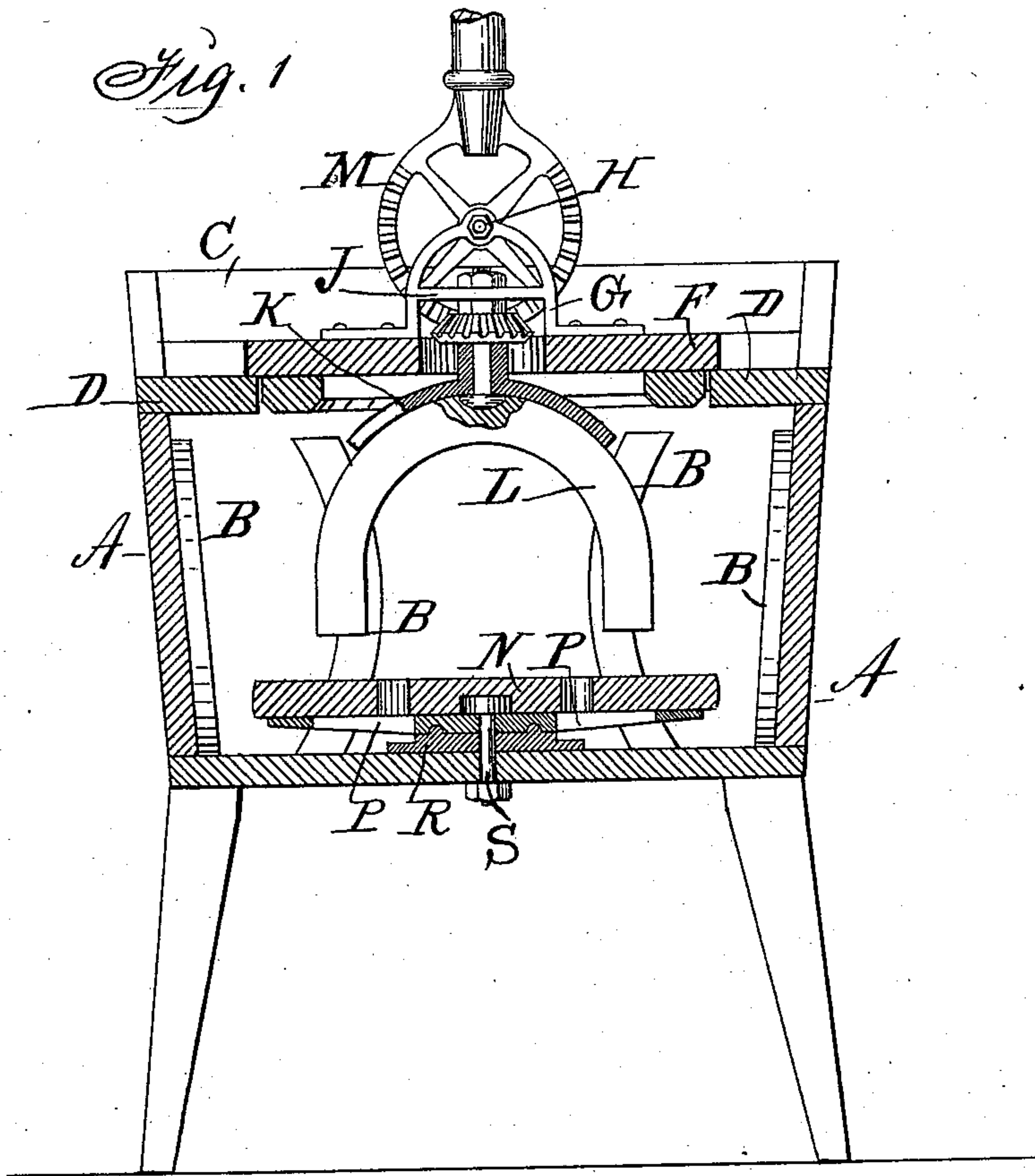


(No Model.)

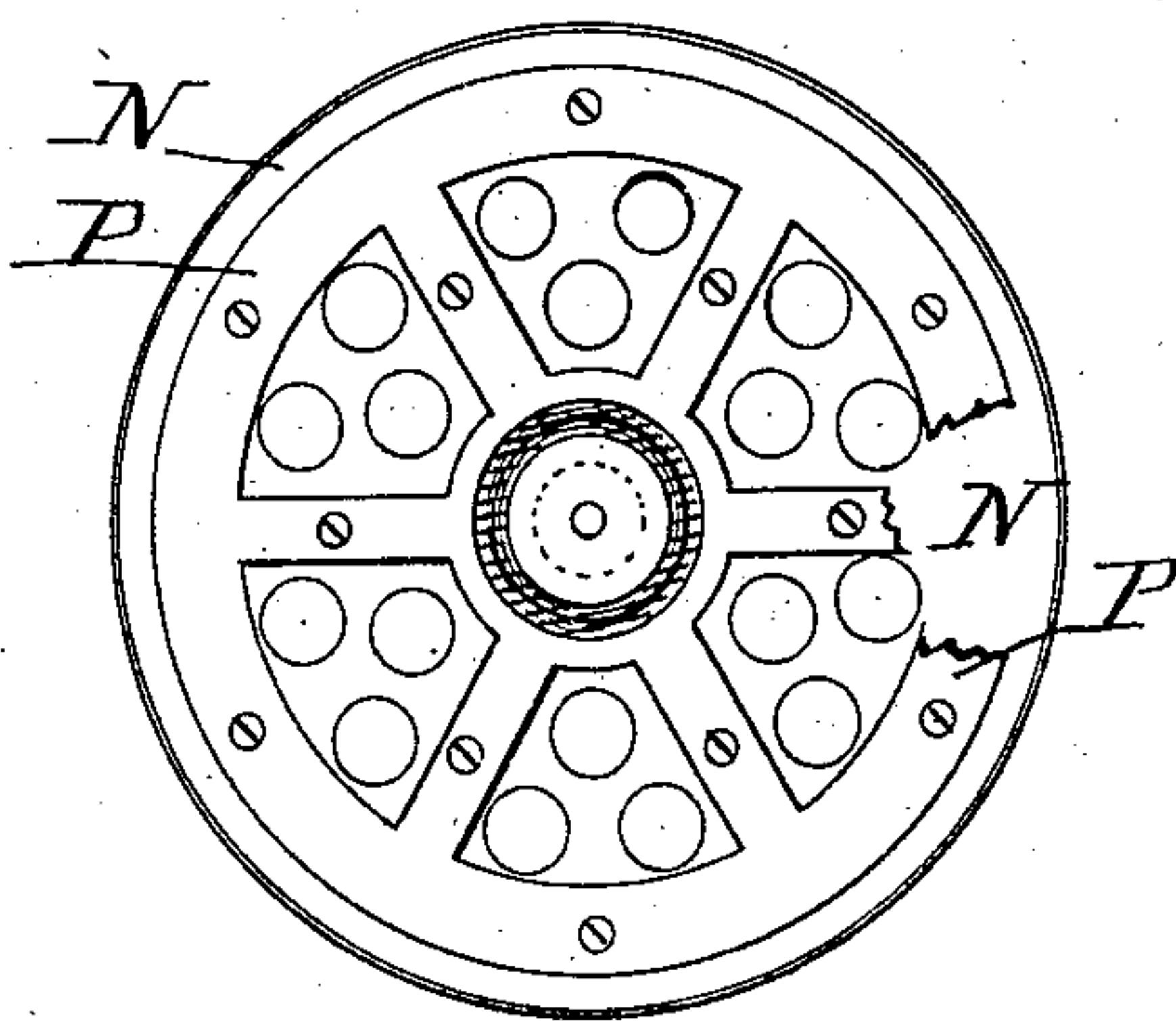
J. HEAIVILIN.  
WASHING MACHINE.

No. 363,824.

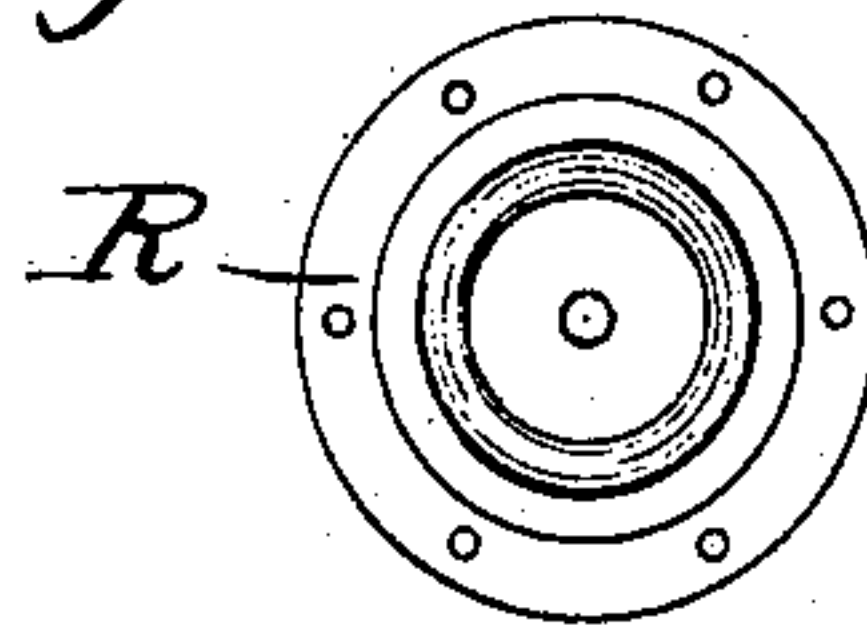
Patented May 31, 1887.



*Fig. 2*



*Fig. 3*



Witnesses:  
Orra B. Moore,  
W. A. Anderson, }

Inventor:  
Jeremiah Heavilin,  
By Thomas G. Orwig, Atty.



# UNITED STATES PATENT OFFICE.

JERAMIAH HEAVILIN, OF DES MOINES, IOWA.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 363,824, dated May 31, 1887.

Application filed November 27, 1885. Serial No. 184,013. (No model.)

*To all whom it may concern:*

Be it known that I, JERAMIAH HEAVILIN, of Des Moines, in the county of Polk and State of Iowa, have invented an Improved Washing-Machine, of which the following is a specification.

My invention relates to that class of machines in which the rubbing device is connected with a hinged or detachable tub-cover and has a circular reciprocating motion that will move clothing back and forth over a yielding wash-board surface pivoted in the bottom of the tub.

My improvement consists in the construction and combination of a detachable semi-circular rubbing device with a detachable tub-cover, a fixed metal frame, a driver-wheel, and a pinion and bolt in such a manner that the rubber can be raised and lowered relative to the clothing on the wash-board in the tub; in the construction and combination of a perforated wooden circular wash-board with a metal frame, a circular plate, and screw-bolt, with the bottom of a tub in such a manner that the wash-board can rotate horizontally when the clothing is pressed upon it by the reciprocating rubber, and also in such a manner that water can pass up and down through the wash-board and clothing while the machine is in operation, all as hereinafter fully set forth, and pointed out in my claims.

Figure 1 of my accompanying drawings shows a vertical central section of my machine. Fig. 2 shows my perforated circular wash-board in an inverted position. Fig. 3 is a top view of the circular plate upon which the circular bottom rests and revolves. Jointly considered, these figures clearly illustrate the construction and operation of my complete invention.

A A represent the sides of a wooden tub of common form mounted upon legs.

B B are curved ribs fixed to the inside faces of the tub in vertical positions, and with their convex sides toward each other in such a manner that they will aid in rubbing the clothing and agitating and circulating the water through the meshes of the fabrics that are rubbed in the tub.

C is a vertical extension at one of the ends of the tub adapted to support a wringer.

D D are portions of a fixed top and cover

that brace the sides and support the detachable cover.

F is a detachable wooden cover. It has an opening in its center, through which a pinion is passed.

G is a metal frame fixed on top of the cover. It has an arched top and bearing, H, to support a drive-wheel, and a cross-piece, J, from which to suspend the reciprocating and adjustable rubber.

K is the metal portion of my rubber. It has a tubular vertical extension at its center and a pinion at the top of the extension formed integral therewith.

L is the wooden portion of the rubber, preferably made of a single piece of oak and of a semicircular or U-shape. A screw-bolt is passed upward through the vertical extension and pinion of the metal part K. A cavity is formed in the wooden part L for the reception of the head of the bolt, and the metal part then fixed on the convex side of the wooden part by means of screws, or in any suitable way, as shown in Fig. 1.

To adjustably connect the rubber thus formed with the cover I first place a nut on the screw-threaded end of the bolt that projects through the pinion, and then pass the same end through a perforation in the part J of the frame G and place a nut upon the end of the bolt to retain it suspended in such a manner that it will serve as an axle around which the pinion and rubber K L can be circularly reciprocated by means of a segmental gear or driver, M, that is mounted in the bearing H and engages the pinion on the upper end of the tubular portion of the metal part K.

N is a circular and perforated wooden wash-board and platform, upon which clothing is rubbed by the reciprocating rubber.

P is a metal frame fixed to the under side of the wooden board by means of screws, or in any suitable way. It has a perforation in its center and a concentric circular groove.

R is a circular plate fixed in the center and on top of the bottom of the tub. It has a circular bead that fits into the circular groove in the frame P, to aid in keeping the complete movable wash-board in a central and level position.

S is a bolt that is passed through the frame P before the frame is fixed to the wooden



perforated board N. A cavity in the under side and center of the board N admits and conceals the head of the bolt.

To connect the wash-board thus formed with the tub, I simply bore a hole through the center of the tub-bottom and pass the bolt downward through the fixed plate R and the bottom of the tub, and then secure it by means of a nut, as shown in Fig. 1, in such a manner that it can be revolved upon the plate R, as required, to accommodate itself to the movements of the articles pressed and rubbed upon it.

From the foregoing description of the construction and function of each part the practical operation of my complete machine is obvious.

I am aware that a tubular metal shaft having a square bottom and a pinion at its top has been fixed to the cross-bar of a dasher or rubbing device provided with adjustable extensions at its lower end, and that such an extensible rubbing device has been combined with a bearer or frame fixed to a cover by means of a detachable screw-bolt and a single nut, to be suspended and rotated in reverse ways within a tub; but my manner of constructing a rubber having a rod or screw-bolt permanently connected therewith and combining the complete rubber with a cover having an opening for the passage of the pinion on the end of the tubular shaft, and a metal frame and bearer fixed to the cover over the opening in such a manner that the complete rubber can be readily adjusted vertically relative to the cover without detaching the tubular shaft and pinion from the rubber, and ad-

vantageously operated without allowing the lower ends of the corrosive metal shaft and metal bolt from coming in contact with the articles washed in the tub, is novel.

I am also aware that a perforated bottom or carrier has been pivoted in the bottom of a tub in various ways; but my manner of constructing a rotating wash-board by combining a metal frame and a wooden board and a bolt so as to cover the metal frame and the bolt with the wood, and my manner of combining the complete rotating circular wash-board with the bottom of the tub, so that its friction and motion can be regulated by means of a nut on the pivotal bolt, as required, to rub clothing upon its top surface, is novel and greatly advantageous.

I claim as my invention—

1. In a washing-machine, the metal frame K, having an integral tubular shaft and pinion, the wooden frame L, having a cavity in its top surface, and a screw-bolt having its head inclosed in said cavity in the wood and its threaded end projected through said shaft and pinion, constructed and permanently connected as shown and described, for the purposes stated.

2. The combination of the metal frame P, the wooden board N, having a cavity in its under side and center, the metal plate R, and a screw-bolt, S, with the fixed bottom of a tub, substantially as shown and described, for the purposes stated.

JERAMIAH HEAVILIN.

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