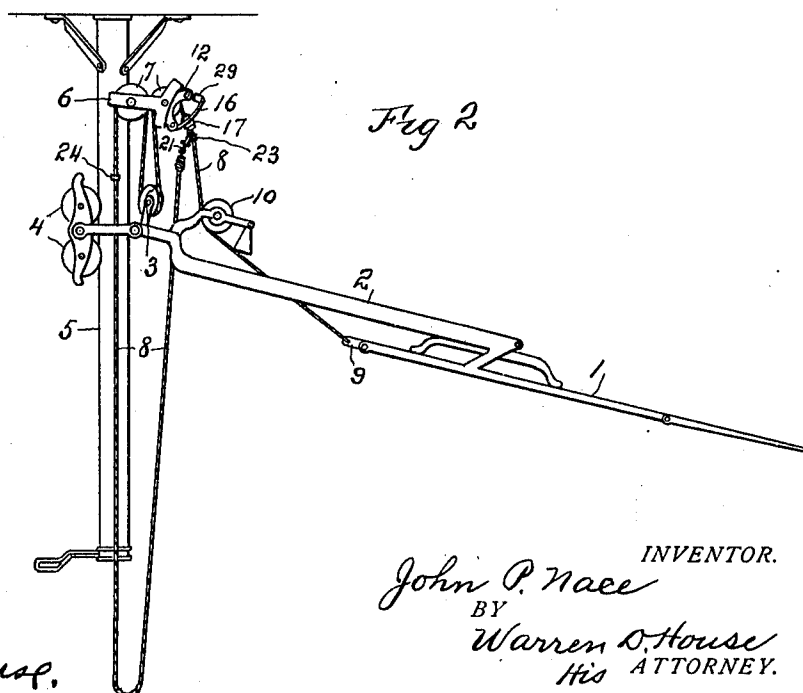
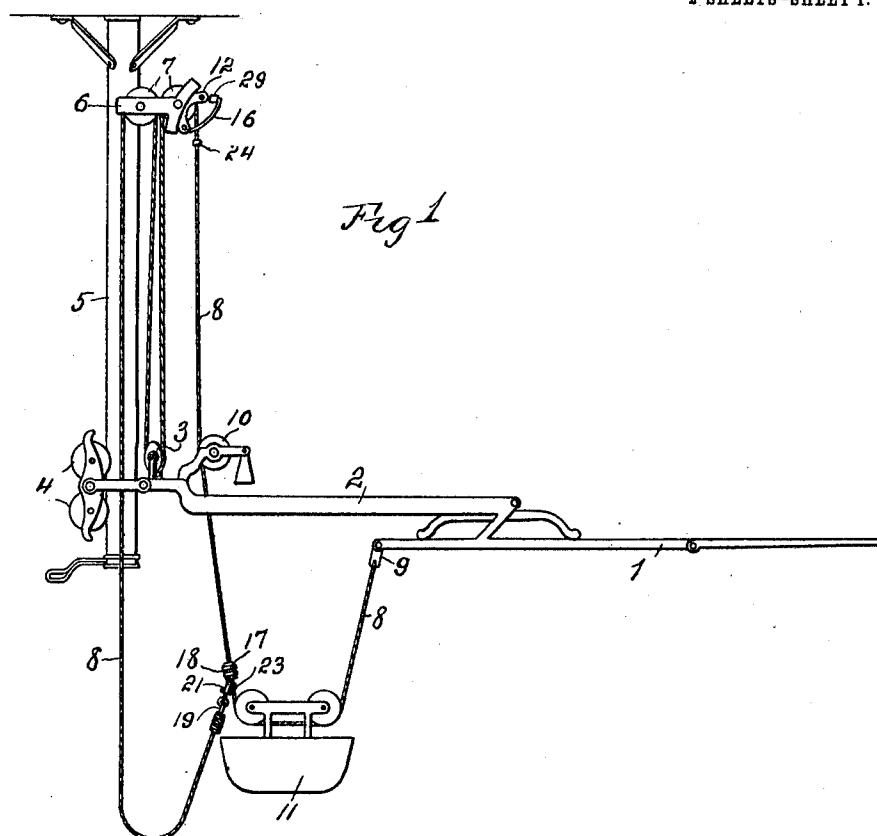


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J. P. NACE.
STORE SERVICE APPARATUS.
APPLICATION FILED MAR. 12, 1910.

Patented Jan. 3, 1911.
2 SHEETS—SHEET 1.



WITNESSES:
R. Hamilton
E. B. House

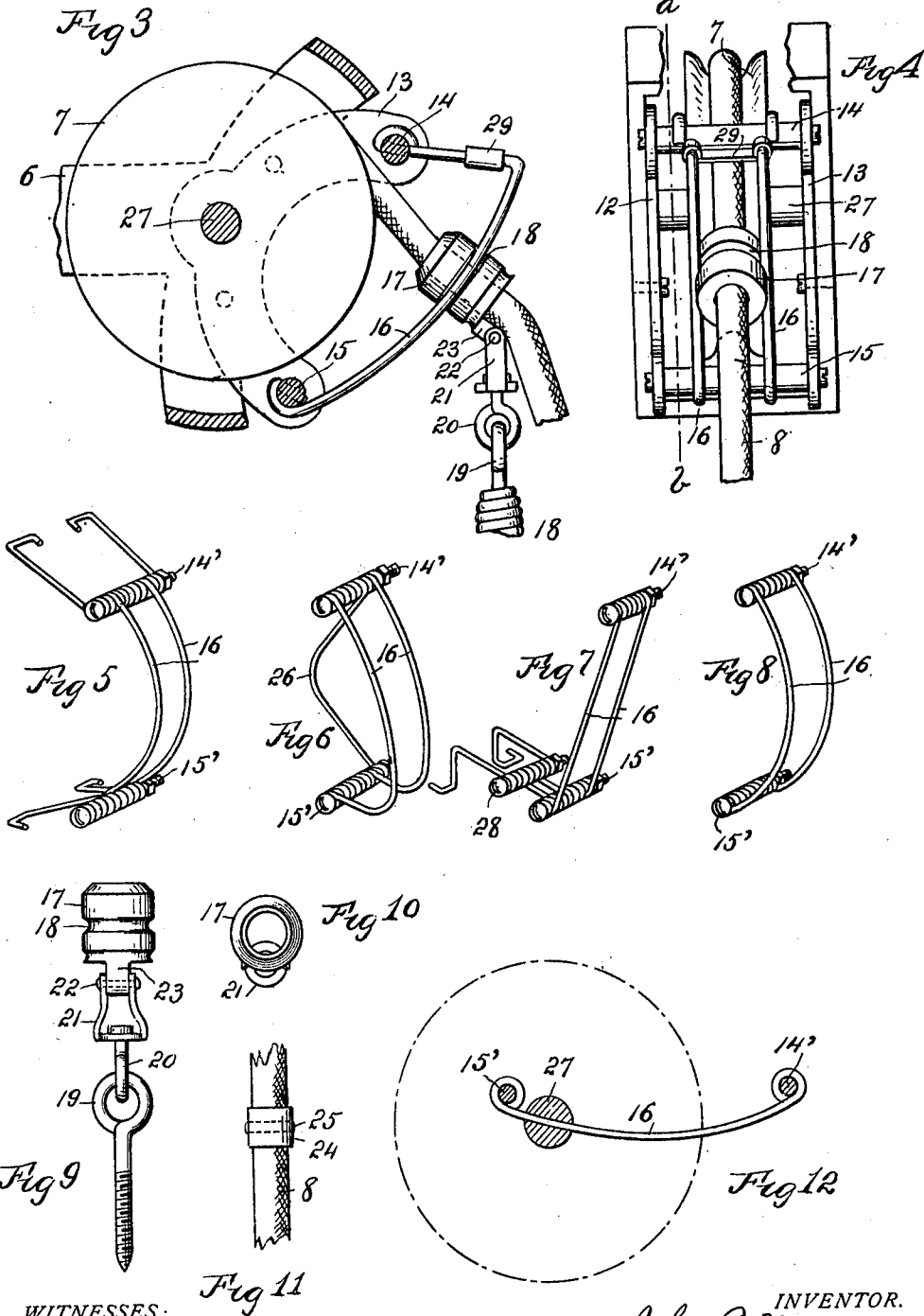
INVENTOR.
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UNITED STATES PATENT OFFICE.

JOHN P. NACE, OF KANSAS CITY, MISSOURI.

STORE-SERVICE APPARATUS.

980,325.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed March 12, 1910. Serial No. 548,881.

To all whom it may concern:

Be it known that I, JOHN P. NACE, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Store-Service Apparatus, of which the following is a specification.

My invention relates to improvements in store service apparatus of the type in which the track and basket are elevated by a rope attached to the track and carried around pulleys located above the track.

The object of my invention is to provide a simple and efficient mechanism for taking up the slack of the lifting rope when the track is elevated.

The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawings illustrative of my invention, Figure 1 is a side elevation of an apparatus provided with the preferred form of my invention, the track being shown in the lowered position with the runner supporting the slack end of the rope disengaged from the clamping mechanism. Fig. 2 is a view similar to Fig. 1 excepting that the track is shown in the elevated position with the runner engaged by the clamping mechanism. Fig. 3 is a vertical section on the dotted line *a-b* of Fig. 4. Fig. 4 is an enlarged elevation of the pulley block and clamping mechanism, some of the parts being broken away and the runner being shown engaged by the clamping mechanism. Figs. 5, 6, 7 and 8 are different modifications of the clamping mechanism. Fig. 9 is an elevation of the preferred form of runner and swivel connection. Fig. 10 is a top view of what is shown in Fig. 9. Fig. 11 is a side elevation of a part of the lifting rope with one of the buttons secured thereto. Fig. 12 is a detail showing how the clamping wires of the modification shown in Fig. 8 may be secured to the pulley block.

Similar reference characters denote similar parts.

1 denotes an ordinary wire track secured to a lifting frame 2 carrying a lifting pulley 3 and having guide pulleys 4 which traverse a vertical hanger 5. Secured to the hanger 5 above the track 1 is a pulley block 6 provided with pulleys 7 over which passes a track lifting rope 8 secured at one end to a short arm 9 pivoted to the end of the track

1, the rope passing also around a pulley 10 carried by the lifting frame 2.

11 denotes the basket adapted to travel upon the track 1 and rope 8.

As will be well understood, with apparatus of this character, when the rope 8 is pulled, the lifting frame 2 and one end of the track 1 will be elevated, so that the basket 11 will run toward the opposite end of the track, suitable means, not shown, being provided by which the lifting frame 2 and adjacent end of the track 1 may be retained in and released from the elevated position. This portion of the mechanism forms no part of my invention and may be of any well known construction.

In the preferred form of my invention shown in Figs. 1, 2, 3, and 4, the pulley block 6 has secured to it two vertical plates 12 and 13 disposed at opposite sides of the rope 8 and having secured to and between them two horizontal rods 14 and 15 disposed preferably at opposite sides of the rope 8.

Two parallel curved wires 16 are disposed at opposite sides of the rope 8 and have their ends secured to the rods 14 and 15. Said wires 16 are preferably resilient and form spring arms adapted to be forced apart by a runner 17, preferably of ring form, slidably mounted on the rope 8 intermediate of the track 1 and pulley block 6 which forms the support for the rope 8. The runner 17 is preferably provided with a peripheral groove 18 into which the wires 16 are adapted to enter for releasably holding the runner in the elevated position shown in Figs. 2, 3 and 4.

The runner 17 is secured to the slack end of the rope 8 which is preferably provided with a swivel connection with the runner 17 for preventing twisting of the rope. This swivel connection comprises preferably a screw eye 19 secured in the end of the rope 8, said screw eye having engagement with another eye 20 having a vertical stem pivoted in a U shaped member 21, the vertical arms of which are preferably pivoted by a horizontal pivot 22 to a depending arm 23 at the lower end of the runner 17.

Means are provided at opposite ends of the runner 17 on the rope 8 by which the runner may be forced between the spring wires 16 when the track is lifted, and disengaged from said wires when the track is lowered. Preferably such means comprise

two buttons 23 and 24 of ring form rigidly secured by transverse pins 25 to the rope 8 at suitable distances apart and at opposite ends of the runner 17.

5 In operating my invention, when the rope 8 is pulled to elevate the track 1, the button 23 will contact with the lower end of the runner 17 and will carry it into engagement with the wires 16, the upper end of the runner 17 being preferably tapered to enable the runner to more readily enter between the wires.

10 When the runner is lifted, it will carry with it the slack end of the rope 8. When the track 1 and track lifting frame 2 are lowered, by the means provided therefor and not shown, the button 24 will strike the upper end of the runner 17 and will force it from between the wires 16. The runner being thus released will slide down the rope 8 with the slack end thereof until the runner strikes the button 23, as shown in Fig. 1.

15 In the form of my invention shown in Fig. 5, the plates 12 and 13 may be dispensed with and the ends of the wires 16 secured to the pulley block 6 directly, the rods 14' and 15' being secured to the wires 16 for spacing purposes.

20 In the form shown in Fig. 6 the wires 16 are supported by the rods 14' and 15', said rods having secured to them the ends of a bent wire 26 which may be secured in a hole provided in the forward pulley arbor 27 on which the forward pulley 7 is mounted, as shown in Fig. 12.

25 In the form shown in Fig. 7, the wires 16 are shown straight between the rods 14' and 15', one set of ends of the wires being adapted to be clamped to the pulley block, and an additional spacing rod 28 being secured intermediate said clamped ends and the rod 15'.

30 The form of my invention shown in Fig. 8 is similar to the form shown in Fig. 3 excepting that the wires 16 in the form shown in Fig. 8 are continuously curved intermediate the rods 14' and 15', while in the preferred form, shown in Fig. 3, the upper parts of the wires 16 are straight and nearly horizontal, a spacing plate 29 being mounted on the horizontal parts adjacent to the points where the curved parts of the wire join the straight parts.

35 Many modifications of my invention, within the scope of the appended claims, may be made without departing from its spirit.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:—

40 1. In a store service apparatus, the combination with a track, of a lifting rope secured thereto, a support for the rope above the track, a runner on the rope secured to the slack end thereof, clamping means above the track for releasably engaging the runner, 65 and means carried by the rope which alter-

nately contact with opposite ends of the runner and bring it into and out of engagement with said clamping means when the track is raised and lowered.

2. In a store service apparatus, the combination with a track, of a lifting rope secured thereto, a support for the rope above the track, a peripherally grooved runner on the rope secured to the slack end thereof, clamping means above the track having two spring arms adapted to be sprung apart by the runner and enter the peripheral groove therein for releasably holding the runner, and means carried by the rope which alternately contact with opposite ends of the runner and bring it into and out of engagement with said spring arms when the track is raised and lowered. 70 75 80

3. In a store service apparatus, the combination with a track, of a lifting rope secured thereto, a support for the rope above the track, a runner on the rope secured to the slack end thereof and having a peripheral groove, two spring wires secured to said rope support at opposite sides of the rope and adapted to be sprung apart by the runner and enter the peripheral groove therein for releasably holding the runner, and means carried by the rope which alternately contact with opposite ends of the runner and bring it between and out of engagement with said spring wires when the track is raised and lowered. 85 90 95

4. In a store service apparatus, the combination with a track, of a lifting rope secured thereto, a pulley block above the track having a pulley over which the rope passes, a runner on the rope secured to the slack end of the rope and having a peripheral groove, two resilient members secured to the pulley block at opposite sides of the rope and adapted to be sprung apart by the runner and enter the peripheral groove therein for releasably holding the runner, and two buttons secured to the rope at opposite ends of the runner for respectively bringing the runner into and out of engagement with said resilient members when the track is raised and lowered. 100 105 110

5. In a store service apparatus, the combination with a track, of a pulley block located above the track and having a pulley, a lifting rope secured to the track and passing over said pulley, a runner on the rope intermediate of the track and pulley and having a peripheral groove and having a swivel connection with the slack end of the lifting rope, resilient clamping members secured to the pulley block at opposite sides of said rope and adapted to be forced apart by the runner and enter the peripheral groove therein for releasably holding the runner, and two devices secured to the lifting rope at opposite ends of the runner for respectively bringing the runner into and 115 120 125 130

out of engagement with said resilient members when the track is raised and lowered.

6. In a store service apparatus, the combination with a track lifting rope having a slack end provided with a swivel, of a ring shaped runner slidable on the rope and secured to said swivel.

7. In a store service apparatus, the combination with a track lifting rope, of a pulley block having a pulley supporting the rope, a ring shaped runner slidable on the rope and having a peripheral groove, two spring wires secured to the pulley block at opposite sides of the rope and adapted to be forced apart by the runner and enter said peripheral groove for releasably holding the runner, and two fixed devices on the rope at opposite ends of the runner for respectively forcing the runner between and out of engagement with said wires when the rope is pulled lengthwise in opposite directions a sufficient distance.

8. In a store service apparatus, the combination with a track lifting rope, of a pulley block having a pulley supporting the rope, a ring shaped runner slidable on the rope and having a depending arm and a peripheral groove, the rope having at its slack end a swivel connected by a horizontal pivot with said depending arm of the runner, and two resilient members secured to said pulley block at opposite sides of said rope and adapted to be forced apart by the runner and enter said peripheral groove for releasably holding the runner.

9. In a store service apparatus, the combination with a track lifting rope having a slack end provided with a swivel, of a ring shaped runner slidable on the rope and having a depending arm pivoted by a horizontal pivot to said swivel.

10. In a store service apparatus, the combination with a track, of a pulley block above the track and having a pulley, a lifting rope secured to the track and passing over said pulley and having at its slack end a swivel, a ring shaped runner slidable on the rope intermediate of the track and pulley and having a peripheral groove and connected by a horizontal pivot with the swivel on said rope, two resilient wires disposed parallel with each other at opposite sides of said rope, each wire having its ends secured to said pulley block at opposite sides of said rope, the wires being adapted to be forced apart by the runner and enter the peripheral groove therein for releasably holding the runner, and means carried by the rope at opposite ends of the runner for respectively forcing the runner between and out of engagement with said wires when the track is raised and lowered.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

JOHN P. NACE.

Witnesses:

E. B. HOUSE,
R. E. HAMILTON.