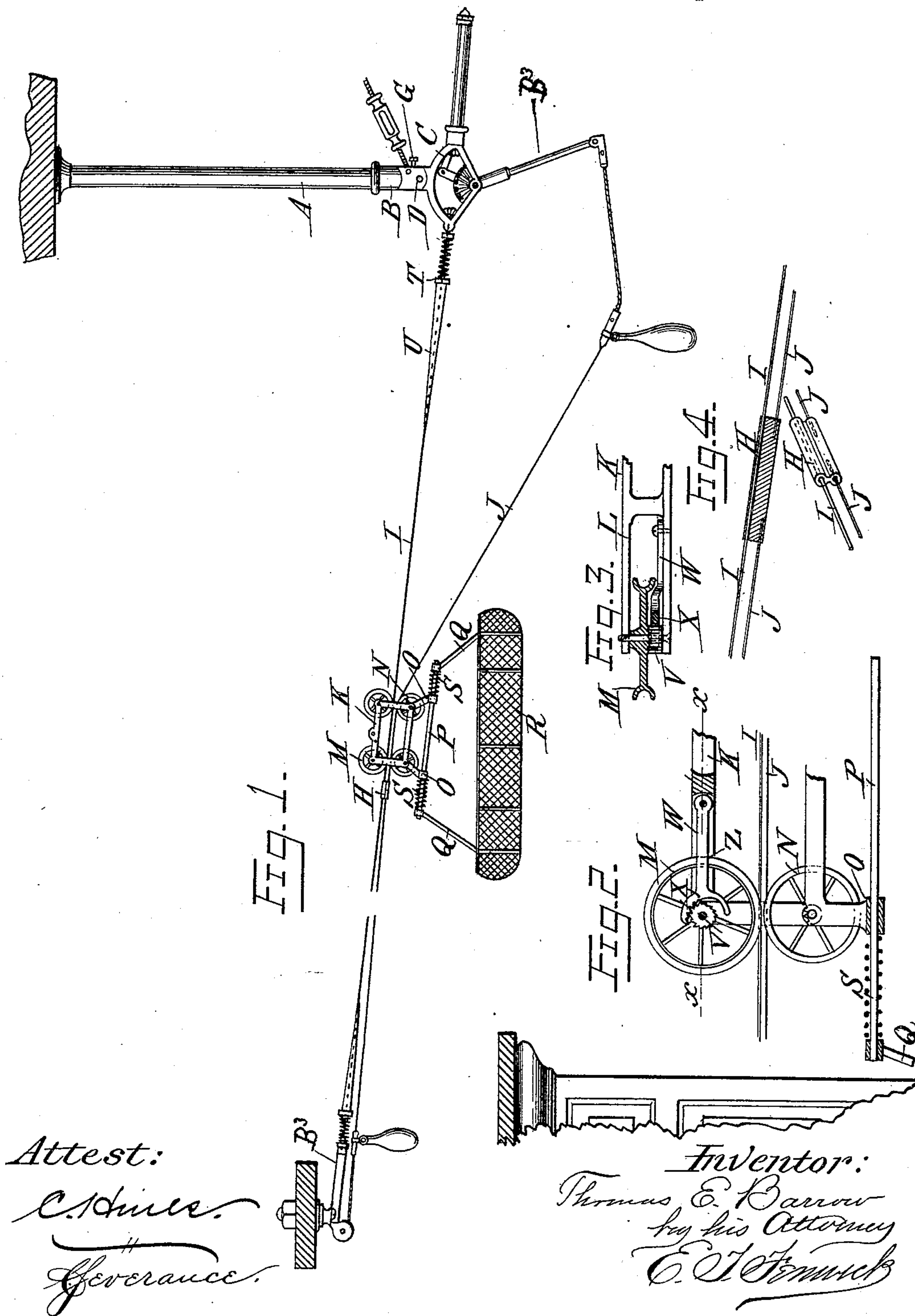


2 Sheets—Sheet 1.

No. 496,147.

Patented Apr. 25, 1893.



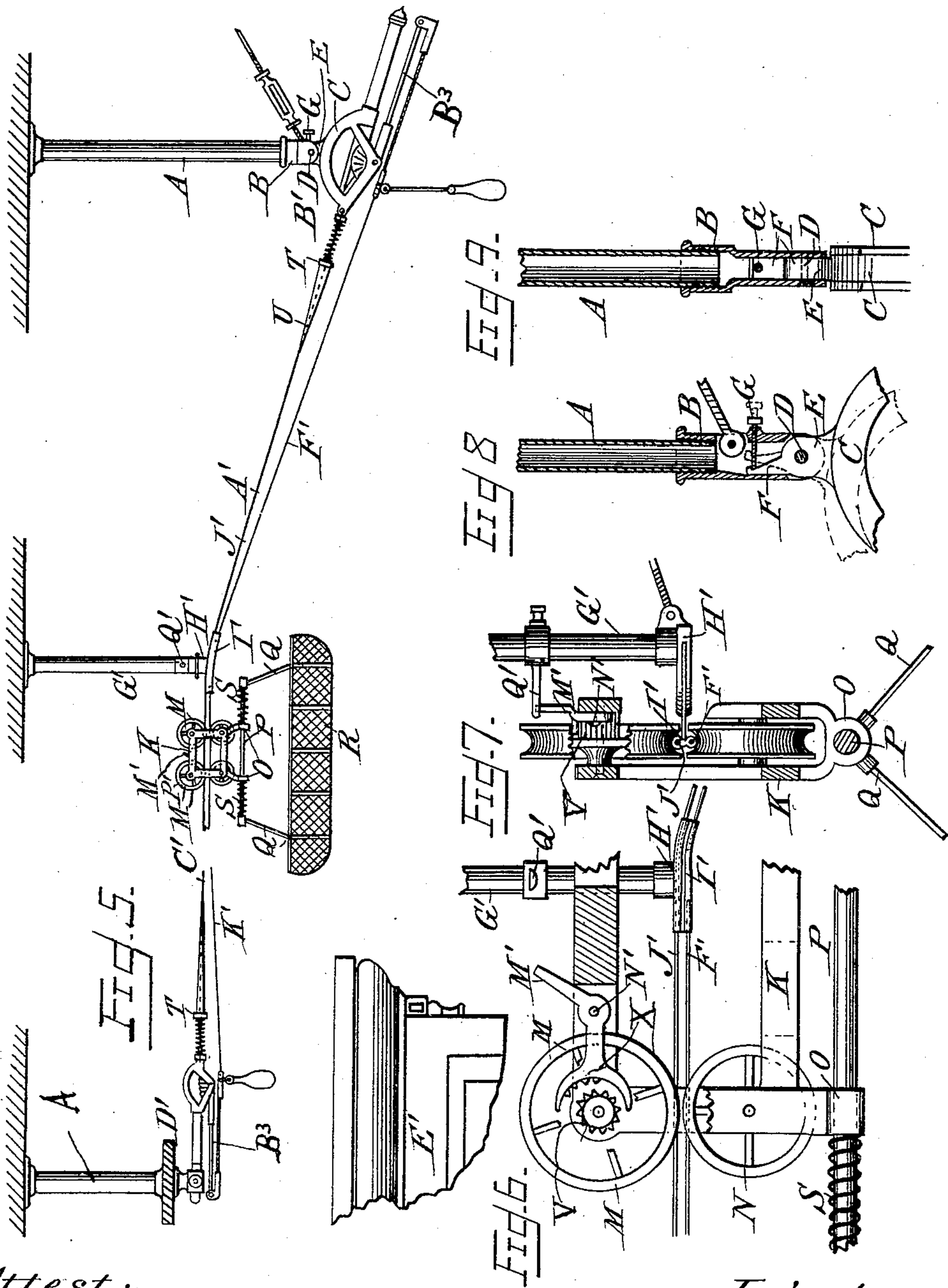
(No Model.)

2 Sheets—Sheet 2.

T. E. BARROW.
STORE SERVICE APPARATUS.

No. 496,147.

Patented Apr. 25, 1893.



Attest:
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Clerk.

Inventor:
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by his Attorney
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UNITED STATES PATENT OFFICE.

THOMAS E. BARROW, OF MANSFIELD, OHIO.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 496,147, dated April 25, 1893.

Application filed April 23, 1892. Serial No. 430,385. (No model.)

To all whom it may concern:

Be it known that I, THOMAS E. BARROW, 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 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 certain new and useful improvements in store service apparatus, in which a stationary track wire is used for carrying the car and a propelling wire to propel the car from station to station. And the objects of my invention are first, to obviate the necessity of lowering the package basket at the salesman's station; second, to so construct a line that the car and basket can be sent to the wrapping counter up an incline line or track, or to so construct the same that the car and basket can be propelled up an incline to a sufficient height to raise the same on a level with the wrapping counter, then pass over a level line to the said counter; third, to so construct the car that there will be no jar or noise when entering the stations, either when going up the grade or down the same; fourth, to construct the car with a brake or lock to operate only when passing down grade to check the velocity of the same; fifth, to so construct the foot, forming part of the hanger or support, so that it can be adjusted to conform to any grade required. These objects I accomplish by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a grade line complete, showing both stations, package car and wrapping counter. Fig. 2 is a portion of a car, one carrier wheel and propelling wheel or pulley, and also showing the device for locking the wheel or wheels when passing down grade. Fig. 3 is a top sectional view of same taken in line $x-x$. Fig. 4 is a longitudinal sectional view and perspective view of a sliding clip, showing the track wire passing through the upper tube and adapted to

slide upon the same, and also showing the inner ends of the propelling wires secured rigidly in the lower tube. Fig. 5 is a side elevation of a level and grade line combined, showing the general construction of the same. Fig. 6 is an enlarged view of a portion of the car, track wire and propelling wires, bridge and support; also locking device for the carrier wheel or wheels constructed for a combination level and grade line. Fig. 7 is a transverse view of the same. Fig. 8 is a front section view of a portion of the foot and support, showing the adjusting device; and Fig. 9 is a transverse sectional view of same.

Similar letters refer to similar parts throughout the several views.

In the accompanying drawings, A indicates hangers or supports; B a sleeve or socket which is provided with female threads in the upper end and bifurcated at the lower end to receive the foot C which is pivoted therein by the bolt D, the said foot C being provided at its upper end with a lug E and upwardly projecting arm F, the object of this construction being for the purpose of adjusting the foot to the incline required for a grade line, and this is accomplished by operating upon the set screw G. It will be readily seen that by turning the set screw G in either direction, the foot is adjusted to conform to the grade of the line. This construction is fully illustrated in the enlarged views Figs. 8 and 9.

B³ B³ represent operating levers which are pivoted in the feet C, and to the outer end of which the propelling wires are attached.

In this application in place of having the wires extend from station to station through the tubular clip as shown in my application filed December 10, 1892, Serial No. 414,632, and in another application filed by me March 9, 1892, Serial No. 424,286, I construct only the stationary track wire I of a single wire and extend it entirely through the clip from station to station while the propelling wire J is made in two parts, one part extending from a station and secured by its other end in the clip and the other part extending from the other station and similarly secured in the clip. The sleeve or clip H is adapted to slide upon the track wire I in the place of the propelling wire sliding through the clip as shown in the

above mentioned applications. My object in this construction is of vital importance, as it does away with the wear upon the propelling wire. At the same time it allows the operator
5 to draw back from each end of the line and allow all the spread required to propel a car up any incline.

K indicates a package car, which is composed of a frame L provided with carrier
10 wheels M and propelling wheels or pulleys N journaled in said frame.

O are lugs or eyes which form part of the said frame and in which is placed the rod P to which is attached the basket bail Q supporting the basket R. The said rod has a
15 longitudinal sliding movement in the eyes O when the car strikes the stop T at each station.

S indicates coil springs which are placed
20 upon each end of the rod P, the object of the said springs being to retain the car in the center of the basket, and also to form a spring cushion when the car K strikes the shoulder T, forming part of the rubber catch U. This
25 construction I have fully illustrated in Fig. 1.

Fig. 2 illustrates a brake or locking device Z which I use on all steep grade lines and which is very essential to check the velocity
30 of the car when passing down a grade.

M indicates the carrier wheels which support the car and basket upon the track. The hub on one side of the wheel is provided with a toothed pinion V, and a lever W is pivoted
35 inside of the car frame, the said lever being provided at its outer end with a segmental internally toothed portion X which is adapted to mesh with the teeth in the pinion V, in such a manner that when the car is passing up the
40 grade, the rotation of the wheel M throws the lever W out of action with the teeth of the pinion, allowing a free motion to the wheel when passing up the grade, and that as soon as the car starts down the grade the motion of the wheel is reversed, and the teeth in
45 the lever are caused to mesh with the teeth of the pinion and lock the wheel, the friction of the wheel, sliding upon the track wire, retarding the motion and checking the car. This construction I have fully illustrated in
50 Figs. 2 and 3.

Fig. 5 is a side elevation of a horizontal and grade line combined. The only difference between this line and the line shown in Fig. 1 is that the grade A' only extends a short
55 distance along the line from the out station B', the greater portion of the distance between the stations, the car traveling upon a level line C' to the home station D'. My object in this construction is to raise the car to the level of the wrapping counter E' in as short a distance as possible so that it will be out of the way and high enough to pass all obstructions; also to obviate the necessity of lowering the basket at the out station; and a
65 further object is to lower the car and basket by a portion of the line being on a grade so that when the car is at rest at the out station

the basket will be just high enough for the operator to place in or take out the goods without detaching the basket from the car. 70

By means of a propelling wire F' and by placing a hanger or support at a proper distance from the out station B', I am enabled to propel a car up an incline onto a level line
75 with sufficient force to send it to the home station. The said hanger or support is provided at its lower end with a bracket H' having a tubular projection I' which is secured to or forms part of the bracket H', the track wire A' passing through the upper tube and
80 extending from station to station, and the propelling wires F' and K' extending from the stations to the bracket H' and secured rigidly to the same, or they may extend through the lower tube and extend from station to sta-
85 tion, but only allowing a wedge to extend from the stations to the bracket. The said bracket holds the track wire and propelling wires on a level or nearly so with the home station. This construction is fully illustrated in Figs. 90
5, 6 and 7. When the bracket G' is employed, the car will be open on one side (see Fig. 7) to allow the same to pass by the bracket H', and a brake or lock as illustrated in Figs. 5 and 6 is employed. This lock is provided
95 with an upwardly projecting arm M' and in the place of the lever having a free movement upon the pivot N' it is constructed so as to have friction upon the pivot bolt N', the object of the friction on the lever being to
100 hold the same in any position in or out of mesh with the pinion V. When the car is passing up the grade A', the rotation of the carrier wheel M works the teeth in the lever out of gear with the pinion, allowing the car to pass
105 freely up the grade and along the level line to the home station, when the car is returned to the out station B'. The lock does not operate until the car is passing over the bracket H'. The hanger or support is provided with
110 a sleeve having a projecting arm Q', against which the lever M' comes in contact and forces the segmental shaped toothed portion of the lever into mesh with the pinion V, locking the carrier wheel M. 115

Having 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 of a hanger or support, an adjustable
120 foot pivoted to said hanger for adjusting the track to any desired grade, an operating lever working in said foot and an operating wire connected to said lever, substantially as described. 125

2. In a store service apparatus, the combination of a hanger or support, an adjustable foot pivoted to said hanger for adjusting the track to any desired grade, means for holding the foot and track attached thereto at the desired angle, an operating lever working in
130 said foot and an operating wire connected to said lever, substantially as described.

3. In a store service apparatus, the combi-

nation of suitable hangers, a track wire, a parallel propelling wire adapted to be deflected, and a clip in which the track wire is longitudinally movable and the propelling wire rigidly secured, substantially as described.

4. In a store service apparatus, the combination of hangers or supports, feet attached to said hangers, the said feet being so constructed that they can be adjusted to conform to any grade required, a stationary track wire secured to said feet and extending from station to station, a tubular slide placed upon said track wire, slack propelling wires secured in said slide and connected at each station to suitable mechanism for operating the same, substantially as shown and described.

5. In a store service apparatus, the combination with hangers or supports, of feet attached to said hangers, a stationary track wire secured to said feet, a pivotal slide placed upon said track wire, a slack propelling wire extending from each station to the center of the line, and the ends rigidly secured in said slide, suitable mechanism at each station for operating the propelling wires, substantially as shown and described.

6. In combination with a car adapted to travel upon a combined grade and level line, a locking device composed of a toothed hub V

attached to the carrier wheel M or forming part of the same a projecting arm Q', bracket G', a toothed lever pivoted in the frame K, the lever having an upwardly projecting arm M', the said lever having sufficient friction upon the bolt N' to retain it in any position, and the said lever being thrown out of gear by the rotation of the carrier wheel when passing up the grade, and placed in gear by one of the arms of the lever striking said arm Q' to check the velocity of the car when passing down the grade.

7. In combination with a car for store service apparatus, an automatically operated brake comprising a toothed hub or pinion attached to or forming part of the carrier wheels, a lever pawl pivoted on the frame and having a segmental toothed end, means for insuring the lever coming into action with the toothed hub when the car is passing down the grade and for causing the lever to move out of action with the hub when passing up a grade, substantially as described.

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

THOMAS E. BARROW.

Witnesses:

JABEZ DICKEY,
HADLEY S. COLE.