

F. H. CRANE.
TROLLEY POLE ATTACHMENT.
APPLICATION FILED NOV. 23, 1910.

991,957.

Patented May 9, 1911.

2 SHEETS-SHEET 1.

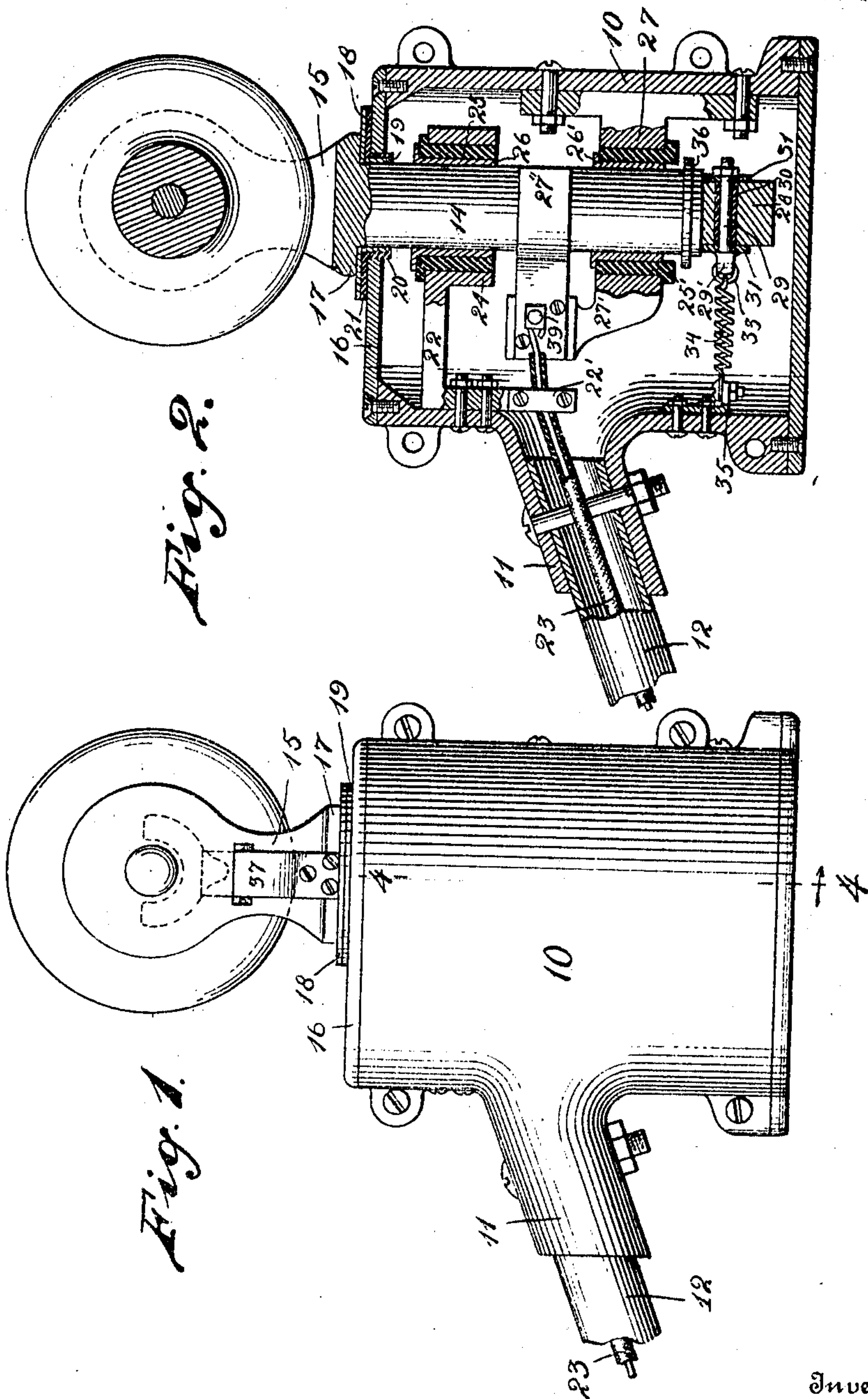


Fig. 2.

Fig. 1.

Witnesses

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Inventor

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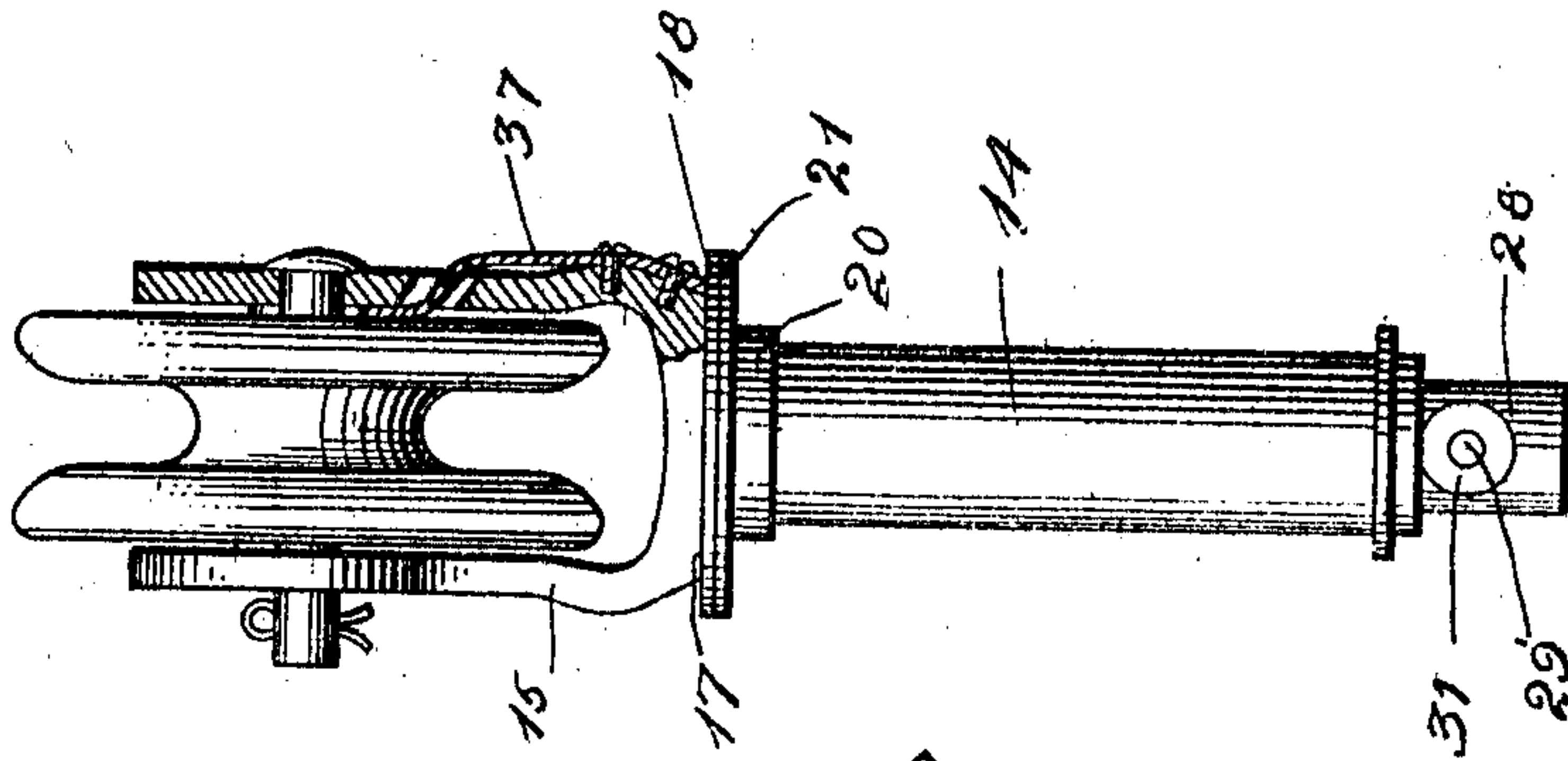


Fig. 5.

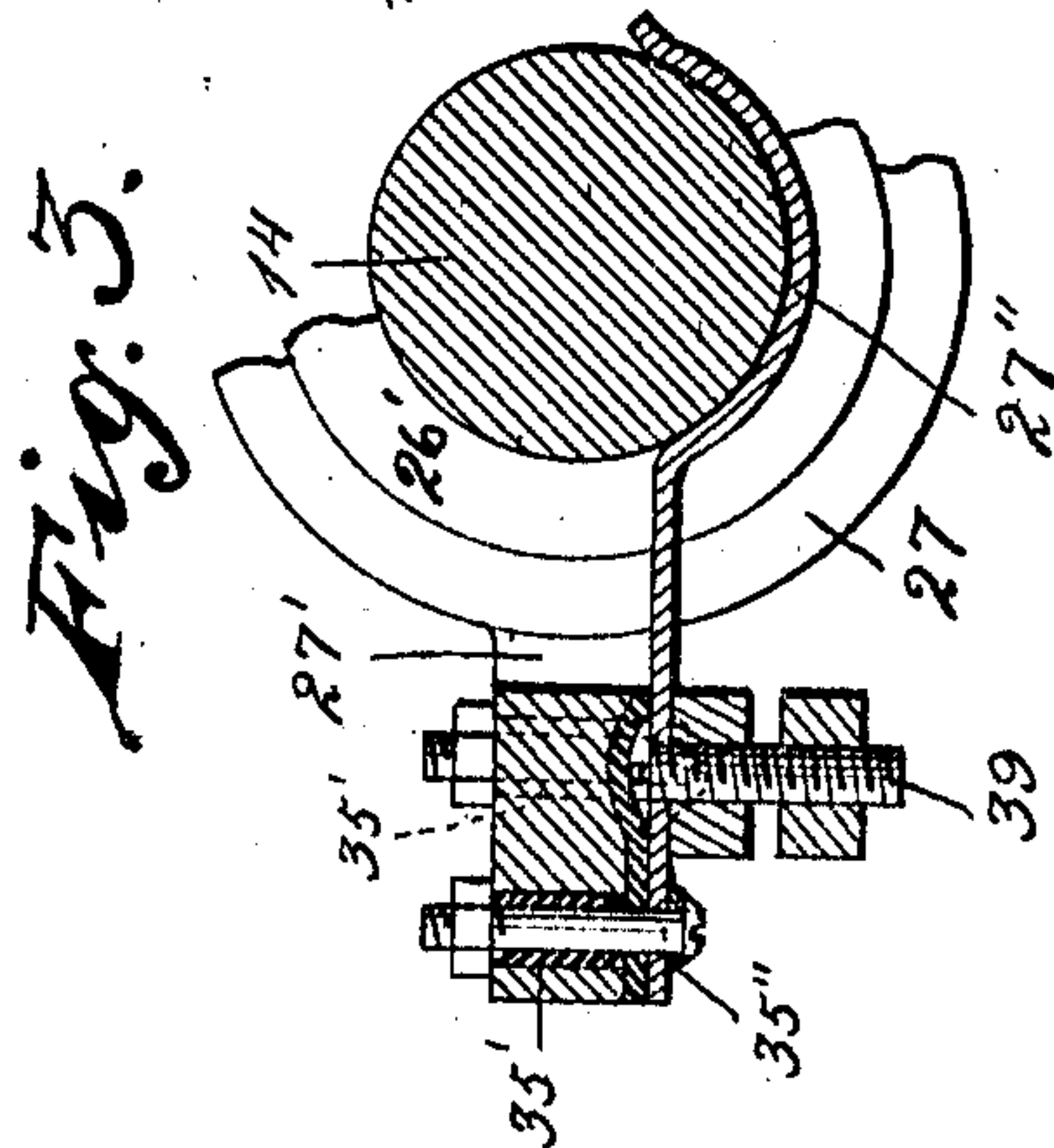
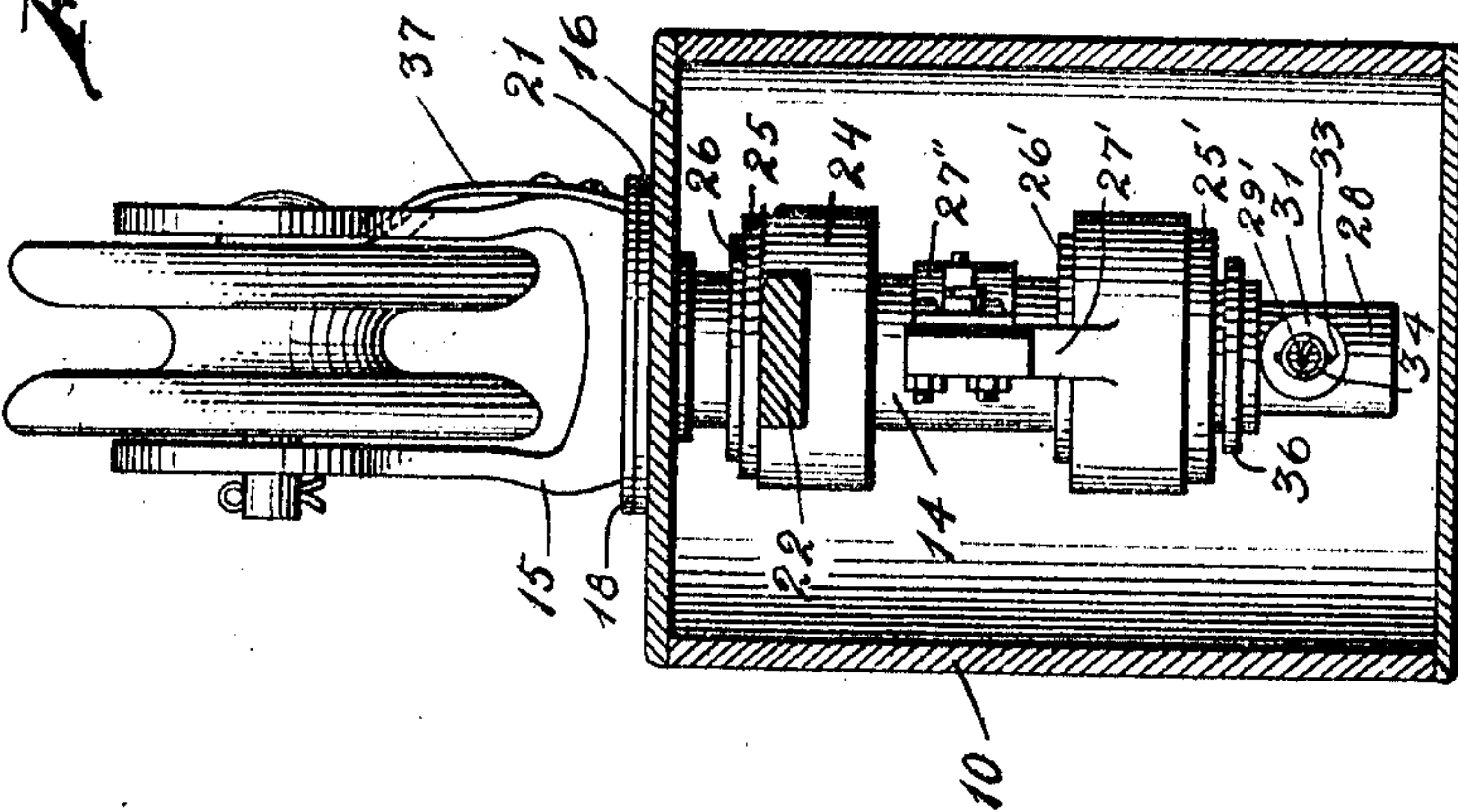


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

FRANK HARRY CRANE, OF CLEVELAND, OHIO.

TROLLEY-POLE ATTACHMENT.

991,957.

Specification of Letters Patent.

Patented May 9, 1911.

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To all whom it may concern:

Be it known that I, FRANK H. CRANE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Trolley-Pole Attachments, of which the following is a specification.

This invention relates to trolley heads, the primary object of said invention being to provide a device of this character which will accommodate itself to curves and which will always maintain a correct position relative to the trolley stand when the wire is removed from the wheel.

In the drawings: Figure 1 is a side elevation of the device, Fig. 2 a similar view partly in section, Fig. 3 a detail view showing the manner of positioning the current transmitting member, Fig. 4 a section taken on the line 4—4 of Fig. 1, and Fig. 5 a detail view of the wheel supporting member removed from the casing.

In the drawings: 10 designates a cylindrical casing which is provided with the hollow offset portion 11, said hollow offset portion being adapted to receive the end portion of a trolley pole 12. The standard 14 of the harp 15 is adapted to extend through an opening formed in the top plate 16 of the casing. A shoulder 17 which is formed integral with the harp being adapted to rest on a suitable wear plate 18, said wear plate and the bushing 19 being insulated from the casing by the bushing 20 and a plate 21 which are formed of hard rubber.

A U-shaped bracket member 22 is bolted to the casing at a point adjacent the extension 11, one arm of said bracket member being adapted to receive the insulated conducting wire 23. The other arm of said bracket being provided with the sleeve portion 24 through which the standard 14 extends, said standard being insulated from said bracket by a bushing 25 of rubber, a metallic bushing 26 being interposed between the staff and the bushing 25. Both of these bushings are provided with annular shoulders to hold the same in position. A bracket 27 is arranged diametrically opposite the bracket 22 and at a point below the same, said bracket being also bolted to the casing 10. This bracket is adapted to support the staff 14 in the same manner as the bracket 22, bushings 25' and 26' being interposed between the same and said staff. It will be

seen from the foregoing that the two brackets form a perfect bearing for the staff 14.

The reduced end portion of the staff 14, 28, is adapted to receive a bolt 29 which is insulated from the staff by a bushing 30 and washers 31. This bolt is provided with the head portion 29' in which is formed a suitable aperture which is adapted to receive a member 33 which is secured to a spring 34, the other end of said spring being connected to a bracket 35 which is bolted to the casing at a point below the hollow offset 11. An annular flange 36 is formed on a staff 14, said flange preventing said staff from rising in its bearings. A contact spring 37 is secured to the staff 14, said spring being in contact with the trolley wheel, thus forming a contact for the staff. The arm 27 is provided with the extension 27' to which is secured a contact spring 27'' said spring being bolted to said extension, the bolts being properly insulated by bushings 35' and washers 35''. The extension 27' extends to a point adjacent the portion 22' of the bracket 22 which supports the conductor 23, said conductor being secured to the contact bolt 39 which is carried by the contact spring 27'' thus conducting the current from the spring contact 37 through the staff 14 and by means of the contact spring 27'' and the conductor 23 to the controller.

The many advantages of a construction of this sort will be clearly apparent as the same will allow the trolley wheel to follow the wire at all times. In making a turn it will be seen that the staff will rotate to compensate for the same and in the event of the wheel leaving the wire it will be seen that the spring 34 will return the wheel to its normal position through the medium of the staff.

Particular attention is called to the peculiar construction and arrangement of the brackets which support the staff as well as the manner of conducting the current to the controller.

What is claimed is:

1. A trolley head consisting of a cylindrical casing, a hollow offset portion formed integral with said casing, said offset portion being adapted to receive one end of the trolley pole, a bracket secured within said casing at a point adjacent the hollow extension, a staff adapted to support a trolley wheel, a sleeve formed integral with said

5 bracket and adapted to form a bearing for
said staff, a second bracket arranged dia-
metrically opposite the first mentioned
bracket, said bracket forming a bearing for
said staff, an extension formed integral with
said bracket, a contact spring on said exten-
sion, said staff being provided with a re-
duced end portion, a bolt passing through
said reduced end portion, a spring connected
10 to said casing and bolt, said spring being ar-
ranged to normally hold the trolley wheel
in alinement with the trolley stand.

15 2. A trolley head consisting of a cylindri-
cal casing, said casing being provided
with a hollow offset, a plurality of brackets
arranged within said casing, a staff sup-
ported by said brackets, a flange formed

upon said staff, said flange being adapted to
engage said casing, a second flange arranged
adjacent the other end of said staff, the end 20
portion of said staff being reduced and re-
siliently connected to said casing, a conduc-
tor supported by one of said brackets and a
spring contact supported by the other of
said brackets, said spring contact being pro- 25
vided with an extension adapted to receive
the end portion of said conductor.

In testimony whereof I affix my signa-
ture, in the presence of two witnesses.

FRANK HARRY CRANE.

Witnesses:

WM. F. CHAPMAN,

ALBERT H. FRITSCH.