Dec. 8, 1959 N. S. McEWEN 2,915,890

SPRAY DEVICE FOR WASHING MACHINES

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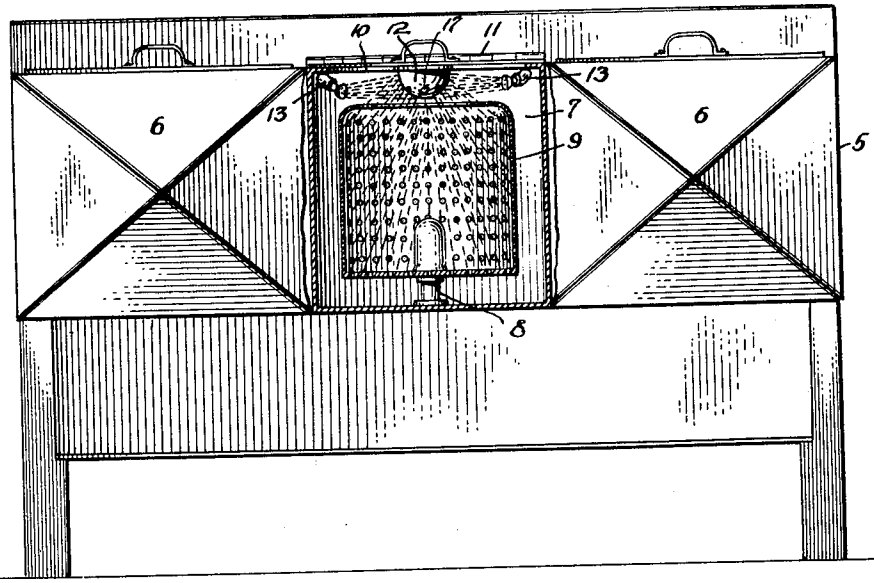
Fig. 1.



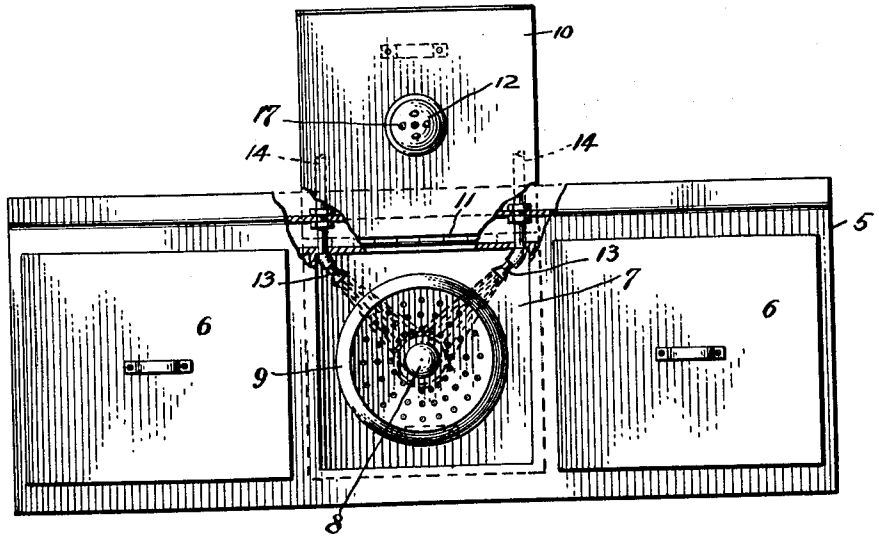


Fig. 2.

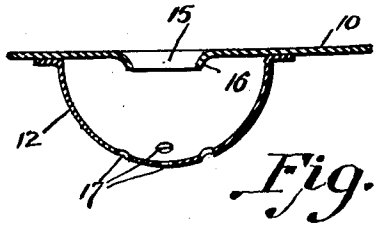


Fig. 3.

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SPRAY DEVICE FOR WASHING MACHINES

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2 Claims. (Cl. 68—148)

This invention pertains to washing machines, and particularly to improvements in connection with the rinsing operations thereof.

The primary object of the invention is to provide means in connection with the extractor basket of power washing machines for improving the jet spray action in order to make more perfect the rinsing operation.

A further object of the invention is to provide spray means associated with the revolving extractor basket to insure a thorough distribution of the spray water through the clothes during rotation of the basket thus to insure a more perfect rinse.

A still further object of the invention is to provide spray means associated with the rotating extractor basket of a washing machine, operating in such manner as to break the jets of rinse water in such manner that they will be deflected in a multitude of directions throughout the clothes contained within the basket, thus bringing about a thorough rinse of the clothes in the shortest possible time.

A further object of the invention is to provide a jet interceptor on the lid or cover for the basket so positioned that when in closed position over the basket, a dome or deflector carried thereby will lie in the stream from the jet nozzles to deflect and break up the spray and to direct the latter in a multitude of directions over and within the basket.

A further and particular object of the invention is to provide means in conjunction with a jet interceptor as set forth of such construction as to permit the introduction therethrough of a souring solution to neutralize alkalinity so that such substance may be introduced to the extractor basket during the rinsing operation.

A further object of the invention is to provide a hollow or chambered jet interceptor in conjunction with the lid or cover for the extractor basket for the purpose of deflecting or breaking up the spray and at the same time which will permit the introduction to the interceptor of a souring solution to be operated upon by the partial vacuum created therein during the rinsing operation to draw the solution into the extractor chamber.

With the foregoing objects in view, together with others which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts, all as will be described more fully hereinafter, illustrated in the drawings, and particularly pointed out in the claims.

In the drawing:

Fig. 1 is a front elevation, parts broken away, of a well known type of washing machine and illustrating in association therewith a jet interceptor constructed in accordance with the invention,

Fig. 2 is a top plan view of the device shown in Fig. 1, with parts broken away, and with the lid in raised position, and

Fig. 3 is a fragmentary sectional view, on a slightly enlarged scale, taken through the jet interceptor and the lid and illustrating the manner in which a souring solution may be introduced to the interior of the interceptor.

Referring now more particularly to the drawing, the washing machine generally is indicated at **5** and includes end compartments **6** enclosing the washing apparatus, and a central or rinsing compartment indicated at **7** having an upstanding spindle **8** centrally of its bottom and supporting the extractor basket **9**. It will be understood that the extractor basket **9** may be of any preferred type or design and usually includes a circular structure having perforated walls and bottom, and is open at its top to receive the clothes. This extractor basket, as is also understood, rotates by operation of the spindle **8** at relatively high speed during the rinsing operation.

The machine is equipped with a lid or cover **10** which, when in closed position, overlies the central compartment **7** and seals the same against any tendency to leakage during the rinsing operation. In the present instance, this lid or cover is hinged as at **11** at the rear side of the machine so that it may be swung conveniently to open or closed positions.

Arranged centrally upon the underside of the lid or cover **10** is a deflector indicated at **12**. This deflector may take any desirable form or shape, but in the present instance, is a dome or semi-spherical element projecting outwardly from the bottom surface of the lid and terminating adjacent to the upper edge of the extractor basket **9** when the lid is in closed position. It will be observed that this dome lies substantially in the axis of the spindle **8**, which supports the extractor basket.

The jet spray nozzles are indicated at **13** and are secured to the ends of pipes **14** leading to the hot and cold water supply sources. These pipes extend into the rear side of the washing machine near the top thereof, and the jets **13** are so connected with their respective pipes as to direct their sprays against the deflector or dome member **12** when the latter overlies the center of the basket with the lid in closed position. It will be observed that the pipes **14** enter the extractor compartment at opposite sides of the latter so that the sprays from jets **13** strike the deflector **12** at substantially a 90 degree angle with respect to each other. It is apparent, therefore, that water sprays projected from jets **13** will strike the dome or deflector **12** directly above the axis of the rotating basket **9**, deflecting these jets of liquid in all directions immediately above the open upper end of the basket. This action brings about a thorough disintegration of the water streams and distributes the effluent throughout the entire inner area of the extractor basket. This insures a thorough mixing of the water streams with the clothes contained within the rotating basket, thus thoroughly penetrating all of the clothes confined by the basket and thus insuring a more thorough rinse than has heretofore been possible. By this structure it is also apparent that a thorough rinse of the contents of the basket may be brought about in shorter time than has heretofore been possible, thus working an economy in motive power as well as conserving water.

It is frequently desirable that a souring solution or other chemicals be introduced to the extractor during the rinsing operation in order to neutralize alkalinity or for other purposes. My invention accomplishes simple means by which this may be carried out. In the present instance, the deflector or dome **12** is illustrated as being hollow and substantially semi-spherical. The lid **10** is provided with an opening **15** which communicates with the interior of the deflector **12** centrally thereof. This opening has its edges deflected downwardly in the manner shown as at **16** to provide a guide for liquid poured to the interior of the dome **12** through the opening **15**. The dome or deflector is provided in its lowermost surface with a plurality of openings **17** through which the liquid or other substance introduced through the opening

15 may pass to the interior of the extractor basket. Should the introduction of a chemical be desired, it is poured through the opening 15 after the lid is moved to closed position, whereupon it passes by gravity through the openings 17 to the interior of the basket. Additionally, it will be apparent that pressure of the liquid from the jets 13 against the exterior surfaces of the deflector 12 will tend to create a partial vacuum within the deflector thus augmenting the flow of the chemical material through the openings 17. Inasmuch as the water projected from the jets 13 will reach the entire undersurface of the deflector 12, it is apparent that chemical issuing through the openings 17 will be thoroughly mixed with the liquid so as to be evenly distributed throughout the area of the extractor basket.

I claim:

1. In a washing machine having a rinsing compartment, a rotatable spindle supported centrally on the bottom of the compartment, an extractor basket mounted on said spindle for relatively high speed rotation during rinsing operation, a hinged cover for the compartment, a semi-spherical deflector dome secured to and projecting downwardly from the underside of the cover in coaxial alignment with the basket and disposed close to but entirely above said basket when the cover is in closed position, and jets for rinsing water from an exterior water supply in said rinsing compartment in spaced angular relationship to one another and positioned at the top portion of the compartment above the basket for directing substantially horizontal streams across and above the top of the basket against the deflector dome and striking said dome directly above the axis of the rotating basket, whereby said streams are deflected by the dome in all directions immediately above the upper end of the basket, and whereby a thorough disintegration of the water streams and distribution of the effluent throughout the entire area of the basket and the clothes therein is obtained.

2. The device as set forth in claim 1, wherein the cover is provided with a central opening and guide means coaxial with the dome and basket, said dome being hollow and having its edges in sealed engagement with the underside of the cover; said dome being provided with a plurality of openings in its lowermost portion, whereby a souring solution or chemical may be introduced into the dome and passes by gravity to the interior of the basket augmented by the pressure of the liquid from the jets against the exterior surface of the deflector dome creating a partial vacuum within the dome.

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