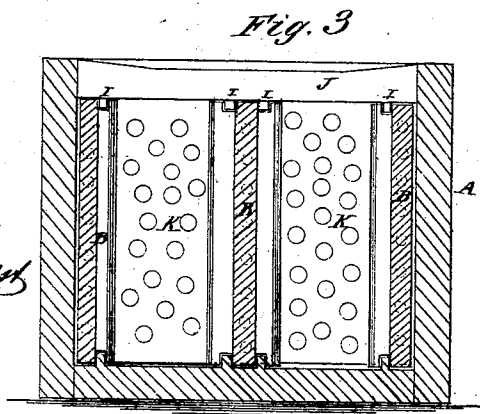
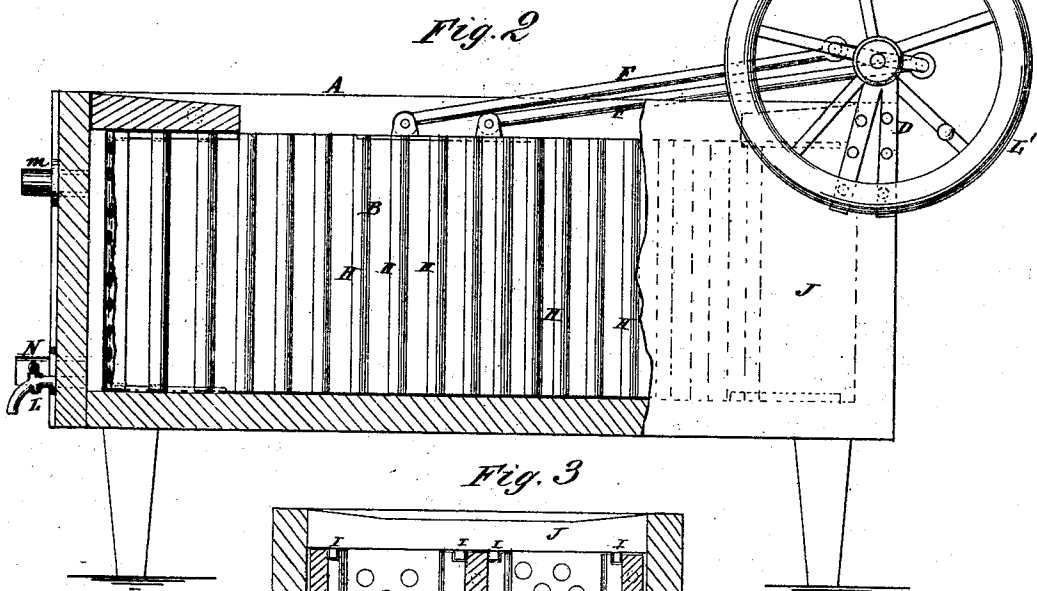
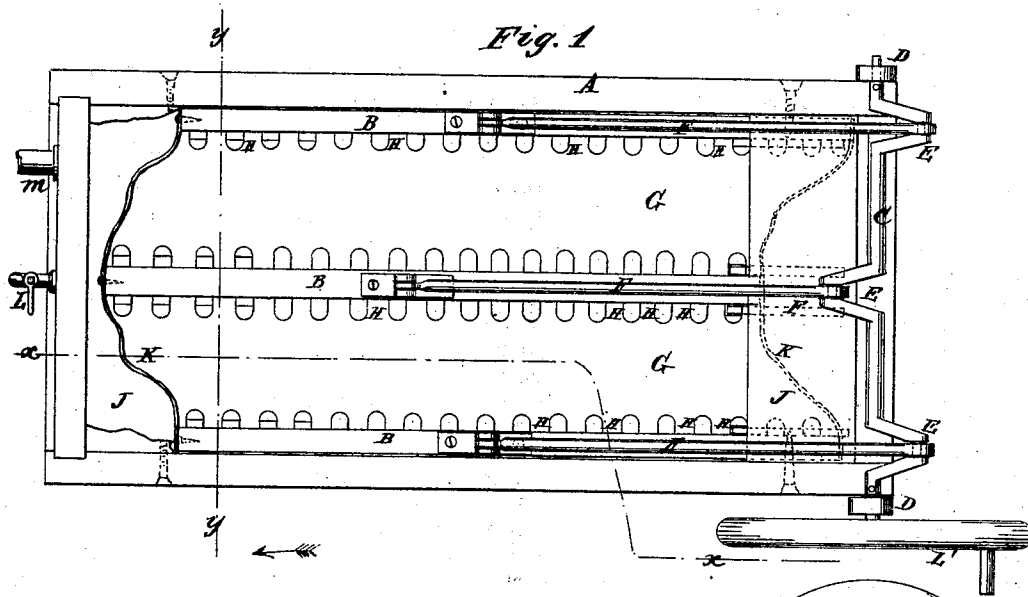


J. CONTRELL.
Washing-Machines.

No. 152,080.

Patented June 16, 1874.



WITNESSES:

A. W. Hennig
H. Hennig

INVENTOR:

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN CONTRELL, OF NEW YORK, N. Y.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **152,680**, dated June 16, 1874; application filed February 21, 1874.

To all whom it may concern:

Be it known that I, JOHN CONTRELL, of the city, county, and State of New York, have invented a new and useful Improvement in Washing-Machines, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claim.

Figure 1 is a top view, partly in section. Fig. 2 is a sectional side elevation, the section being taken on the line *xx* of Fig. 1. Fig. 3 is a vertical cross-section of Fig. 1 taken on the line *yy*.

Similar letters of reference indicate corresponding parts.

A is the tub or box, of rectangular form. In this box are placed on edge three (more or less) movable ribbed plates, B. These ribbed plates are given a horizontal longitudinal motion, by means of the transverse crank-shaft C, which is supported on stands D above the top of the machine. E represents the cranks in this shaft. F are rods, which connect the cranks with the ribbed plates B, the longitudinal motion being governed by the throw of the cranks. The cranks, it will be noticed, are so arranged that the central plate, which is ribbed on both sides, moves in a direction contrary to that of the outside plates. The clothes to be washed are placed in the spaces G between the reciprocating plates. The proper quantity of water being in the machine the clothes will be forced into spaces H between the ribs of the plates, and being thus held, will receive an alternate back and forward motion nearly identical with hand-motion. When receiving this motion the clothes are more or less compressed; but there is no rubbing or other action to tear or injure the clothes. The reciprocating ribbed plates B are kept in place by ribs I, (see Fig. 3,) or by

any other suitable means, attached to the bottom, and to the covering-pieces J J. The reciprocating ribbed plates B are connected at their ends by perforated flexible diaphragms K, to prevent the clothes from getting between the box and the ends of the plates B. L is a faucet, by means of which the water is drawn off. M is a fly-wheel on the crank-shaft. *m* and *N* are tube-sections, one near the top and one near the bottom of one of the ends of the machine. Tubes are attached to these sections, which extend to a steam-generator, by means of which a circulation of water is maintained in the machine. The pressure of steam in the generator will cause a current of water to flow through the upper tube, and a corresponding current will flow back to the generator through the lower tube, it being understood that a pipe attached to the sections *m N* extends into and through the machine, by which the heat of the steam is imparted to the water in the machine.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with box A, of ribbed plates B B B, placed vertically in the box, having spaces H between the ribs, as shown and described, to enable the ribs to gripe the clothes, as with the human hand, and thus create friction between the parts of the clothes that are rubbed together, as set forth.

2. The combination, with reciprocating plates B, of flexible diaphragms K arranged at each end of the box A, as and for the purpose specified.

JOHN CONTRELL.

Witnesses:

T. B. MOSHER,
ALEX. F. ROBERTS.