

No. 689,615.

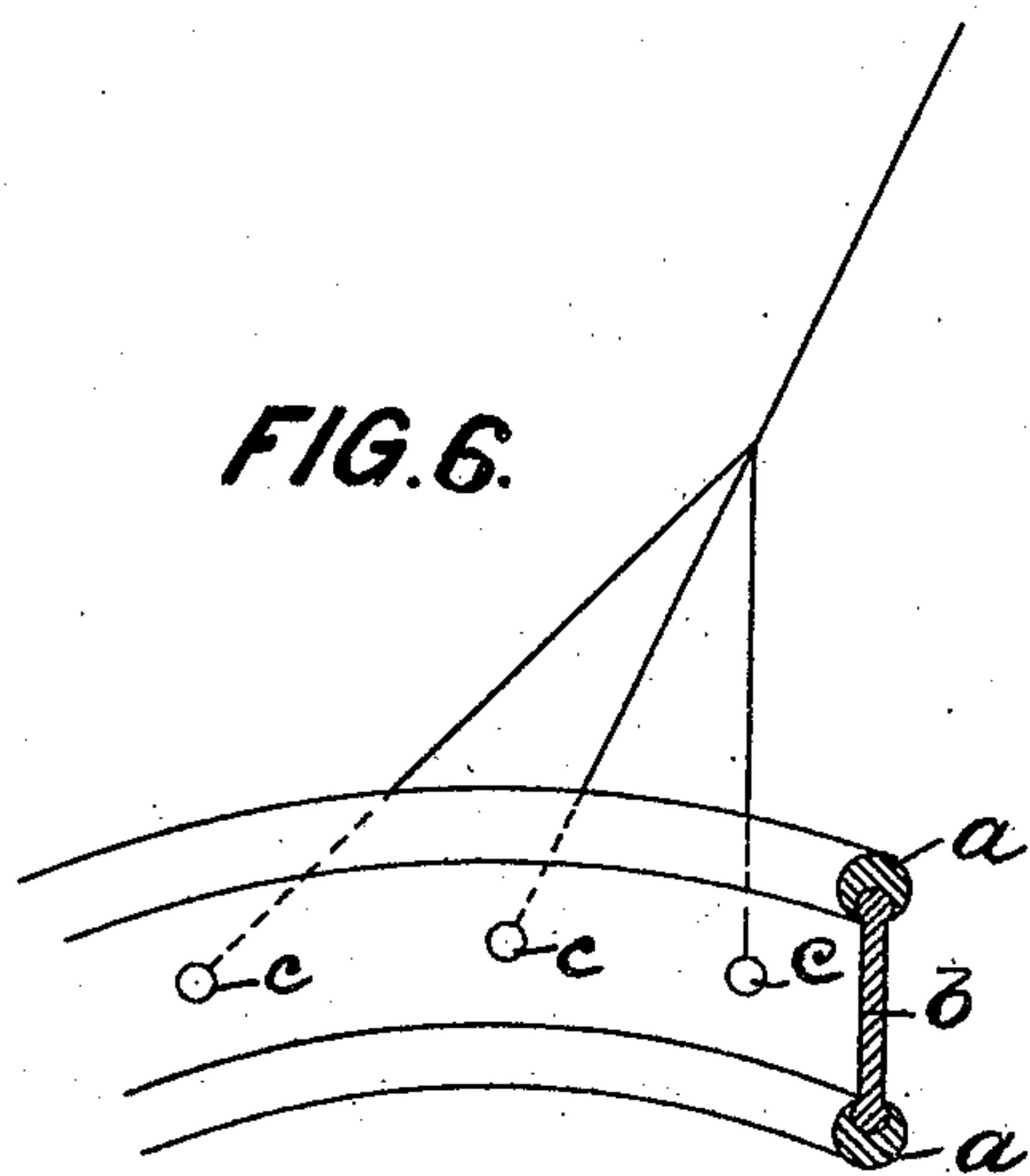
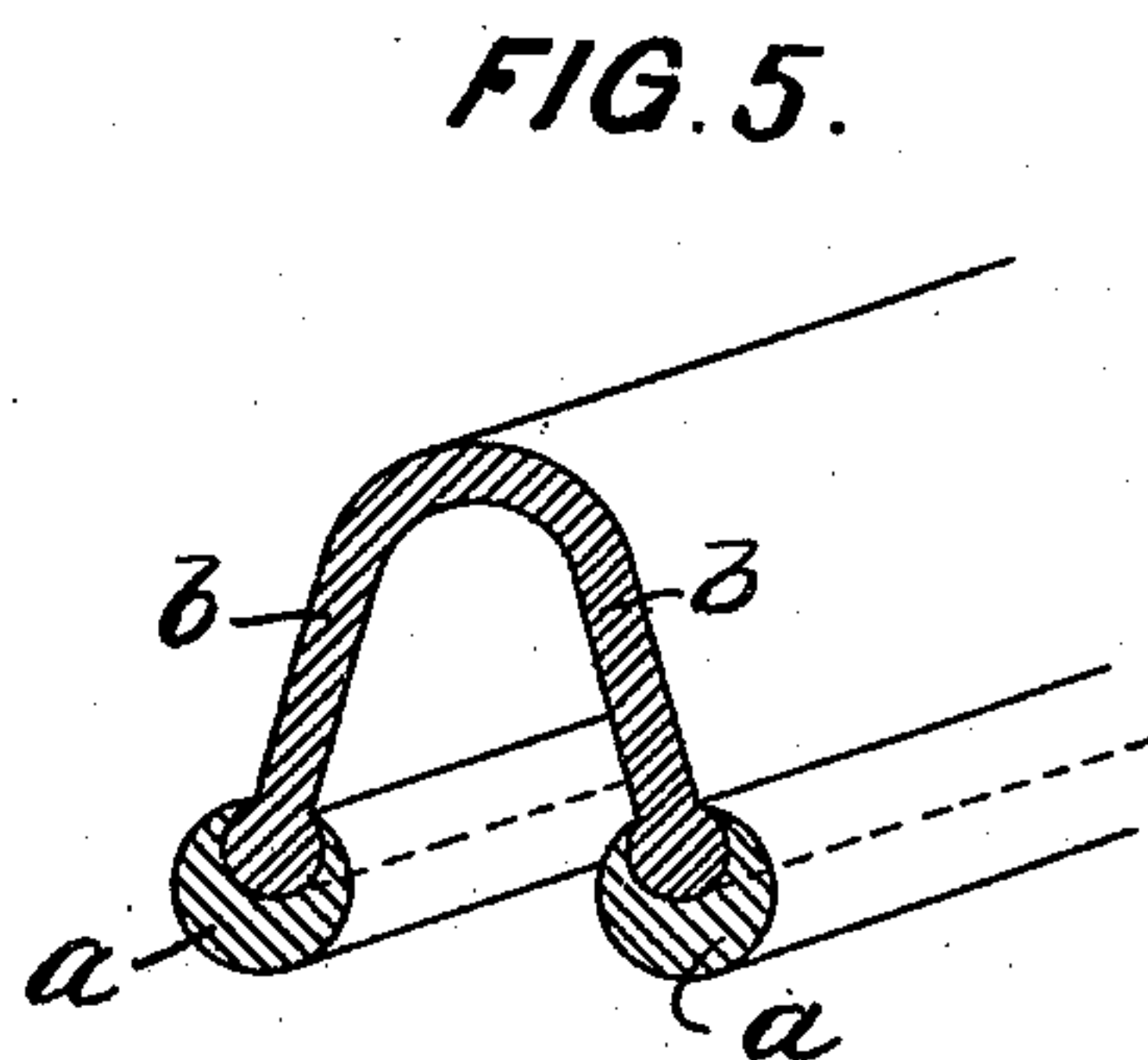
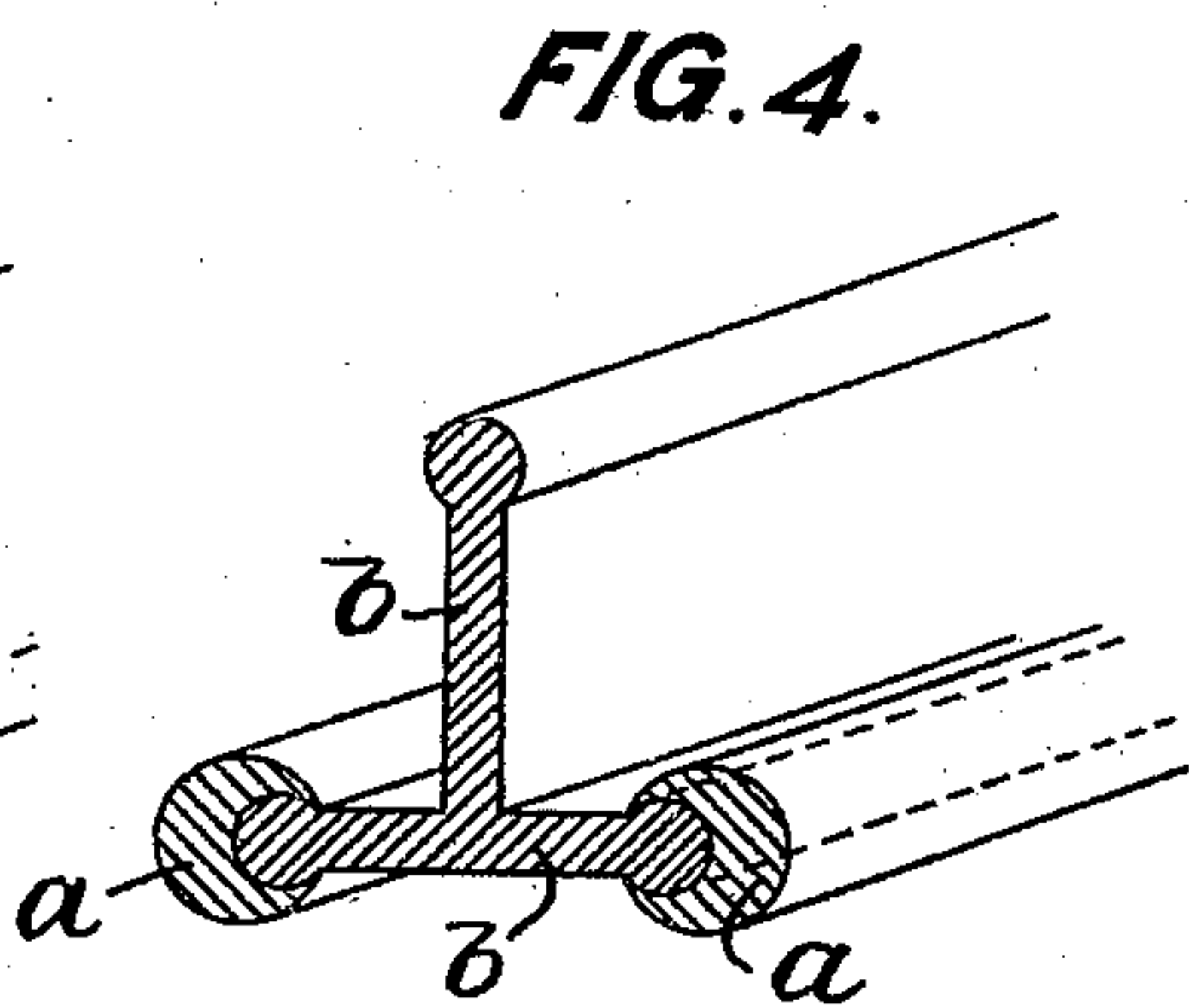
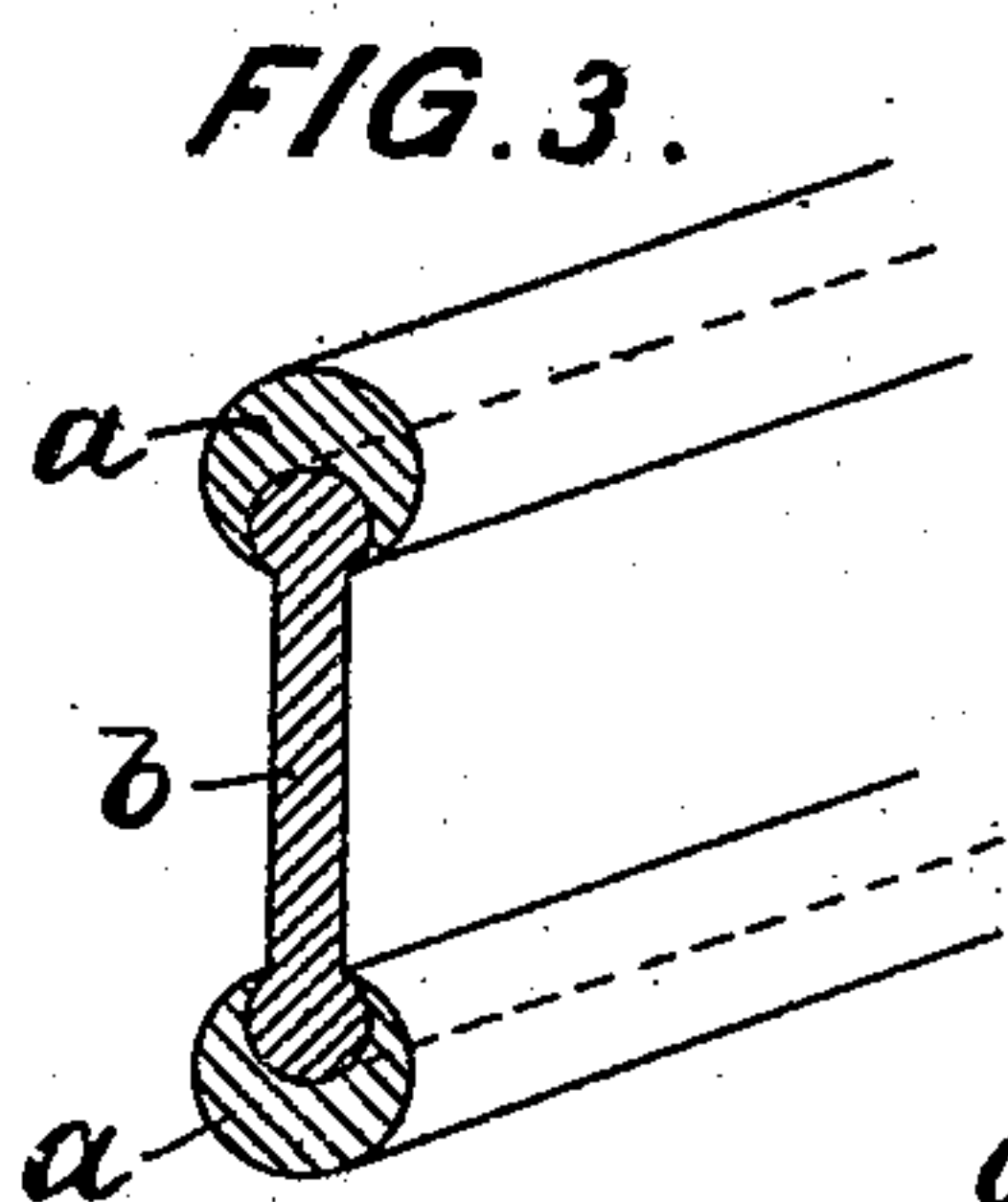
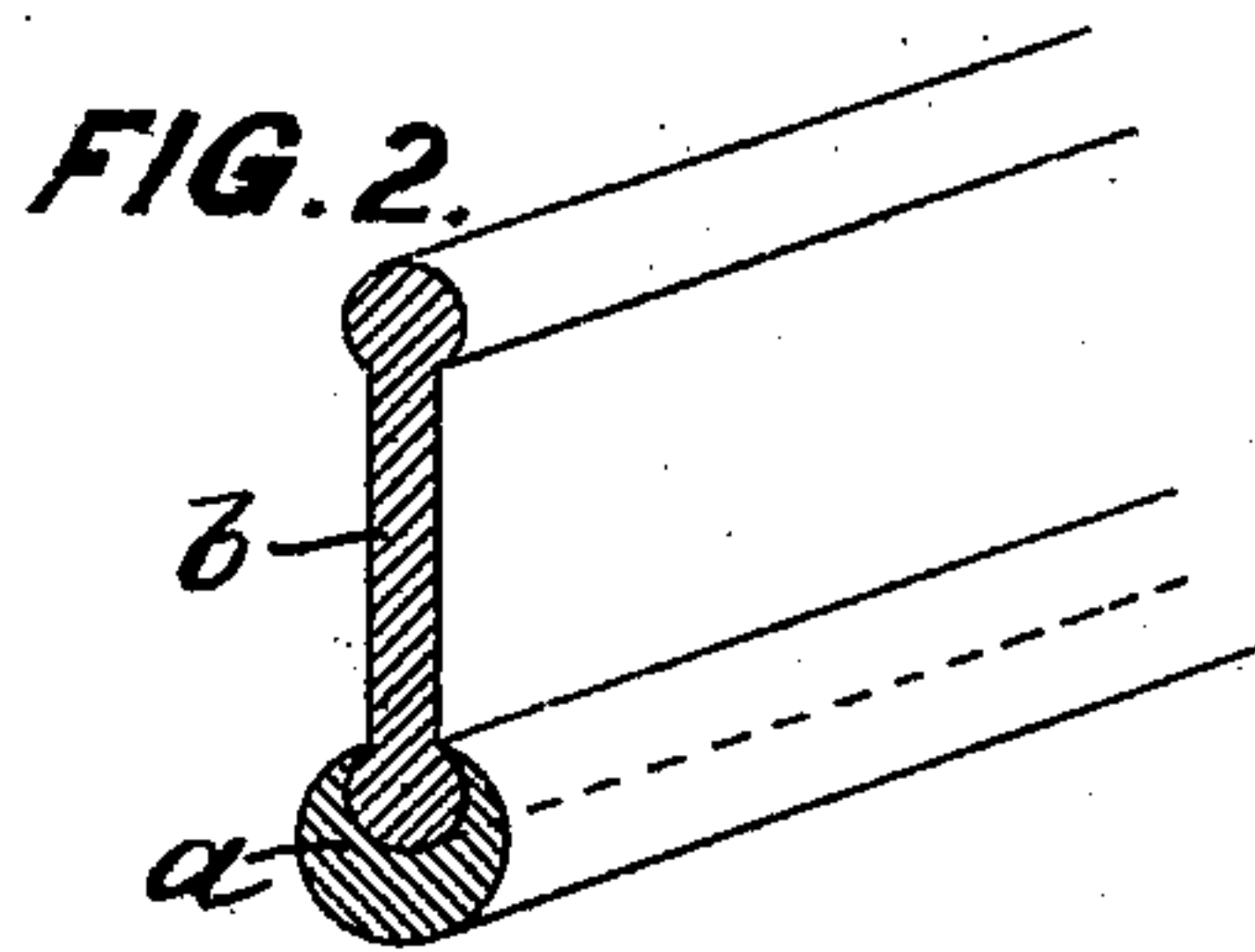
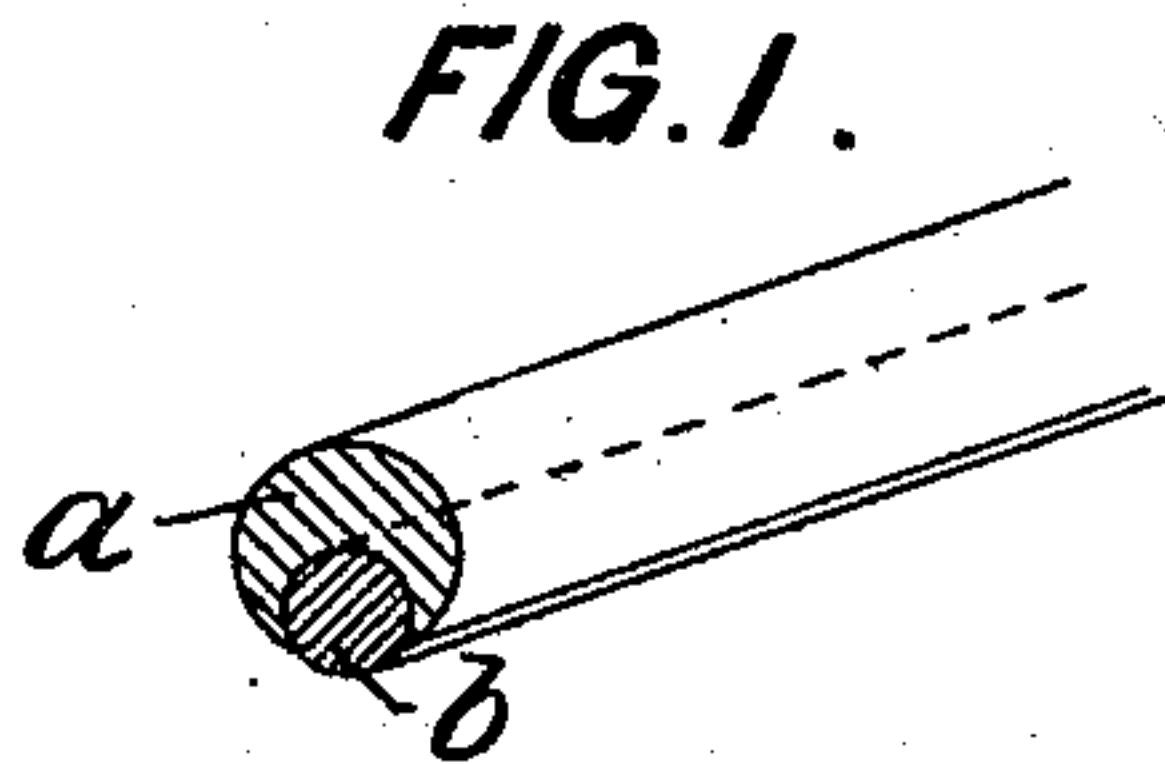
Patented Dec. 24, 1901.

G. E. HEYL-DIA.

TROLLEY WIRE OR OTHER CONDUCTOR FOR ELECTRIC TRACTION.

(Application filed June 8, 1901.)

(No Model.)



Witnesses

N. R. Kennedy
J. S. Elmon

Inventor

G. E. Heyl-Dia
A. P. T. Dodge
Atty.

UNITED STATES PATENT OFFICE.

GEORGE EDWARD HEYL-DIA, OF WARRINGTON, ENGLAND.

TROLLEY-WIRE OR OTHER CONDUCTOR FOR ELECTRIC TRACTION.

SPECIFICATION forming part of Letters Patent No. 689,615, dated December 24, 1901.

Application filed June 3, 1901. Serial No. 62,981. (No model.)

To all whom it may concern:

Be it known that I, GEORGE EDWARD HEYL-DIA, engineer, a subject of the King of Great Britain, residing at Warrington, in the county of Lancaster, England, have invented certain new and useful Improvements in or Relating to Trolley-Wire or other Conductors for Electric Traction, (for which application has been made in England under No. 21,722, dated November 30, 1900,) of which the following is a specification.

This invention relates to trolley-wire and other flexible suspended conductors for electric traction, and has for its object to impart greater strength to the conductor and in the case of overhead curves to reduce the number of sustaining-wires.

The invention consists in combining with the copper conductor, a wire, rib, or web of steel running lengthwise.

To facilitate description, reference will be had to the accompanying drawings, in which—

Figures 1 to 5 illustrate in cross-sectional isometrical views some forms of trolley-wires or conductors made in accordance with my invention, and Fig. 6 is a similar view showing the conductor as carried around curves.

In carrying my invention into effect the copper portion *a* may be rolled or otherwise formed onto the steel portion *b*, which latter is partly embedded in the copper, as shown, for example, in Fig. 1. Where the steel is employed in the form of a rib or web, the copper portion or conductor proper may be rolled or formed onto either or both edges of the web, as shown in Figs. 2 and 3, respectively, and said edge or edges may be slightly thickened, preferably with a rounded rail-like head, as shown, to enable the copper to embrace and be securely held to it.

By my invention the fixing of overhead curves is greatly facilitated, particularly where the steel portion of the combined conductor has the form of a web, as before described, as the rail-like cross-section thus obtained, in addition to the strength obtained by the employment of steel, better adapts the conductor to the making of curves and enables the many suspension-wires to be reduced in number, a few holes *c* being made in the web *b*, as shown in Fig. 6, to receive an eye with nut to get a "pull-off" for straining around corners.

It will be readily understood that the steel

portion may be of any cross-section desired— such as round, Fig. 1; a web or rail-section, Figs. 2 and 3, or an angle or channel section, Figs. 4 and 5—according to the number or position of longitudinal edges required for the taking of current by the trolley or trolleys.

Any of the existing methods of suspension may be adopted.

I declare that what I claim is—

1. A trolley-wire or flexible suspended conductor for electric traction, consisting of a steel portion with a conducting-surface of copper formed upon it throughout its length but not wholly enveloping it, the steel portion being flexible and having a cross-section adapted to bed into and retain the copper surface upon it, substantially as described.

2. A trolley-wire or suspended conductor for electric traction, consisting of copper and steel portions of equal length, secured together in a longitudinal manner the steel portion having the form of a web flexible laterally but not vertically and adapted to bed edgewise into the copper, substantially as described.

3. A trolley-wire or suspended conductor for electric traction, consisting of a flexible steel portion, having a cross-section adapted to produce longitudinal edges, and a conducting-surface of copper formed upon said longitudinal edges, substantially as described.

4. A trolley-wire or suspended conductor for electric traction, consisting of a flexible steel portion formed with longitudinal edges having each a rounded rail-like head and a conducting-surface of copper formed upon and embracing said longitudinal edges, substantially as described.

5. A trolley-wire or suspended conductor for electric traction, consisting of copper and steel portions of equal length secured together in a longitudinal manner, the steel portion being flexible and having the form of a web with thickened edges adapted to bed into and be embraced by the copper, substantially as described.

In witness whereof I have hereunto signed my name, this 25th day of May, 1901, in the presence of two subscribing witnesses.

GEORGE EDWARD HEYL-DIA.

Witnesses:

FRANK E. ALLEN,
SIDNEY W. DOD.