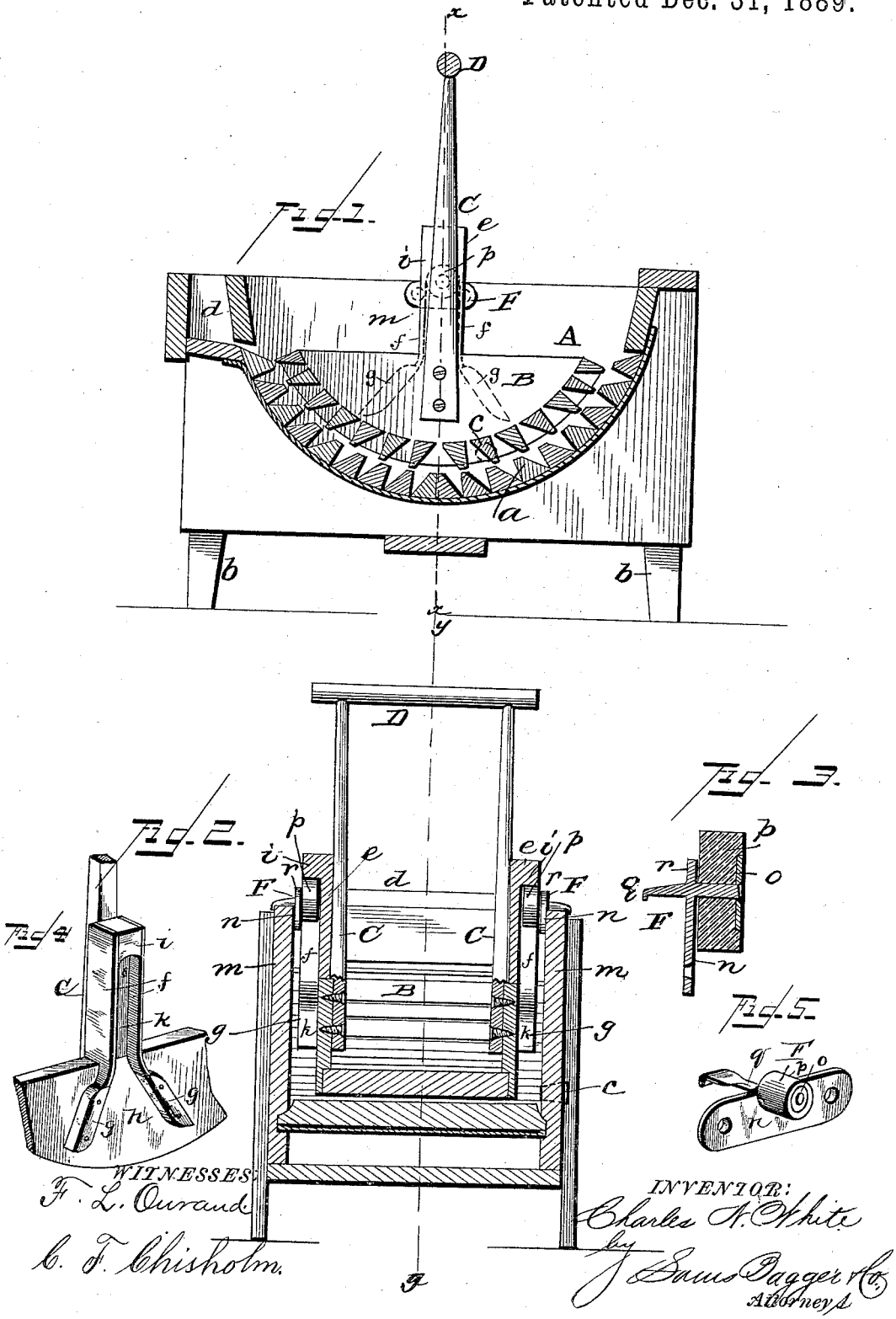
(No Model.)

C. N. WHITE.

WASHING MACHINE.

No. 418,431. Patented Dec. 31, 1889.



UNITED STATES PATENT OFFICE.

CHARLES N. WHITE, OF CHAUNCEY, ASSIGNOR OF ONE-HALF TO ROSCOE J. GROVES, OF DAVIS STATION, MICHIGAN.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 418,431, dated December 31, 1889.

Application filed September 26, 1889. Serial No. 325,142. (No model.)

To all whom it may concern:

Be it known that I, CHARLES N. WHITE, a citizen of the United States, and a resident of Chauncey, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in washing-machines, and has for its object to provide improved bearings for a machine of the class or type having a concavo-convex segmental rocking rubber operating in conjunction with a concave ribbed suds-box. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical longitudinal section of the machine. Fig. 2 represents a vertical cross-section of the same on line *x x* in Fig. 1. Fig. 3 is a sectional view of one of the bearings shown in Fig. 2, and Figs. 4 and 5 are detail views.

Like letters of reference denote corresponding parts in all the figures.

The letter A designates a suds-box of the usual construction employed in this class of washing-machines, semicircular, or nearly so, in longitudinal section, as shown in Fig. 1, and having its interior provided with slats or ribs *a*, giving it the appearance of corrugated metal. The box A is mounted on legs *b*, is provided with a faucet or plug *c* for drawing off the water, and has a soap-box *d* at one end.

To the sides *m* of the suds-box A are attached the anti-friction trunnion-bearings F, to the peculiar construction and arrangement of which I desire to call particular attention, as well as to the rubber bearings which register with said bearings F. The bearing F is composed of the following parts: A plate *n*, attached to the inside of the side pieces *m* and having an upward extension *r*, which, together with a portion of the plate, forms a washer, a trunnion *q*, fixed in said plate, having its outer end supported by the side piece *m* and its inner end furnished with a fixed washer *o*, and an anti-friction wheel *p*, mounted on said trunnion. This wheel has a countersink on the inner side, which receives the washer *o*, and thus the wheel is flush with the end of the trunnion.

The rubber B is segmental in form and of the usual construction, having slats or ribs corresponding to those of the suds-box, (designated *a*). Fastened to the inside of the rubber are the uprights C, connected by the cross-brace D, which may also serve as a handle to operate the rubber. The standard C is re-enforced by a strip *e*, of hard wood, the thickness of the side piece of the rubber, and with this strip the end of the anti-friction roller comes in contact. The width of the strip *e* is slightly greater than the diameter of the friction-roller, and to its sides are fastened the metallic strips *f*, which project beyond the face of the strips *e* nearly the axial length of the wheel *p*, and form in effect a groove *k*. The lower ends of the strips *f* are curved slightly from each other and have their inner edges embedded in the side pieces of the rubber. To the side pieces of the rubber are fixed two wooden guides *g*, placed at an angle, as shown, and having their upper ends abutting against the bottom ends of the strips *f*. The relative position of these guides, together with the bottoms of the strips *f* being bent from each other, constitutes, essentially, triangular ways, as shown at *h*, leading to the bearing above. This bearing is formed by the strips *f*, in conjunction with the block *i*, concaved on the under side to fit the wheel *p*. By using the material designated and the construction described several advantages are gained. The bearing F is at the same time compact and very easy of operation. The guides *g*, being of wood, are not as apt to catch the clothes as if the strips *f* were continued downward in their places. By the same arrangement the metallic strips are kept entirely out of contact with the clothes, and thus they are unlikely to be stained by rust. At the same time the ways *h* make it possible to insert or withdraw the rubber with the greatest facility and at any angle. By having the re-enforcing and bearing strip *e*, to which the strips *f* are fastened, of slightly-

greater width than the diameter of the wheel *p*, as heretofore pointed out, the rubber will always work easily and will adapt itself to any amount of clothing in the machine.

The operation of the machine is similar to that of all machines of this class, and need not be particularly detailed.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination, in a washing-machine of the class described, with a suds-box having anti-friction trunnion-bearings comprising the plate *n*, trunnion *q*, fixed washer *o*, and wheel *p*, of the rubber having the upright C, re-enforcing and bearing strip *e*, metallic strips *f*, guides *g*, and block *i*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

CHARLES N. WHITE.

Witnesses:
CORNELIUS J. DE YOUNG,
ALBERT ROOT.