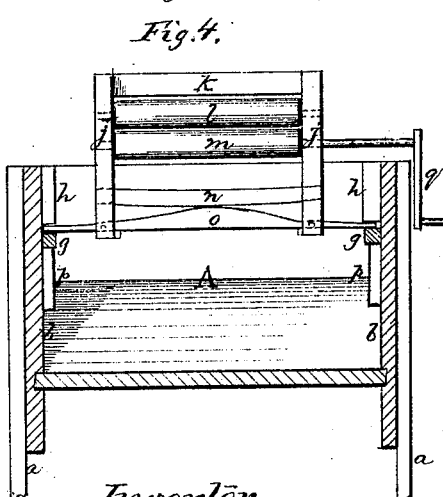
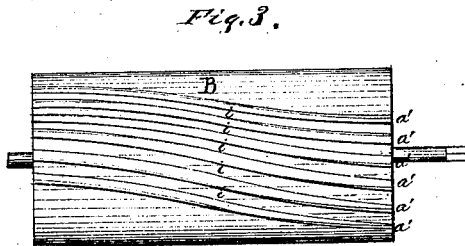
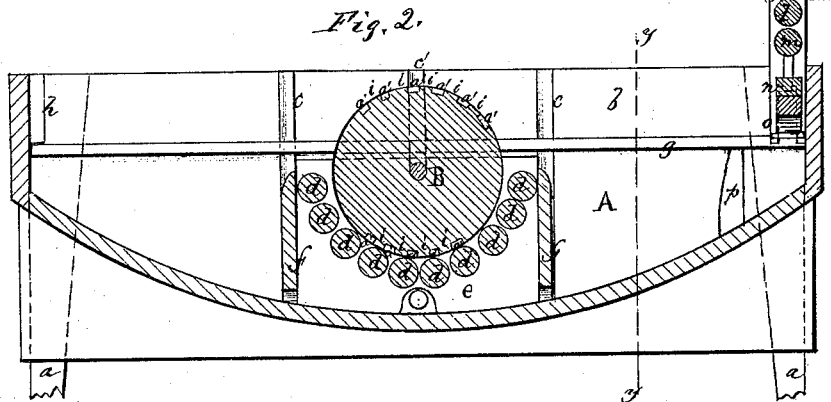
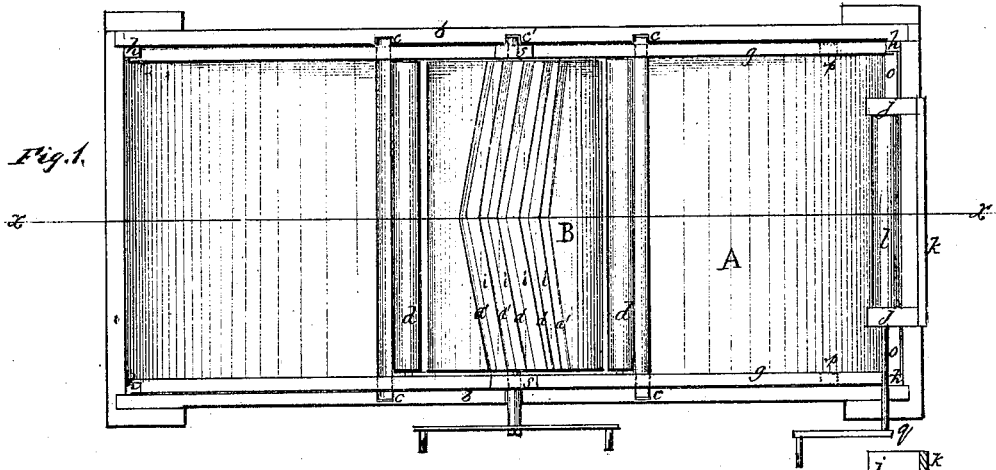


*A. Clark,*  
*Washing Mach.*

*No. 109385.*

*Patented Nov. 22, 1870.*



*Witnesses:*  
*C. de Wilson*  
*m. a. m. o. l. e. y*

*Inventor:*  
*Andrew Clark,*  
*by E. W. Rothwell,*  
*att.*

# United States Patent Office.

ANDREW CLARK, OF PLYMOUTH, OHIO.

Letters Patent No. 109,385, dated November 22, 1870.

## IMPROVEMENT IN MACHINES FOR WASHING AND WRINGING CLOTHES.

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, ANDREW CLARK, of Plymouth, in the county of Richland and State of Ohio, have invented a useful and Improved Washing and Wringing-Machine; and I hereby declare the following to be a full, clear, and exact description thereof, sufficient to enable those skilled in the art to which my invention appertains to fully understand and to make and use the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 is a top view;

Figure 2, a longitudinal section, taken on the line *x x*, fig. 1;

Figure 3 is a detached view of a spirally-grooved roller; and

Figure 4 is a transverse section, on the line *y y*, fig. 2.

Similar letters of reference indicate like parts in the several figures.

My invention consists in a novel formation of the grooves in the main roller; in the construction and arrangement of the springs, which exert pressure on the grooved roller; in the provision of a washing and wringing-machine, with springs so made and applied as to serve for both the washing and wringing-rollers; and in the general construction, arrangement, and combination of parts, all as hereinafter fully set forth.

Referring to the drawing—

A represents a box or tub, preferably of rectangular form, and with a rounded bottom; and provided with supports *a a*.

In the inner faces of the sides *b b* are made vertical grooves *c c c*.

*d d d* represent a series of small plain rollers, arranged in a semicircle, and journaled at their ends in pieces *e e*, held together by side strips *f f*, the ends of which fit in the grooves *c c*. Under the strips *f* are spaces, which permit the free passage and circulation of water.

B represents the main roller, one journal of which rests in the groove *c*, while the other passes through a vertical slot in the opposite side of the machine, and is provided with a crank-handle.

The surface of the roller B is grooved, as shown in fig. 1, or as in fig. 3, the grooves in the one case being angular, and in the other spiral.

It is designed to provide the entire surface of the roller with the grooves *a*, and it is not important whether the grooves are spiral or angular, as both have substantially the same effect, which is, however, different from the effect which would be produced by grooves parallel with the axis of the roller.

The object in making the grooves of the forms described is to cause the intervening ribs *i i* to work

tightly on the rollers *d*, and at the same time smoothly and easily, and with a prolonged scrubbing action, whereby the work is more effectually performed.

It will be observed that the ribs *i* are left full, that is, they are not brought to a point or edge, and the corners are not rounded, and thus their efficiency is improved.

The main roller is kept in contact with the concave of small rollers by the pressure of springs *g*, which, at their centers, bear on the journals of the roller B, the ends of the springs being sprung under lugs *h* affixed to the box A at its corners, inside.

Each spring *g* consists simply of a long strip of tough elastic wood, protected by a metallic boxing *s* at the point where the spring comes in contact with the journals of the main roller.

Having described the machine as it will be made simply for washing, I will now proceed to explain the construction of the wringer.

*j j* represent standards attached rigidly to one end of the box or tub A, on its inner surface.

*k* is a cross-piece connecting the standards.

The upper roller *l* is journaled in stationary bearings in the standards, but the lower roller *m* has its bearings in movable blocks fitted in vertical slots in the standards.

The lower roll is kept in contact with the upper by means of a two-part spring, *n o*, which has its bearings on the springs *g g* of the washing-machine, as will be presently explained.

The ends of the piece *n* enter the slots in the standards *j*, and bear directly against the blocks in which are the bearings of the lower roller.

The upper surface of the piece *o* is rounded, so as to come in contact with the part *n*, only at the center; and its ends, which are made thin, are extended beyond the standards *j*, through the slots therein, so as to rest upon the ends of the springs *g g*, which, for this purpose, are made to act as spring levers by the insertion of fulcrum-blocks *p* under the springs, a short distance from their ends.

The rollers of the wringer are preferably made of or covered with rubber, and they may be geared together if desired.

*q* is the crank-handle of the wringer.

The washer and wringer may be operated either separately, by the same attendant, or in concert, by two persons, the clothes being either conducted directly from the washer to the wringer as fast as they are cleansed, or allowed to accumulate in the tub.

The washing mechanism and springs can be all readily removed for cleaning purposes, and in replacing them the roller-frame and springs can be inserted without regard to their former position.

This feature, in connection with the extreme sim-

plicity, the durability and obvious utility of my machine, renders it a valuable improvement.

It will be seen that although the wringer is, on account of its construction, dependent upon the washing-machine, the latter is complete in itself, and, therefore, I wish it understood that I do not limit myself to the washer when provided with the wringer.

I do not claim the combination of a wringer with a washing-machine, as this is old; but

Having thus described my invention,

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

1. The combination and arrangement of the square-

grooved roller B, concave of rollers *d* and frame *e f*, the springs *g*, blocks *h*, and tub A, all constructed and operating as described.

2. The springs *g g*, grooved roller B, concave of rollers *d*, frame *e f*, the tub A provided with blocks *h h*, and fulcrums *p p*, and wringing mechanism composed of the parts *j j k*, rolls *l m*, loose bars *n o*, and crank *q*, all constructed and arranged to operate substantially as herein set forth.

ANDREW CLARK.

Witnesses:

L. B. GUNSAULLUS,

J. B. WILSON.