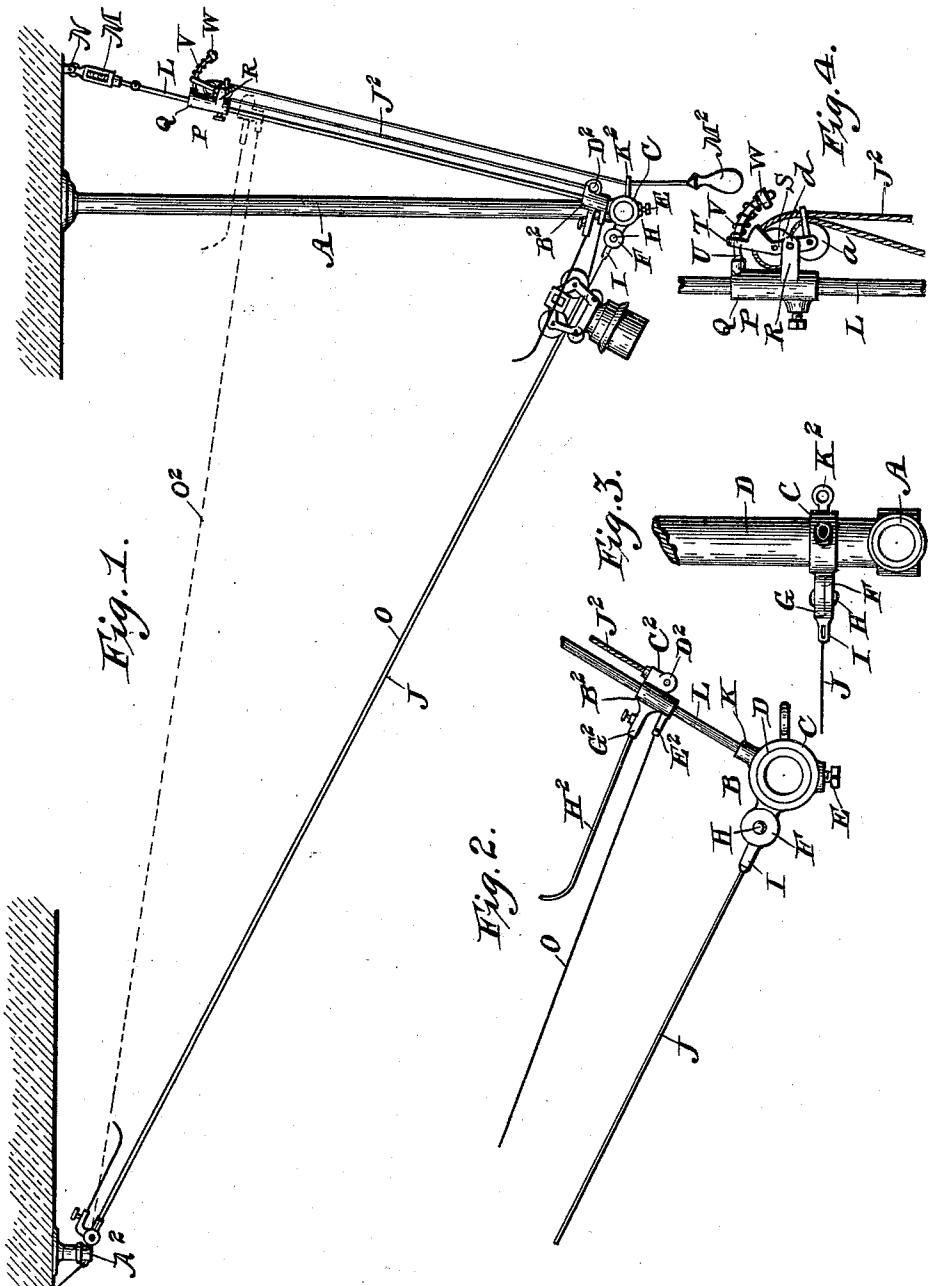
(No Model.)

# D. LIPPY.

## STORE SERVICE APPARATUS.

No. 519,288. Patented May 1, 1894.

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# UNITED STATES PATENT OFFICE.

DAVID LIPPY, OF MANSFIELD, OHIO, ASSIGNOR TO CHARLES T. McCUE, OF SAME PLACE.

## STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 519,288, dated May 1, 1894.

Application filed March 18, 1893. Renewed March 31, 1894. Serial No. 505,955. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID LIPPY, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Store-Service Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in store service apparatus of the class known as double wire lines, which comprise a stationary track wire and a propelling wire, and it consists of certain novel constructions, combinations and arrangements of parts as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a grade line, showing its general construction and embodying my invention. Fig. 2 is an enlarged view of a foot showing a portion of the guide rod and slide for attaching and spreading the propelling wire. Fig. 3 is a top view of a foot secured upon a home station bar showing the general construction of the foot, and Fig. 4 is a side view of a pulley attachment showing its novel construction and the method of securing the same upon the guide rod.

In the accompanying drawings, A $A^2$ indicate hangers or supports which are secured to the ceiling.

B indicates a foot which is constructed with a sleeve C which is for the purpose of securing the same upon the round bar or tube D forming the home station, and which is secured rigidly by the set screw E.

F indicates a round, flat disk projecting from and forming part of the sleeve.

G indicates a corresponding disk which is secured to the disk F by a bolt H, the aforesaid disk being provided with an outwardly projecting lug I, and to this is secured the track wire J. This forms a pivot which is to allow the line to conform to the grade required.

K indicates a bar which forms part of the foot B.

L indicates a wire about No. 7 in size, which is secured at the lower end in the center of the bar K. The said wire extends upward at an angle to conform to the radius of the length of the track wire J and is secured to a turnbuckle M, secured to a screw-eye in the ceiling. This wire L is for the purpose of forming a guide for the upper or propelling wire O.

P indicates a pulley attachment which is secured upon the guide wire L. This attachment is composed of a hollow sleeve Q having two outwardly projecting arms R, between which arms is pivoted the frame S. Two pulleys *a* and *d* are journaled within the same frame, one upon each side of the center. The upper end T of the frame S passes over a curved rod U secured rigidly in the sleeve Q, and is held in its normal position by a coil-spring V and nut W. The object of this device I will fully describe in the operation of the apparatus.

$B^2$ indicates a slide which is placed upon the guide wire L and is constructed with a bifurcated projection $C^2$ upon one side, and in which is journaled a roller $D^2$, the said roller being for the purpose of preventing friction when spreading the propelling wire O, the roller having a bearing against the back of the guide wire L.

$E^2$ indicates an outwardly projecting lug to which is attached the propelling wire O. $G^2$ is also a projection formed on the slide $B^2$; to this is secured any suitable retainer $H^2$.

$J^2$ is a cord connection which is secured to the upper portion of the slide $B^2$, the said cord passing over the pulleys *a* and *d* in the attachment P, then downward through the eye $K^2$ forming part of the foot B, the said cord being provided upon the lower end with the handle $M^2$. I have only described one end of the line. When the object is to propel a car up a grade, the track wire and the propelling wire are secured to a bracket $N^2$ with any suitable retainer. This description is fully illustrated by the accompanying drawings.

It will be readily seen by those skilled in the art that when the operator pulls down-

ward upon the handle $M^2$ the tension of the cord $J^2$ presses upon the back of the pulley *a*, which forms a lever and compresses the coil spring V, allowing the cord to pass freely over the upper pulley *d*. The track wire J and the propelling wire O pass between the upper and lower wheels of the car, and the spreading of the propelling wire in rear of the car propels the same up any grade required. It will also be seen that any spread can be given to conform to the grade required; for instance, when only a slight grade is required, the pulley attachment P can be adjusted upon the guide wire at any point, making a greater or less spread to the propelling wire O. When the car is propelled up the grade, the operator releases the handle $M^2$; the coil spring then expands, pressing upon the cord $J^2$ between the pulley *d* and the side of the sleeve Q, holding the propelling wire as shown in dotted lines in Fig. 1. The operator then releases the car from the retainer at the top of the grade. The weight of the car will bear upon the spread wire, which draws upon the cord $J^2$ and the friction of the pulley *d* will be sufficient to gradually lower the same without jar.

What I claim as my invention is—

1. In a store service apparatus, the combination of hangers or supports, a foot secured to one of said hangers, a track wire secured to said foot, a propelling wire placed above said track wire and a guide wire, the said propelling wire being adapted to slide upon said guide wire, which latter is secured at its lower end to said foot, and by its upper end to any suitable mechanism in the ceiling, whereby a car can be propelled up any grade, substantially as described.

2. In a store service apparatus, the combination of suitable hangers or supports, a foot secured to one of said hangers, a guide wire, a sleeve adapted to slide on said guide wire, a stationary track wire secured to said foot, a propelling wire secured to said sleeve, an operating cord attached to said sleeve, an adjustable friction pulley mechanism adapted to be secured at any desired point on the guide wire, the operating cord passed through the friction pulley mechanism and adapted to automatically release its grip on the operating cord as the latter is pulled upon by the operator and to automatically grip the operating cord again when the latter is released by the operator, substantially as described.

3. In a store service apparatus, the combination of hangers or supports, a track wire connected to said support, a propelling wire placed above the track wire and a guide wire, said propelling wire extending from station to station and adapted to spread by sliding up the guide wire, and means for sliding the propelling wire up the said guide wire, substantially as described.

4. In a store service apparatus, a pulley mechanism comprising a sleeve having a slotted arm, a frame pivoted in said arm, pulleys on the frame arranged one above the other, a rod secured to the upper portion of the sleeve and passing through the upper end of the pivoted pulley frame, and a compression spring, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID LIPPY.

Witnesses:
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