

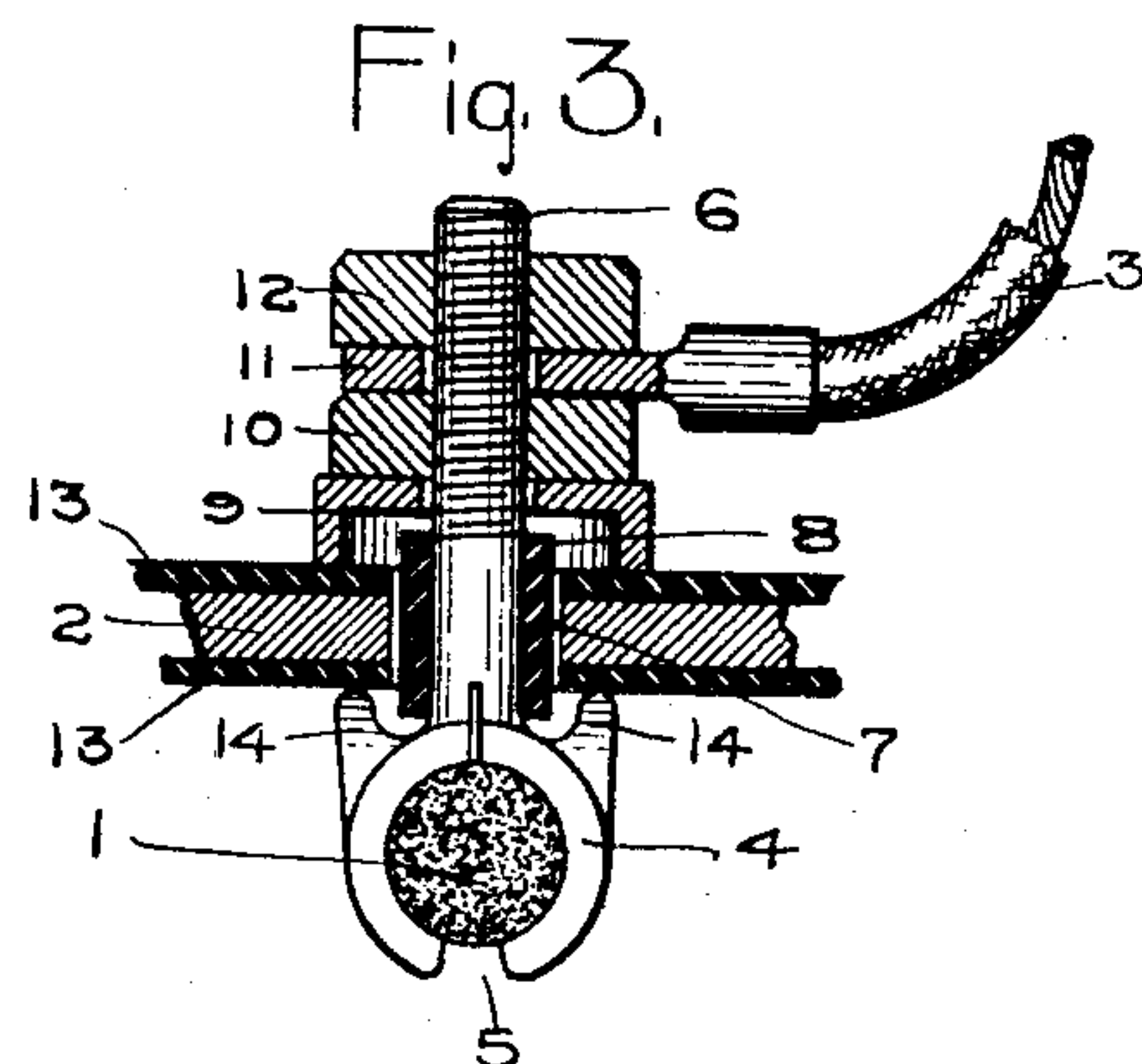
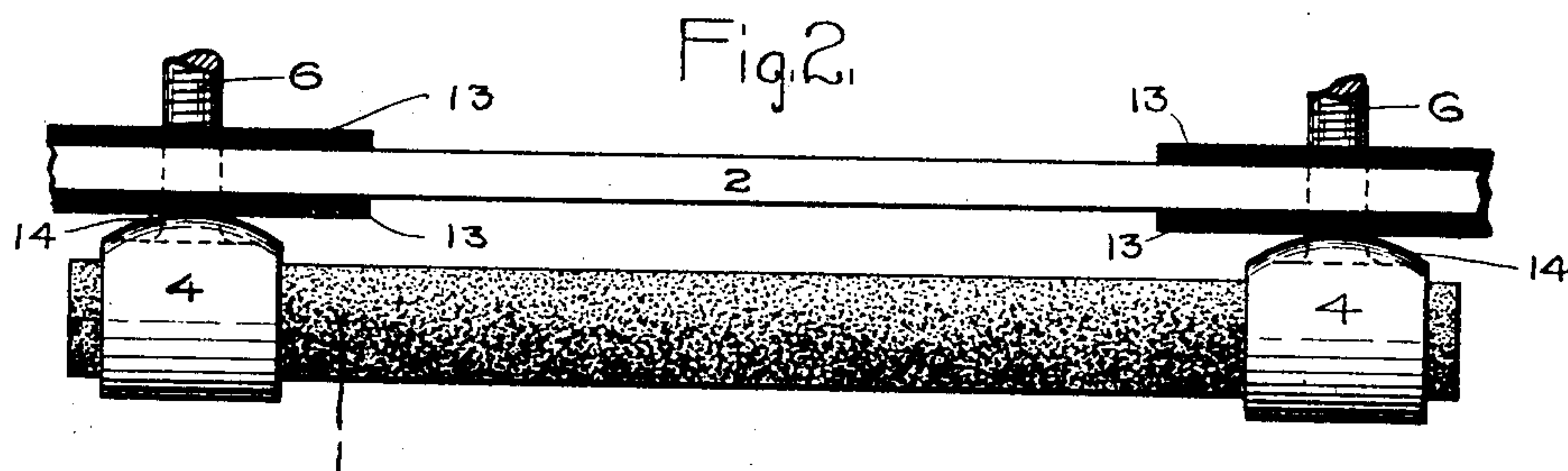
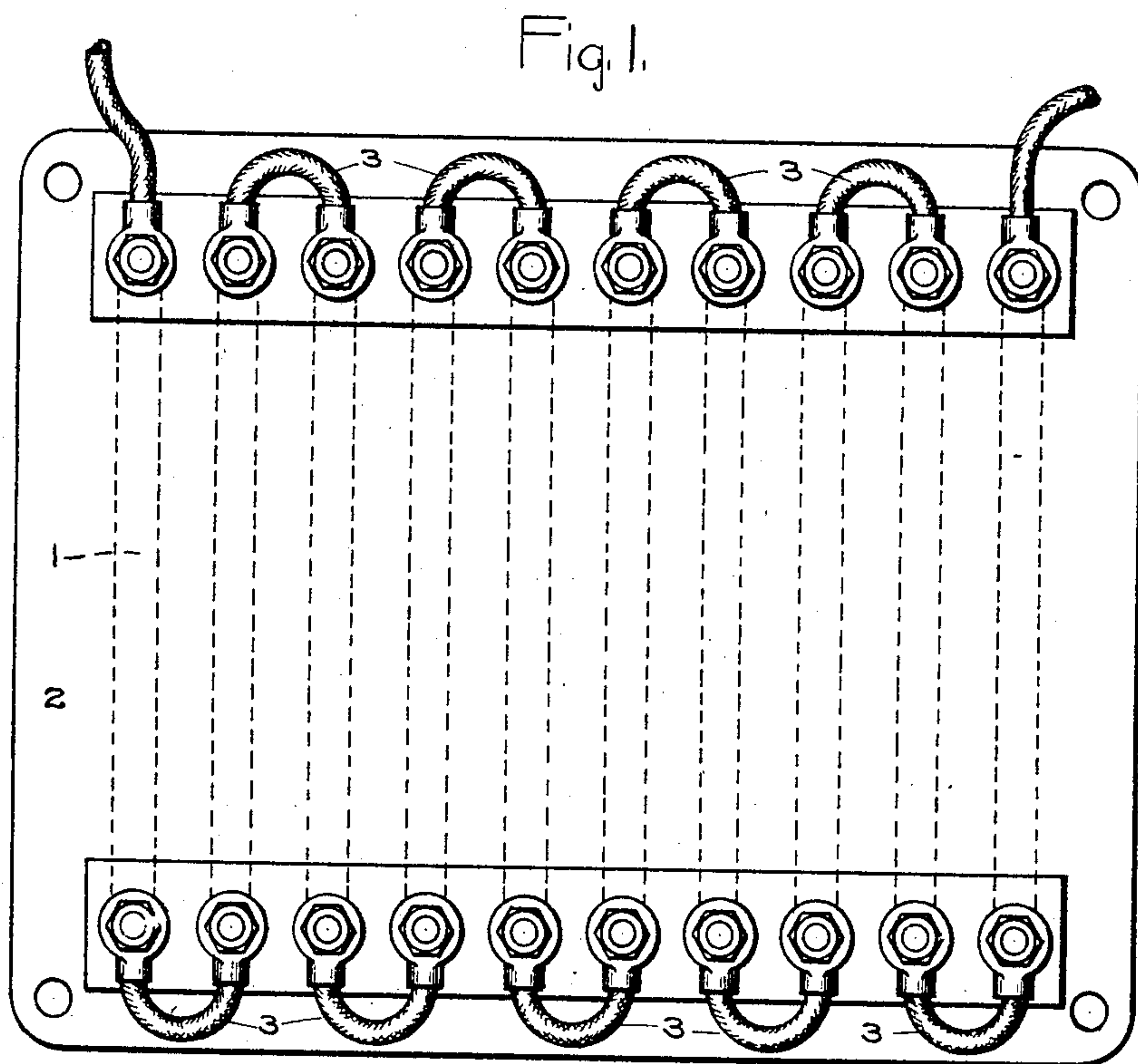
No. 768,332.

PATENTED AUG. 23, 1904.

C. W. LARSON.  
CONTACT CLAMP FOR CARBON RHEOSTATS.

APPLICATION FILED SEPT. 4, 1902.

NO MODEL.



WITNESSES:

*George F. Thornton.*

*Benjamin B. Hulse*

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Atty.



# UNITED STATES PATENT OFFICE.

CARL W. LARSON, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

## CONTACT-CLAMP FOR CARBON RHEOSTATS.

SPECIFICATION forming part of Letters Patent No. 768,332, dated August 23, 1904.

Application filed September 4, 1902, Serial No. 122,052. (No model.)

*To all whom it may concern:*

Be it known that I, CARL W. LARSON, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Contact-Clamps for Carbon Rheostats, of which the following is a specification.

This invention relates to electric conductors; and its object is to provide an improved clamp or clip for making connections between conductors, and especially between the leads and the rods of high-resistance material, such as carbon, composing a rheostat. In building a rheostat of such material it has been found difficult to properly secure the resistance-rods, owing to the different coefficients of expansion of the rods and the metal clamps, so that the rods soon work loose and are liable to break if the clamp when screwed up tightly is a trifle out of line. My invention aims to avoid these troubles; and it consists in a self-adjusting clamp, as hereinafter set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a rheostat embodying my invention. Fig. 2 is a side view of the same with the connecting-leads removed. Fig. 3 is a cross-section of a single rod and its clamp.

The resistance-rods 1 may be of carbon or any other suitable high-resistance material or compound. A suitable number of them is supported by a metallic base-plate 2, and the adjacent ends of the rods are connected in pairs alternately by short leads 3, so that all the rods are in series, the ends of the leads 3 being connected to the clamps which hold the rods on the base.

Each clamp consists of a cylindrical sleeve 4, preferably cut open on one side at 5, so as to form two jaws to nearly encircle the rod 1. Opposite the cut 5 is a screw-threaded shank 6, which passes through a hole 7 in the base 2, the shank being surrounded by a jacket 8 of insulation. A washer 9 surrounds the shank on that side of the base opposite the rod 1, said washer being preferably cupped,

as shown in Fig. 3. On the washer rest fastening devices for said shank, such as the nut 10, the eye-socket 11 for the lead 3, and the nut 12. Strips of insulation 13 are interposed between the metal base 2 and the clamp and washer.

In order that the clamp may be self-adjusting, the sleeve 4 has a convex surface in contact with the base 2. This is preferably formed by two parallel wings 14, running lengthwise of the sleeve and having curved edges, so that they constitute rockers on which the sleeve can oscillate in a plane lengthwise of the rod 1. To allow for such oscillation, the hole 7 is made considerably larger than the jacketed shank 6, and the cupped washer raises the point of suspension of said shank above the base 2. If, therefore, the rod 1 is not exactly parallel with the base, the clamp will rock slightly to aline itself with the rod, and thus avoid all danger of breaking it, while at the same time making a good electrical contact therewith. It will be seen that the wings form bearing-points on each side of the cut-away portion of the sleeve, so that when the nuts are tightened the pressure forces the jaws into close contact with the rod.

This self-alining and self-tightening contact-clamp may be used in other connections than the one above set forth, if desired.

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

1. The combination of a base having a hole therethrough and a self-alining clamp for an electric conductor, consisting of a sleeve having a convex surface on one side bearing against the base, and a shank extending laterally from said convex side through the hole in the base.

2. A self-alining clamp for an electric conductor, consisting of a sleeve to receive the conductor, provided with a longitudinal curved bearing-surface on one side, and a shank formed integral with the sleeve projecting from said side.

3. A self-alining clamp for an electric conductor, consisting of a sleeve provided with

two parallel longitudinal wings having curved edges, and a shank projecting from said sleeve adjacent to said wings.

4. A self-alining clamp for an electric conductor, consisting of a sleeve cut open on one side, a shank projecting from the opposite side, and two parallel longitudinal wings having curved edges lying on each side of said shank.
5. The combination with a base having a hole therethrough, of a clamp consisting of a sleeve provided with a longitudinal curved surface bearing on said base, a shank considerably smaller than said hole, a cupped washer, and fastening devices engaging said shank.
6. A self-tightening clamp for an electric conductor comprising a cut-away sleeve, two

bearing-points on each side of the cut-away portion, and a shank between said bearing-points.

7. The combination of a brittle resistance unit, and self-alining clamps connecting the same at both ends to a support.

8. The combination of a brittle resistance unit, a support, self-alining clamps for said unit having a rocking point bearing on the support, and means for securing the clamps to the support permitting rocking thereof.

In witness whereof I have hereunto set my hand this 2d day of September, 1902.

CARL W. LARSON.

Witnesses:

BENJAMIN B. HULL,  
HELEN ORFORD.