

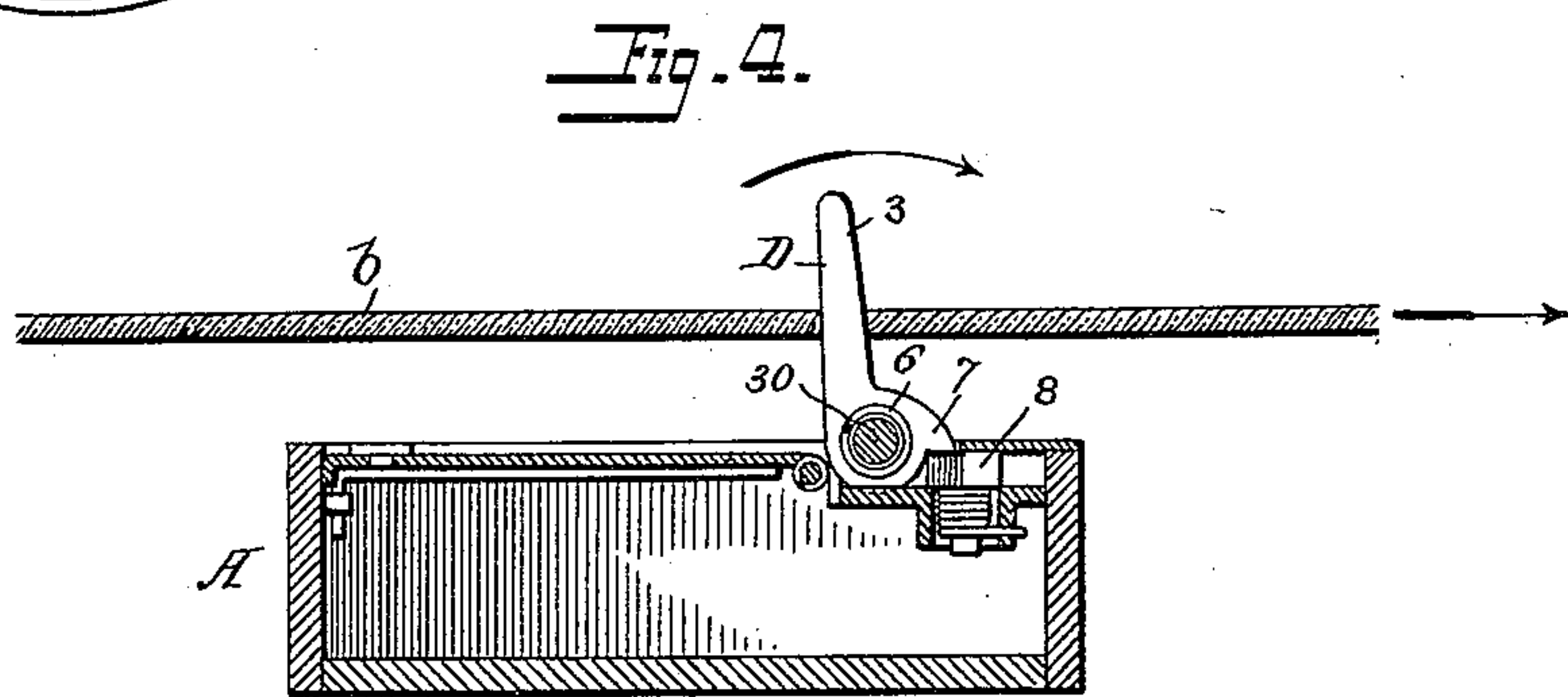
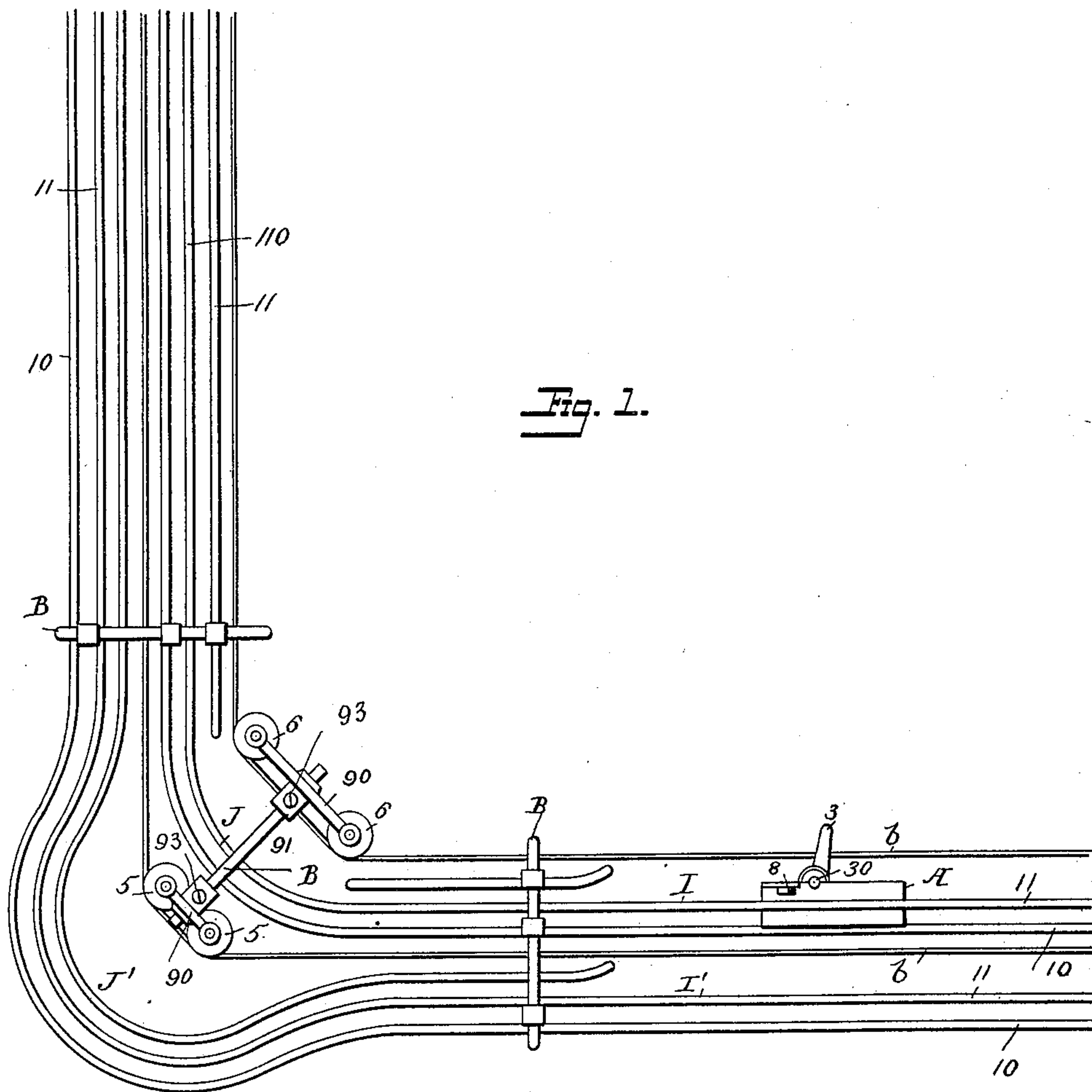
(No Model.)

2 Sheets—Sheet 1.

J. T. COWLEY.
STORE SERVICE APPARATUS.

No. 465,963.

Patented Dec. 29, 1891.



Witnesses
J. H. Hinkel, Jr.
W. S. McArthur

Inventor
J. T. Cowley
By his Attorneys
Foster & Freeman

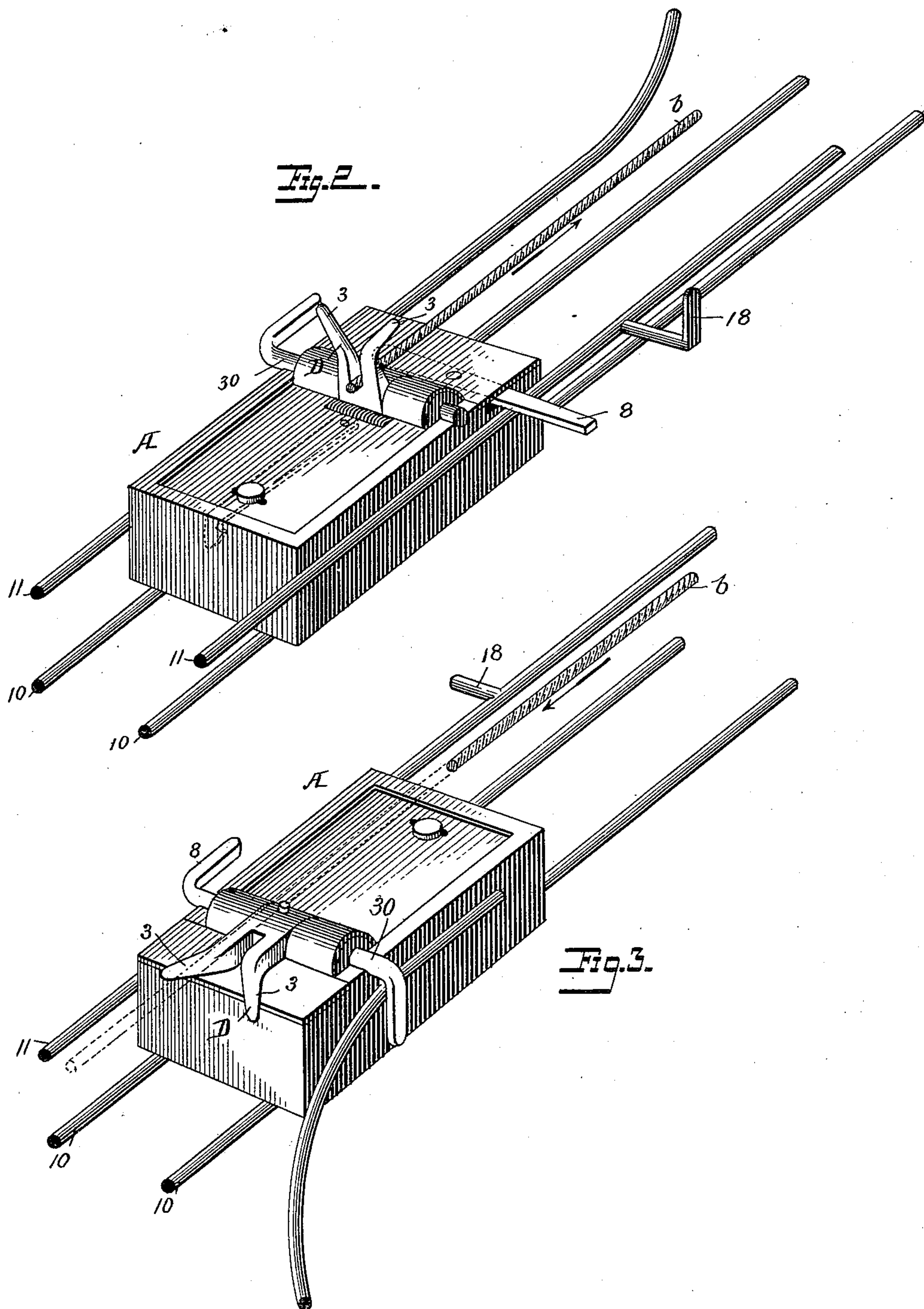
(No Model.)

2 Sheets—Sheet 2.

J. T. COWLEY.
STORE SERVICE APPARATUS.

No. 465,963.

Patented Dec. 29, 1891.



Witnesses
Geo. G. Hinkel, Jr.
Ch. S. McArthur

Inventor.
J. T. Cowley
By his Attorneys
Foster & Freeman

UNITED STATES PATENT OFFICE.

JAMES T. COWLEY, OF LOWELL, ASSIGNOR TO THE LAMSON CONSOLIDATED
STORE SERVICE COMPANY, OF BOSTON, MASSACHUSETTS.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 465,963, dated December 29, 1891.

Original application filed April 18, 1888, Serial No. 271,015. Divided and this application filed November 18, 1889. Serial No. 330,711. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. COWLEY, a citizen of the United States, residing at Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Store-Service Apparatus, of which the following is a specification.

My invention relates to that class of store-service apparatus in which the carriers are driven by a constantly-moving cable arranged in proximity to the way; and it consists in certain improvements in devices for connecting the cable, and in means whereby the carriers are propelled at the curved portions of the track by momentum while disconnected from the cable, as set forth hereinafter, and as illustrated in the accompanying drawings, in which—

Figure 1 represents a section of a store-service apparatus sufficient to show my invention. Figs. 2 and 3 are perspective views illustrating the carriers upon the track and showing different constructions of catch-operating devices. Fig. 4 is a longitudinal section of the carrier illustrated in Fig. 2.

The way is suitably constructed to support the carriers, which may be in the box form shown or may be ordinary wheeled carriers, and which are provided with clutches or catches for engaging with a traveling cable.

In the construction shown each carrier A is provided with a catch D, which is notched or which has two diverging fingers 3 3, forming a notch with the sides of which the cable engages frictionally, so that the catch can engage and leave the cable until adjustment, and the catch is mounted upon a transverse pivot or is otherwise supported, so that it can be turned down flat upon the carrier to disengage it from the cable.

The means of pivoting the catch shown in the drawings consist in mounting the same upon the rock-shaft 30, turning in suitable bearings upon the carrier, and the shaft or the catch is provided with a shoulder 7, which has a rigid bearing, so that when the catch is elevated to engage with the cable, as shown in Figs. 2 and 4, the said bearing will resist the forward movement of the catch and the cable will be straddled by the catch, remain

in frictional contact therewith, and propel the carrier along the way.

It is desirable in the particular construction of apparatus illustrated to automatically disconnect the catches at certain points from the cable, and I therefore provide means for forcing the catch of any carrier backward or forward when the carrier reaches the proper point. Thus the shoulder 7 has its bearing upon a pivoted arm 8, which projects from the carrier in position to strike a stop 18 at such point as such carrier is to be arrested, the arm being thus swung from the shoulder 7 when the catch is acted upon in any suitable manner to force it toward the carrier and away from the cable. For instance, a spring 6 may be connected with the catch to throw it down and release it, or the draft of the cable in the direction of the arrow, Fig. 4, may suffice to turn down the catch when the arm 8 is moved out of the way of the shoulder 7, or the stop 18 may be arranged to make contact with the bent end *a* of the shaft 30, so as to turn down the catch, as shown in Fig. 3.

Each track is shown as consisting of two supporting-rods 10 10, along which the carrier will travel, with side bearings, preferably in the form of guards 11 11, to prevent accidental dislodgment, the rods being supported by suitable brackets B, the rods constituting one track I, being parallel to those constituting the other track I'.

As the retention of the carrier with the cable throughout a tortuous course would be attended with considerable difficulty, I so construct and arrange the parts that each carrier as it approaches a curve will be disconnected from the cable, will pass along the curve portion of the track by momentum, and will then automatically be connected with the cable. This result is obtained by deflecting the way from the cable or the cable from the way at the curves, and in the forked form of catch device shown the catches move easily away from the cable as the carrier follows the line of the way, and also again straddles the cable as the track resumes its straight course. In Fig. 1 the arrangement of curves connecting the horizontal and vertical parts of the two continuous tracks I I' is shown.

The portion of cable *b* co-operating with the outer curve *J'* of the outer track *I'* is so supported by guide-pulleys 5 5 that each straight portion of the track and cable will be in juxtaposition, so that any carrier upon any straight portion of the track will have its catch in position to engage with the cable. The curved portion *J'* of the track *I'*, however, is deflected outward from the line of the cable, so that carriers moving upon such curved portion of the track pass along the same by momentum and away from the line of the cable. In like manner the portion of the cable opposite the inner track *I* is supported by guide-pulleys 6 6, so as to be in juxtaposition to the straight portions of the track, but farther from the curved portion *J* of the latter, so as to conduct the carriers at the curve in a path distant from the cable, whereby the carriers may move by momentum around the curve without contact with the cable. The pulleys 5 6 are preferably supported by brackets 90, secured adjustably on arms 91, extending from the adjacent yoke or bracket *B*, that is supported by the track and guard rails. Set-screws 93 serve to secure the brackets after adjustment.

I do not here claim the construction of

tracks, switches, and engaging devices shown herein and claimed in my application, Serial No. 271,015, filed April 18, 1888, of which this is a division. 30

Without limiting myself to the precise construction and arrangement of parts shown, I claim— 35

1. The combination, with the straight and curved portions of the forwarding and return tracks, of a motor-cable, and a yoke provided with adjustable cable supporting and deflecting pulleys, substantially as described. 40

2. The combination, with the straight and curved portions of the forwarding and return tracks, of a motor-cable, a yoke provided with adjustable cable supporting and deflecting pulleys, a carrier having a grip adapted to grasp the said cable, and means located at the said curve adapted to automatically disengage and engage the said grip and cable, as described. 45

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 50

JAMES T. COWLEY.

Witnesses:

SAMUEL B. WYMAN,

WILLIAM P. GOODRICH.