

No. 836,995.

PATENTED NOV. 27, 1906.

G. G. SCHROEDER.
AERIAL TRAMWAY.

APPLICATION FILED JUNE 25, 1906.

5 SHEETS—SHEET 1.

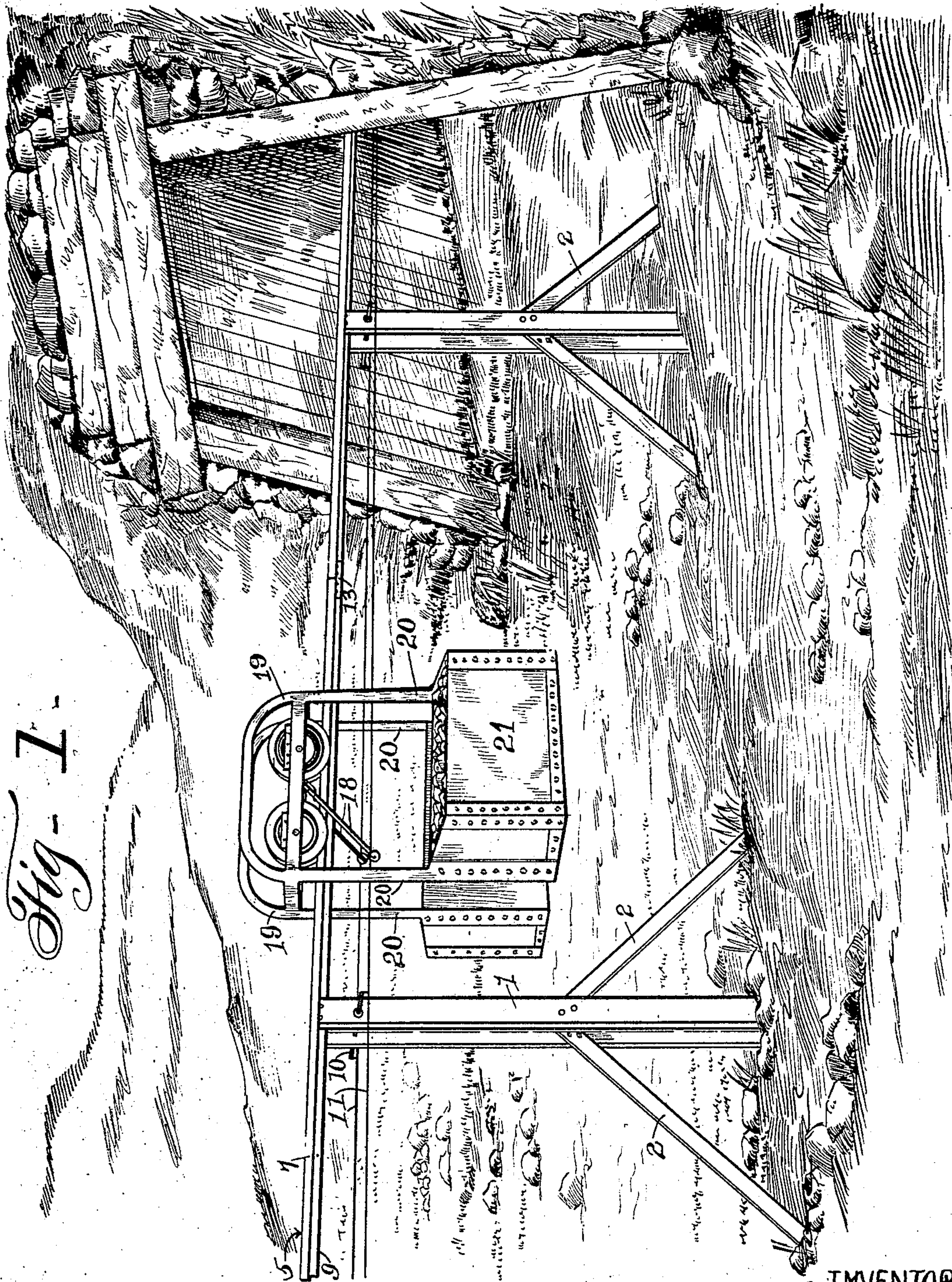


Fig. 1.

WITNESSES.

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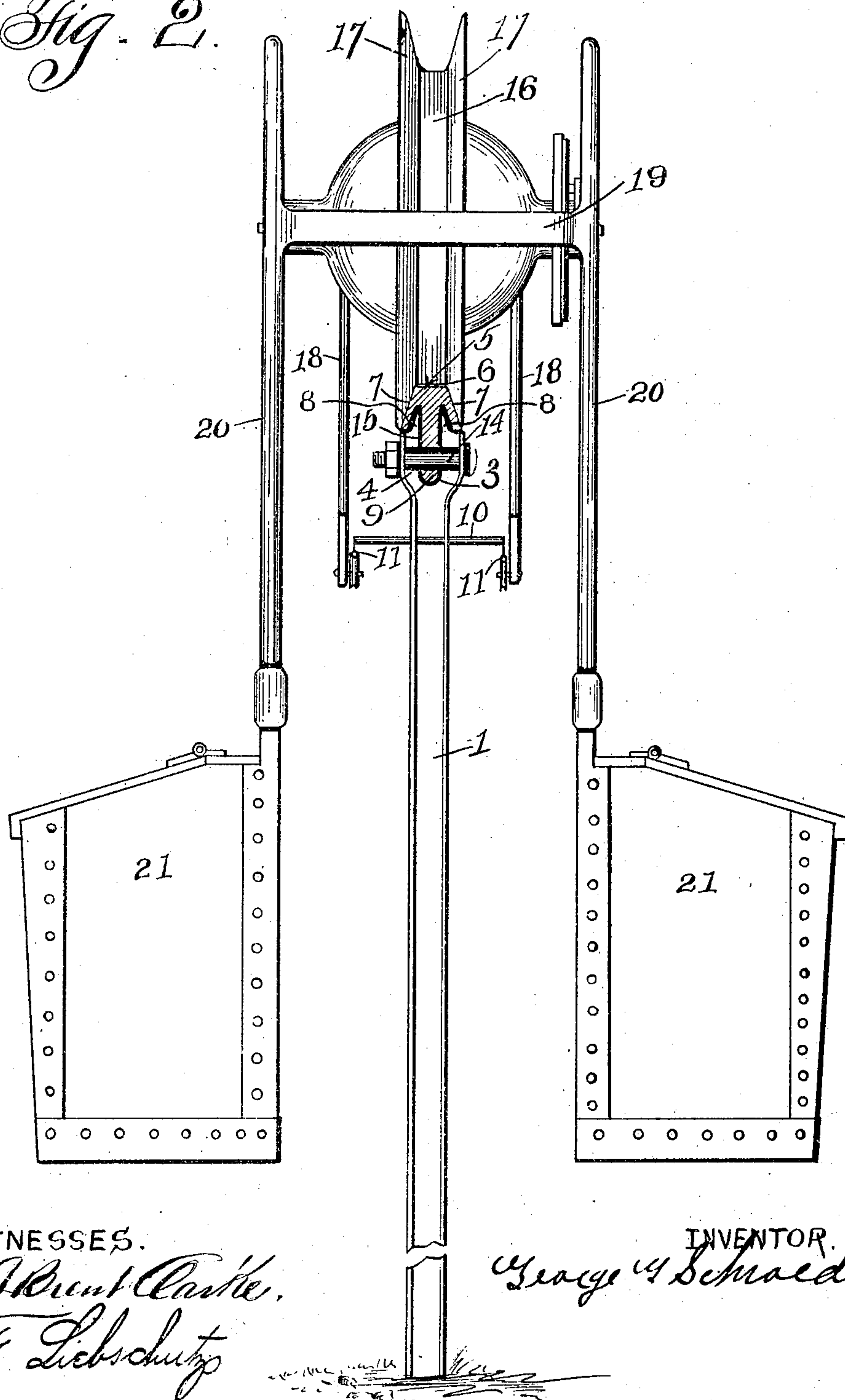
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5 SHEETS—SHEET 2.

Fig. 2.



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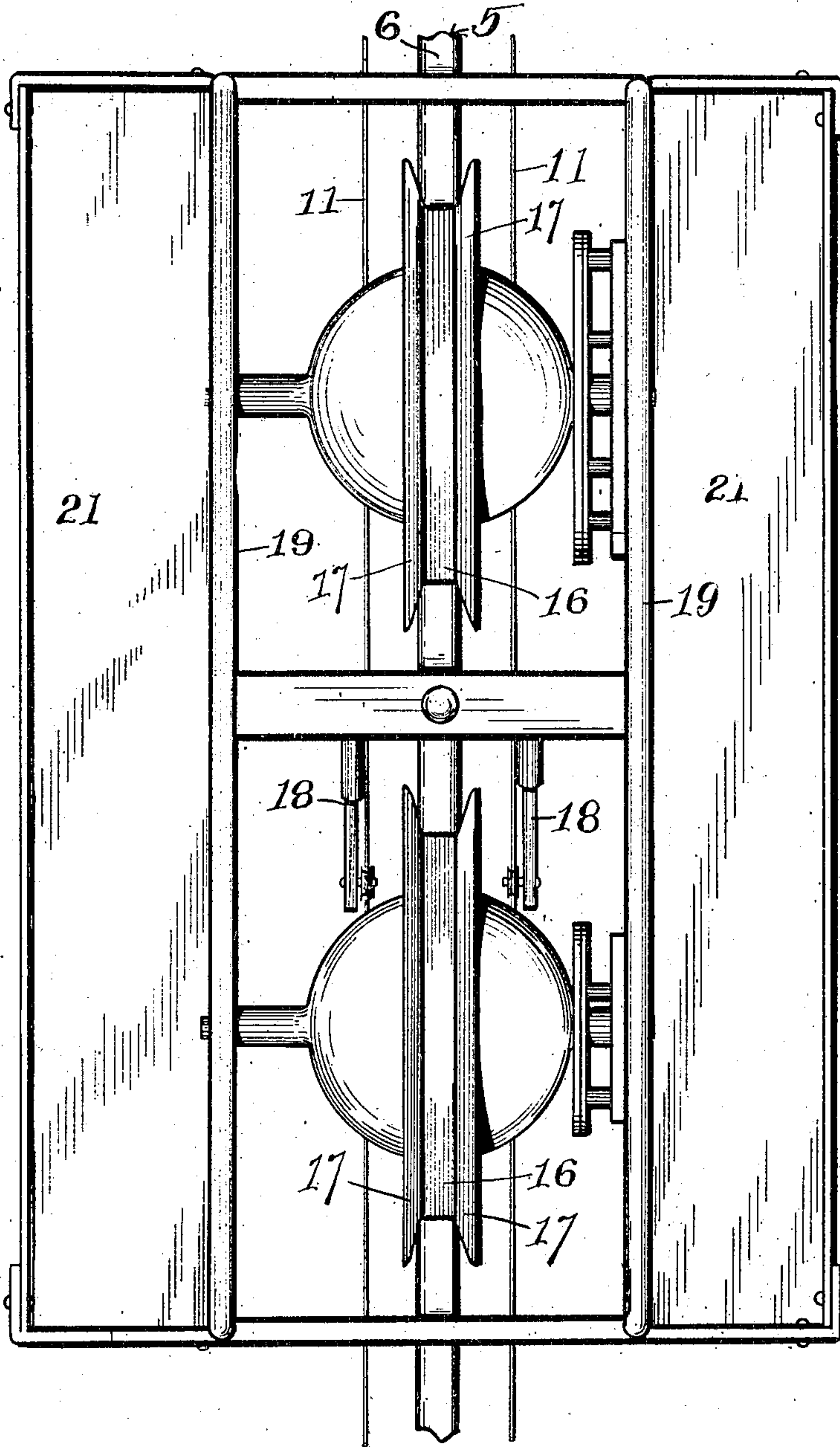
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6 SHEETS—SHEET 3.

Fig. 3.



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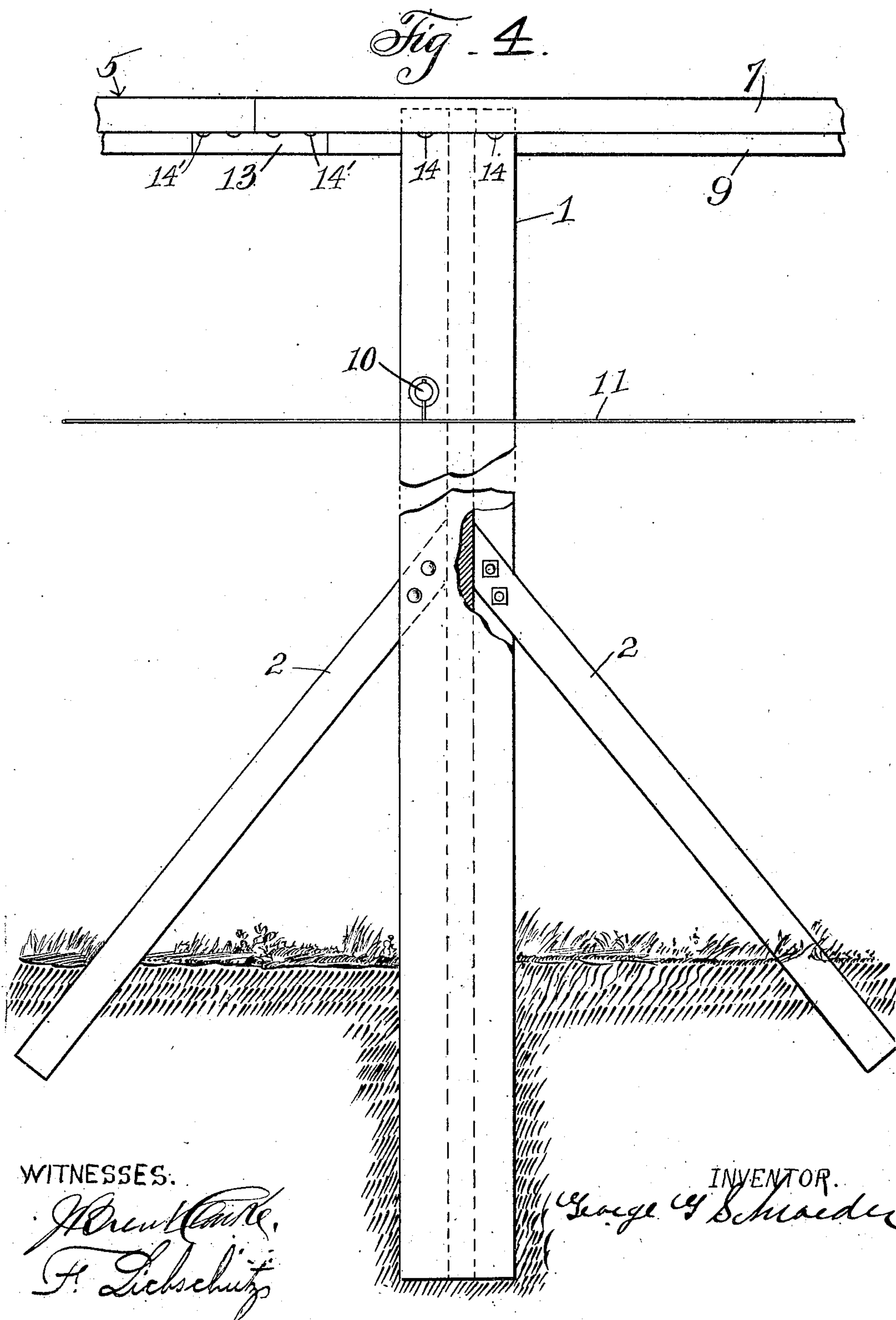
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5 SHEETS—SHEET 4.



WITNESSES.

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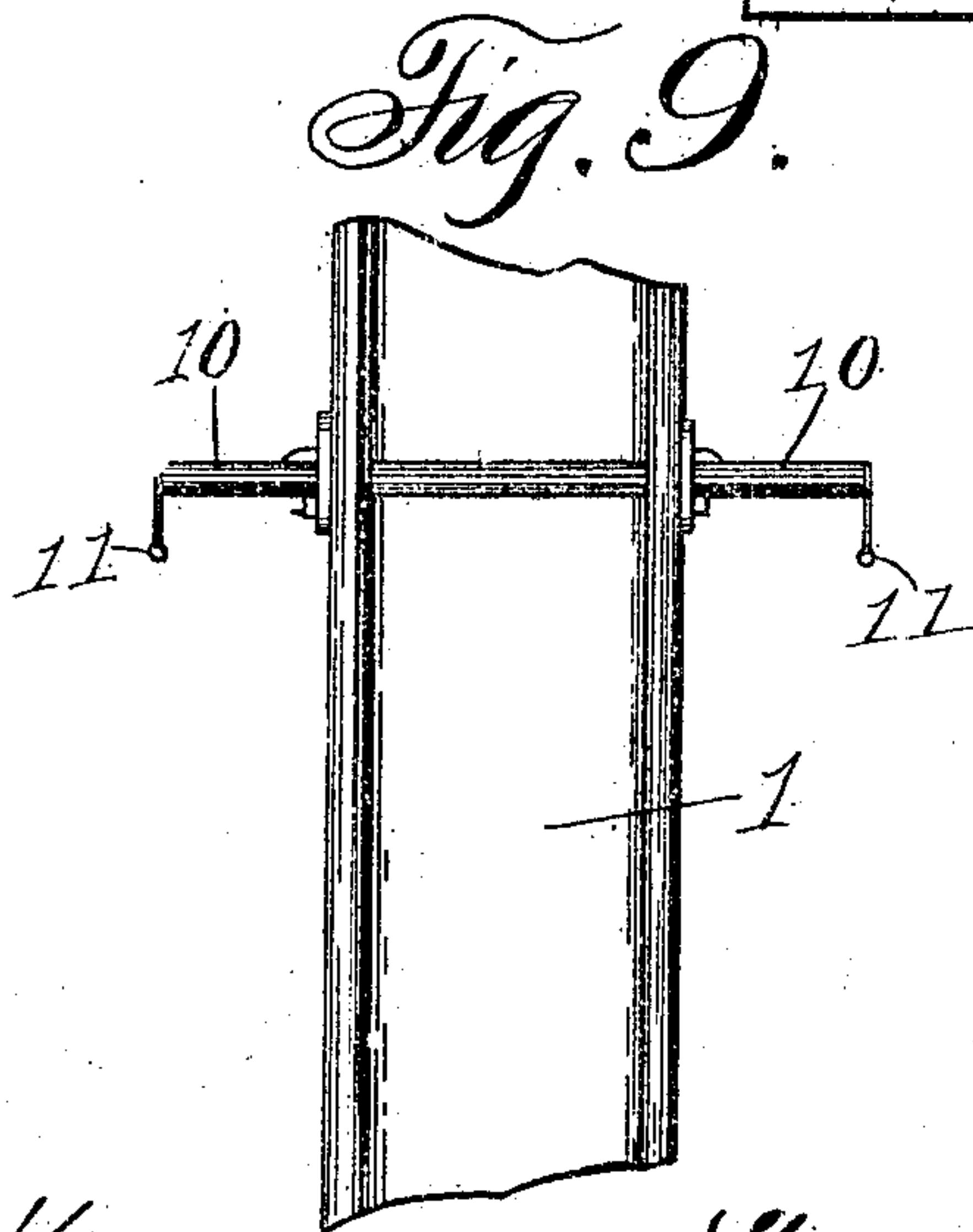
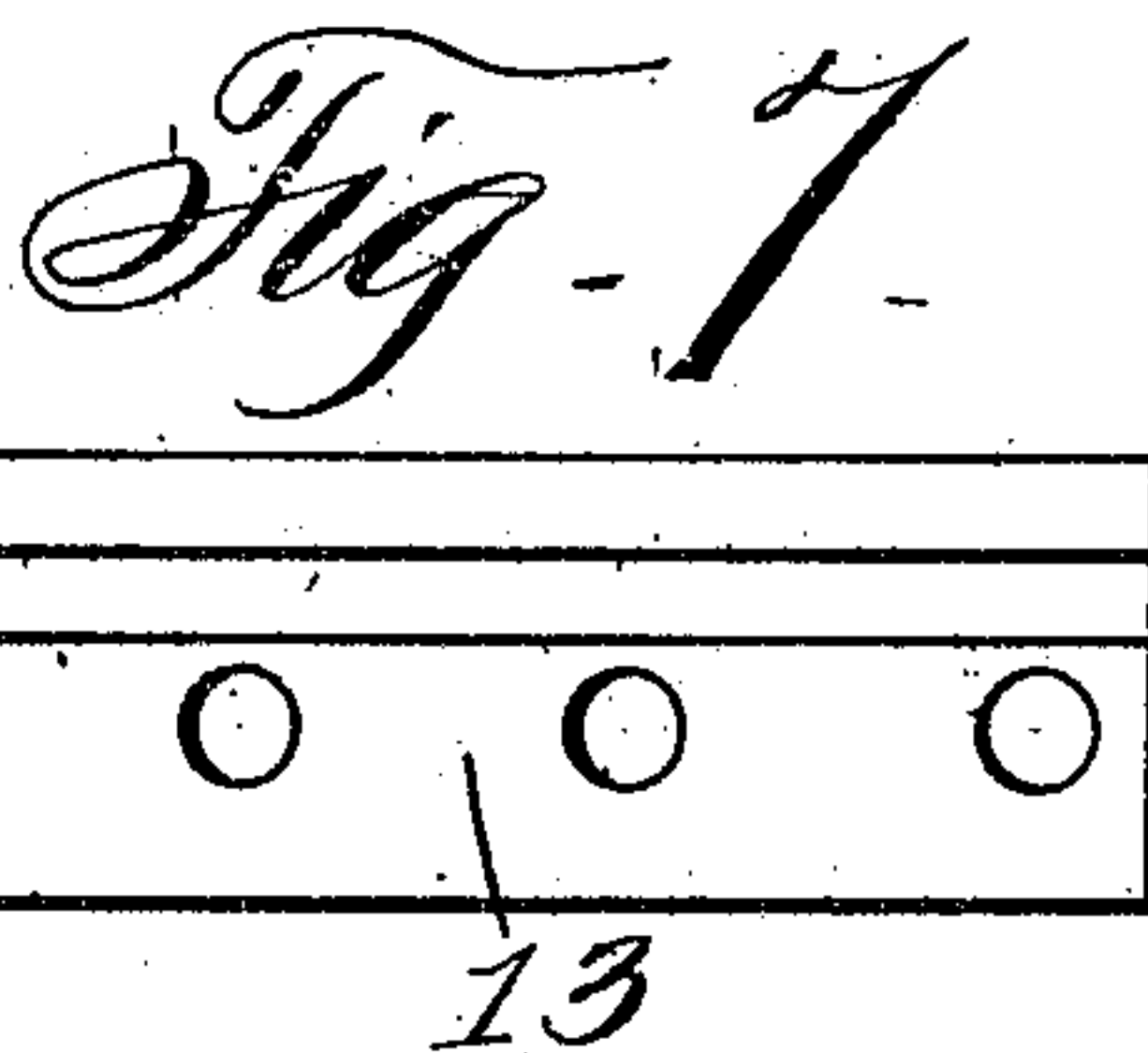
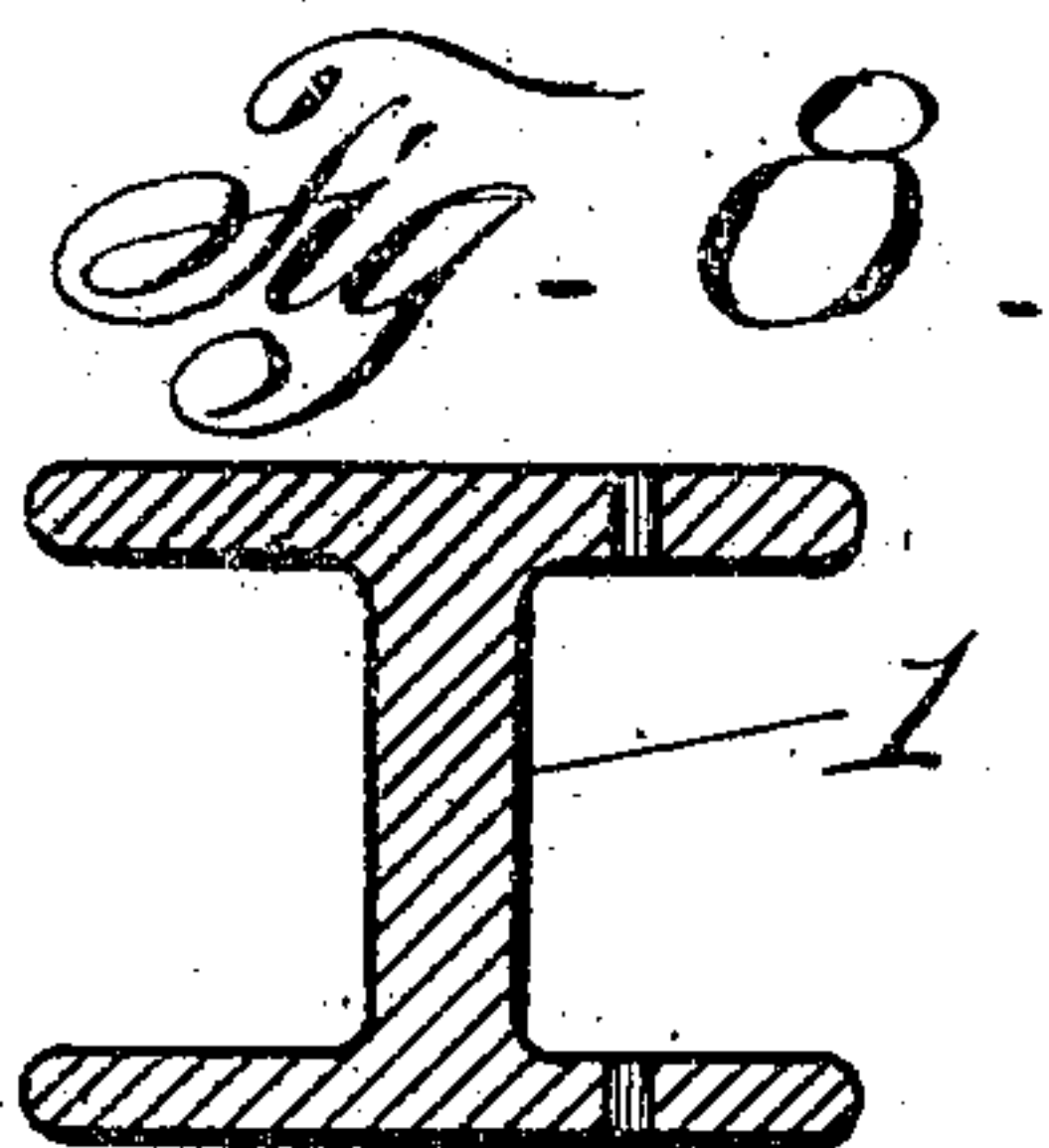
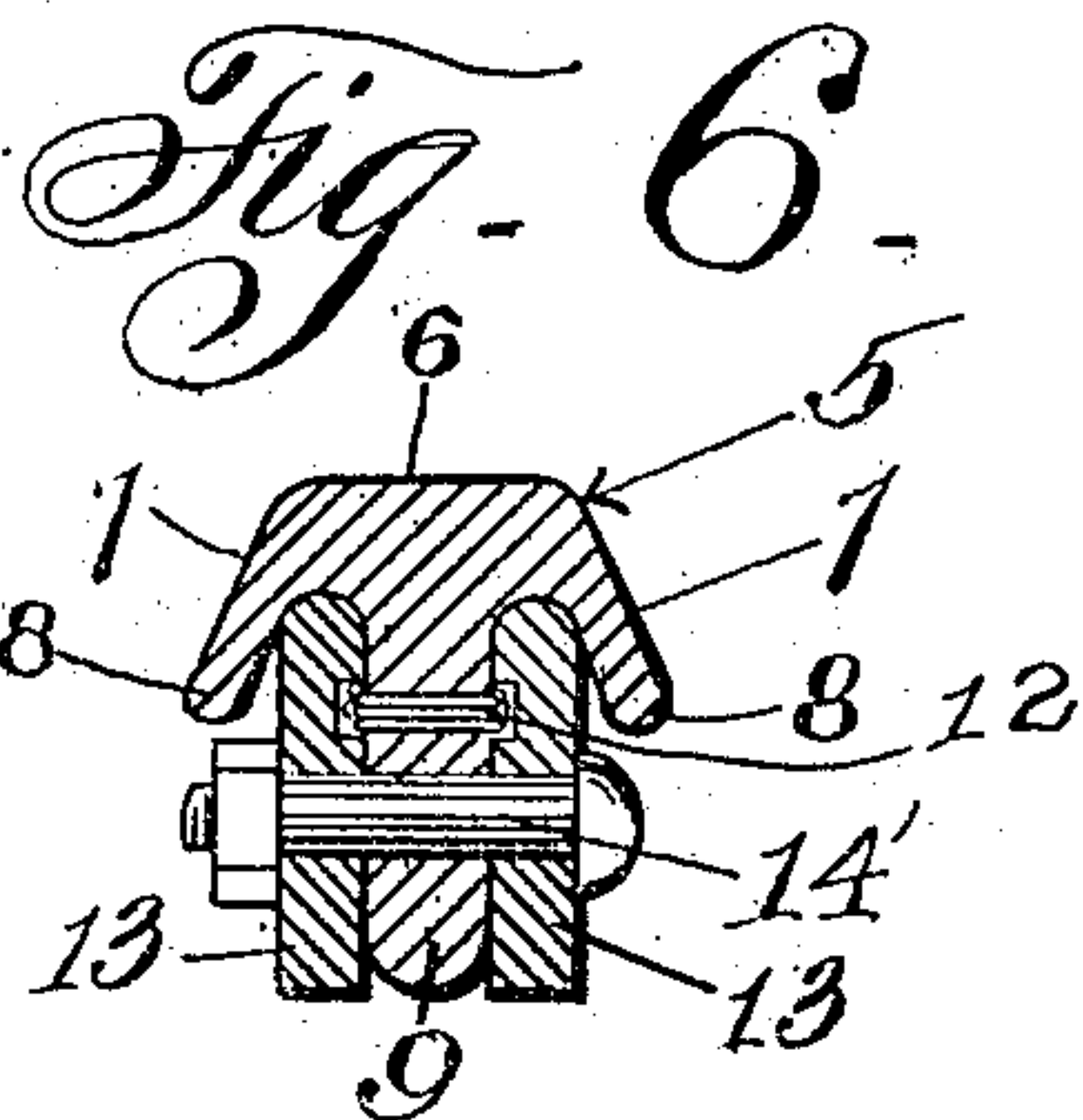
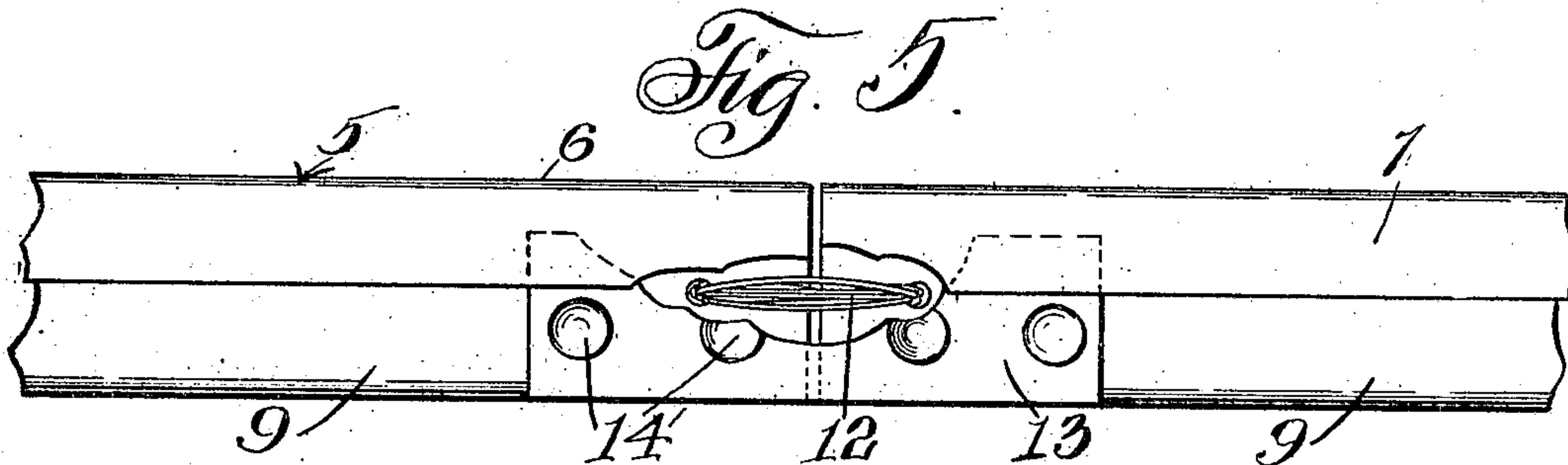
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6 SHEETS—SHEET 5.



WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE G. SCHROEDER, OF WASHINGTON, DISTRICT OF COLUMBIA,
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AERIAL TRAMWAY.

No. 836,995.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed June 25, 1906. Serial No. 323,242.

To all whom it may concern:

Be it known that I, GEORGE G. SCHROEDER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Aerial Tramways, of which the following is a specification.

This invention has relation to aerial tramways; and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a tramway of the nature as stated which is especially adapted to be used for mining purposes and for transportation to and from mines.

The invention consists primarily of an elevated track or rail of special formation, which is supported upon vertically-disposed I-beams. The said beams are provided with socketed upper ends, the sockets of which are adapted to receive the depending body of the rail. The side flanges of the sockets project into spaces formed between the body of the rail and the webs or flanges formed therewith, the outer faces of the flanges of said sockets being formed with seats to receive said webs and conforming thereto. In this manner the rail is effectively braced and supported. The upper ends of the beams are first slit and then expanded to form the sockets. Suitable insulation is interposed between the rail and its supports, as the rail is used as a ground-return for the current employed for the purposes of propelling the motors or cars that run upon the track. At the joints of the rails side fish-plates are employed. Said fish-plates are provided with longitudinally-extending grooves, which receive electric bonds and house the same. The ends of the said bonds are in contact with the ends of the adjacent rails, said connection being effected in the usual manner. The lower ends of the I-beams are embedded in the ground, and suitable braces extending in the line of the track are provided at the lower ends of the said beams.

From the following description other objects and advantages will appear as the features of the invention are revealed.

In the accompanying drawings, Figure 1 is a scenic view of the tramway associated with a mine. Fig. 2 is a transverse sectional view

of the tramway, showing a motor in elevation thereon. Fig. 3 is a top plan view of a section of the tramway, showing the motor thereon. Fig. 4 is a side elevation of one of the track-supports with parts broken away. Fig. 5 is a side elevation of the meeting ends of the track-rails with parts broken away. Fig. 6 is a transverse section of a rail with the fish-plates attached thereto. Fig. 7 is a side elevation of the inner face of a fish-plate. Fig. 8 is a horizontal sectional view of the I-beam, and Fig. 9 is a side elevation of an intermediate portion of an I-beam.

The track-supports consist of the I-beams 1 1, which are embedded at their lower ends in the ground. At suitable intervals the said I-beams are provided with the braces 2, which are bolted or otherwise secured at their upper ends to the side flanges of the beam and extend downward in the line of direction of the track and are embedded at their lower ends in the ground. The incision or slit 3 is formed at the upper ends of the said beams, and the said upper ends of the beams are expanded or spread laterally, as at 4.

The track-rails 5 are provided with the top flat surfaces 6 and the side inclined webs or flanges 7 7. The central body 9 extends down from the head of the rail 5 and at its upper portion is spaced from the inner faces of webs 7. The extremities 8 of the split portion of each beam 1 are shaped to fit between the flanges 7 and body 9 and form seats for the lower edges and inner faces of said webs.

The arm 10 is suitably secured at an intermediate point in laterally-disposed perforations bored in the flanges of the I-beams 1. The electric wires 11 11 are supported by the outer ends of the said arm 10. The said wires extend parallel to the track of the tramway.

At the ends of the track-rails 5 5 the electric bonds 12 are located. The said bonds have their ends secured in perforations provided in the ends of the opposite rails. At the ends of the said rails the fish-plates 13 13 are bolted. The said plates are located under the heads of the rails and in the spaces between the body 9 and the side webs 7. The bolts 14 14 pass through registering perforations in the body 9 and the flanges of the I-beam 1 and secure the rails 5 to the upper ends of the said supports. The insulation 15

is interposed between the under surface of the rail 5 and the upper end of the support 1 and also around the bolts 14.

The motor or carrier consists of the traction-wheels 16, which run upon the rail 5 and are provided with the side flanges 17, which bear against the outer surfaces of webs 7 7 and prevent any tendency of lateral rock in the motor. The electric current is transmitted to the motor over the wires 11 11 and is carried to the fields of the motor (not shown) by the trolley-arms 18 18 and is grounded over the track 5. The frame 19 is mounted upon the motor and straddles the track 5 and is provided with the depending hangers 20 20, to the lower ends of which the buckets 21 are attached. As the said motor and its construction form no part of this invention, it is deemed unnecessary to go into detail description of the same here.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A monorail-tramway comprising uprights having their upper ends split and expanded to form sockets, and a rail of substantially arrow form in cross-section having its body fitting in the split portions of said uprights.

2. A monorail-tramway comprising uprights having their upper ends split and spread to form sockets, and rails having depending, outwardly-sloping flanges, the body portions of said rails being secured in the split portions of said uprights.

3. A monorail-tramway comprising uprights having their upper ends split and expanded to form sockets, and rails having flat top surfaces and outwardly-sloping flanges depending from said top surface, the body portions of said rails being secured in the split portions of said uprights.

4. In a tramway, an elevated monorail comprising rails, bonds electrically connecting the rails together, beams supporting the rails and having their upper ends split and expanded to form sockets which receive said rails, and insulation interposed between the beams and the rails.

5. In a tramway, an elevated monorail comprising rails having spaced-apart webs forming side flanges and depending integral bodies interposed between said webs, bonds electrically connecting the rails together, beams supporting the rails and having at their upper ends sockets which receive the rail-bodies, the upper ends of the beams fitting between the flanges and the body of the rail.

6. In a tramway, an elevated monorail

comprising rails having inclined spaced-apart webs forming side flanges and central depending integral bodies interposed between said webs, bonds electrically connecting the rails together, beams supporting the rails and having at their upper ends sockets which receive the rail-bodies, the upper ends of the beams fitting between the flanges and the body of the rail.

7. A monorail-tramway comprising rails having spaced-apart webs forming side flanges, and depending integral bodies interposed between said webs and spaced from said flanges, and supports for said rails having means for engaging the lower edges of said flanges.

8. A monorail-tramway comprising rails having spaced-apart webs forming side flanges and central depending integral bodies interposed between said flanges, and supports for said rails having means for engaging said bodies and the lower edges of said flanges.

9. A monorail-tramway comprising rails having inclined side flanges and depending bodies interposed between said webs, and supporting-beams having their ends provided with seats for said side flanges.

10. A monorail-tramway comprising rails having inclined side flanges and central depending bodies interposed between said flanges, and supporting-beams having their outer faces provided with seats for said side flanges.

11. A monorail-tramway comprising rails each having spaced-apart webs forming side flanges and an integral depending body interposed between said webs, bonds electrically connecting said webs, and beams having their ends provided with sockets to receive the bodies of the rails, said sockets being also provided with exterior seats for said flanges.

12. A monorail-tramway comprising rails having spaced-apart webs forming inclined side flanges, and depending bodies integral with and interposed between said webs, bonds attached to said bodies, fish-plates located over the bonds and attached to the depending bodies, and means for supporting the rails, said supporting means also engaging the lower edges of said webs.

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

GEORGE G. SCHROEDER

Witnesses:

ELDRULY E. JORDAN,
CARRIE L. MILLARD.