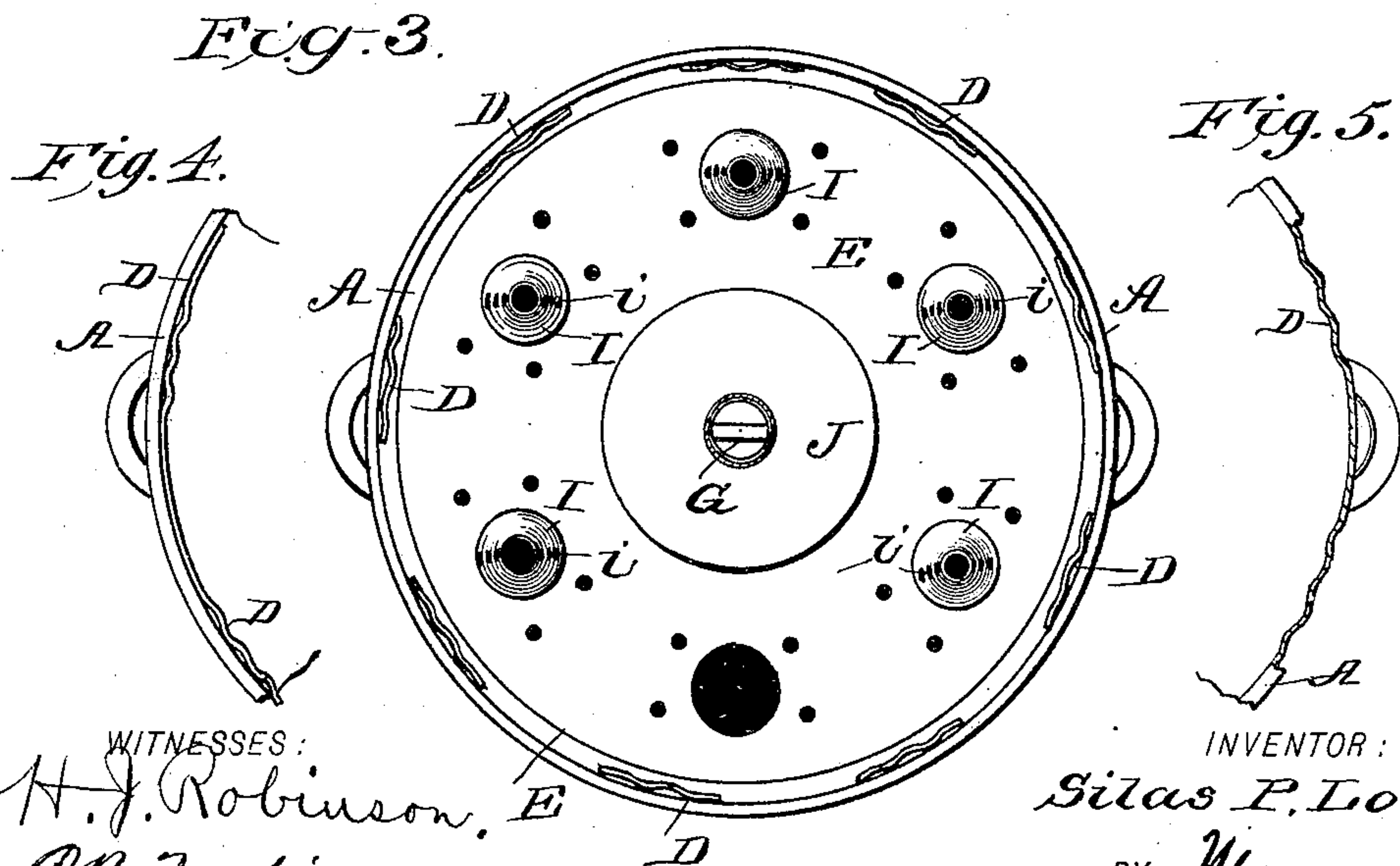
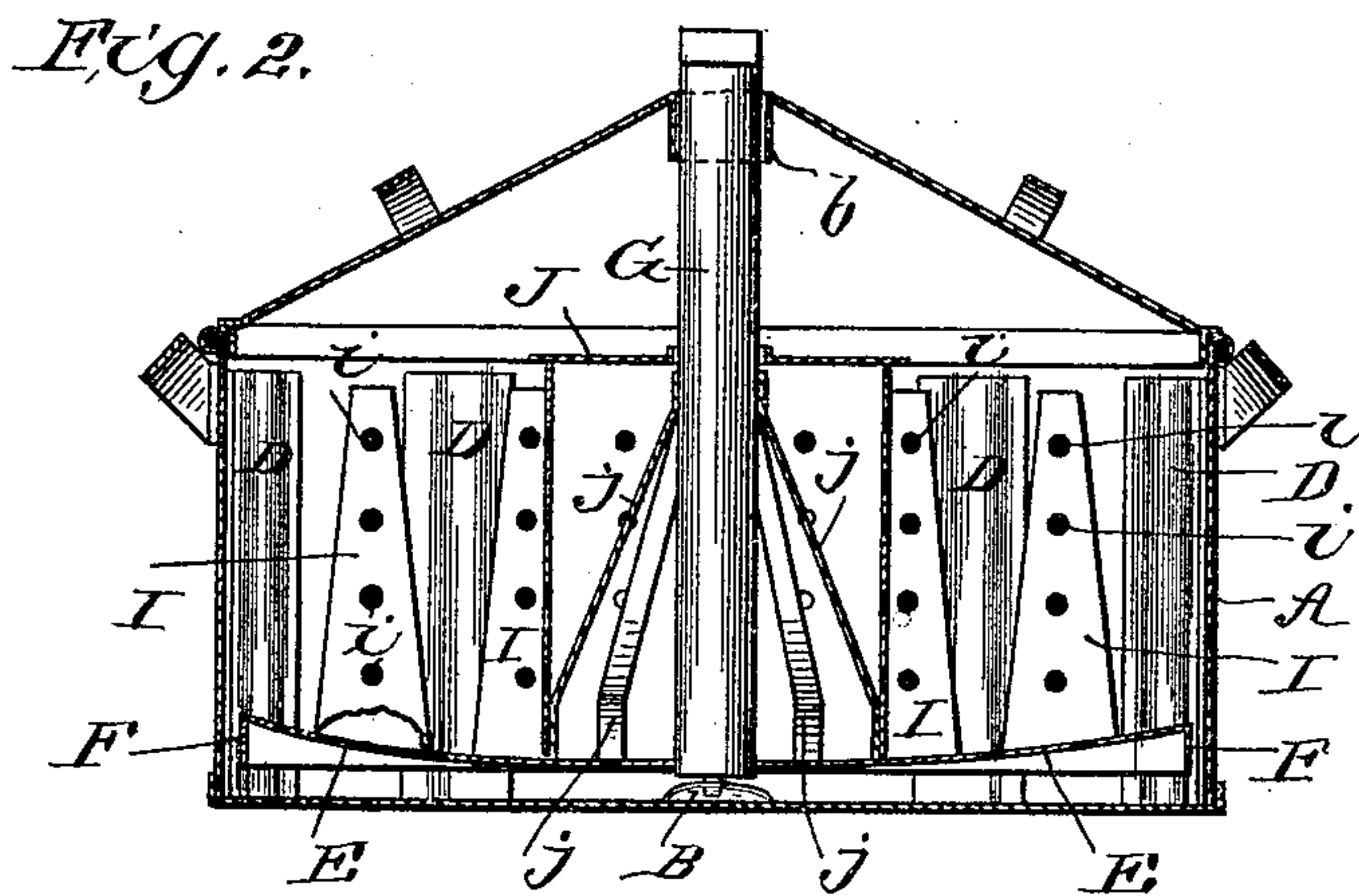
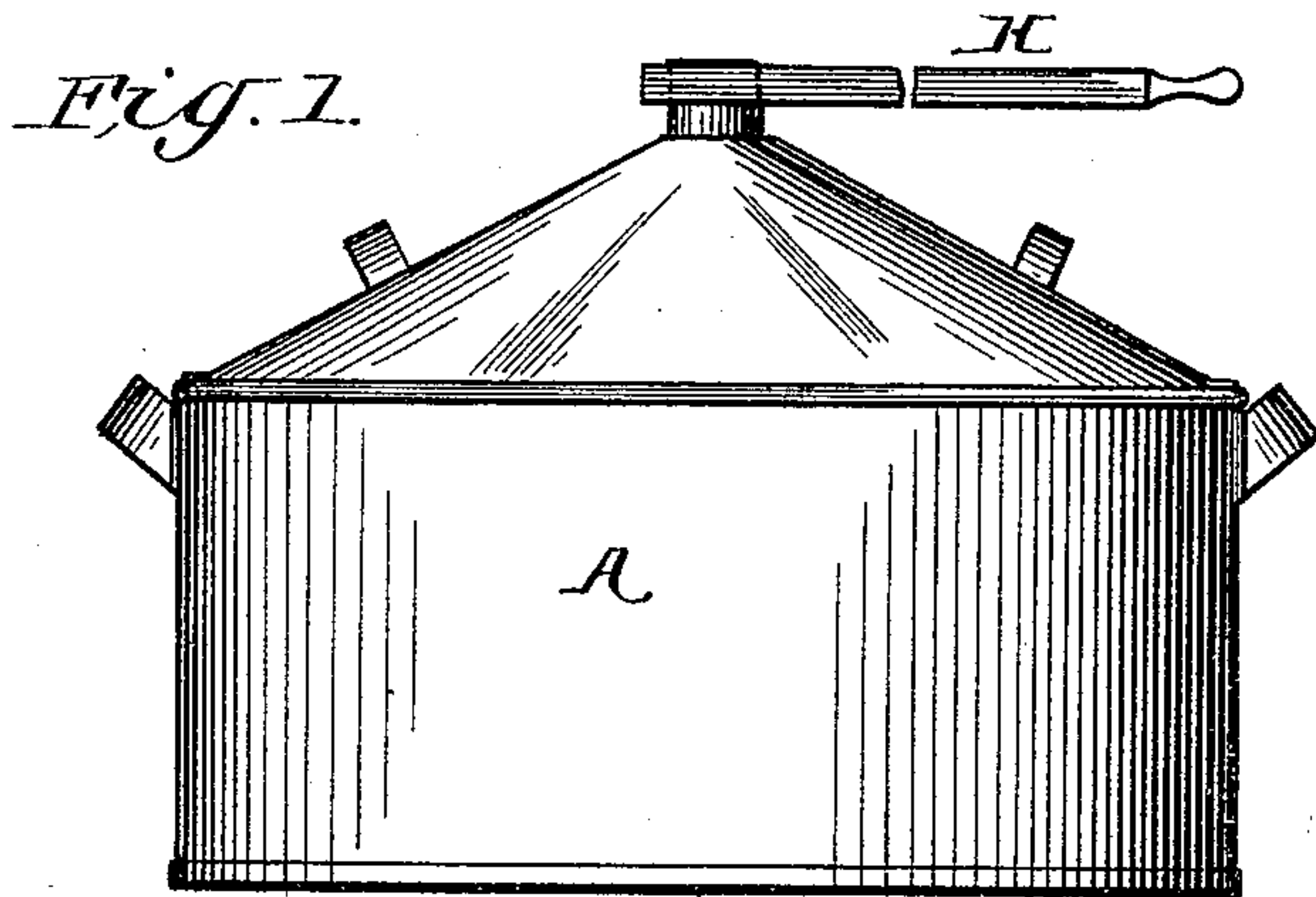


(No Model.)

S. P. LOWELL.
WASHING MACHINE.

No. 481,183.

Patented Aug. 23, 1892.



WITNESSES:

H. J. Robinson.
O. B. Furpie.

INVENTOR:

Silas P. Lowell
BY *Munn & Co.*

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UNITED STATES PATENT OFFICE.

SILAS P. LOWELL, OF EUGENE, OREGON.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 481,183, dated August 23, 1892.

Application filed January 13, 1892. Serial No. 417,991. (No model.)

To all whom it may concern:

Be it known that I, SILAS P. LOWELL, of Eugene, in the county of Lane and State of Oregon, have invented a new and useful Improvement in Washing-Machines, of which the following is a specification.

My invention is an improved washing-machine; and it consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side view, and Fig. 2 a vertical section, of my machine. Fig. 3 is a top plan view with the cover or lid removed, and Figs. 4 and 5 are detail views.

The body or suds-box A is made circular of wood or metal, preferably of sheet metal. It has centrally of its bottom a bearing B for the revolving rubber and agitator and also has a removable cover or lid provided centrally with a bearing b for the shaft of the rubber and agitator, the bearings B b being in vertical alignment, as shown in Fig. 2. On its inner side the body A has the upright ribs or flutes D, forming a rubbing-surface. These ribs or flutes may be formed separately, as shown, or be provided by properly fluting or forming a plate, of metal, secured in the body, or, if desired, by fluting the side of the body.

The rubber or agitator comprises a plate or disk E, having numerous perforations and preferably made concave, dishing downward toward its center. This concave form is preferred, because it gives greater strength to the plate and serves to prevent its sagging with the weight of the clothing. At its edge the disk E has a rim or ring plate F, which preferably depends and serves as a support for the outer edge of the disk, and also operates to prevent the clothing from getting under the outer edge of disk. At its center the disk is connected with the shaft G, which journals in the bearings B b and may be turned by the handle H.

On the disk is mounted upright tubes I, fitted at their lower ends over openings in the disk, so that hot water and steam may pass up into the tubes, which are perforated at i for the passage of the said water and steam onto the clothing. The upper ends of the

tubes I may be closed by plugs or in other suitable manner, or may be left open. The shape of these tubes is preferably conical, tapering toward their upper ends. Among the advantages of this special form of tube is that it enables the clothing, when wrapped around the tubes, to be lifted off by a stick, the tapered form of the tube causing the clothes to lift readily toward the upper smaller end.

At the center of the disk or plate I provide a cylinder J, open at its bottom and perforated at its sides to permit the hot water and steam to pass out onto the clothing being washed. This cylinder or turret tends to keep the clothes away from the center of the disk and holds them out in contact with the tubes, where the force of the water and steam is greatest. The tubes, by moving through the clothing, form a middle or central rubbing, and by forcing the clothing against the side ribs causes a further rubbing of the same, as will be readily understood. The conical or tapered forms of the tubes tend to raise the clothes instead of pressing them down, so giving the lower clothes, as well as the upper ones, an opportunity of being washed. The central cylinder or turret J is braced in position by the bars or plates j, projecting from the shaft.

In practice it is preferred to make the tub and agitator of galvanized iron.

Having thus described my invention, what I claim as new is—

1. In a washing-machine, an agitator comprising a perforated disk or plate dished or concaved on its upper side, provided at its edge with a rim-flange, and the upright tubes on said disk or plate, such tubes being perforated, all substantially as set forth.

2. An improved agitator for washing-machines, comprising the plate or disk, the cylinder or turret mounted centrally on said plate or disk, a number of tubes on said disk, surrounding the central turret, said tubes being tapered toward their upper ends, whereby the clothes wrapped thereon may be readily lifted off and being hollow for the circulation of the water and steam, and the disk or plate having openings communicating with said tubes for the passage of water and steam into

the latter, all substantially as and for the purposes set forth.

3. In a washing-machine, an agitator comprising a disk provided with openings, hollow
5 upright tubes secured on said disk over the said openings, whereby water and steam may pass into their lower ends, the said tubes being perforated for the exit of the steam, and
10 the central cylinder or turret perforated for the circulation of water and steam and adapted to keep the clothing from the center of the agitator, substantially as and for the purposes set forth.

4. In a washing-machine, substantially as

described, the combination of the suds-box 15 or body and the agitator journaled to revolve therein, formed with a perforated base-plate, and perforated upright tubes thereon, said tubes being arranged off the center of the disk, whereby they will move in a circular 20 line as distinguished from being rotated axially when the disk is turned and being conical or tapered toward their upper ends, all substantially as set forth.

SILAS P. LOWELL.

Witnesses:

S. BURR,

WM. R. WALKER.