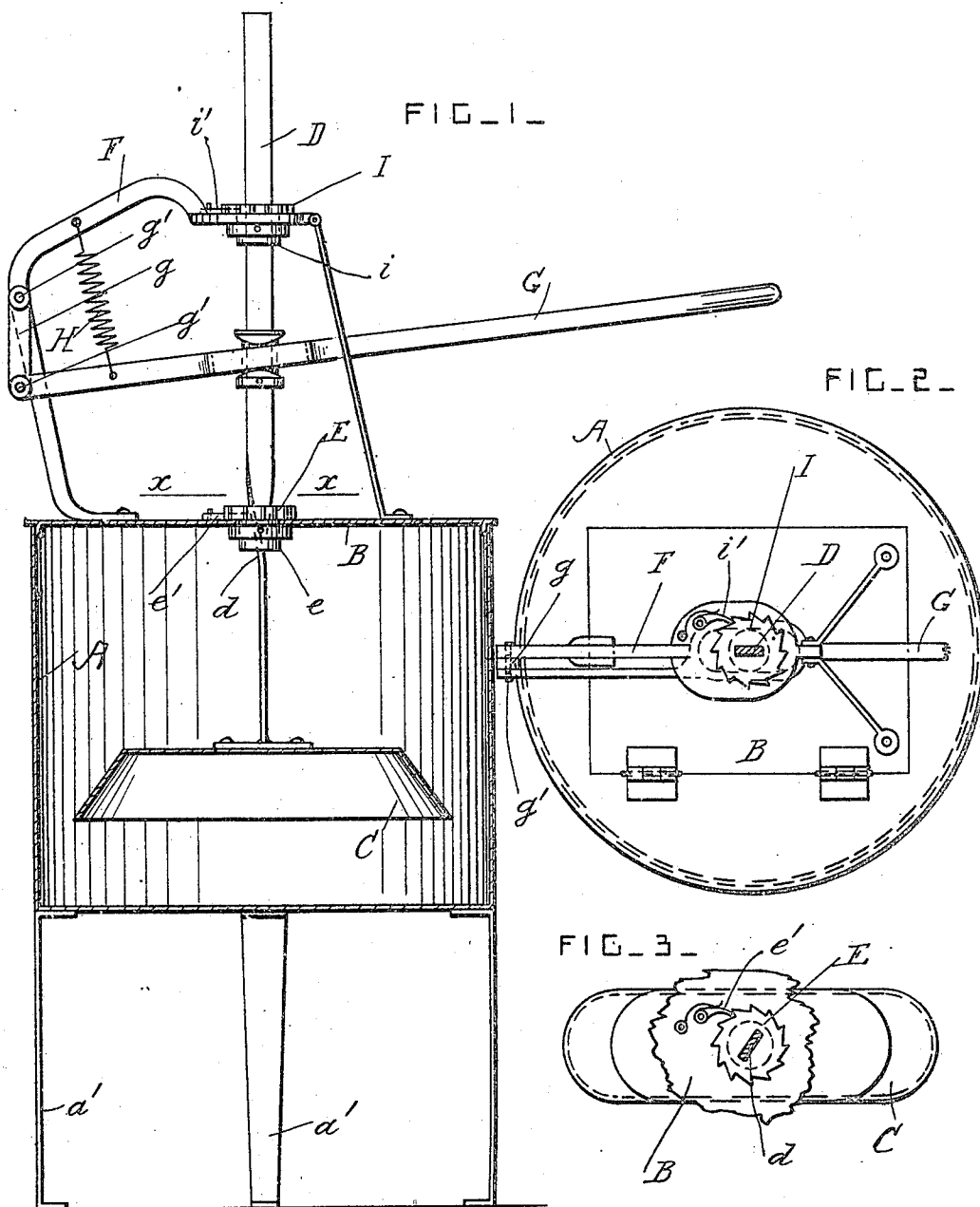


C. F. LADWIG.
WASHING MACHINE.
APPLICATION FILED JUNE 15, 1909.

951,951.

Patented Mar. 15, 1910.



Witnesses

W. J. Allen
R. H. Tucker.

Inventor

Charles F. Ladwig.

By

Hubert W. Jenner.

Attorney

UNITED STATES PATENT OFFICE.

CHARLES F. LADWIG, OF NORA SPRINGS, IOWA.

WASHING-MACHINE.

951,951.

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To all whom it may concern:

Be it known that I, CHARLES F. LADWIG, a citizen of the United States, residing at Nora Springs, in the county of Floyd and State of Iowa, have invented certain new and useful Improvements in 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 washing-machines provided with reciprocating pounders; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed, the pounder being normally raised by a spring and arranged to work in a closed tub.

In the drawings, Figure 1 is a vertical section through a washing-machine constructed according to this invention. Fig. 2 is a plan view of the washing-machine. Fig. 3 is a cross-section taken on the line $x-x$ in Fig. 1, and showing the lower ratchet-toothed wheel and the pounder.

A is the tub of the washing-machine which is supported by legs a' , and provided with a lid B at its top for closing it. This lid prevents the water and suds from splashing, and it may be removable either wholly or in part from the tub, so as to introduce and remove the clothes and the water.

C is the pounder which is secured on the lower end of the pounder-bar D. The pounder is oblong or oval in form and it is preferably formed of an inverted cup open at the bottom only. I do not however confine myself to the use of a single inverted cup in carrying out this invention, and I may use any suitable form of pounder. The pounder-bar is formed of a flat strip of metal, and its lower portion d is twisted so that it forms a part of a spiral.

E is a ratchet-toothed wheel provided with a hub e which is journaled in a bearing on the lid B, and which engages with the spiral portion d of the pounder-bar. A pawl e' is pivoted to the lid, and engages with the wheel E.

F is a guide-bracket of any approved shape which is secured to the lid B.

G is an operating-lever the middle portion of which is operatively connected with the middle portion of the pounder-bar so that the said pounder-bar is free to revolve and can be reciprocated vertically by the

operating-lever. A link g and pins g' connect one end portion of the operating-lever with the bracket F.

H is a spring secured between the operating-lever G and the upper part of the bracket F, and which raises the pounder and pounder-bar in the tub. The spring H is a spiral spring, but any other form of spring can be used in carrying out this invention, and the spring can be arranged and attached in any other approved manner so that it will raise the pounder above the clothes in the tub.

I is a ratchet-toothed wheel provided with a hub i which is journaled in a bearing on the upper part of the bracket F. A check-pawl i' is pivoted to the bracket F and engages with the wheel I. The teeth of the wheels E and I are arranged in the same direction. The ratchet-toothed wheel I engages with the straight upper part of the pounder-bar D.

The clothes together with the water and soap are placed in the tub, and the clothes are washed by reciprocating the plunger. When the pounder-bar is depressed by hand the lower ratchet-toothed wheel E revolves in its bearing, and the pounder is not turned on its axis, being prevented from turning by the upper ratchet-toothed wheel I and its pawl. When the pounder-bar and the pounder are raised by the spring, the lower ratchet-toothed wheel E is kept from turning by its check-pawl and the pounder is revolved for a part of a revolution by means of the spiral portion d of the pounder-bar. In this manner the end portions of the oblong pounder are caused to descend on different parts of the clothes at each down-stroke of the pounder-bar, and the clothes are washed to good advantage. The closed tub prevents all splashing of soap and water, and guards against the escape of heat and steam. The spring raises the pounder, pounder-bar and operating lever after each down-stroke, and greatly facilitates the working of the machine.

What I claim is:

1. In a washing-machine, the combination, with a tub, of a reciprocating pounder-bar having a straight portion and a spiral portion, two revoluble toothed wheels supported above the tub and having holes for engaging with the straight and the spiral portions of the pounder-bar respectively, check-pawls which constrain the said wheels to revolve in

one and the same direction, and a pounder carried by the said pounder-bar, said pounder being revolved step by step in one direction as the said pounder-bar is reciprocated.

- 5 2. In a washing-machine, the combination, with a closed tub provided with a lid, of a stationary guide-bracket, a flat pounder-bar having a straight upper portion and a spiral lower portion, two ratchet-toothed wheels
10 journaled in the said lid and bracket and engaging with the lower and upper parts of the pounder-bar respectively, said ratchet-toothed wheels having their teeth arranged

in the same direction, check-pawls engaging with the said wheels, a pounder secured on 15 the lower end of the pounder-bar inside the tub, and an operating-lever pivotally connected to the said bracket and operatively connected with the said pounder-bar.

In testimony whereof I have affixed my 20 signature in the presence of two witnesses.

CHARLES F. LADWIG.

Witnesses:

CHRISTIAN F. LADWIG,
L. H. PIEHN.