

(No Model.)

3 Sheets—Sheet 1.

W. J. BREWER.

WHEEL HUB.

No. 377,187.

Patented Jan. 31, 1888.

FIG. 1.

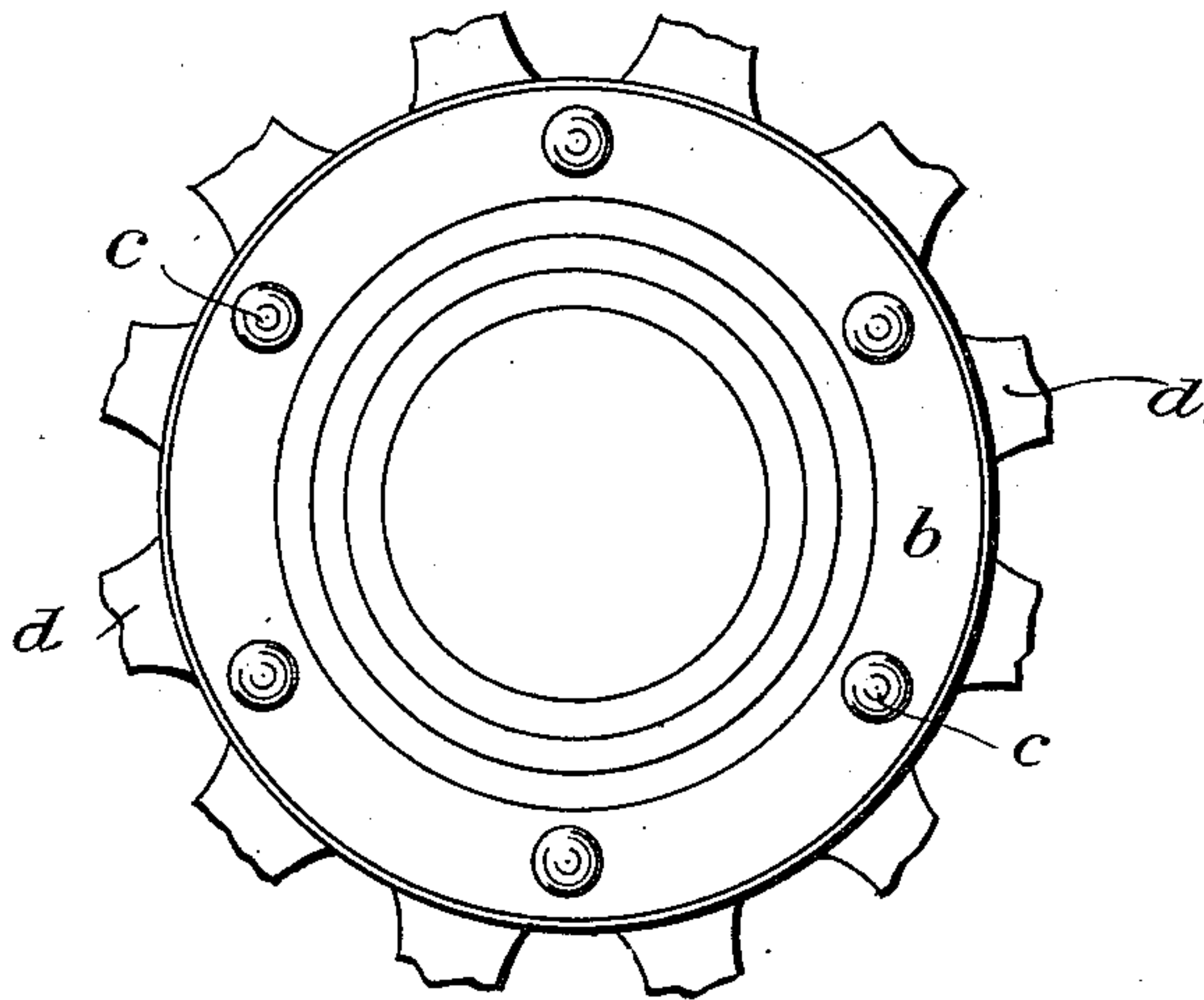


FIG. 2.

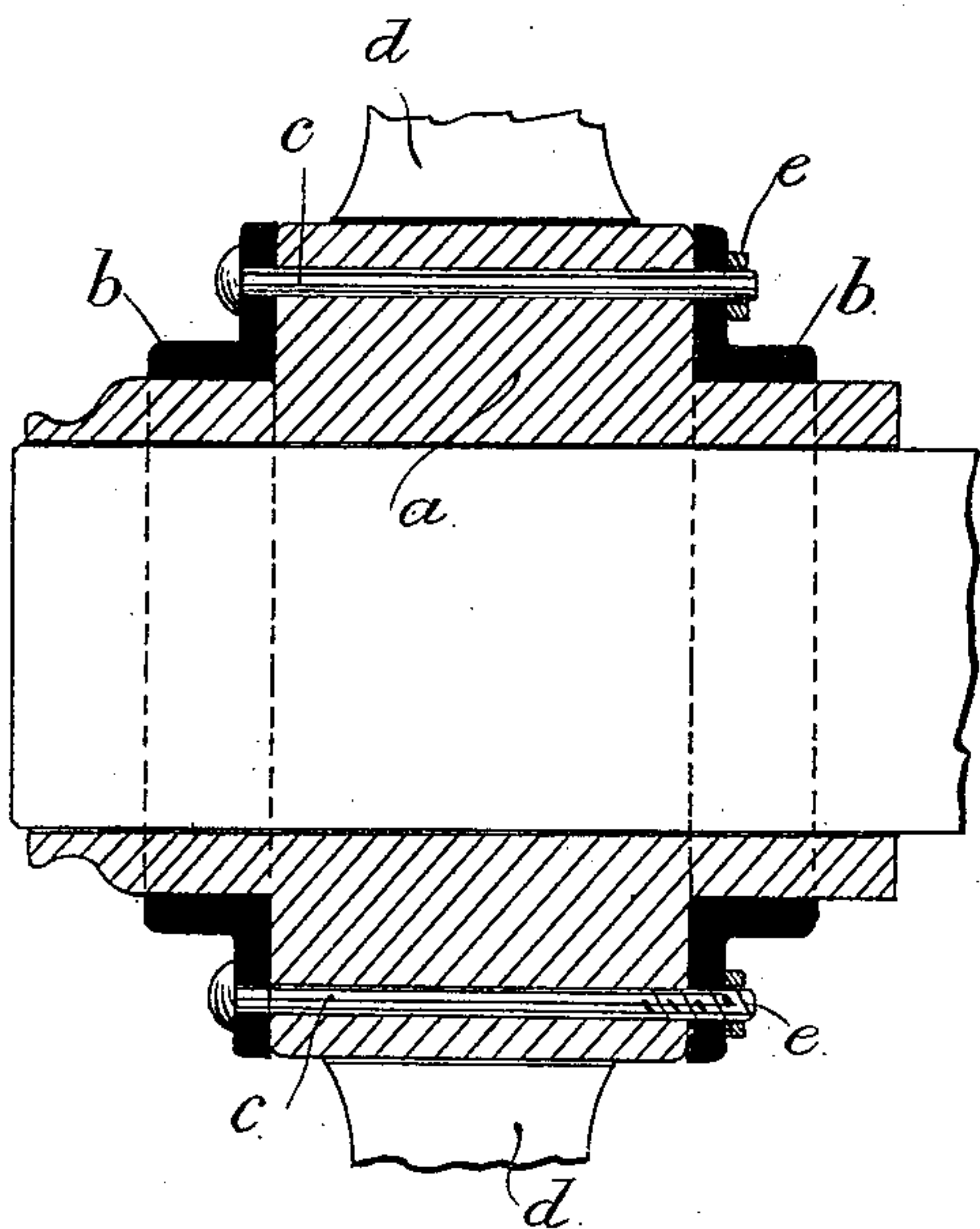
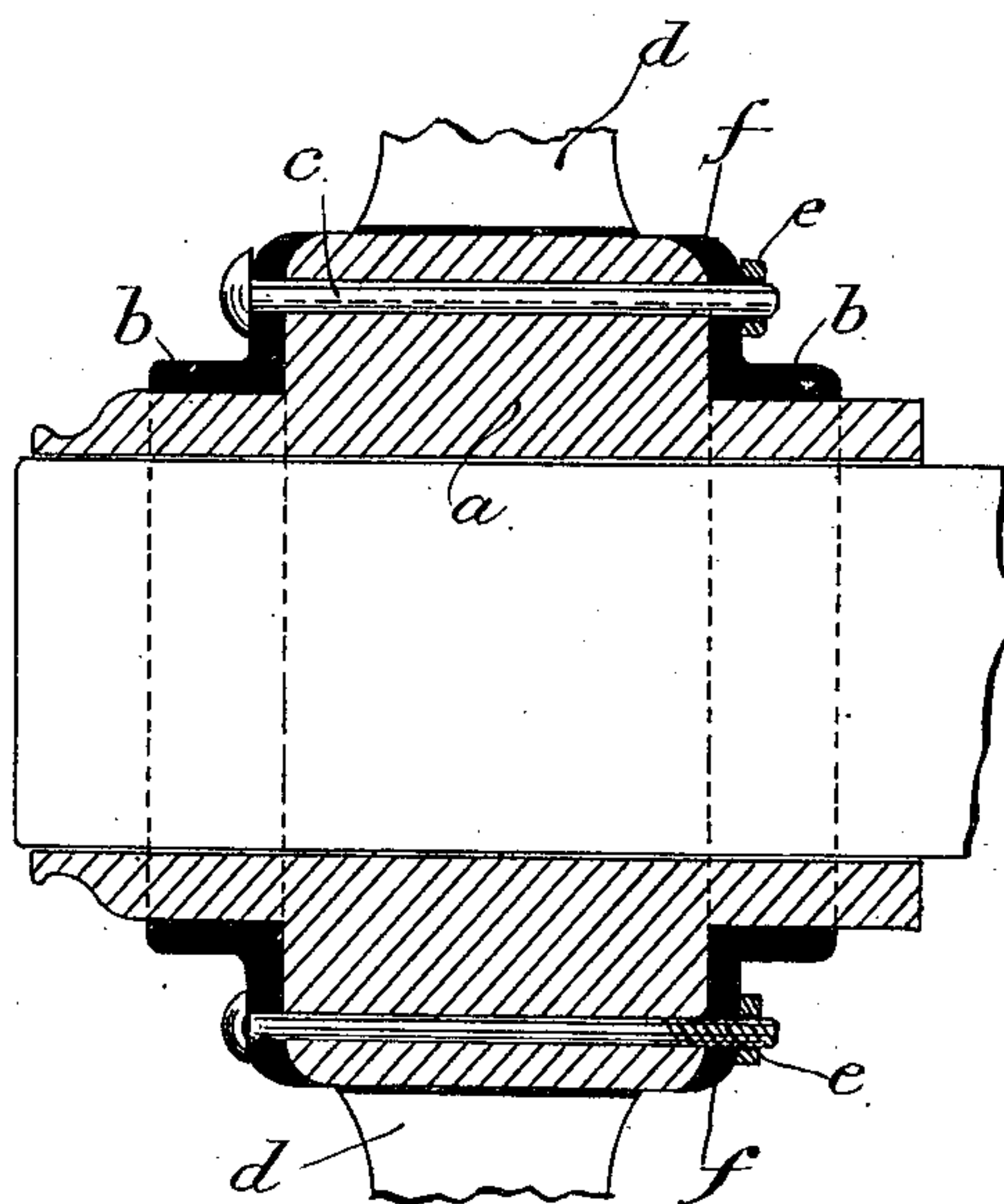


FIG. 3.



WITNESSES.

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FIG. 4.

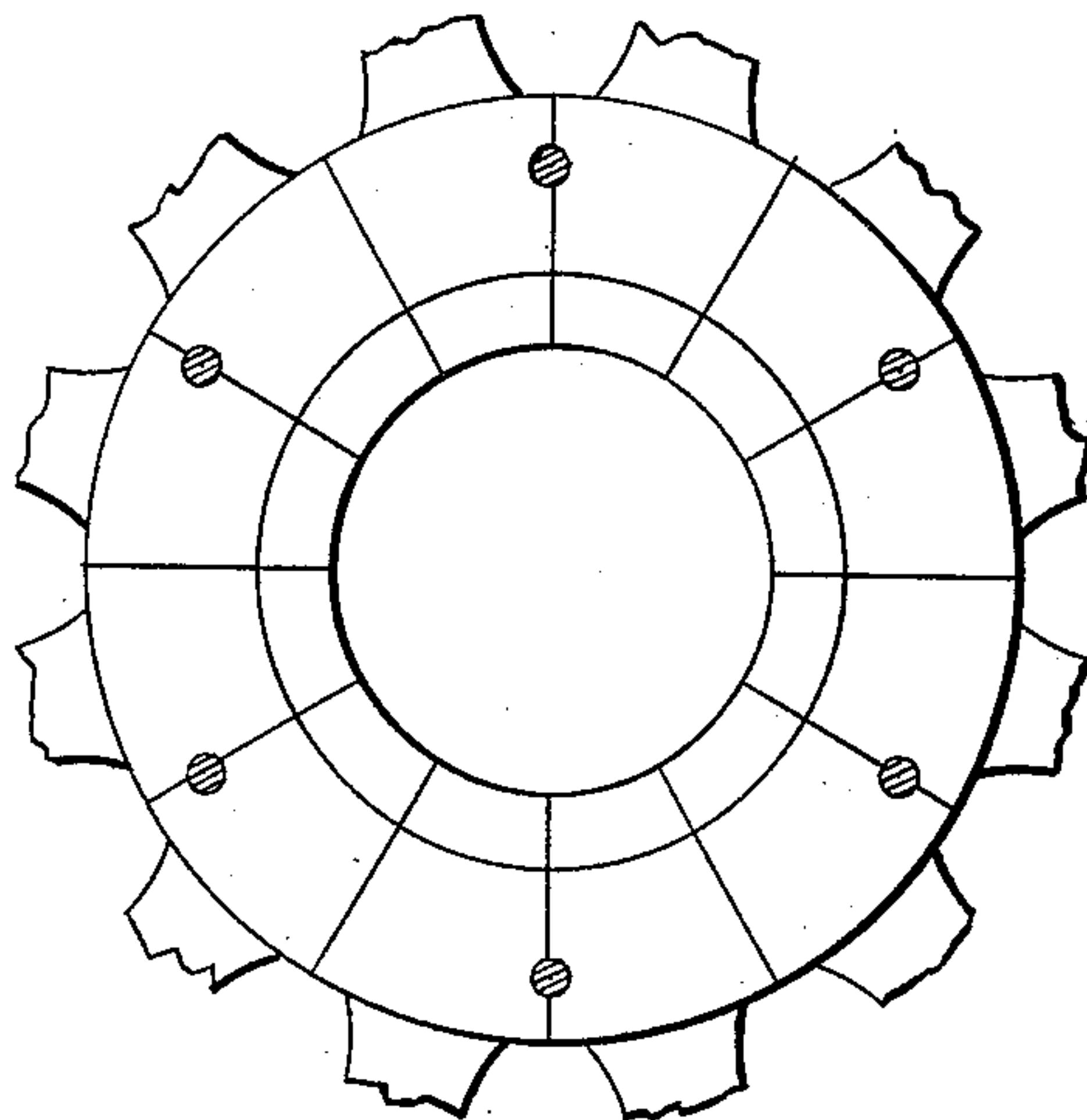
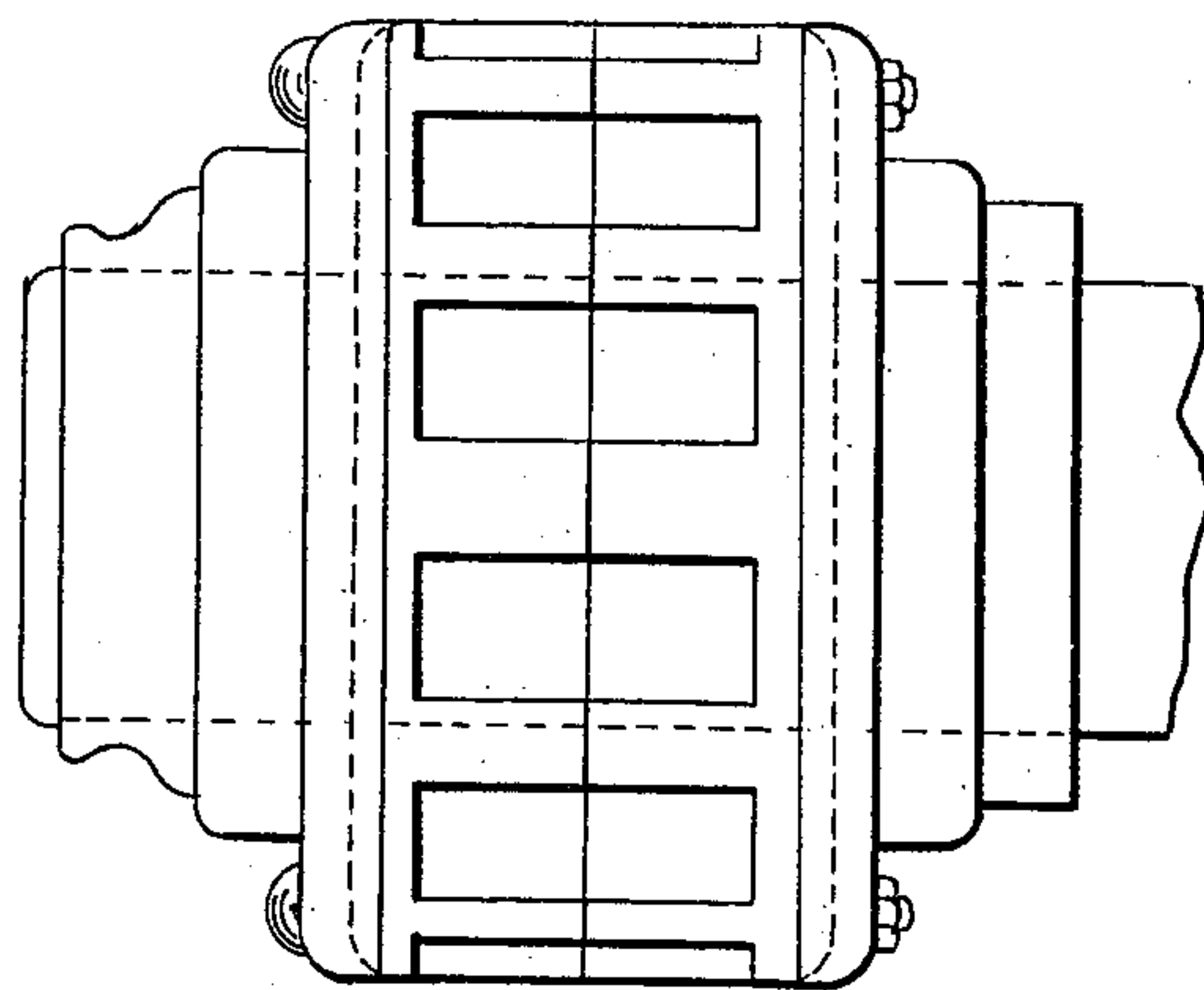


FIG. 5.



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FIG. 6.

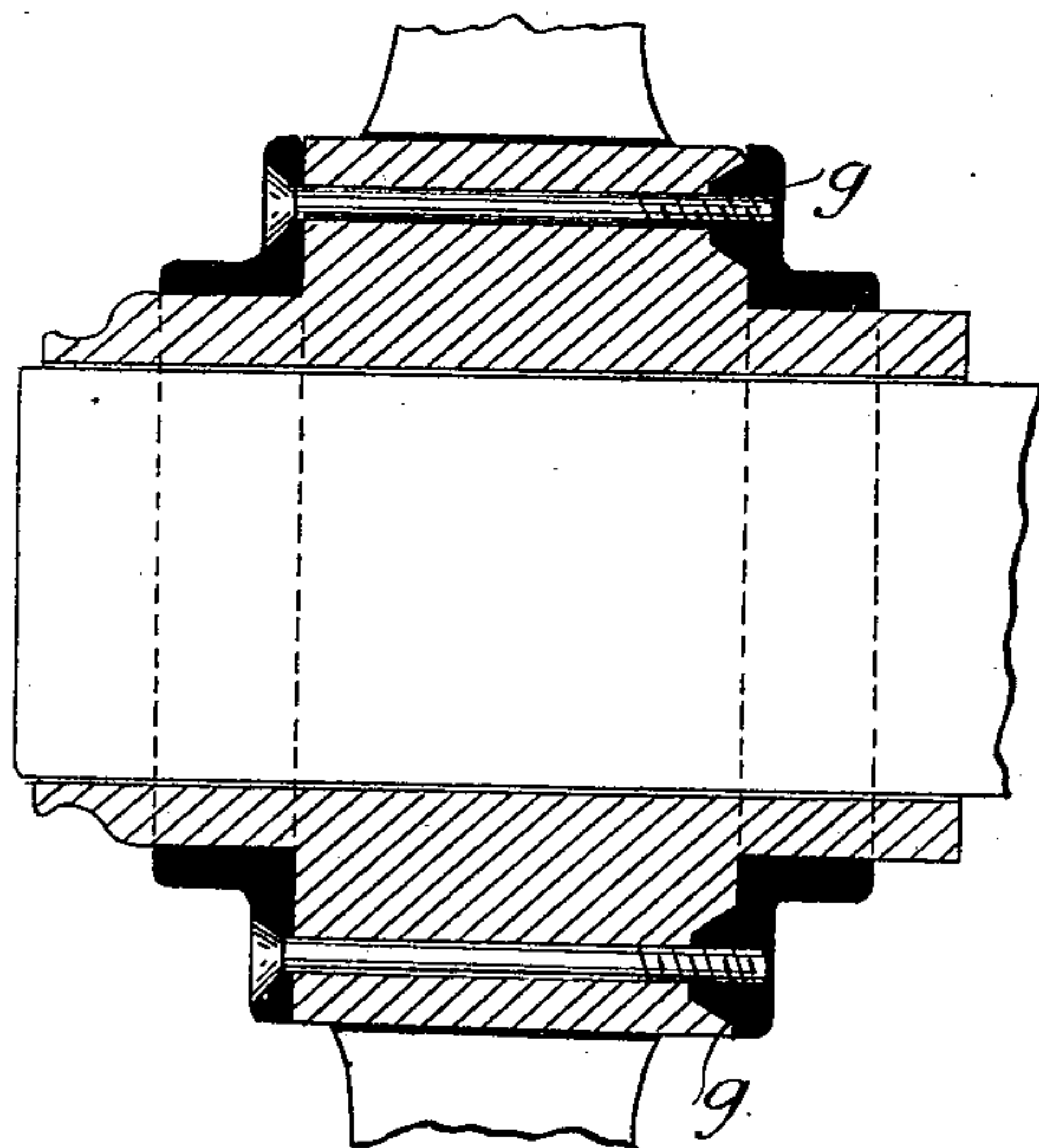
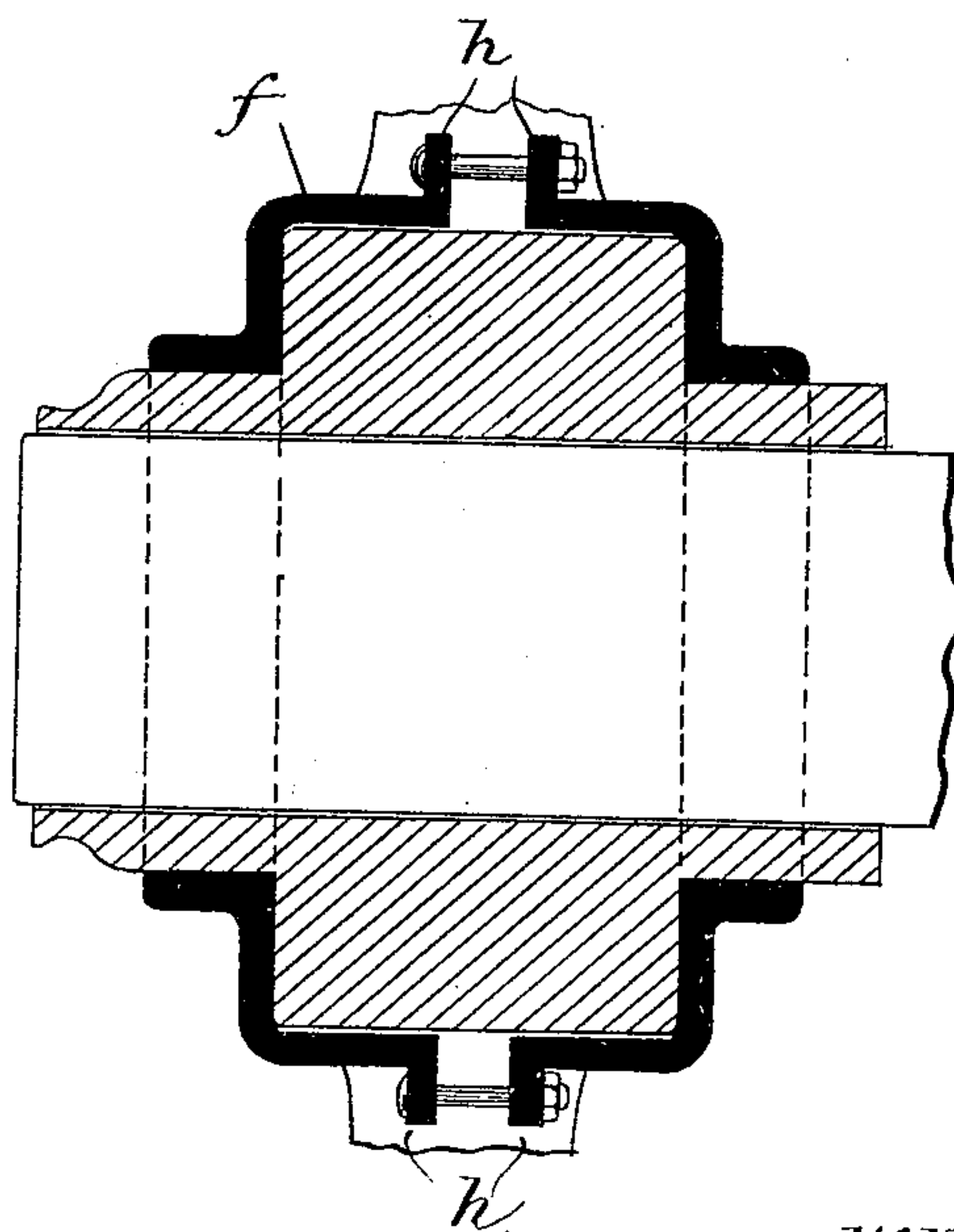


FIG. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM J. BREWER, OF LONDON, COUNTY OF MIDDLESEX, ENGLAND.

WHEEL-HUB.

SPECIFICATION forming part of Letters Patent No. 377,187, dated January 31, 1888.

Application filed May 18, 1887. Serial No. 238,639. (No model.) Patented in England October 31, 1885, No. 13,174.

To all whom it may concern:

Be it known that I, WILLIAM JOHN BREWER, a subject of the Queen of Great Britain, and a resident of London, in the county of Middlesex, England, have invented certain new and useful Improvements in Wheels, (for which I have obtained a patent in Great Britain, No. 13,174, dated October 31, 1885,) of which the following is a full, clear, and exact specification.

My invention relates to the construction and arrangement of wheels of ordinary passenger carriages or vehicles, vans, railway-carriages, tramway-cars, and other similar vehicles.

My invention consists of means connected with the nave or stock of wheels made of pressed fiber or paper, and arranged in such a manner as will add to its strength, reduce the wear and tear, and give greater facilities in removing parts of the stock when replacing one or more spokes, all of which will be fully described hereinafter.

In the drawings, Figure 1 represents a side view of the nave or stock of a wheel, showing the principal feature of my invention. Figs. 2 and 3 are transverse sections through nave or stock. Fig. 4 is a side view of stock with metallic disks removed. Fig. 5 is a face view of stock, showing the stock made in halves. Figs. 6 and 7 are modifications hereinafter referred to.

The nave or stock *a*, which may be formed in the solid, or built up of different sections of pressed fiber or paper, is turned to shape to suit the metal disks or plates *b*, which are secured by bolts *c*, passed through from side to side of the stock or nave *a* and secured by nuts *e*, as shown. The metal plates or disks *b* may be constructed as shown in Fig. 2; or they may be formed, as shown in Fig. 3, so that they overlap the stock or nave *a*, and thus give a firmer support to the nave or stock *a*, said plates *b* being secured as shown in Fig. 2; or the plates *b* may be made with lugs of any desired shape, and arranged to pass between the spokes *d* of the wheel and then secured by bolts in the ordinary way.

The nave or stock *a* of the wheel being thus formed or constructed, I proceed to fit in the spoke *d*, in the ordinary manner, preparatory to fixing the felloes, on which I may place

either the ordinary tire for traveling on common roads, or a flanged tire for tramway or railway purposes.

When the stock or nave *a* is constructed in the solid, and it is desired to remove a spoke or spokes, one or both disks *b*, as the case may be, are removed, and the pressed fiber of the nave or stock *a* cut away in front of the spoke to be removed, such pressed fiber or paper cut away being cut out preferably in a dovetailed form.

In replacing the spokes I drive a dovetailed wedge into the space made for taking away the spoke, and thereby obtain a solid and firm grip.

When the nave or stock is built up of different sections of pressed fiber or paper, as shown in Fig. 4, in place of the solid, I take sufficient pressed fiber to enable me to form the mortises to receive the spokes, leaving sufficient pressed fiber between the metal disks and sides of the spoke to form a solid layer of pressed fiber all round said spoke; or that portion of the stock comprising the mortises may be made in two separate halves, as shown in Fig. 7, so that by removing the metal disks or plates one-half of said mortise can be lifted and the spoke removed. I then take the two iron or metal plates or disks, one to form the front of the stock and the other to form the back or inner side of the stock, with bolts passing through from end to end and secured by nuts, as before described. Having now formed the requisite number of mortises, I screw up the two metal faces to resist the outward pressure caused by driving home the spokes in their places. The felloes are then placed in the ordinary way, on which is fitted either the ordinary tire for traveling on common roads or a flanged tire for tramway or railway purposes, as may be required.

Figs. 3, 6, and 7 represent modified forms of plates or disks to those shown in Fig. 2. In Fig. 3 the plates overlap the stock at *f* and finish flush with the stock, as shown. In Fig. 6 the bolts are countersunk and screw into part *g*, formed on one of the plates or disks, so that no portion of the bolt projects beyond the stock. In Fig. 7 the plates overlap the stock passing between the spokes and terminating with lugs *h*, being secured by bolts, as shown.

I am aware that various means have hereto-

fore been used for holding the spokes firm to the stock or nave of the wheel; but I am not aware that they were ever made to conflict with my invention.

5 I am aware that metallic bands have heretofore been made in connection with hubs for wheels, &c.; but it will be obvious to those skilled in the art to which my invention appertains that it differs very much from all
10 others bearing on the same subject.

Having thus described my invention, what I desire to secure by Letters Patent is—

In an improved hub, as herein described,

the combination consisting of the compressed-fiber nave made in sections and held in place 15 by the metallic disks secured together by means of bolts, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of 20 May, 1887.

WILLIAM J. BREWER.

Witnesses:

CHARLES MORLEY,
CHAS. AMON.