# J. F. CHESEBRO.

## Improvement in Washing Machines.

No. 121,753. Patented Dec. 12, 1871.

*Fig. 1.*

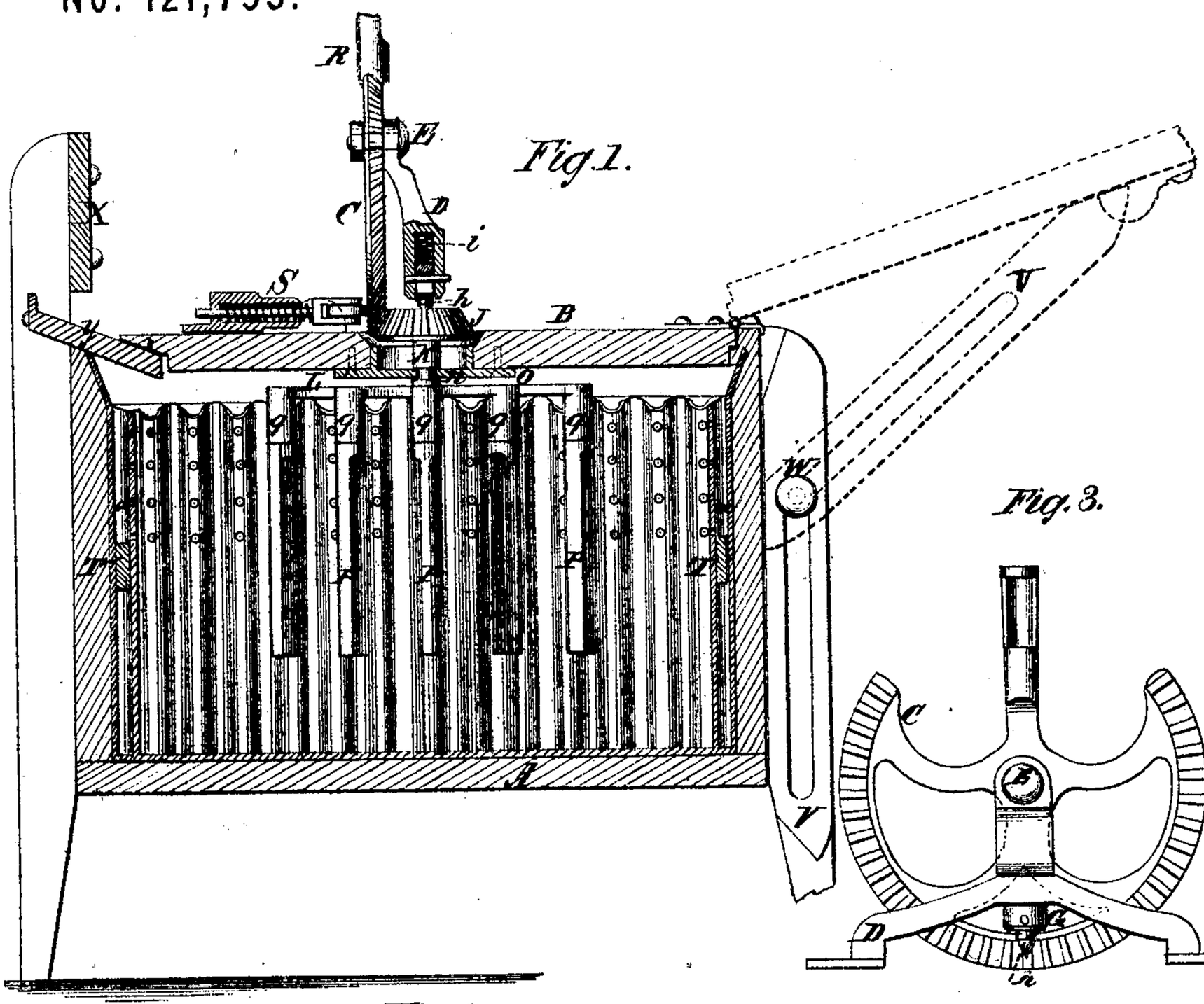



*Fig. 3.*




*Fig. 2.*

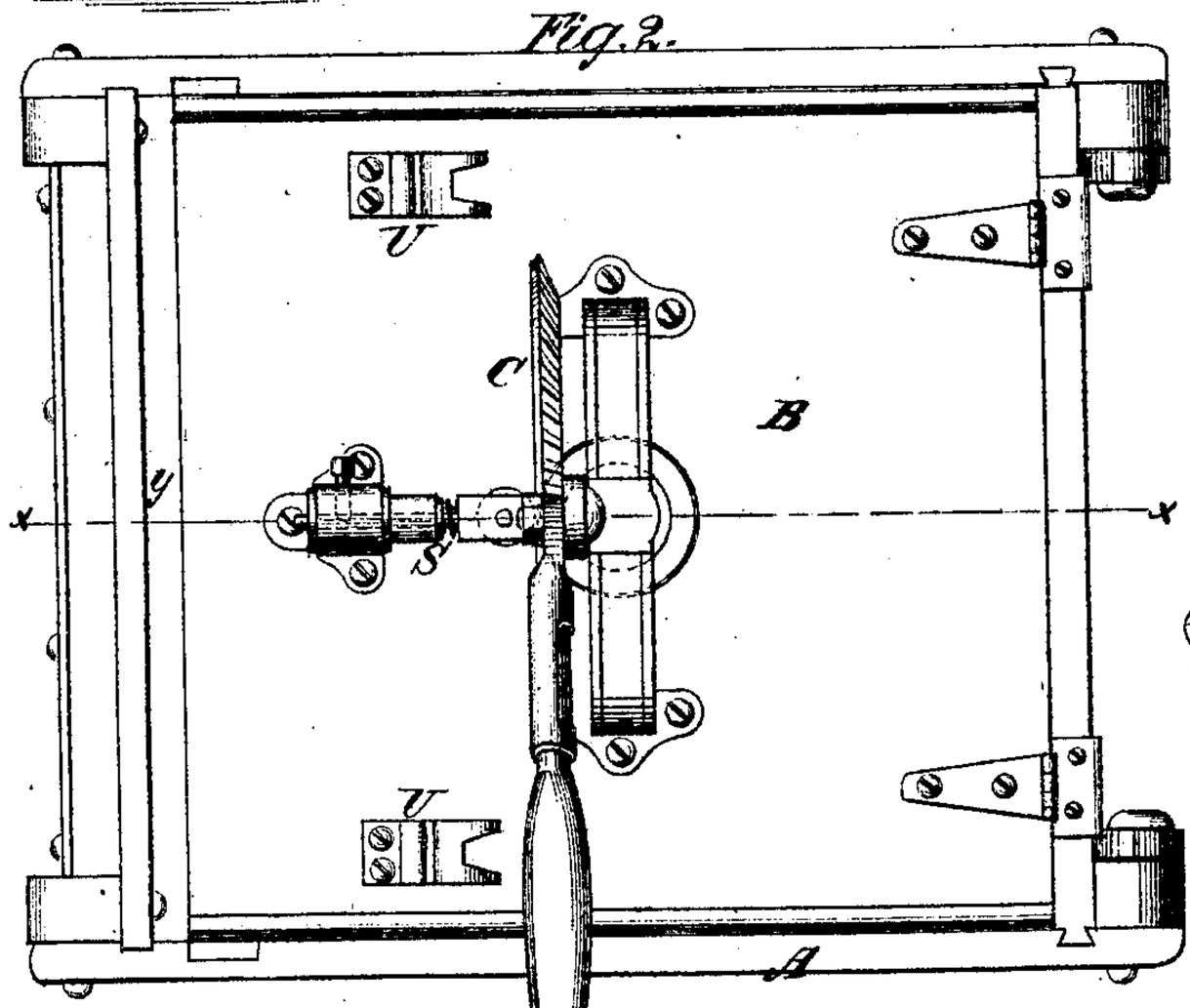
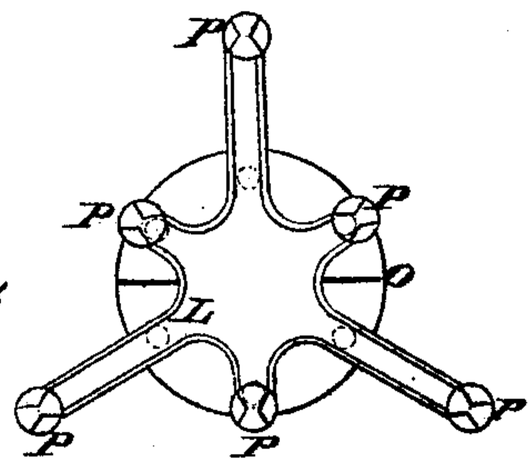



*Fig. 4.*

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# UNITED STATES PATENT OFFICE.

JAMES F. CHESEBRO, OF TRENTON, NEW JERSEY.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 121,753, dated December 12, 1871.

*To all whom it may concern:*

Be it known that I, JAMES F. CHESEBRO, of Trenton, in the county of Mercer and State of New Jersey, have invented an Improvement in Washing-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention consists in the improvement of washing-machines, as hereinafter fully described and subsequently pointed out in the claims.

In the accompanying drawing, Figure 1 represents a vertical section of the machine taken on the line *x x* of Fig. 2. Fig. 2 is a top view. Fig. 3 is a detail, showing a face view of the driving sector-gear and a side view of the stand to which it is attached. Fig. 4 is a face view of the vibrating dasher-spider, showing the sectional collar by means of which the dasher is attached to the under side of the machine cover.

Similar letters of reference indicate corresponding parts.

A is a square box, of a width and depth sufficient to admit the desired quantity of clothes, with a tightly-fitting cover, B. This cover may be packed with rubber or other elastic material to insure a tight joint. C is the driving sector-gear, forming about two-thirds of a circle, and pivoted to the stand D at the point E, as seen in Fig. 3. The stand D is screwed or bolted to the top of the cover. Beneath the arch of the stand is a central hub or projection, G, in which is placed a central pivot, *h*. The pivot is slotted and confined in the hub G by a pin which passes through the slot, which allows the pivot to work up and down against the spiral spring *i*, placed in the hub above the pivot. The pivot G supports the upper end of the dasher. J is a gear-wheel with which the driving sector-gear engages in operating the machine. K is the dasher-shaft. L is the spider on the lower end of the dasher-shaft. The gear-wheel J is on the upper end. The spider, the shaft, and the gear-wheel are all cast in a single piece. The piece is chucked in a lathe, and a central hole is bored in the gear-wheel J for the end of the pivot *h*. This forms the upper bearing of the dasher. The shaft of the dasher has a groove, *n*, as seen in Fig. 1. O is a plate formed of two parts, as seen in Fig. 4, each with a central semicircle which fits the groove *n*. This plate, thus connected with the dasher-shaft, is screwed or securely fastened to the under side of the cover and forms the lower bearing of the dasher. This arrangement is seen in Fig. 1. The form of the spider L is seen in Fig. 4. P represents the vertical arms, which are connected with the spider by means of sockets *q*. (See Fig. 1.) The arms P are made of wood, and each has an angular groove on two sides, as seen in Fig. 4. The dasher thus formed and arranged is given a vibratory motion by means of a driving-gear which is worked back and forth by the lever R. S is a spring binder attached to the top of the cover for keeping the sector-gear engaged with the wheel J. This binder consists of a roll which is pressed against the sector-gear by a spiral spring, as seen in the drawing. By this means the two gears are always kept properly engaged, while it allows the sector to be made much lighter than would otherwise be necessary. The interior of the machine is lined with corrugated metal, as seen in Fig. 1, the upper portion, one-third, (more or less,) of said lining being perforated to admit water behind the lining. This upper portion, *a*, is divided from the lower portion by the division-strips T, so that the water does not descend below the strips. The water thus forced by the action of the dasher through the perforations is discharged from the top of the lining and falls upon the clothes in constant streams, thereby greatly aiding the operation of washing. In Fig. 1 the cover B is seen (in dotted lines) turned back. *u u* are stop-pieces fastened to the top of the cover. V is a sliding slotted brace on each side of the machine. The brace is seen attached to leg of machine by the knob W, as when not in use. When required to support the cover, the brace is drawn up on the knob and its end is placed in the stop-piece *u*, as indicated in dotted lines. These two braces form a substantial support for the cover and all the apparatus attached thereto, when the machine is opened for introducing or removing the clothes. X is a breast-shield for fastening the wringer, and *y* is an apron arranged on one side of the machine. The shield X gives a good support to the wringer, and the apron conducts all the drain-water back into the machine.

The machine is filled nearly or quite half full of suds or water, and the clothes are violently agitated therein by vibrating the dasher. The clothes

are cleansed in a short space of time, and the usually tedious and laborious operation of washing is, with this machine, reduced to a mere pastime.

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

1. The combination of spring-binder S and spring pivot *i h* with the gear C J, as and for the purpose described.

2. The spider L of a washing-machine, provided, as described, with grooved arms P, set at different distances from the center of motion, for the purpose set forth.

3. The corrugated and perforated lining, combined with strips T attached to the box, to form a chamber, *a*, above said strips, open at the top, and through which the water is caused to pass, as and for the purpose described.

4. The combination, with the hinged cover having pieces U U, of a pair of slotted and sliding braces V V, arranged as and for the purpose described.

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