

976,617.

Patented Nov. 22, 1910.

Fig. 1.

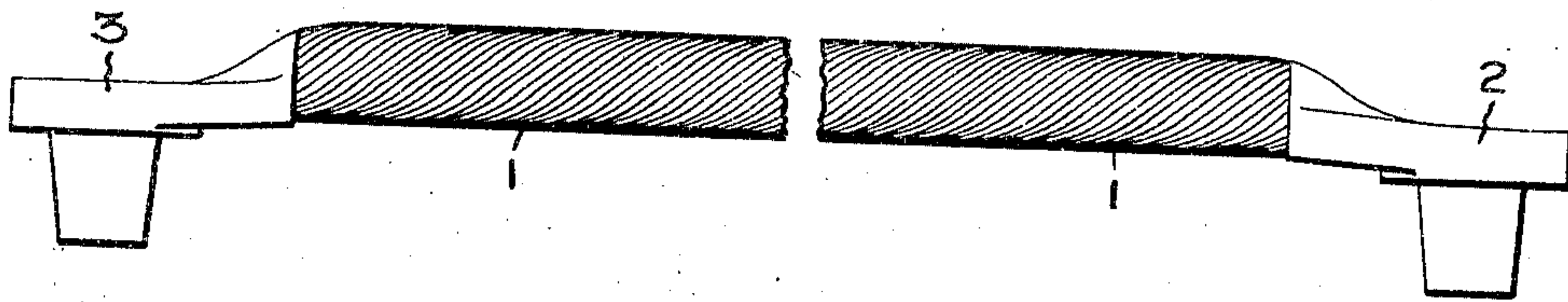


Fig. 2.

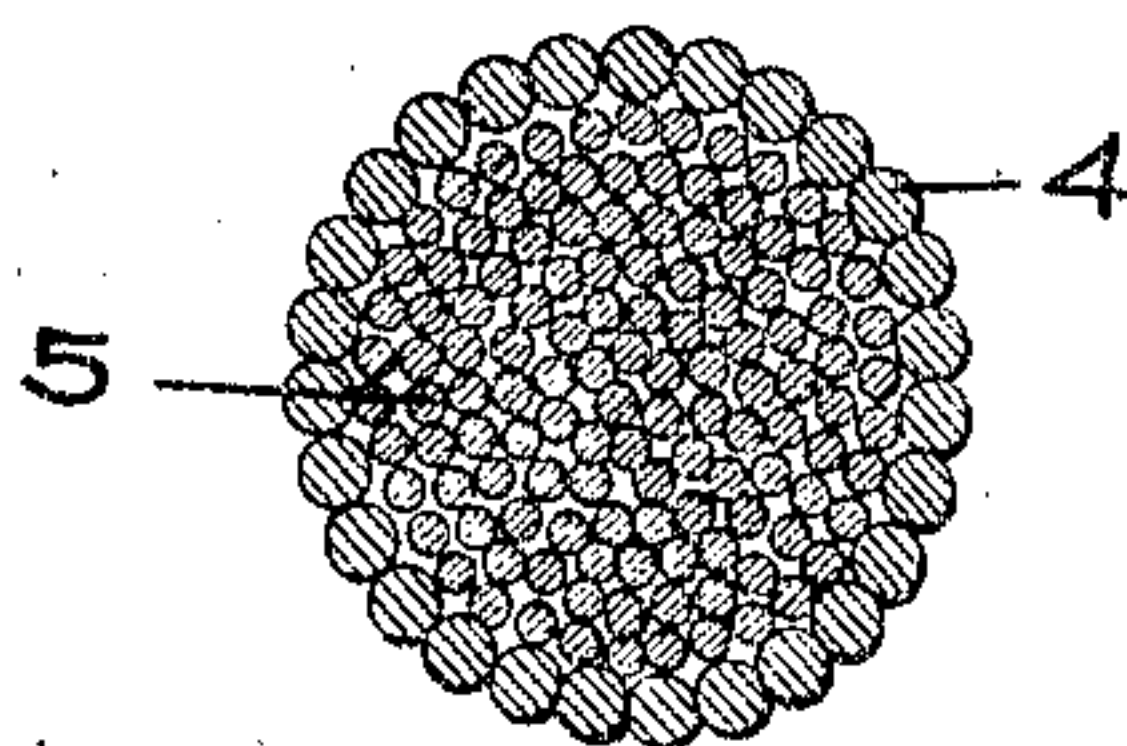
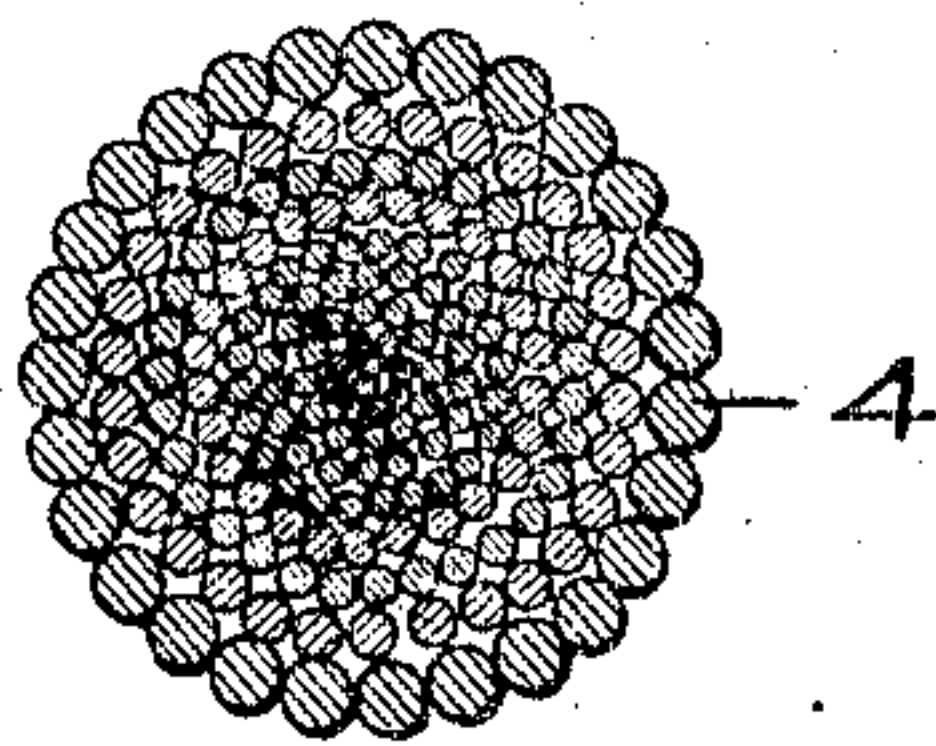


Fig. 3.



Witnesses:

Irving E. Stearns.
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Inventor
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by *Alfred S. Davis*
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UNITED STATES PATENT OFFICE.

EUGENE M. WEAVER, OF JAMAICA, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

RAIL-BOND.

976,617.

Specification of Letters Patent. Patented Nov. 22, 1910.

Application filed July 20, 1910. Serial No. 572,847.

To all whom it may concern:

Be it known that I, EUGENE M. WEAVER, a citizen of the United States, residing at Jamaica, Long Island, county of Queens, State of New York, have invented certain new and useful Improvements in Rail-Bonds, of which the following is a specification.

My invention relates to a novel and improved form of rail bond, and its object is to construct a bond in such a manner that resistance to abrasion and mechanical injury is obtained without sacrificing the feature of flexibility.

Rail bonds in use up to the present time have been made with body portions in the form of cables or bundles of wires, and as the life of a bond depends upon the amount of flexing it will stand under the constant vibrations of the rails before crystallizing and breaking, the body portions have been made of relatively small wires. However, rail bonds with body portions of small wires are objectionable on account of their inability to withstand mechanical impact and abrasion.

I have found that the wires of a rail bond first to crystallize or break from flexure are those disposed at the center of the bundle or where their freedom of movement is most restricted. In designing my improved bond, advantage has been taken of this fact and I have accordingly made the body portion of the bond with small wires at the center and larger wires on the exterior which serve as an armor for the smaller wires against mechanical injury and without danger of lessening the life of the bond.

In the accompanying drawings, Figure 1 is an elevation of a bond embodying my invention with part of the body broken away; Fig. 2 is an enlarged cross-sectional view

through the body; and Fig. 3 is a similar section of a modified form.

Referring to the drawings, the main body 1 of a bond constructed according to my invention is equipped with two suitable terminals 2 and 3, and is made with an armor of larger wires 4 surrounding smaller strands 5, the inner wires 5 being all of the same size.

In Fig. 3, the size of the wires are graduated from the innermost to the outermost, each layer being of a greater size wire than that of the next inner layer. This construction has, in addition to cheapness of construction, the advantage that each inner layer is protected by a sheath of larger and stronger wire than that of its own, thereby resulting in a more substantial bond.

I do not desire to restrict myself to the particular form or arrangement of parts herein described and shown in the drawing, since it is apparent that they may be changed and modified without departing from the scope of my invention as defined in the claims.

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

1. In a rail bond, a main body of stranded wire having an outer armor of larger wire than the inner wire.

2. In a rail bond, a main body of stranded wire having inner strands of small diameter, and a protecting outer layer of large wire.

3. In a rail bond, a main body portion having concentric series of strands of progressively larger size.

In witness whereof, I have hereunto set my hand this eighteenth day of July, 1910.

EUGENE M. WEAVER.

Witnesses:

JOSEPH F. GUBBINS,
LOUIS F. VILILLORD.