

G. McCRAY.
EGG WASHER.

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Patented Sept. 7, 1920.

2 SHEETS—SHEET 1.

Fig. 1.

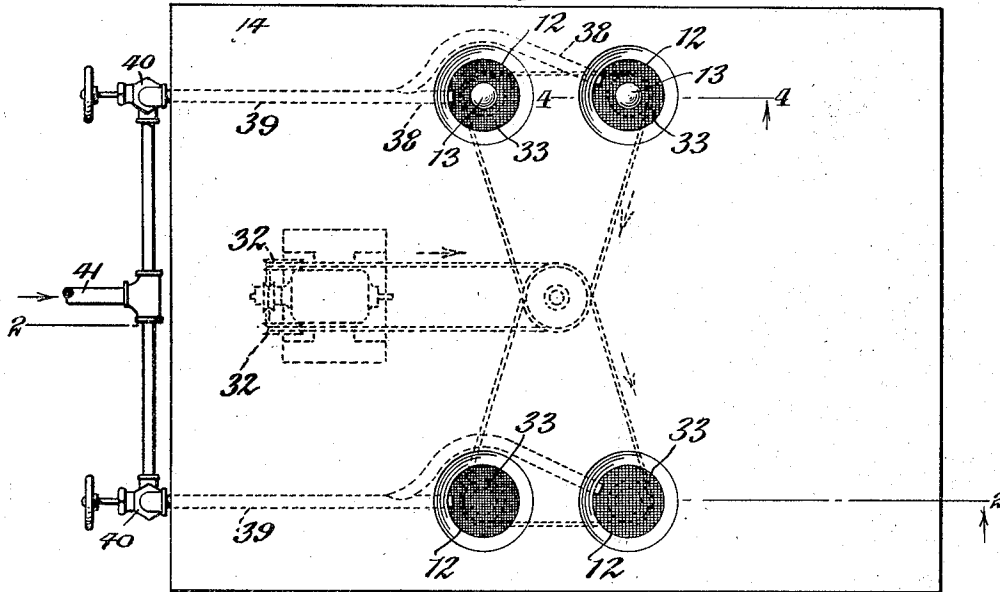
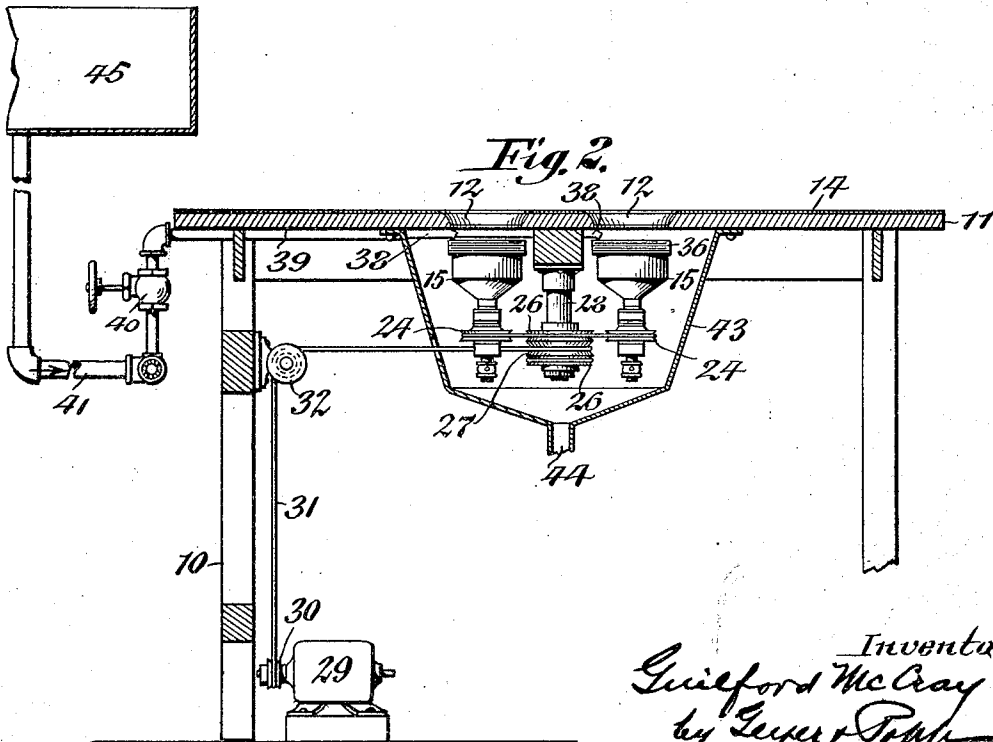


Fig. 2.

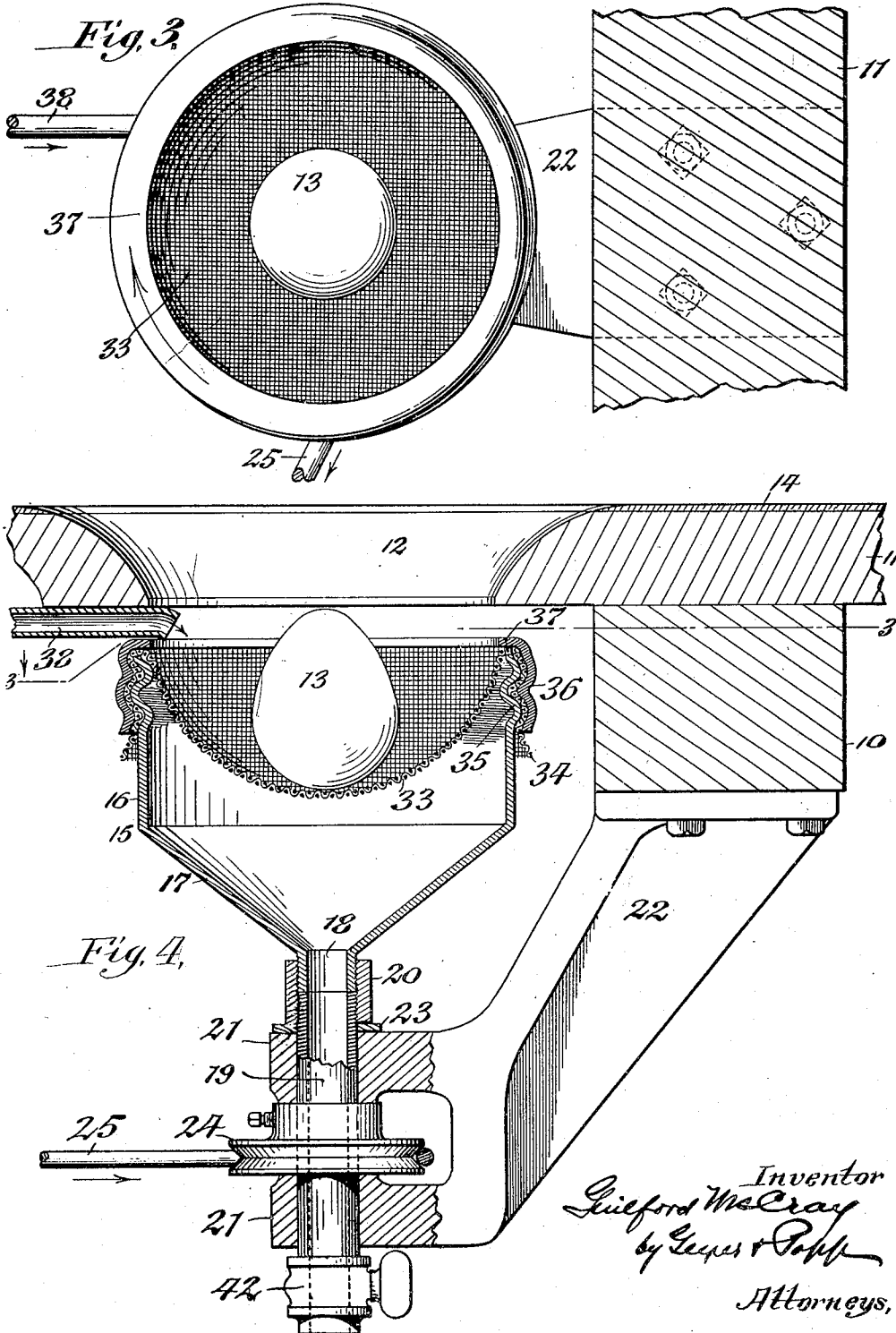


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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

GUILFORD McCRAY, OF TOMALES, CALIFORNIA.

EGG-WASHER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GUILFORD McCRAY, a citizen of the United States, residing in Tomales, in the county of Marin and State of California, have invented new and useful Improvements in Egg-Washers, of which the following is a specification.

This invention relates to an egg washer which is designed to enable eggs to be washed quickly and easily so as to render the same more salable and also more appetizing.

It is the object of this invention to produce a machine of this character which will permit of thoroughly cleaning any dirt which may be on the eggs by the use of comparatively little effort and power and enable this to be accomplished without materially increasing the cost of the eggs.

In the accompanying drawings:

Figure 1 is a top plan view of one form of machine embodying my invention. Fig. 2 is a fragmentary vertical section of the same taken on line 2—2, Fig. 1. Fig. 3 is a horizontal section taken on line 3—3, Fig. 4. Fig. 4 is a fragmentary vertical section, on an enlarged scale, taken on line 4—4, Fig. 1.

Similar characters of reference refer to like parts throughout the several views.

Although this machine may be organized in various ways so as to permit one or more operators to work at the same time, that shown in the drawings is so constructed as to permit two operators to work on opposite sides of the table and each operator is capable of cleaning two eggs at a time, so as to utilize both hands to the best advantage and obtain the maximum output of the machine.

This table, as shown in the drawings, is provided with a lower frame work 10 which rests on the floor and a horizontal top 11, which is provided adjacent to each of its longitudinal edges with two openings 12, 12, which are arranged comparatively close together and through which the eggs 13 to be washed or cleaned are passed downwardly and upwardly by the operator and into and out of engagement with the cleaning or washing devices which are arranged below the table top. The upper side of the table top is preferably covered with a sheet 14 of metal for the purpose of protecting the same against undue wear and also enable the same to be cleaned more easily.

Below each of the openings 12 in the table top is arranged one of the washing or cleaning devices or units, which is constructed in accordance with my invention, and as the several cleaning or washing devices are alike in construction and operation, the following description of one of them will apply to all of them:

15 represents a bowl or hollow head which is mounted to rotate about a vertical axis below one of the openings 12 in the table top, which bowl may be of any suitable shape but, as shown in Figs. 2 and 4, may consist of an upper cylindrical body and a lower downwardly tapering bottom which latter is provided with a tubular outlet or nipple 18 at its lowermost or small end. Any suitable means may be provided for rotating this bowl, such for instance, as an upright hollow shaft 19, which is secured at its upper end to the outlet nipple 18 by means of a coupling sleeve 20 so that the shaft is axially in line with the axis of the bowl. This shaft is journaled in a pair of bearings 21 arranged one above the other and formed on a depending bracket 22 which is secured to the underside of the adjacent part of the main frame 10. The downward motion of this shaft in these bearings is limited by engagement of the coupling sleeve 20 with the washer 23 resting on the upper one of the bearings 21. The shaft 19 is provided with a pulley 24 which is driven by a belt 25.

The companion bowls on the same side of the table are driven by the same belt 25 which passes around the pulleys 24 associated with these bowls and also around a driving pulley 26. The two driving pulleys 26, one for each pair of bowls, are arranged one above the other and connected with a main driving pulley 27, this main driving pulley and the two intermediate driving pulleys 26 being mounted on a depending arbor 28 secured to the underside of the main frame about midway between the two pairs of bowls.

Although any suitable means may be employed for driving the main pulley, that shown in the drawings is preferred and consists of an electric motor 29 mounted on the floor and provided with a driving pulley 30, and a driving belt 31 passing around the pulleys 30 and 27 and also around intermediate guide pulleys 32 which are mounted on the main frame.

Across the upper end of each bowl is arranged a cleaning cloth 33 which is of coarse or open mesh, such for instance as ordinary burlap, which will permit a cleaning fluid, such as water or a mixture of water and grit or sand together with any dirt removed from the eggs to pass from the inner or upper side of the washing cloth to the inner side of the bowl. In the preferred organization, this washing cloth is preferably mounted on the upper end of the bowl so as to form a downwardly hanging sack or bag within the bowl as shown in Fig. 4. In order to permit of readily renewing this washing cloth when the same becomes worn, means are provided for detachably securing the same to the bowl. A suitable means for fastening the wash cloth to the bowl is shown in Fig. 4 and the same consists in providing the marginal portion or edge of the wash cloth with a downwardly projecting flange or flap 34 which is clamped between an external screw thread 35 formed on the upper edge of the bowl and an internal screw threaded clamping ring 36 engaging with the outer side of this flap. In order to limit the downward motion of this clamping ring and increase the clamping effect of the same with reference to the cloth, the upper edge of this ring is provided with an inwardly projecting annular flange 37 which engages with the wash cloth above the upper edge of the bowl, as shown in Fig. 4.

38 represents a delivery pipe which is arranged below a table top and terminates at its outer end adjacent to the upper side of the bowl and washing cloth. The two delivery pipes 38 on the same side of the machine preferably form branches of a main delivery pipe 39 which contains a valve 40 for controlling the supply of cleansing material and these two delivery pipes are in turn connected with the main supply pipe 41 which receives its supply from any suitable source.

Although any suitable cleansing fluid may be employed for this purpose, it is preferable to employ water to which has been added a suitable quantity of sand or other gritty material and also a suitable quantity of soap.

At the lower end of each hollow shaft 19 is arranged a valve 42 which permits of regulating the discharge of the waste cleansing liquid or material from the bowl. The material discharged through the several hollow waste pipes 19 is caught by a pan 43 which is supported on the underside of the table top and is provided in its bottom with a waste pipe 44 leading to the sewer or other place designed to receive the liquid which has been spent in washing the eggs.

When the machine is in operation a cleansing fluid is supplied by each of the delivery

pipes 38 into the upper end of each washing cloth, while the latter together with its bowl and associated parts are rotating about a vertical axis. The eggs to be cleaned are taken one at a time by the operator and passed by one hand downwardly through the opening 12 in the table top and engaged with the upper or inner side of the cloth bag which latter owing to its rotary movement exerts a brushing or wiping effect on the surface of the egg and removes any dirt attached thereto. By turning the egg and moving the same back and forth across the wash cloth all parts of the egg can be brought into engagement with the cloth so as to thoroughly clean the same. While the egg is being thus engaged with the rotating wash cloth, a constant stream of cleaning liquid is being discharged from the cloth which not only aids in removing the dirt from the egg but also causes the dirt to be carried through the openings or mesh of the cloth and into the interior of the bowl from which latter the liquid escapes through the hollow shaft 19, valve 42, pan 43 and waste pipe 44 to the sewer.

By closing the valve 42 more or less the escape of the wash water or liquid from the bowl can be regulated so as to maintain the level of the liquid in the bowl at such a height that the lowermost part of the cloth wash bag therein will be submerged in the cleansing liquid and thus facilitate the softening of the dirt on the eggs and promote and expedite the cleaning of the same, this being particularly desirable when the eggs are very dirty.

If city water pressure is available the supply pipe 41 may be connected directly therewith, but where such water supply is not available an overhead supply tank 45 may be provided, the bottom of which is connected with the supply pipe 41 and thus causes the cleansing water to flow by gravity from the tank to the several wash bowls, as shown in Fig. 2.

The machine is very simple in construction, it can be produced at comparatively low cost and operated with a minimum expenditure of power and effect its cleaning with a moderate amount of water, and it permits of cleaning eggs easily, conveniently and expeditiously, so that a comparatively large number of eggs can be cleaned in a comparatively short time.

I claim as my invention:

1. An egg washer comprising a rotary bowl having an outlet in its lower part, a washing cloth mounted on the upper part of said bowl, and means for supplying a washing liquid to the upper side of said cloth.

2. An egg washer comprising a rotary bowl having an outlet in its lower part, a washing cloth mounted on the upper part of

said bowl, means for supplying a washing liquid to the upper side of said cloth, and a table arranged above the bowl and cloth and provided with an opening through which the eggs to be washed are passed and engaged with said cloth.

3. An egg washer comprising a rotary bowl having an outlet in its lower part, a washing cloth of bag shaped form secured to the upper part of said bowl and adapted to be engaged on its upper side by the eggs to be washed, and means for supplying a cleansing liquid to the upper side of said cloth.

4. An egg washer comprising a rotary bowl having an outlet in its lower part and provided at its upper edge with an external screw thread, a washing cloth extending across the upper end of the bowl and having a marginal flap extending downwardly around said thread of the bowl, and a clamping ring having an internal screw thread engaging with the outer side of said flap.

5. An egg washer comprising a rotary bowl having an outlet in its lower part and provided at its upper edge with an external screw thread, a washing cloth extending across the upper end of the bowl and having a marginal flap extending downwardly around said thread of the bowl, and a clamping ring having an internal screw thread engaging with the outer side of said flap, and having an internal flange extending over the upper edge of said bowl.

6. An egg washer comprising a rotary bowl, a hollow shaft connected at its upper end with the bottom of said bowl in axial alinement therewith, a bearing in which said shaft is journaled, and a washing cloth secured across the upper end of said bowl.

7. An egg washer comprising a rotary bowl, a hollow shaft connected at its upper end with the bottom of said bowl in axial alinement therewith, a bearing in which said shaft is journaled, a washing cloth secured across the upper end of said bowl, and a pulley secured to said shaft and adapted to receive a driving belt.

8. An egg washer comprising a rotary bowl, a hollow shaft connected at its upper end with the bottom of said bowl in axial alinement therewith, a bearing in which said shaft is journaled, a washing cloth secured across the upper end of said bowl, and a regulating valve controlling the discharge from said hollow shaft.

9. An egg washer comprising a rotary bowl, a hollow shaft connected at its upper end with the bottom of said bowl in axial alinement therewith, a bearing in which said shaft is journaled, a washing cloth secured across the upper end of said bowl, and a waste pan which is arranged below said bowl and receives the discharge from said shaft.

10. An egg washer comprising a table having a plurality of openings, a rotary bowl arranged below each of said openings, a washing cloth extending across the top of each bowl, a hollow shaft supporting each bowl, bearings in which said shafts are journaled, means for supplying a cleansing medium to said bowls above the cloths thereof, and means for rotating said bowls comprising a main driving shaft, pulleys mounted on the main driving shaft and bowl shafts, and belts passing around said pulleys.

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