

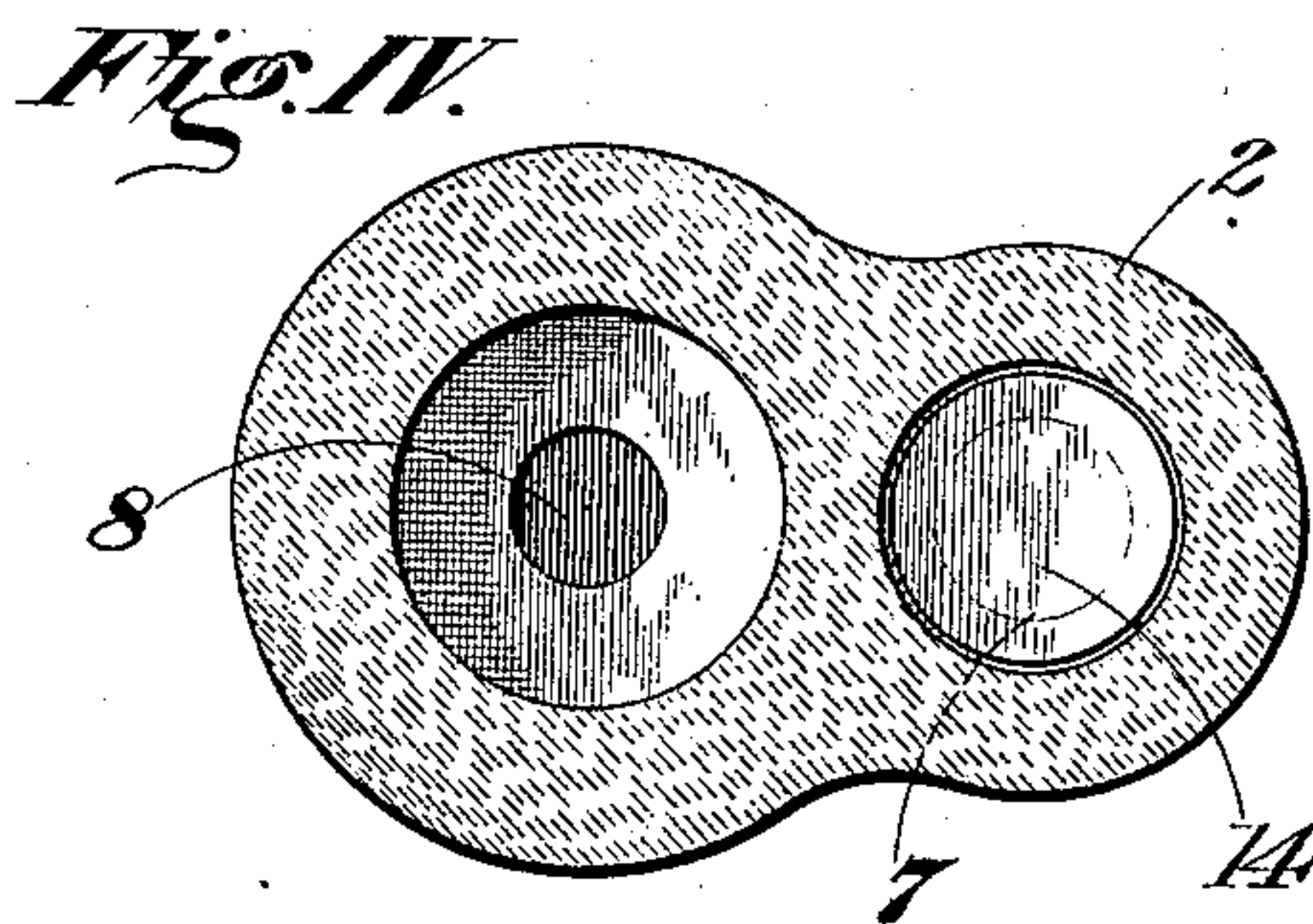
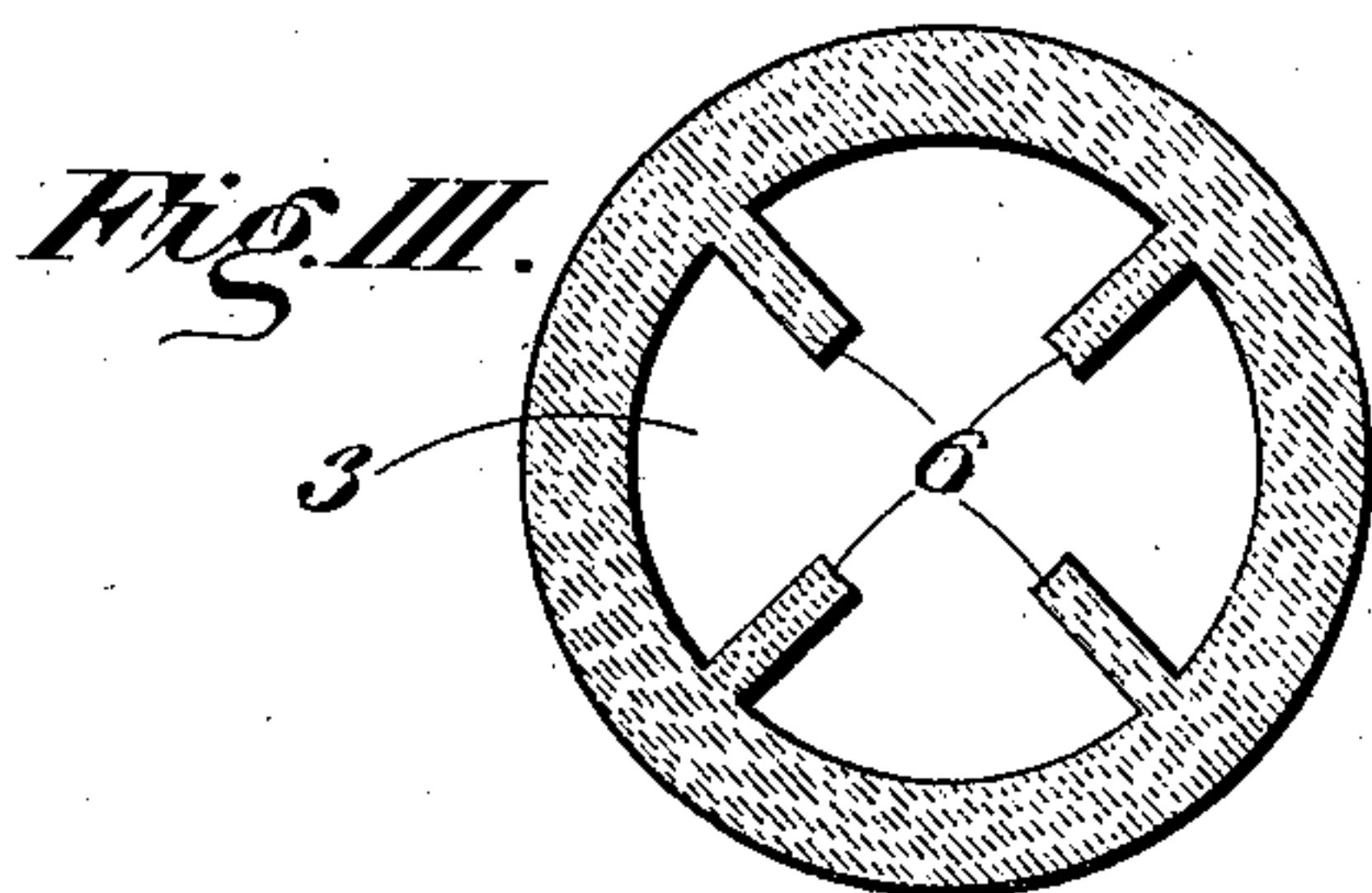
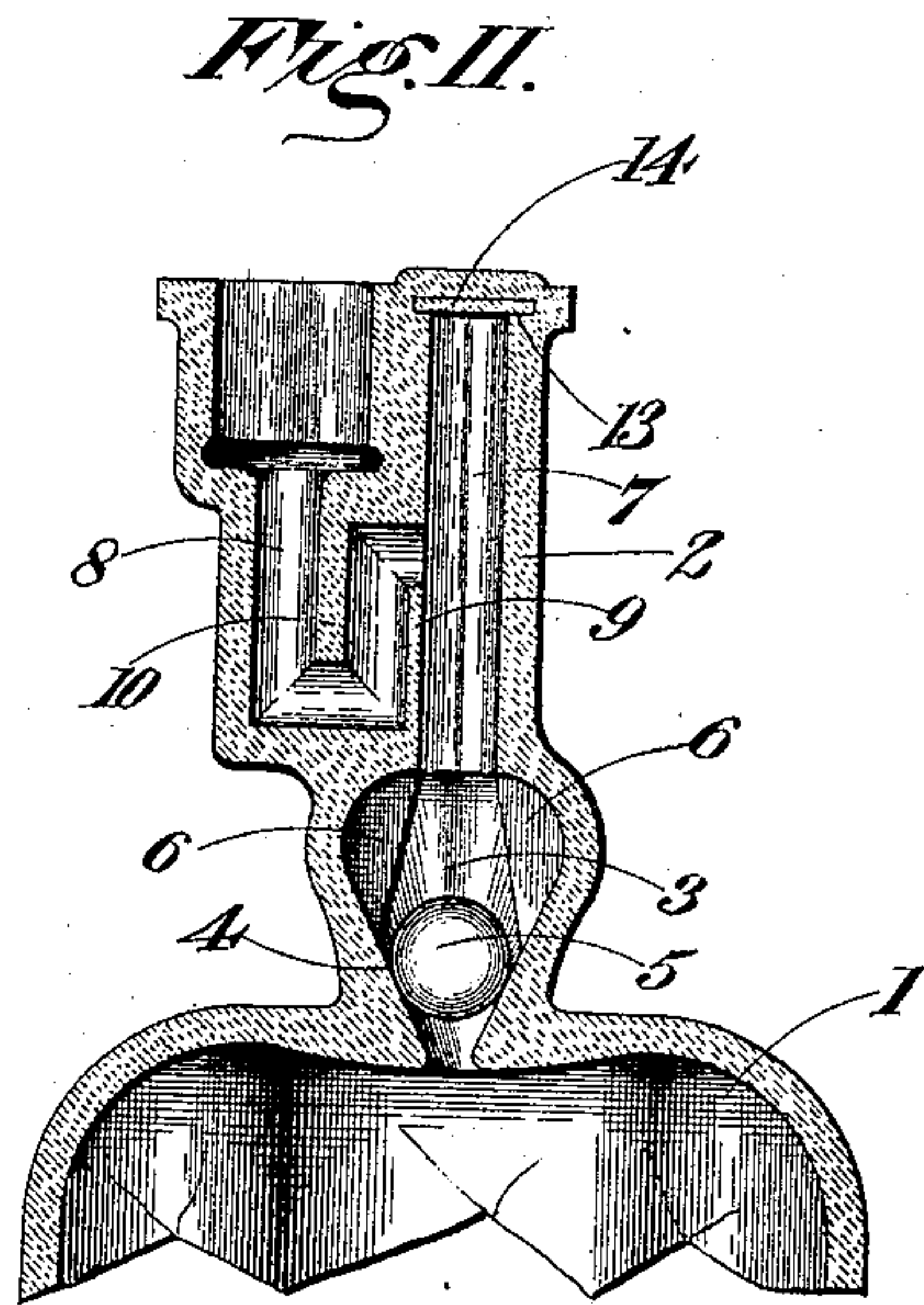
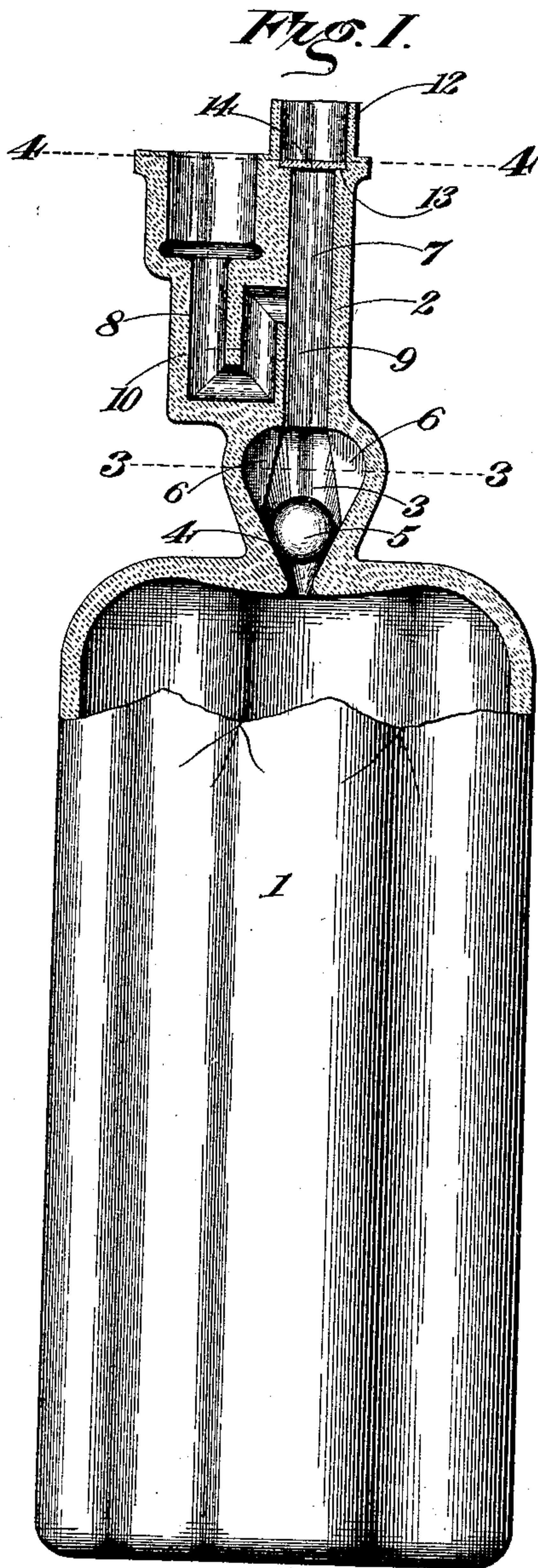
No. 615,878.

J. H. McDONALD.
NON-REFILLABLE BOTTLE.

Patented Dec. 13, 1898.

(No Model.)

(Application filed June 6, 1895.)



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH H. McDONALD, OF NEW YORK, N. Y.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 615,878, dated December 13, 1898.

Application filed June 6, 1895. Serial No. 551,843. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. McDONALD, of New York, county of New York, State of New York, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce a bottle which having been relieved of its contents cannot be refilled.

In the accompanying drawings, Figure I is a central vertical longitudinal section of my bottle complete before filling. Fig. II is a similar view after it is filled and closed. Fig. III is a section on the line 3 3 of Fig. I. Fig. IV is a section on the line 4 4 thereof.

Referring to the figures on the drawings, 1 indicates an ordinary glass bottle of any suitable shape, size, and dimensions. 2 indicates the neck thereof.

3 indicates a valve-recess, and 4 the valve-seat. The valve-recess is inversely conoidal in shape, and the valve-seat is the narrow part in the lower end thereof, against which in practice rests a preferably globular valve 5. The valve 5 is made with a yielding surface, as of rubber, but of a sufficiently ponderous core, as of lead or other metal, to prevent its floating. The upper part of the valve-recess is provided with flanges 6, which restrain the outward movement of the valve or ball when the bottle is tilted for withdrawing the contents and which allow egress through the valve-recess around the flanges 6. Above the valve-recess the neck is provided with a direct or axial bore 7 and with an indirect or lateral obstructing outlet or opening 8.

9 and 10 constitute overlapping or otherwise positive obstructions between the juncture of the indirect opening and the axial bore and are preferably so located that the lateral opening, as indicated at 11, enters the axial bore at right angles to it. By this arrangement three rectangular turns are made between the outlet-orifice and the valve in the neck of the bottle after it is filled, so that operative access for a picking-tool to the valve is prohibited.

In the manufacture of my bottle the axial bore is at first preferably provided with a terminal flange 12, between the interior of

which and the bore proper a shoulder or bench 13 is produced.

In practice the bottle is first filled by pouring the liquid through the flange 12 and the axial bore into the bottle until it is filled. The ball or valve 5 is then forced through the axial bore into the valve-recess 3, within which, owing to its elasticity, which causes it to expand after being forced through the radial bore, it is loosely confined. When the bottle is filled and the valve is in place, a plate or disk 14 of suitable material, fitting neatly within the interior of the flange 12, is set upon the shoulder 13. The flange is then—by the aid of a glass-blower, for example—melted down upon top of the disk 14 and the bore perfectly and permanently closed and sealed. The flange 12 being made of glass integral with the remainder of the bottle it is impossible to reopen the direct or axial bore without breaking the neck of the bottle. After the axial bore is closed the liquid contained within the bottle can be withdrawn in the ordinary way by tilting it. The valve 5 allows the egress of liquid into the interior of the neck or closed bore 7 of the bottle, whence it escapes through the lateral outlet, as in the usual way.

I do not confine myself to the details of construction herein shown and described, but reserve the right to modify and vary them at will within the scope of my invention.

What I claim is—

1. The combination with a bottle and its neck, of an axial bore in the neck, a valve-recess and valve, a lateral opening, and overlapping obstructions in the lateral opening, substantially as set forth.

2. The combination with a bottle and its neck, an axial bore, and valve-recess adapted to contain a valve, of a lateral bore communicating with the axial bore, and a flange surmounting the neck above the axial bore, and adapted to be melted down for closing the axial bore after the valve is inserted, substantially as set forth.

In testimony of all which I have hereunto subscribed my name.

JOSEPH H. McDONALD.

Witnesses:

C. S. FOLSOM,
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