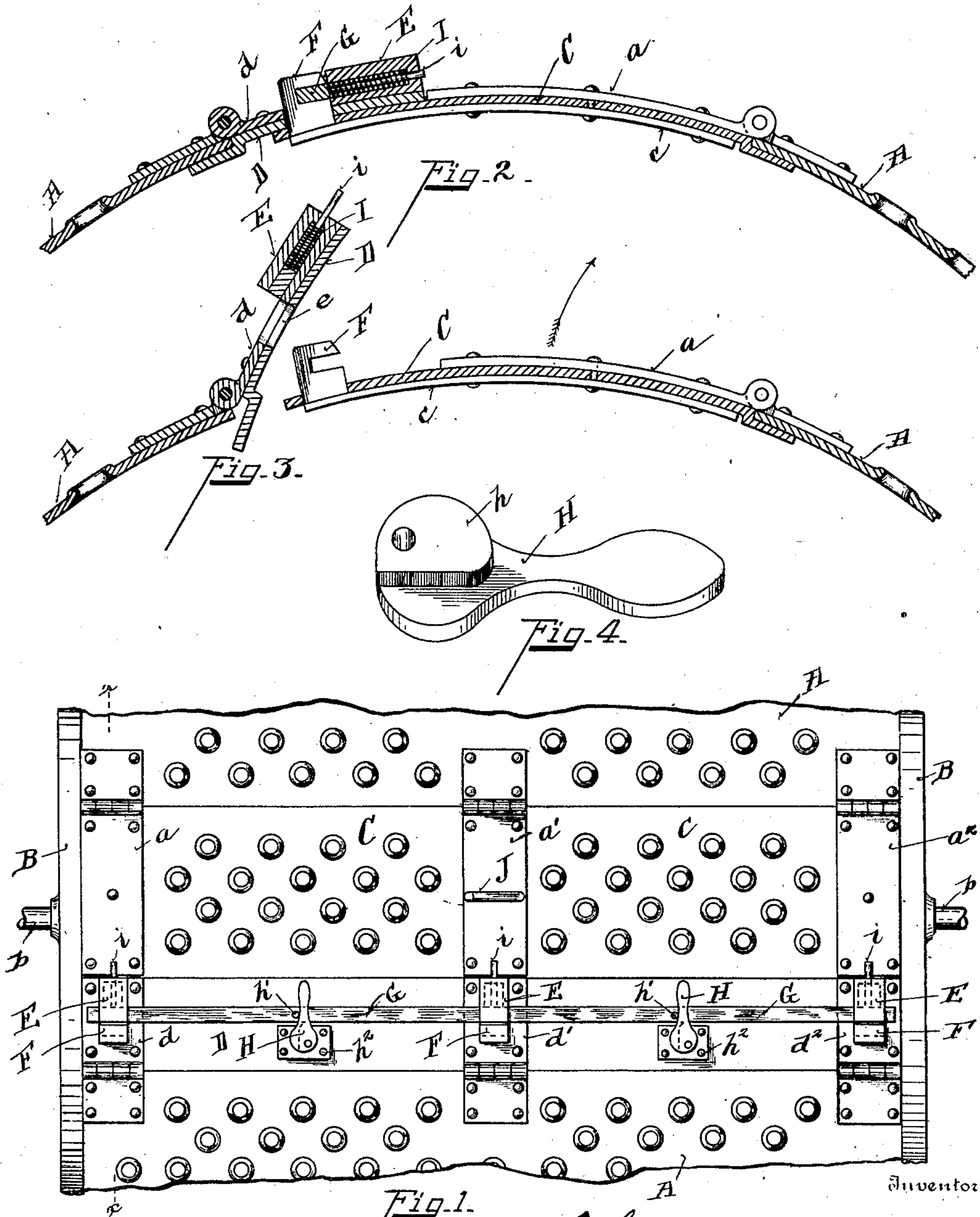


No. 729,087.

PATENTED MAY 26, 1903.

N. G. NUNN.
WASHING MACHINE.
APPLICATION FILED JAN. 8, 1903.

NO MODEL.



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UNITED STATES PATENT OFFICE.

NATHANIEL G. NUNN, OF CINCINNATI, OHIO, ASSIGNOR TO AMERICAN LAUNDRY MACHINERY COMPANY, OF CINCINNATI, OHIO, A CORPORATION.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 729,087, dated May 26, 1903.

Application filed January 8, 1903. Serial No. 138,203. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL G. NUNN, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Door-Fastenings for Washing-Machines, of which the following is a specification.

My invention relates to an improvement in a rotary inner perforated cylinder for a washing-machine.

The object of my invention is to provide a strong and efficient means for securely closing the cylinder-opening, such means comprising hinged door-sections and devices for locking the door when the cylinder is washing clothes.

The features of my invention are more fully set forth in the description of the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a top plan view of a section of the inner cylinder with its door and lock. Fig. 2 is a section on line $x x$, Fig. 1. Fig. 3 is a similar section as Fig. 2 with one of the door-sections partially open. Fig. 4 is a perspective view of one of the lock-actuating levers.

Washing-machines of inner perforated cylinder type are generally large power-driven machines. When the cylinder is filled with clothes for washing, the clothes being water-soaked add increased weight for the cylinder to bear. The high speed at which the cylinder is revolved has a tendency to throw them outward, which necessitates secure means for closing and locking the cylinder-opening. Any insecure fastening permits the clothes to be forced through the opening, which is very destructive to them and greatly interferes with the operation. If the doors were sprung open, they would come in contact with the outer tub-cylinder, causing great damage to the entire machine and damaging the clothes. Further, it is also desirable to avoid sharp or rough projections at the inner-cylinder door-opening, upon which the clothes might catch and become damaged.

I have only shown the fragment of a cylinder A in Figs. 1, 2, and 3. This cylinder

is provided with an opening which is closed by doors hinged to the opposite margins of the opening. My invention relates to the details of construction of these doors and the method of locking them, the object being to give greater strength against internal pressure.

B B represent heads of the cylinder, (see Fig. 1,) and b an axle. (See Fig. 1.) To one margin of the cylinder defining the door-opening is hinged a wide door-section C, the detail being as follows: The section C is of the same curvature as the cylinder A. The hinged inner end of door-section C is bent under the adjacent edge of the cylinder A, as shown in Figs. 2 and 3.

a is a plate bolted to plate C, hinged at a' to the plate a^2 , bolted to the cylinder A; a , a' , and a^2 forming an external hinge.

c represents a plate bolted onto the under side of the door-section C and terminating at its inner edge flush with the bent end of said door-section C.

On the outer edge of the door-section C is the catch F, the opening f thereof facing toward the hinges $a a' a^2$. (See Fig. 3.)

D represents a narrower folding door-section hinged to the margin of the cylinder defining the door-opening opposite the door-section C. The inner edge of this plate D is downwardly bent, as shown in Figs. 2 and 3, to lie under the adjacent cylinder-section A, the main section of said plate D being of the same curvature as the cylinder A and lapping over the outer edge of the section C.

$d d' d^2$ constitute an external hinge bolted to the door-section D and to the adjacent cylinder A.

The plate D and hinges $d d' d^2$ are provided with openings e , which pass over the projecting latches F of the door-section C when the sections C D are closed. The outer ends of these hinges $d d' d^2$ are cast to form locking-bar casings E, having openings parallel with the door-section D facing toward the hinges. Within these openings are seated coil-springs I, mounted upon rods i , projecting through the closed end of the casings E.

G represents a locking-bar extending across the cylinder in a direction parallel with the

axis and adapted to be compressed into the openings of the casings E when the doors are unlocked and to be forced by the springs I into the openings of the latches F when the door-sections are locked. As shown in Fig. 1, there are three of these casings E for containing the locking-bar G and three cooperating latches F, it being obvious that the openings in the catches F face those in the casings E when the door-sections are closed. As a means for moving the bar G, I show the cams *h*, provided with handles H. The cams are pivoted to the plates *h*², which plates are secured to the door member D. These cams engage the edge of the bar G and when turned transversely to the axis, as shown in Fig. 1, they force the bar G into the openings of the casings E, unlocking the door, and when given a quarter-turn they present the flat sides of the cams *h* to the edge of the bar G and allow the springs I to force the bar G into the openings of the catches F, and so lock the doors together.

J is a handle on the door-section C for opening the same.

The peculiar construction shown of the upwardly-extending latches upon the underlapping door-section, which project up through openings in the overlapping door-section, permits of the use of the heavy locking-bar G, extending completely across the width of the doors from end to end of the cylinder.

Having described my invention, I claim—

1. A closing device for washing-machine cylinders, comprising two plates oppositely hinged to the cylinder and overlapping at their meeting edges, the upper plate being provided with openings, the under plate having catches projecting upward, and extending through said openings, casings on said upper plate, said catches and casings having oppositely-arranged openings, a bar extending from end to end of said plates, said bar be-

ing held in the openings in said casings, and adapted to be forced into the openings of the catches, means to force said bar into the last-named openings and means to force said bar therefrom.

2. A closing device for washing-machine cylinders, comprising two plates oppositely hinged to the cylinder and overlapping at their meeting edges, the upper plate being provided with openings, the under plate having catches projecting upwardly through said openings, casings on said upper plate, said catches and casings having oppositely-arranged openings, a bar extending from end to end of said plates in the casing-openings, springs in said casing-openings adapted to force said bar outwardly, into the catch-openings when the plates are closed, and cam-levers on the overlapping plate engaging said locking-bar and adapted to force the same out of said catch-openings, substantially as specified.

3. A closing device for washing-machine cylinders comprising two plates oppositely hinged to the cylinder and overlapping at their meeting edges, the overlapping plate having external hinges, on the outer edges of which are integrally-formed casings, said overlapping plate and its hinges having openings, the underlapping plate having catches upwardly projecting through said openings, said casings and catches having oppositely-arranged openings, a locking-bar in the casing-openings, means for forcing said bar into the catch-openings, and means for forcing said bar therefrom, substantially as specified.

In testimony whereof I have hereunto set my hand.

NATHANIEL G. NUNN.

Witnesses:

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