47, and the hook 49, formed with curved prongs 50, having rearwardly-projecting teeth 51, and the cross-bar 52, having an eye 53, by which it is pivoted to the lower end of the lever, substantially as described.

16. The combination of the carrier-elevator 33, having a projecting arm 34, the lever 47, pivoted to the arm formed with a projection 48, and the tilting hinged forked arm 23, substantially as described.

17. The combination of the carrier-elevator 33, having an upwardly-extending stem 35, and the sleeve 26, having the longitudinal channel 29, and beveled portion 30, providing a flaring opening leading to the channel, substantially as described.

18. The combination of the carrier-elevator 33, having an upwardly-extending stem 35 and projecting arm 34, the lever 47, pivoted to the arm, the sleeve 26, having the longitudinal channel 29 and beveled portion 30, and the tilting hinged forked arm 23, substantially as described.

19. The combination of the carrier-frame 55, having grooved wheels 56, pendent hook

57 and cheek-plates 58, and the T-block 63, having knife-edges 64, substantially as described.

20. The combination of the carrier-frame 55, the T-block 63, having knife-edges 64, the carrier-elevator 33, having projecting arm 34, the lever 47, and the hook 49, having curved prongs 50, formed with rearwardly-projecting teeth 51, substantially as described.

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Witnesses:
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R. B. BOON.