

No. 842,397.

PATENTED JAN. 29, 1907.

A. J. FRIEDMAN.

AXLE.

APPLICATION FILED JAN. 6, 1906.

Fig. 1.

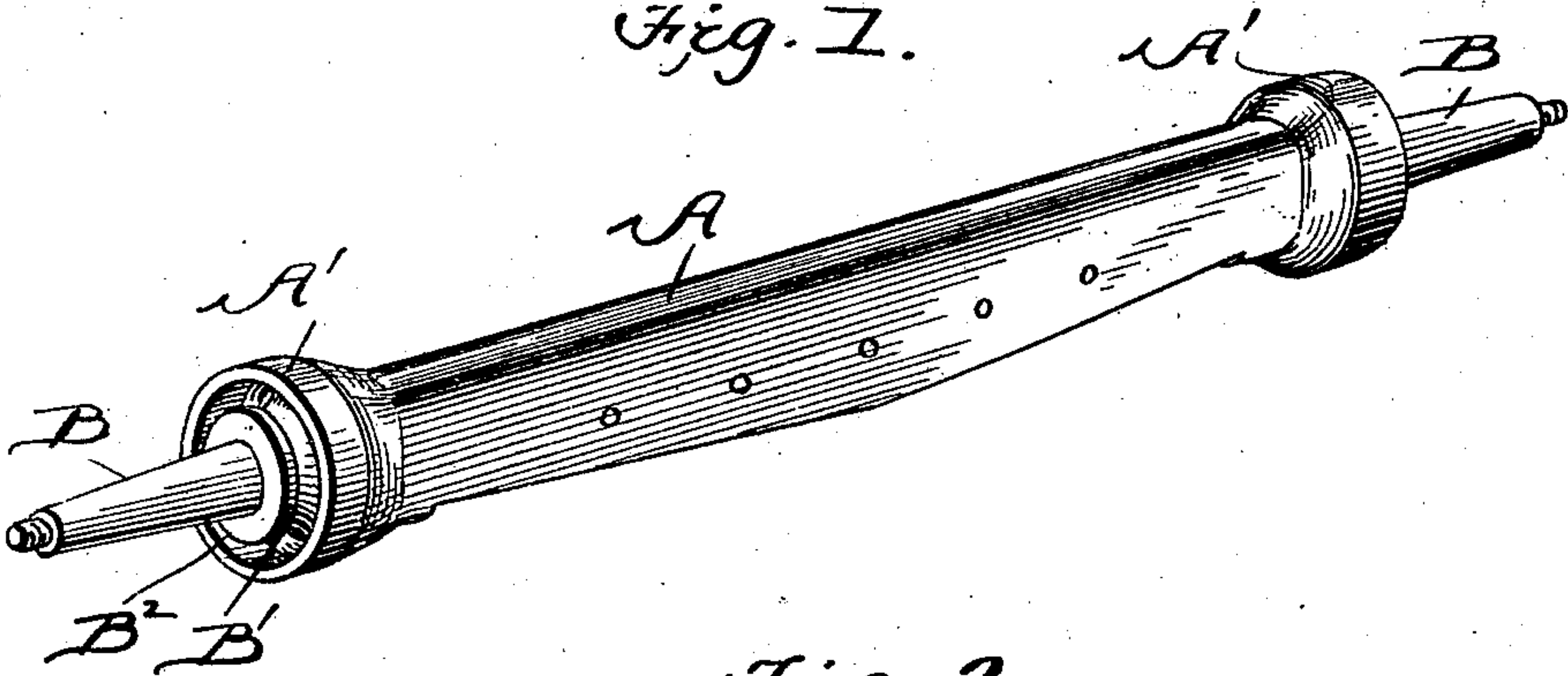


Fig. 2.

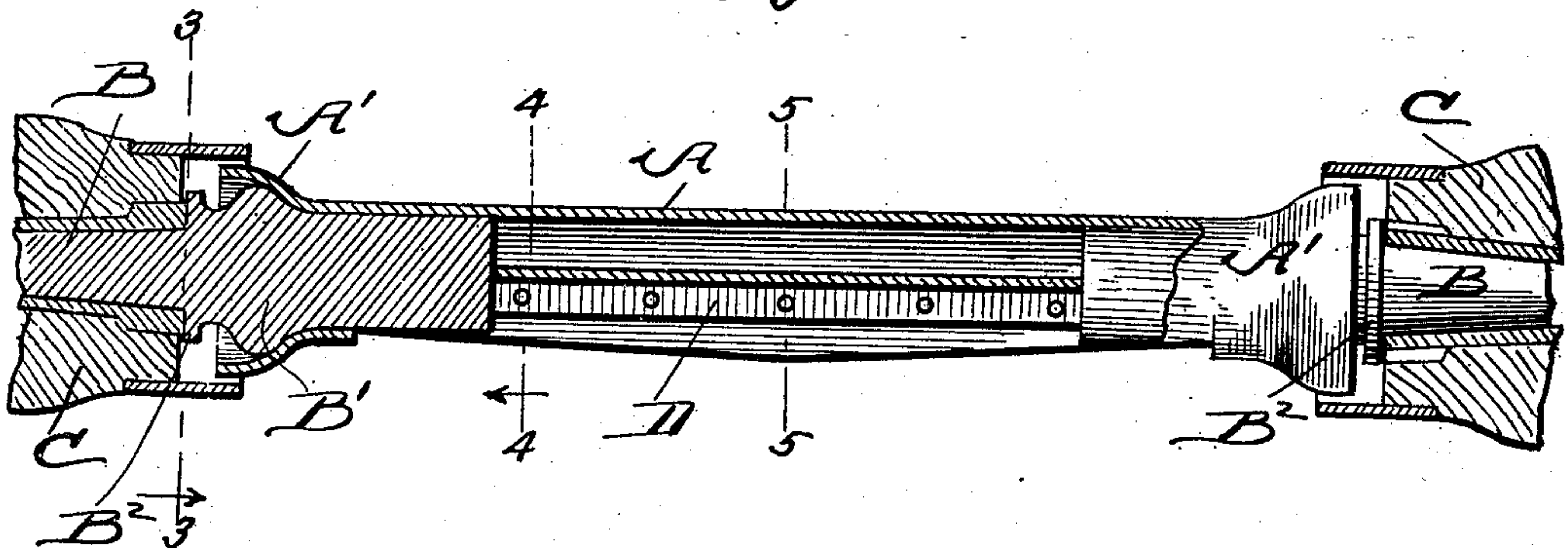


Fig. 3.

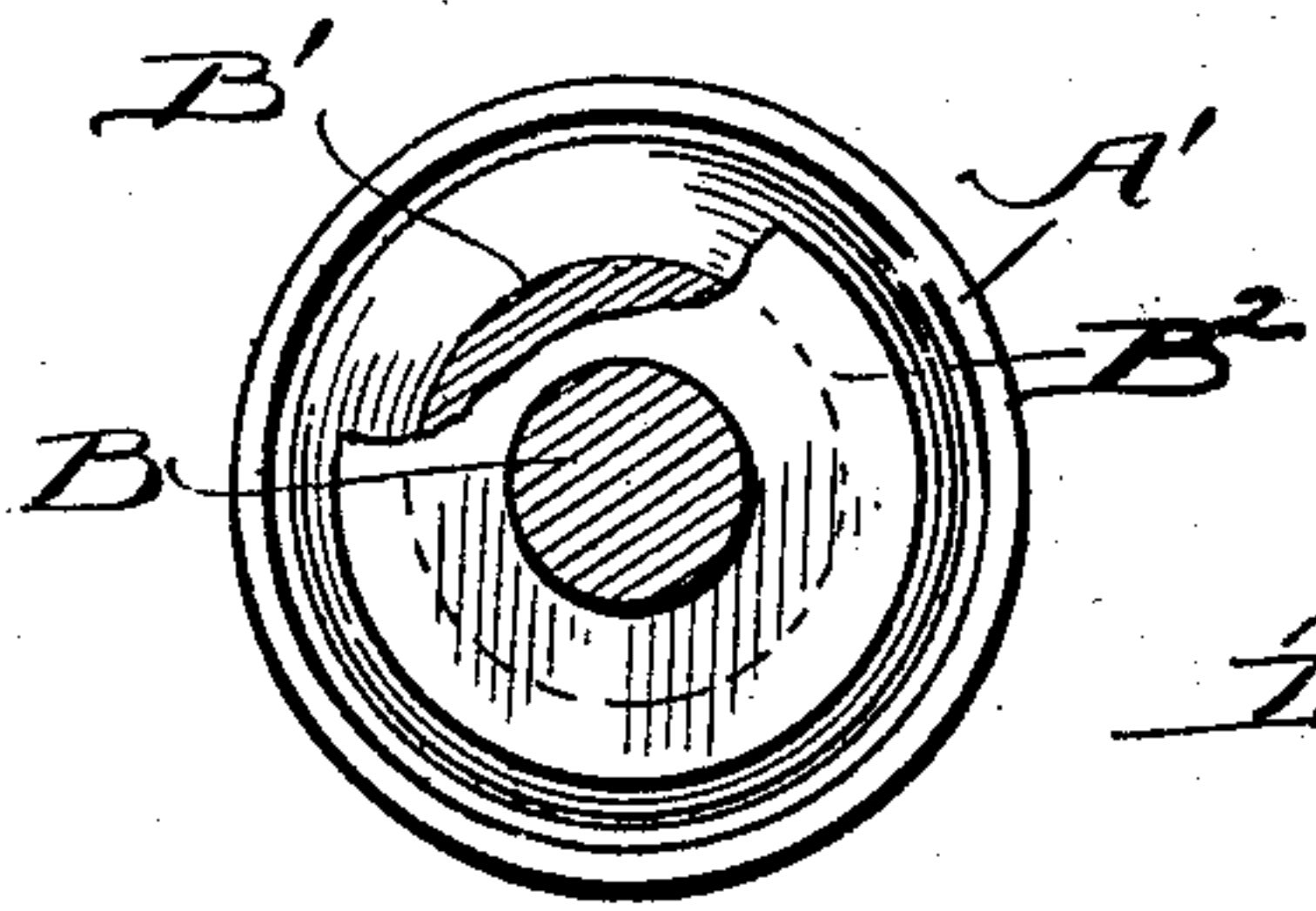


Fig. 4.

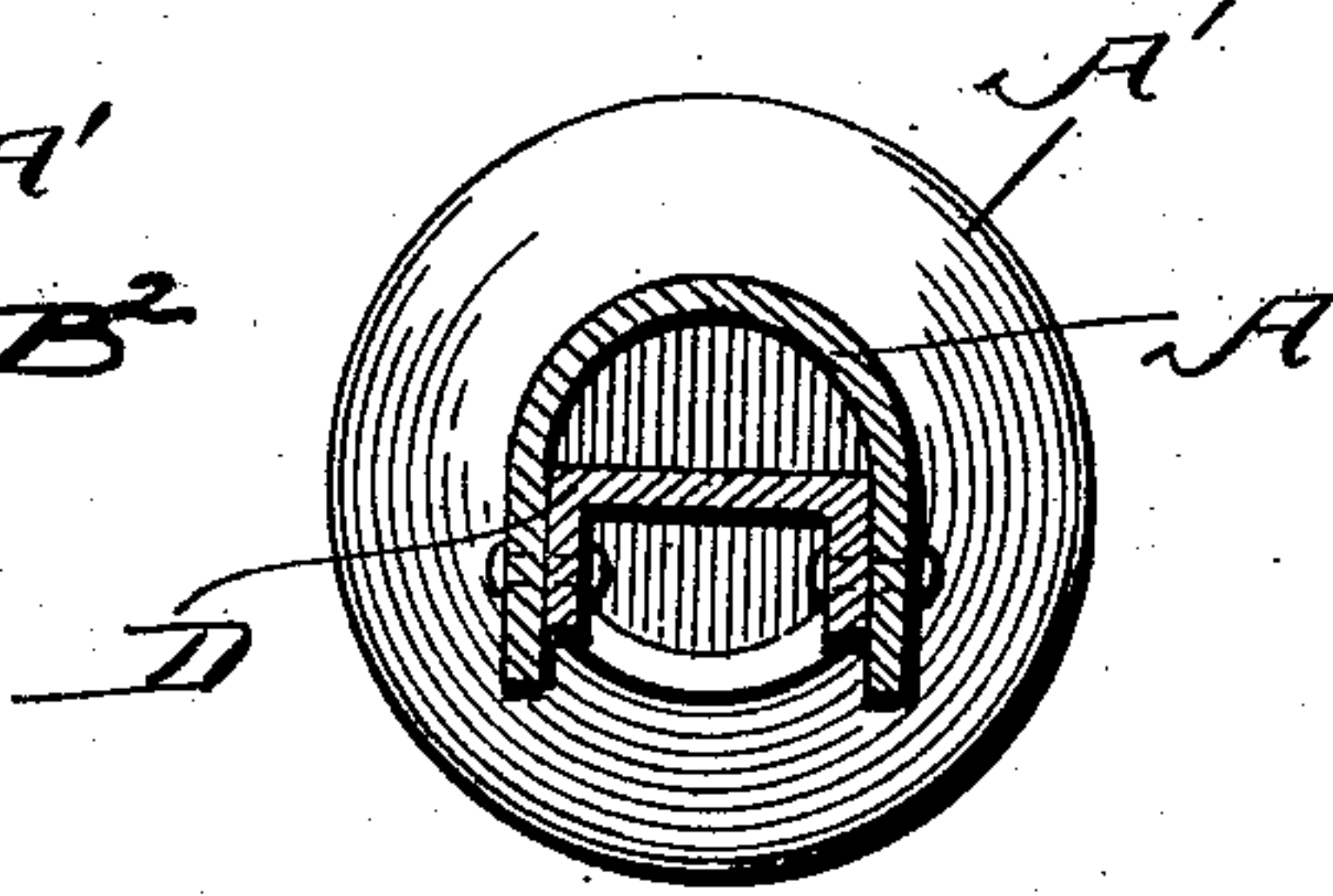


Fig. 5.

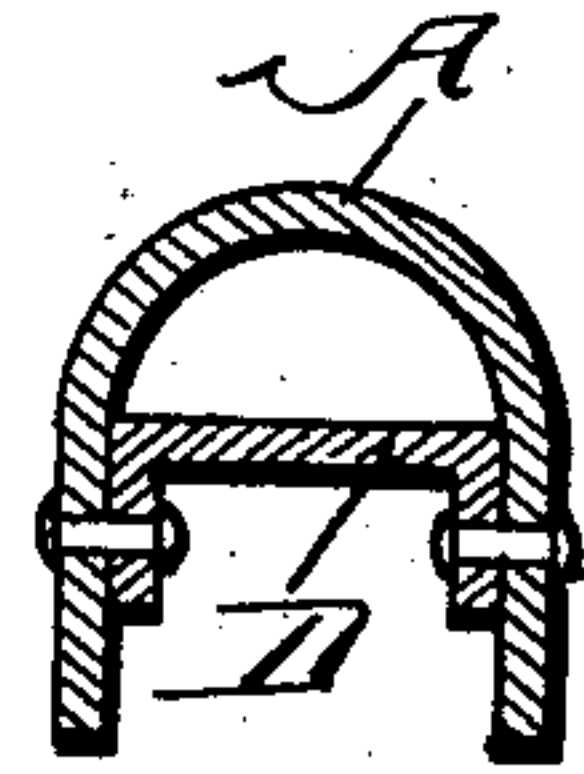
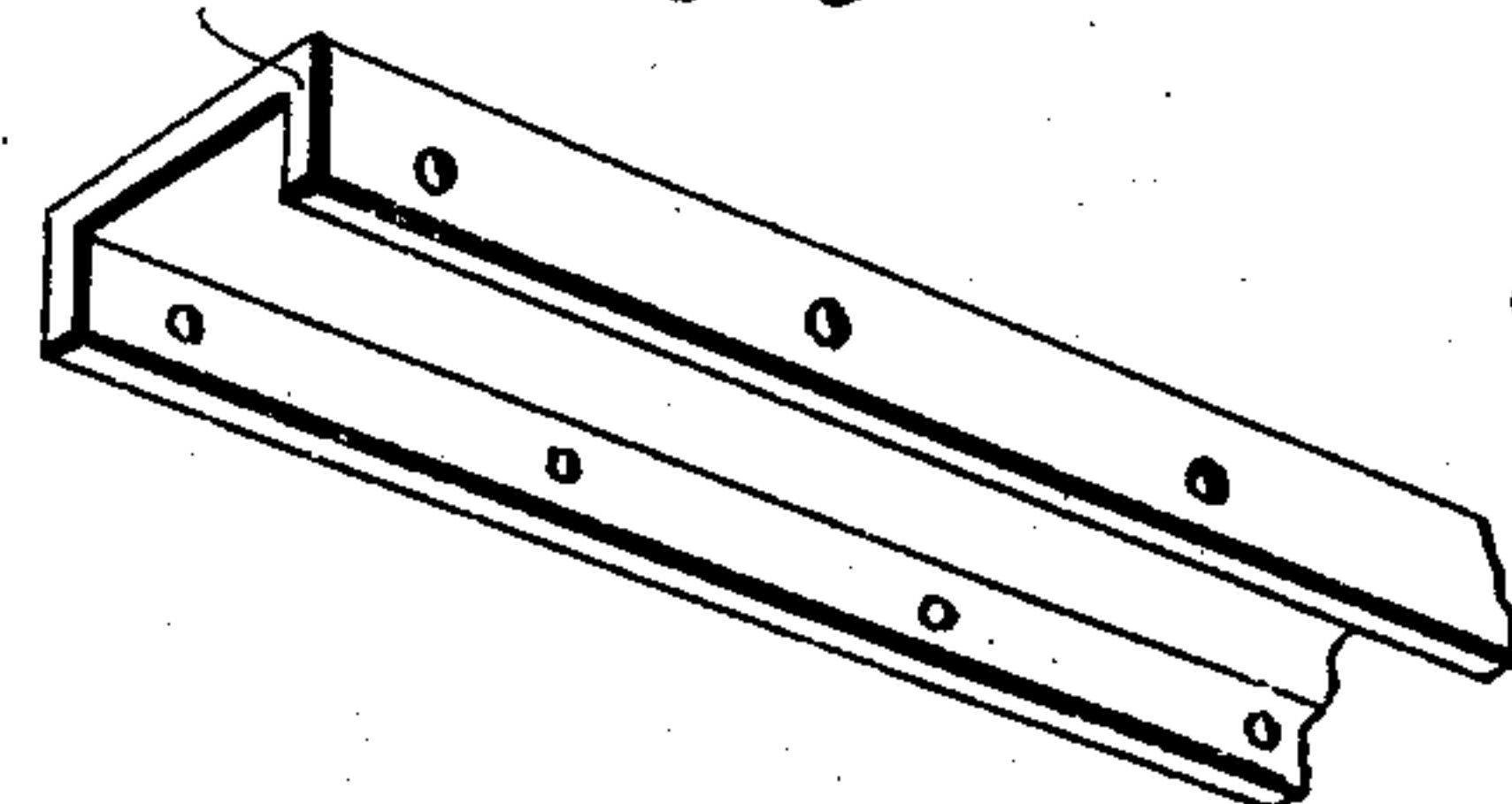


Fig. 6.



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AXLE.

No. 842,397.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed January 6, 1906. Serial No. 294,912.

To all whom it may concern:

Be it known that I, ANDREW J. FRIEDMAN, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Axles, of which the following is a specification.

My invention relates to certain new and useful improvements in axles, and has for its object to provide an axle which is very simple and cheap in construction and one which will do away with the wooden axles now in use.

Another object of my invention is to provide an axle with hub-guards so as to prevent the sand and dirt from getting into the boxes.

A further object of my invention is to provide an axle which is very light in construction and one which is very effective in use.

A still further object of my invention is to provide a trough-shaped brace in connection with the axle for the purpose of preventing the same from spreading.

With these objects in view the invention consists of the novel features of construction, combination, and arrangement of parts hereinafter fully described, and pointed out in the claims.

In these drawings forming a part of this specification, Figure 1 is a perspective view of the axle. Fig. 2 is a longitudinal sectional view of the axle, brace, and spindle, showing the hubs mounted thereon. Fig. 3 is a section, on an enlarged scale, taken on line 3 3 of Fig. 2, with the hub removed, showing a portion of the outer collar broken away to show the groove. Fig. 4 is a section taken on line 4 4 of Fig. 2. Fig. 5 is a section taken on line 5 5 of Fig. 2. Fig. 6 is a perspective view of the brace removed, partly broken away.

Referring to the drawings, A indicates a hollow metal axle provided with enlarged ends A', adapted to fit under the hub of the wheel and prevent the sand and dirt from getting into the boxes. The axle is formed U-shaped in cross-section, being widest at the center or slightly arched at its lower edges, so as to strengthen the same.

The shank of the spindle B is welded or

riveted in the end of the axle and is provided with an annular enlargement B', fitting in the enlarged end A' of the axle A. The spindle extends out from the enlargement, and on the spindle the hub C is mounted, which is prevented from moving too far by the annular flange B² on said spindle near the enlargement B'. It will be seen that when the spindles wear out they can be replaced by new ones without replacing the axle.

A trough-shaped brace D is secured in the axle A by rivets midway between the top and bottom thereof and extends up against the spindles B, secured in each end, and prevents all danger of the axle spreading.

From the foregoing description it will be seen that I have provided a very light and strong axle, which can be used with great advantages on buggies.

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

1. An axle comprising a U-shaped tube provided with flanged ends having spindles extending outwardly therefrom, and a brace secured in said axle, as set forth.

2. An axle comprising a U-shaped tube provided with outwardly-extending flanges at each end, spindles provided with enlargements secured in each end of the axle projecting outwardly therefrom, and a brace secured in said axle between said spindles, as set forth.

3. An axle comprising a U-shaped tube widest at its center, spindles secured in the ends of the axle, flanges projecting out from said axle over said spindles, and a flanged brace secured in the axle between the spindles, for the purpose set forth.

4. An axle comprising a U-shaped tube widest at its center, spindles welded in the ends of the axle, flanges projecting upwardly and outwardly from the ends of the axle over the spindles, and a trough-shaped brace secured in the axle and extending from spindle to spindle, for the purpose set forth.

ANDREW J. FRIEDMAN.

Witnesses:

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A. P. MEYERS.