

No. 611,752.

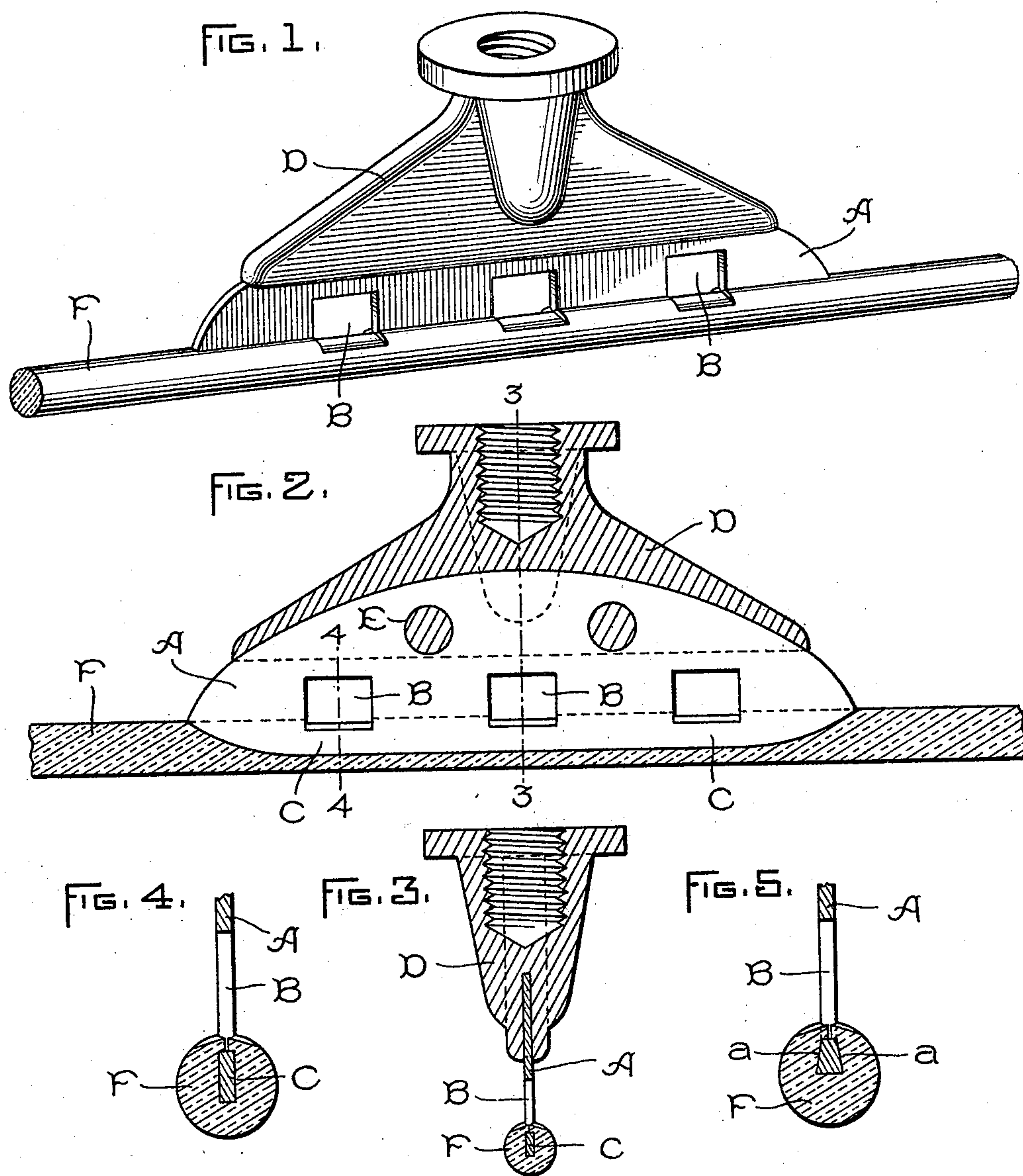
Patented Oct. 4, 1898.

H. GEISENHÖNER.

TROLLEY EAR.

(Application filed July 15, 1898.)

(No Model.)



WITNESSES.

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UNITED STATES PATENT OFFICE.

HENRY GEISENHÖNER, OF SCHENECTADY, NEW YORK, ASSIGNOR TO THE
GENERAL ELECTRIC COMPANY, OF NEW YORK.

TROLLEY-EAR.

SPECIFICATION forming part of Letters Patent No. 611,752, dated October 4, 1898.

Application filed July 15, 1898. Serial No. 685,981. (No model.)

To all whom it may concern:

Be it known that I, HENRY GEISENHÖNER, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Trolley-Ears, (Case No. 872,) of which the following is a specification.

My invention relates to trolley-ears, and has for one of its objects to provide an ear which can be secured to the trolley-wire without use of solder, and, further, to provide an ear which will withstand great strains on the trolley-wire.

In the accompanying drawings, which show an embodiment of my invention, Figure 1 is a perspective view of the ear mounted in position on the trolley-wire. Fig. 2 is a longitudinal section of the ear and trolley-wire. Fig. 3 is a cross-section on line 3 3 of Fig. 2. Fig. 4 is an enlarged cross-section on the line 4 4 of Fig. 2, and Fig. 5 is an enlarged cross-section of a slight modification.

The ear is composed of a flat plate A of some good strong material—as phosphor-bronze, for example—and is provided with a plurality of holes or openings B on the lower side. The openings have been shown as rectangular in outline; but the particular shape is immaterial, so long as sufficient stock is left at C C, the points of maximum strain. The upper edge of the plate A is secured to a support D, which support is preferably cast around the plate. This upper edge is provided with openings E, which are filled with metal, forming the support D. This is an exceedingly strong construction and is very cheap to manufacture, as the plate A can be stamped out of sheet stock and requires no finish. The upper part of the support D is provided with an enlargement which is screw-threaded to receive the hanger-bolt or other supporting devices. As the standard trolley-wire is circular in cross-section, a suitable tool is provided on each tower-wagon resembling a milling-cutter, and when it is decided at what place an ear is necessary a short slot is cut in the upper side of the wire F, the width and depth of the slot depending upon the size of the wire and the strain to which the ear is subjected. After the slot has been

cut the lower edge of the plate A is inserted therein, and by means of a suitable clamp or vise, also carried by the tower-wagon, the metal is compressed or forced over the plate A at points C. This is clearly shown by the cross-sectional details.

For the average trolley construction it is sufficient to secure the ear by forcing the metal of the trolley-wire over the plate at three points, as shown; but where the strain is greater or less the number and arrangement of the holes B can be varied as desired.

An ear of the construction shown in Figs. 1 to 4 was made and placed in a suitable testing-frame, which was so arranged that the support D was secured to one part and the trolley-wire F to another. A stress was then applied in a manner tending to separate the ear from the wire, and it was not until this stress reached two thousand and fifty pounds that the ear in any way separated from the wire.

In Fig. 5 is shown a slight modification in which the plate A is a trifle thicker at its lower edge. The advantage of this construction lies in the fact that the surfaces *a* assist in retaining the plate in place, whereas with the construction previously described the metal extending over the plate at points *f* is all that is depended upon to hold the parts together.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A trolley-ear which is secured to the trolley-wire by compressing the metal forming the wire around the ear.

2. The combination of a trolley-ear, a trolley-wire, a slot in the wire for receiving the ear, and means for retaining the ear in place, consisting of compressed portions of the trolley-wire.

3. The combination of a trolley-ear, having a plate on its under side, a trolley-wire, a slot therein for receiving the plate, openings in the plate, and means for securing the ear to the wire consisting of compressed portions of the wire which extend partially or wholly through the openings in the plate.

4. As an article of manufacture, a trolley-ear comprising a flat metal plate having a series of openings on the lower side, and a metal

support or holder which is secured to the plate.

5 5. In a trolley-ear the combination of a plate, holes formed near the upper edge of the plate, and a holder or support for the ear which is cast around the plate, the metal forming the support filling the holes in the upper edge of the plate.

10 6. In a trolley-ear the combination of a plate having a substantially straight under side, holes formed in the plate near the lower edge,

holes formed near the upper edge of the plate, and a holder or support for the ear which is cast around the plate, the metal forming the support filling the holes in the upper edge of the plate. 15

In testimony whereof I have hereunto set my hand this 12th day of July, 1898.

HENRY GEISENHÖNER.

Witnesses:

B. B. HULL,

G. HAYNES.