

(No Model.)

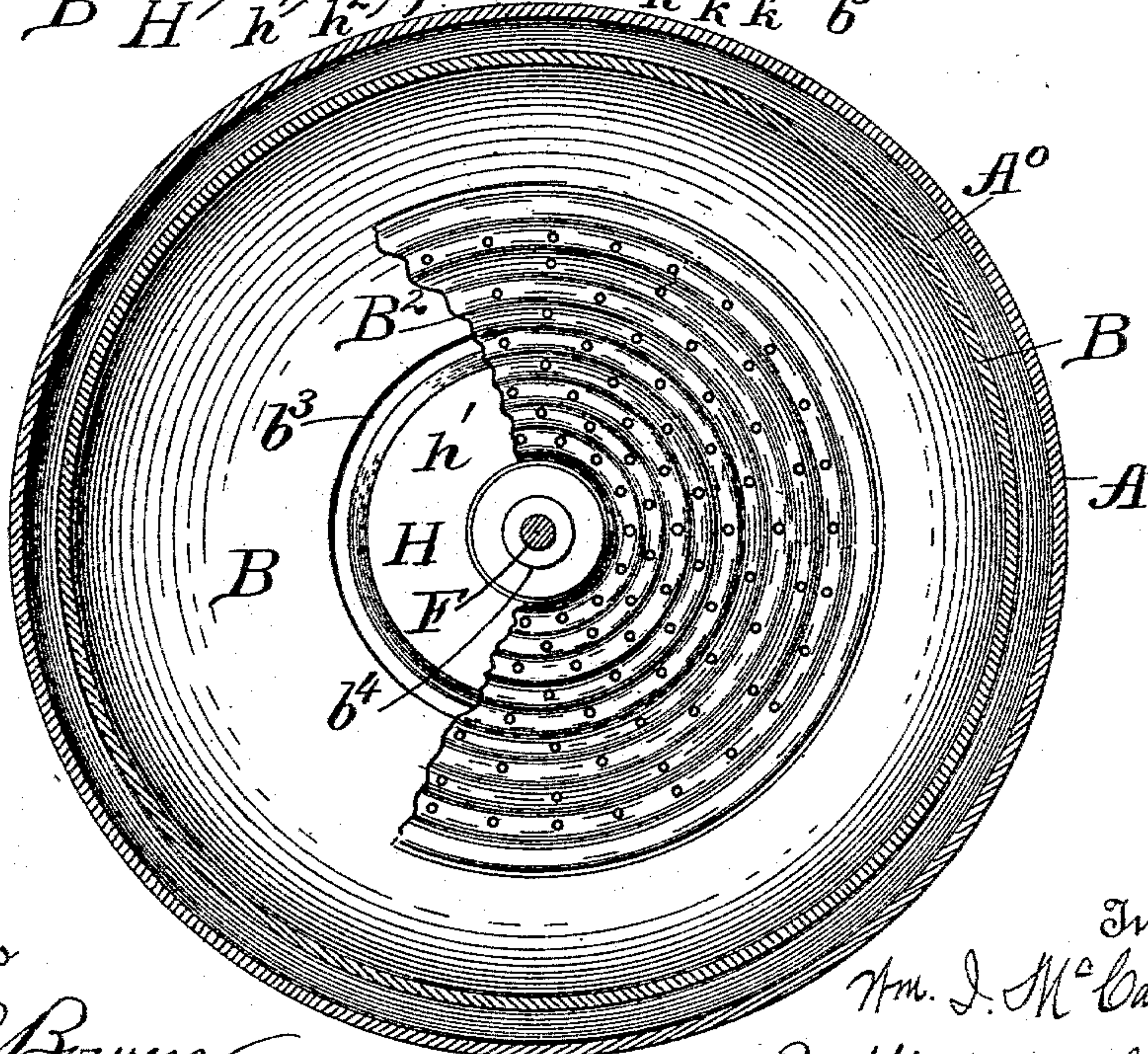
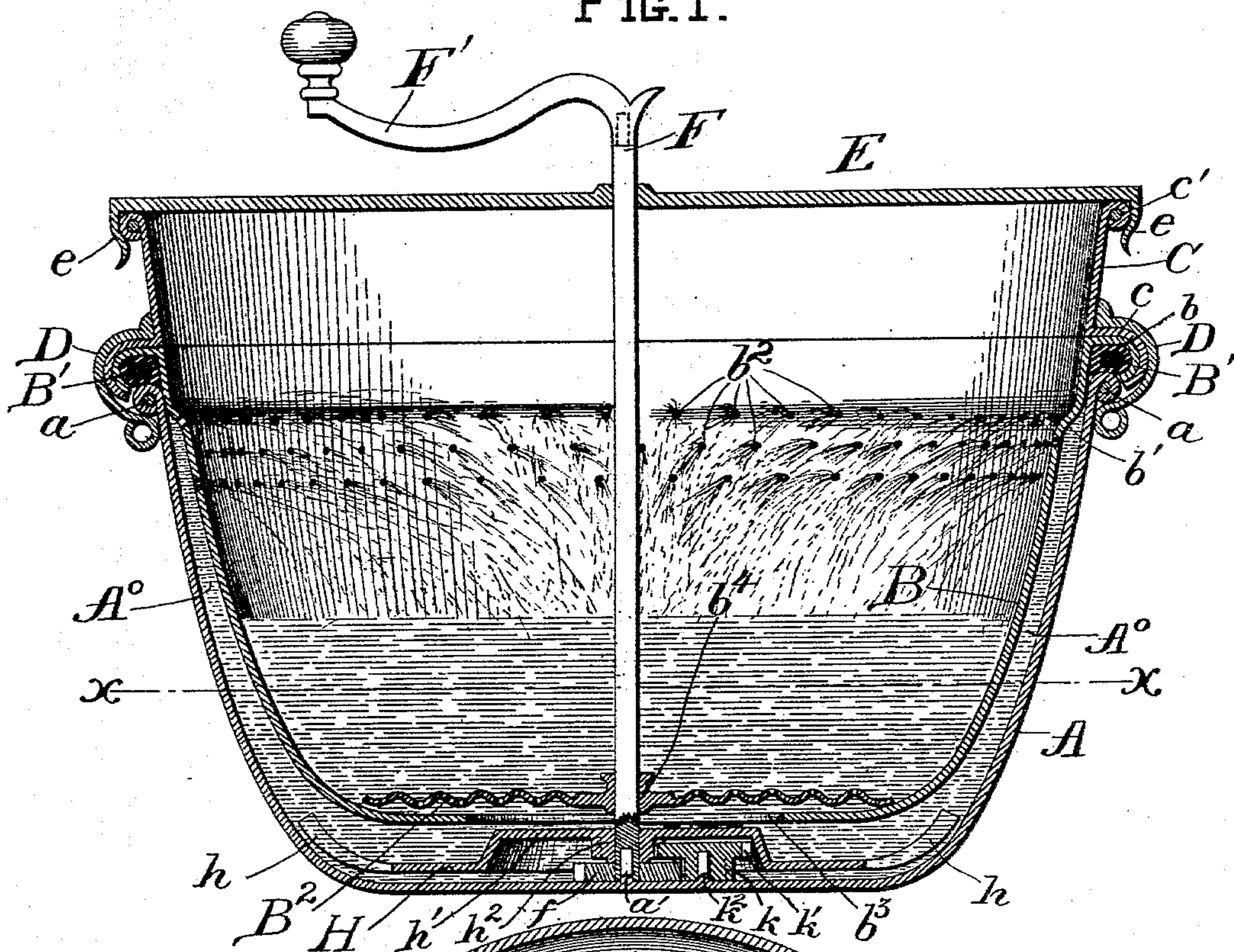
3 Sheets—Sheet 1.

W. I. McCAUSLAND.
DISH CLEANER.

No. 516,103.

Patented Mar. 6, 1894.

FIG. 1.



Witnesses

Frederick C. Bowen
John L. Wilson

Inventor

Wm. I. McCausland

By Whitman & Wilkinson
Attorneys

FIG. 2.

(No Model.)

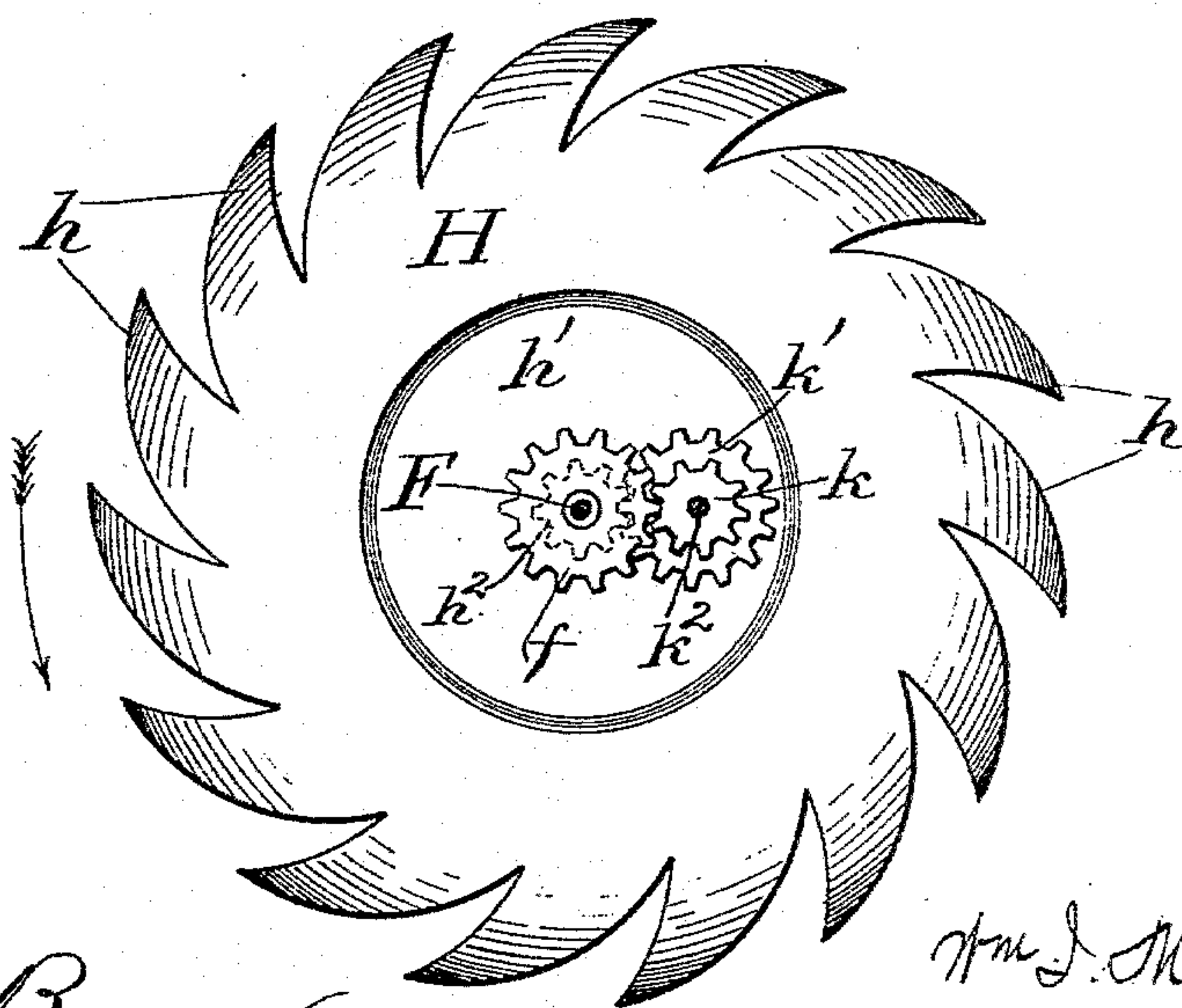
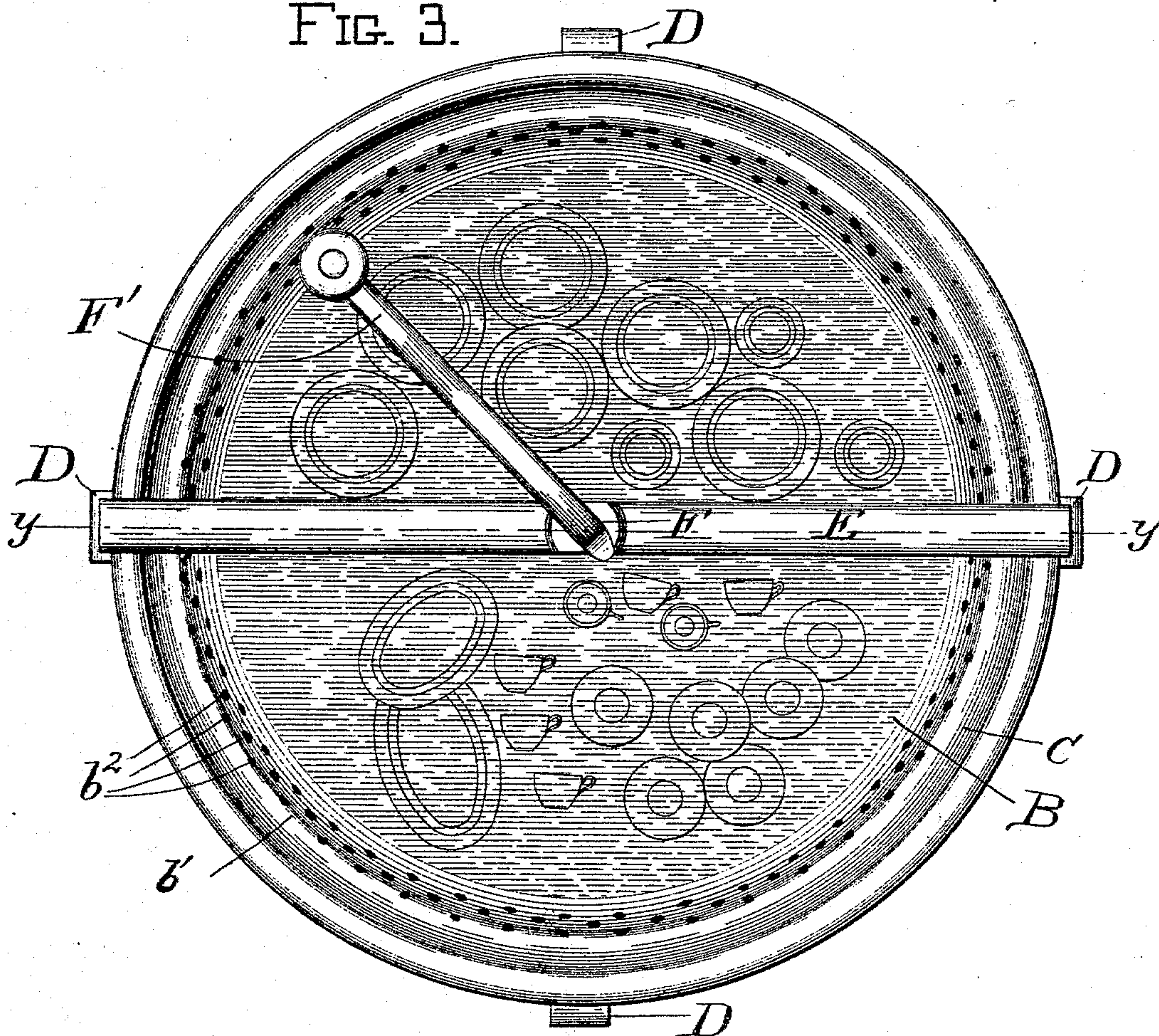
3 Sheets—Sheet 2.

W. I. McCAUSLAND.
DISH CLEANER.

No. 516,103.

Patented Mar. 6, 1894.

FIG. 3.



Witnesses

Percy C. Bowen
John E. Wilson

FIG. 4.

Inventor

Wm. I. McCausland,

By Whitman & Wilkinson
Attorneys.

No Model.)

W. I. McCAUSLAND.
DISH CLEANER.

3 Sheets—Sheet 3.

No. 516,103.

Patented Mar. 6, 1894.

FIG. 5.

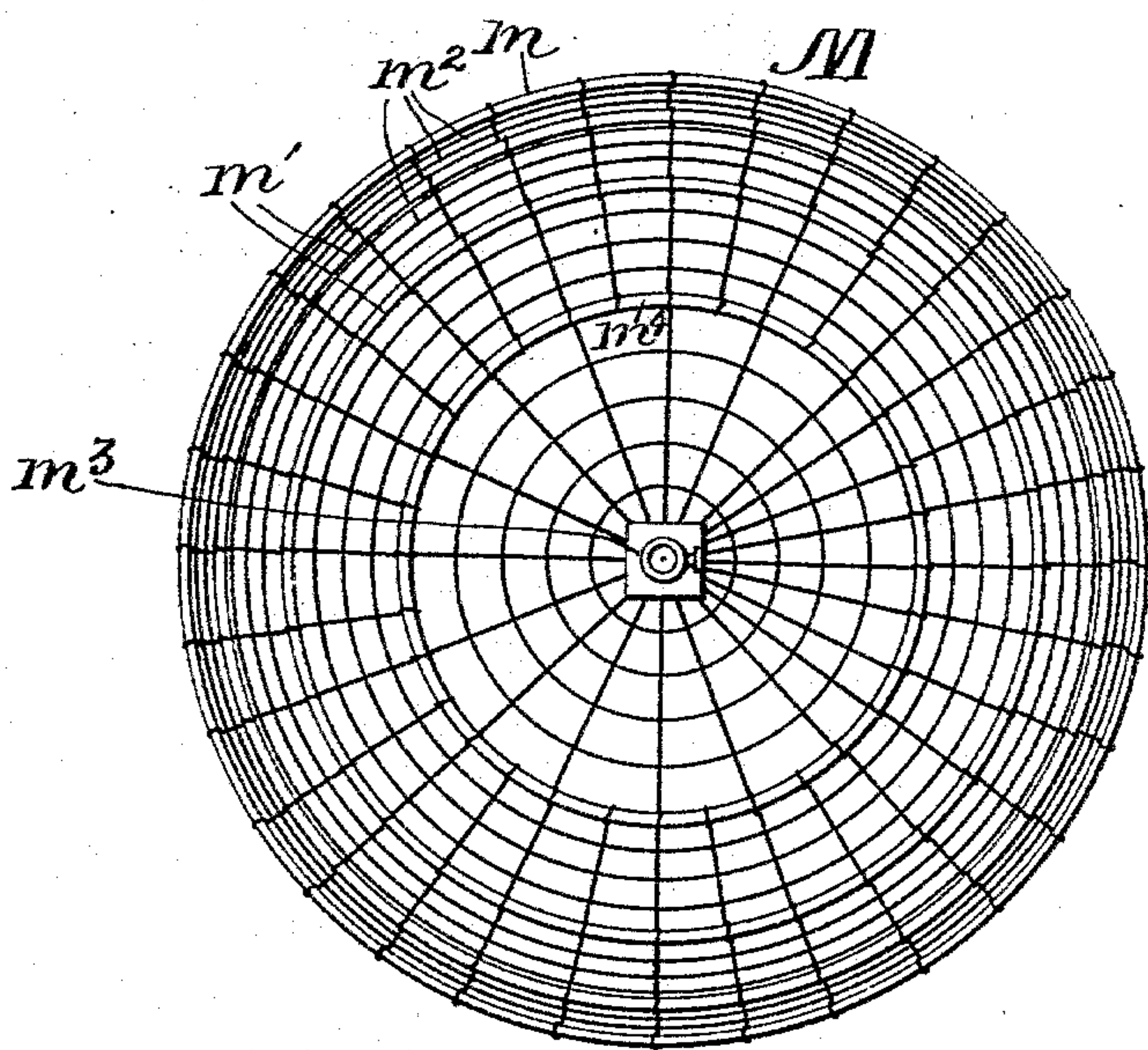
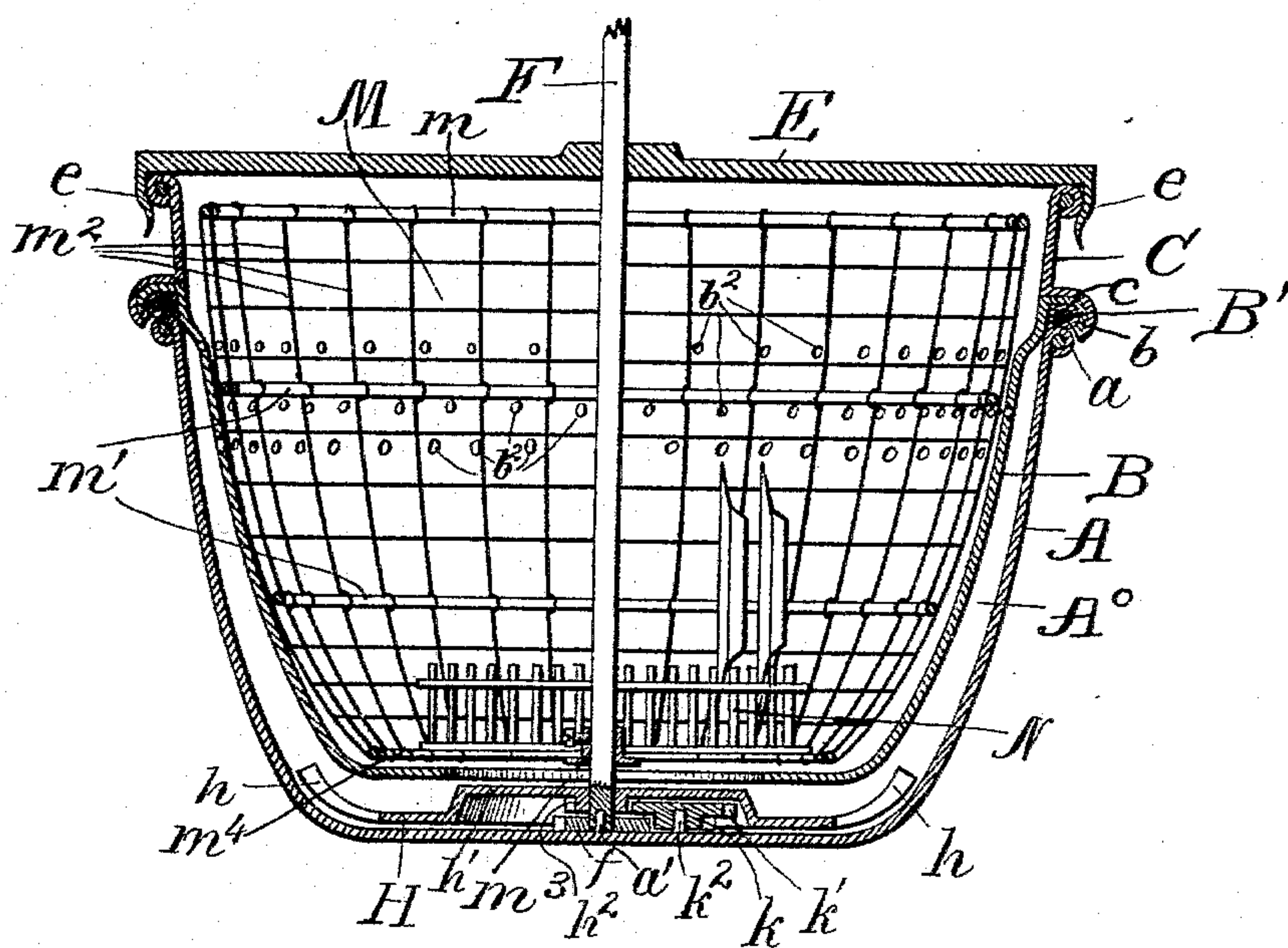


FIG. 6.

Witnesses
Rey C. Bowen
John E. Wilson

Inventor
Wm. I. McCausland
By *Whitman & Wilkinson*
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM I. MCCAUSLAND, OF DALLAS, TEXAS.

DISH-CLEANER.

SPECIFICATION forming part of Letters Patent No. 516,103, dated March 6, 1894.

Application filed March 1, 1893. Serial No. 464,182. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM I. MCCAUSLAND, a citizen of the United States, residing at Dallas, in the county of Dallas 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 relates to improvements in washing machines, and consists of certain improvements on the apparatus described in my Patents No. 377,765, dated February 14, 1888, and No. 427,601, dated May 13, 1890.

The present invention is especially applicable to washing plates, cups, dishes, and the like, without the necessity of placing the hand in the washing fluid.

Reference is had to the accompanying drawings, in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a central vertical section of the improved washing machine. Fig. 2 represents a section of the same along the line $x-x$ of Fig. 1, and looking down, parts being broken away. Fig. 3 represents a plan view of the top of the machine, when about to be put into operation. Fig. 4 represents an inverted plan view of the water wheel for forcing the washing fluid up between the two pans, and of the mechanism for revolving the same. Fig. 5 represents a similar section to that shown in Fig. 1, and represents the addition of a wire crate to the interior of the pan, the said crate being attached to and revolving with the central spindle. Fig. 6 represents an inverted plan view of the wire crate shown in Fig. 5.

The apparatus consists essentially of two pans the one fitting within the other, leaving a water-space between the two; a centrifugal water wheel for forcing the water up into this space, and through perforations in the inner pan, the said inner pan being provided with a hole near the bottom thereof for the regurgitation of the water; a device for clamping the pans securely together at their upper edges, and for preventing the water from flowing out over the said edges; and an extension

of the inner pan upward, to prevent the water from splashing out over the top.

In the drawings, A represents the outer pan provided with a beading a at the upper edge thereof, and a projection a' on the interior of the bottom to furnish a bearing for the lower end of the central spindle.

B represents the inner pan provided with a beading b inclosing the rubber gasket B' , which rests on the beading a of the outer pan. This inner pan B is preferably made sloping inward as at b' , and perforated at b^2 , the perforations being for the admission of the water, and the slope b' being for the better influx thereof through the said perforations.

In the bottom of the pan B, a round aperture b^3 is cut, concentric with the spindle F, and over this aperture the corrugated, perforated plate B^2 is placed. This plate is provided with a sleeve b^4 which fits loosely over the spindle F. The corrugated plate is for the purpose of preventing the water from flowing in a solid mass through the aperture b^3 , carrying with it crumbs and other solid particles from the dishes being washed, which might clog up the machine, while in use. The corrugated plate B^2 is preferable to a flat strainer for the reason that a flat dish or plate would not, if placed upon the said corrugated disk, prevent the flow of fluid through the perforations therein.

On top of the two pans, an extension C in the shape of a truncated frustum of a cone, or of a cylinder, is placed. This extension has a hook-shaped flange c at the bottom thereof, which springs over the beading b of the inner pan, and stiffens the same. This extension C, the inner pan B, and the outer pan A, are then secured together by clamps D, and the whole makes a firm and waterproof joint. The extension C has the wire bead c' similar to the bead a , and across the top thereof the cross-piece E is laid. This cross piece is secured to the top of the apparatus by means of the spring clamp e . The spindle F is journaled in the said cross piece E and its lower end is provided with a hollow bearing for the stud or projection a' . To the upper end of the spindle, the handle F' is detachably secured.

In the space between the bottoms of the in-

ner and outer pans, the water wheel H is mounted. This water wheel is provided with a number of inclined blades h connected to an inverted cup-shaped central portion h' , which central portion is provided with a gear wheel h^2 fitting loosely on the spindle F. The water wheel H is driven by the gear wheel f rigidly attached to the bottom of the spindle F, which wheel f gears in a smaller gear wheel k mounted on the spindle k^2 projecting inward from the bottom of the pan A. Rigidly attached to this gear wheel k is a larger wheel k' , which meshes in the smaller wheel h^2 integral with the centrifugal water wheel H. Thus it will be seen that the spindle F, operated by the handle F' , turns the gear wheel f , which turns k , and k' and that a very rapid motion is transmitted to the gear wheel h^2 from the gear wheel k' .

The operation of the device is as follows:— The dishes are placed in the inner pan as shown in Fig. 3, and then the washing fluid, preferably soap and hot water, is poured into the inner pan, until the dishes are covered. The fluid flows down through the perforated plate B^2 and the holes b^3 into the space between the pans, seeking its own level in the space A^o between the sides of the pans. Now if the water wheel H be turned in the direction indicated by the arrow in Fig. 4, the water will be thrown away from the center of the wheel, and will be forced up into the space A^o until it reaches the perforations b^2 , when it will be sprayed back into the inner pan, pass downward through the dishes, and out to the water wheel, thus passing in and around the dishes and thoroughly washing the same. When the dishes have been washed sufficiently, the clamps D are unhooked, the detachable handle F' is taken off, and the pan B is lifted out slowly, allowing the water therein to drain through the corrugated perforated plate B^2 , and hole b^3 into the pan A. Or the pan B may be placed on the top of a bucket and allowed to drain into the same. The washed dishes may then readily be wiped.

In the device shown in Figs. 5 and 6 in addition to the features shown in Figs. 1 to 4, a wire crate M is mounted in the inner pan B, and is rigidly attached to the revolving spindle F by means of the collar and set screw m^3 . The wire framework consists of the wire rings m , m' , and m^4 , and the vertical wires m^2 . A rack N to hold the plates, saucers, &c., may also be placed in the bottom of the crate if desired.

The water wheel is omitted from Fig. 5 for the sake of clearness in the drawings.

The operation of the device shown in Figs. 5 and 6 is the same as that described with reference to the device shown in Figs. 1 to 4, except that the crate containing the dishes is revolved simultaneously with the spindle F, and the dishes pass through the water horizontally, while the water is itself flowing downward through the dishes, and thus an increased washing effect is obtained. When

the washing is complete, the cross-piece E is lifted off, and the spindle and crate are lifted out, carrying the dishes with them, which latter will rapidly drain dry enough to be ready for wiping.

It will be obvious that many modifications might be made, which could be used without departing from the spirit of my invention.

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

1. In a washing machine of the character described, the combination with an outer pan, of an inner pan partly filling said outer pan and leaving a space between the said pans, the said inner pan having perforations in the sides thereof, and an aperture in the bottom, a corrugated perforated plate covering said aperture, and a centrifugal water wheel in the space between the bottoms of said pans, substantially as and for the purposes described.

2. In a washing machine of the character described, the combination with an outer pan of an inner pan partly filling said outer pan and leaving a space between the said pans, the said inner pan having perforations in the sides thereof and an aperture in the bottom, a corrugated perforated plate covering said aperture, a water wheel journaled beneath said aperture, and a crank shaft and spindle operating said water wheel, substantially as described.

3. In a washing machine of the character described, the combination with an outer pan of an inner pan partly filling said outer pan and leaving a space between the said pans, the said inner pan having perforations in the sides thereof and an aperture in the bottom, a corrugated perforated plate covering said aperture, a rotary water wheel journaled beneath said aperture, a spindle journaled in the center of said pans, and passing through said rotary water wheel, gear wheels connecting said spindle to said piston, and means for turning said spindle, substantially as described.

4. In a washing machine of the character described, the combination with an outer pan of an inner pan partly filling said outer pan and leaving a space between the said pans, the said inner pan having perforations in the sides thereof and an aperture in the bottom, a corrugated perforated plate covering said aperture, a water wheel journaled beneath said aperture, a vertical spindle journaled in the center of said pans, and passing through said water wheel, the gear wheel f keyed to said spindle, gear wheels k and k' driven by said gear wheel f and pinion h^2 integral with or rigidly connected to said water wheel and meshing in said gear wheel k' , substantially as and for the purposes described.

5. In a washing machine of the character described, the combination with an outer pan of an inner pan partly filling said outer pan and leaving a space between the said pans,

the said inner pan having perforations in the sides thereof, and an aperture in the bottom, a corrugated perforated plate covering said aperture, a water wheel journaled beneath said aperture, and having an inverted cup-shaped chamber in the center thereof, a spindle journaled in the center of said pans, and passing through said water wheel, gear wheels connecting said spindle to said piston inclosed in the chamber of said water wheel, and means for turning said spindle, substantially as described.

6. In a washing machine of the character described, the combination with an outer pan of an inner pan partly filling said outer pan and leaving a space between the said pans, the said inner pan having perforations in the sides thereof and an aperture in the bottom, a corrugated perforated plate covering said aperture, and having an inverted cup-shaped chamber in the center thereof, a water wheel journaled beneath said aperture, a vertical spindle journaled in the center of said pans, and passing through said water wheel, the gear wheel *f* keyed to said spindle, gear wheels *k* and *k'* driven by said gear wheel *f* and pinion *h*² integral with or rigidly connected to said water wheel and meshing in said gear wheel *k'*, all of said gear wheels being inclosed in the chamber of said water wheel, substantially as and for the purposes described.

7. In a washing machine of the character

described, the combination with the extension piece C, outer pan A, and inner pan B connected together, the said inner pan partly filling said outer pan and leaving a space between the said pans, and the said inner pan having a sloping face *b'* and perforations *b*² in the sides thereof, and an aperture *b*³ in the bottom, of a corrugated perforated plate covering said aperture, and a centrifugal water wheel in the space between the bottoms of said pans substantially as and for the purposes described.

8. In a washing machine of the character described, the combination with the extension piece C, outer pan A, and inner pan B connected together, the said inner pan filling said outer pan and leaving a space between the said pans, and the said inner pan having a sloping face *b'* and perforations *b*² in the sides thereof and an aperture *b*³ in the bottom, of a corrugated perforated plate *B*² covering said aperture, a water wheel journaled beneath said aperture, and a crank shaft and spindle operating said water wheel, substantially as described.

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

WILLIAM I. MCCAUSLAND.

Witnesses:

O. B. KEE,
JOS. PERRY.