

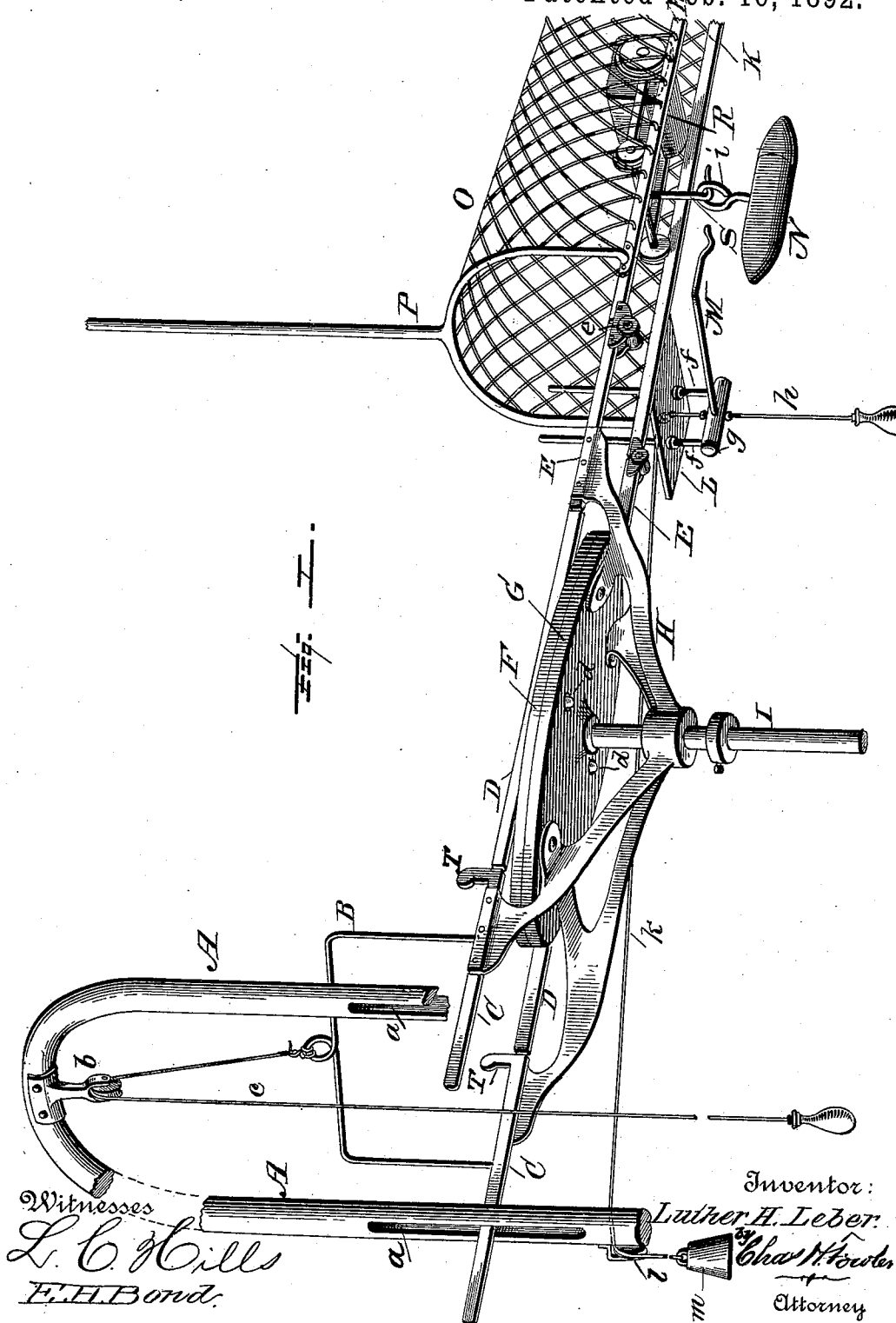
(No Model.)

2 Sheets—Sheet 1.

L. H. LEBER.
STORE SERVICE APPARATUS.

No. 468,980.

Patented Feb. 16, 1892.



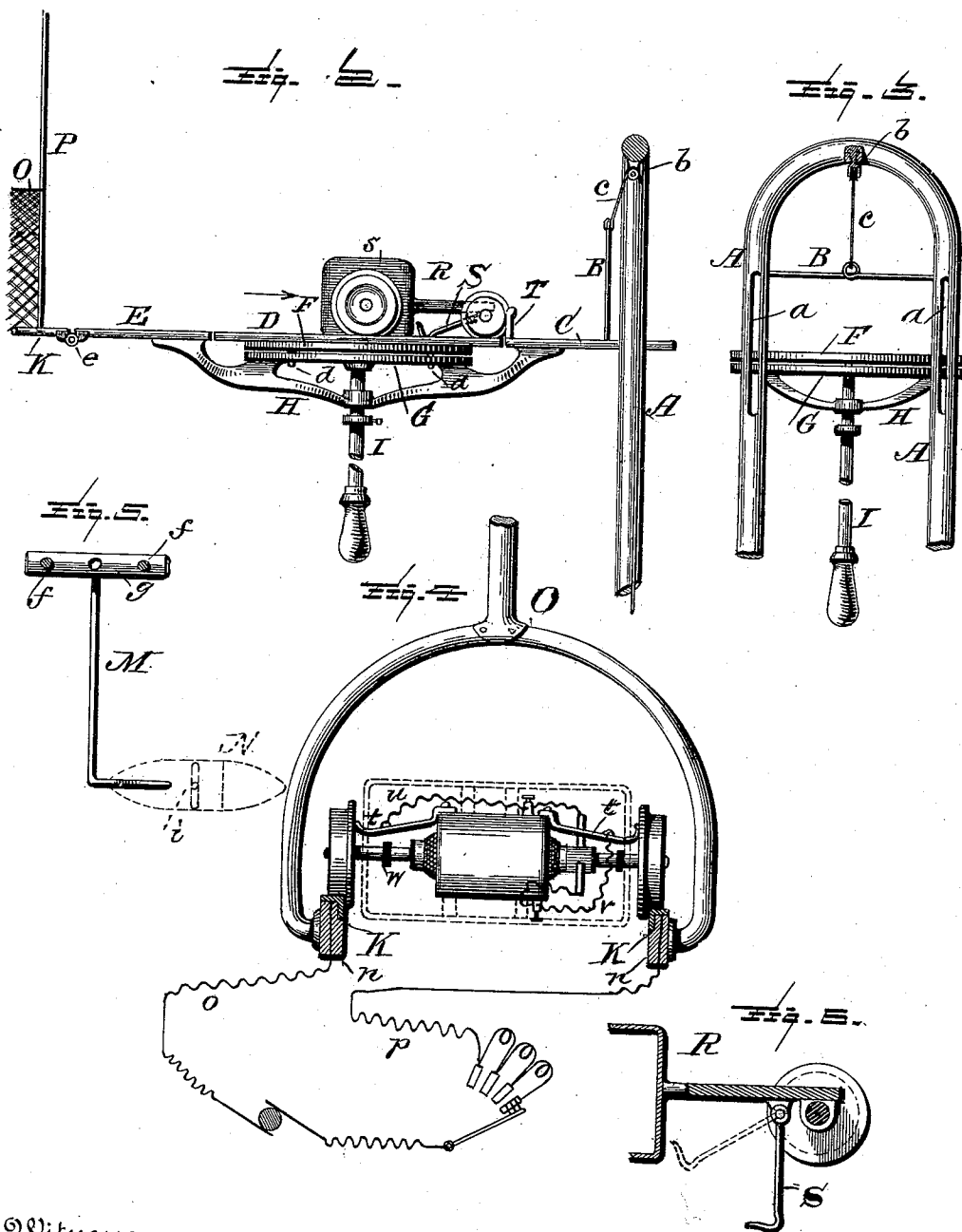
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Witnesses

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UNITED STATES PATENT OFFICE.

LUTHER H. LEBER, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO EDWIN W. PORTER AND DAVID J. RICHARDSON, BOTH OF SAME PLACE.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 468,980, dated February 16, 1892.

Application filed October 7, 1891. Serial No. 407,984. (No model.)

To all whom it may concern:

Be it known that I, LUTHER H. LEBER, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Store-Service Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

Figure 1 of the drawings represents a perspective view showing one end of my improved store-service apparatus; Fig. 2, a detail side elevation, on a reduced scale, of the turn-table, showing its connection with the main track and the supports at the opposite end, also showing the electric motor and carrier in position on the turn-table. Fig. 3 represents a detail end view of Fig. 2 with the electric motor and carrier removed; Fig. 4, a detail cross-sectional elevation through the main track, showing the electrical connections thereto, also showing the construction of the motor, the casing thereof being shown in dotted lines. Fig. 5 represents a detail plan view of the device for taking the receptacle from the carrier when the two are brought in contact with each other. Fig. 6 represents a detail view, partly in section, of that portion of the motor-casing provided with the hinged hook to which the receptacle for receiving the cash is suspended and which I term the "carrier."

The present invention has relation to that class of store-service apparatus in which the carrier is propelled along the track by electricity; and the invention consists in providing means whereby such apparatus is materially improved in the several details of construction and its practicability enhanced.

In carrying out my invention I provide means whereby the rails of the main track are electrically charged in connection with a carrier having a suitable electric motor which takes its electric current therefrom and thereby propels the carrier along the track to the desired station. In connection with such electrically-charged rails of the main track I provide a supplemental track and also a turn-

table whereby the carrier and motor thereon are transferred from the main track to said supplemental track and turn-table for the purpose of reversing the carrier and motor, so that it will traverse the main track in an opposite direction or back from whence it started; also in providing means whereby the supplemental track is raised or lowered to an angle with the main track, so that the motor and carrier will pass off and onto the main track by gravity.

The invention further consists in a simple and effective means for operating the device that takes the receptacle from the carrier when brought in contact therewith, and also the means employed for operating the turn-table and holding it rigid and stationary, so that the track-section thereon will be in line with the other section constituting the supplemental track.

The invention further consists in improving the several operating parts of the apparatus whereby their action is made easier and more convenient for the attendant, the several objects and purposes of the invention herein referred to being attained by the construction substantially shown in the drawings, and hereinafter described and claimed.

In the accompanying drawings, A designates two standards or posts of any suitable construction and of any desirable material which are connected to and supported by the floor or counter or by any other convenient object that is sufficiently rigid and stationary. In the present instance I have shown the standards or posts constructed from a single length of metal rod and at the top bent in U shape or arched, as shown in Fig. 1.

As I lay no claim to any special form of standards or posts, it is evident that two separate rods may be used which would be connected together by a cross-piece, or any form of supports may be used without departing from the principle of my invention. These standards or posts are of suitable height, and have near the upper ends elongated slots *a* and a suitable pulley, over which passes a cord *c*.

The cord *c* is of sufficient length to extend down within reach of a person standing on the floor, and the opposite end of the cord is

secured to a suitable bail B. This bail is connected to suitable lever-arms C, the ends of which pass through the elongated slots in the standards or posts and are for the purpose of raising the supplemental track, which will be hereinafter described.

The rail-sections D and the rail-sections E form together what I term a "supplemental track," which is raised or lowered by means of the bail and cord above described. The rail-sections D are located between the lever-arms C and rail-sections E and are suitably connected to a turn-table F, the same being supported by a platform G. The turn-table F has depending therefrom upon its under side locking-pins *d*, which pins are adapted to enter holes in the platform G, as shown in Figs. 1 and 2. The pins are for the purpose of locking the turn-table stationary on the platform and in the proper position to bring the ends of the rail-sections D on a line with the ends of the rail-sections E, so as to make a continuous track with that of the main track, which will be hereinafter described.

The platform G has rigidly connected to its under side a bracket H, which bracket is in like manner connected with the rail-section D and lever-arms C, so that the platform, rail-sections, and lever-arms will be connected together and raised or lowered by the bail B and cord *c*, as hereinbefore referred to.

The turn-table F has axially connected to its under side a rod I, said rod extending down through a central hole in the platform G, the purpose of which is to raise the turn-table sufficiently to release the pins *d* from engagements with the holes in the platform G, also to elevate the turn-table a sufficient distance above the lever-arms C and the rail-sections E to enable it to freely turn, in order to reverse the carrier with its electric motor, so that it will travel in an opposite direction upon the track to where it started from. The rod I also passes down through a hole in the bracket H, and, if desired, may be provided with a suitable handle or other means for operating it as may be found most desirable and best adapted to the purpose.

The free ends of the lever-arms C extend through the slots *a* in the posts or standards A, which provide guides for said arms and prevent any lateral strain or displacement thereof that would tend to bring them out of line with the rail-sections D.

The supplemental track consists of the two rail-sections D E, hereinbefore described, the rail-sections E being suitably hinged to the rails K of the main track. The supplemental track is insulated from the main track by any of the usual and well-known means, and for the proper operation of the apparatus it is necessary that the carrier and motor pass from the main track onto the supplemental track, and vice versa. To provide for this is the purpose of the lever-arms and the cord and bail connected thereto, hereinbefore described, whereby the supplemental track can

be lowered or raised to the necessary angle to cause the carrier and motor to pass off or onto the supplemental track by gravity. When the carrier and motor pass onto the supplemental track, which is insulated from the main track, the electric current is broken and the motor ceases to operate, this being done by the supplemental track being on a down-grade with relation to the main track. When the supplemental track is elevated by the cord *c* to the desired angle, the carrier and motor thereon will descend by gravity onto the main track and make electrical connections with the rails K.

To the side of one of the rails K projects a guide-plate L, which extends horizontally therefrom, and has holes through which pass guide-rods *f*, which are connected at their lower ends below the plate to a cross-head *g*. This cross-head *g* carries a suitable hooked rod M for engaging the eye of the receptacle N when the eye of this receptacle is brought in contact therewith, as will be hereinafter more fully described.

To the head *g* is connected a cord *h*, which extends down within reach, and to the upper side of the head is attached a second cord *k*, which passes up through a hole in the plate L, and thence over a pulley *l* upon one of the standards or posts A.

The rails K of the main track have connected thereto an arch wire-netting O of any suitable construction and secured thereto in any desirable and well-known manner, and the rails of the main track are supported along the line of the track by suitable arched hangers P, or other preferred and well-known means, which are connected at their upper ends to the ceiling or other stationary object, may be substituted for that shown. The metal rails K of the main track are insulated by means of the wooden sleepers *n* or by any of the means ordinarily employed, and connecting with the rails are the conductors *op*—namely, a negative and a positive pole—which electrically charge the rails.

The conductors above described are connected with a suitable dynamo, storage-battery, or other well-known device for generating electrical currents which are of such well-known construction that to illustrate it in the drawings or a detail description of it is considered unnecessary for any clearer understanding of the invention.

The electrical communication of the conductors with the rails of the main track, as hereinbefore described, enables the rails to be electrically charged, and it should be understood that the rails of the main track and the supplemental track do not touch at their ends, but sufficient space is left between them, so that the rails of the supplemental track will be insulated from the electrically-charged rails of the main track.

The carrier, which may be of any desirable form and construction, is represented at R, and is supported upon wheels that travel

upon the rails of the tracks and has a depending hinged hook S for connecting thereto a suitable receptacle N.

The carrier, which may be of any suitable form and construction, is combined with an electric motor of any of the usual and well-known forms and of any known construction, and the receptacle may also be of any of the kinds now in common use, or one may be employed especially adapted to the apparatus.

As I lay no claim to the construction of the motor and have shown one of many forms that may be used successfully with my invention, it is therefore deemed unnecessary to elaborate on the description thereof other than to give a brief outline of the essential features necessary to a motor of this character, in order that the operation of the invention may be intelligently understood. The motor is covered by a casing *s* of suitable construction, which protects it from the dust and dirt.

In describing the operation of the motor it will be understood that the wheels at one end of the motor coming in contact with the electrically-charged rails will collect the current therefrom, which is transferred to the tracers *t*, and thence through the medium of the conductors *u v*, thus giving power to the motor and causing the carrier to be propelled along the rails of the main track.

The armature-shaft is shown at *w*, and the conductors, field-magnets, and tracers being essential elements in an electric motor, as well as the various other parts thereof, any further description is deemed unnecessary.

Although the carrier in the present instance is shown as supported upon four wheels, that number is not necessary, as two wheels will suffice, but not give the carrier as firm a support when moving along the track.

In describing the operation of the mechanical parts of the invention which have no connection with the electric parts it should be understood that the ends of the main track and each station along the same are provided with a supplemental track, a turn-table, and the several attachments and devices shown in Fig. 1. When the carrier and motor reach the end of the main track or any of the stations thereon, the supplemental track is lowered so that the carrier and motor will descend by gravity onto the turn-table, and the supplemental track being removed from contact with the electrically-charged rails of the main track and likewise the motor and carrier no power on the carrier is exerted by the motor. The motor and carrier now being in position on the turn-table, the latter is turned around, as hereinbefore described, to reverse the motor, after which the supplemental track is raised by means of the cord and bail attached thereto, so as to cause the motor and carrier to automatically descend by gravity upon the main track, when the electrically-charged rails thereof will, through the motor, propel the carrier along to the opposite end of the track. As the carrier passes

along the track and in close proximity to the hooked rod M, the receptacle N is caught up thereby and removed from the carriage and held suspended. By now pulling on the cord *h* the receptacle is brought down within convenient reach of the attendant, after which it is removed of its contents. This being accomplished, the receptacle is again brought into use by replacing upon the hooked rod M and the cord released, after which the weight on the cord *l* will cause the hook, with the receptacle, to automatically ascend to its normal position to be taken up by the hook S of the carrier. The hook S is hinged so that it will allow the carrier and motor to pass onto the turn-table, as shown in dotted lines of Fig. 6, and to prevent the carrier and motor from passing beyond the turn-table the lever-arms C are provided at their ends with stops T. The rod I is also provided with a stop U, which is adjustable thereon and held in its adjusted position by means of a set-screw *y*, so as to limit the upward movement of the turn-table.

There are many details of construction that may be variously modified without departing from the principle of my invention, and I therefore wish it understood that I reserve the right to make any such changes or modifications in the several details of construction as would come within ordinary mechanical skill.

Any of that portion of the invention relating to the electrical connections may be changed at will, as found necessary, as no claim is laid thereto.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a store-service apparatus, the combination, with a main track, of a supplemental track consisting of two sections of rails independent of each other and provided with a turn-table, one of said sections being hinged to said main track and the other section rigidly connected to a turn-table, and means for raising and lowering the supplemental track, substantially as and for the purpose described.

2. In a store-service apparatus, the combination, with the main track, of a supplemental track provided with a turn-table carrying one section of the supplemental track, locking-pins projecting from the under side thereof, a platform for supporting the turn-table having holes for the reception of the locking-pins, and means for raising and lowering the turn-table, substantially as and for the purpose specified.

3. In a store-service apparatus, the combination, with a main track, of a supplemental track consisting of two sections of rails, one of which is hinged to the main track and the other rigidly secured to a turn-table, a platform for supporting the turn-table, a bracket connected to the under side of said platform and rigidly connected to the hinged section

of rail upon one side of the turn-table and to lever-arms upon the other side, and means for operating the supplemental track, substantially as set forth.

5 4. In a store-service apparatus, the combination of a main track having electrically-charged rails, a carrier having a motor which takes its current therefrom, an insulated supplemental track, a turn-table carrying said
10 track, and means for operating them, substantially as and for the purpose specified.

5. In a store-service apparatus, the combination, with the main track, of the supplemental track hinged thereto, a vertically-movable turn-table, and lever-arms having stops
15 to prevent the carrier with its motor from passing off said turn-table, substantially as and for the purpose specified.

6. In a store-service apparatus, the combination, with the main track, the turn-table,
20 and supplemental track hinged to said main track, of a motor and carrier and a hook hinged to the carrier for attaching thereto the

receptacle, so as to allow the motor and carrier to pass from the main track onto the supplemental track, substantially as and for the purpose set forth.

7. A store-service apparatus comprising an electrically-charged main track, a hinged supplemental track insulated therefrom, lever-arms connecting with the supplemental track
30 and provided with stops, means for operating the lever-arms to bring the supplemental track on an incline, a turn-table supported by a platform, means for locking it in position after being turned, and a carrier provided
35 with a motor which takes its current from the electrically-charged rails, substantially as and for the purpose described.

In testimony that I claim the above I have
40 hereunto subscribed my name in the presence of two witnesses.

LUTHER H. LEBER.

Witnesses:

W. C. SCOTT,

I. J. WILSON.