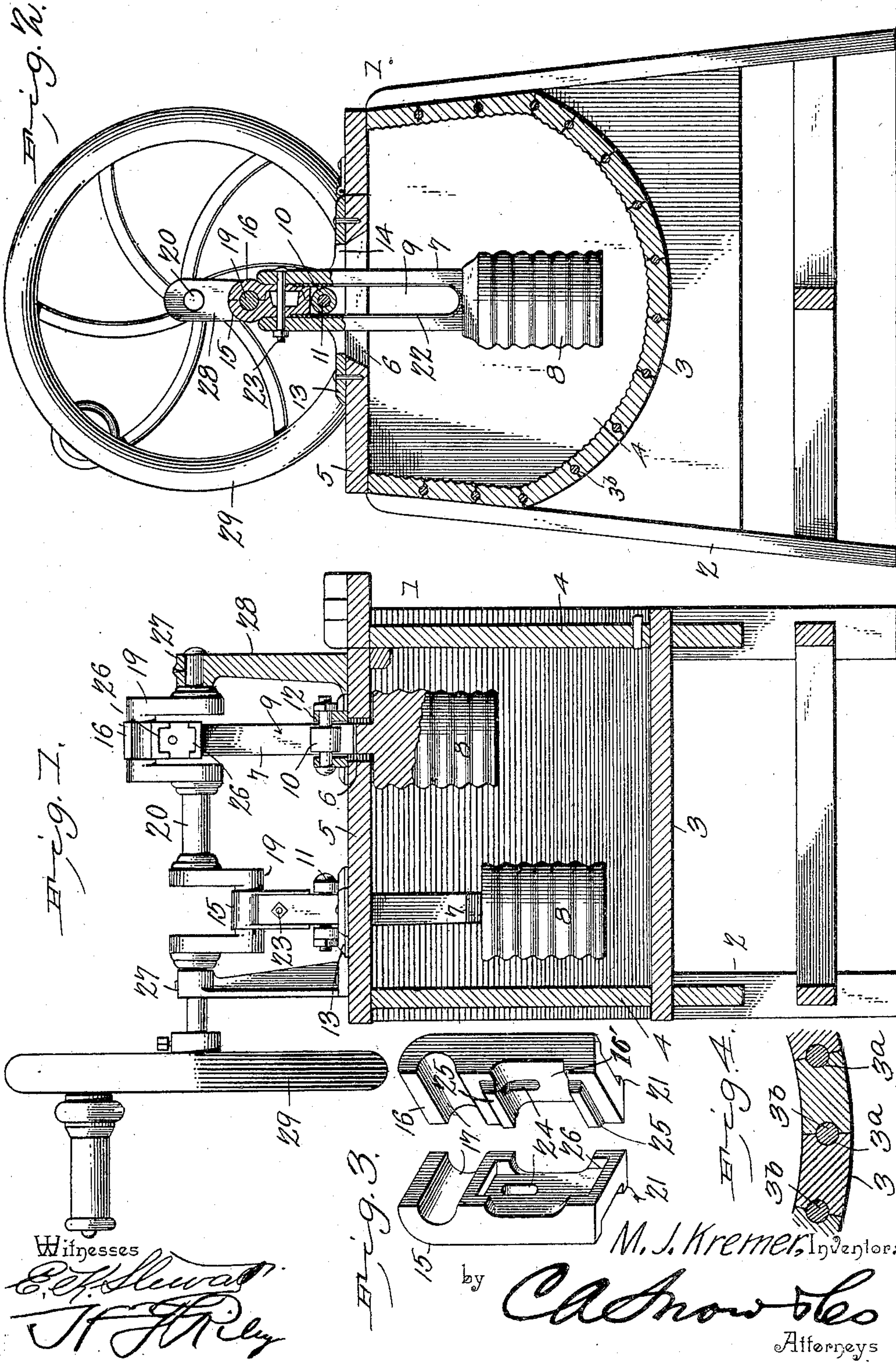


No. 725,260.

PATENTED APR. 14, 1903.

M. J. KREMER.
WASHING MACHINE.
APPLICATION FILED OCT. 29, 1902.

NO MODEL.



UNITED STATES PATENT OFFICE.

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WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 725,260, dated April 14, 1903.

Application filed October 29, 1902. Serial No. 129,318. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL J. KREMER, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented a new and useful Washing-Machine, of which the following is a specification.

The invention relates to improvements in washing-machines.

The object of the present invention is to improve the construction of washing-machines and to provide a simple, inexpensive, and efficient one adapted to be readily operated and capable of enabling clothes and other fabrics to be rapidly and thoroughly washed.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a vertical sectional view of a washing-machine constructed in accordance with this invention. Fig. 2 is a similar view taken at right angles to Fig. 1. Fig. 3 is a detail perspective view of one of the sectional boxes or bearings, the parts being separated to show the interior construction. Fig. 4 is an enlarged detail view illustrating the construction of the joint of the bottom of the washing-machine body.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a washing-machine body or tub mounted in a suitable frame or stand 2 and provided with a curved bottom 3 and having sides 4, forming continuations of the bottom and converging upward slightly, as clearly shown in Fig. 2. The curved bottom is composed of transverse sections or pieces, provided in their adjacent edges with grooves 3^a, approximately semicircular in cross-section and receiving round rods 3^b, which overlap the joints and which are adapted to swell in the openings, whereby a water-tight joint is effected. The sides 4 and the curved bottom are provided with a suitable rubbing-surface, preferably formed by corrugating or

fluting their inner faces. The ends of the washing-machine body conform to the configuration of the sides and bottom and are suitably secured to the same. The washing-machine body is provided at the top with a hinged lid or cover 5, having slots 6, through which extend stems 7 of clothes-engaging devices 8. The clothes-engaging devices, which are approximately cylindrical, are provided with annular grooves or corrugations, forming ribs, which are adapted to engage the clothes and other fabrics to be washed when the devices 8 are moved vertically and swung horizontally, as hereinafter explained. The stems 7 are provided with longitudinal openings or slots 9, which receive antifriction-rollers 10, forming pivots for the stems and adapted to fulcrum the same. The antifriction-rollers are mounted on pivot-bolts 11 or other suitable devices, which are supported in perforated ears 12 of plates 13, secured to the upper face of the lid or cover and provided with slots or openings 14, registering with the openings of the lid or cover. The openings of the stems extend to the upper ends thereof and receive sectional boxes or bearings. The boxes or bearings are composed of sections 15 and 16, provided at their tops with inner transverse grooves 17, forming bearing-openings for cranks 19 of a shaft 20. The sections 15 and 16 are provided at their outer faces with longitudinal side flanges 21, forming grooves for the reception of the side portions of the stems 7, and these grooves also receive the sides of a resilient lining 22, located within the opening or slot 9 of the stem 7 and adapted to receive the wear. The lining 22 is preferably made of brass and approximately U-shaped, and the resiliency thereof holds it against lateral displacement, and it is held against longitudinal movement by the fastening device 23, which connects the sections of the boxes or bearings and which secures the same to the stems. The fastening device 23 passes through perforations of the sides of the stem 7 and is arranged in slots or openings 24 of the sections 15 and 16, which are also interlocked by means of lugs 25, formed integral with the section 16

and fitting in recesses 26 of the section 15. The lower portions of the sections 16 are recessed or cut away, as shown at 16', and the lugs are arranged at the top and bottom of this recessed or cut-away portion. The crank-shaft 20 is provided with oppositely-disposed crank-bends arranged in the bearing-openings of the boxes or bearings and adapted to reciprocate the stems when the shaft is rotated. The stems are slidably fulcrumed on the top of the washing-machine body by means of the pivots formed by the antifric-tion devices, and when the shaft is rotated the clothes-engaging devices will be raised and lowered and will be swung horizontally, thereby thoroughly rubbing the clothes against the bottom and sides of the body and enabling the fabrics to be rapidly and thor-oughly cleaned. The crank-shaft is provided at one end with a balance-wheel, and it is jour-naled in suitable bearings 27 of standards 28, which are mounted on the lid or cover of the washing-machine body at the outer sides of the slots or openings of the same. The bal-ance-wheel 29 is provided with a crank-han-dle and is adapted to be rotated to operate the washing-machine.

What is claimed is—

1. A washing-machine comprising a body, clothes-engaging devices provided with stems having longitudinal slots, fulcruming devices mounted on the body and arranged in the slots of the stems, bearings secured in the slots of

the stems, linings arranged in the slots and having their ends interposed between the bearings and the sides of the stems, and a crank-shaft having cranks arranged in the bearings, substantially as described.

2. A washing-machine comprising a body, clothes-engaging devices having slotted stems, sectional bearing-boxes arranged in the slots of the stems and provided at their sides with flanges forming exterior grooves, linings arranged in the slots and having their ends fitted in the grooves, fulcruming devices mounted on the body and arranged within the slots of the stems, and a crank-shaft hav-ing cranks arranged in the bearings substan-tially as described.

3. A washing-machine comprising a body, clothes-engaging devices provided with stems having slots, bearings or boxes composed of sections arranged in the slots, one of the sec-tions of each box being provided with oppo-site recesses and the other having lugs fitted in the recesses, fastening devices securing the bearings or boxes in the slots, and a crank-shaft having cranks arranged in the bearings or boxes, substantially as described.

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

MICHAEL J. KREMER.

Witnesses:

WALDO BECKER,
SARAH W. TAYLOR.