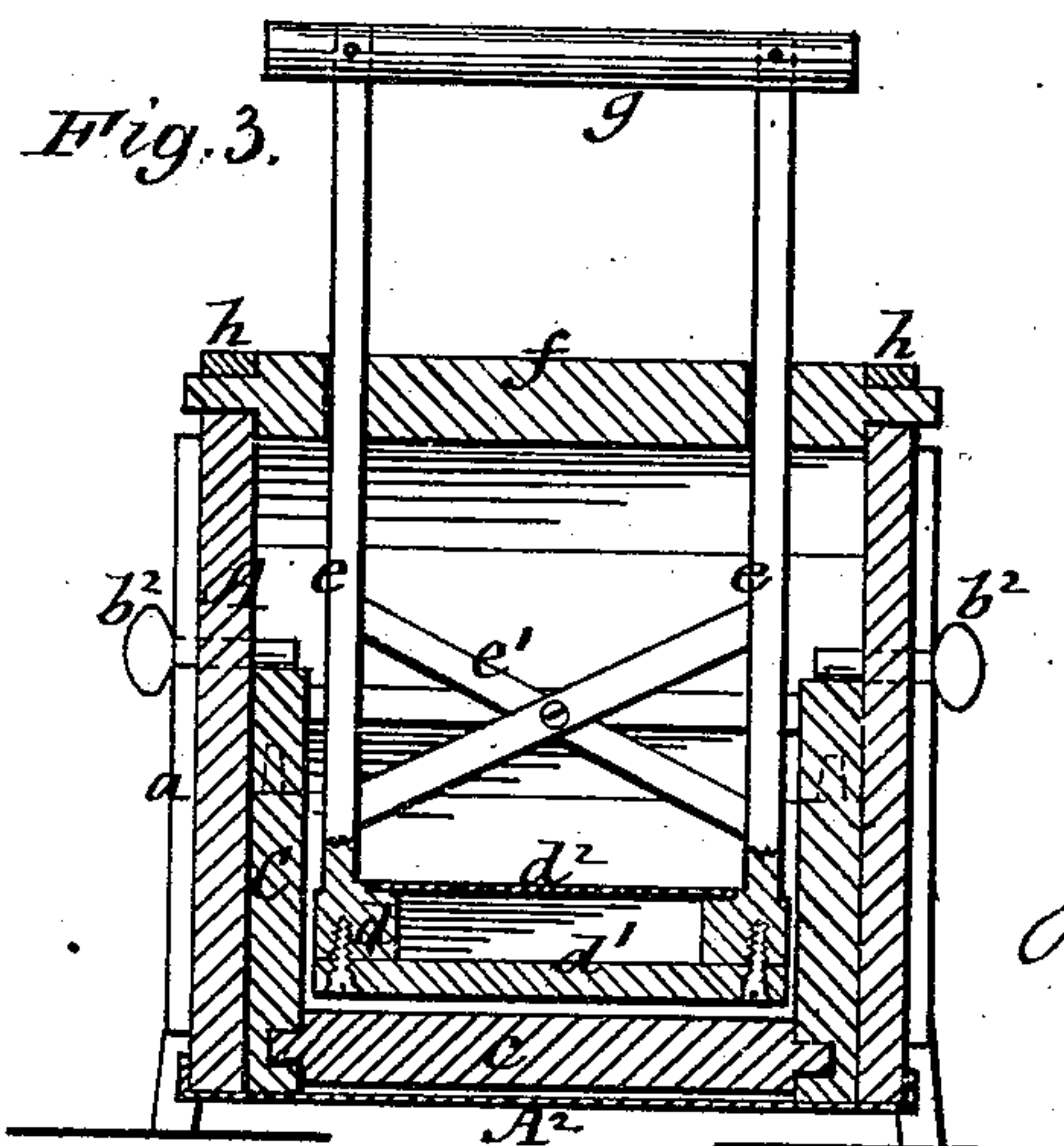
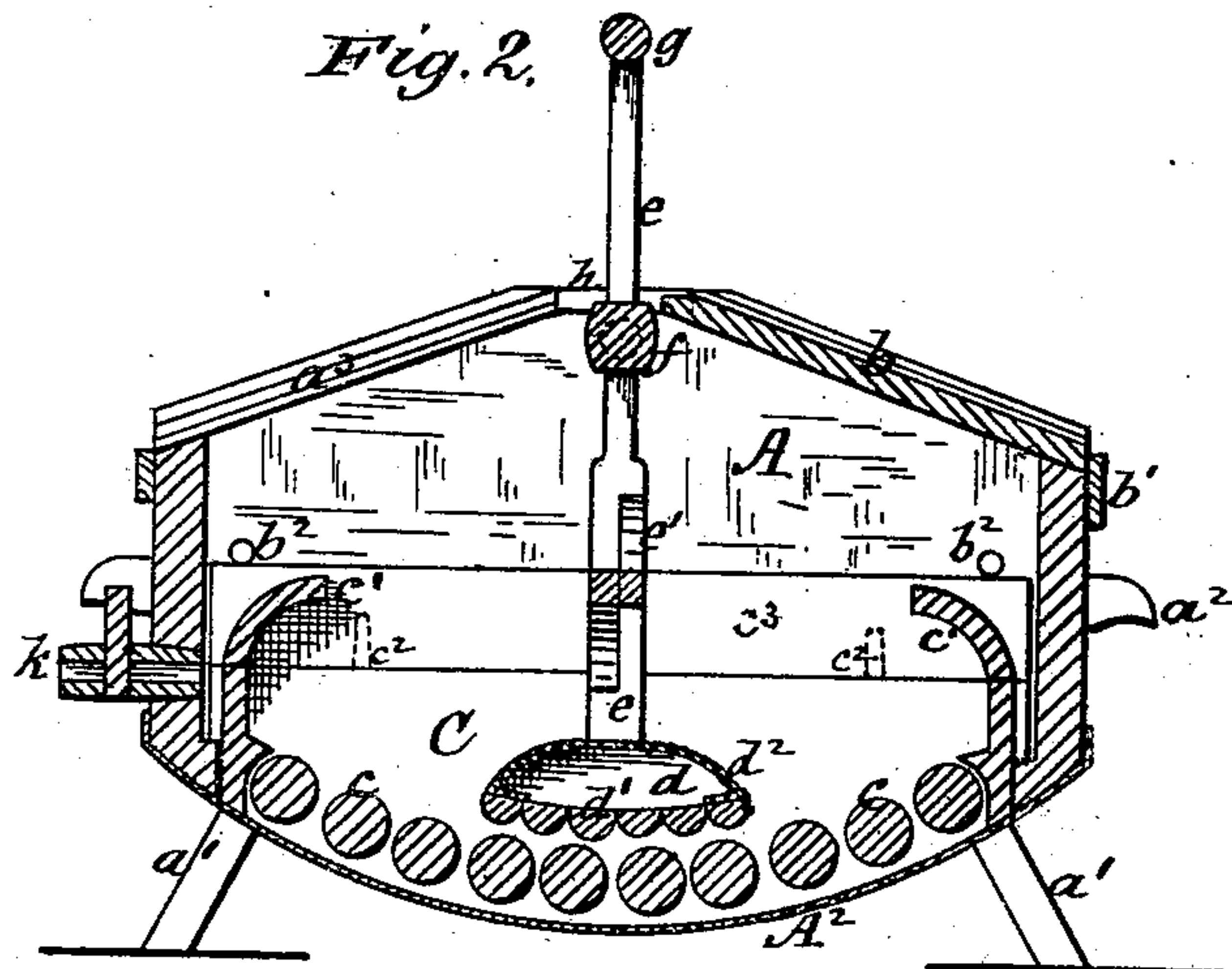
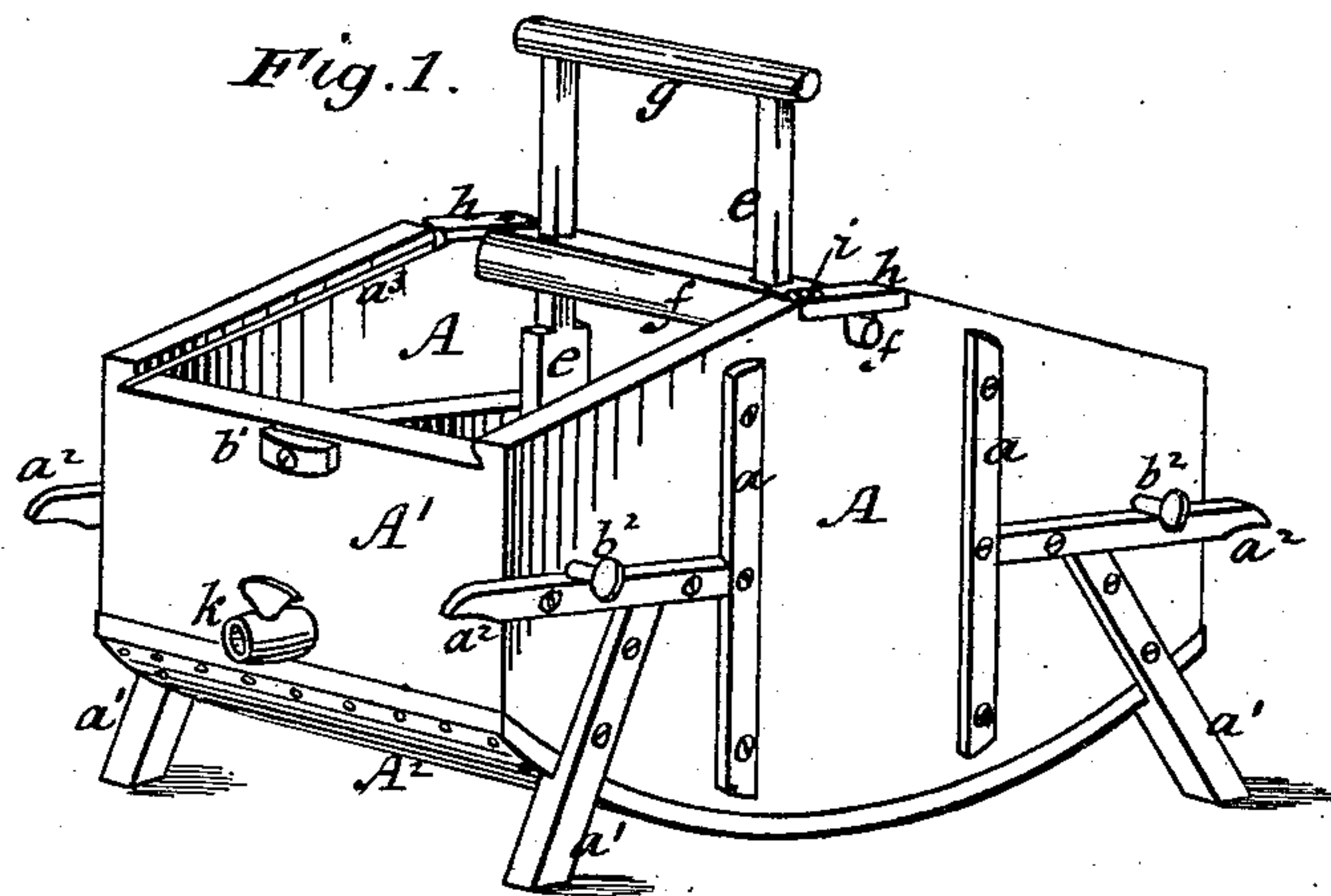


W. M. & J. T. SMITH.  
Washing-Machine.

No. 227,133.

Patented May 4, 1880.



*Witnesses:*

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*Inventors:*

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# UNITED STATES PATENT OFFICE.

WILLIAM M. SMITH AND JOHN T. SMITH, OF BARHAMSVILLE, VIRGINIA.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 227,133, dated May 4, 1880.

Application filed August 11, 1879.

*To all whom it may concern:*

Be it known that we, WILLIAM M. SMITH and JOHN THOMAS SMITH, of Barhamsville, in the county of New Kent and State of Virginia, have invented certain new and useful Improvements in Washing-Machines; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view of the improved washing-machine with one of the covers removed. Fig. 2 represents a longitudinal vertical section of the same. Fig. 3 represents a transverse vertical section of the same.

Our invention relates to washing-machines provided with a concave rubbing-bottom formed of rollers and a ribbed oscillating rubber pivoted and capable of being operated above said bottom.

Heretofore in machines of this class the bottom and ends of the stationary parts operated upon have most commonly been made plain, and a grooved cylinder has been used above the corrugated bed, and even when a concave bottom has been used the ends have ordinarily remained plain and rectangular. When so constructed the machine is easily clogged by the clothes within, and they require frequent handling to produce fair results.

The object of our invention is to construct a simple machine that can be operated automatically, and in which the clothes will be kept continuously in motion within a peculiarly-constructed rubbing-chamber by an oscillating rubber.

Our invention consists in a washing-machine formed of the combination of an outer casing having parallel sides and ends, covers inclined to the ends, and a curved bottom with a removable inner chamber having a floor made of rollers and adapted to be disconnected from a frame having semicircular concave ends, and a rubber having its under side made of wood corrugated or ribbed and its upper side of a smooth convex metallic surface, said rubber having upright arms passing loosely through an axle secured to the frame by pivoted axle-caps, all constructed as will be hereinafter described, and clearly pointed out in the claims.

In the drawings the outer casing is formed of the vertical sides A, tightly united to the vertical ends A'. The lower edge of the sides is curved, and the bottom of said casing is closed by a sheet of zinc, A<sup>2</sup>, nailed to the sides and ends thereof. To the sides are secured vertical strips a to keep them from warping, and also the legs a', supporting the machine, and the handles a<sup>2</sup>, by which it can be carried. The upper edge of said sides is beveled and grooved at a<sup>3</sup> to receive covers b, used mainly to keep dust or impurities from the interior, the covers being retained in position simply by turn-buttons b', attached to the ends of the machine. Within the casing is placed a removable inner chamber having vertical sides C, formed with a curved lower edge of a configuration matching the zinc bottom A<sup>2</sup>.

To the sides C are journaled a series of rollers, c, forming the floor and rubbing-surface of the machine. The pieces forming the ends of the inner chamber are made semicircular, or with their concave ends c' overhanging the ends of the floor c. This inner chamber can be removed as a single piece or two pieces, the frame formed of the concave ends c' and sides c<sup>3</sup> and the lower frame being united by dowels c<sup>2</sup>. It is retained in place simply by thumb-pins b<sup>2</sup> passing through the casing directly over the top of the sides C.

Within the inner chamber is placed the frictional rubber formed of two curved end pieces, d, to which are secured the ribs d' on the under side and the smooth metallic top d<sup>2</sup>. This top is generally made of sheet-zinc, convex in form, without any rib or projection. When thus constructed the clothes coming in contact with the top cannot remain there, but will slide off upon the rubbing-floor and be acted upon at the next oscillation of the rubber.

To each end piece, d, is secured a vertical arm, e, passing loosely through a shaft, f, journaled into the sides A. These arms are united at the top by the cross-piece or long handle g, and lower down by diagonal pieces e'. The shaft f is retained in position by caps h, pivoted to the sides at i for the convenient removal of said shaft and clothes-rubber.

In operating with this machine the rubber or dasher, being loose in the axle, can be moved in the interior to any part where the clothes



may be. The latter can be introduced at either end, be moved to the center and operated upon according to the pressure and motion given to the dasher, and without handling. When they  
5 reach or collect at either end they will be turned over and rolled back toward the middle by the semicircular or concave ends  $c'$ , these curved ends also giving protection against  
10 splashing over of the water or suds. The covers need not be used while washing, but the clothes can be put in by one person at one end, after soaping, and removed at the other  
15 end to be dried, while mechanical power, or another person, or even a small boy, can actuate the rubber or dasher.

After using the machine the water can be emptied through the faucet  $k$ , the rubber or dasher and the interior removable parts taken out and dried separately, if desired.

20 Having now fully described our invention, we claim—

1. In a washing-machine, the combination, with an outer casing and a removable inner chamber with vertical ends and a curved bot-  
25 tom formed of series of rollers, of the removable side pieces,  $c^3$ , having the connecting concave end pieces,  $c'$ , with their concavities presented toward the interior of the chamber, substantially as and for the purpose specified.

2. In a washing-machine, the combination of 30 an outer casing, a removable inner chamber having vertical sides and ends, and a curved bottom made of rollers, with a secondary removable frame having vertical sides  $c^3$  and concave or overhanging ends  $c'$ , said frame 35 being connected to the frame of the inner chamber by dowels  $c^2$  and retained within the outer chamber by pins  $b^2$ , substantially as and for the purpose described.

3. In a washing-machine, the combination of 40 an outer casing having vertical sides and ends, a smooth sheet-metal bottom, and inclined sliding covers, a removable inner chamber having also vertical sides, ends, and a bottom formed of rollers, and upon the frame of said chamber 45 a secondary removable frame having concave or overhanging ends, with a clothes-rubber provided with arms passing loosely through an axle pivoted to the frame adjacent to the point of meeting of the covers, substantially 50 as shown and described.

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Witnesses:

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