(No Model.)

3 Sheets—Sheet 1.

I. BIRGE.

STORE SERVICE APPARATUS.

No. 366,145. Patented July 5, 1887.

Fig. 1.

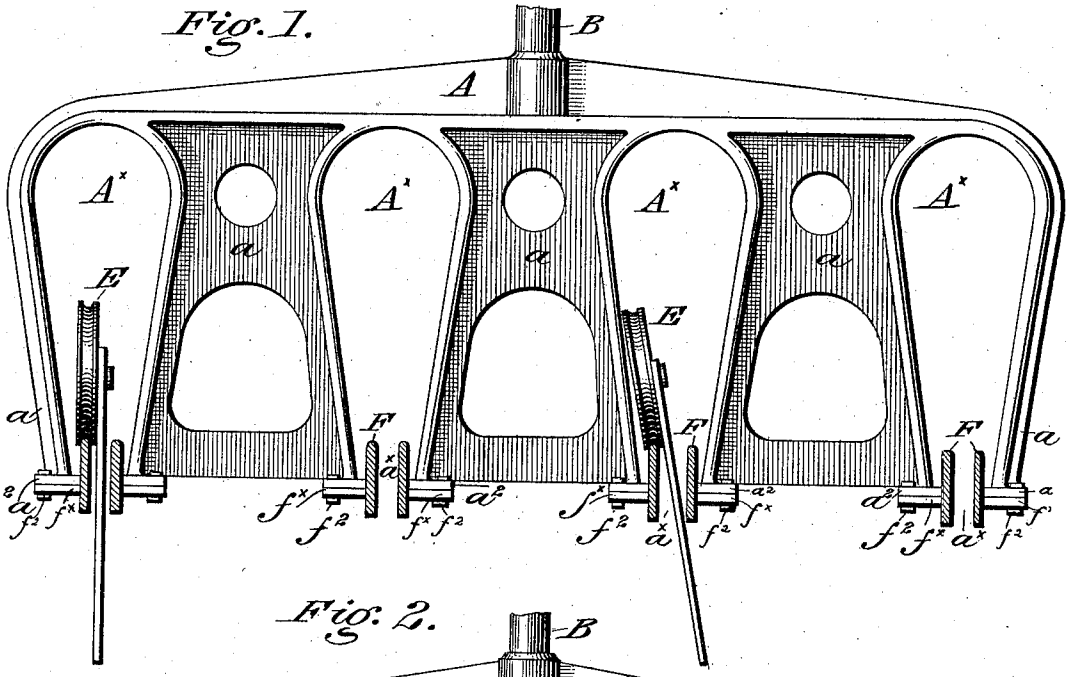
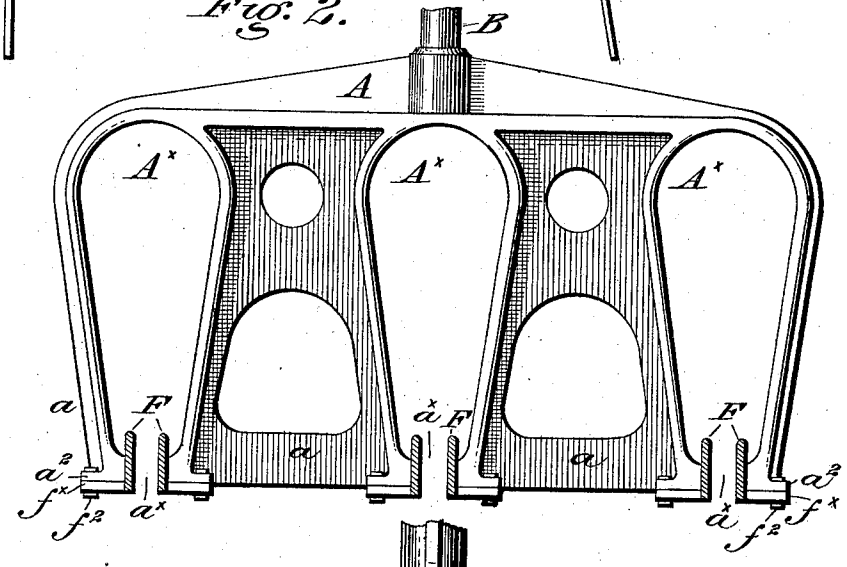


Fig. 2.



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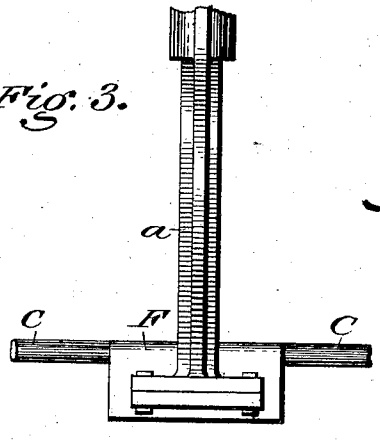

WITNESSES:

P. F. Eagle.

P. N. Dixon.

Isidore Birge
INVENTOR

By his Attorneys

W. C. Strawbridge.

J. Bonsall Taylor

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.)

3 Sheets—Sheet 2.

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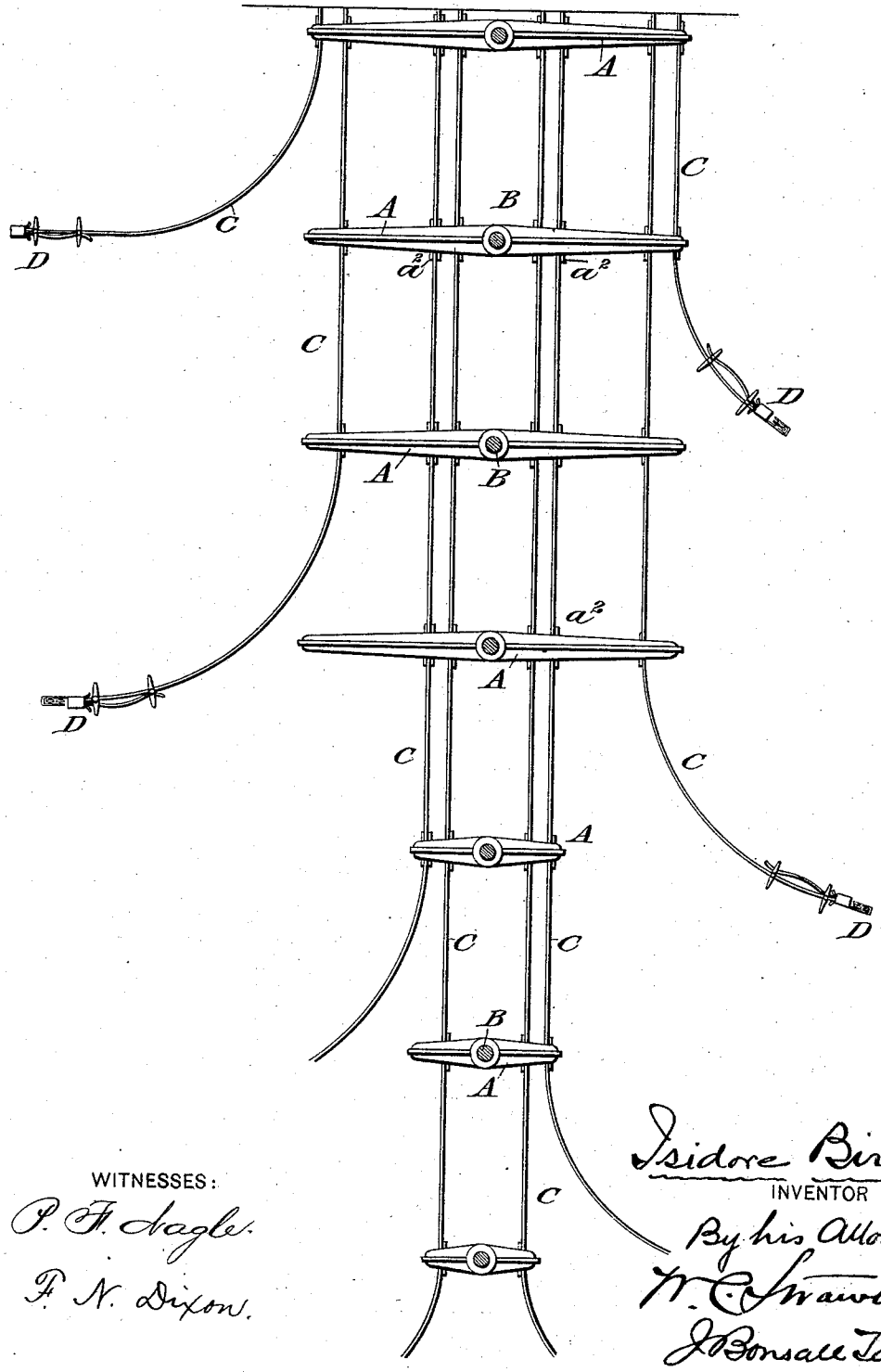
Fig. 4.



WITNESSES:

P. F. Eagle.

F. N. Dixon.

Isidore Birge
INVENTOR

By his Attorneys,

W. C. Strawbridge

J. Bonsall Taylor

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

3 Sheets—Sheet 3.

I. BIRGE.

STORE SERVICE APPARATUS.

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Fig. 5.

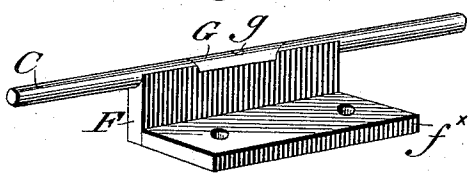


Fig. 6.

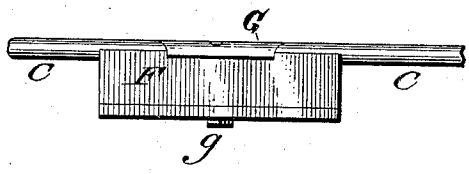


Fig. 7.

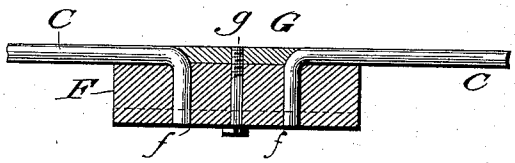


Fig. 8.

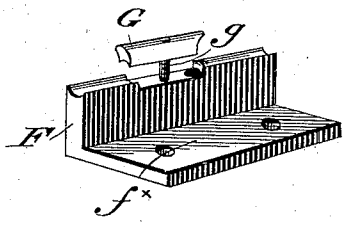


Fig. 9.

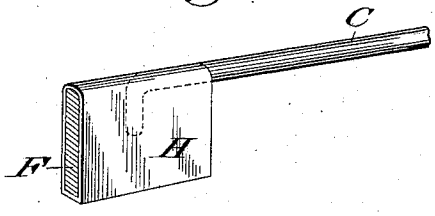
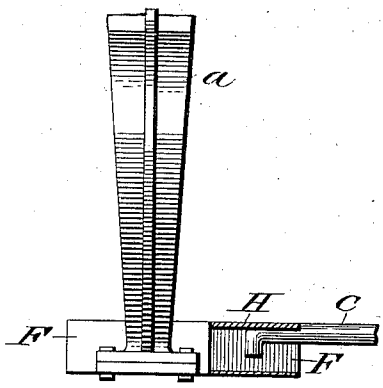


Fig. 10.



WITNESSES:

P. F. Dagle.

F. N. Dixon.

INVENTOR

Isidore Birge,

By his Attorneys,

M. C. Crawford

J. Bonsall Taylor

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ISIDORE BIRGE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE TRANSIT APPARATUS COMPANY, (LIMITED,) OF SAME PLACE.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 366,145, dated July 5, 1887.

Application filed March 12, 1887. Serial No. 230,585. (No model.)

To all whom it may concern:

Be it known that I, ISIDORE BIRGE, a citizen of the United States, residing in the City and County of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Store Service Apparatus, of which the following is a specification.

My invention is especially applicable for employment with that class or variety of store service apparatus in which separate single outgoing tracks, usually each composed of but a single wire and usually devoid of switches, run from a combined receiving and dispatching desk, terminal, or central, station, to their respective counters, and in which similar separate single returning tracks run back from the respective counters to the central station or desk.

The principal object of my invention is the construction of a multi-armed bracket for supporting in close relationship a series of rails, and which, while simple and inexpensive, shall also be rigid so as to support heavy materials contained in the carriers which travel along the rails. My brackets, retaining the same general construction, can yet be provided with any desired number of depending arms so as to present a uniform general appearance.

A further object of my invention is the provision of a simple and efficient means whereby such splicing or piecing of the wires, of which, as above stated, the rails are usually composed, or such connection of them to station terminal rails, or to the supporting brackets, as may be necessary,—can be accomplished without leaving breaks in the bearing surface of said rails.

Apparatus embodying a good form of my invention is represented in the accompanying drawings and described in this specification, the particular subject matter claimed as novel being hereinafter definitely specified.

Figure 1 is a front elevational detail of a bracket embodying my invention and adapted to support eight tracks. Fig. 2 is a similar view of a bracket of the same character, adapted to support six tracks. Fig. 3 is a fragmentary side elevational view of the bracket of Fig. 2. Fig. 4 is a diagram showing a system of single outgoing tracks in connection with which my improvements are employed. Figs. 5, 6, and 7, are respectively a perspective, a side elevation, and a longitudinal central sectional elevation, of a short rail section of the character to which I resort, and the devices for securing the ends of the wires composing the tracks to said section. Fig. 8 is a view similar to Fig. 5 with the bridge piece raised and the wires of the rails removed. Fig. 9 is a perspective view of a ferrule to which I resort for retaining the wire of the rail in place upon the rail flange or short section. Fig. 10 is a longitudinal, partly sectional and partly elevational, view of the device represented in Fig. 9, and the bracket for supporting it.

Referring to the drawings, A designates a bracket cast or otherwise formed, and preferably supported by a single suspender B from the ceiling of the apartment, or from such other point as the surroundings may require. The bracket is composed of a transverse head or yoke, which is designated by the letter A, from which depend a series of suitably formed hangers *a* adapted to support the tracks C,—each of which is preferably a single wire running direct to a given receiver D in proximity to and accessible from a particular counter. Each hanger in the form under discussion (with the exception of the outside or end hangers), may be described as deltoid, or as approximately delta-shaped. The two end hangers are simply single bars each adapted to support but a single rail, and each as to its lower end slightly bent inward or towards the center of the bracket in order to give symmetry to the whole. The intermediate hangers, which, as stated, are each delta-shaped, are each provided with two tracks attached in any preferred manner to their opposite sides or lower ends, and the adjacent hangers approach each other so closely that the opening between them in the neighborhood of the points of attachment of the rails, which opening I have designated $a^{\times}$, is considerably less than the opening between them above the rails and nearer to the transverse yoke,—which openings or interspaces I have designated $A^{\times}$. The object of thus enlarging the opening

between the hangers in the region above the level of the tracks, and which enlargement gives to the hangers their deltoid form, is to afford room for the oscillation in either direction of the wheel E of a carrier, without rendering it possible for a wheel happening to pass between the hangers at an angle, to strike that side of the hanger towards which it inclines. The yoke of these multi-armed brackets can, of course, be made of any desired length, so as to adapt them to be provided with any desired number of hangers and tracks. The bracket is primarily intended to be used as a station terminal to which a number of wires converge, but it is obvious that it can be used simply as a supporting bracket where a number of wires running close together are to be supported in such close relationship.

In order conveniently to secure the wire rails to the supporting bracket, I resort to the expedient of fixedly applying in any preferred manner,—conveniently by a horizontal web $f^{\times}$, secured by bolts f^{2} to a corresponding web a^{2} on the hanger,—to each hanger a short section F of solid rail, not being a wire but a vertical flange of considerable depth, and conformed on its carrying surface to the carrier wheel,—and, where the bracket is used as a station terminal, secure the end of a wire rail to said flange, and again where the bracket is used as an intermediate support of the lines, secure the ends of two wire rails together forming a continuous portion of track, to the respective ends of said flange or short rail section. This securing of a wire to the solid rail section or flange is accomplished by providing said rail section with a hole or opening *f* through its depth or downward into it, and then bending and entering the end of the wire into said hole and securing it by a bridge piece or cap, G, or by a ferrule H. The upper surface of the flange is preferably guttered a short distance and up to the hole, so that the carrying surface of the wire lies in the gutter while its bent end lies within the hole. The cap or bridge piece fills the gap in the carrying surface of the rail and affords a smooth bearing surface for the carrier wheel. The cap may vary in shape, and mode of application, according to the configuration and location of the space it is required to bridge or fill. The cap may be secured by a screw, *g*,—or a ferrule H, such as shown in Fig. 9, may be slipped bodily over the joint, and used as a substitute for the cap. The bent end of the wire preferably extends completely down through the block as shown in Fig. 7 but it may be simply hooked into a notch or other suitable recess as shown in Figs. 9 and 10. It is apparent that a hole or opening, a notch, or a recess, are equivalents in that they all form seats for the reception of the ends of the wire rails. This method of uniting wire rails to the solid rail sections, which are in turn supported by the hangers of the bracket, can, of course, be utilized both at the station terminals and the intermediate supporting brackets.

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

1. A store service bracket for supporting a series of rails, consisting of a yoke or transverse head provided with a supporting suspender and also provided with a series of depending hangers equipped with a series of short rail sections numerically greater than the hangers composing the series of hangers, substantially as set forth.

2. A store service bracket for supporting a series of rails, consisting of a yoke or transverse head provided with a series of depending hangers of which series the outside hangers are each provided with a single short rail section while the intermediate hangers are each provided with two short rail sections, substantially as set forth.

3. In a store service apparatus, a bracket for supporting a series of rails, consisting of a yoke or transverse head provided with a series of depending hangers provided with short sections of rails having seats for the reception of the ends of wire rails, in combination with a series of wire rails entered within said seats, substantially as set forth.

4. A store service bracket for supporting a series of rails, consisting of a yoke or transverse head from which depend a series of hangers of such form as to present by pairs divergently inclined opposing sides, the intermediate hangers of the series being each provided with two short rail sections for attachment of wire rails, and the end hangers each provided with but one rail section, substantially as set forth.

5. A store service bracket for supporting a series of rails, consisting of a yoke or transverse head provided with a series of depending hangers provided with short rail sections having seats for the reception of the ends of wire rails, said hangers being so formed that the interspaces between them are wider at the top than at the bottom, substantially as set forth.

6. In a store service apparatus, a bracket for supporting a series of rails, a yoke or transverse head from which depend a series of hangers, each (with the exception of the two end hangers) of approximately delta-like outline and adapted to support two rails, the said yoke or transverse head being itself supported by a single central suspender, substantially as set forth.

7. In a store service apparatus, in which wire is used for the main body of the rails, the combination of a block or section of rail not wire, provided with a hole into which the end of the wire may be inserted, with a removably applied bridging piece formed and adapted to be secured at their junction to both the rail section and the wire in such manner as to bridge the gap in the bearing sur-

face of the continuous rail formed by said joint, substantially as set forth.

8. As a contrivance for securing a wire to a web or terminal portion of a flat track, a wire having a hooked end, a track having a notch in its terminal portion, and a cap piece adapted to retain the hooked extremity of the wire in the notch, substantially as set forth.

In Testimony Whereof I have hereunto signed my name this eighth day of March A. D., 1887

ISIDORE BIRGE

In the presence of

J BONSALL TAYLOR
WM C STRAWBRIDGE