

No. 686,041.

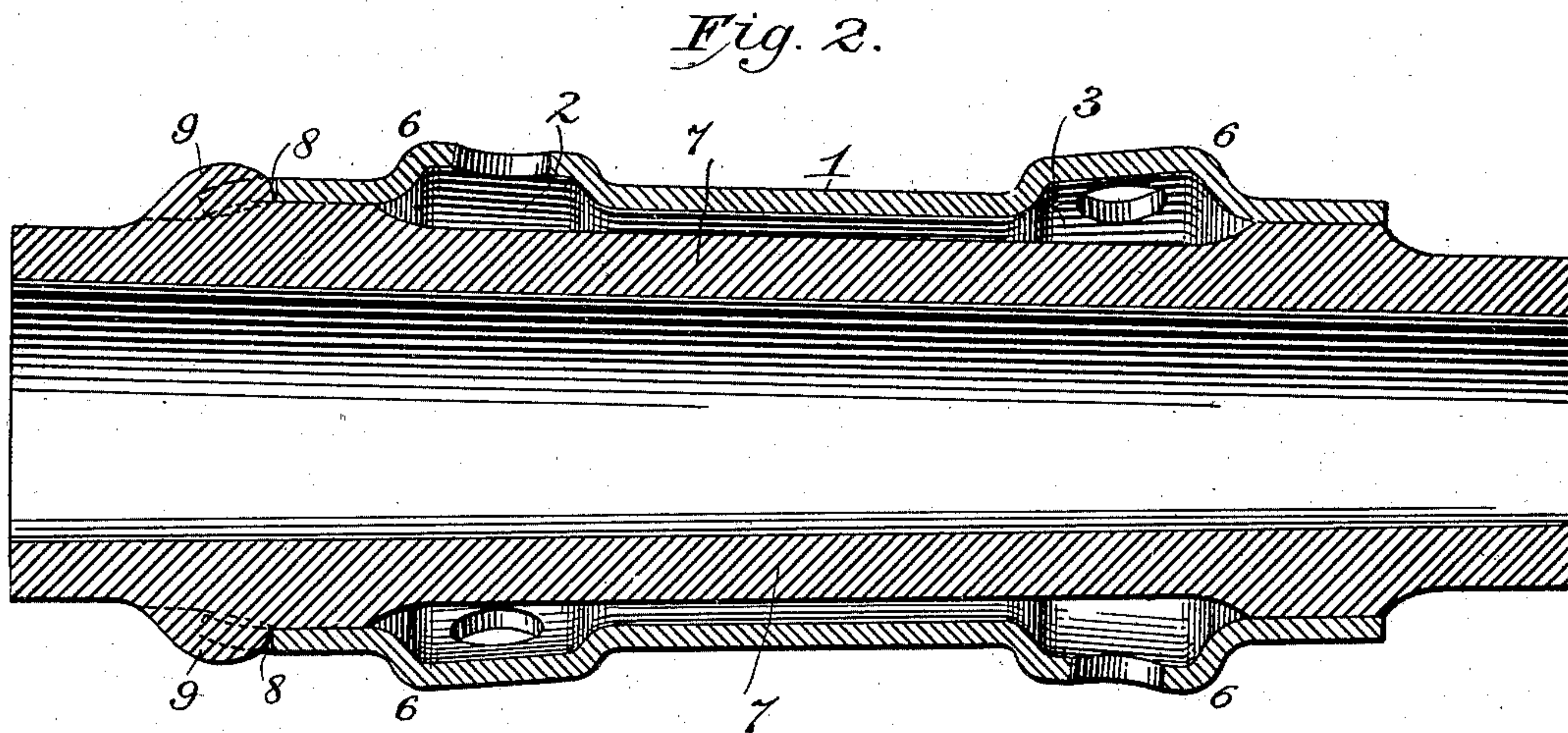
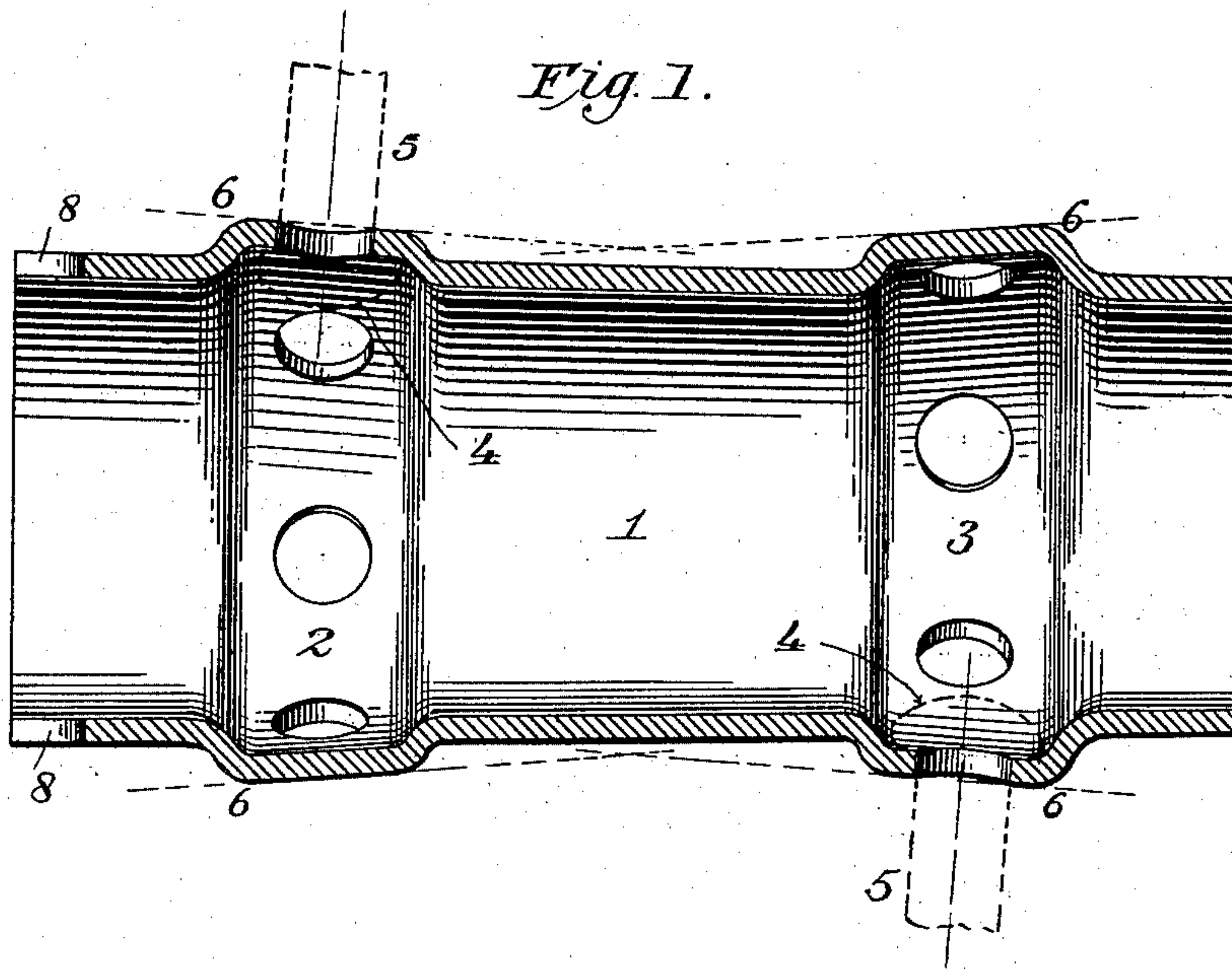
Patented Nov. 5, 1901.

E. EINFELDT.
WHEEL HUB.

(Application filed Aug. 10, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
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2 Sheets—Sheet 2.

Fig. 3.

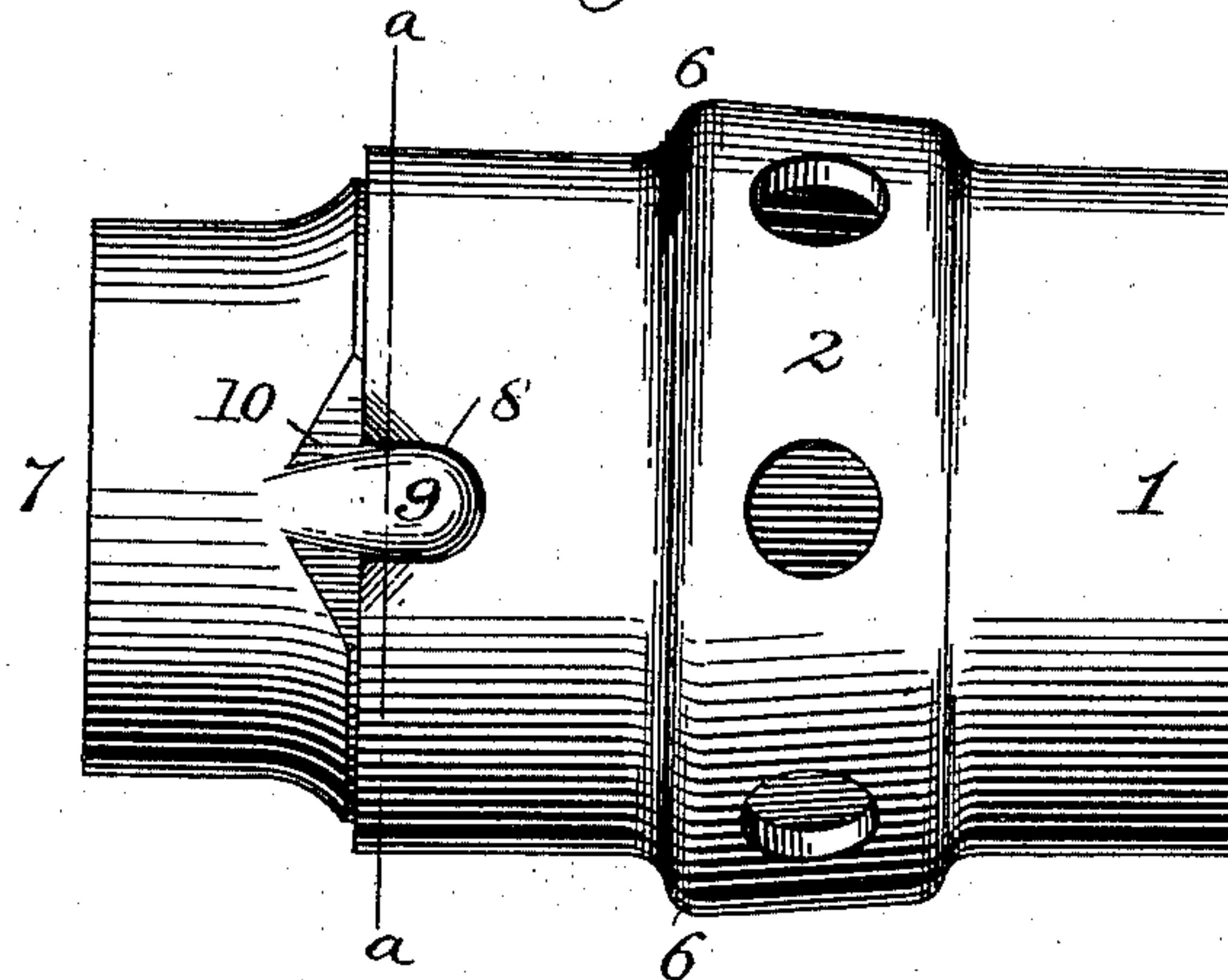


Fig. 4.

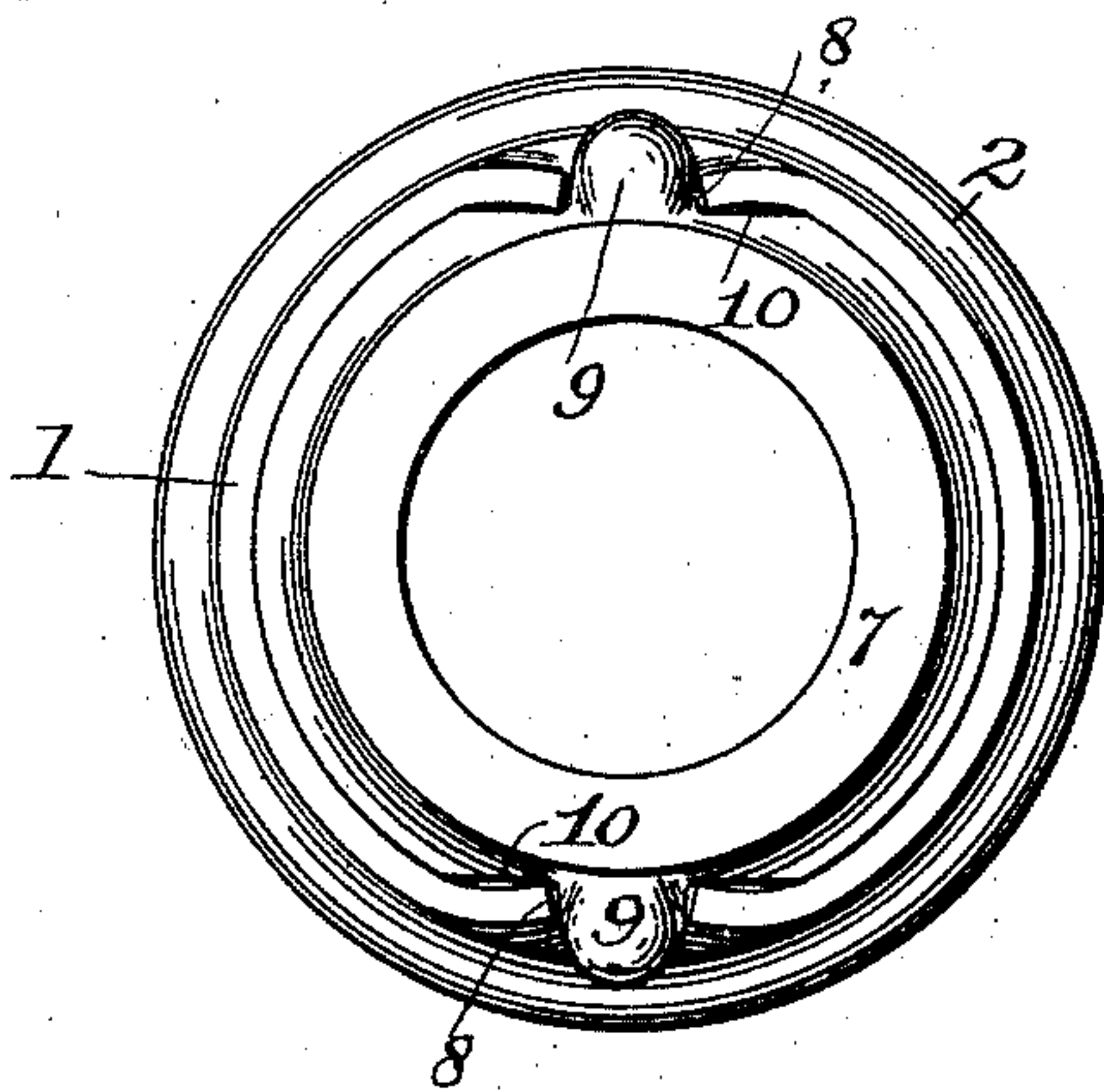
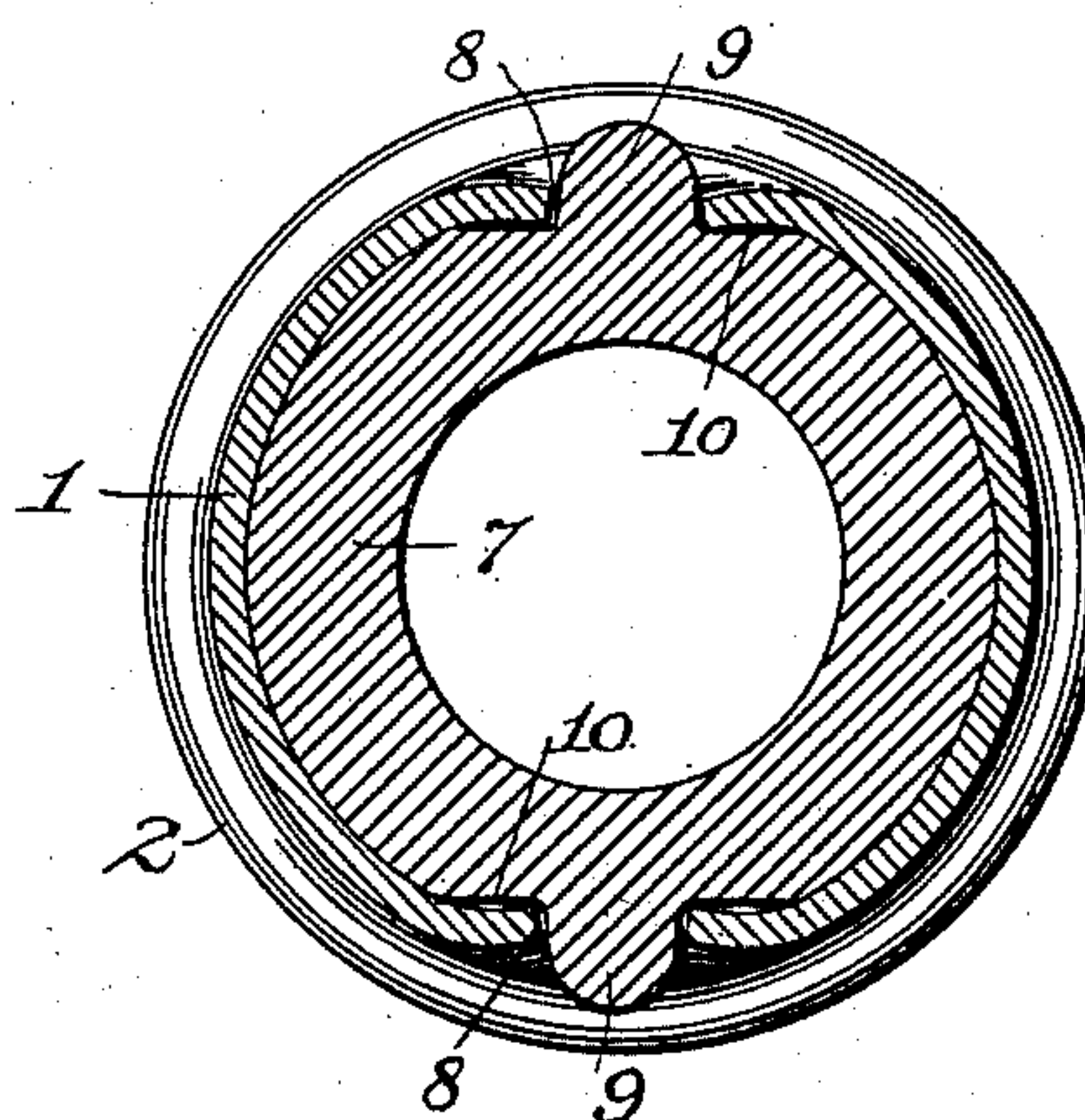


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

EMIL EINFELDT, OF DAVENPORT, IOWA, ASSIGNOR TO BETTENDORF METAL WHEEL COMPANY, A CORPORATION OF ILLINOIS.

WHEEL-HUB.

SPECIFICATION forming part of Letters Patent No. 686,041, dated November 5, 1901.

Application filed August 10, 1901. Serial No. 71,580. (No model.)

To all whom it may concern:

Be it known that I, EMIL EINFELDT, of Davenport, county of Scott, and State of Iowa, have invented a new and useful Improvement in
5 Wheel-Hubs, of which the following is a specification.

This invention relates to metal wheels, and more particularly to the hub of the same, the object being to produce a hub which will be
10 of unusual strength and durability and well adapted to successfully withstand severe and continued usage.

With this end in view my invention consists, primarily, of a tubular hub-shell of improved construction and form and also in
15 the combination, with a tubular hub, of a box adapted to be inserted therein and held by improved means.

The invention consists also in the details
20 of construction and combination of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal section through a hub-shell embodying my invention. Fig. 2 is a similar
25 view showing the box set in place. Fig. 3 is a side elevation of one end of the hub-shell and box with the latter secured in place. Fig. 4 is an end elevation of the same. Fig. 5 is a cross-sectional elevation on the line *a a*
30 of Fig. 3.

Referring to the drawings, the hub 1 is in the form of a cylindrical shell and is preferably made from a section of steel tubing and by suitable means provided with transverse
35 corrugations or swells 2 and 3 near its opposite ends, formed by bending the metal of the tube outward, thereby leaving on the inside of the shell grooves which receive the heads 4 of spokes 5, extending through holes
40 in the swells, as indicated by dotted lines in Fig. 1. These swells and the corresponding grooves on the inside are formed at an inclination with respect to the axis of the hub, the outer shoulders or edges of the swells,
45 as at 6, being higher or farther from the adjacent surface of the hub than the inner edges, the result being that the surface of the swells will be inclined inward toward each other. The purpose of this peculiar forma-
50 tion is to afford an abutting bearing for the

latter are set at an inclination with reference to the plane of the wheel to the end that they will meet at their outer ends at or near a common line in the center of the rim, a wheel
55 with the spokes set in this manner being familiarly known in the trade as "staggered." The inclination of the swells and corresponding grooves is at right angles to the axis of the spoke when the latter is set, so that the
60 heads on the inner end of the spoke which bears a corresponding relation to it will have a flat bearing against the face of the grooves, as shown in Fig. 1. This causes the strain
65 on the head and spoke to be exerted uniformly and equably in the direction of the axis of the same.

In order that a box may be fixed within the hub-shell and effectually prevented from escape, I form the hub-shell with a slight taper
70 from end to end, its inner end being largest, and I insert in the same a box 7, having its outer surface formed of a corresponding taper, and I drive the same firmly in the shell, so that it will enter with a wedging action,
75 thereby expanding the shell slightly, which in tending to resume its normal position will embrace the box with great firmness and tightly hold the same therein. As a further
80 means for preventing the endwise movement of the box and as a means for preventing its lateral slip within the hub-shell I form in the larger end of the shell, preferably at diametrically opposite points, open slots 8 in position to receive lugs 9, projecting upward from
85 the outer surface of the box when the latter is driven home. Adjacent to the sides of this lug the surface of the box is flat, as at 10, Figs. 3, 4, and 5, forming a slight depression in which the edges of the hub-shell at the
90 sides of the open slots may be bent, as shown in Fig. 4. This manner of fastening the hub in place is applicable as well to other forms of hubs, and the invention in this respect is not confined to a hub-shell peculiarly formed
95 with the swells as described.

Having thus described my invention, what I claim is—

1. The improved hub-shell of cylindrical form having outwardly-bent continuous
100 swells forming corresponding continuous grooves on the inside of the shell adapted to

receive the spoke-heads, said grooves having their bearing-surfaces inclined toward each other in the direction of the axis of the hub.

2. The improved hub-shell of cylindrical form having outwardly-bent transverse corrugations or swells forming corresponding continuous grooves on the interior against which the spoke-heads are adapted to abut, and inclined toward each other in the direction of the axis of the hub; whereby flat bearing-surfaces are formed for the heads of staggered spokes.

3. In combination with a tubular hub-shell provided in its end with an open slot, a box seated therein and formed with a lug extending in the slot said box and shell being held against endwise movement by friction.

4. In a wheel-hub the combination with a box provided in its surface with a depression, of a tubular hub-shell tightly surrounding

said box and having the portion overlying the depression bent downward bodily into said depression and seated tightly therein; whereby the hub and shell are held both against relative endwise movement and relative movement laterally.

5. In combination with a hub-shell provided in one end with a slot, a box seated therein and provided with a lug extending in the slot and formed adjacent to the lug with a depressed portion in which the shell at the edge of the slot is bent.

In testimony whereof I hereunto set my hand, this 17th day of June, 1901, in the presence of two attesting witnesses.

EMIL EINFELDT.

Witnesses:

NATH FRENCH,
MAY L. DODGE.