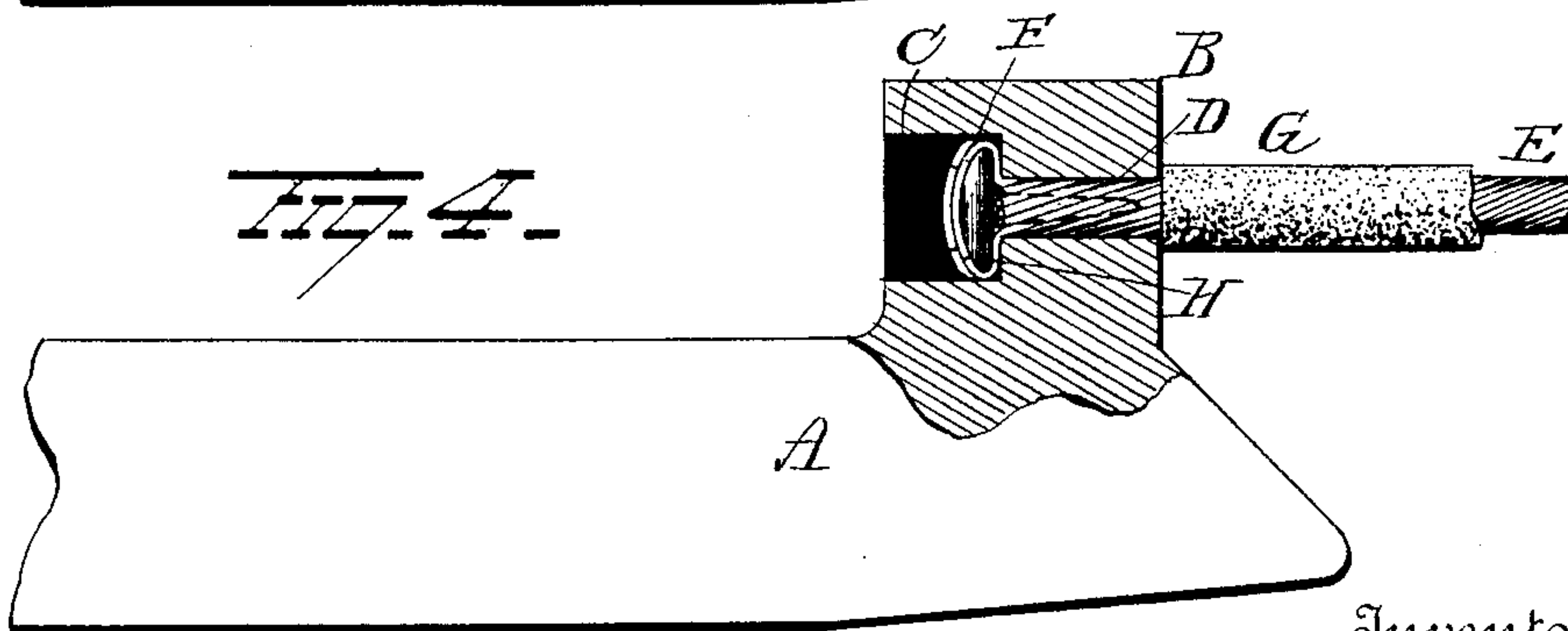
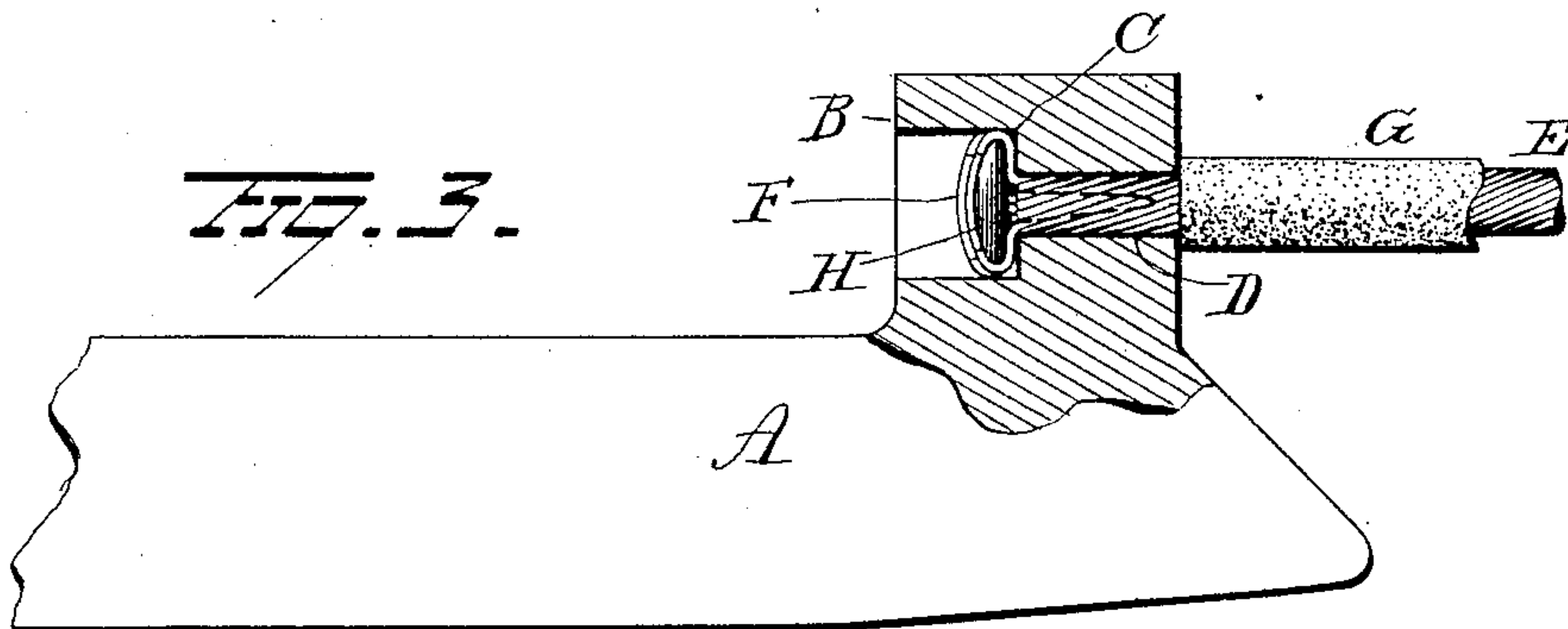
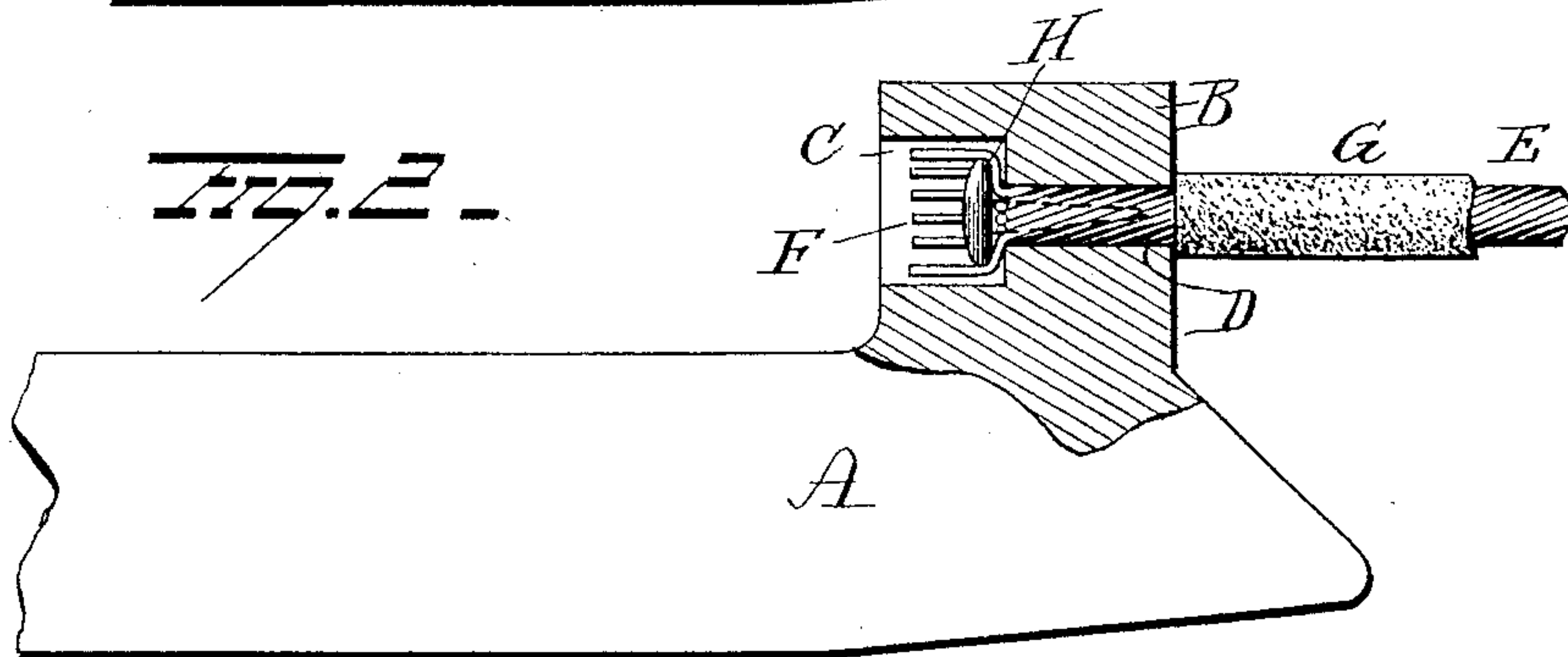
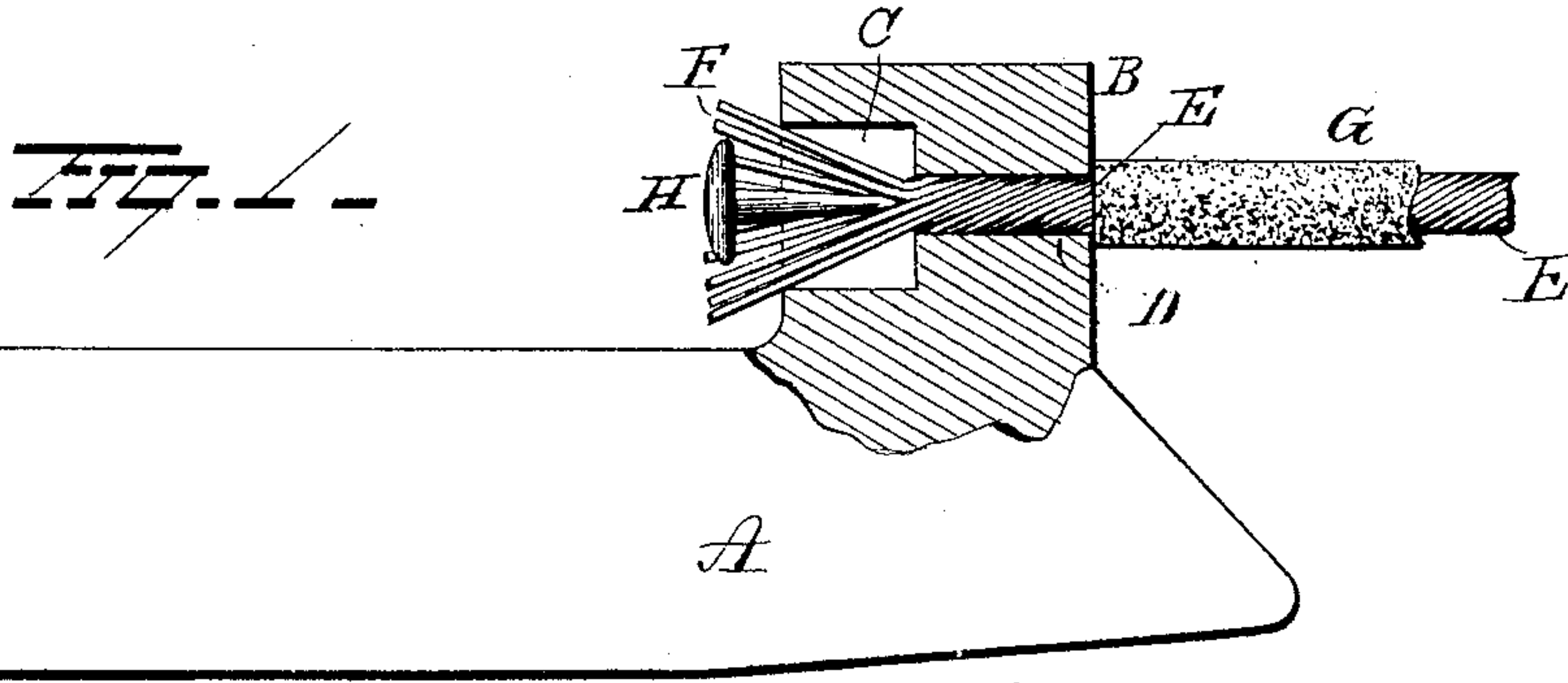


(No Model.)

S. H. SHORT.
CONDUCTOR FASTENING FOR COMMUTATORS.

No. 459,820.

Patented Sept. 22, 1891.



Witnesses

E. H. Nottingham
G. F. Downing

Inventor
Sidney H. Short

By *H. A. Seymour*
Attorney

UNITED STATES PATENT OFFICE.

SIDNEY H. SHORT, OF CLEVELAND, OHIO.

CONDUCTOR-FASTENING FOR COMMUTATORS.

SPECIFICATION forming part of Letters Patent No. 459,820, dated September 22, 1891.

Application filed May 26, 1891. Serial No. 394,164. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY H. SHORT, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Conductor-Fastenings for Commutators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in electric-conductor fastenings for commutators; and it consists in certain features of construction and combinations of parts, as will hereinafter be described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view, partly in side elevation and partly in longitudinal section, of one end of the commutator-bar and a conductor placed in position preparatory to its being fastened to the bar. Fig. 2 is a similar view showing the conductor partially secured in place. Fig. 3 is a similar view showing the conductor clamped to the commutator-bar, and Fig. 4 represents the completed fastening.

In the accompanying drawings, A represents the commutator-bar, having a projection B formed at one end thereof, the inner face of which is countersunk at C, and a hole D extends from the bottom of the countersunk portion to the opposite or outer face of the commutator-bar.

E represents a conductor which is brought from the armature, and is composed of a cable formed of any number of small wires F, which cable is covered by any suitable insulating-envelope G. The insulating material is stripped from one end of the cable and the naked end is inserted through the hole in the commutator-bar and the several wires F of the cable are unwound and separated from each other, as shown in Fig. 1.

Within the space formed between the separated wires F is inserted a copper tack H, which latter is driven snugly into the cable, as indicated in Fig. 2, with the effect of bending all of the small wires F, so as to form a right-angled bend in each between the head of the tack and the bottom of the countersink C. A suitable punch is then placed over the free and projecting ends of the wires

F and forced against them, thereby bending all such free ends inwardly over the outer face of the tack. In this way the small wires F are bent so as to be spread outwardly and envelope or inclose the tack, whereby the latter securely prevents the withdrawal of the cable and insures a perfectly safe and durable contact of the cable with the commutator-bar.

As represented in Fig. 4, the free ends of the wires F are protected and hid from view and also thoroughly secured by means of solder or any suitable soft metal which is poured into the recess formed in the countersink. After the wires have been secured as described this soft metal is faced down flush with the surface of the commutator-bar, and thereby presents a neat and finished appearance.

It is evident that slight changes in the form and construction of parts might be resorted to without involving a departure from my invention, and hence I would have it understood that I do not limit myself to the particular form and construction of parts shown and described; but

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

1. A commutator-bar having an opening formed in its flange for the reception of a cable conductor, a countersink formed in one face of the flange around said opening or passage, a cable conductor extending through said opening and having the free ends of its strands projecting into the countersink, and a tack driven between the free ends of the strands, the point of the tack extending into said opening, substantially as set forth.

2. A commutator-bar having an opening formed in its flange for the reception of a cable conductor, a countersink formed in one face of the flange around said opening, a cable conductor extending through said opening or passage and having the free ends of its strands projecting into the countersink, and a tack driven between the free ends of the strands, the point of the tack extending into said opening and the ends of the strands bent around the head of the tack, substantially as set forth.

3. A commutator-bar having an opening

formed in its flange for the reception of a cable conductor, a countersink formed in one face of the flange around said opening, a cable conductor extending through said opening and having the free ends of its strands projecting into the countersink, a tack driven between the free ends of the strands, the point of the tack extending into said opening and the ends of the strands bent around the head of the tack, and suitable material filling the countersink and retaining the tack against displacement, substantially as set forth.

4. The combination, with a commutator, of

a cable and a tack having the strands of the cable bent around its head, and solder or other suitable soft metal for covering the outer ends of said strands, substantially as and for the purpose set forth.

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

S. H. SHORT.

Witnesses:

A. B. CALHOUN,

A. H. HOUGH.