

J. A. Strong,

Dish Washer.

No. 95618.

Patented Oct. 5, 1869.

Fig. 1.

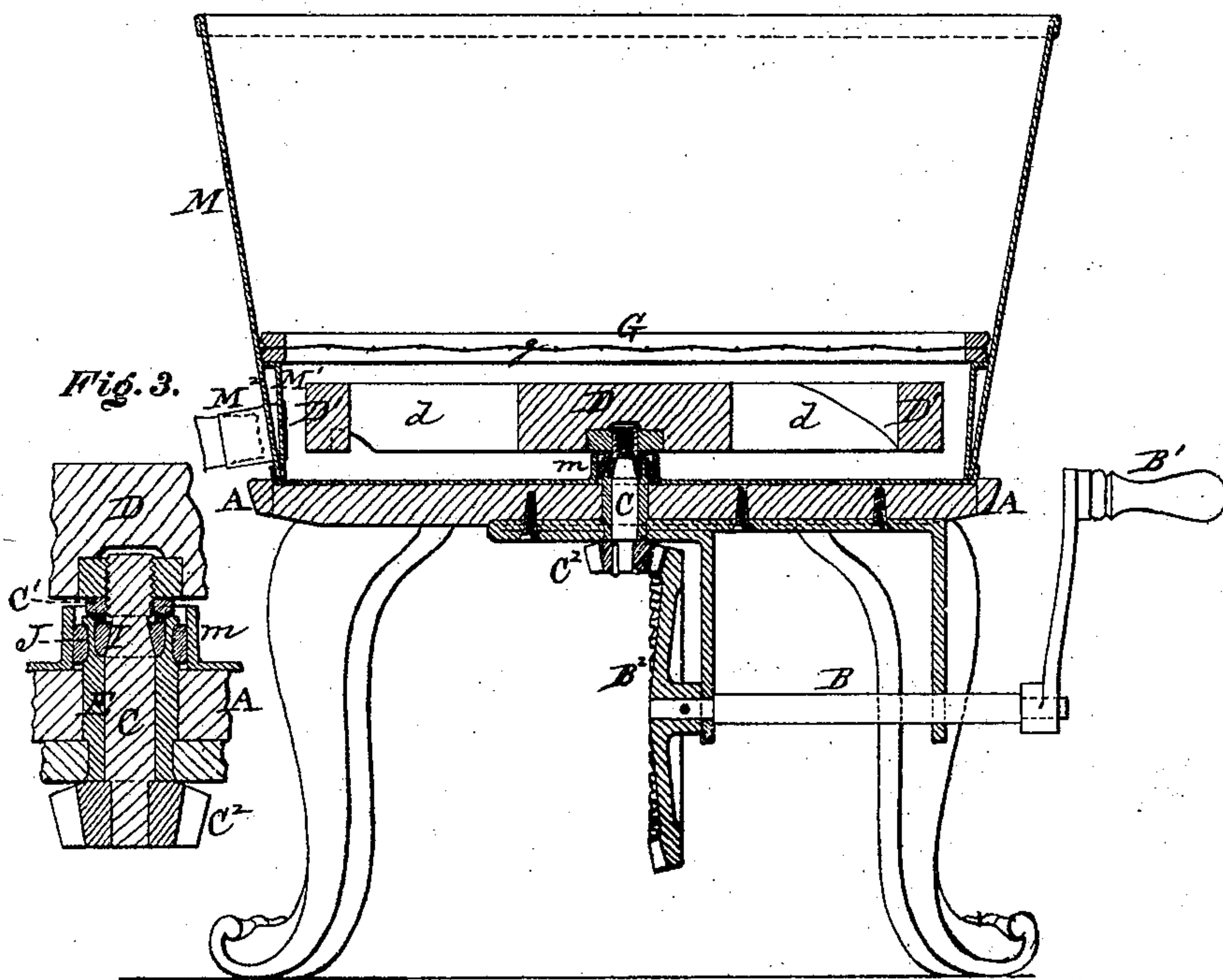
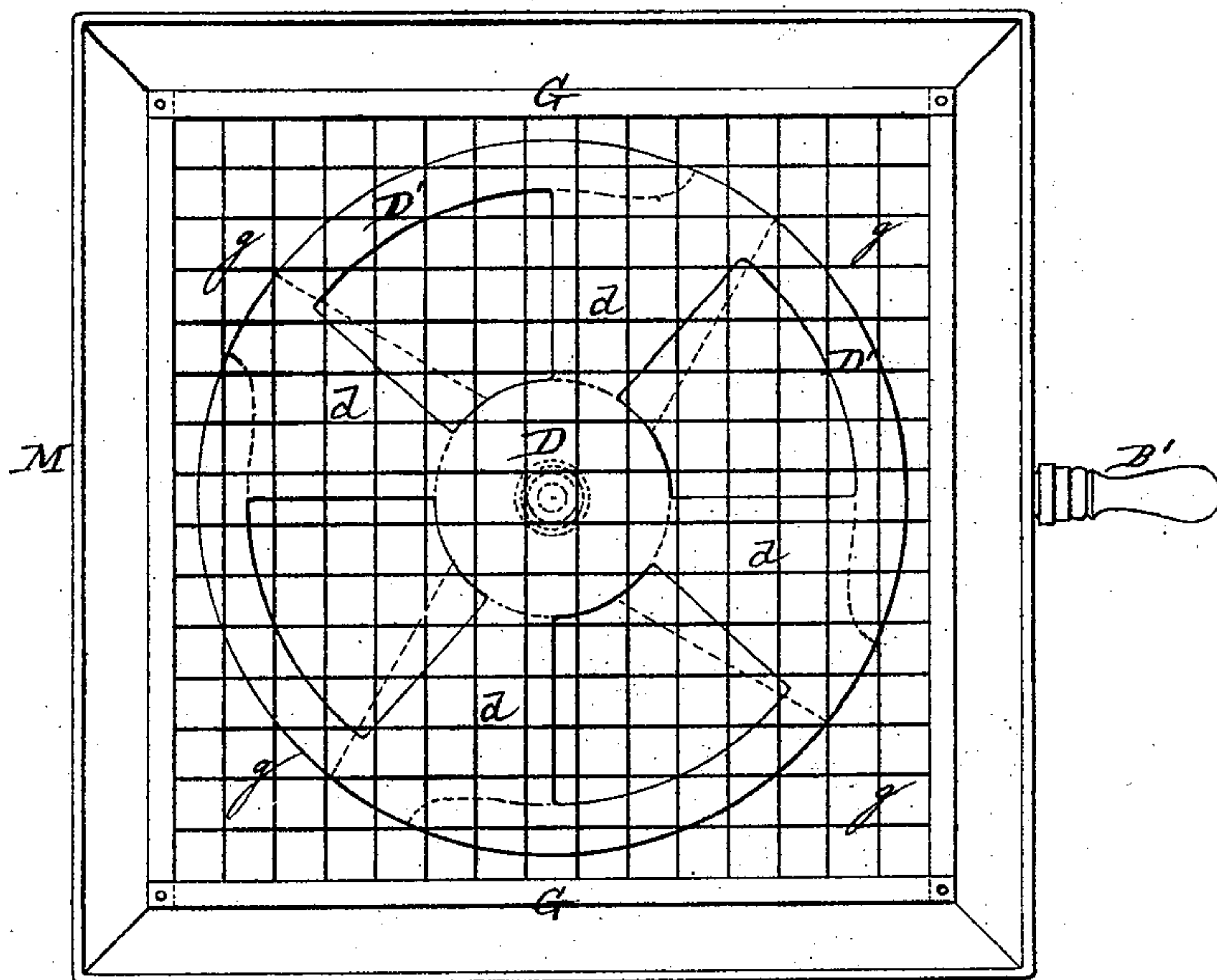


Fig. 2.



Witnesses.

C. C. Livings
W. E. Day

Inventor.

J. A. Strong
By his attorney, J. L. Nelson

United States Patent Office.

JAMES A. STRONG, OF NORTH WOLCOTT, VERMONT.

Letters Patent No. 95,618, dated October 5, 1869.

IMPROVED DISH-WASHER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES A. STRONG, of North Wolcott, in the county of Lamoille, and State of Vermont, have invented certain new and useful Improvements in Dish-Washers; and I do hereby declare that the following is a full and exact description thereof.

My apparatus, like many before known, cleanses the dishes by violently agitating hot water in contact therewith, without the employment of brushes, or any analogous rubbing-devices.

The arrangement of the mechanism is different to any before known to me, and is superior in convenience of placing the dishes, and of introducing and removing them.

The accompanying drawings form a part of this specification.

Figure 1 is a central vertical section;

Figure 2 is a plan view; and

Figure 3 is a vertical section of a part, on a larger scale.

Similar letters of reference indicate like parts in all the figures.

A is a rigid frame-work, of cast-iron, or other suitable material.

B is a cranked shaft, hung in brackets, depending from the frame A, and turned by the handle B¹. It carries a large bevelled-gear wheel, B², which gears into the small bevelled-gear wheel C², fixed on an upright shaft, C.

The upper end of this shaft C is threaded, so as to form a screw, which screws into a wheel with helical wings or blades, as indicated by D, D', d, in which D is the hub, and d the wings.

The exteriors of the wings are united by a rim, D'. I will designate this wheel D.

The upright shaft C is small, and nicely turned.

It is encircled at a little distance by a fixed ring, E, mounted in the framing A.

Within the ring E, and between it and the shaft C, is fitted a tube of rubber, which serves as a water-tight packing.

Outside the ring E is fitted a larger tube of rubber, which serves as a water-tight packing, to close the joint between it and a ring or upright flange, m, which forms the boundary or edge of a hole in the bottom of the large pan M.

The inner tube of rubber is marked I, and the outer tube of rubber is marked J.

The two serve, in connection with the metallic parts, to form a water-tight joint, which, when the wheel D is removed, is cheaply and easily made and repaired, and is easily "broken," or opened, and again closed. It is closed and opened simply by the introduction and removal of the pan M.

The pan M is of double thickness around the base.

This is produced by introducing a lining, M¹, at a little distance within the main wall M.

This lining is carried up to a height a little above the upper surface of the wheel D. There it is bent outward, at right angles, and is joined to the main wall by soldering.

There is a lateral tube through both walls, which serves to empty the pan.

The tube is denoted M², and may be closed by a cork or other stopper, as represented.

The upper edge of the lining M forms a shelf, to support a grating or wire-work, indicated by G g, in which G is a rigid framing, and g is a net-work of small wire stretched across the framing.

The dishes to be washed are laid irregularly or open-wise on the wire-work g. The pan M being filled with hot water to a height above the top of the dishes, the crank B¹ is turned, and, by the rapid rotation of the wheel D, the hot water is thrown up against and agitated amongst the dishes.

The machine is taken apart and exposed, to be rinsed and dried, with extraordinary readiness. It is necessary, simply, to remove the plug from the tube M², take out the net-work G g, unscrew and remove the wheel D, and lift the pan M bodily from its place.

The exterior rubber tube J should be made a little conical, to allow the easy removing and again replacing the vessel M. This forms a tight joint, without further care than simply pressing down the ring or upright flange M upon the rubber J.

The internal rubber I should be adapted to its position with some care, so as to fit tight and easy around the shaft.

I consider it important, in practice, to apply a collar or thin nut, C¹, on the screw-thread at the top of the shaft C, and to screw it down into close proximity or direct contact with the top of the fixed tube E.

In securing the wheel D upon the screw at the top of the upright shaft C, I turn it down until it rests with force against the collar C¹.

I am aware that many machines have been before proposed, in which there were agitating-blades revolved in water, to stir the water and drive it forcibly against and across the surface of the dishes; but such have always heretofore been mounted either on a horizontal shaft, in which case the motion of the upper half only of the wheel is available for usefully agitating the water, or they have been mounted on upright shafts, projecting up through the top of the machine, thereby seriously interfering with and obstructing the space in which to place the dishes.

My machine will wash as large a dish as can be introduced into the pan M, or, in other words, the pan may be made as small as the largest dishes which are to be washed, and all the force of the machine will be

usefully expended in driving the water between and across the surfaces of the dishes.

My construction and arrangement offer unusual facilities for dividing the machine, and again applying it together. By reason of its peculiar arrangement, it occupies very little space when in use, and the stationary or non-revolving work is divided by a very simple and instantaneous movement into parts, the base A, pan M, and net or open platform G g, which are readily hung upon the kitchen-wall, or otherwise packed out of the way.

The open buckets or blades d, in the wheel D, by their spiral construction, draw the water down through the wheel with a great force, when the wheel is rapidly revolved, while the square corners of the pan catch or stop the centrifugal force of the water, and throw it

upward again, thus giving two distinct motions to the water, through every opening between the dishes.

I can, with some success, employ leather, or other soft material, instead of rubber, for the two concentric packings I and J on the inside and outside of the fixed ring E, but I prefer rubber, as described.

I claim as new, and as my invention—

The duplex, concentric, soft packing I J, arranged as represented, relatively to the shaft O, and its connections, and to the fixed ring E, on the vessel M, as and for the purposes herein described.

In testimony whereof, I have hereunto set my name, in presence of two subscribing witnesses.

Witnesses:

J. A. STRONG.

D. R. ANDRUS,

J. C. SANBORN.