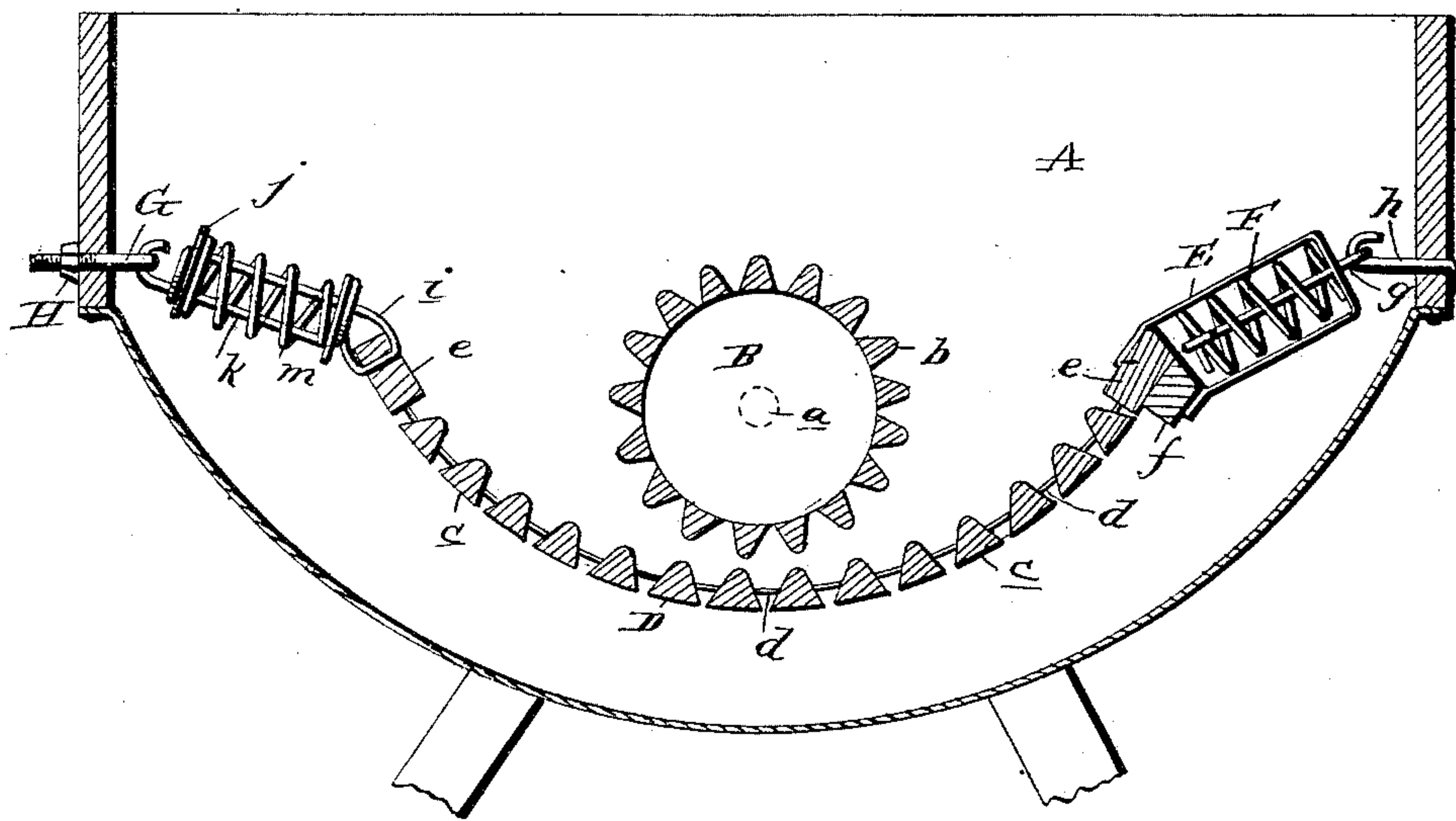
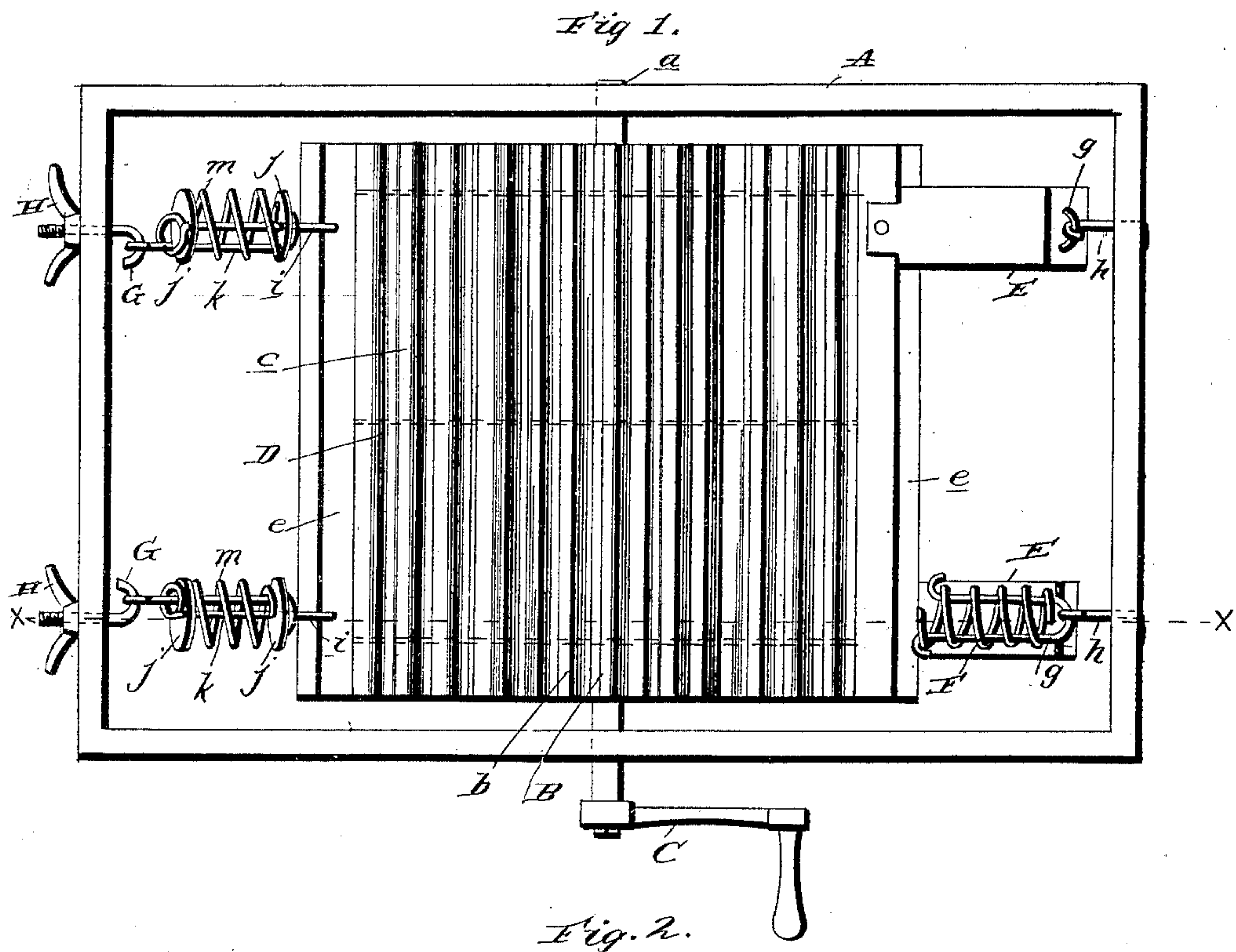


(Model.)

C. R. WOOD.
WASHING MACHINE.

No. 450,718.

Patented Apr. 21, 1891.



Witnesses:
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UNITED STATES PATENT OFFICE.

COMMODORE R. WOOD, OF WILLOW POINT, TEXAS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 450,718, dated April 21, 1891.

Application filed October 18, 1890. Serial No. 368,614. (Model.)

To all whom it may concern:

Be it known that I, COMMODORE R. WOOD, a citizen of the United States, residing at Willow Point, in the county of Wise and State of Texas, have invented certain new and useful Improvements in Washing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to improvements in that class of washing-machines known as "roller and bed;" and it consists of a rubber-bed adapted to operate in conjunction with a rotatory rubber and constituting transverse rubbing-strips flexibly connected together and connected by yielding springs to the end walls of the tub or casing, the resiliency of said springs and the consequent rigidity of the bed being regulated by tightening screw-nuts upon the hooks which connect the springs with the end walls of said casing.

The improvements will be fully understood from the following description and claims when taken in connection with the accompanying drawings, in which—

Figure 1 is a top plan view of my improved machine, and Fig. 2 is a vertical longitudinal sectional view of the same, taken in the plane indicated by dotted line *xx* on Fig. 1.

Referring by letter to said drawings, A indicates the body or tub of my machine, which may be of any suitable form and material, but is preferably of the rectangular form shown, and is provided with a concaved bottom to better accommodate the rubbing-bed, which lies in a concaved position.

Journaled at a suitable elevation in the side walls of the tub or casing A is the shaft *a* of the transverse rotatory cylinder B, which may be solid or hollow, and is provided upon its periphery with rubbing-strips *b*, which are arranged at a proper distance apart and are preferably rounded at their rubbing ends, as illustrated, and keyed upon the end of the shaft *a* of said cylinder B is a crank-arm C, whereby said shaft is turned.

The flexible rubber-bed D, which normally assumes the position shown with respect to the cylinder B, constitutes transverse slats, as

c, which may be of any suitable form and are connected by flexible rods *d*, which take through said slots adjacent to their ends to transverse end slats *e*, which are preferably larger than the rubbing-strips and are designed to receive the devices for attaching the rubber-bed to the end walls of the tub or casing. On the under side of one of the end strips *e*, I prefer to attach blocks *f*, whereby the spring-casing may be attached to said strip; but it is obvious that, if desired, the strip itself might be made of a thickness suitable for the attachment of the casings. These spring-casings E, of which there are preferably two employed, are formed by bending a strip of metal into a rectangular loop, as shown, and the ends of this loop are attached by a bolt or the like to the strip *e* and the block *f*, if employed, which they receive between them, and occupying a longitudinal position in said casing is a looped spring-retractor *g*, which plays through a slot or apertures in the head of casing E, as will be presently described. The ends of these retracting-loops *g* are hooked or bent outwardly, as shown, to receive the lower end coil of a coiled spring F, the upper coil of which rests against the head of the casing, and by the employment of these springs it will be seen that the rubber-bed D is endowed with resiliency, and through the medium of the looped casings E the clothes are prevented from being hooked in the springs. The upper or looped ends of the spring-retractor *g* take over and are secured to the end wall of the casing by hooks *h*, which are suitably fastened at proper points in said end wall.

Secured in a hooked manner at suitable points to the other end strip *e* are spring-retractors *i*, which take through two disks *j*, held a suitable distance apart by a coiled spring, as will be presently described, and the upper end of the said retractor *i* is looped or coiled in a suitable manner upon the upper disk, as shown. Passing through the two disks *j* and looped or coiled at its lower end against the underside of the lower disk is another spring-retractor *k*, the upper end of which is looped or hooked and takes over a hook adjustably fixed in the end wall of the casing, as will be presently described. Surrounding the two

spring-retractors *i* and *k* is a coiled spring *m*, which has its ends resting against the disks *j*, as shown.

It is obvious that, if desired, a casing of suitable form might be employed to envelop the springs *m* and the disks *j*, &c.; but ordinarily no such casing is required.

G indicates the hooks which receive the upper hooked ends of the respective retractors *k* and serve to connect one end of the rubbing-bed to one end wall of the casing. These hooks *G*, which are placed at suitable points in one end wall of the tub or casing, have their straight branches or shanks threaded, as shown, to receive adjusting-nuts *H*, which rest against the outside of said wall and are preferably provided with wings, whereby they may be easily turned by the hand.

By the employment of the two sets of springs, as set forth, it will be seen that a yielding rubber-bed is afforded, which will readily give when a bulk of clothes passes beneath the roller, and thus prevent tearing any of the fabric, and through the medium of the adjusting-nuts and the threaded hooks, together with the form of springs intermediate of said hooks and the bed-rubber, it will be seen that the resiliency of said bed may be fixed and its rigidity increased or diminished, as desirable.

In the practice of my invention it is obvi-

ous that such modifications may be made in the several parts as fairly fall within the scope of my improvements.

Having described my invention, what I claim is—

In a washing-machine, substantially as specified, the combination, with the tub, the hooks fixed in one of the end walls thereof, the hooks *G*, having threaded shanks and arranged in the opposite wall of the tub, and the threaded thumb-nuts on the latter hooks adapted to adjustably fix the same, of a rubber-bed comprising flexibly-connected transverse strips, the coiled retracting-springs *m*, the disks *j* at the respective ends thereof, and the rods *i*, taking through said spring and disks and connected, respectively, to the hooks *G* and the rubber-bed, the looped spring-retractors connected to the fixed hooks *h* and having their ends hooked to engage the coils of the retracting-spring, the said coiled spring surrounding the retractor, and the casings fixed on the retractors *g* and having their ends connected to the end of the rubber-bed, substantially as specified.

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