

(No Model.)

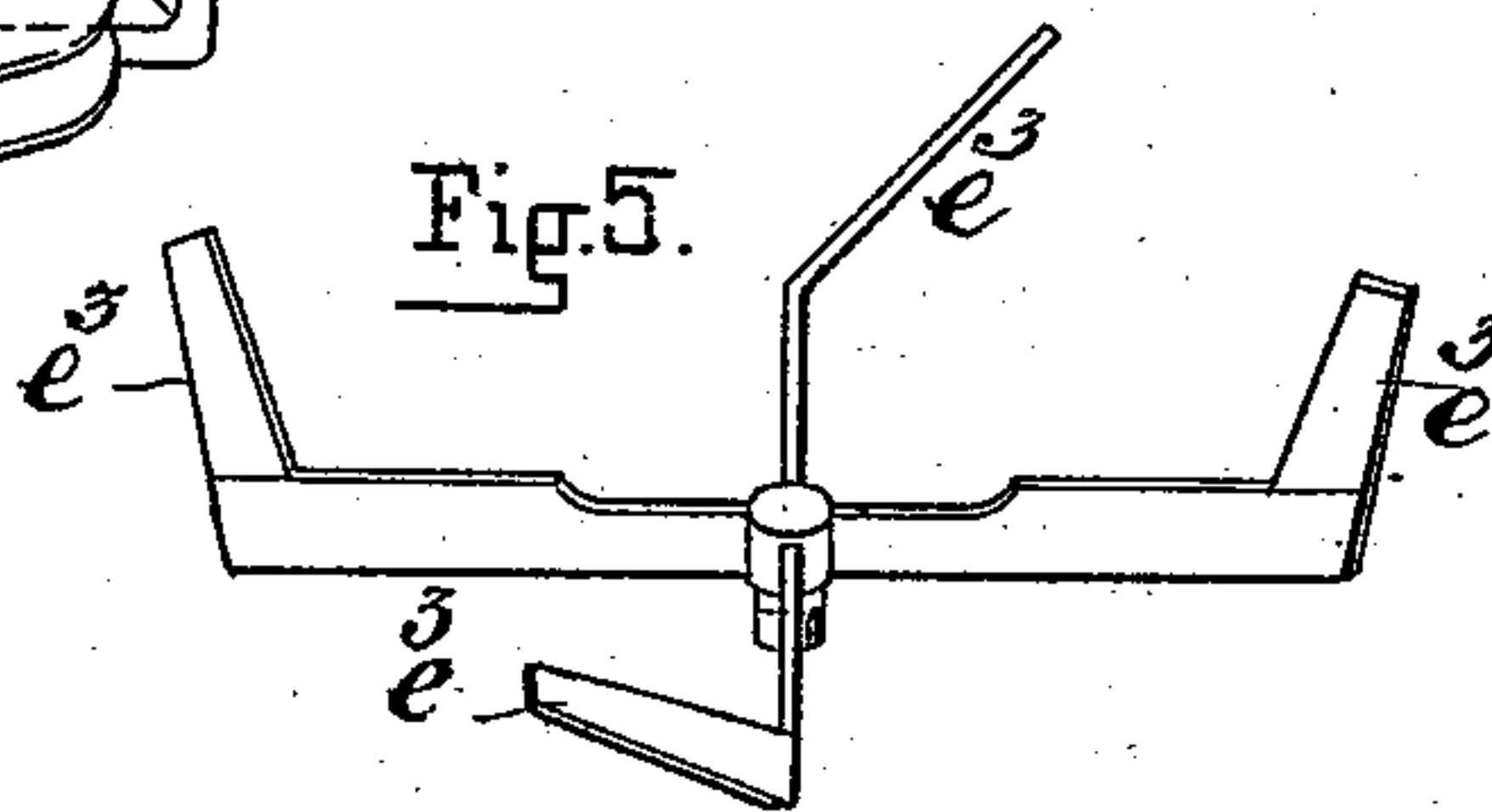
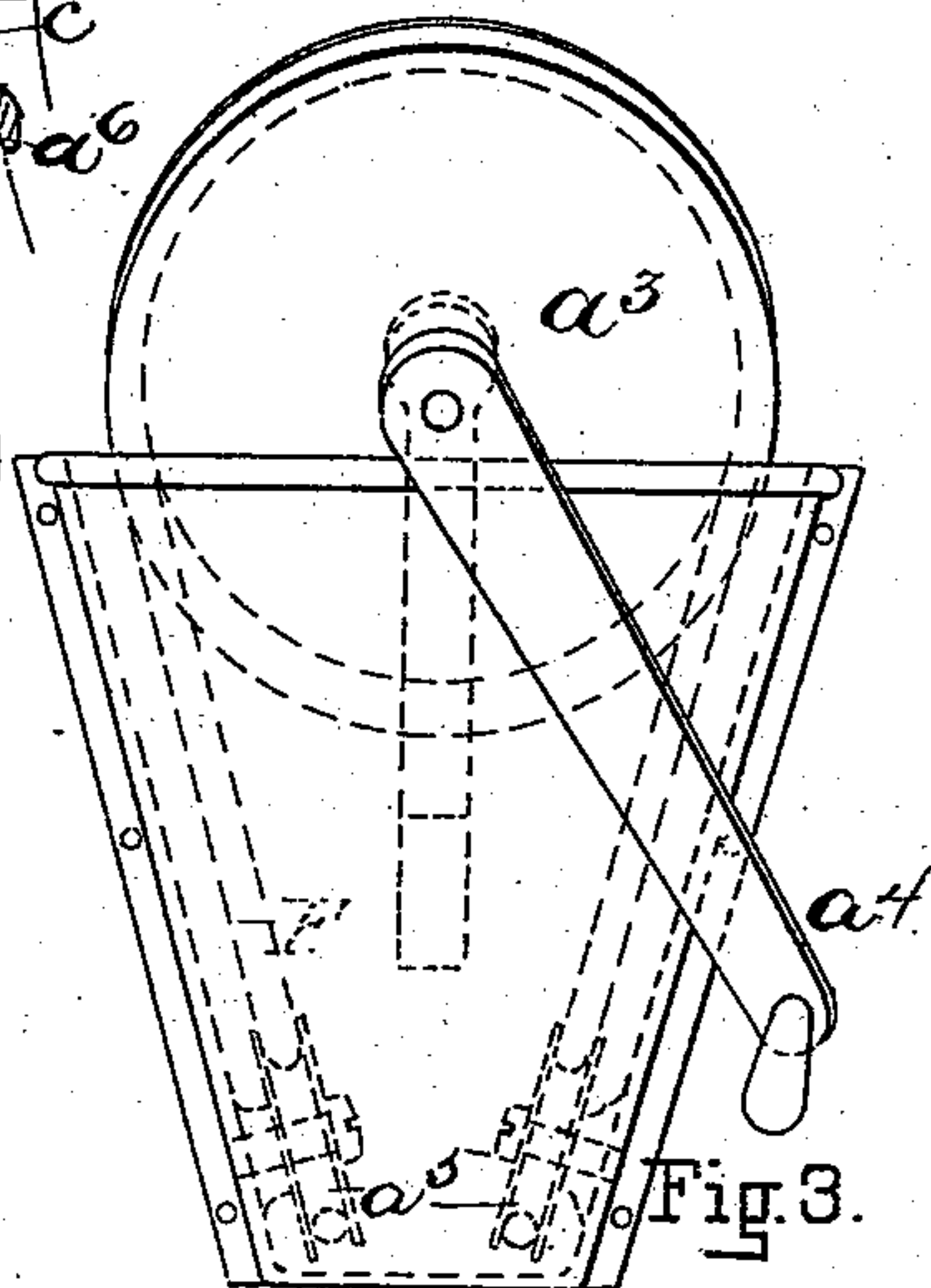
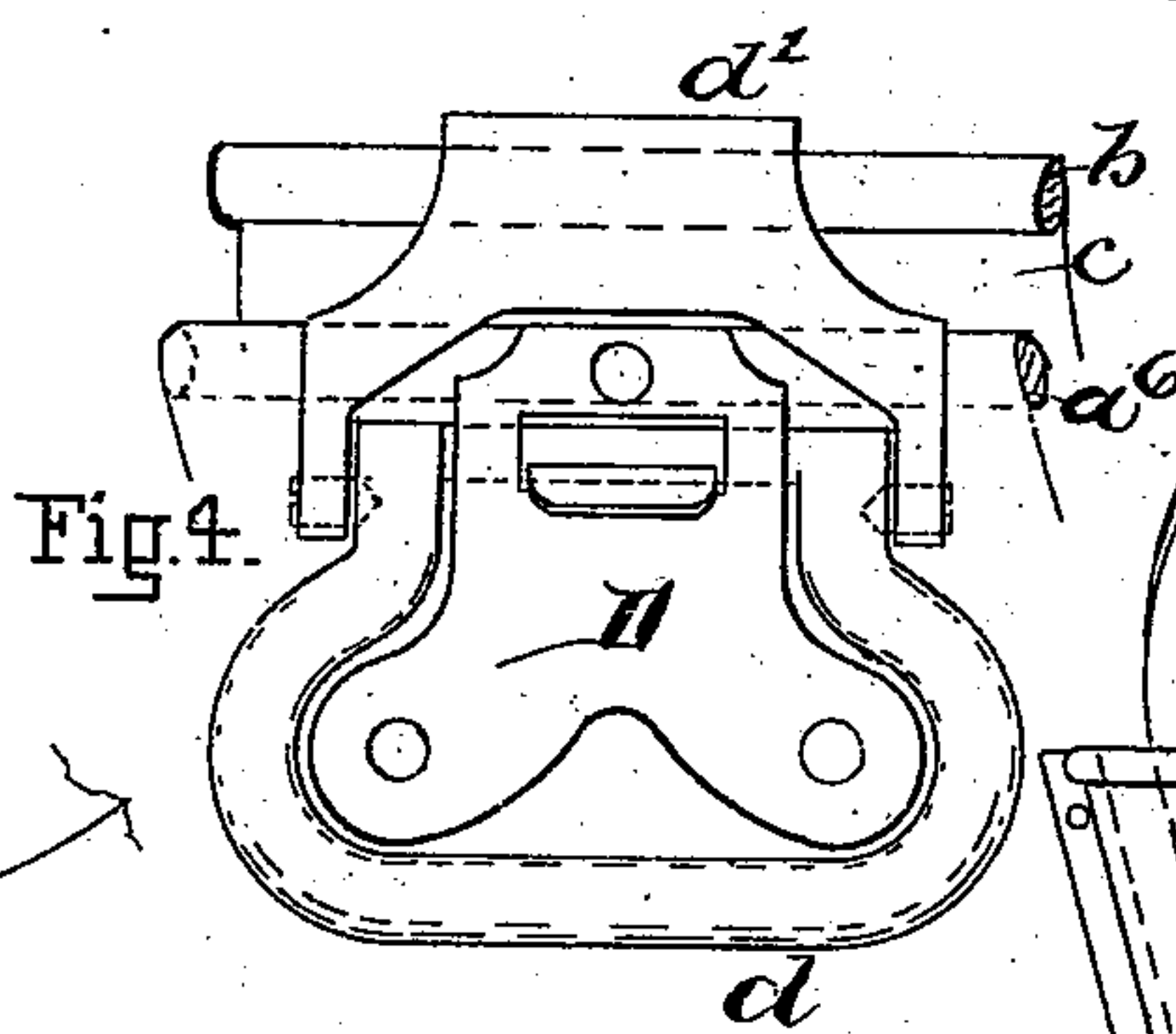
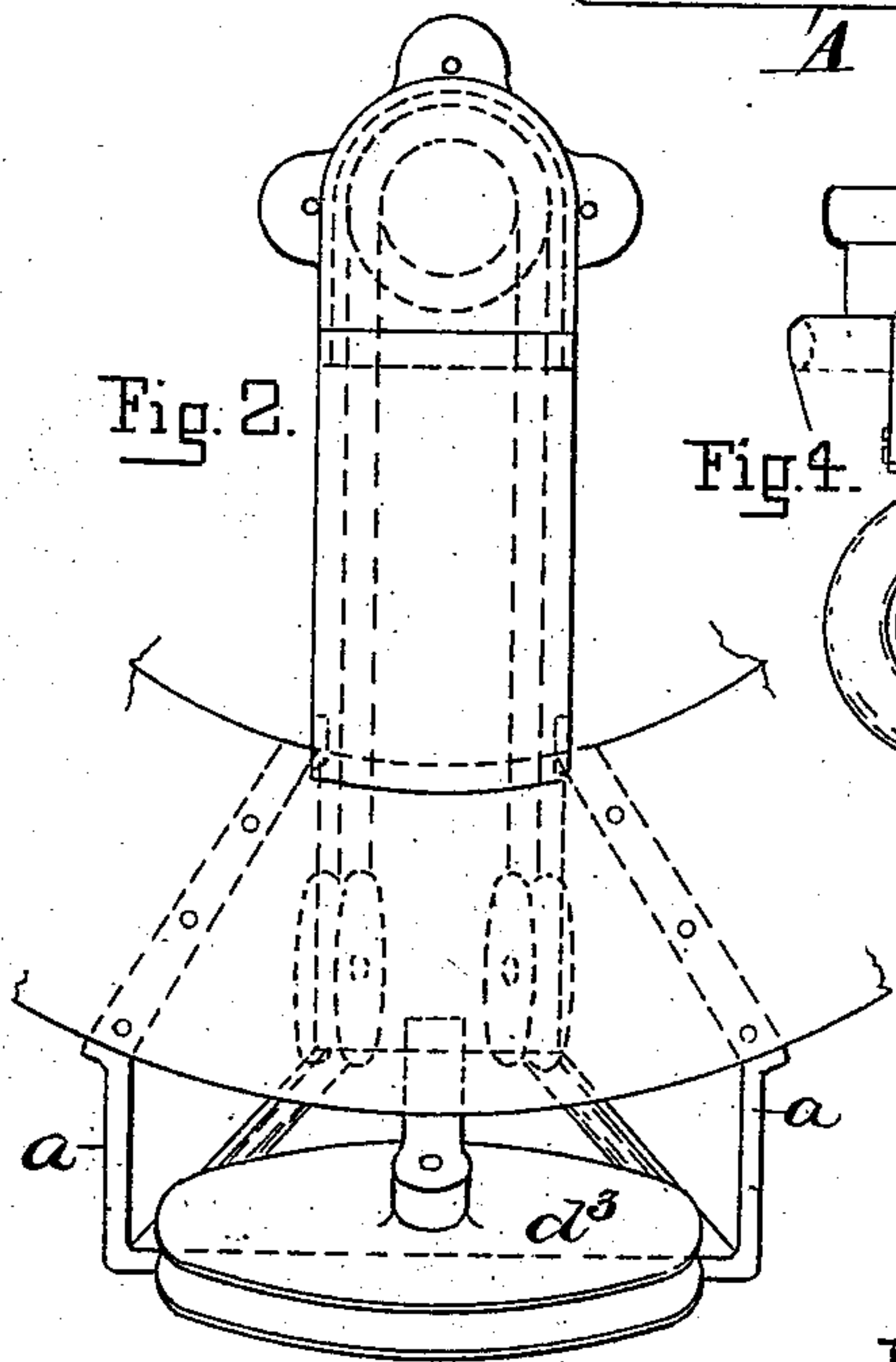
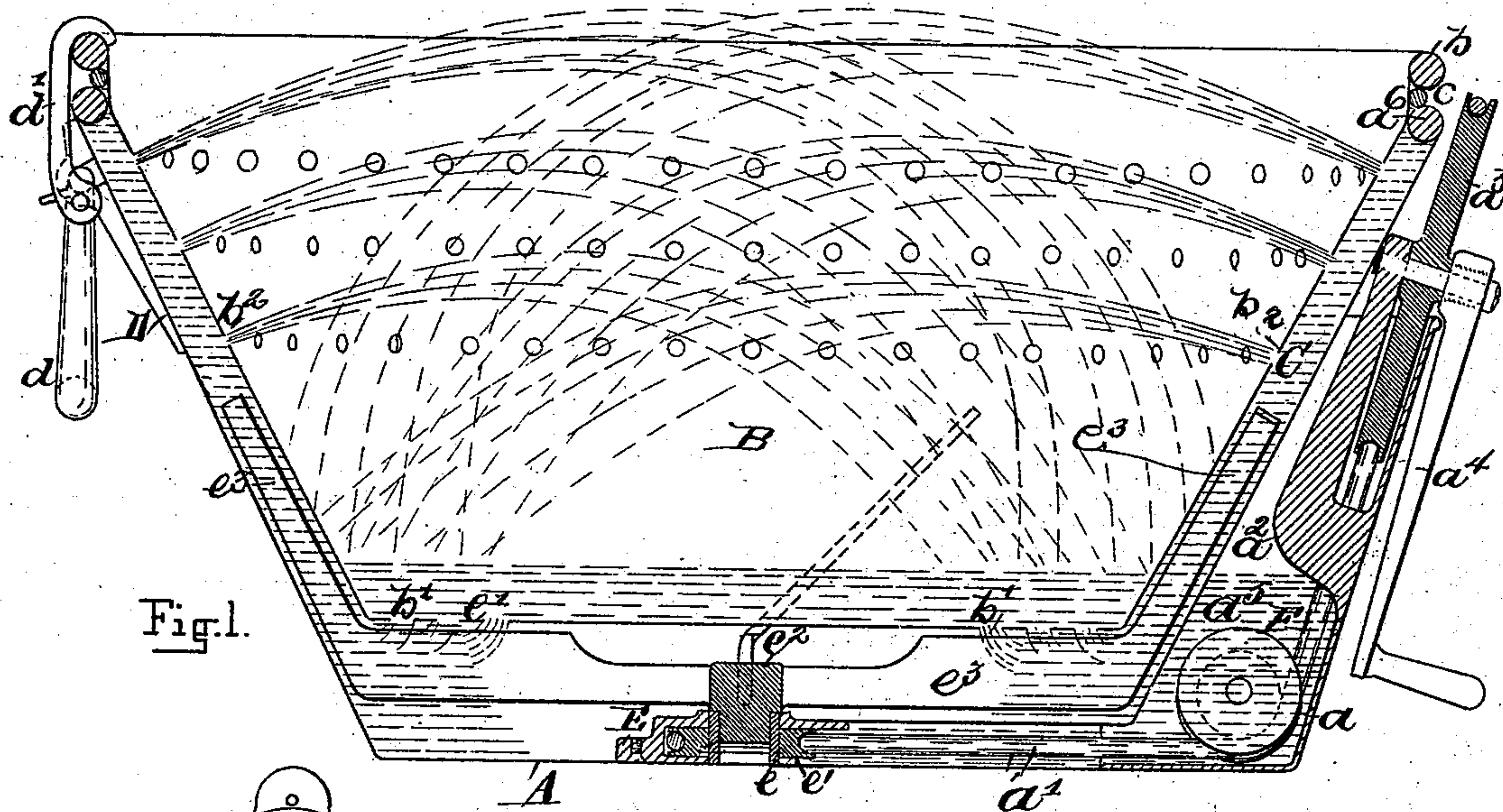
2 Sheets—Sheet 1.

W. I. McCAUSLAND.

WASHING MACHINE.

No. 377,765.

Patented Feb. 14, 1888.



Witnesses.

W. D. Kone.  
C. L. McElroy

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William J. McLaurant.

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2 Sheets—Sheet 2.

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Fig. 6.

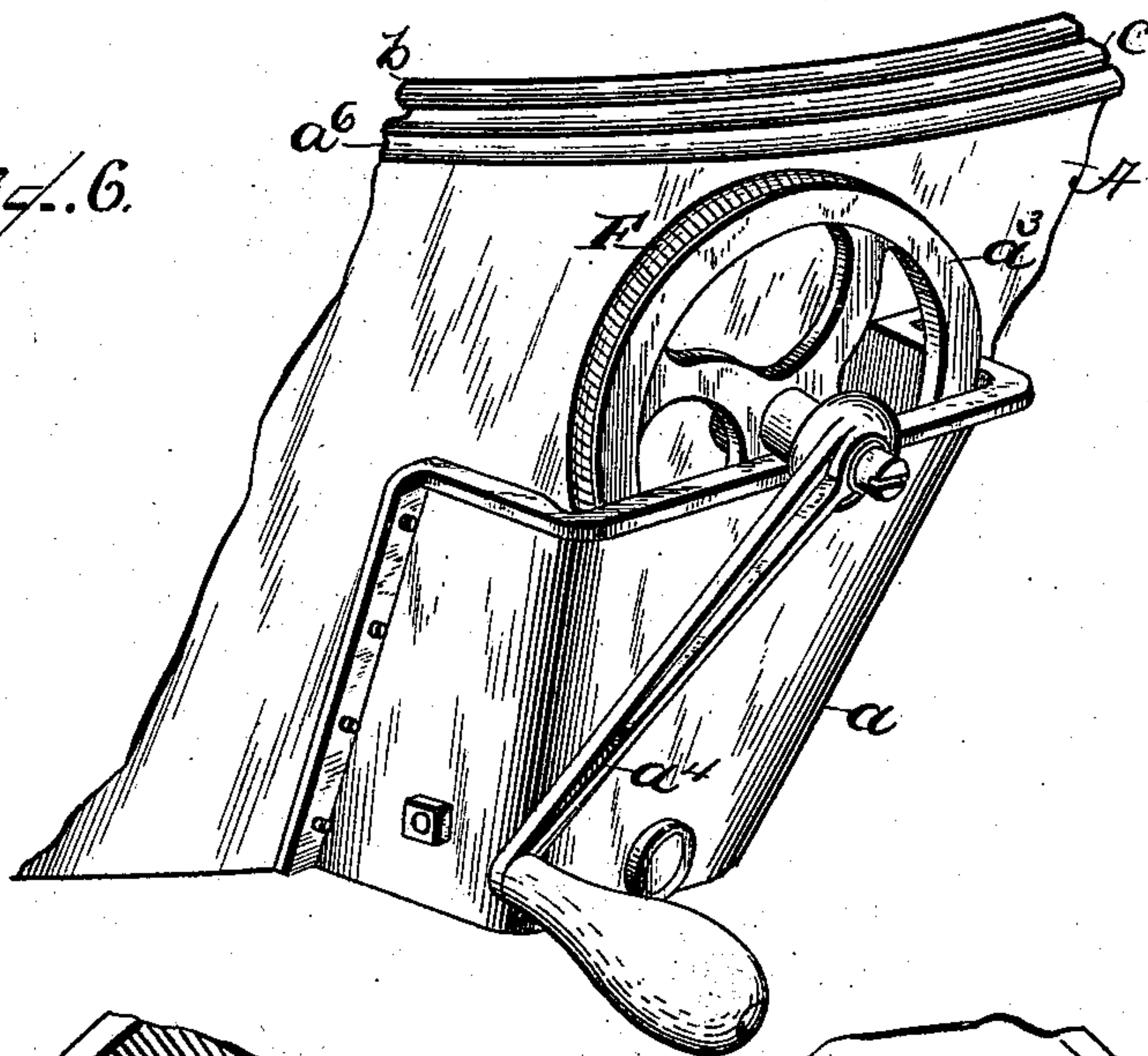


Fig. 7.

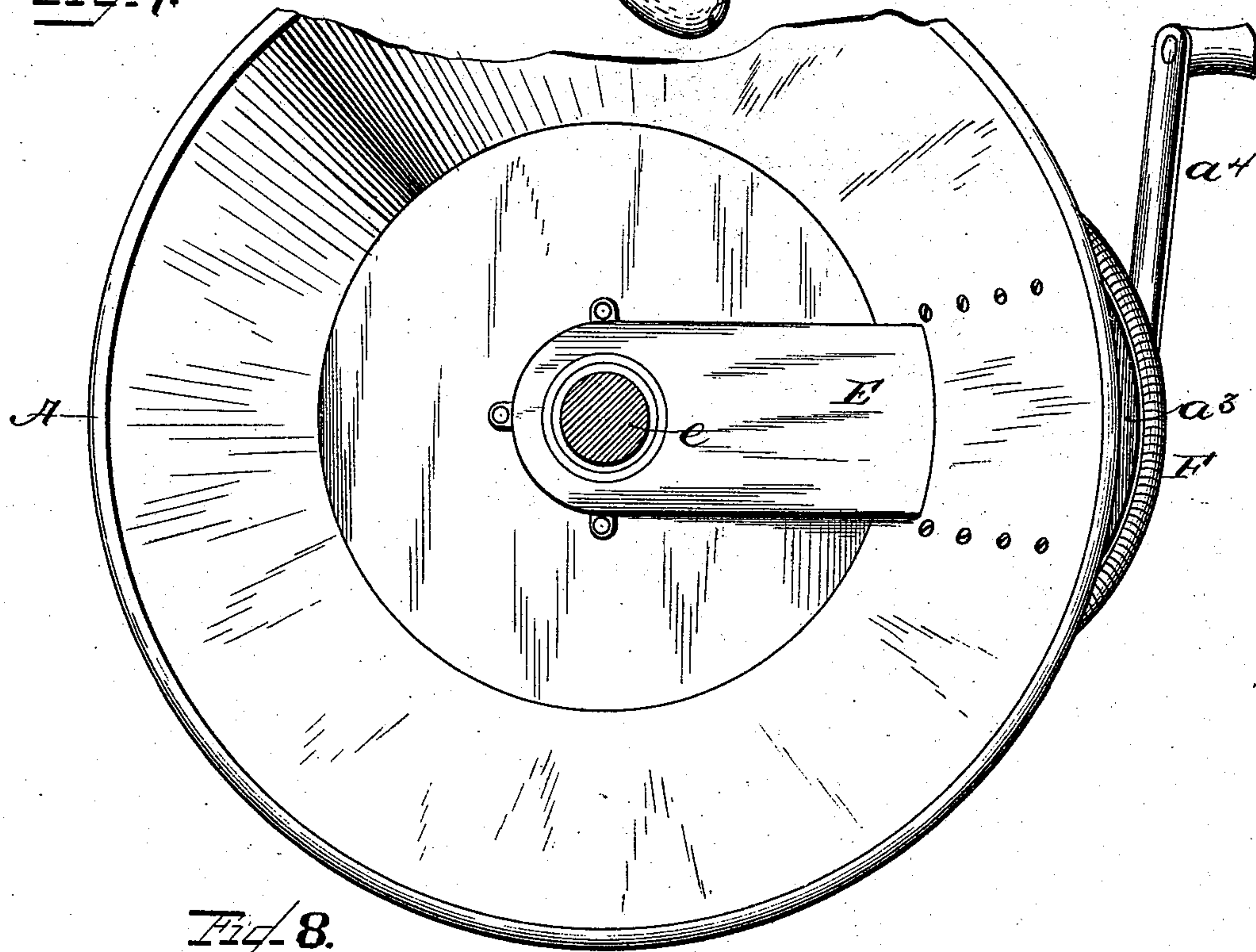


Fig. 8.

WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM I. McCAUSLAND, OF TEMPLE, TEXAS.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 377,765, dated February 14, 1888.

Application filed September 29, 1887. Serial No. 251,038. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM I. McCAUSLAND, a citizen of the United States, residing at Temple, in the county of Bell and State of Texas, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a new and simplified construction in washing-machines; and the nature thereof consists in constructing the same with double bottoms and sides, and in providing the said machines with means by which the washing-liquid is made to flow upward between the said sides and downward upon the article or articles to be washed; and it also consists in providing suitable means whereby said article or articles may be drained, all of which will be hereinafter fully described and claimed.

Referring to the accompanying drawings, in which corresponding parts are designated by similar letters, Figure 1 is a central vertical section of my invention. Fig. 2 is a top plan view of mechanism for imparting motion to the fans. Fig. 3 is an end elevation of the same. Fig. 4 is a detail view of the clamping apparatus, and Fig. 5 is a detail view of the fans. Fig. 6 is a detail perspective view of the casing *a*, showing its attachment to the outer pan. Fig. 7 is a plan view with the inner pan and fan removed from without the outer pan, and Fig. 8 is a detail view showing the holes in the inner pan.

The outer pan, A, preferably of the form of a frustum of a cone, though other shapes may be employed, has secured to one side thereof a projecting casing, *a*. The bottom of the said pan A has a radial inclosed channel, *a'*, formed upon it, the said channel serving as an extension of the projecting casing *a*. An arm, *a*<sup>2</sup>, projects from the casing *a* to above the top thereof and acts as a support for a grooved wheel, *a*<sup>3</sup>, which is adapted to be turned by a crank, *a*<sup>4</sup>. Near the base of the casing *a* are pivoted grooved wheels *a*<sup>5</sup> *a*<sup>5</sup>. The upper edge of the said outer pan, A, has an annular flange, *a*<sup>6</sup>, projecting inwardly from the sides thereof.

The inner pan, B, is provided with an annular flange, *b*, surrounding the upper edge

thereof, the flange being large enough to rest upon the annular flange *a*<sup>6</sup> of the pan A, thus affording a support for the inner pan, which is of such size and shape as to form an annular chamber, C, between its side and those of the outer pan, A, and an inclosed space between the bottoms of the said pans.

Between the two flanges *a*<sup>6</sup> and *b* is placed an annular ring, *c*, of rubber or other suitable material, which serves to make a water-tight joint when compressed by means of the clamping mechanism, as will be hereinafter described.

At suitable distances upon the outside of the pan A are placed projections D. One end of the handles *d* is pivotally attached to the claws *d'*. The said claws engage the annular flange *b* of the pan B, and when by the downward movement of the handles *d* they are drawn downwardly they press the flange *b* upon the flange *a*<sup>6</sup> and compress the ring *c* between the said flanges, thereby forming a water-tight joint at the top of the annular chamber C.

The bottom of the pan B is provided with perforations *b'*; or the whole bottom thereof may be formed of wire-gauze, &c., in order to permit the passage of the washing-liquid into the lower and outer pan, A, but to prevent any solid substances from finding their way therein.

The bottom of the pan A is provided with the casing E, forming the cover of the radial channel *a'*, and which also forms a bearing for the spindle *e*, upon the lower end of which is the grooved wheel *e'*, while upon the upper end thereof and between the bottoms of the said pans A and B is a hub, *e*<sup>2</sup>, having fans *e*<sup>3</sup> projecting therefrom, and so shaped as not only to extend between the bottoms, but also between the sides of the two pans. The fans are preferably bent backward, so that when in revolution they tend to force the water upward. Holes *b*<sup>2</sup> are obliquely formed in the sides of the inner pan, B, and preferably have an inclination of about sixty degrees in a direction opposite to that of the slant of the fans *e*<sup>3</sup>. The said holes are provided with flanges around their outer ends, whereby the rotating water is forced inwardly through the said holes, as shown in Fig. 8.

A spiral-wire belt, F, or a belt of any suitable material, passes around the wheel *a*<sup>3</sup> and over the wheels *a*<sup>5</sup> *a*<sup>5</sup> to the wheel *e'*, and serves to impart motion to the latter whenever the



wheel  $a^3$  is rotated. Instead of the crank  $a^4$  shown in the drawings, and which I prefer to use for rotating the said wheel in the smaller sizes of my machine, the wheel  $a^3$  may be provided with a drum carrying an endless band  
5 connecting it with any suitable source of mechanical power.

When my apparatus is to be used, the articles to be washed are placed in the inner pan, the washing-liquid is poured therein, whence it escapes into the outer pan through the perforations  $b'$ , and motion is imparted to the grooved wheel  $a^3$ , from which it is communicated to the fans  $e^3$  by means of the band F and wheel  $e'$ . By the revolution of the fans  $e^3$   
15 the washing-liquid is given a centrifugal motion, and, striking the sides of the outer pan, A, is forced upward and around the inner pan, and flows through the perforations  $b^2$  in the sides of the said pan down upon the articles to be washed, whence it escapes through the perforations  $b'$  in the bottom of the inner pan, B, into the outer pan, A, and again follows the same course.

25 When it is desired to use a warm washing-liquid, the apparatus may be placed upon a stove or any suitable source of heat.

When the articles having been washed are required to be drained, the inner pan is removed from without the outer one by disengaging the claws  $d'$  and lifting the said inner pan out. Any moisture which may have remained within the inner pan, B, then flows off through the perforations  $b'$  in the bottom of  
35 the pan.

It is evident that my apparatus may be used for washing any kind of articles which may be placed within the inner pan, B.

40 Having now described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a washing-machine, the combination of an outer pan surrounding an inner pan, with an annular chamber between the sides and an inclosed space between the bottoms thereof, and fans provided with mechanism for imparting motion thereto revolving between the bottoms and sides of said pans, substantially as and for the purpose described.

2. In a washing-machine, the combination of an outer pan having an annular flange within its upper edge surrounding an inner pan having an annular flange around its upper edge, an annular chamber between the sides and an inclosed space between the bottoms thereof, and fans provided with mechanism for imparting motion thereto revolving between the bottoms and sides of said pans, substantially as and for the purpose described.

3. In a washing-machine, the combination of the outer pan having an annular flange within its upper edge and being provided with projections having handles pivoted thereto, said handles being pivotally attached to claws engaging the annular flange of the inner pan, the said inner pan being surrounded by the said outer pan and forming therewith an annular chamber between the sides and an inclosed space between the bottoms thereof, and fans provided with mechanism for imparting motion thereto revolving between the bottoms and sides of said pans, substantially as and for the purpose described.

4. The combination of an outer pan, an inner perforated pan, revolving blades between the inner pan and the outer pan, and a rubber packing or joint between the upper edges of the pans, substantially as and for the purpose described.

5. The combination of an outer pan, an inner perforated pan, a rubber packing or joint between the upper edges of the pans, a clamping device for holding the pans together, and revolving blades arranged between the pans, as and for the purpose described.

6. The combination of an outer pan, an inner pan provided with perforations inclined at an angle to the radius of the circle in which the water revolves, and revolving blades or beaters arranged between the pans, substantially as and for the purpose described.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILLIAM I. McCAUSLAND.

Witnesses:

HENRY D. KANE,  
C. L. McCUY.