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Patented Dec. 26, 1899.

J. T. COWLEY.
CONVEYING APPARATUS.

(Application filed Oct. 10, 1898.)

(No Model.)

2 Sheets—Sheet 1.

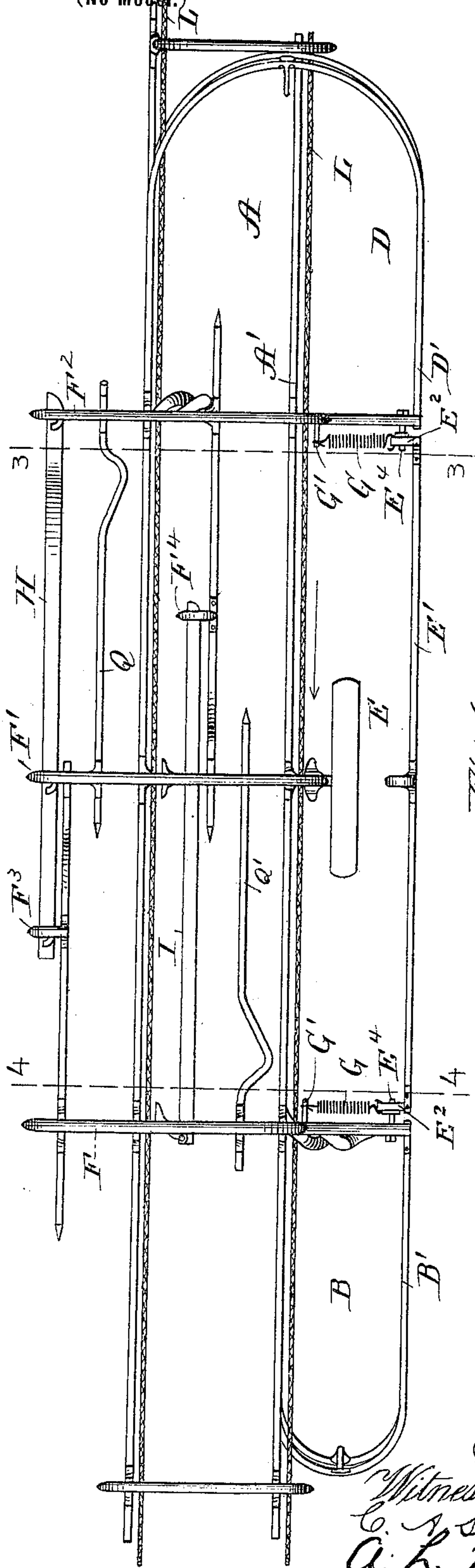


Fig. 1.

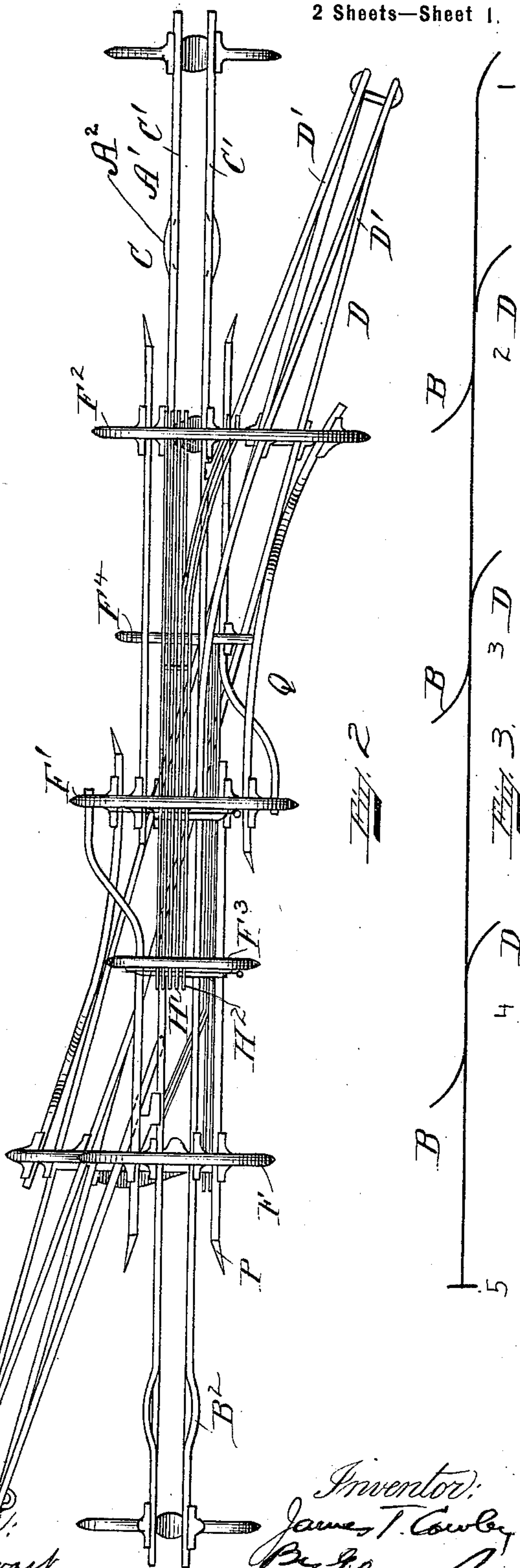


Fig. 2.



Fig. 3.

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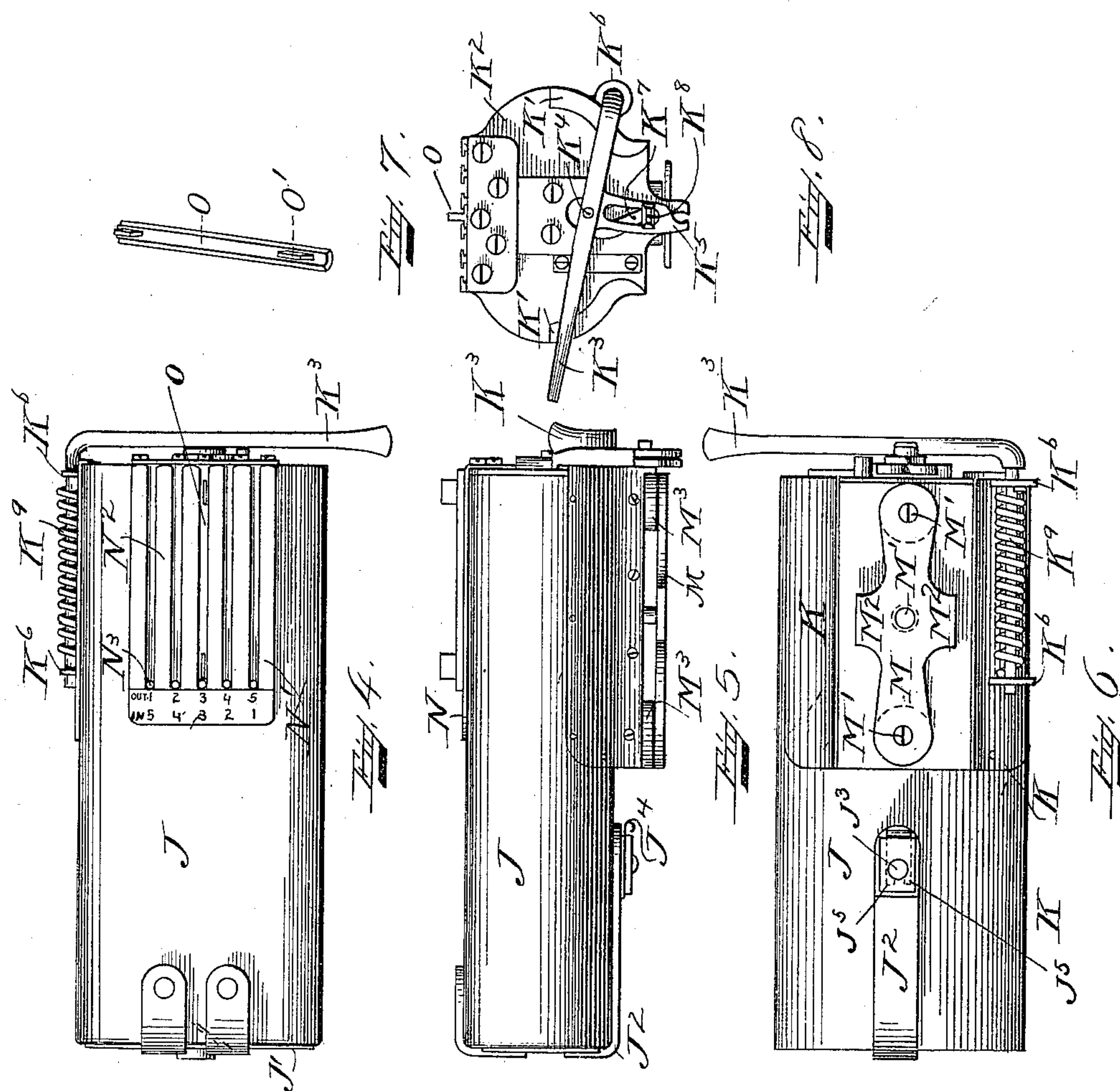
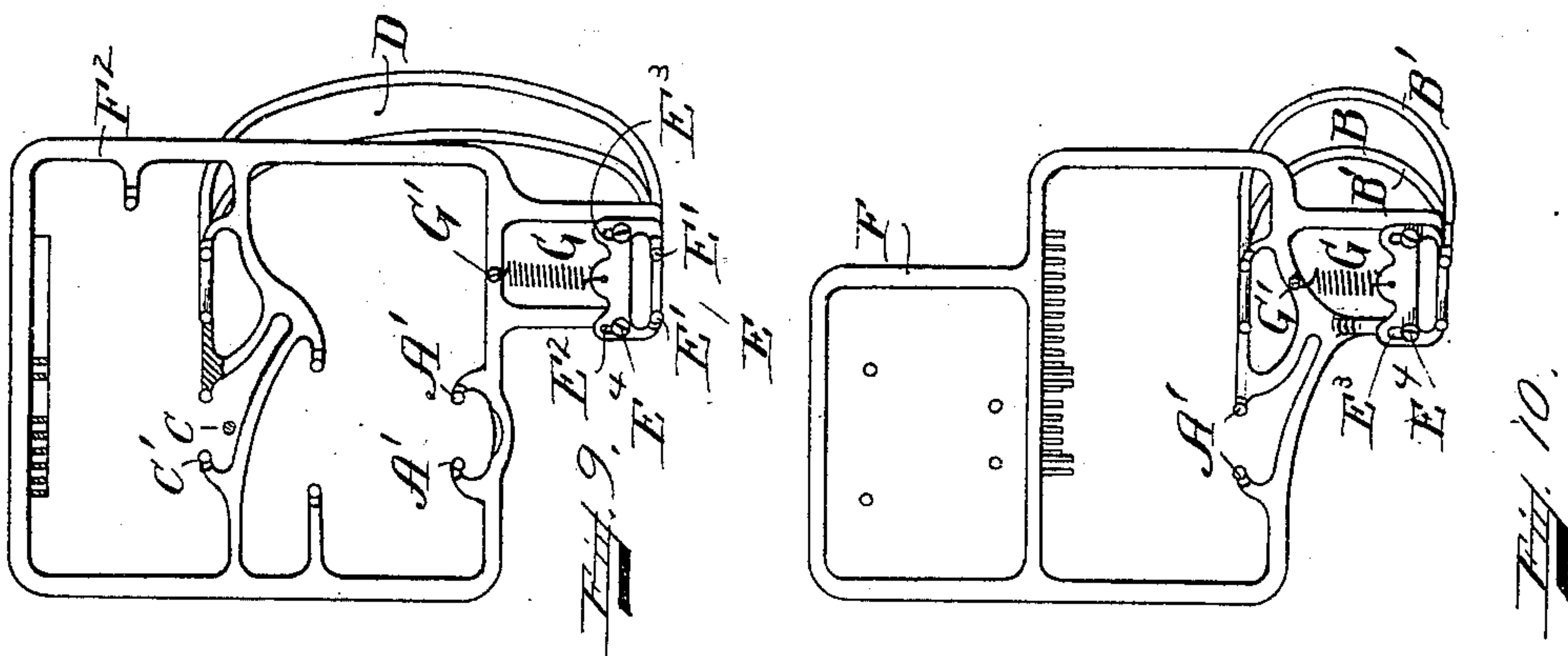
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

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

CONVEYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 640,102, dated December 26, 1899.

Application filed October 10, 1898. Serial No. 693,141. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. COWLEY, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Conveying Apparatus, of which the following is a specification.

My invention relates to improvements in conveying apparatus in which a continuously-running cable is employed, to which the carriers are attached and detached in their transmission between the stations.

The main object of my invention is to construct the carriers and stations so that the carriers may be sent from any station to any other station in either direction along the line without requiring the return of the carriers to the central station from which the carriers are then forwarded to the desired station, as is the case in cable carriers at present in use.

In cable cash-carriers to-day in use the carrier, with the money of the purchaser, is put on the lower or forwarding track and upon gripping the cable the carrier is propelled to the cashier's station, where the change is made and the carrier, with the change, is returned along the upper or return track to the salesman from whom it came. In all the cable carriers at present in use the forwarding-track, which is the one leading from the salesman to the cashier, is not provided with any switching arrangement, as the carriers are intended to go only to the cashier from the salesman in order that the money may pass through but one person's hands—namely, the cashier's.

The apparatus disclosed in the present invention is especially adapted for the transmission of small parcels or messages in telegraph or newspaper offices and is known as the "manuscript" cable carrier. In such service it will be understood that it becomes necessary for different persons to send manuscript or the like to each other and not to one person at a central station, as there is no central station which corresponds to the cashier's station, the object being essentially different from the cable cash-carrier, in which the forwarding-track leading from the salesman's stations converges to a central point known as the "cashier's station." To carry out this

object of the transmission of carriers between different persons, I provide both the upper or return and the lower or forwarding tracks with suitable switching mechanism which is substantially identical with that used in the cable carrier illustrated in my Patent No. 608,954, dated August 9, 1898, the only difference being that the switching-pins on the carriers are not fixed, as in said patent, but are capable of adjustment on the carrier, so that when it is desired to send a carrier to a certain station the switching-pins can be set to engage the switching-slats at such station and the carrier will switch at said station.

My invention consists in providing both the upper and the lower tracks with switching mechanism and two branch tracks, both of which branch tracks at each station are adapted to aline with a movable track-section on which the carriers are received from both branch tracks and supported after being switched at each station.

My invention consists of certain novel features hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate a construction embodying my invention, Figure 1 is a side view of one station of a cable carrier apparatus. Fig. 2 is a plan view of the same. Fig. 3 is a diagrammatic view illustrating five stations on a line. Figs. 4, 5, and 6 represent, respectively, top plan, side, and bottom views of the carrier. Fig. 7 is a detail view of the adjustable switching-pins. Fig. 8 is an end view of the carrier, showing the gripping mechanism. Fig. 9 is a sectional view on the line 3 3, Fig. 1, looking in the direction of the arrow. Fig. 10 is a cross-sectional view on the line 4 4, Fig. 1, looking in the direction of the arrow.

Like letters of reference refer to like parts throughout the several views.

Referring to Figs. 1, 2, 9, and 10, in which there is illustrated the third station on the line of a cable carrier apparatus, the track A, composed of the opposite rails A', is the lower track. B represents a branch track from the track A and is composed of the opposite rails B', which are curved downwardly, as shown, and are secured at their lower ends to the bracket F. The upper track C is composed

of the opposite rails C', from which leads the branch track D, composed of the opposite rails D', which are curved downwardly, and the lower ends are secured to the bracket F².

5 The rails B' of the branch track B and the rails D' of the branch track D aline with the track-section E, composed of the opposite rails E', so that carriers switched on either the lower track A or the upper track C pass

10 from the branch rails onto the track-section and are supported thereon. At the extreme opposite ends of the track-section E is a bracket E², to which the rails E' are secured. This bracket is provided with slots E³, into

15 which project the pins E⁴, secured to the lower ends of the brackets F and F². To the upper end of each bracket E² is secured the lower end of a coiled spring G, the upper end of which is secured to the pin G' on the brackets F and F². When it is desired to remove

20 the carrier from the track-section E, the operator takes hold of the carrier and pulls down. This operation moves down the track-section E, so that the rails E' and the rails B' or D' are not in alinement, the rails E' being lowered, whereby the carrier is slid off from said track-section in a manner similar to that described in my said patent above mentioned. To the brackets F, F', and F² the

30 tracks A and C are secured and supported, and the branch track D is secured and supported by the bracket F², and the branch track B is secured and supported by the bracket F. The mechanism at each station

35 for switching the carriers is of the usual construction in cable systems and, as shown, consists for the upper track of a series of slats H, secured to the brackets F', F², and F³, and for the lower track of a series of similar slats

40 I, secured to the brackets F, F', and F⁴.

The carrier J is made of leather and has at one end a cover J', which is held in place by a strip of leather J², which passes along the under side of the carrier and over the pin J³,

45 which projects up through said strip, and by pushing inwardly the latch J⁴ the opposite fingers J⁵ thereon come under the head of the pin and hold said cover closed.

K represents a plate secured on opposite

50 sides of the cover, and its front ends are turned over, as shown at K', and riveted to the front plate K².

K³ is a lever provided with a pin K⁴, upon which the gripping-jaws K⁵ are pivotally

55 mounted, and said lever is journaled in suitable lugs K⁶ on the side of the carrier. The jaws K⁵ are each provided with a cam-slot K⁷, which works upon the stud K⁸, secured to and projecting from the front plate K², and the

60 cam-slots K⁷ are of such form that the jaws will be open as the lever K³ is lowered in position to engage with the propelling-cable L. When the lever K³ is released, the spring K⁹, located on the side of the carrier and around

65 the lever K³, will operate to raise said lever and close the jaws upon the propelling-cable.

M is a plate secured to the bottom of the

carrier by screws M', and said plate is provided with ears M², which are adapted to pass under the rails of the tracks and hold the

70 carrier thereon, the upper and lower tracks being bulged out at B² and A² to allow the ears M² to pass between the rails, and upon the carrier being pushed forward said ears hold the carrier on the track. Around the

75 screw M' are secured antifriction-rollers M³ for the purpose of reducing the friction as the carrier travels along the tracks, around the corners, and into the stations.

The carrier thus far described forms no

80 part of this invention and is substantially identical with the construction shown in my above-mentioned patent.

Secured to the front plate K² is a top plate N, which extends over a portion of the top of

85 the carrier. Secured to said plate at suitable distances is a series of slats N', which are beveled on their under sides and form, with the switching-slide O, a dovetailed joint to hold the said slide in the required position.

90 At the end of each channel N², between the slats, is a pin N³, against which the rear end of the switching-slide O abuts when inserted in said channel to hold said slide in its position.

Assuming that there is a central station

95 and four branch stations, if the carrier is at the central station or station No. 5, as represented in Fig. 3, and the operator desires to send it to station No. 3 (shown in Figs. 1 and 2) he will place the switching-slide O in the

100 position shown in Fig. 4, opposite the numerals "3" in the line of figures marked "out," and upon engaging the carrier with the cable in the usual manner the carrier will travel along, and as it approaches the third station

105 (shown in Fig. 1) it will pass between the opposite guides P and be steadied thereby, and passing said guides the pins O' on the switching-slide O will enter between the diverging switching-slats H' and H², and the carrier will

110 be switched onto the branch track D, and the end of the lever K³ will pass under the disengaging cam-rod Q, secured to the brackets F' F², and said lever will be depressed and disengage the carrier from the propelling-cable

115 L. The carrier being disengaged will pass by its momentum around the curved portion D and onto the track-section E, the disengagement and switching of the carriers being substantially identical with the construction

120 shown in my patent above referred to.

Assuming that the employee at station No. 1 is desirous of sending a carrier to station No. 3, the adjustable slide on the carrier would be

125 placed opposite figure "3" on the line of figures marked "in"—that is, for the carriers going toward the central station on the lower track A. The carrier is then placed on the lower track, and the adjustable switching-slide is in the

130 proper position to pass by station No. 2 and engage with the diverting switching-slats at station No. 3, and the end of the lever K³ will pass under the disengaging cam-rod Q', secured to the brackets F and F', and said lever will

be depressed and disengage the carrier from the propelling-cable C, and said carrier will then pass around the branch track B onto the track-section E. If it be desired to send the carrier to station No. 4 instead of to station No. 3, the adjustable switching-slide O would be placed opposite the figure "4" on the line of figures marked "in." This would place the slide O in position to pass by stations Nos. 2 and 3 and engage with the diverting switching-slats at station No. 4; or if it be desired to send the carrier to station No. 5 the adjustable switching-slide O would be placed opposite figure "5" on the line of figures marked "in." While the switching-slide O is in this position it does not engage with any of the diverting switching-slats, but allows the carrier to travel to the central station or station No. 5. This central station or station No. 5 has no diverting switching-slats, as it is placed at the end of the line and the carrier travels no farther. When the employee at the central station desires to return the carrier to the station from which it came or any other desired station, the adjustable switching-slide is placed opposite the figure representing the desired station on the line of figures marked "out," which means the carrier is going in the outward direction on the line or away from the central station. It will be understood that the diverting switching-slats always divert the carrier to the right of the line of travel and when the adjustable switching-slide is in the position indicated by the figures on the incoming or outgoing lines of figures the adjustable switching-slide will pass all the diverting-slats on the track except the one with which it is intended to engage.

Having thus ascertained the nature of my invention and set forth a construction embodying the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a conveying apparatus, an upper track, a lower track, a branch track from said upper track adapted to receive carriers switched from the upper track, a branch track from the lower track adapted to receive carriers switched from the lower track, and a track-section in alinement with both said branch tracks for receiving the diverted carriers.

2. In a conveying apparatus, an upper track, a lower track, a branch track from said upper track adapted to receive carriers switched from the upper track, a branch track from the lower track adapted to receive carriers switched from the lower track, and a movable track-section normally in alinement with both said branch tracks and adapted to receive the diverted carriers from said branch tracks and adapted to be moved from said alinement to permit the removal of the carriers therefrom, and means for returning said track-section to its normal position.

3. In a conveying apparatus, an upper

track, a lower track, a branch track from said upper track adapted to receive carriers switched from the upper track, a branch track from the lower track adapted to receive carriers switched from the lower track, a movable track-section normally in alinement with both said branch tracks, and adapted to receive the diverted carriers from said branch tracks and adapted to be moved from said alinement to permit the removal of the carriers therefrom, and a spring connected to said track-section at its opposite ends for returning it to its normal position.

4. In a conveying apparatus, a track, a carrier adapted to travel on said track, a branch track leading from said track, a series of fixed diverting switching-guides along said track and independent of said branch tracks, and a switching mechanism on said carrier adapted to be adjusted thereon to engage with the diverting switching-guides at any desired station and consisting of a series of separated slats forming channels and an adjustable switching-slide adapted to enter said channels.

5. In a conveying apparatus, an upper track, a lower track, a branch track from said upper track adapted to receive carriers switched from the upper track, a branch track from the lower track adapted to receive carriers switched from the lower track, and means common to both said branch tracks for supporting the diverted carriers.

6. In a conveying apparatus, a track, a carrier adapted to travel on said track, a branch track leading from said track, a series of fixed diverting switching-guides along said track and independent of said branch track, and a switching mechanism on said carrier adapted to be adjusted thereon to engage with the diverting switching-guides at any desired station and consisting of a series of separated slats forming channels and an adjustable switching-slide adapted to enter said channels, the said slide being provided with switching-pins adapted to engage said fixed diverting switching-guides.

7. In a conveying apparatus, two independent tracks, a branch track from each of said tracks, a carrier adapted to travel on said tracks, a propelling-cable along said independent tracks, cable-gripping mechanism on said carrier adapted to connect the carrier to said cable and propel it along said independent tracks, means on each branch track for disengaging the cable from said gripping mechanism, a series of fixed diverting switching-guides along said independent tracks and independent of said branch tracks, and a switching mechanism on said carrier adapted to be adjusted thereon to engage with the diverting switching-guides at any desired station.

8. In a conveying apparatus, two independent tracks, a branch track from each of said tracks, a carrier adapted to travel on said tracks, a propelling-cable along said independent tracks, cable-gripping mechanism on

said carrier adapted to connect the carrier to
said cable and propel it along said independ-
ent tracks, means on each branch track for dis-
engaging the cable from said gripping mech-
5 anism, a series of fixed diverting switching-
guides along said independent tracks and in-
dependent of said branch tracks, switching
mechanism on said carrier adapted to be ad-
justed thereon to engage with the diverting
10 switching-guides at any desired station, and

means common to both said branch tracks for
supporting the diverted carriers.

In testimony whereof I have signed my
name to this specification, in the presence of
two subscribing witnesses, this 24th day of 15
September, A. D. 1898.

JAMES T. COWLEY.

Witnesses:

V. M. MACLELLAN,
A. L. MESSER.