

J. B. FINK.  
Wheels for Vehicles.

No. 158,925.

Patented Jan. 19, 1875.

Fig. 1.

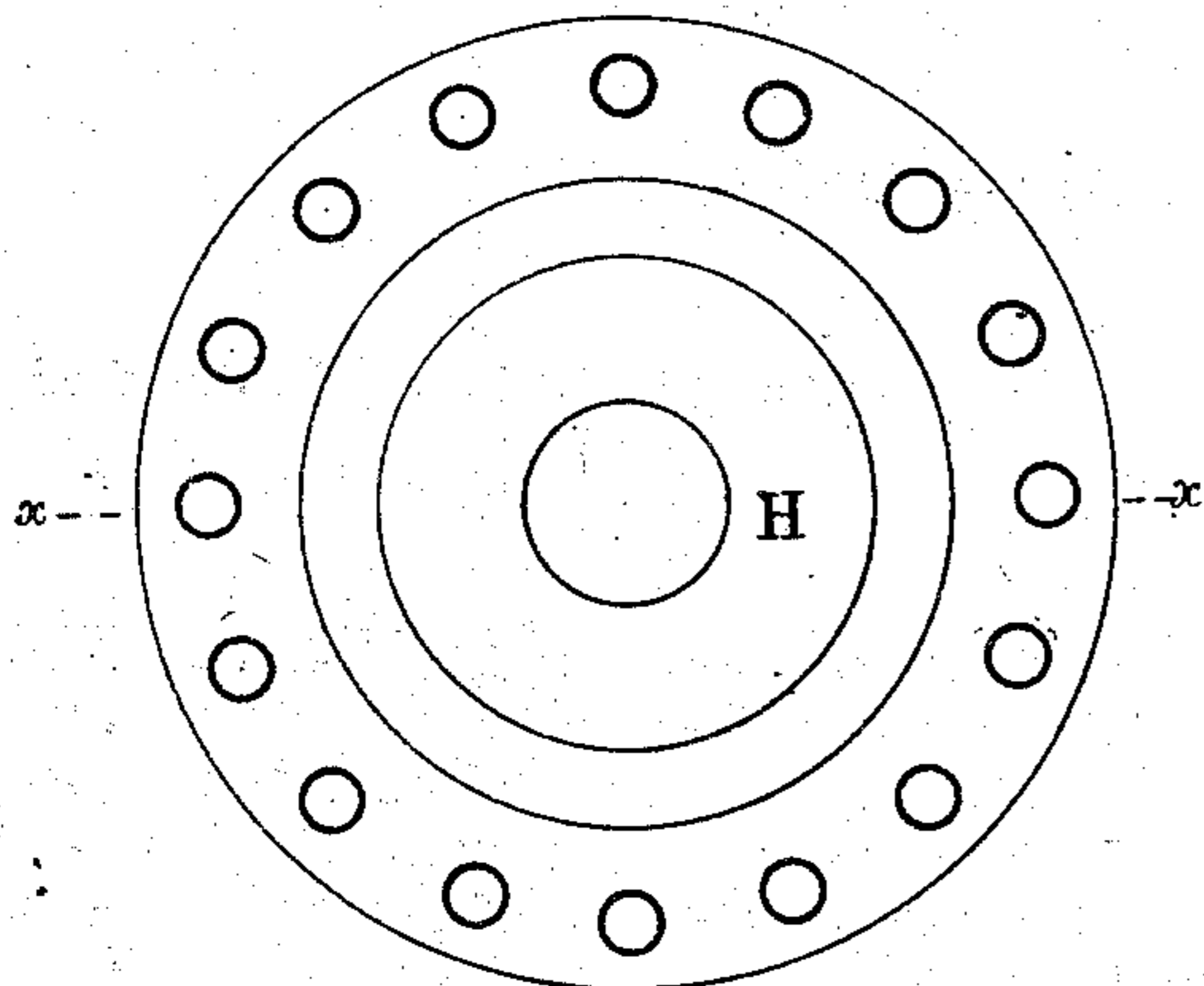


Fig. 2.

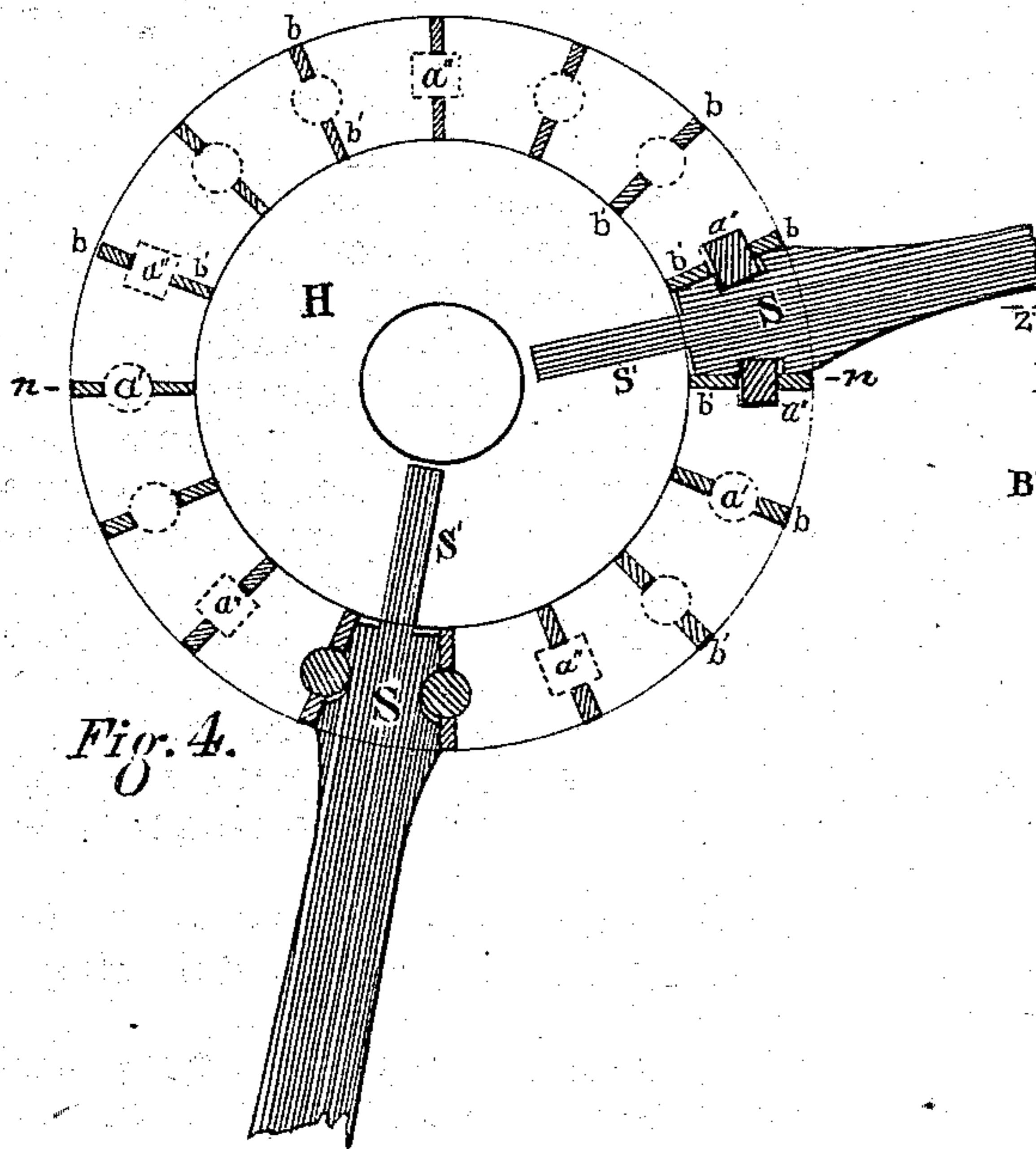
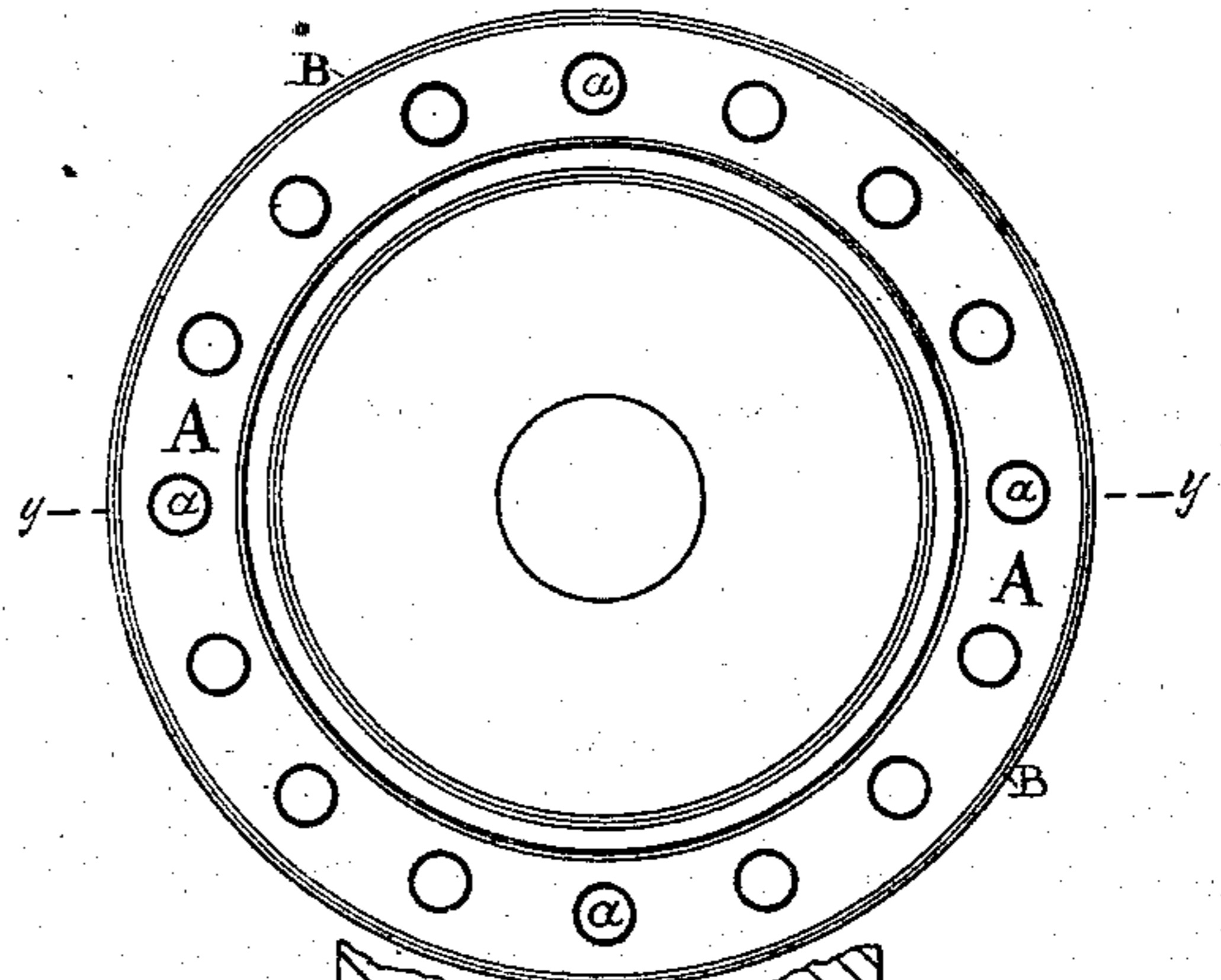


Fig. 3.

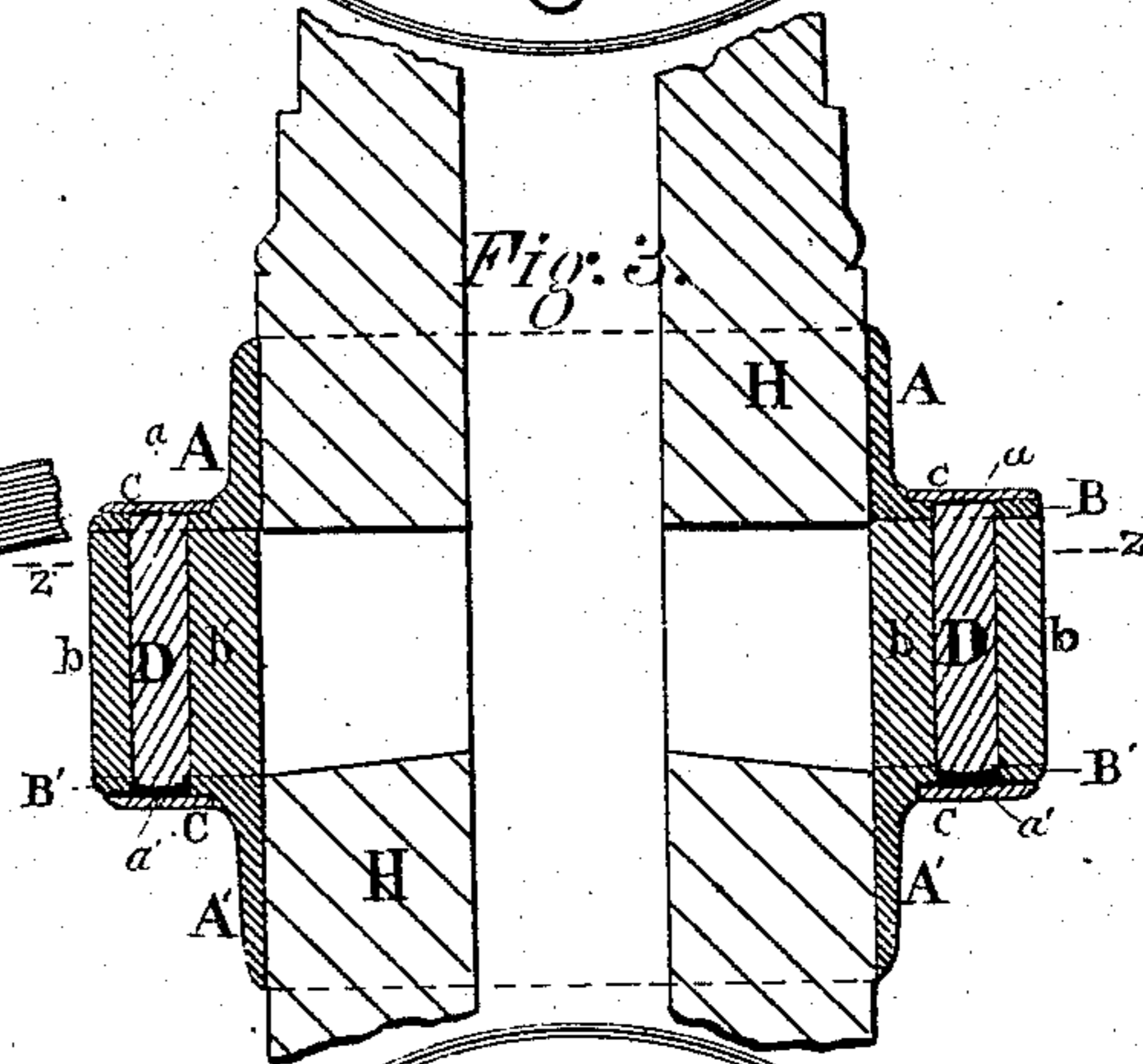
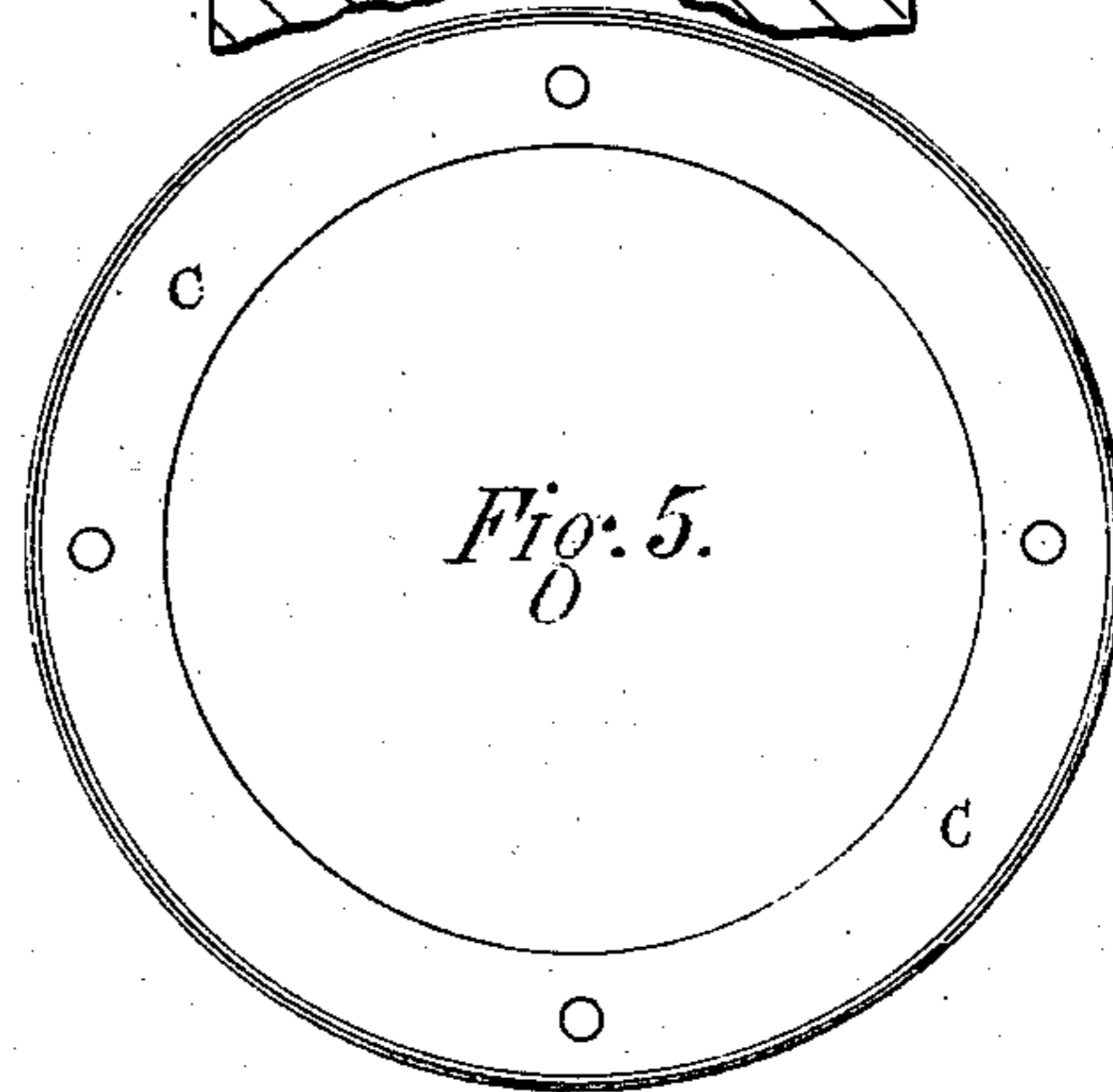


Fig. 4.

Fig. 5.



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# UNITED STATES PATENT OFFICE

JOHN B. FINK, OF SAEGERSVILLE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO WILLIAM S. GODSHALL.

## IMPROVEMENT IN WHEELS FOR VEHICLES.

Specification forming part of Letters Patent No. **158,925**, dated January 19, 1875; application filed December 22, 1874.

*To all whom it may concern:*

Be it known that I, JOHN B. FINK, of Saegersville, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Carriage-Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification:

Figure 1 is an end view of the hub of a wheel, showing the ends of the dowels which secure the spokes, the annular covering-band being removed. Fig. 2 is an end view of the socket-ring. Fig. 3 is a longitudinal section of the same on *yy* of Fig. 2, and *nn* of Fig. 4. Fig. 4 is a transverse section on the socket-ring on lines *zz* of Fig. 3, showing the fillets which unite the two flanges, as seen in Fig. 3, the wooden hub being removed. Fig. 5 is a plan view of one of the annular bands for covering the dowels, and preventing their displacement.

This invention relates to improvements in carriage-wheels, and consists in certain combinations of some of the parts of which they are composed, as will be more fully described hereinafter.

The importance of keeping the spokes tightly in the hub and annular socket-ring is well understood, and various methods have been adopted to effect this purpose, but so far all have failed to do this effectually. In this invention a method is shown whereby, in the event of the shrinkage of the spokes after being inserted, they can be tightened by the conical or wedge-form of the dowels, which "draw bore" the shoulders, and thus force them toward the center of the hub.

A A' represent the two flanges of metal which are annular in plan, as in Fig. 2, and

L-shaped in section, as in Fig. 3. These flanges have cast in their webs B B' holes *a a'*, which may be circular, as *a a'*, or square, as *a''*. The webs B and B' of these flanges are united together by fillet-pieces *b b'*, which also serve to form the mortises of the hub for the shoulders of the spokes, as seen in Fig. 4, where two spokes are represented in place at S. The fillets *b b'* are so arranged that they form between them supports for the dowels, as continuations of the sides of the holes *a a'*, which are either circular or square in the flanges, and which are represented by D D. These dowels, which may be made tapering, so as to draw the spokes inwardly, and thereby tighten them, confine the shoulder of the spokes, as at S, Fig. 4, by being inserted nearly one-half of their diameters in each side, the main tenon S' fitting into the mortise of the wooden hub H. The annular bands C C, one on each side of the metal hub, are fastened by screws, and cover the ends of the dowels, and prevent their removal, except when necessary to remove a broken spoke, or to tighten them when loose from shrinkage, wear, or other cause.

I am aware that it is not new to use dowels for retaining spokes, nor metal rings for sockets.

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

In a carriage-wheel, the combination of a hub, H, socket-ring A A, spokes S, retaining-rings C C, and dowel-pins D, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own invention, I affix my signature in presence of two witnesses.

JOHN B. FINK.

Witnesses:

C. M. CONNELL,  
JOHN M. JUDD.