(No Model.) 2 Sheets—Sheet 1.

B. S. WHEELER.

DISH WASHING MACHINE.

No. 266,935. Patented Oct. 31, 1882.

Fig. 1.

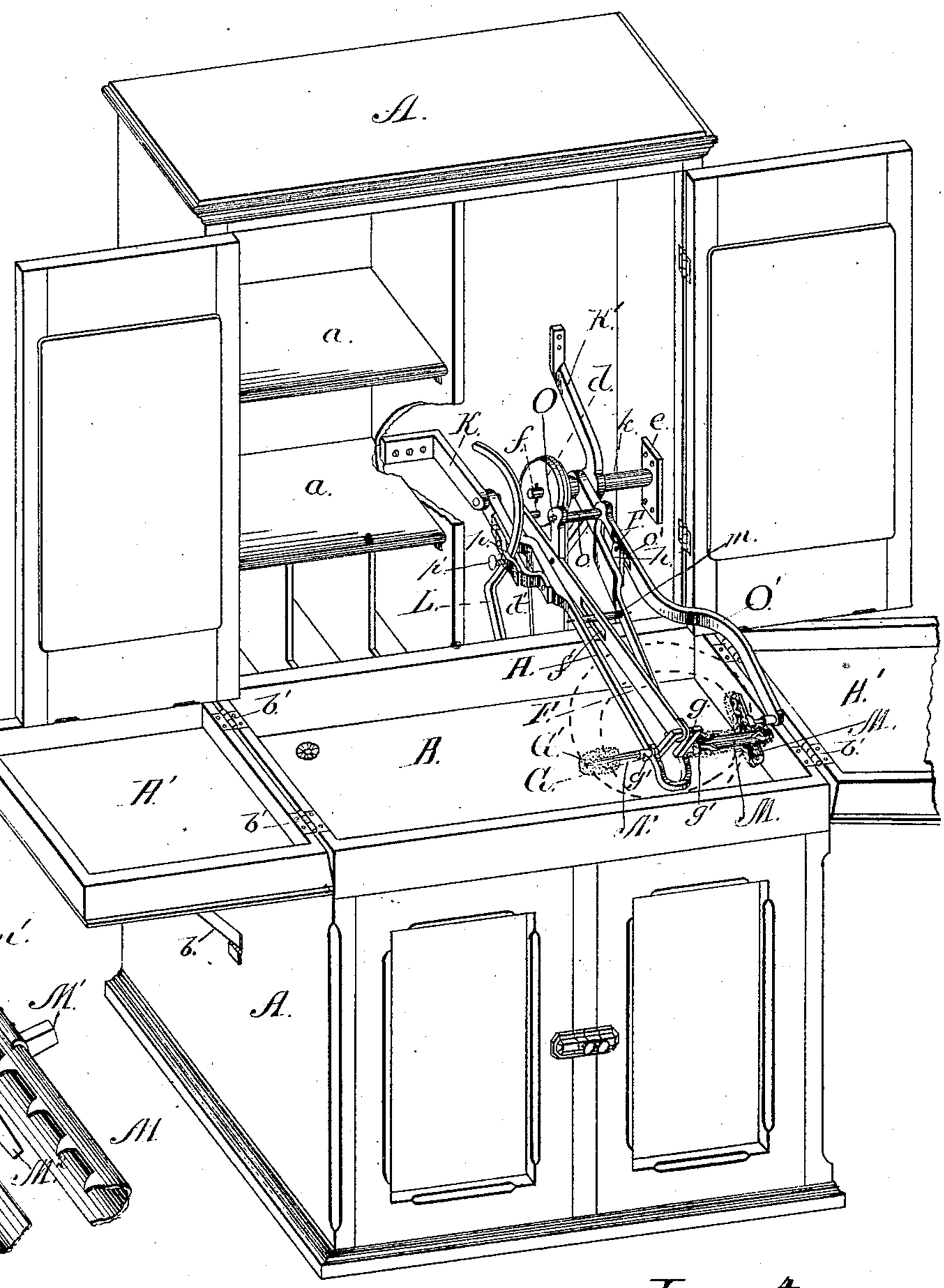
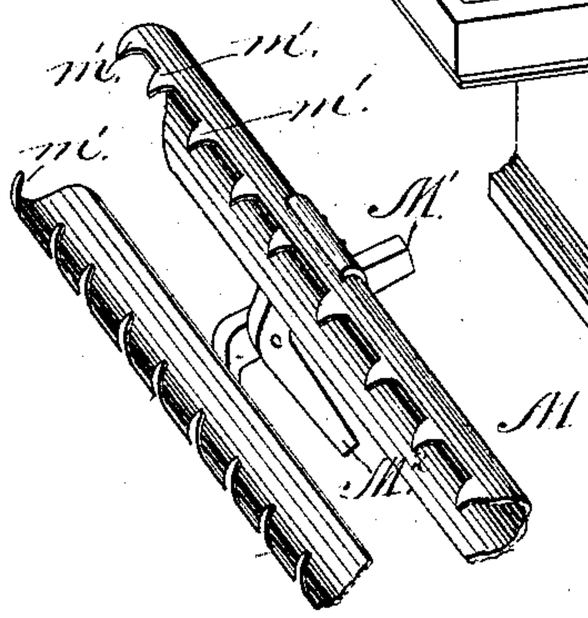


Fig. 2.



Witnesses:
C. B. Story.
Victor H. Heldt.

Inventor:
Betsey S. Wheeler
By
Stout & Underwood,
Attorneys.

(No Model.) 2 Sheets—Sheet 2.

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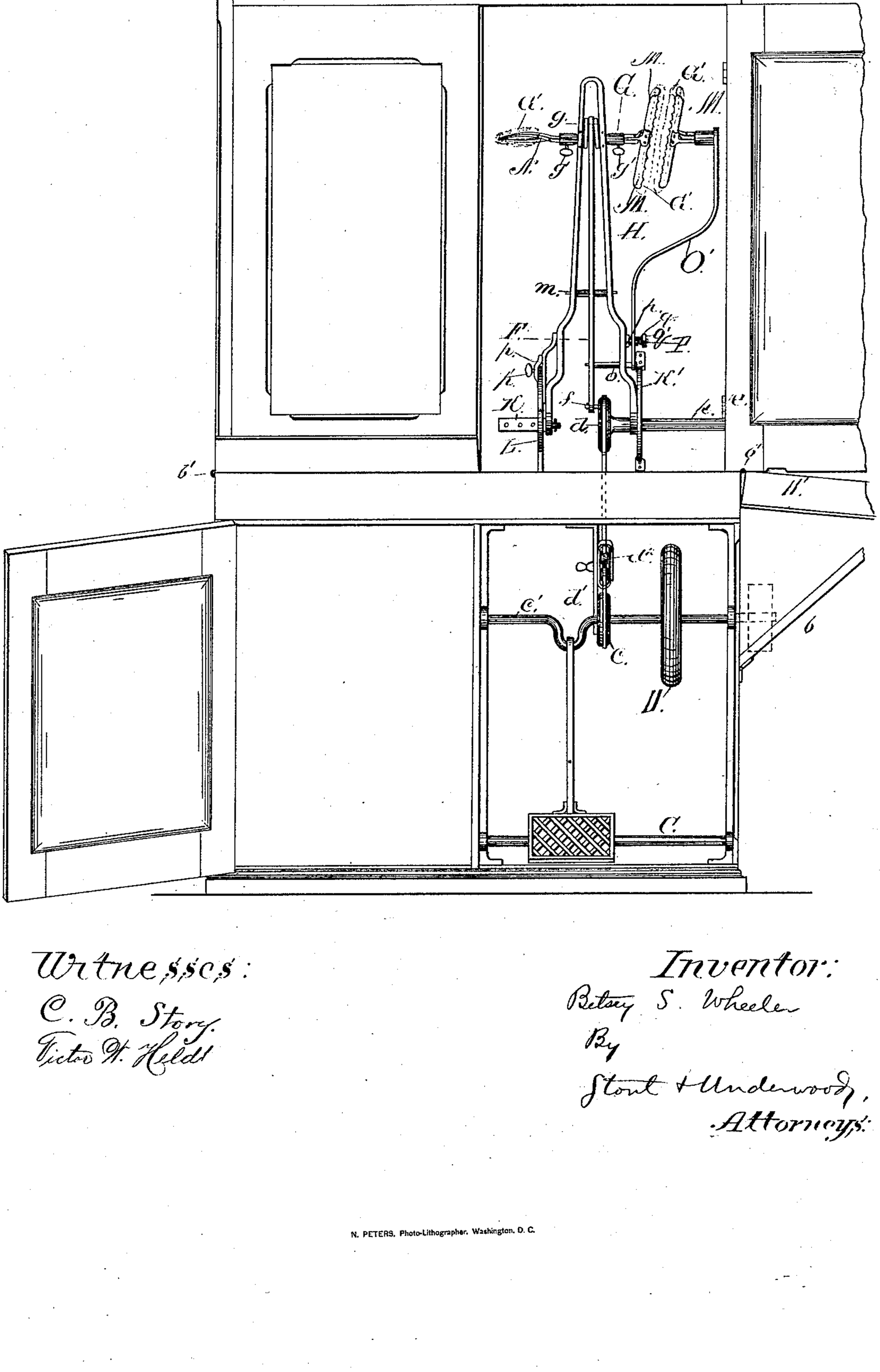
Fig. 3.



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UNITED STATES PATENT OFFICE.

BETSEY S. WHEELER, OF NORTH WAUWATOSA, WISCONSIN.

DISH-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 266,935, dated October 31, 1882.

Application filed July 26, 1882. (No model.)

To all whom it may concern:

Be it known that I, BETSEY S. WHEELER, of North Wauwatosa, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Dish-Washing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to dish-washing machines and their cabinets, and will be fully described hereinafter.

In the drawings, Figure 1 is a perspective view of my cabinet with the dish-washer exposed, also in perspective. Fig. 2 is a detail of a portion of the dish-washer, and Fig. 3 is a front view of the cabinet with doors open and exposing the washing mechanism.

A is the cabinet, which, when closed, has the appearance of an ordinary book-case, in that the base, which forms its lower half, is about twice as deep as the remaining upright portion, forming a ledge in front of the upright portion, in which I provide a basin, B, having lids B′, that are hinged, so that each can open toward an end of the basin. When these lids are open they are supported by brackets *b*, that are sufficiently long to relieve the hinges from strain, but short enough to permit the lids to slant away from the machine, for a purpose to be explained hereinafter. Back of the basin one half of the upright portion A of the cabinet is provided from top to bottom with suitable shelving, *a*, while the other half, with half of the base, contains the dish-washing mechanism, which is constructed as follows:

C is the base of the machine, which is provided with a crank-shaft, *c′*, on which is a pulley, *c*, and a fly-wheel, D. The shaft *c′* is operated by a lever or treadle, or by any other suitable power. The pulley *c* is connected with a crank-pulley, *d*, by a belt, *d′*, and between these pulleys *c* and *d*, I hang an adjustable tightener, d^2, for regulating the tension of the belt *d′* and changing the direction. The wrist-pin *f* of the crank-pulley is connected by a pitman-rod, F, with the crank *g* of a shaft, G, that has its bearings in a yoke, H, that is bifurcated from front to rear, and one of the arms of which swings on the shaft *k*, that carries pulley *d*, while the other end swings on a pivot in bracket K. A bracket, K′, supports one end of shaft *k*, while its other end is seated in the wall of the cabinet, as shown at *e*. A sleeved rod, *m*, that projects from one arm to the other of yoke H, forms a fulcrum for pitman F, which is slotted at *f′* to receive it, and therefore, when this pitman F is reciprocated, it will revolve the shaft G. Each end of the shaft G has a squared opening in it to receive the shank of a gripper, which is designed to grasp a rag or sponge, G′.

The gripper designed for use in cleaning plates is marked M, and is shown in perspective in the detail view, Fig. 2. It consists of two jaws, preferably provided with teeth *m′*, as shown. The shank M′ of one jaw crosses and is pivoted to the shank M^2 of the other jaw, and both shanks are so bent that when a strip of sponge, G′, or rag is placed between the jaws and the latter closed the shanks will lie parallel to each other, and will fit within the described squared opening in one end of the shaft G, there to be secured by a set-screw, *g′*.

The gripper N for the cup-sponge consists merely of two curved fingers to be thrust into the sponge, and hold it by action similar to that of a pair of scissors, and whose shanks are similar in construction to those of the grippers M, just described, and are adapted to be similarly secured within the squared opening in the other end of the shaft G by another set-screw *g′*.

From the top of the pitman F, and near its inner end, is projected upward an arm, O, having a short rod, *o*, pivoted at a right angle thereto, and to the other end of this rod there is connected the end of a bent lever, O′, which lever is pivoted to a lug, *h*, on one arm of the yoke H by a pin, P, that passes through a slot, *o′*, in said lever, and to give a degree of elasticity to the lever O′, I propose to interpose a spring, *q*, between the lever and the nut *q′* on the end of pin P, which, while it will have a constant tendency to force the lever O′ toward the pitman F, will yet permit the two to be drawn apart. The free end of the lever O′ is provided with a hub having a squared opening and set-screw for holding another gripper M and sponge G′, which is held opposite the gripper and sponge M G′ on the right-hand end of the crank-shaft G, already described, yet with the lines of the opposing sponges crossing each other, rather than parallel, as shown clearly in Fig. 1.

The yoke H swings, as before stated, on its bearings K and *k*, and to guide and sustain it in its adjustments at different heights as required (or when turned back upright within the upper part of the case, as shown in Fig. 3,) I secure a standard, L, to the rear of the basin B. The upper portion of this standard is curved to correspond to the arc in which the yoke H swings, and is bound to the yoke by a plate or loop, *p*, that forms a rigid part of the said yoke, and hence permits the yoke to slide freely in the arc of a circle on the said standard, and to be secured in any desired adjustment by a set-screw, *p'*.

By reason of the lever O' and its gripper and sponge, located opposite the gripper and sponge on the right-hand end of the crank-shaft G, I am enabled to wash thoroughly both sides of a dish or plate at once, the said dish or plate being held between the opposing sponges, while if the interior of a cup, pitcher, or bowl is to be cleansed the said dish is held so that the cup-sponge G' on the gripper N on the left-hand end of the crank-shaft G will be inside of the dish, and thus rapidly cleanse it. I propose, also, to have a handle provided with a squared socket and set-screw in one end, so that when desired I can remove either one of the grippers M or the gripper N from the shaft G and insert the shanks of said gripper into the socket in the said handle and fasten by the set-screw, so that I may thus have an efficient hand implement for cleaning any unusual or peculiarly shaped dish.

My device might be constructed without the lever O'; but in such case only one side of a plate or dish could be washed at once, and hence I prefer ordinarily the construction herein shown. Similarly my device is adapted to be operated by other power than the treadle illustrated in Fig. 3, and the operating-shaft might extend through the side of the cabinet and have a belt-wheel, crank, or other attachment for running my device by power or hand, if desired, as indicated in dotted lines in Fig. 3, especially when in use in large restaurants or hotels; but it will work satisfactorily by the means shown with only a single operator to supply power and hold the dishes against the sponges at the same time.

In Fig. 1 I have shown dotted lines to represent the location of an ordinary dish-pan, which is to be filled with very hot water—so hot that it would be impossible to bear the hand in it—and after the dirty dishes have been a short time in this hot water the operator will lift one of them up, and, holding it with a cloth, if still too warm to handle, and place it either against, around, or between the appropriate sponge or sponges, and so instantly cleanse it.

As before stated, the lids B' of my cabinet slant downward from each end of the sink or basin B. The object of this is to drain off any water remaining on the dishes after they are washed. The water used is so hot that it quickly evaporates from the dishes, which are placed upon cloths laid on the floor of these lids, the slant of which drains off any water not evaporated by the heat of the dishes, and thus the labor of wiping the dishes is reduced to a minimum, even when required at all. This downward slant is accomplished by securing the lids and basin together by thick hinges *b'*, so that the bolts or joints of the hinges will lie between the top edges of the said basin and the adjacent edges of the lids, when open, and thus force the then inverted top inner edges of the lids in against the sides of the cabinet.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a dish-washing machine, the yoke H and pitman F, in combination with the lever O', crank-shaft G, grippers M M, and mechanism for actuating these parts, substantially as set forth.

2. In a combined dish-washing machine and cabinet, the combination of the basin B with the downwardly-slanting draining-lids B', connected together by the thick hinges *b'*, attached so that the bolts or joints of the hinges will lie between the top edges of the said basin and the adjacent edges of the lids, when opened, and thereby force the then inverted top inner edges of the lids in against the sides of the cabinet, as shown and described, and for the purpose set forth.

3. In a dish-washing machine, the combination of the yoke H, pitman F, and crank-shaft G, and operating mechanism with the gripper M, having jaws provided with teeth *m'* for securing a sponge or rag between them, and pivoted shanks M' M², substantially as set forth.

4. In a dish-washing machine, the combination of the pulley *d*, wrist-pin *f*, yoke H, rod *m*, crank-shaft G *g*, and pitman F, having slot *f'*, substantially as set forth, and for the purpose described.

5. The combination of the pulley *d*, wrist-pin *f*, yoke H, rod *m*, crank-shaft G *g*, and slotted pitman F *f'* with the arm O, rod *o*, bent and slotted lever O' *o'*, and sponge-grippers M M, substantially as set forth, and for the purpose described.

6. The combination of the yoke H, having lug *h*, with the slotted pitman F *f'*, rod *m*, crank-shaft G *g'*, grippers M M, and actuating-pulley and wrist-pin, and the bent and slotted lever O' *o'*, connected to the pitman F, and the pin P, spring *q*, and nut *q'*, substantially as set forth, and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand, on this 26th day of June, 1882, in the presence of two witnesses.

BETSEY S. WHEELER.

Witnesses:
HAROLD G. UNDERWOOD,
C. B. STORY.