

(No Model.)

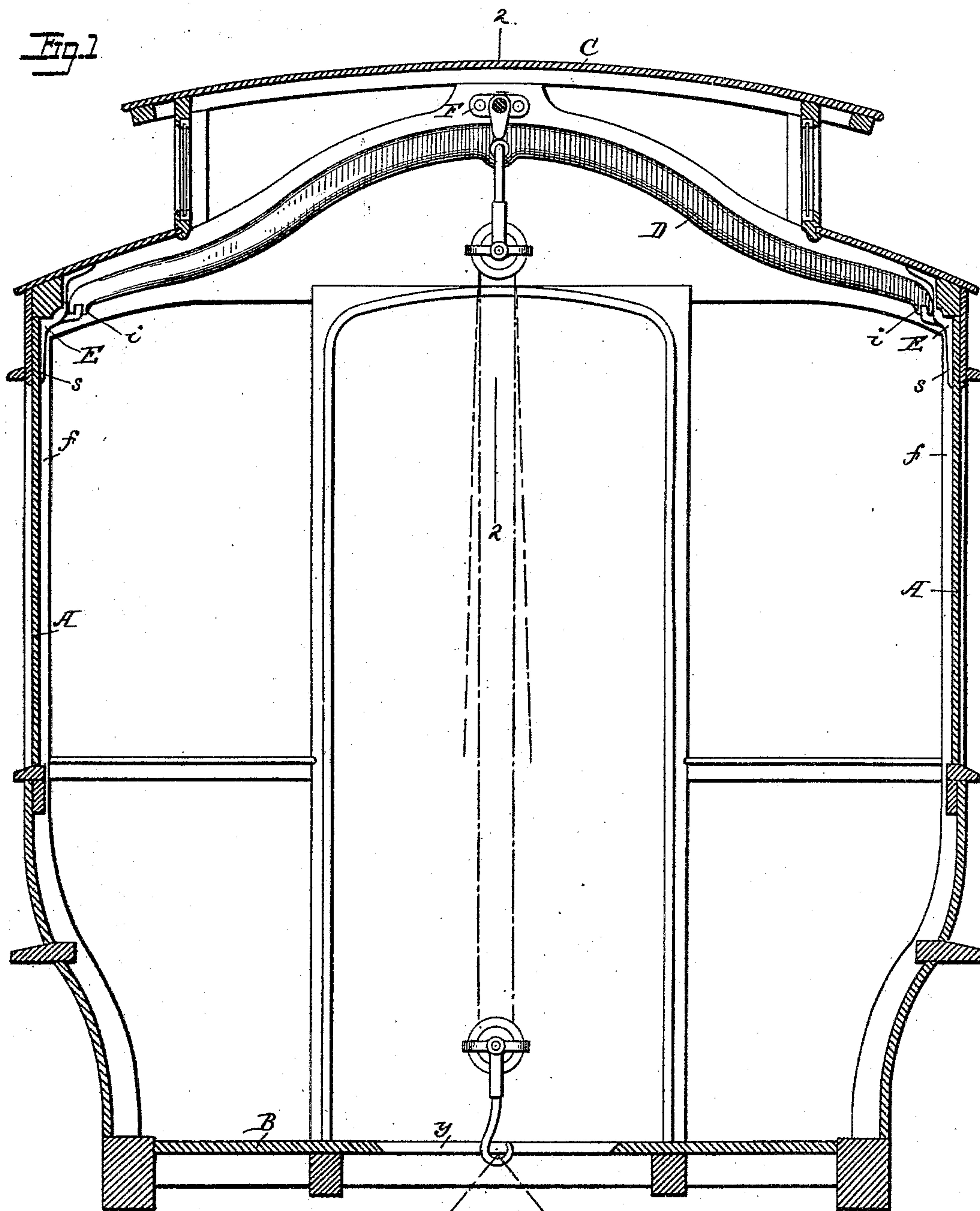
2 Sheets—Sheet 1.

J. STEPHENSON.

GRIP HOISTING ARCH BAR FOR CABLE CARS.

No. 411,907.

Patented Oct. 1, 1889.



Witnesses

Prof. G. Hinkel
Georgia P. Kramer.

Inventor

John Stephenson,

By his Attorneys

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Zita & Herman

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Fig. 2.

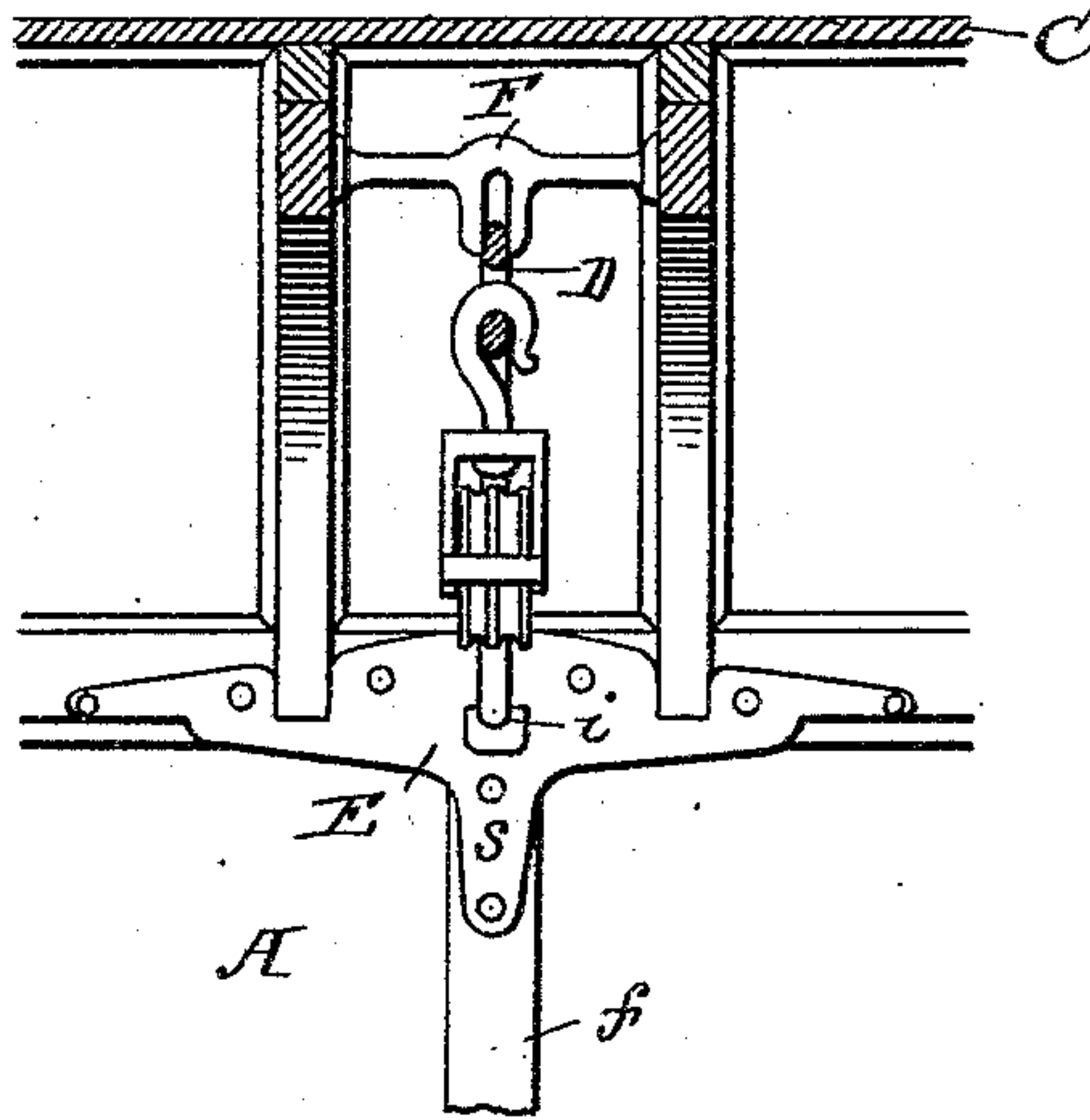
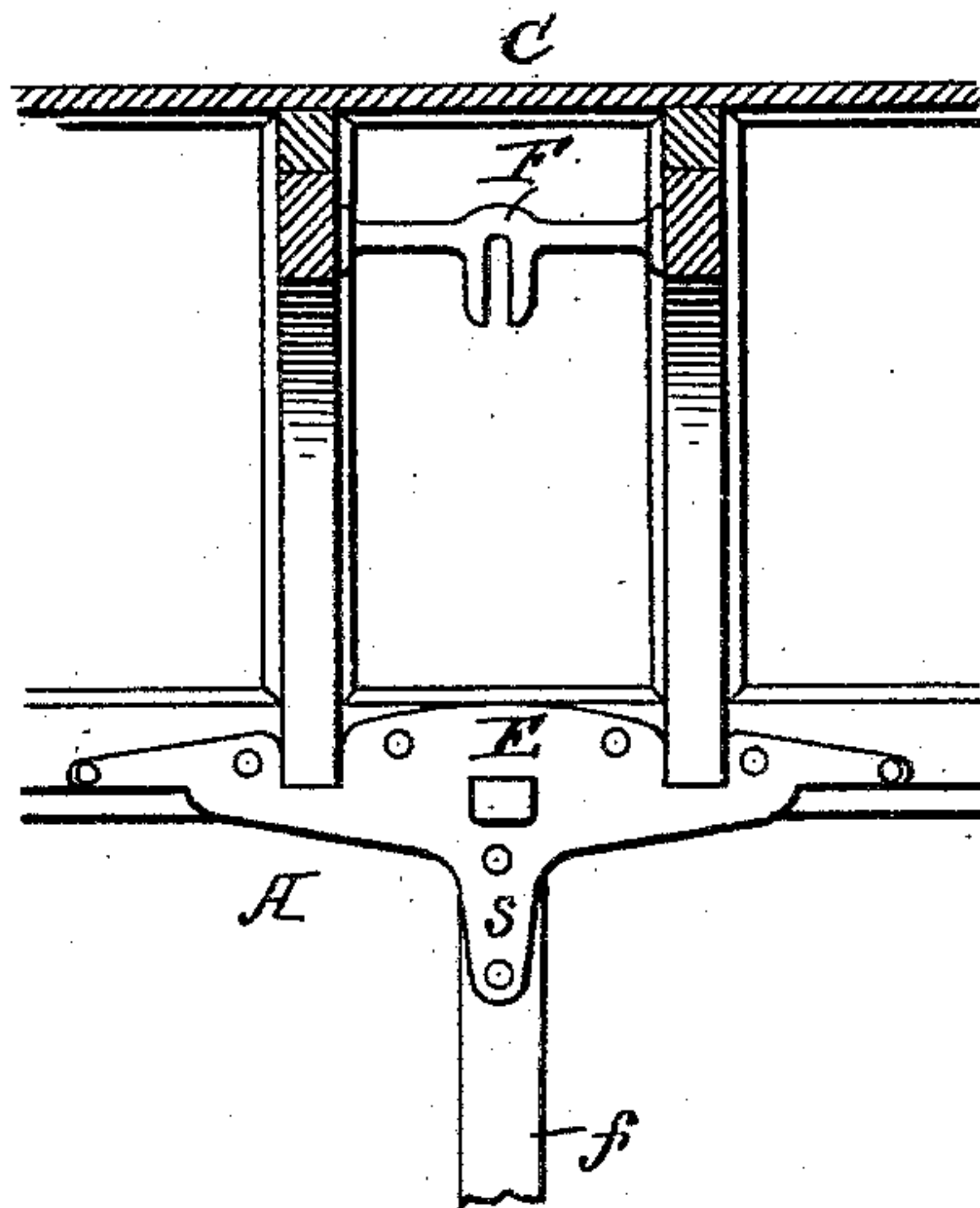


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN STEPHENSON, OF NEW YORK, N. Y.

GRIP-HOISTING ARCH-BAR FOR CABLE CARS.

SPECIFICATION forming part of Letters Patent No. 411,907, dated October 1, 1889.

Application filed July 20, 1889. Serial No. 318,113. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEPHENSON, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Grip-Hoisting Arch-Bars, of which the following is a specification.

The grip-machine of a cable car is a detachable instrument, and is usually separated from the car at the terminus of each circuit of the road. In some cases the grip-machine is let loose from the car and allowed to remain in the slot-rail of the road while the car is moved away and another car takes its place with possession of the released grip-machine; but in this case the grip-machine is adapted to be lifted up and out of the car, which is sometimes done by the hands of one or two attendants; but as now made the grip-machine is of such weight as to require the aid of a tackle in removing it. As tram-car roofs are frail structures, I have found it necessary to transfer the tackle-support to the side walls of the car-body, and for this purpose I provide a metal arch-bar conforming approximately to the outline of the car-roof. This arch-bar reaches from side to side of the body, and it has at each end a hook and eye or tenon and mortise or other form of connection to a metal plate secured to the side wall of the car-body, preferably fastened to the side top rail, side pillar, head-panel, or parts adjacent. The central part of the arch-bar has an eye or other support for the temporary hanging of a tackle adapted to be used in lifting the grip-machine, and the crown of the arch-bar is held steadily by a brace fastened to rafters or some part of the roof structure. These parts may be constructed in any suitable manner, but preferably as illustrated in the accompanying drawings, in which—

Figure 1 is a transverse section of a car-body, showing my improvement and the mode of using it. Fig. 2 is a section on the line 2 2, Fig. 1, looking in the direction of the arrow. Fig. 3 is a detached view of the stay and adjacent parts.

A A are the sides, B is the bottom, and C the top, of the car.

D is the metal arch-bar, having its bearings at the ends in the metallic supports or plates E E, shown as secured to the side top rails

of the car, the ends of the bar having hooks *i* lodged in sockets in the plates, so that the bar may be lifted from its supports without detaching the latter from the car-body. An extension *s* of each plate E is secured to one of the pillars *f*.

F is the brace or stay secured to the rafters of the roof and socketed or provided with a bearing for the arch-bar, holding the latter firmly in position without interfering with its ready removal when required.

In the car-floor is an opening for the passage of the cable-grip machine, which opening is closed by a trap *y*.

The tackle is shown supported from the arch-bar and connected with the grip-carrier X.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. A car having as part of its apparatus a cable-grip machine, and above it an arch-bar adapted to support a tackle for lifting the cable-grip machine, substantially as and for the purpose described.

2. A car having a cable-grip below the car-floor with opening through the floor sufficient for the passage of the cable-grip machine, and over the machine and connected with the upper part of the car structure an arch-bar suitable for holding a tackle adapted to hoisting and lowering the grip-machine in and out of place in the car, substantially as and for the purpose described.

3. A car having above a cable-grip machine an arched bar with its ends supported by the side walls of the car-body, substantially as and for the purpose described.

4. A car having a tackle-supporting arched bar with its ends lodged in metal plates secured to the side top rails of the car-body, substantially as and for the purpose described.

5. A car having a tackle-supporting arch-bar immediately beneath the car-roof, with the ends of the arch-bar lodged in sockets or metal plates secured in part to the side pillar or other portion of the car-body, substantially as and for the purpose described.

6. A car having a tackle-supporting arch-bar immediately beneath the car-roof, with the end of the arch-bar connected to a metal plate or socket secured to the side wall struct-

ure of the car-body by a detachable connection, permitting removal of the arch-bar without affecting the metal plate or socket union with the car-body, substantially as and for the
5 purpose described.

7. A car having a tackle-supporting arch-bar with and a stay for supporting the crown of the arch, and adapted to permit the arch-bar being removed or withdrawn from its
10 place without disturbing the crown stay or

brace, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN STEPHENSON.

Witnesses:

S. A. STEPHENSON,

CHARLES E. FOSTER.