

(No Model.)

2 Sheets—Sheet 1.

W. G. GOOCH & J. OLSEN.

WASHING MACHINE.

No. 346,473.

Patented Aug. 3, 1886.

Fig. 1.

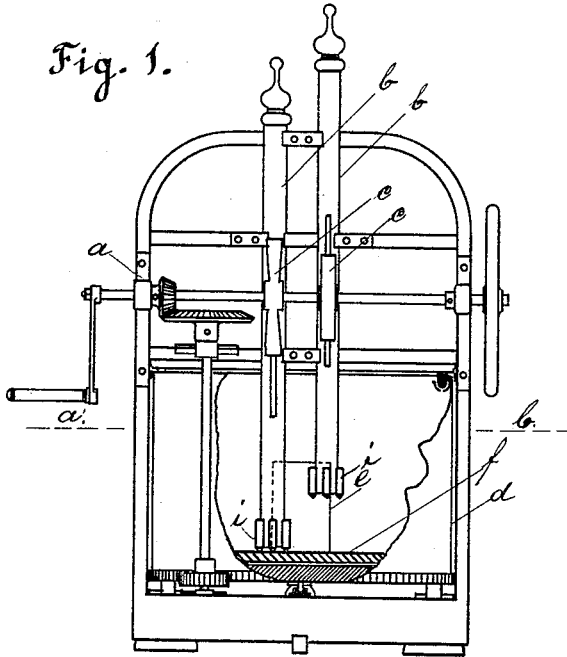


Fig. 2.

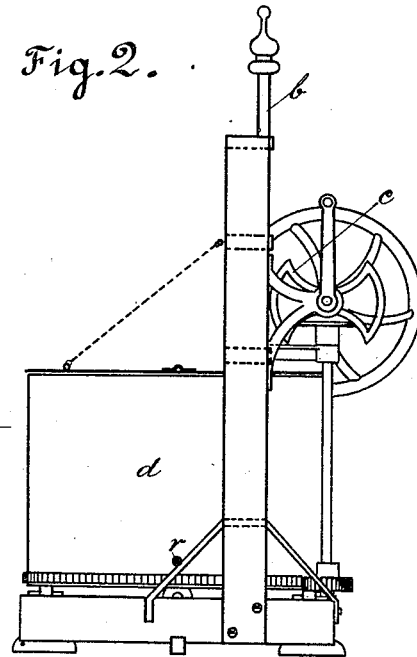


Fig. 3.

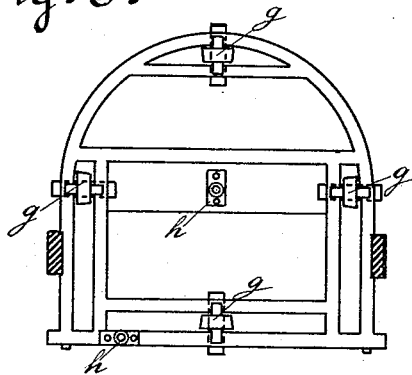
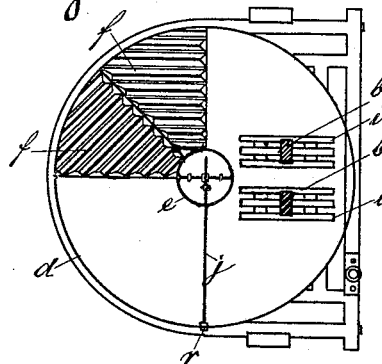


Fig. 4.



Witnesses:

...S.A. Owen.

B. J. Burns.

W. & Inventor:

Jens Olsen

By his Att'y

Alphonse Smith

(No Model.)

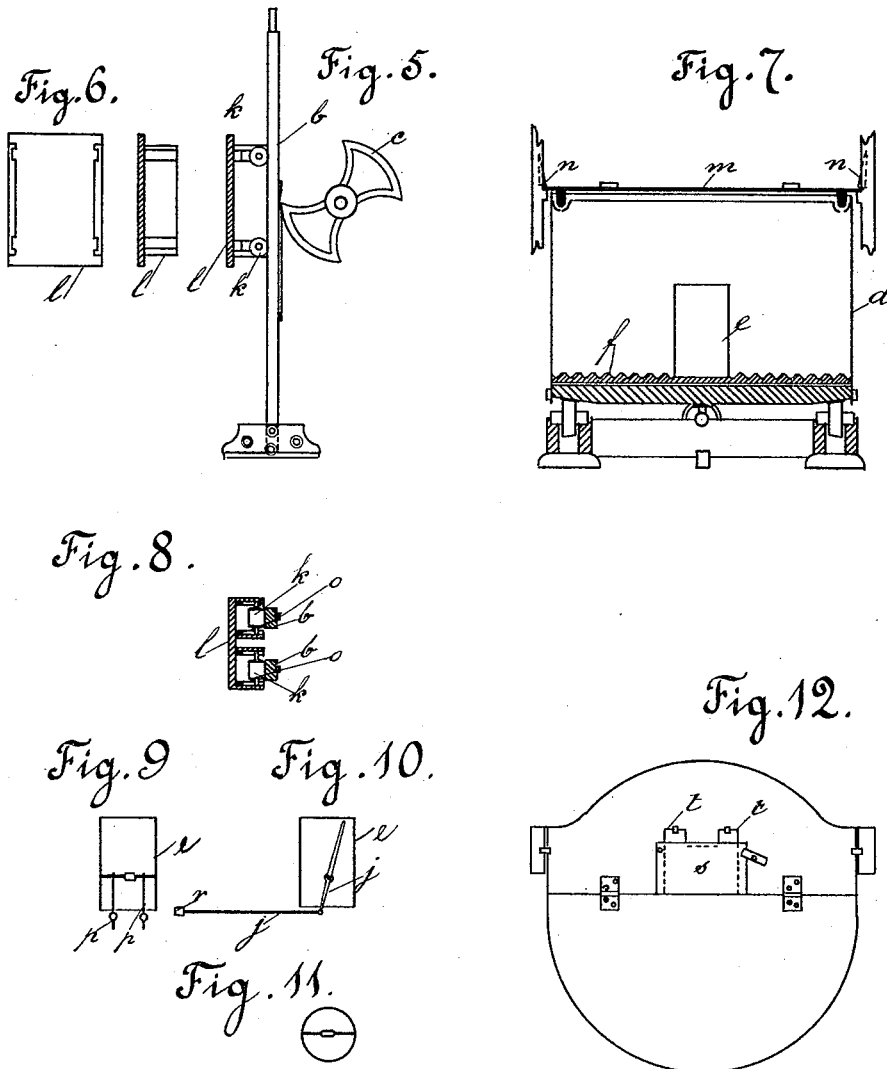
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UNITED STATES PATENT OFFICE.

WHEATLEY G. GOOCH AND JENS OLSEN, OF BELLINGHAM, WASHINGTON TERRITORY.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 346,473, dated August 3, 1886.

Application filed March 23, 1885. Serial No. 159,838. (No mod. 1)

To all whom it may concern:

Be it known that we, WHEATLEY G. GOOCH and JENS OLSEN, of Bellingham, county of Whatcom, Territory of Washington, have invented a new and useful device in the form of a Washing-Machine; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings.

The following description fully explains the nature of our invention and the manner in which we proceed to construct, apply, and operate the same, the accompanying drawings being referred to by figures and letters.

Figure 1 gives a view of the elevation with part of the tub cut away, showing the shoes of the stamp and the corrugated bottom. Fig. 2 is an end elevation of the same. Fig. 3 is a plan view of the lower frames, showing rollers and steps. Fig. 4 is a view through the line *a' b'*, Fig. 1, showing two sections of the corrugated bottom, a section of the stamps, and the lever to the outlet-plug. Fig. 5 is a detailed view of the stamps, and showing the cam and guide-rollers. Fig. 6 shows the guide-roller frame in two views. Fig. 7 is a section of the drum, showing the corrugated bottom and the tube in the center, the steps and rollers with frame, and the lid of the drum with its recess and springs. Fig. 8 is a section of the roller-guide frames showing the rubber springs. Fig. 9 is a view of the tube showing the hooks for attaching the same. Fig. 10 is a view of the same, showing the arrangement of the lever and the plug for the outlet. Fig. 11 is a plan view of the tube. Fig. 12 is a plan view of the lid of the drum with hinges and detaching section of the lid, and the upright posts with springs.

Referring to Fig. 1, *a* is the driving-gear attached to the frame of the machine; *b*, the stamps surmounted by an iron cap and terminating with a rubber-covered shoe attached to the stem, as shown in Fig. 5; *c*, cams for lifting the stamps; *d*, the drum or washing-tub made of galvanized iron and rotating upon four cast-iron rollers. The true or outer bottom of the drum is made of hard wood, and has a beveled edge for the play of the rollers. Upon this bottom is laid in sections the wash-bottom *f*, of hard wood corrugated. In the center of

the drum is the galvanized iron tube *e*, in which is placed the lever *j*, connecting with the outlet-plug *r*.

In Fig. 3, *g* are the rollers upon which the drum rotates, and *h* the steps for the vertical shaft and for the drum-pivot.

In Fig. 4 the shoe *i* of the stamp is shown, two sections of the corrugated bottom *f*, and the lever *j*, connecting with the outlet-plug *r*.

Referring to Figs. 5, 6, the stamp *b* shows the shoulder for the cast-iron cap and the shoe attached; *c*, the cam working upon a rubber surface; *k*, the guide-rollers for the stamps, and *l* the frame for the guide-rollers in two sections.

In Fig. 7 there is a section of the drum *d*, the lid *m* of the same, showing the springs *n* for keeping it in place, the tube *e* and the corrugated bottom *f*; and Fig. 8, a section of the roller-frame *k*, showing the rubber springs *o*.

In Figs. 9, 10, 11, the hooks *p* attach the tube to the bottom of the drum, and the lever *j* connects with the outlet-plug *r*.

In Fig. 12, *s* is the detaching section of the lid of the drum, showing the opening *t* for the stamps and the manner of closing the same.

The operation of our washing-machine is as follows: The clothes are put into the large galvanized iron drum with water and detergent material, and the lid which is hinged near the center closed. The crank, which is fixed on the shaft holding the cams, revolves and raises the stamps, which drop by their weight as soon as they disengage from the cams, and by the same action of the crank the drum rotates on its pivot. The rotation of the drum produces very little friction, as it turns on four cast-iron rollers which play in the beveled edges of the hard-wood bottom of the drum. The drum is geared to the vertical shaft, the lower cog-wheel of which meshes into the corrugated band of iron fastened to the lower outer end of the drum. The action of the cams is assisted by the strip of rubber against which it works. The rubber is about an inch wide, and is let into the face of the stem of the stamps, as well as by the guide-rollers on the opposite side of the stamp, and the rubber spring attached to the roller-frame and which is separated from the rubber frame by a small section of lignum-vitæ or other hard wood, as shown in Fig. 5. This arrangement greatly lessens

the friction. The stamps are kept in place by battens placed equidistant and fastened to the frame in such a way as to give the stamps sufficient play.

5 To prevent splashing from the drum, the lid is held down by springs in the frame, and at the rim of the drum, under the lid, there is a perforated gutter of galvanized iron about two inches wide to catch the splash. A cleat is attached around the lower edge of the lid to fit
10 into the splash-gutter.

In a central position in the drum there is a tube of galvanized iron about eight inches long and six inches diameter. This tube serves to
15 keep the clothes from the center of the drum and under the stamps. It is attached to the bottom of the drum by hooks, and in it is placed the lever connecting with the rubber plug to the outlet for the water from the drum.

20 The corrugated bottom of the drum, which, with the stamp-shoes, constitutes the washing-surface of our machine, is arranged around the drum in eight sections. The shoe of the stamp is of a peculiar construction. It is composed
25 of three or more pieces of hard wood faced with rubber and lying parallel, and separated

by small detached blocks of wood, and is riveted together by copper bolts. It is attached to the stem, as shown in Fig. 5.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a washing-machine, the combination, with the revolving tub, of the pounders, constructed as described, and their stems, of the
35 segmental cams described, operating upon the stems to raise them by frictional contact, as set forth.

2. In a washing-machine, the combination, with the revolving tub, having the central open-
40 topped cylinder *e*, as described, of the plug *g*, adapted to enter an opening in the side of the tub, connecting-rod extending from the plug to the bottom of the cylinder, and lever *j*, pivoted in the cylinder *e*, and adapted to operate
45 the plug, as and for the purpose set forth.

WHEATLEY G. GOOCH. [L. S.]
JENS OLSEN. [L. S.]

Witnesses:

A. B. SMITH,
WILLIAM PATTERSON.