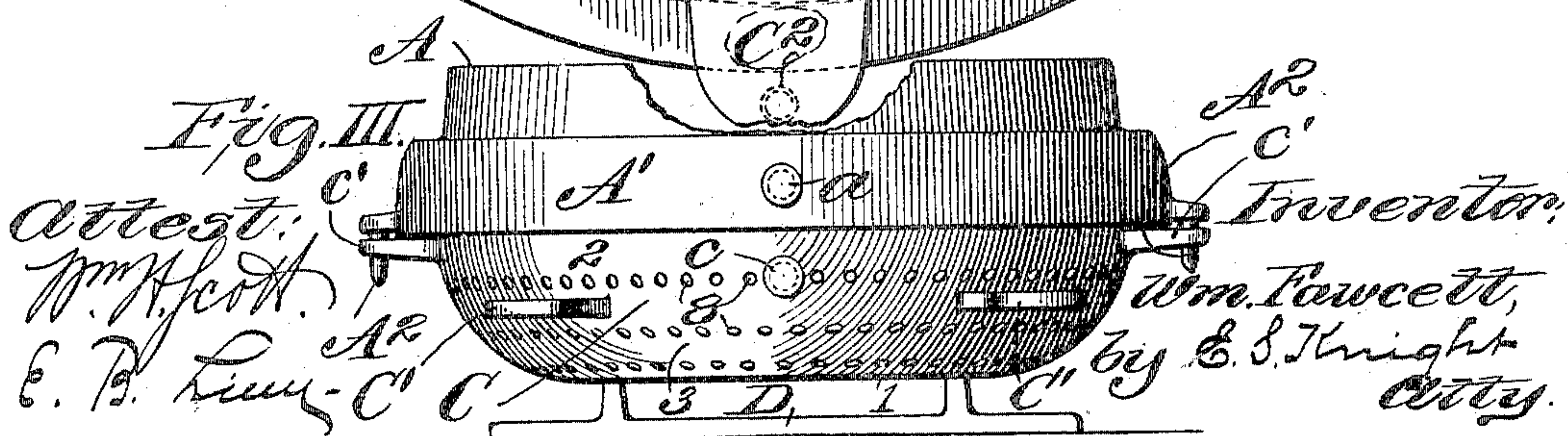
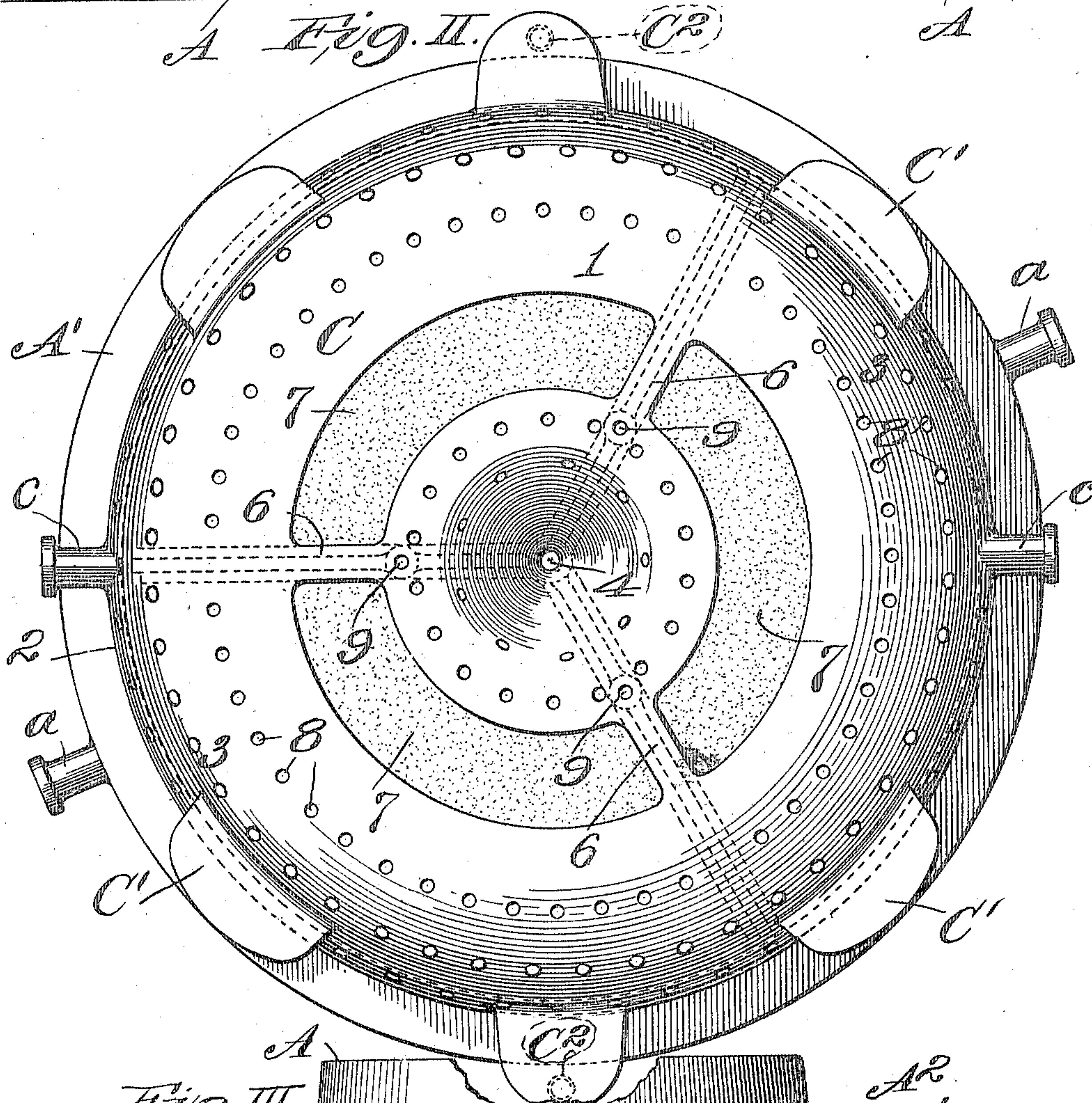
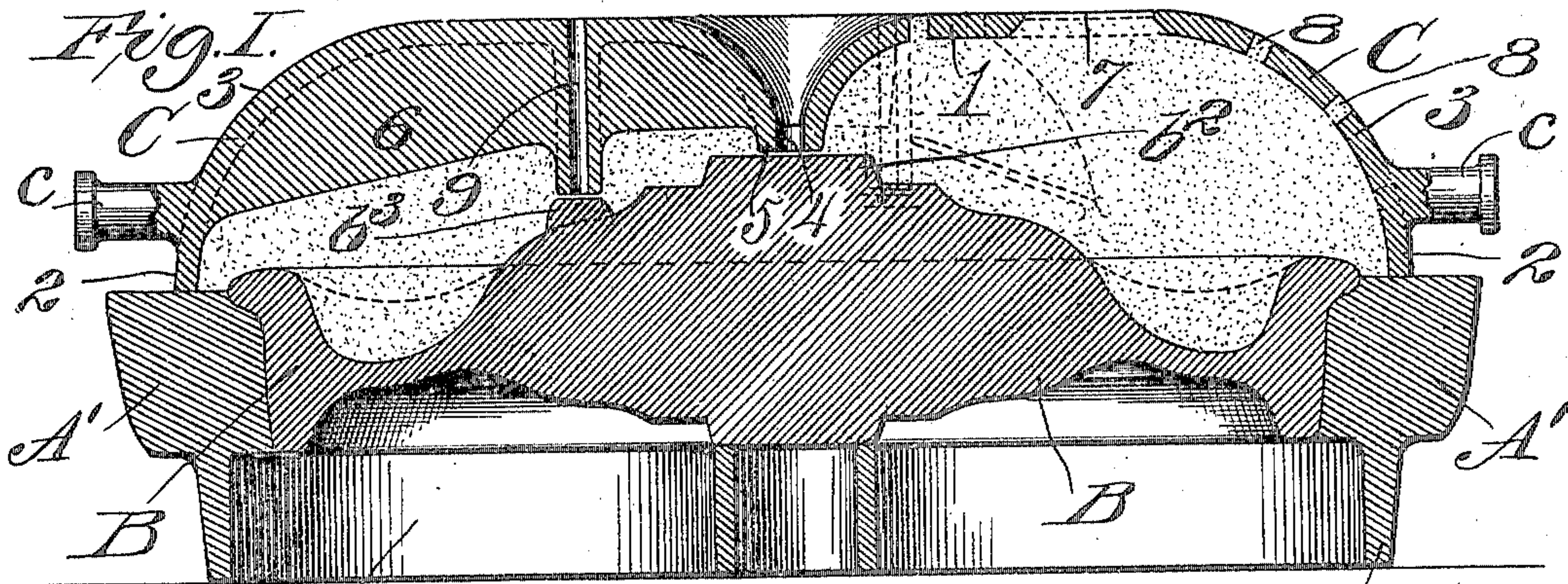


W. FAWCETT.
 DRAG FOR MOLDING FLASKS.
 APPLICATION FILED AUG. 19, 1909.

948,167.

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UNITED STATES PATENT OFFICE.

WILLIAM FAWCETT, OF ST. LOUIS, MISSOURI.

DRAG FOR MOLDING-FLASKS.

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Specification of Letters Patent.

Patented Feb. 1, 1910.

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To all whom it may concern:

Be it known that I, WILLIAM FAWCETT, a citizen of the United States of America, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Drags for Molding-Flasks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My improvement relates to a new and useful improvement in drags for molding flasks, the prime object of the invention being to provide a drag whereby the bottom board or follower employed in ordinary styles of drags is dispensed with. The boards or followers referred to are always objectionable for the reason that after they have been used a few times, they become buckled or warped, due to heat in the molding flasks, and, consequently, no longer present even surfaces for contact with the bottom edges of the drag. This unevenness, obviously, permits the sand which is contained in the drag to fall or be elevated at various points, resulting in imperfect castings.

In the drawing, I have illustrated my improved drag associated with an ordinary cope and chill of a flask designed for casting car wheels, the assemblage being shown for the purpose of giving a comprehensive understanding of the utility of the invention.

Figure I is a vertical section of a flask having my drag therein, and illustrating the condition of the flask assembly after the drag has been filled and tamped with sand, preparatory to being inverted. Fig. II is a top or plan view of the flask. Fig. III is a side elevation of the flask, on a reduced scale in inverted position.

A designates the cope of a flask and A' the chill, these members being shown in the drawing as being formed integral one with the other.

B designates a pattern, which is preferably supported by the chill A', which is provided with core prints b^2 and b^3 .

C designates my improved drag as an entirety which rests, when ready to receive sand, upon the chill A'. This drag consists of a hollow body having a bottom 1, which merges into the wall 2 by suitable curved portions 3, thus rendering the drag practically saucer shaped. In the center of the drag is a vent for gases formed in an inwardly projecting boss 5, which merges from

the bottom wall 1 of the drag, said vent 4 being directly in line with the core print b^2 carried by the pattern B.

6 designates a plurality of ribs arranged within the concavity of the drag, and extending preferably radially from the boss 5 to the side walls 2, the ribs being integral with the bottom wall 1.

Formed in the bottom 1 of the drag and located preferably between the aforesaid ribs 6 are openings 7, the combined areas of which are considerably less than the area of the interior of the drag. These openings 7 are located centrally of the drag and may be of any desired shape, but being preferably of segmental shape.

8 designates a plurality of vents in the bottom of the drag, to permit of the escape of gases arising from the molten substance when poured into the flask in the process of casting.

9 designates a plurality of vents, which preferably extend through the ribs 6 and are located directly in line with the core prints b^3 on the pattern B.

The chill and cope, as well as my improved drag, are provided with trunnions a and a' , respectively, designed to be engaged by suitable devices for raising, lowering and otherwise manipulating the same, as is well understood. The drag C is also provided with lugs, or projections, C' which afford seats for suitable clamps. The cope or chill is also provided with the usual centering pins or dowels, A², which register with perforations formed in lugs c' carried by the drag.

In the practical use of a flask comprising my drag, the pattern B is first placed in proper position on the cope. The drag is then placed over the cope and securely clamped thereto, after which the flask as an entirety is turned downside up, and, if desired, placed upon a suitable support D, ready to have the cope rammed with sand in the ordinary manner. It will be clearly understood that, due to the construction of the drag, the sand will not fall from the drag through the restricted openings 7 when the drag is in the reversed position just described, and that the ordinary bottom plate commonly employed to retain the sand in the drag is dispensed with.

I claim:

1. A drag for molding flasks of a deep concave saucer shape having in its bottom,

for the passage of sand therethrough, an opening that is of less area than the area at the interior of the drag, thereby providing for the bottom of the drag holding sand
5 packed in the drag.

2. A drag for molding flasks of a deep concave saucer shape having in its bottom, for the passage of sand therethrough, a plurality of openings of less area than the area
10 at the interior of the drag, thereby providing for the bottom of the drag holding sand packed in the drag.

3. A drag for molding flasks of a deep concave saucer shape having in its bottom, for the passage of sand therethrough, a plurality of openings located aside from the center of the drag, of less area than the area at the interior of the drag, thereby providing for the bottom of the drag holding
20 sand packed in the drag.

4. A drag for molding flasks of a deep concave saucer shape, comprising an outer bottom portion and a central bottom portion spaced apart from each other to provide
25 openings through the bottom of the drag for the passage of sand therethrough, the outer and central portions being connected to each other.

5. A drag for molding flasks of a deep
30 concave saucer shape, comprising an outer

bottom portion and a central bottom portion spaced apart from each other to provide openings through the bottom of the drag for the passage of sand therethrough, the outer and central portions being connected
35 to each other, and the central portion being provided at its inner face with a boss.

6. A drag of a deep concave saucer shape, comprising an outer bottom portion, a central bottom portion, and ribs connecting said
40 outer bottom portion to said central bottom portion, the bottom of the drag being open between said outer bottom portion and central bottom portion and between said ribs.

7. A drag of a deep concave saucer shape
45 constructed with a hollow body having a bottom, a wall, and curved portions merging the bottom into the wall, a central inwardly projecting boss having a vent, a plurality of radial ribs within the hollow body ex-
50 tending from the central boss to the wall, and each having a vent, segmental openings surrounding the central boss, vents in the bottom, curved portions and wall of the hollow body.

WILLIAM FAWCETT.

In the presence of—

HOWARD G. COOK,

EDNA B. LINN.