

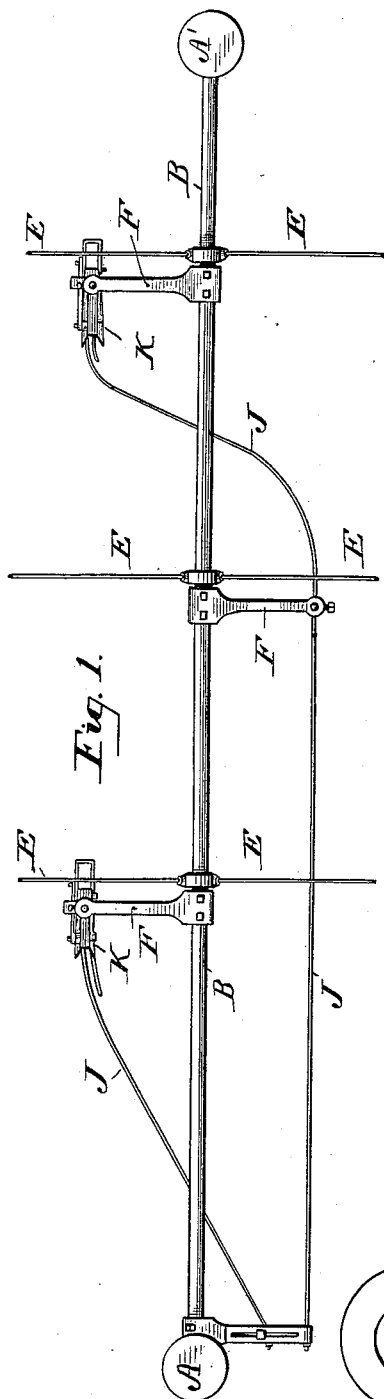
(No Model.)

2 Sheets—Sheet 1.

S. G. NORTH.  
STORE SERVICE APPARATUS.

No. 342,628.

Patented May 25, 1886.



WITNESSES:

*John Folley*  
*F. N. Dixon.*

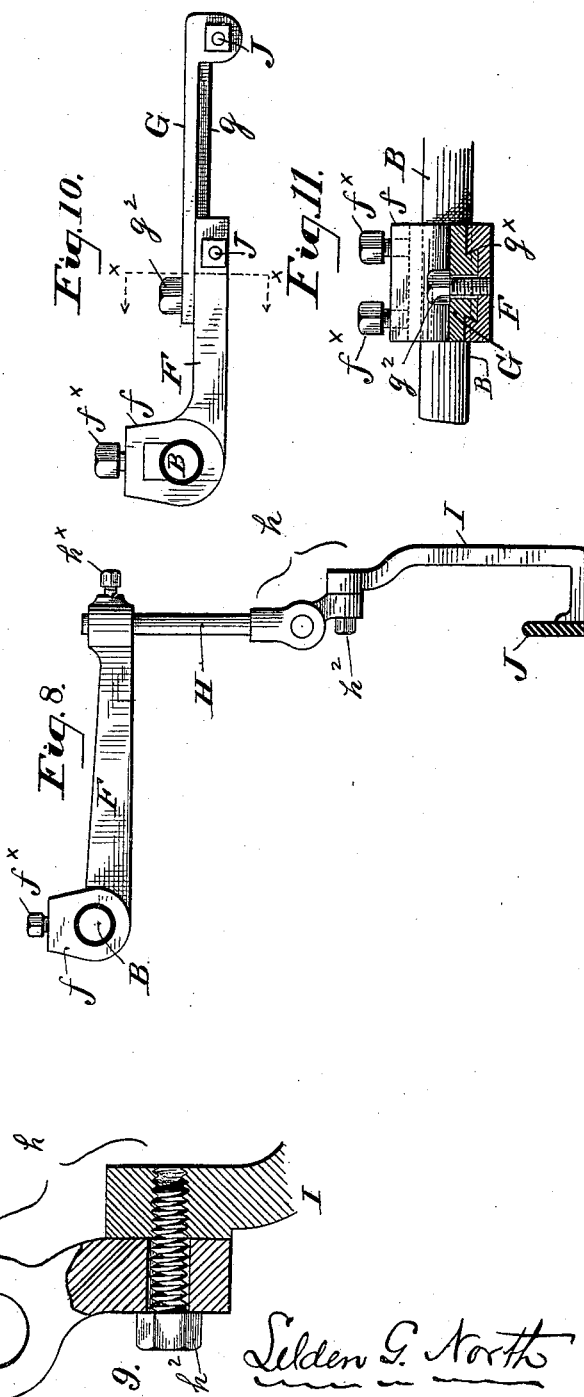


Fig. 9.

*Selden G. North*

INVENTOR

*By his Attorneys*  
*N. C. Mawhinney*  
*Boonsall Taylor*

(No Model.)

2 Sheets—Sheet 2.

S. G. NORTH.  
STORE SERVICE APPARATUS.

No. 342,628.

Patented May 25, 1886.

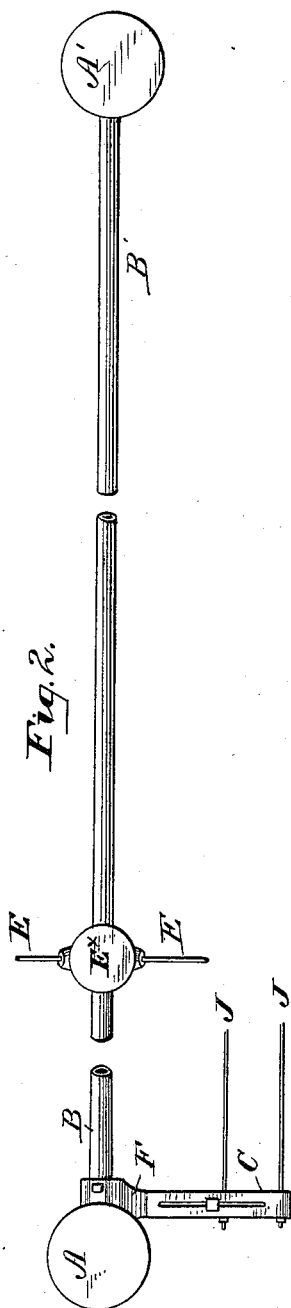


Fig. 2.

WITNESSES:  
*John Jolley Jr.*  
*F. N. Dixon.*

Fig. 6. Fig. 7.

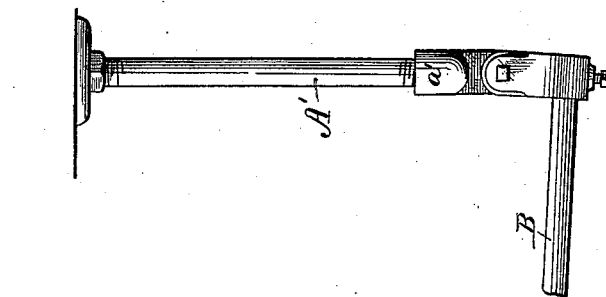


Fig. 4.

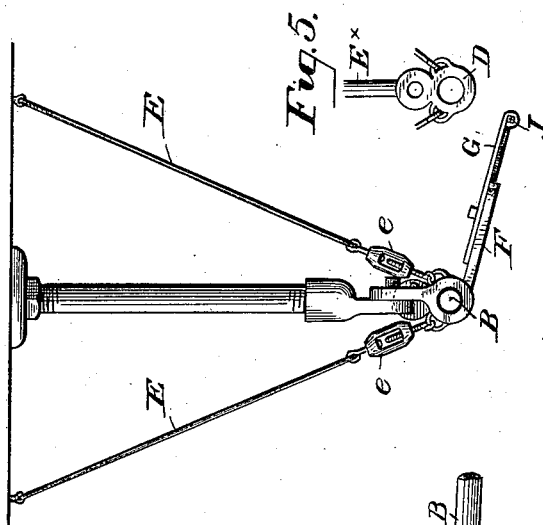
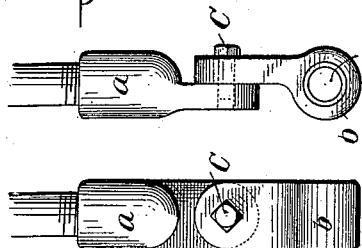
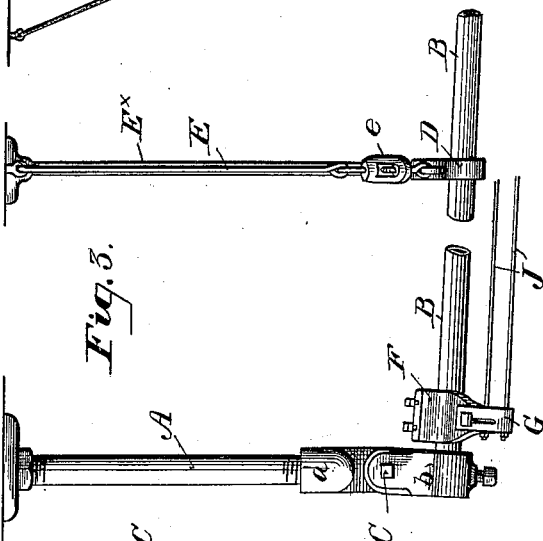


Fig. 5.



*Selden G. North*  
INVENTOR  
*By his Attorneys*  
*N. C. Mansfield*  
*Bonsall Taylor*

# UNITED STATES PATENT OFFICE.

SELDEN G. NORTH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE  
TRANSIT APPARATUS COMPANY, (LIMITED,) OF SAME PLACE.

## STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 342,628, dated May 25, 1886.

Application filed January 13, 1886. Serial No. 188,423. (No model.)

*To all whom it may concern:*

Be it known that I, SELDEN G. NORTH, a citizen of the United States, residing in the city and county of Philadelphia, and State of Pennsylvania, have invented certain Improvements in Store-Service Apparatus, of which the following is a specification.

My invention relates to a class of devices variously known as "store-service apparatus," "warehouse-railways," or "overhead tramways," and which are in general use in stores and warehouses for facilitating the carriage of goods, parcels, cash, and change.

My invention, although applicable to various apparatus of the above class, is especially designed for employment in connection with such store-service apparatus as has heretofore been patented to Isidore Birge, especially in and by sundry Letters Patent dated September 1, 1885.

The object of my invention is to provide a ready and convenient means for supporting the dispatchers, the receivers, the rails, the switches, and the various other static and dynamic apparatus composing the plant of a store-service apparatus proper.

Heretofore difficulty has been experienced in supporting the said apparatus, owing to the difficulty of attaching it to the walls and ceilings of stores and other apartments. My invention aims to remedy this difficulty by providing a permanent support, to which, as a fixture, the component devices of store-service apparatus of various kinds can be secured.

To this end my invention, generally stated, consists in a suspended or otherwise supported pipe or rod line, which may be maintained by permanent brackets or depending hangers, and which is adapted to receive and support brackets, arms, or horns for the more immediate attachment of the dispatchers, receivers, rails, and switches.

Apparatus embodying my invention is represented in the accompanying drawings and described in this specification, the particular subject-matter claimed as novel being herein-after definitely specified.

In the drawings, Figure 1 represents in top plan view apparatus conveniently embodying my improvements. Fig. 2 is a similar view

of a part of the same. Fig. 3 is a side elevation of the said apparatus. Fig. 4 is an end elevation of the same. Fig. 5 is an end elevational view of one of the stay-collars and its connected strut and guys. Figs. 6 and 7 are respectively a side and an end elevation of the sleeves and sockets for connecting a rod-line with suspenders. Fig. 8 is a side elevational view of one of the brackets provided with a hanger. Fig. 9 is a vertical sectional elevational detail through a portion of the universal joint *h* shown in Fig. 8. Fig. 10 is a side elevational view of a convenient construction of extensible bracket. Fig. 11 is a transverse sectional detail through the same in the plane of the dotted line *xx* of Fig. 10.

Similar letters of reference indicate corresponding parts.

In the drawings, *A A'* represent two permanent suspenders, which, for the sake of illustration, we may assume permanently connected with the ceiling at different ends of an apartment, or portion thereof, throughout the length of which a line of store-service apparatus extends.

*B* is a section of permanent, although adjustable, pipe or rod line, most conveniently formed of an iron tube of commerce, which extends horizontally, or at a slight inclination from the horizontal, from suspender *A* to suspender *A'*. The connection of this rod-line with the suspenders is conveniently effected by providing the depending terminal portion of the suspenders with flanged and internally-threaded sleeves *a*, against the flanges of which are applied depending flanged sockets *b*, through the sockets proper of which the rod-line passes. The connection between the flanges of the sleeves and the sockets is conveniently effected by connecting-bolts *C*, and, as is obvious, the inclination of the flanged sockets with respect to the horizon can be readily effected, while their height can, if desired, be secured by the adjustment of the sleeves upon the suspenders.

The rod-line forms the permanent basis of support for the fixtures of the service apparatus, and it is to be carried continuously or in sections from point to point throughout the store or apartment, as convenience of erection

may dictate, a suitable number of suspenders being employed. In order to stay the rod-line against a disposition to sway laterally, or to vibrate vertically, at suitable points stay-collars D are applied to it, which are sustained laterally by oblique guys E, secured to the collar and to the ceiling, and provided with swiveled tightening-thimbles *e* to take up slack in the guys, and which are sustained against vibration perpendicularly by a strut, E<sup>x</sup>, also secured to the collar and to the ceiling. The stay-collars may, if desired, be omitted, or other equivalent contrivances substituted in their stead for the same purpose.

F are laterally-extending adjustable brackets applied to the rod-line, and adapted to sustain the receivers, dispatchers, rails, and switches. These brackets may be of any preferred construction; but are preferably each provided with a hub, *f*, which slips over the rod-line, and is secured thereto in proper position by set-screws *f*<sup>x</sup> or kindred devices. These brackets may be extensible, as represented in Figs. 1, 2, 3, 4, 10, and 11, or of predetermined length, as represented in Fig. 8, and also in Fig. 1. They are conveniently extensible by being provided with an extension-piece, G, Figs. 10 and 11, connected by a tongue, *g*, formed on it, and working in a groove, *g*<sup>x</sup>, slotted or otherwise formed in the body-section of the bracket, fixed adjustment being effected by means of a retaining-bolt, *g*<sup>2</sup>. The brackets may also, if desired, be provided with a hanger, H, adjustable as to height by means of the set-screw *h*<sup>x</sup>, Figs. 8 and 9, to which, by, for instance, such a universal joint as *h* in said figures, provided with the tightening-bolt *h*<sup>2</sup>, a track-suspender, I, or other device may be connected.

Apart from these various appliances and connections, which will be readily understood by mechanics, the essential part of my invention resides in a permanent pipe or rod line provided with brackets or kindred supports for sustaining the rails, switches, receivers, and dispatchers of the apparatus.

In the drawings the rails or tracks, which are preferably wires, are represented by the letter J, and in Fig. 1 receivers K are, for the sake of illustration, also represented.

No dispatchers and no switches are shown in the drawings, as I deem their illustration unnecessary, it being obvious in what manner they may be applied.

The precise means of connection of the various devices with the brackets, or with extensions thereof, or hangers therefrom, will be readily understood by a reference to the drawings, and may be modified at the will of the mechanic. It will be obvious that by the employment of the rod-line and its appliances the apparatus can be conveniently secured either from the ceiling or from the side wall of an apartment, as, of course, the suspenders A A' may be secured to the wall instead of to

the ceiling, so as to be in effect brackets rather than hangers, if it is desired so to do. It therefore becomes possible to erect a store-service apparatus without defacing to any appreciable extent either the wall or ceiling of the apartment.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A rod or pipe line having permanent suspenders for fixedly connecting it with the wall or ceiling of an apartment, and having also brackets for supporting the rails, switches, dispatchers, receivers, or kindred appliances of a store-service apparatus, substantially as set forth.

2. As a device for supporting the rails, switches, dispatchers, receivers, and other kindred appliances of a store-service apparatus, the combination of a rod or pipe line with permanent suspenders or brackets, and with guys, struts, or kindred stays for said pipe or rod line, substantially as described.

3. As a device for supporting the rails, switches, dispatchers, receivers, and other kindred appliances of a store-service apparatus, the combination of a rod or pipe line, permanent suspenders or brackets for supporting said line, and brackets connected with the pipe or rod line for supporting the various appliances constituting the store-service apparatus, substantially as described.

4. As a device for supporting the rails, switches, dispatchers, receivers and other kindred appliances of a store-service apparatus, the combination of a rod or pipe line, permanent suspenders or brackets for supporting said line, brackets connected with the pipe or rod line for supporting the various appliances constituting the store-service apparatus, and guys, struts, or kindred stays for said pipe or rod line, substantially as described.

5. The combination of the pipe or rod line, the permanent suspenders, the lateral brackets, and rails, receivers, and dispatchers, substantially as set forth.

6. In combination with a permanent pipe or rod line, in a store-service apparatus, extensible brackets, substantially as described.

7. In combination with a permanent pipe or rod line for supporting a store-service apparatus, brackets, and hangers depending from said brackets, substantially as described.

8. As a means of connecting a pipe or rod line with permanent suspenders, the combination of flanged sleeves, and depending flanged sockets united therewith, substantially as described.

In testimony whereof I have hereunto signed my name this 16th day of December, A. D. 1885.

SELDEN G. NORTH.

In presence of—

J. BONSALE TAYLOR,  
JOHN JOLLEY, Jr.