(No Model.) 2 Sheets—Sheet 1.

I. D. SMEAD.

DISH CLEANER.

No. 605,929. Patented June 21, 1898.

Fig. 1.

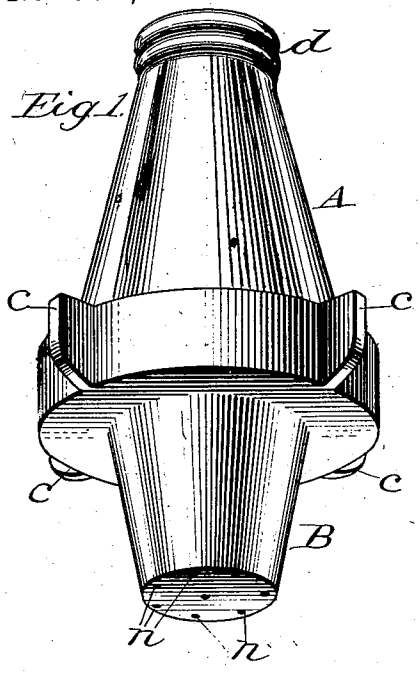


Fig. 2.

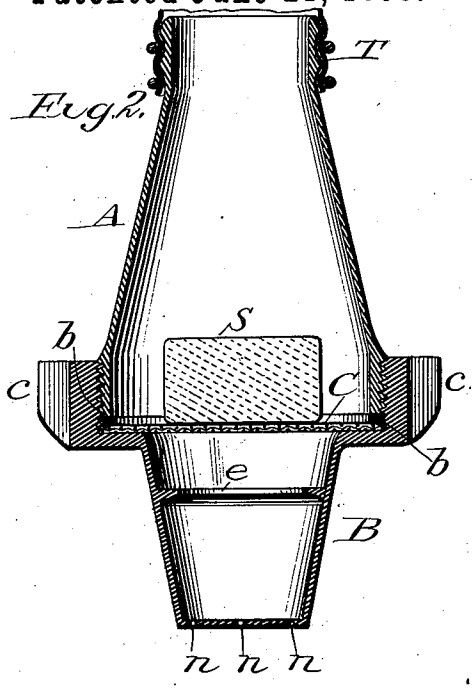
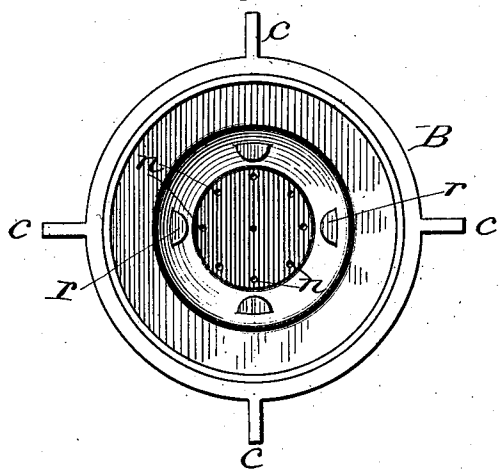


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

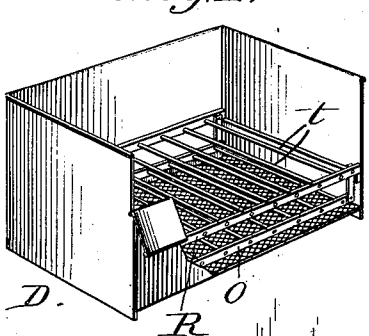


Fig. 5.

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UNITED STATES PATENT OFFICE.

ISAAC D. SMEAD, OF TOLEDO, OHIO.

DISH-CLEANER.

SPECIFICATION forming part of Letters Patent No. 605,929, dated June 21, 1898.

Application filed January 10, 1898. Serial No. 666,230. (No model.)

To all whom it may concern:

Be it known that I, ISAAC D. SMEAD, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in an Apparatus for Washing and Rinsing Dishes, of which the following is a specification.

My invention relates to apparatus for washing and rinsing dishes; and the invention consists in a nozzle of peculiar construction, secured to a flexible tube, and in a receptacle for holding the dishes in a particular position while being washed, all as hereinafter more fully described.

Figure 1 is a perspective view of the nozzle; Fig. 2, a longitudinal central section of the same, and Fig. 3 a top plan view of the lower part shown detached. Fig. 4 is a perspective view of the receptacle with the front broken away to show the rack inside, and Fig. 5 is a perspective view showing the method of using the apparatus.

From time immemorial the washing of dishes has been one of the most tedious and disagreeable of household duties, but one that has to be constantly performed. For use in hotels, restaurants, and boarding-houses various machines have been devised, but few, if any, of which are adapted for use in private families. The object of my present invention is to produce an apparatus for this purpose that is adapted for use in private families as well as in larger establishments and which shall be so simple that any one can use it and so cheap that all can afford to have it. To accomplish these results, I make a nozzle of metal, hard rubber, or any suitable material of the general form shown in Fig. 1. It is composed of two parts A and B, which are united by a screw-joint, with a packing-ring *b*, as shown in Fig. 2. The upper portion A is made of an enlarged diameter, so as to provide an internal chamber of such size as to admit a good-sized piece of soap, as shown at S, Fig. 2. To support this piece of soap, I provide a wire-gauze or other perforated disk C, which may rest loosely on the shoulder in the lower portion B of the nozzle, as shown in Fig. 2; or, if preferred, this disk may be of smaller diameter and rest upon an annular projection *e*, (shown in Fig. 2,) or in lieu of this annular projection a series of separate projections or studs *r* may be used, as represented in Fig. 3, or the disk may be dropped loosely into the conical chamber of the part B and be supported by the converging walls, though I prefer to use the shoulder, annular, or other projections to support the disk, as by such means it is held securely in a horizontal position and prevented from tipping up edgewise, as it might otherwise do.

While I prefer to use the disk, it is not absolutely necessary, especially if the piece of soap when put in is of rectangular or irregular form, as it naturally is when cut or broken from a bar of soap, as in such case the water will pass by it at the sides; but by using the disk the soap is prevented from working down into the lower conical portion of the nozzle, where it might tend to prevent the free flow of the water or stop up the perforations, both of which it is desirable to avoid.

The lower section B of the nozzle is constructed substantially as represented in Figs. 1 and 2, with its lower end flat and closed, with the exception of a few small holes or perforations *n*, as shown more clearly in Figs. 1 and 3. Care should be taken to make these perforations quite small and not too numerous, as by so doing the velocity of the jets of water escaping through them is much increased and the device thereby rendered more efficient.

The projections or ears *c* shown on the portion B are designed simply as a convenient means for grasping and screwing it on tight. It may be constructed with a knurled ring at that point instead or be provided with any similar means for that purpose.

As represented in Fig. 1, the portion A is provided at its upper or smaller end with one or more external beads *d*, by which the nozzle can be secured to a piece of hose T, as represented in Figs. 2 and 5. It is obvious that it may be provided with a screw-thread instead either internally or externally and be united to the hose by an ordinary union or coupling; but I prefer the plan shown, as it is cheaper, and when once fastened to the

hose there is less danger of the nozzle being removed and misplaced or lost, there being no occasion to remove it when once attached.

In order to use this nozzle, the hose T is simply connected to the hot-water pipe which is usually over the sink, and which may be done by extending the hot-water pipe P upward to a convenient height, as shown in Fig. 5, or by substituting for the hot-water faucet *b* one provided with a screw-thread (and which are common) the hose can be connected to it by means of an ordinary coupling; but I prefer the plan shown, as it avoids the necessity of connecting and detaching the device every time it is used and retains it always in position ready for instant use whenever required without interfering with independent use of the hot-water faucet *b*.

A valve V is inserted in the pipe P at any point where it can be conveniently reached to control the flow of the water. It is, however, obvious that instead of this the nozzle itself may be provided with a plug cock or valve; but if the pipe P be used I prefer to put the valve in it, as by so doing the nozzle is left in more convenient shape for the hand.

In order to hold the dishes in proper position to be cleaned by the jets of hot and soapy water projected from the nozzle, I provide a box or tray D, the upper portion of which has its sides or walls preferably curved or inclined inward, as shown at I, Fig. 5, to prevent the water from being thrown or glancing from the dishes outward and the front side I′ of which is preferably hinged, so it can be turned down, as shown in Fig. 5, for more conveniently placing and removing the dishes. This tray is provided with a perforated bottom O, preferably of woven wire, so that as the grease, &c., is washed from the dishes by the hot water it will all pass immediately away instead of being retained with the dirty water, as is the case in the ordinary method of washing dishes in a pan or in machines.

I provide a rack R of proper size to fit loosely in the tray, this rack being provided with two sets of cross bars or wires *t*, one set above the other, as shown in Fig. 4. These cross bars or wires instead of being arranged one set directly over the other are staggered or made to alternate in their vertical planes, so that when the dishes are set therein they will be more or less inclined, as represented in Fig. 5, by which arrangement the water can be applied more readily to their upper surfaces, which require the most washing, the flexibility of the hose permitting the nozzle to be turned and held in any and all positions necessary to apply the water to all sides of the dishes.

When it is desired to wash cups, bowls, and the like, the rack will be lifted out and the dishes set in on the perforated bottom and, if necessary, will be turned over during the operation of washing them, so that all portions will be thoroughly cleaned.

While I prefer to make the tray with the inwardly-inclined sides I, as above described and as shown, it is obvious that the sides may be left vertical or straight; but I prefer the plan shown, as otherwise it would be necessary to make it higher to prevent the water from splashing over the sides, in which case it would be too tall to set in the ordinary kitchen-sink under the ordinary hot and cold water faucets, which are usually located but a short distance above the sink.

To use my device, the dishes are placed in the tray, a piece of soap being placed in the chamber of the nozzle, the latter being held in the hand and the water turned on, as represented in Fig. 5. As the hot water passes through the chamber of the nozzle it continuously dissolves and carries with it some of the soap, and this hot soapy water being thrown upon the dishes in numerous small jets and with force or velocity almost instantly removes the grease or other adhering material, and as this is at once washed away through the perforated bottom it will be seen that the dishes are being submitted to the cleansing action of hot water that is constantly becoming more and more clean as the operation continues until finally they are rinsed by pure hot water, the soap in the meantime having been all dissolved or washed away. By these means the operation of washing and rinsing the dishes is rendered one single continuous operation and that, too, without rehandling the dishes. It also enables the water to be used much hotter than it can be when used in a pan in which the hands have to be immersed more or less, and therefore the dishes are left so hot that they become dry very quickly, the whole operation of washing, rinsing, and drying a trayful of dishes occupying but a very few minutes.

It will be seen that this device while adapted for use in private families is equally well adapted for use in hotels, restaurants, and wherever a large number of dishes are to be washed. In practice it will be desirable, especially in large establishments, to use a number of the trays, so that the instant one trayful is completed it can be set aside to let them drain and dry and another trayful being substituted and washed in the meantime.

By these improvements the hitherto tedious and disagreeable operation of dish-washing is reduced to an extremely quick and comparatively easy operation, which can be performed by a child or a lady without soiling their hands or clothing.

Having thus described my invention and the manner of using the same, what I claim is—

1. A dish-washing nozzle having an upper chamber for holding a piece of soap, and a lower chamber to receive the soapy water, and having its lower or delivery end provided with a limited number of small perforations for the purpose of delivering the water in a series of forcible jets, substantially as shown and described.

2. An apparatus for washing and rinsing dishes, comprising a nozzle adapted to receive and hold a piece of soap, said nozzle being secured to a flexible tube and provided at its delivery end with a limited number of small perforations, and a tray provided with a perforated bottom and a rack having two or more rows of horizontal bars arranged in different vertical planes, for holding the dishes in an inclined position, whereby the dishes can be both washed and rinsed by one continuous operation, substantially as shown and described.

Signed by me this 8th day of January, 1898.

ISAAC D. SMEAD.

Witnesses:

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ANTHONY KUEFER.