(No Model.) 2 Sheets—Sheet 1.

A. INSINGER.

DISH CLEANER.

No. 594,137. Patented Nov. 23, 1897.

Fig. 1.

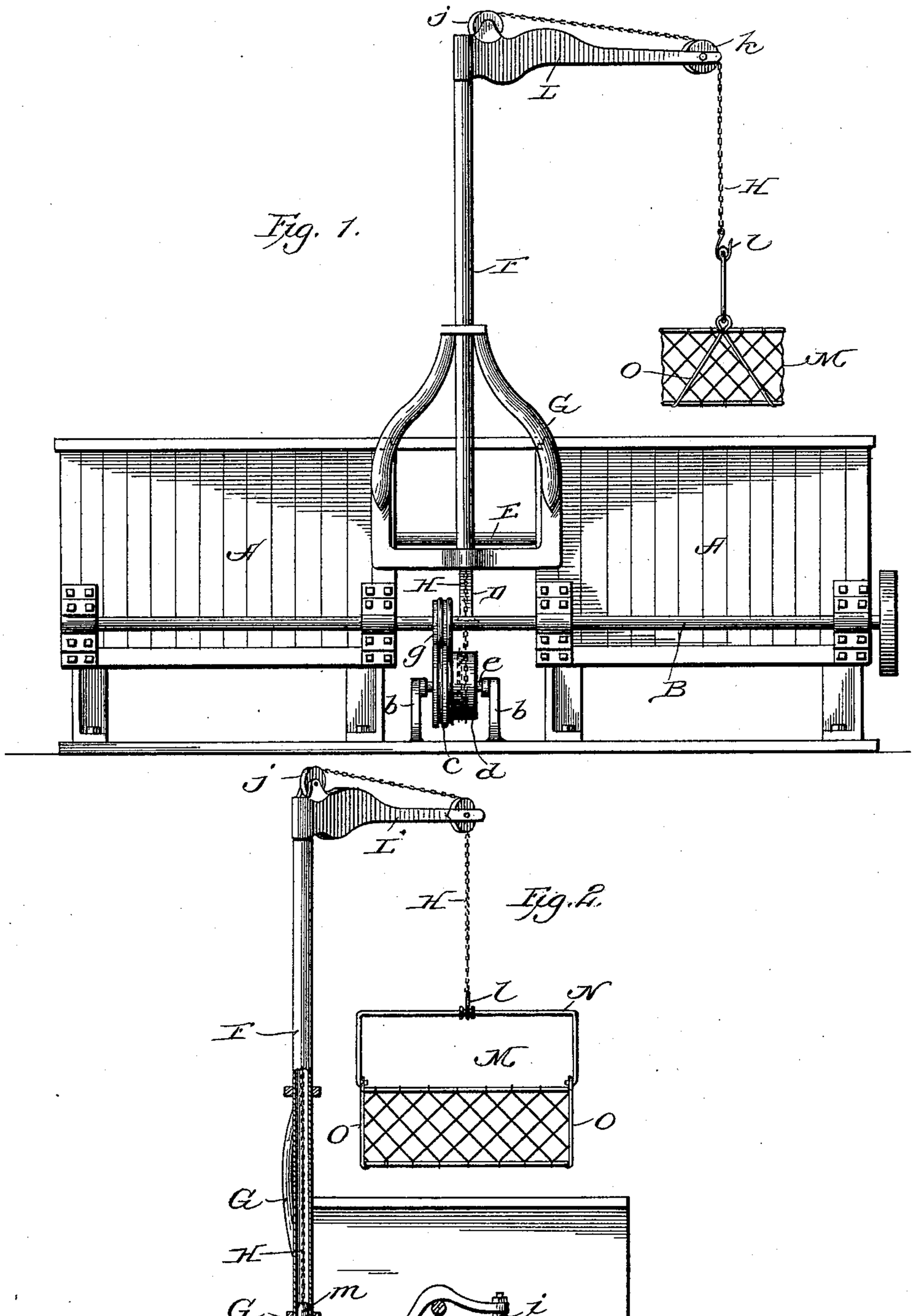

Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

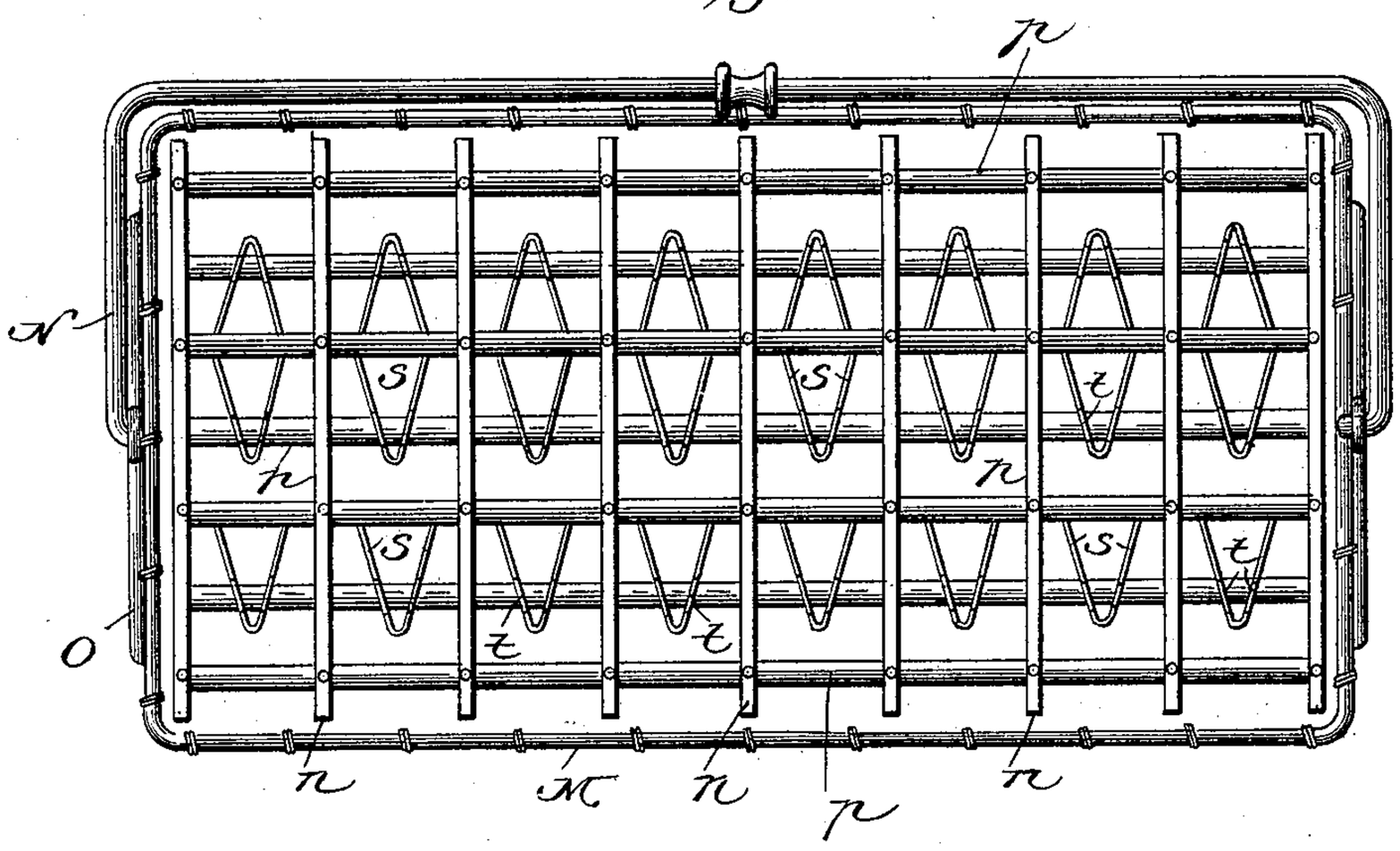


Fig. 4.

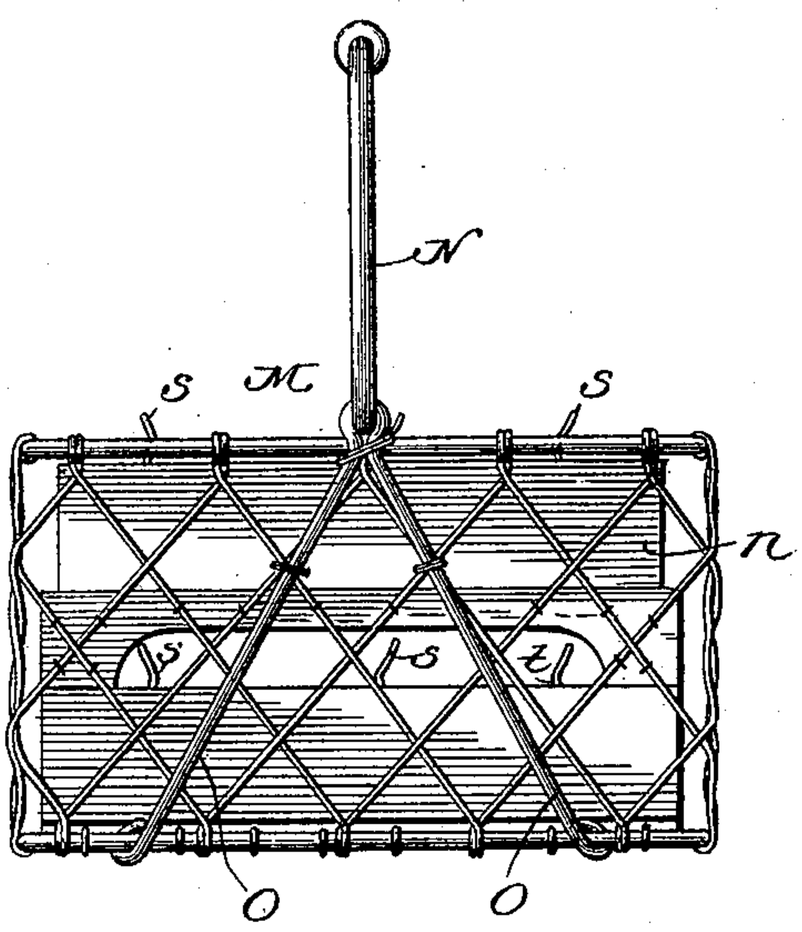
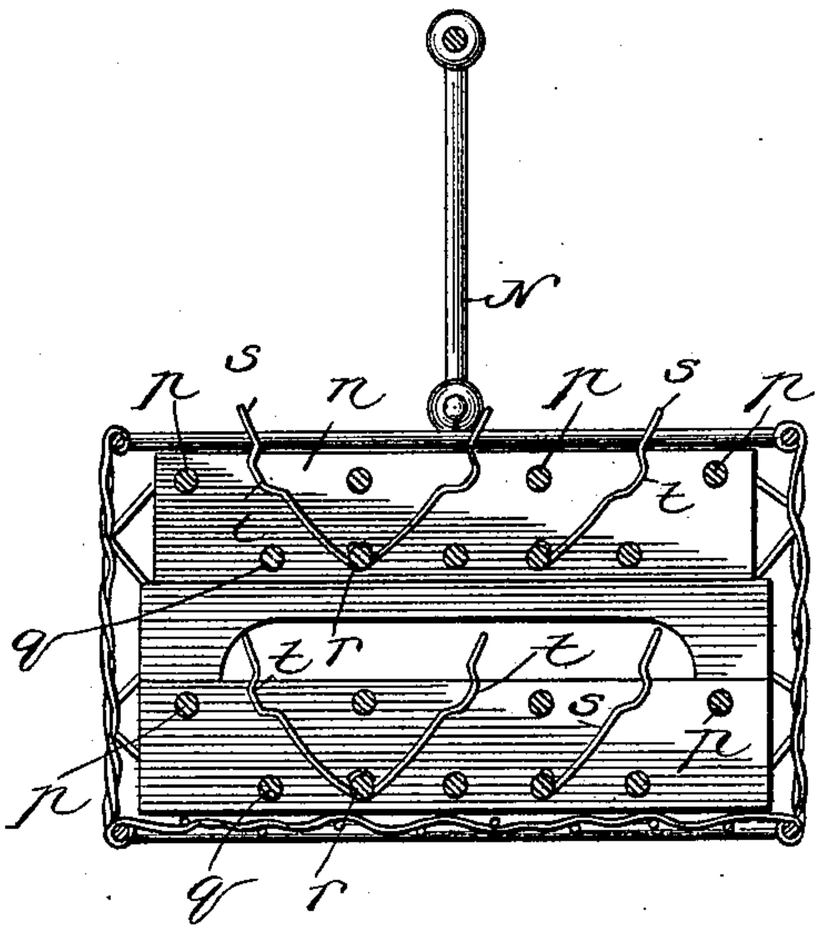


Fig. 5.



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UNITED STATES PATENT OFFICE.

ALFRED INSINGER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO C. FLORENCE INSINGER, OF SAME PLACE.

DISH-CLEANER.

SPECIFICATION forming part of Letters Patent No. 594,137, dated November 23, 1897.

Application filed April 7, 1896. Serial No. 586,498. (No model.)

To all whom it may concern:

Be it known that I, ALFRED INSINGER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Dish-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.

This invention relates to dish-washing machines of that class used in hotels, restaurants, and the like places, where expeditious work is required on large quantities of dishes, cups, &c.; and it has for its object to provide a basket adapted to hold a large number of the articles named in such manner as to prevent chipping and breaking of the same while undergoing the cleansing process, and also to provide a lifting device adapted to lower and lift or raise the loaded basket into and from the tanks wherein the dishes are cleaned and to automatically check the movement of the basket when raised the desired height; and it consists in the parts and combinations of parts hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a rear elevation of a washing-machine, showing my invention; Fig. 2, a side elevation, partly broken away, of my lifting device and showing the end of one of the washing-tanks; Fig. 3, a plan view of my improved basket or dish-holder; Fig. 4, an end view of the same, and Fig. 5 a vertical section through the basket.

Similar letters refer to similar parts throughout all the views.

A represents the washing-tanks, which may be of any desired construction, and B the main shaft for operating the machine, which is mounted in brackets on the rear of the tanks and extends the full length of the same and is to be driven by an engine (not shown) which in practice is mounted at the end of the machine and suitably connected to said shaft.

Between the tanks A is arranged a lever C, having its fulcrum on a shaft *a*, mounted in the vertical standards *b*, said lever being split or divided at one end and carrying therein a grooved friction-wheel *c* and a drum *d*, which are mounted alongside each other on a shaft *e*, journaled in the split end of said lever. At its other end the lever *c* is formed with a pedal *f*, whereby it may be easily depressed by the operator to throw the friction-wheel *c* into engagement with a smaller grooved friction-wheel *g*, mounted in vertical line therewith on the main shaft B.

To the lever C one end of a short lever D is connected by link *h* and a turnbuckle or adjustable eyebolt *i*, said lever D being fulcrumed, preferably, on the shaft E, which has its bearings in the adjacent ends of the tanks and is employed to operate the propellers used to agitate the water in the tanks of machines of this type, although it will be understood that any suitable fulcrum pin or support may be used instead of the shaft E, if desired. The lever D extends to a point below and in line with a tube F, which is held rigidly in a vertical position at the rear of the machine by means of a suitable bracket G, which is secured to the tanks A and extends across the space between them, as best shown in Fig. 1. The end of the lever D is perforated for the passage of a chain H therethrough, which chain is secured at one end to the drum *d* and extends therefrom through the perforated end of the lever D and through the tube F and over a grooved pulley *j*, mounted on an arm L at the top of said tube, and to and over a similar pulley *k*, mounted at the end of said arm, and terminates with a hook *l*, to which the bail of the basket containing the articles to be cleansed is hung. The arm L is pivotally mounted on the upper end of the tube F, so that it may be freely turned thereon to swing or carry the loaded basket from one tank to the other and to a drying-table or drip-board arranged on or adjacent said tanks.

The chain H carries a weight *m*, adapted to enter the tube F, which weight is adjustably secured to the chain in any desired manner whereby it may be moved along the chain in order to adjust it so that it will come in contact with the end of the lever D when the basket is raised to the desired height, and thus depress the long arm of said lever, which in turn raises, through its connecting-link,

the long arm of lever C, thus lowering the friction-wheel *c* out of engagement with wheel *g* and thereby stopping further revolution of the drum *d*.

The basket M is formed of galvanized-iron wire bent to shape and with interstices of a suitable size and is provided with a bail N, which is attached by means of the brace-rods O at each end of said basket.

The racks for holding the cups are formed of the cross-pieces *n*, through the upper part of which extend a series of rods *p* and through the lower part of which extend a series of rods *q* and *r*, the rods *q* being arranged at a point between the rods *p* and the rods *r* immediately in line with two or more of said rods *p*, according to the size of the racks. Thus it will be observed that the cross-pieces *n* furnish the end walls and the rods *p* the side walls of square compartments, of which the rods *q* form the bottom, each of said compartments being of a size to receive a single cup therein.

To the rods *r* are attached wires *s*, of spring metal, one for each compartment, which are bent up therefrom and also bent at *t* to form a lateral projection adapted to enter a cup. The cups are placed sidewise in the compartments on the convex side of the wire springs, and the projections on said springs enter the same and thus hold them in position while being cleansed. To one of the rods *r* in this instance two of the springs are attached, as shown best in Fig. 5, and extend into adjacent compartments; but the number used and their arrangement will depend entirely on the width of the basket and the number of compartments therein.

Each basket is intended to hold two or more racks arranged one above the other and with spacing-blocks P, as shown in Fig. 4, arranged thereinbetween.

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

1. The combination, with the main shaft of a dish-washing machine, of a basket lifting or hoisting device comprising a lever, a drum carried by said lever, a chain having one end connected to said drum, means for revolving the drum from the main shaft, and means for automatically engaging the lever to stop the motion of the drum, substantially as described.

2. A basket hoisting or lifting device for dish-washing machines, consisting of a pivoted lever, a drum carried by said lever, a chain having one end attached to said drum, means for guiding said chain over the machine, means for revolving said drum, and means connected with the chain for automatically stopping the movement of said drum, substantially as described.

3. A basket hoisting or lifting device for dish-washing machines, consisting of a pivoted lever, a drum carried by said lever, friction-wheels for revolving said drum, a guide for guiding said chain over the machine, a stop carried by said chain, and means operated by said stop to automatically separate or disengage the friction-wheels, whereby further revolution of the drum will cease, substantially as described.

4. The combination with the main shaft of a dish-washing machine having a friction-wheel mounted thereon, of a pivoted lever, a friction-wheel and drum carried by said lever, a lever pivoted above and connected to said first-named lever, a vertical tube, an arm pivotally mounted on said tube, a chain having one end connected to said drum and extending through said tube to the end of said arm, and a stop carried by said chain and adapted to engage and depress one end of the uppermost lever, substantially as described.

5. The combination, with a basket for dish-washing machines, of a rack consisting of a series of cross-pieces and a series of rods passing through said cross-pieces and forming compartments each adapted to receive a cup, and means arranged in each compartment for engaging the cups to hold the same against movement, substantially as described.

6. The combination, with a basket for dish-washing machines, of a rack formed with a series of compartments each adapted to receive a cup, and spring-metal wires secured to said rack and extending into said compartments and adapted to engage the cups and retain them in the compartments, substantially as described.

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

ALFRED INSINGER.

Witnesses:
BAKER LA RUE,
C. FLORENCE INSINGER.