G. R. Nebinger,

Washing Machine.

No. 108,168. Patented Oct. 11. 1870.

Fig. 1.

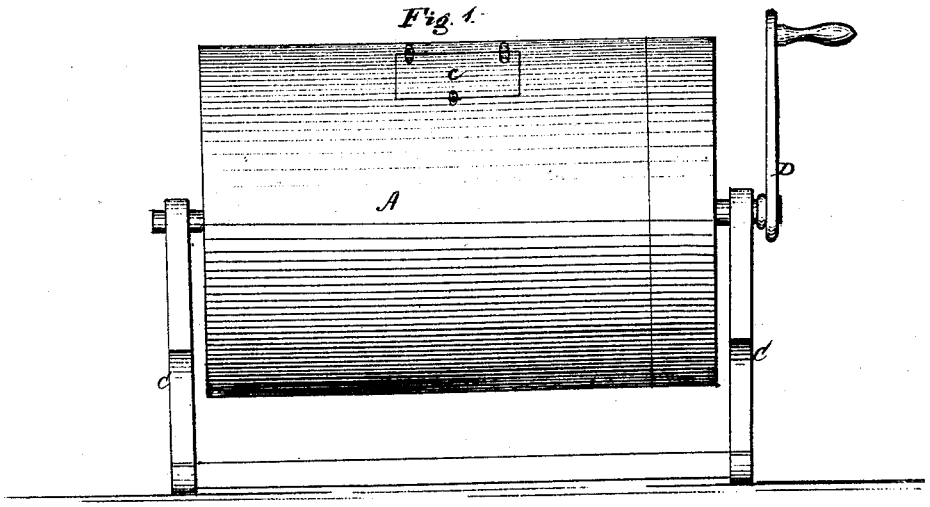


Fig. 2.

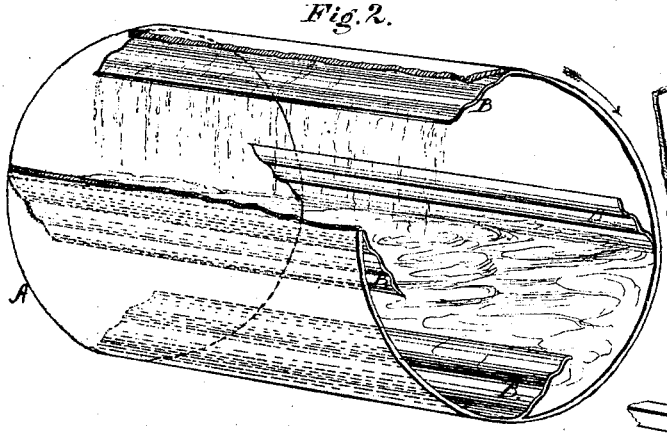
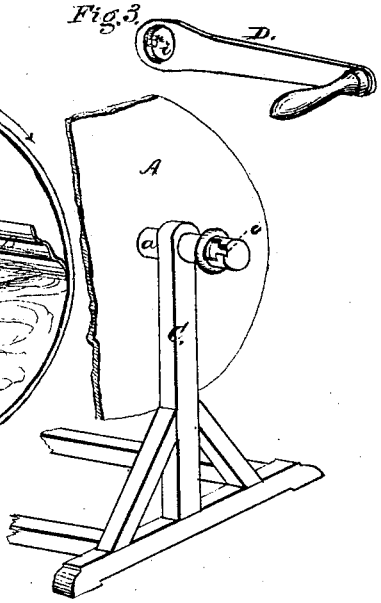


Fig. 3.



Witnesses:
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GEORGE R. NEBINGER, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 108,168, dated October 11, 1870.

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, GEORGE R. NEBINGER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain Improvements in Clothes-washing Machines, of which the following is a specification, reference being had to the accompanying drawing.

My invention consists in a horizontal cylinder or body, so mounted as to turn freely on its axis, and provided on its interior with longitudinal or corrugated dashers or rubbers, which stand at an inclination to the wall of the body, and serve to rub against the clothes, and to dash them about in the cylinder when the latter revolves.

Figure 1 is a side elevation of my machine;

Figure 2 is a perspective view of the cylinder and one end of its supporting-frame, the side and end of the former being broken away to show the interior; and

Figure 3 is a perspective view of the crank.

In constructing my washer, I make a cylindrical body, A, of any suitable material, and provide it at each end, at the center, with a journal, *a*, as shown.

Inside of this cylinder, and extending from end to end of the same, I secure a number of longitudinally-corrugated dashers or rubbers, B, lying inclined to the face or wall of the cylinder, with their outer edges resting against the same, as shown, the dashers all being inclined in the same direction, as shown in fig. 2.

The angle or inclination of the dashers may be changed as desired, but I find that they answer a very good purpose when their faces stand at about an angle of sixty degrees to a radial line drawn from the center of the cylinder to the fixed edge of the dasher.

The cylinder or body thus arranged I mount on its journals *a* horizontally, in a suitable frame, so that it may turn freely, and then attach a crank, D, to one of the journals *a*, as shown in fig. 1.

In using the machine, I introduce the clothes through the door *c* into the cylinder, together with the proper amount of water, and then close the door, and turn the cylinder in the direction indicated by the arrow in fig. 1.

As the cylinder revolves, the different dashers B are carried in succession through the water around and under the mass of clothes; each dasher, as it descends into the water, forces the clothes downward into the water, and toward the opposite side of the body, and, as it passes around toward the under side, it raises them up and passes under them, and, finally, as it ascends on the opposite side, it raises the clothes in contact with it above the water, and throws them back again toward the first side.

In this manner the clothes are thrown constantly back and forth from one side to the other, and soused into and lifted from the water, and at the same time rubbed in every part by the corrugated faces of the dashers or rubbers B.

The weight of the mass of clothes produces a pressure of them against the dashers fully equal to that applied in washing by hand in the ordinary manner.

A certain amount of water is carried up by the dashers, and falls back onto the clothes below, and serves to rinse or wash out of them the dirt loosened by the action of the rubbers.

The machine thus constructed is exceedingly cheap, simple, and efficient, and very easy to operate.

I have found that, with a machine of ordinary size, I can, with ease, wash a dozen shirts in ten minutes' time.

My improved crank I construct with a hole, *i*, through its end, of sufficient size to admit the end of the journal, and with a stud, *n*, which extends inside of hole *i*, as shown in fig. 3.

In the journal which is to receive the crank I cut a longitudinal groove, *o*, having lateral extensions on each side at its inner end, as shown in fig. 2, so that the slot presents a T-form in appearance.

The crank is applied by slipping it onto the journal with the stud *n* in the groove *o*, and pushing it back until the stud is in line with the lateral extensions of said groove, and then turning it in either direction, so as that the stud will lock in the extensions.

By this arrangement I obviate the necessity of cutting a screw-thread on the journals and in the crank, and of all nuts, pins, and other expensive fastenings, and produce for less cost, a stronger and better means of fastening the crank in place.

To remove the crank, it is only necessary to turn it on the journal until the stud is in line with the slot *o*, and to then draw it off.

When thus attached, the crank may be turned in either direction without becoming loose, a thing which cannot be done where they are simply screwed on in the usual manner.

This manner of forming and securing the crank is applicable not only to this machine, but to any and all places where a crank is used.

The machine constructed as described answers a very good purpose as a churn, as the cream introduced therein is violently agitated by the action of the dashers B.

Instead of having the dashers attached rigidly to the cylinder, and the whole so arranged as to revolve, the same result may be accomplished by having the cylinder stationary, and the dasher attached

to a skeleton frame therein, so arranged that it may revolve, and carry the dashers around in the cylinder.

Having thus described my invention,

What I claim is—

The washing-machine, consisting of cylinder A, provided on its interior with longitudinal corrugated rubbers B, when constructed and arranged to operate as herein shown and described.

GEORGE R. NEBINGER.

Witnesses:

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