N. G. CLARY.

Improvement in Washing-Machines.

No. 114,764. Patented May 16, 1871

Fig. 1

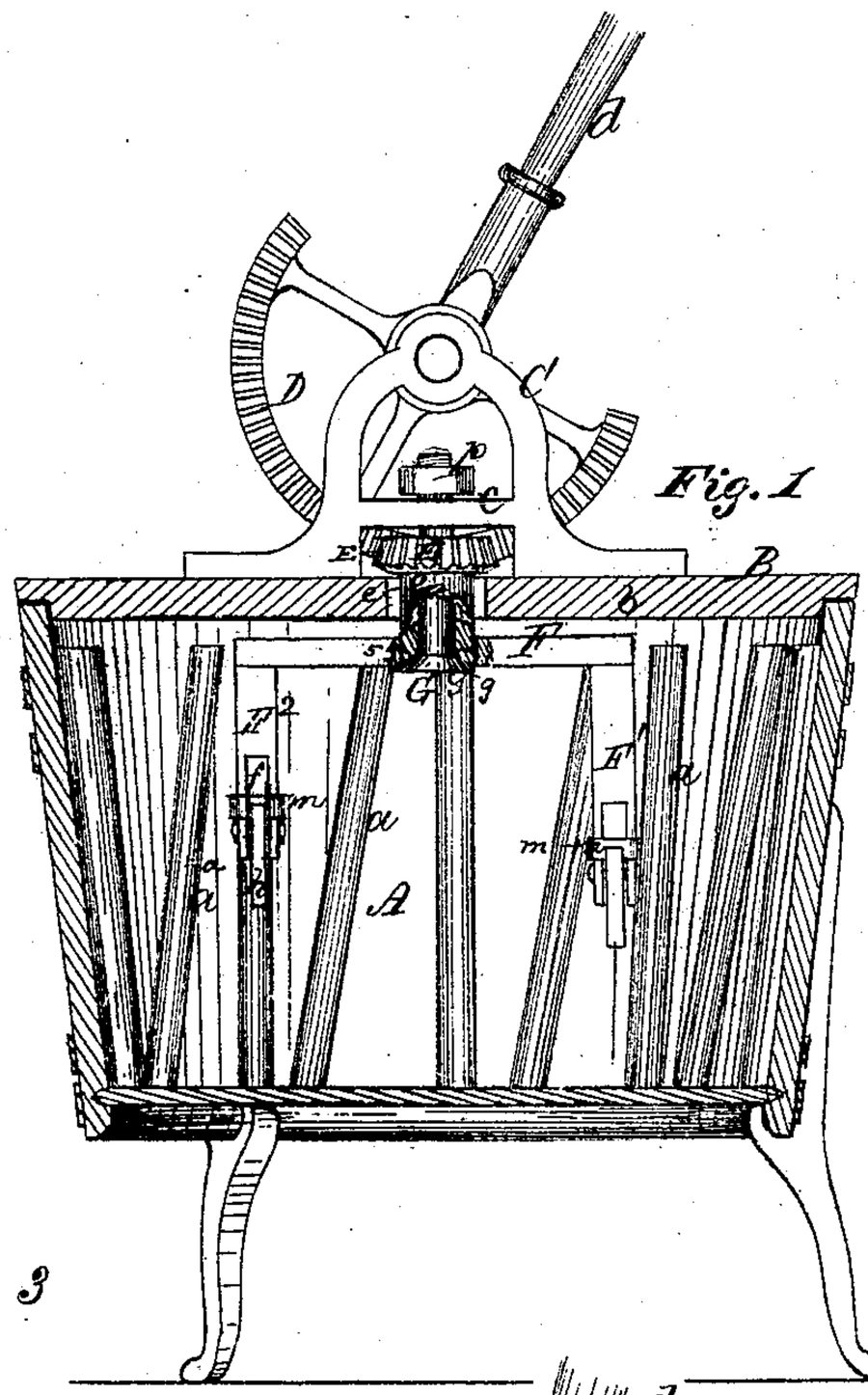


Fig. 4.

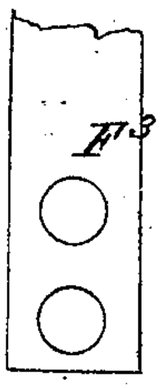


Fig. 3

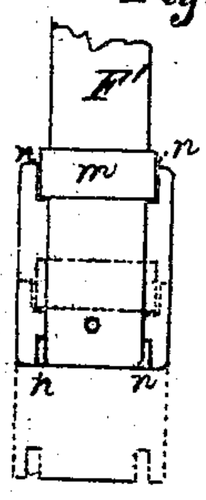


Fig. 2.

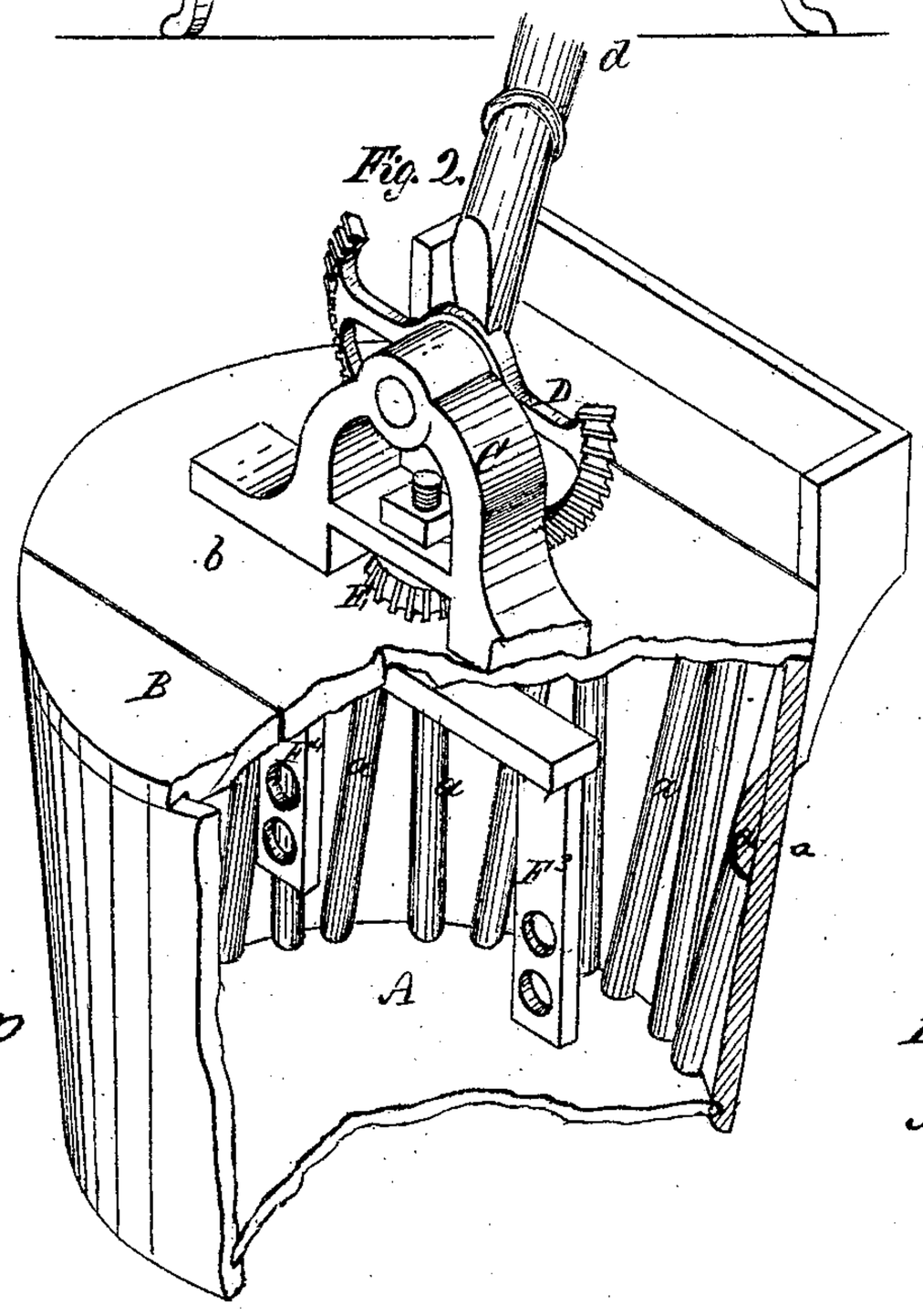
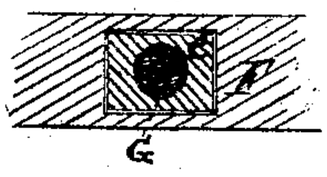


Fig. 5



Witnesses,

L. B. Griffenhagen

O. N. Jerome

Inventor:

N. G. Clary

By

Pick & Miatt

Attorneys

United States Patent Office.

NATHAN GOVE CLARY, OF NORTHFIELD, MINNESOTA.*

Letters Patent No. 114,764, dated May 16, 1871.

IMPROVEMENT IN WASHING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, NATHAN GOVE CLARY, of Northfield, in the county of Rice and State of Minnesota, have invented a certain new and useful Washing-Machine, of which the following is a specification.

Nature of the Invention.

This invention relates to an improvement in washing-machines; and consists in the peculiar arrangement and construction of the parts, as hereinafter specified; also, in the peculiar construction of the dashers, whereby their length may be varied, as described; also, in connection with the above, the special angular arrangement of the rubbers around the inside of the tub.

General Description.

In the drawing—

Figure 1 is a vertical cross-section of my machine.

Figure 2, a perspective view of the same, with one side partially broken away to show the interior.

Figure 3 is a detail view of the end of one of the dashers employed when the machine is used as a washer.

Figure 4, a similar view of one of the dashers used in churning.

Figure 5 is a horizontal section of the joint between the dasher support and the hollow shaft.

A is a cylinder or tub, having upright slats or rubbers *a a* attached to its inner periphery. These rubbers *a* are arranged alternately vertically and diagonally around the cylinder, for the purpose of imparting to the material being washed a lifting and tumbling motion.

A lid or cover, B, preferably made in two permanent and one central removable section *b*, as shown in the drawing, fits over the top of the cylinder A.

To the central section *b* of the cover is attached a support or bearing, C, which sustains a vertical segmental gear, D, which latter is provided with and operated by a lever-arm, *d*, and conveys an alternate rotary motion through the horizontal pinion E to the dasher-arms.

The pinion E is attached rigidly to the upper end of a hollow shaft or sleeve, *e*, which extends downward through a suitable opening in the cover B, and receives and fits into a slot of the horizontal cross-piece F, which supports the dashers F^1 F^2, and the whole being supported by and turning upon a rod, G, having a head, *g*, at the lower end, and extending thence vertically upward through the cross-piece F, sleeve *e*, and pinion E, and being finally secured to a cross-bar, *c*, of the bearing C, by means of a nut, *p*, and screw-thread.

In the form of dasher represented in fig. 1, which is intended for use when the machine is employed as a washer, one dasher, F^2, is made considerably shorter than the other, for the purpose of rendering the action upon the clothes unequal; and both dashers are made adjustable in length by means of an extension or tongue, *h*, pivoted in a slot or fork, *f*, of the dasher, into which it can be turned up, as shown in figs. 1 and 3, when not required; or by turning it down the length of the dasher may be increased, as represented in dotted lines in fig. 3, in either of which positions it is secured by a slide or clasp, *m*, entering slots, *n*, formed in either of its ends.

This machine is adapted to be used as a churn, in which case dashers similar to those shown in figs. 2 and 4 are substituted, consisting simply of upright perforated beaters F^3.

The operation is as follows:

When it is desired to use the machine as a washer the dashers F^1 F^2, shown in figs. 1 and 3, are adjusted in place by inserting the lower rectangular end of the sleeve *e* into the corresponding slot *r* of the cross-piece F, and passing the bolt G through the whole, and securing it with the nut *p* on the upper side of its bearing *c*.

The liquid and articles to be washed having previously been placed in the tub, the central section *b* of the cover is again replaced and secured by ordinary buttons or other catches, and the machine is ready for work. By working the lever-handle *d* back and forth laterally several revolutions of the dashers are obtained through the medium of the pinion E to every partial revolution of the driving-segment D, thus admitting of a very rapid alternate rotary motion of the dashers, and a thorough agitation of the articles being washed.

The agitation is also greatly augmented by the relative inclination of the rubbers *a*, which have a tendency to lift and turn over the articles as they are drawn backward and forward. As one of the dashers is longer than the other, there is also an irregularity in the action, which adds greatly to the effectiveness of the operation.

The length of the dashers may be varied, at pleasure, to suit the amount of material being washed, depth of liquid, &c., by folding or unfolding the extension *h*, which is done by simply raising the clasp *m* and turning the extension *h* up or down as the case may be, and again sliding the clasp down into the slots *n*. By this means the relative length of the dashers may be varied, as by lowering the extension *h* of dasher F^2 the latter may be made the same length as the dasher F^1 when the extension of the latter is folded up.

* Assignor to himself & Robert Reddel of same place.

When it is desired to use the machine as a churn the nut *p* is loosened, the rod G withdrawn, and the dashers F^1 F^2 replaced by the dashers F^3 F^4, represented in figs. 2 and 4, in the same manner as before described. Without any further preparation the device is then ready to be applied to all the ordinary uses for which a churn is employed. The dashers, being preferably perforated, cut through and work the material to better advantage.

The advantages of my arrangement are obvious.

The machine is simple, cheap, and durable, and answers the double purpose of a washing-machine and churn; and while the effectiveness of either operation is in nowise lessened by the combination, the additional cost of one machine for each purpose is avoided.

The simplicity and ease with which the different forms of dashers can be applied and removed to suit the purpose for which the device is to be employed are of importance.

By making the dashers used for washing of different lengths, and also by providing for their relative adjustment in this respect, they are rendered much more effective in action, and can be adapted to any depth of material or liquid in the tub; while, in combination with the inclined rubbers, this arrangement effects a thorough cleansing of the material acted upon.

I am aware that washing-machines have before been employed in which the dashers have had an alternate rotary motion imparted to them; also, that rubbers have been placed around the inside of a washing-machine, and I do not therefore claim such broadly; but

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

1. The dashers F^1 F^2, one longer than the other, and both provided with extensions *h h* pivoted in corresponding grooves *f f*, in which they turn up or down to increase or diminish the length of the dashers, and being held in either position by clasps *m*, which enter slots *n*.

2. The rubbers *a a*, when arranged alternately vertically and diagonally, in combination with the dashers F^1 F^2, when the same are constructed and operated substantially in the manner as herein shown and described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

NATHAN GOVE CLARY.

Witnesses:

I. S. ALLEN,

W. H. ECKLES.