

(No Model.)

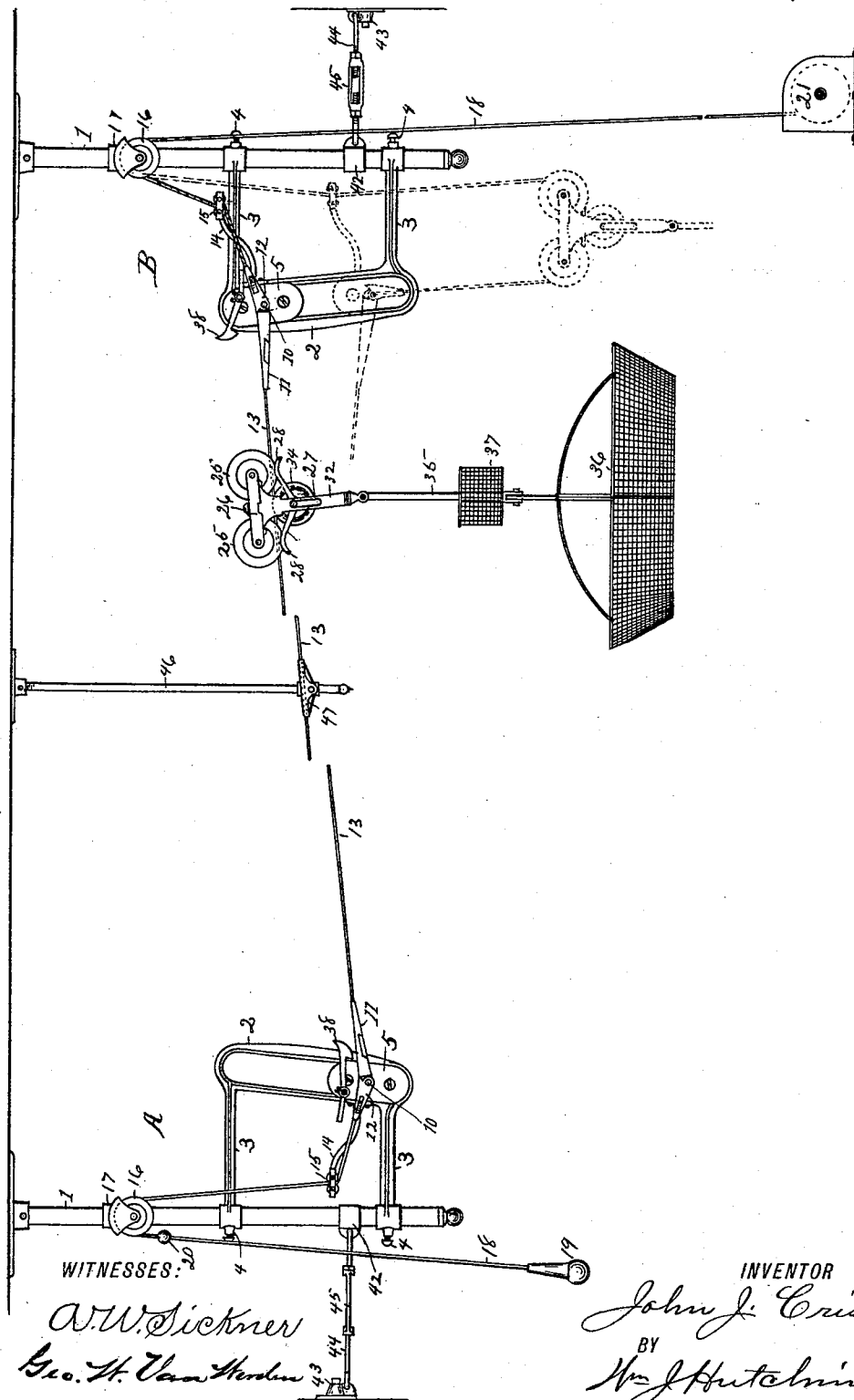
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J. J. CRIST.
STORE SERVICE APPARATUS.

No. 505,875.

Patented Oct. 3, 1893.

Fig. 1.



WITNESSES:

A.W. Sickner
Geo. H. Van Helden

INVENTOR

John J. Crist
BY
Wm. J. Hutchins
ATTORNEY

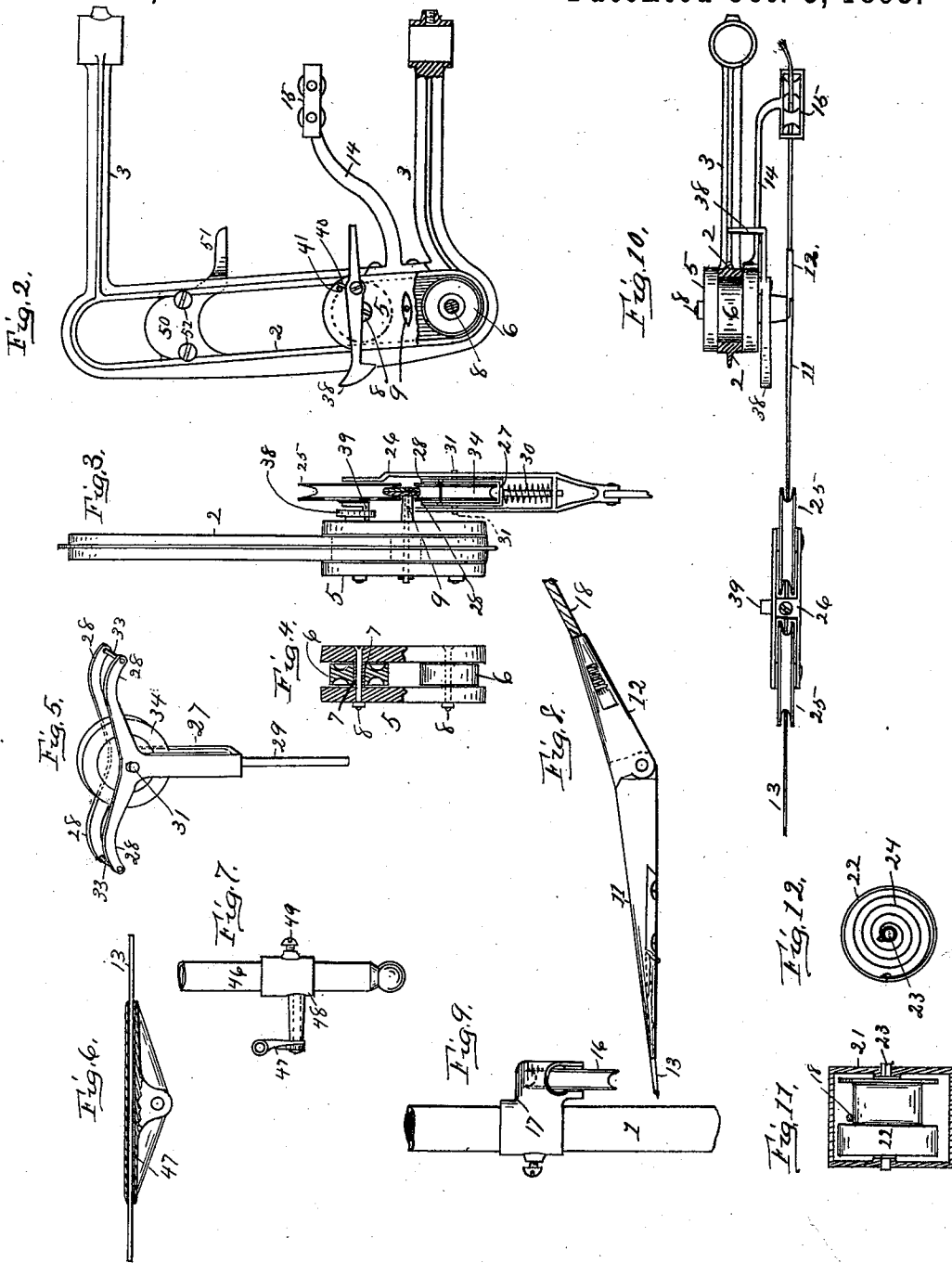
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BY

Wm. J. Hutchins

ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN J. CRIST, OF WICHITA, KANSAS.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 505,875, dated October 3, 1893.

Application filed August 10, 1892. Serial No. 442,641. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. CRIST, a citizen of the United States of America, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Store-Service Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings and the letters and figures of reference thereon, forming a part of this specification, in which—

Figure 1, is a side elevation of the apparatus; Fig. 2, a side view of one yoke and weighted traveler, of the apparatus; Fig. 3, a face view of the same, and also of the carriage of the apparatus; Fig. 4, a detailed face view of the weighted traveler of said yoke, represented in part in section. Fig. 5, is a detailed perspective of the secondary frame of the carriage of the apparatus. Fig. 6, is a detailed sectional view of the central tilting track wire support, of the apparatus; Fig. 7, a detailed view, showing the end of said track wire support, and a side view of the adjustable support thereof. Fig. 8, is a detailed side view of the jointed track section, of one station of the apparatus; Fig. 9, a detailed face view of the pull-rope pulley, of one station of the apparatus, and a side view of its adjustable support. Fig. 10, is a top view of the weighted traveler, of the track wire supported thereby, at one station of the apparatus, and of the carriage of the apparatus, and a sectional view of the yoke of said traveler, and Figs. 11 and 12 are detailed views of the spring drum device, for taking up the pull rope at one station of the apparatus.

This invention relates to certain improvements in cash and parcel carrier apparatus, of that class adapted for use in store service, and consists in the novel construction and arrangement of certain parts of the apparatus, which improvements are fully set forth and explained in the following specification, and pointed out in the claims.

Referring to the drawings 1, 1, represent a pair of like depending bars; one fixed to a ceiling plate, as shown, at each station, A and B, of the apparatus. Each of said bars is provided with a yoke 2, of the form shown, supported in an oblique position by means

of arms 3—3 thereof, which terminate with boxes sleeved on the bar 1, where they are held adjustably by means of set screws 4. Arranged in each said yokes is a weighted traveler 5, each traveler comprising two opposite plates, which serve as weights, and which are arranged, one at each side of the yoke; and two interposed traveling wheels 6, 6, which are arranged within the yoke between said plates on hollow bearings 7, which are some longer than the wheel hubs; which bearings 7 are held firmly into position by means of cross bolts 8—8, which bolts lock the said plates together with said interposed bearings in such manner as to permit free action of said traveling wheels, and a free movement of the traveler the limit of the yoke.

Extending centrally from one side plate of each traveler 5 is a stud 9, and to each stud 9 is pivotally attached, by means of a pin 10 which is arranged through a hole of said stud and the traveler plates, and secured against withdrawal by means of a cotter adjacent the opposite plate, the jointed track sections 11 and 12, which sections are shouldered at their union as represented in Fig. 8, so that section 12 may hang down as represented in dotted lines in Fig. 1, and so that when said section is pulled up, it will be arrested when it reaches a given incline when above the line of section 11, as shown.

The track line of the apparatus is represented at 13, and is connected at each end with a jointed section 11, being thus connected at one end to one station A and at its opposite end to the opposite station B, and is adapted to be inclined in either direction by the alternate rising and lowering of the weighted travelers 5, 5. Each said traveler is provided with an extending arm 14, carrying a frame 15, having a pair of pulleys, a little above the track wire 13, and having their longitudinal centers in the vertical plane of said track wire 13, and arranged above each arm 14 is pull rope pulley 16 held by the adjustable support 17 sleeved on bar 1. Each jointed section 12 is connected with a pull rope 18, and at each station said pull rope is passing between the pulleys of frame 15 of arm 14, thence up and about the pulley 16, and thence down. At one station A said pull rope

is shown as terminating with a pull handle 19 which is adapted to be grasped by the operator of that station of the apparatus, and also with a stop 20 to prevent the rope pulling up too far, by reason of the engagement of said stop against the support of pulley 16. The opposite pull-rope at station B is shown as passing down to a spring drum winding device 21, which device consists of a case, of a drum 22 arranged on a shaft 23 within said case; the drum being arranged loosely on the shaft, and the shaft being held from rotation in bearings of the case; and of a flat spiral spring 24 fixed at one end to said shaft, and at its opposite end to the winding drum, in such manner that when the rope 18 unwinds from said drum, said spring will be wound and thereby given tension to rotate the drum and rewind the rope whenever there is slack in the rope.

The carriage of the apparatus consists of a frame 26 carrying two grooved traveling wheels 25, 25, adapted to travel on track 13, said frame having two vertical slotted parts 32, and of a secondary frame 27, arranged between said vertical frame parts 32, and having two opposite side studs 31, arranged in the slots of said parts 32, a depending shank 29 passing through a hole of a cross-piece connecting said vertical parts 32, and also having the opposite extending and curved pairs of arms 28, 28, which arms are connected in pairs at their end portions by means of cross-bars 33. Said secondary frame is provided further with a guide traveling wheel 34, held up against the under side of the track, yieldingly, by means of a coil spring 30, which is sleeved on shank 29 of said frame. In service wheel 34, by means of its yielding support, accommodates itself to the various widths of track, and the arms 28 serve as guards adjacent the rims of wheels 25, 25, to prevent the carriage accidentally leaving the track, especially at the jointed sections of the track. The said carriage has pivotally suspended from the lower part of its frame, an arm 35 to which is attached a carrying basket 36, and a pocket 37 adapted for holding sales books, cash and the like, which basket and pocket, are preferably made of screen material as shown.

Each weighted follower 5 of the apparatus, is provided with a pivoted gravity latch 38 arranged within the line of the track and in such manner that when the carriage comes in at a station, a side extending arm 39 of the carriage will engage and raise the hooked end of said latch thus permitting the carriage to come in past said latch, but, until the traveler 5 is raised, prevent the return of the carriage, by reason of the latch hook engaging said arm 39 of the carriage. When the traveler 5 is raised it will by reason of the oblique position of its yoke, relative to that of the opposite yoke, cause the track wire to slacken sufficiently to relax the side strain on the opposite traveler 5, thus permitting said oppo-

site traveler to lower, in its yoke, by gravity, and thus reverse the incline of the track. When raising the traveler 5 the track section 12 is first raised until its joint prevents further raising thereof, by turning at its joint, which action is caused by a down pull of rope 18, when by a further pull of said rope, the connection of the said rope with the traveler, through the agency of said track section, the said traveler will be raised. When the said track section is raised the carriage thereon will likewise be raised to a position ready to start out on the track wire as soon as the traveler is raised high enough to give the proper incline to the said track wire. But however while the said traveler is being raised the gravity latch 38 thereof will, at its weighted and hooked end, engage the side extending arm 39 of the carriage, thus holding the carriage from moving out until the traveler has reached its highest position, when the opposite end of said latch will engage against the under side of the upper arm 3 of the yoke, causing that end of the latch to be thrown down, and the weighted and hooked end thereof to be raised and thereby release the hold on the carriage, thus permitting the carriage to move out, by gravity, and travel down the inclined track wire, to the opposite station. A stop 40 of each of said latches is so arranged as to engage a pin 41 of the traveler to which it is attached for the purpose of arresting too great down movement of the weighted and hooked ends of the latches.

Station B, Fig. 1, is represented as provided with the spring winding drum device 21 for taking up slack of the pull-rope 18, and at that station, when the carriage comes in, and passes the pivotal joint of its track, its weight and that of the basket carried thereby is sufficient to overcome the tension of the spring of said winding drum, and thereby cause the rope 18 to be paid out off said winding drum thereby permitting the carriage to lower, as represented by dotted lines in Fig. 1.

As a means of properly holding the bars 1 of the apparatus, against a strain caused by the track wire, the carriage thereon, and the load the carriage is intended to carry, I have provided a collar 42 sleeved on each bar 1, a wall plate or bracket 43 attached to the wall, or some convenient support, back of the bar, at each station, and have a rod 44 arranged, at each station, connecting said collar and wall bracket; the said rod having incorporated in its construction a turn-buckle 45, which turn-buckles are adapted to be adjusted to properly hold the bars 1, and to give proper tension to the track wire 13, by holding the yokes 2, either closer to, or farther from each other.

In instances where the track wire 13 is of considerable length, and would therefore sag considerably from the weight of the carriage and load carried thereby, I have provided a depending bar 46 midway between the stations A and B and to this bar I have arranged

a tilting track support 47, supported by means of an arm of an adjustable box 48 which is arranged on said bar, and adjustably held thereon by means of a set screw 49. Said tilting support 47 is made hollow, in line with the wire, and arranged with the track wire passing through its hollow, or bore, loosely so as not to interfere with the slackening of said track when shifting the travelers 5, but to all times serve as a support to the central portion of said track. However in the operation of short tracks said central support is not necessary and may at such times be dispensed with.

As a means of shortening the length of yokes 2, in the instance of short service construction, where too great movement of the travelers 5, would cause too great incline to the track wire, I have provided an adjustable head block 50 adapted to fit in the yoke, as shown in Fig. 2, held into position by the over-reaching sides of the heads of screws 52, and made as a part of said head-block is an arm 51, made to supplant the upper yoke arm 3, in the operation of the gravity latch when raising the traveler.

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

1. In store service apparatus, the combination with the depending bars, of the yokes obliquely and oppositely arranged, and adjustably supported by said bars; the weighted travelers arranged to operate in said yokes, and provided with side extending studs, and with rear extending arms having pull-rope guide pulleys carried thereby; the track wire pivotally connected with said traveler studs, the pull rope pulleys arranged above said travelers, the carriage adapted to travel on said track wire, the latches for holding the carriage at the stations, and the pull ropes for raising said travelers and track, in the manner substantially as set forth.

2. In store service apparatus the combination of the oppositely arranged yokes inclined

toward each other at their upper ends, the weighted travelers arranged to operate in said yokes, a track wire pivotally connected with the side of each said traveler, and adapted to be operated jointly with said travelers to incline in either direction, and the pull ropes arranged about pulleys for operating said travelers and track, substantially as described.

3. In store service apparatus, the combination of obliquely and oppositely arranged yokes secured to suitable supports, weighted travelers arranged to operate in said yokes, a track wire pivotally connected with and adapted to be operated to incline in either direction by the alternate raising and lowering of said travelers, a supported tilting track wire support arranged midway between said travelers, and the pull ropes arranged about pulleys for operating said travelers, substantially as described.

4. In the store service apparatus, the combination with the yokes and their supports, of the weighted travelers provided with the traveling wheels interposed between the side parts thereof; the side extending arms fixed to said travelers, and provided with pulleys arranged in their extending ends; the track wire jointed to the side extending studs of the travelers; the pulleys supported above said traveler arm pulleys; the pull ropes respectively connecting the track wire through the agency of the jointed sections; and the spring winding drums connected with one of said pull ropes, in the manner substantially as and for the purpose specified.

5. In the store service apparatus, the carriage thereof provided with the yielding secondary frame, the wheel carried by said frame, and the side extending pairs of guard arms carried by said frame, in the manner substantially as and for the purpose set forth.

JOHN J. CRIST.

Witnesses:

WM. J. HUTCHINS,
GEO. W. VAN WERDEN.