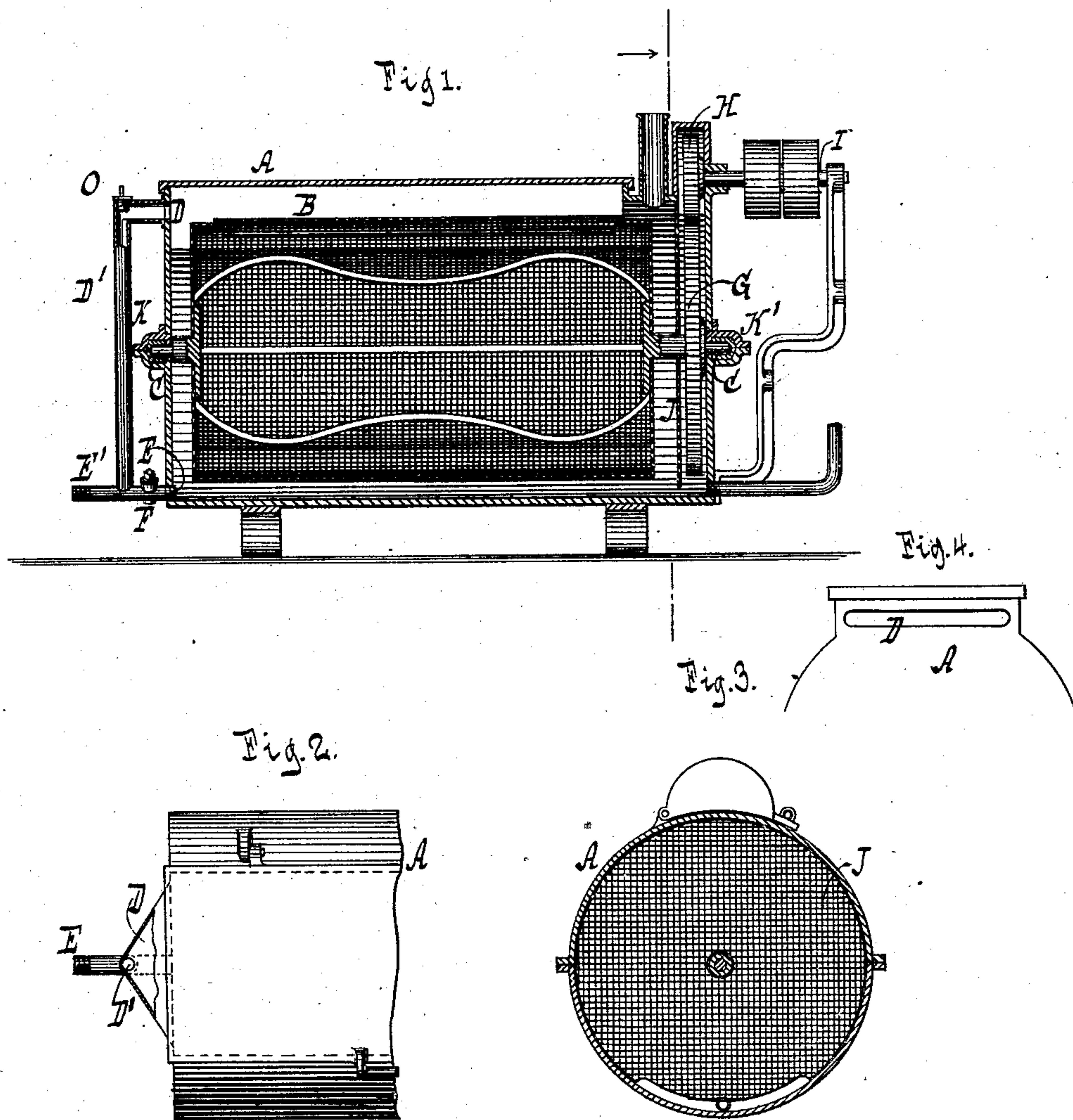


(No Model.)

H. E. SMITH.  
WASHING MACHINE.

No. 275,724.

Patented Apr. 10, 1883.



Witnesses  
Otto Aufela  
William Miller

Inventor  
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# UNITED STATES PATENT OFFICE.

HAMILTON E. SMITH, OF NEW YORK, N. Y.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 275,724, dated April 10, 1883.

Application filed May 10, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, HAMILTON E. SMITH, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates especially to that class of washing-machines embodying an outer or suds jacket and a foraminous clothes-drum revolving within the jacket, as shown and described in Letters Patent of the United States granted to me September 11, 1877, No. 195,176.

In the operation of the machine referred to a scum rises to the surface of the water, due to the action of the soap, together with the dirt thereby loosened from the clothes, and if the water discharges only at the bottom of the suds-jacket a portion of the scum remains in the machine. In said machine, moreover, the gearing for imparting motion to the clothes-drum is located outside of the suds-jacket, at one end thereof, and difficulty is had in producing a water-tight joint or bearing for the drum-shaft at that place.

My present invention consists in a provision or means for allowing the overflow of the scum from the suds-jacket; also, in the arrangement of the gearing for driving the clothes-drum within the suds-jacket, and in the employment of caps to form the bearings for the drum-shaft, as hereinafter fully described.

This invention is illustrated in the accompanying drawings, in which Figure 1 represents a vertical longitudinal section. Fig. 2 is a plan or top view with part of the machine broken away. Fig. 3 is a vertical cross-section. Fig. 4 is an end view.

Similar letters indicate corresponding parts.

The letter A designates the suds-jacket, B the clothes-drum, and C the shaft carrying the drum, such shaft being in this example made in sections—one at each end of the drum. In one end of the suds-jacket A is formed an overflow-opening, D, and a waste-hole, E, such opening and hole being located respectively at the top and bottom of the jacket. The overflow-opening D is elongated, as indicated in Figs. 2 and 4, and its length is such that when the jacket is filled with water the opening is exposed to or includes approximately the en-

tire surface of the water. Hence any scum rising to the surface of the water can be discharged or floated off through the overflow-opening by simply adding to the water in the suds-jacket, whereby the danger of having said scum remain in the machine on the discharge of the waste water is obviated.

To the overflow-opening D and waste-hole E, respectively, is connected a pipe, D' or E', such pipes being also connected together, thus having a common outlet, and in the waste-pipe E', within or interior of the point of its connection with the overflow-pipe D', is arranged a stop-cock, F, so that by closing this cock the waste-pipe can be shut off without affecting the overflow-pipe.

To the drum-shaft C is fixed a cog-wheel, G, gearing with a pinion, H, which is fixed to a driving-shaft, I, whence the clothes-drum receives a revolving motion. Said cog-wheel G is located within the suds-jacket A, at the end thereof opposite to the one containing the overflow-opening D and waste-hole E, and a screen, J, is preferably placed between the cog-wheel and the clothes-drum. By this arrangement of the cog-wheel G caps K' can be used to form or protect the bearings for the drum-shaft C, which caps are a simple and effective contrivance for producing a water-tight joint between the shaft and the suds-jacket. Said caps K' are fixtures of the suds-jacket A, and are preferably made in two sections—one cast with the lower part of the jacket, the latter being made in two parts, and the other secured to the lower section in a suitable manner.

The overflow-opening D is intended to be used especially in rinsing the clothes; and for the purpose of allowing such opening to be shut off during the washing operation the pipe D' is provided with a stop-cock or plug, O, which in this example is arranged at the upper end of the vertical limb of the pipe, but which may obviously be placed at any other desired point.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a washing-machine, of the suds-jacket A with the overflow D, having its inlet-opening extended nearly the width of the said jacket, and located near the top of the same, substantially as described.

2. A washing - machine combining in its structure the suds-jacket A, with an overflow, D, having its inlet-opening extended nearly the width of said jacket, and located near the top of the same, the vertical pipe D', connected at its upper end with the overflow and at its lower end connected with a pipe, E', which connects with the lower portion of the suds-jacket, and is provided with a cock, F, said members

being constructed and organized substantially as described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

HAMILTON E. SMITH. [L. s.]

Witnesses:

W. HAUFF,

CHAS. WAHLERS.