

J. C. & G. H. GOVE.
 WASHING-MACHINE.

No. 187,617.

Patented Feb. 20, 1877.

Fig. 1.

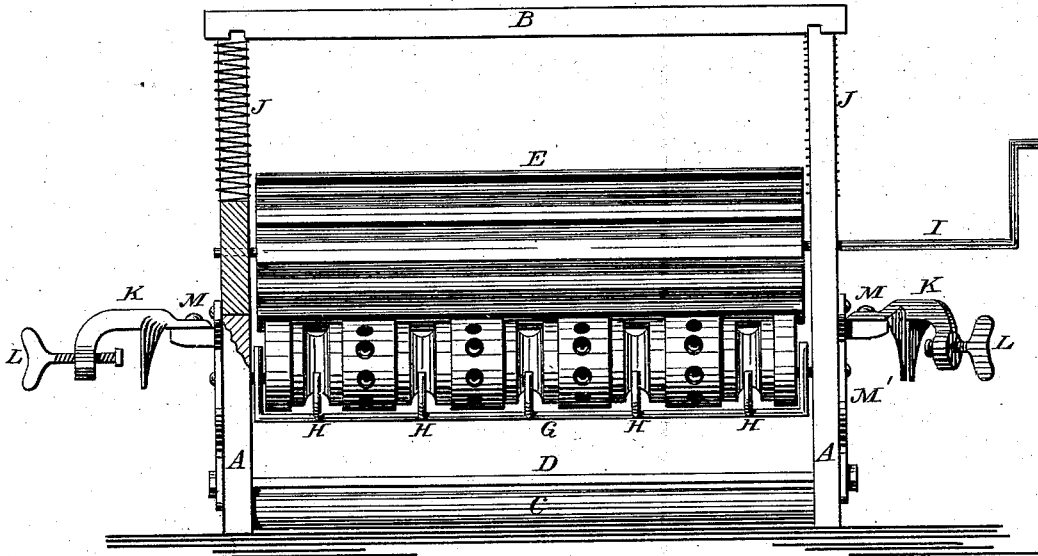


Fig. 2.

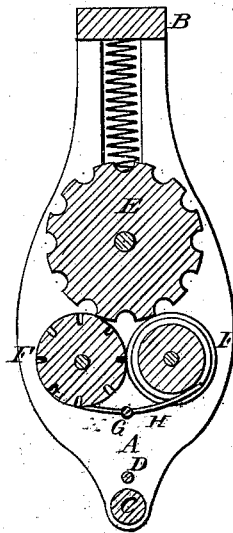
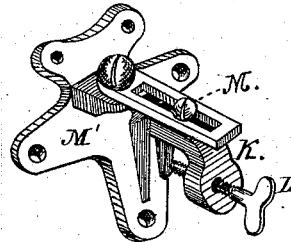


Fig. 3.



Attest:
 Joseph Crane
 Charles Lebeck

Inventor:
 John C Gove
 George H Gove
 by J. D. Lane & Co.

UNITED STATES PATENT OFFICE.

JOHN C. GOVE AND GEORGE H. GOVE, OF CLEVELAND, OHIO, ASSIGNORS
OF ONE-THIRD THEIR RIGHT TO CHARLES F. GOVE, OF SAME PLACE.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 187,617, dated February 20, 1877; application filed
December 5, 1876.

To all whom it may concern :

Be it known that we, JOHN C. GOVE and GEORGE H. GOVE, both of the city of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Washing-Machines; and we do hereby declare that the following specification, taken in connection with the drawings furnished, is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

Our invention consists in the construction and arrangement of rolls supported within a suitable frame, adapted for ready connection with tubs, &c., of different sizes, for which it is more particularly intended and adapted. Said machine is provided with an upper roll, fluted, supported above the center-line of two lower rolls, upon which the former rests. These lower rolls are circumferentially grooved for the purpose of intersecting each other, and the largest of their diametrical surfaces are provided with numerous holes or depressions, as shown in the drawings, which, in practice, form a vacuum, which aids very materially, in connection with the other engaging parts, to more thoroughly manipulate and cleanse the materials undergoing the process of washing. In connection and beneath said rolls is arranged a device which we term a "stripper" or "guard," with fingers or points arranged within the grooves, for the purpose of preventing the materials winding around the rolls while in operation. The frame is also provided with metallic plates, constructed in a manner to form the requisite journal-bearings, and for the purpose of strengthening the uprights, and forming a part of said frame. Connecting with said plates are screw-clamps, provided with a hinge-joint for the purpose of ready connection with tubs and vessels of different sizes.

Referring to the drawings, Figure 1 represents a front view of our improved washing-machine; Fig. 2, end section of same; Fig. 3, a detail view.

A A are the uprights, which support the rolls and form a part of the frame proper. B is a stay-piece for strengthening and forming the top of the frame. C is a bar or brace, for the purpose of connecting and securing the

uprights in their proper and respective places. D is a bolt, arranged to aid the bar C in securing the parts in proper position. E is a longitudinal grooved or fluted roll of wood. F F are rolls, provided with circumferential grooves and deflections or holes. (See drawings.) G is a metallic bar, provided with numerous fingers, H H H, serving as strippers, which are formed so as to enter into the circumferential grooves, to prevent the clothing, while in the process of cleaning, from being carried around the rolls, thereby preventing clogging. I is a crank, by which motion is imparted to the upper roll, the lower ones being moved by the friction of the former. J represents springs for the purpose of applying an elastic pressure automatically to the upper roll, to admit the passage between it and the lower rolls of materials of varied thickness. K K are clamps, which are adjustable, for the purpose of conforming to the various sizes of tubs or other vessels to which they are intended to connect, which may be fully understood upon reference to the drawings.

We would remark, however, that the clamp part may be adjustable for a larger or smaller diameter of tub by means of the screw M, which operates through and within a slotted ear, which projects from the side of the metallic plates M', as shown in the drawings. By the adjustment of the screws M M the clamps may be moved outward or inward, and as the ears are pivoted, they may be readily and securely attached to the varied sizes of tubs.

The operation of our improved washing-machine will be readily understood, being similar in its operations to those of older inventions, of which our machine is an improvement.

The advantage of our improvement consists in the arrangement of three rolls together in manner as shown, the upper of which is longitudinally fluted, the lower ones circumferentially grooved and provided with numerous cavities, openings, or deflections, which, together, serve to manipulate the articles to be cleansed with safety and without liability to injury, the flutes serving for the rubbing process, the grooves and cavities to form vacuum, as well as to receive the globules formed in the folds of the articles operated upon, which prevents rending of the fabric, and at the

same time imparts a gentle squeeze, which, with the air therein, has a tendency to work the suds through the fabric, while the irregular surfaces of the several rolls serve the all-important purpose of thoroughly cleansing the lightest and most delicate fabric to that of the heaviest and coarser grades.

The motion of the rolls may be continuous in one direction, or they may be reversed back and forth, as the operator may prefer and the nature of the fabric seem to require.

Having thus set forth our invention, what we claim, and desire to secure by Letters Patent of the United States of America, is—

1. In a washing-machine, the combination, with a longitudinal fluted roll, E, of the rolls F F, provided with circumferentially-arranged grooves, having circular depressions or cavities on their circumference, and stripping-fin-

gers between said grooves, substantially as and for the purpose specified.

2. In a washing-machine, the metallic plates M', provided with swivel-jointed clamps K, which are adapted to be moved forward or back in the slotted arm by means of the clamping-screw M, for adjustment to varying sizes of tubs or vessels, substantially as specified.

3. In a washing-machine, the combination of the fluted and grooved rolls, the latter provided with holes or cavities, adjustable pivoted clamps, and the finger-guard, serving as strippers, substantially as set forth.

JOHN C. GOVE.
GEO. H. GOVE.

Witnesses:
FITCH REYMOND,
ORAM FIX.