

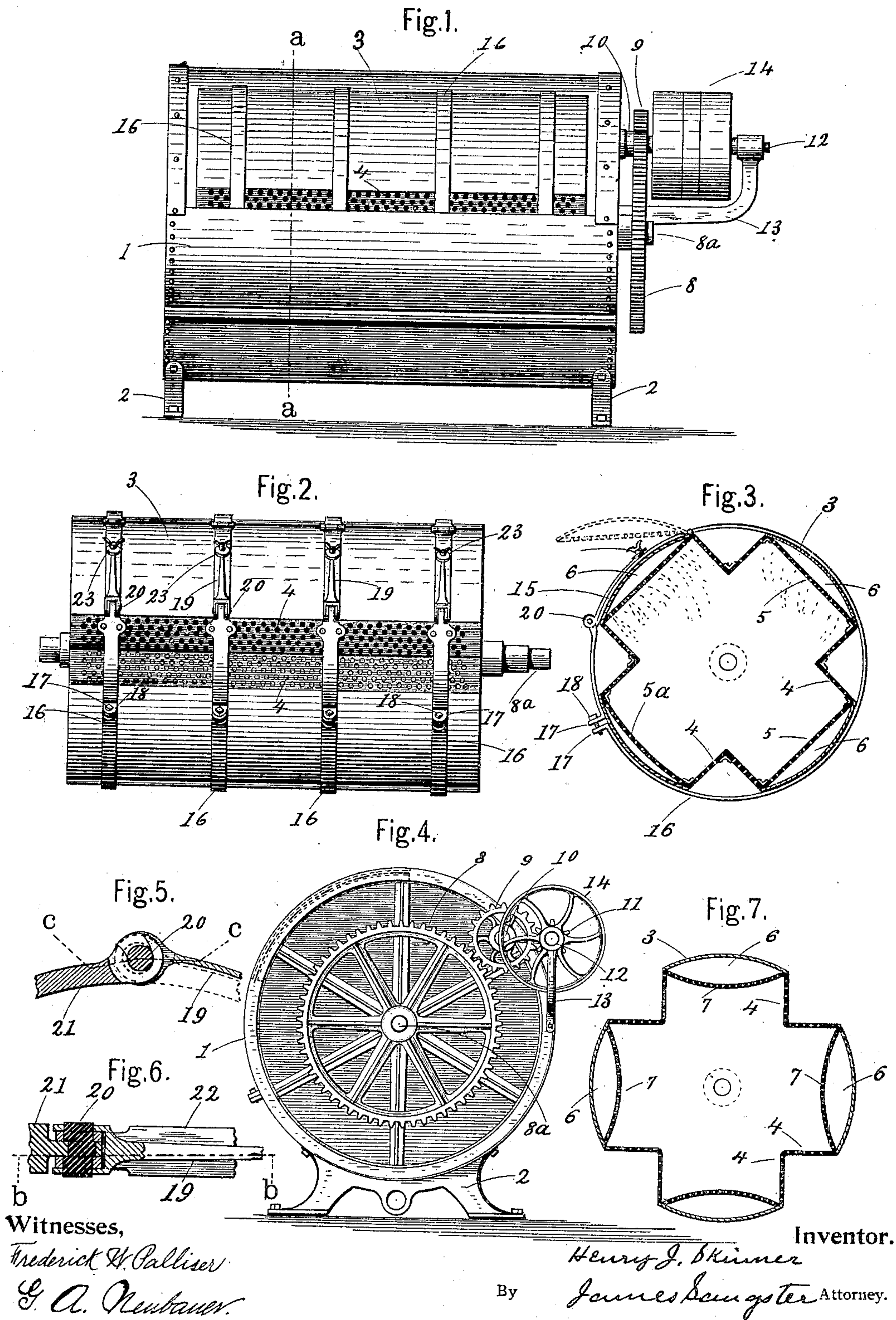
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Patented Apr. 4, 1899.

H. J. SKINNER.
WASHING MACHINE.

(Application filed Mar. 4, 1898.)

(No Model.)



UNITED STATES PATENT OFFICE.

HENRY J. SKINNER, OF BUFFALO, NEW YORK.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 622,552, dated April 4, 1899.

Application filed March 4, 1898. Serial No. 672,526. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. SKINNER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention relates to an improved washing-machine chiefly adapted for laundries; and the main object is to provide a hollow rotating holder with interior perforated compartments which form water and air cushions to break the fall of the clothes and also produce a continual shower of water upon the clothes or articles undergoing washing during the rotation of said holder, and thus thoroughly and quickly cleanse the same.

It also relates to certain details of construction, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation showing the outside supporting-case and its washing-cylinder. Fig. 2 is a detached side elevation of the washing-cylinder. Fig. 3 represents a vertical section on or about line *a a*, Fig. 1. Fig. 4 represents an end view showing the gearing for operating the machine. Fig. 5 represents an enlarged vertical section on or about line *b b*, Fig. 6, for illustrating the construction of the fastening devices of the hoops surrounding the washing-cylinder. Fig. 6 represents a horizontal section on or about line *c c*, Fig. 5. Fig. 7 represents a modified form of the washing-cylinder.

In referring to the drawings in detail like numerals represent like parts.

The preferred embodiment of my invention consists of the supporting-case 1, having the leg portions 2 and the washing-cylinder 3, provided with the substantially V-shaped interiorly-projecting perforated ribs 4 and the perforated plates 5, extending between the ribs and forming between themselves and the interior of the washing-cylinder the compartments 6, substantially as shown in Figs. 3 and 7. These plates 5 may be in the flat form shown in Fig. 3 or in the concave or convex form shown in Fig. 7 and at 5^a in Fig. 3. In some instances the modified curved form shown in Fig. 7 is advantageously employed,

especially with coarse clothes, as a larger area within the cylinder is provided, and the perforations 7 in the plates diverge from each other and afford a wider spread to the shower produced by each compartment when at the top of the cylinder. This shower effect is illustrated in Fig. 3.

To rotate the washing-cylinder, the shaft is provided with a toothed gear-wheel 8, into which the smaller toothed gear-wheel 9, supported on the shaft 10, extending from the supporting-case 1, meshes, and a toothed gear-wheel 11 in turn meshes with the gear-wheel 9. The gear-wheel 11 is mounted upon the shaft 12, which is supported between the angular arm 13 and the supporting-case. A pulley 14 is also mounted upon the shaft 12 and is connected by belting or other well-known power-transmitting device to the source of power.

A portion of the washing-cylinder is hung upon hinges to form a door 15, substantially as shown in Fig. 3, through which the clothes are introduced or removed.

The mechanism for closing the washing-cylinder is shown in Figs. 2, 3, 5, and 6.

In Figs. 1 and 2 is shown a series of metal hoops 16, each having a portion adjustably and removably connected by means of the bent ends 17 and a screw-bolt 18, (see Fig. 2,) the construction being such that as the fastening device wears and becomes loose it can be taken up by means of the bolt 18 being used to screw the parts 17 closer together.

The jointed fastening which allows the cover to be opened and secures it when closed consists of a curved arm 19, pivoted at 20 to the hoop. (See Figs. 2 and 3.) The pivot 20 consists of an eccentric or a short crank (see Figs. 5 and 6) which is rigidly secured to the arm 19, so that when said arm is turned the crank is forced to turn with it and thereby draws the two ends 21 and 22 of the hoop 16 toward each other with considerable force, the arm 19 being bent over onto the hoop and there secured by a thumb-screw 23, as shown in Figs. 2 and 3. The end 21 of the hoop is made in the form of a hook, (shown in Fig. 5,) so that when the arm 19 is turned back and the parts loosened the end 22 may be lifted out, the hoop separated, and the cover opened.

The washing-cylinder is preferably constructed of brass and may be supplied with two, three, or more V-shaped perforated ribs, according to the size of the machine; but, if
 5 desired, the rib may be formed in any analogous shape without departing from the scope of my invention.

The supporting-case can be constructed of wood or metal, as desired.

10 The operation of the machine is as follows: The door is opened, the clothes or articles to be washed are introduced, and the door again closed. The supporting-case and the rotating washing-cylinder are partially filled with
 15 water, and the soap and other washing materials are introduced into the interior of the washing-cylinder through the perforated ribs. The cylinder is now rotated, and the irregular form of the interior thereof causes an agi-
 20 tation of the clothes or articles undergoing washing and produces a continual turmoil of the water and washing material within the cylinder. As the cylinder rotates the compartments reach the top successively, and the
 25 water within them, descending by force of gravity through the perforations, produces showers, which drop upon the clothes and greatly assist in the washing process. The clothes within the cylinder during its rota-
 30 tion are lifted and dropped by means of the ribs 4, and the clothes in dropping upon the perforated plates force a portion of the air in the cylinder through the perforations in the plates and within the compartments, thus
 35 causing the water in the compartments to jet forth through the perforations and penetrate the clothes.

The only communication between the interior of the washing-cylinder and the support-

ing-case is by means of the perforations in the V-shaped ribs, and as the clothes or articles undergoing washing are rotated the soiled water within and the clean water without the cylinder are flowing, respectively, outward and inward, thus producing a constant and
 45 continuous circulation of the water.

I claim as my invention—

1. A washing-machine comprising a supporting-case and a rotating washing-cylinder mounted in said case and having interiorly-
 50 extending ribs provided with perforations which afford communication between the interior of the cylinder and the case and interiorly-perforated compartments interposed
 55 between said ribs, one of said compartments being hinged to the cylinder to provide a door or cover for the insertion or removal of the clothes.

2. In a washing-machine, a supporting-case, and a rotating washing-cylinder mounted in
 60 said case, and having interiorly-extending ribs provided with perforations, and a series of compartments having communication with the interior of said cylinder only, located be-
 65 tween said ribs.

3. A washing-machine comprising a supporting-case and a hollow washing device, mounted in said case and having a series of compartments arranged at intervals upon its
 70 interior, and communicating with the interior of said device only; the portions of the shell of the device between the compartments, being perforated to provide water-passages, as set forth.

HENRY J. SKINNER.

Witnesses:

JOSEPH HARVEY,
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