(No Model.)

N. SMALL.

CYLINDER WASHING MACHINE.

No. 306,356. Patented Oct. 7, 1884.

Fig. 1.

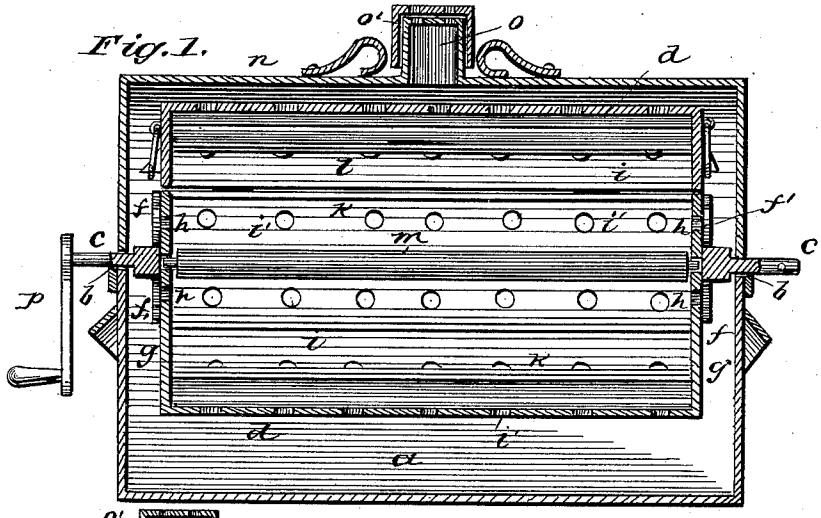


Fig. 2.

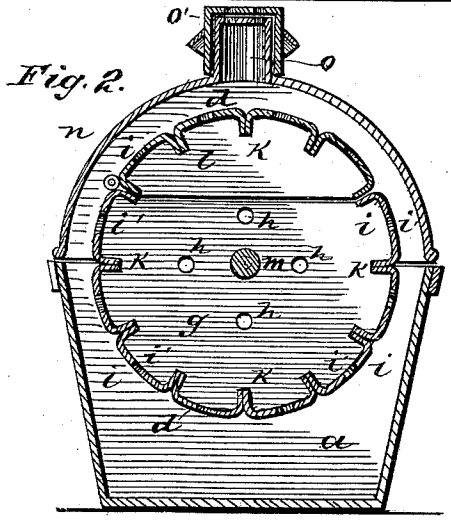


Fig. 3.

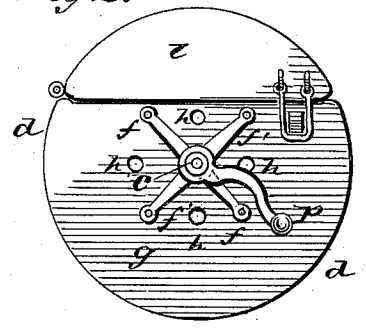


Fig. 4.

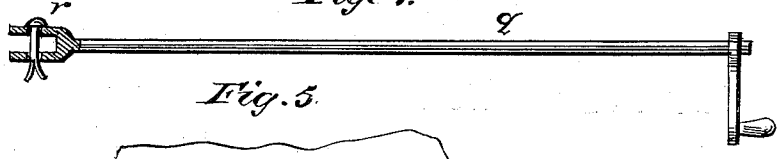
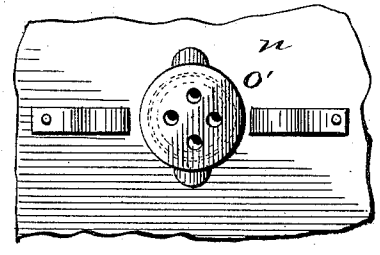


Fig. 5.



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UNITED STATES PATENT OFFICE.

NOAH SMALL, OF JONESBOROUGH, INDIANA.

CYLINDER WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 306,356, dated October 7, 1884.

Application filed October 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, NOAH SMALL, a citizen of the United States, residing at Jonesborough, in the county of Grant and State of Indiana, have invented certain new and useful Improvements in Cylinder Washing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a vertical longitudinal section of the machine. Fig. 2 is a vertical cross-section of the same. Fig. 3 is an end view of the cylinder with the crank attached. Fig. 4 is a view of the detachable crank-rod, and Fig. 5 is a detail view of the ventilator.

This invention has relation to steam washing-machines; and it consists in the construction and novel arrangement of devices, as will be hereinafter fully described, and particularly pointed out in the claims appended.

Referring by letter to the accompanying drawings, *a* designates the lower portion of the boiler, which is rectangular in form, and tapers from its mouth to its base, and has an iron binding around its top edge, as shown in the drawings. It is provided with suitable handles at its ends, is greater in length than in width, and has bearings *b* at its ends for the solid cast-iron or brass gudgeons *c c* of the cylinder *d*. The gudgeons *c c* are secured to the cylinder-heads by bolts or rivets passed through perforations in the ends of their arms *f*, each gudgeon preferably having four arms, *f'*. The cylinder-heads *g* each have four or more perforations, *h*, for the passage of steam and water. The cylinder-heads *g* are connected by horizontal concave cylinder-sections *i*, having rows of perforations *i'*. The edges of these concave cylinder-sections *i* are soldered together, and form internal horizontal elevator-ribs, *k*, at the lines where steam and water spaces were formerly made in this class of machines. The connections between the cylinder-heads and the united cylinder-sections are also made by soldering them together. By this construction it will be perceived that small strips or bars of sheet metal may be utilized in making up the cylinder, and the sections being soldered together, as before explained, should any section become injured by wear or otherwise, the desired section may be readily removed by running a soldering-iron over the soldered seam and a new section as readily replaced. A small portion, *l*, of the upper part of the cylinder is hinged to the lower or greater portion of the same, and provided with two catches and hinges to form a door for the cylinder, through which the clothes are entered and removed at will. A central removable wooden shaft, *m*, about the size of an ordinary broom-stick, made octagonal or round, is pivoted at both ends and in seats in the gudgeons, and is sprung into place by bending the cylinder-heads outwardly, but does not rotate with the cylinder. It serves as a clothes-distributer while the steaming and washing are taking place, and serves as a clothes-stick with which to remove the clothes from the cylinder after they have been steamed and washed by simply removing and using it. A lid, *n*, is provided for the boiler, and has a ventilator, *o*, in its top for the escape of the steam when necessary, and it also prevents the water from boiling over. The top of the ventilator *o* is perforated, and a perforated cap, *o'*, is fitted over it, so that the perforations may be made to register for the escape of the steam, or to be closed until a sufficient quantity of steam has been generated. A short crank, *p*, may be fitted onto either gudgeon. A crank-rod, *q*, from six to twelve feet long, to enable the operator to turn the cylinder while seated at a distance from the hot stove, is also coupled onto one of the gudgeons, and goes with each machine. The connecting end of this crank-rod is forked, as shown, and is secured to the gudgeon by a wire key, *r*, having a flaring lower end, to prevent it from dropping out when the cylinder is in motion. The crank end of this rod rests on the back of a chair or other support where the operator is seated. The cylinder lies lengthwise in the boiler, and has smaller cylinder-heads than those commonly used, so that a greater heating-surface is afforded than in machines where the cylinders are of greater diameter, and are journaled laterally of the boiler. The cylinder is stronger, there being no steam-spaces between

the cylinder-sections, and the cylinder-heads are strengthened by the arms of the gudgeons.

The ventilator serves as a safety-valve, and may be closed until sufficient steam has been generated in the boiler.

The device is cheap, simple, and effective, and may be made of any suitable material—such as tin, copper, brass, or galvanized iron.

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

In a steam washing-machine, the combination, with the steam-cylinder constructed substantially as described, and provided with the solid cast-iron gudgeons secured to its heads, of the pivoted removable center wooden shaft, *m*, to serve the twofold function of a distributer for the clothes and a clothes-stick, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

NOAH SMALL.

Witnesses:

CLARENCE MCKEEVER,

ED FRAME.