(No Model.) 2 Sheets—Sheet 1.

D. B. WAGNER.

WASHING MACHINE.

No. 413,817. Patented Oct. 29, 1889.

Fig. 6.

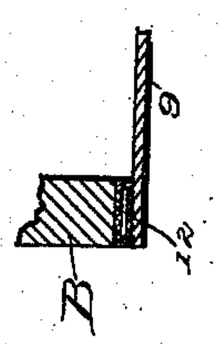


Fig. 2.

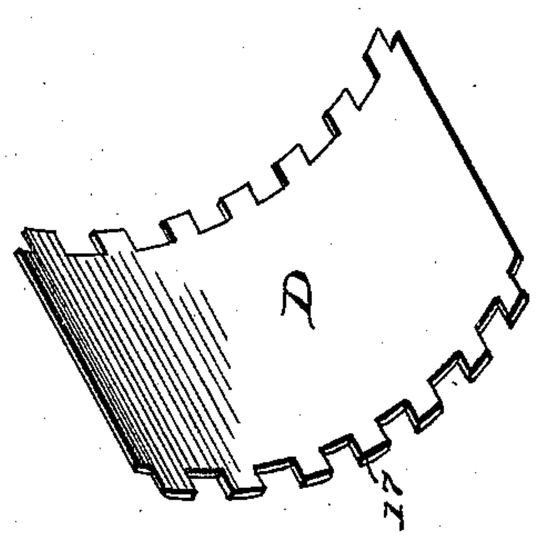
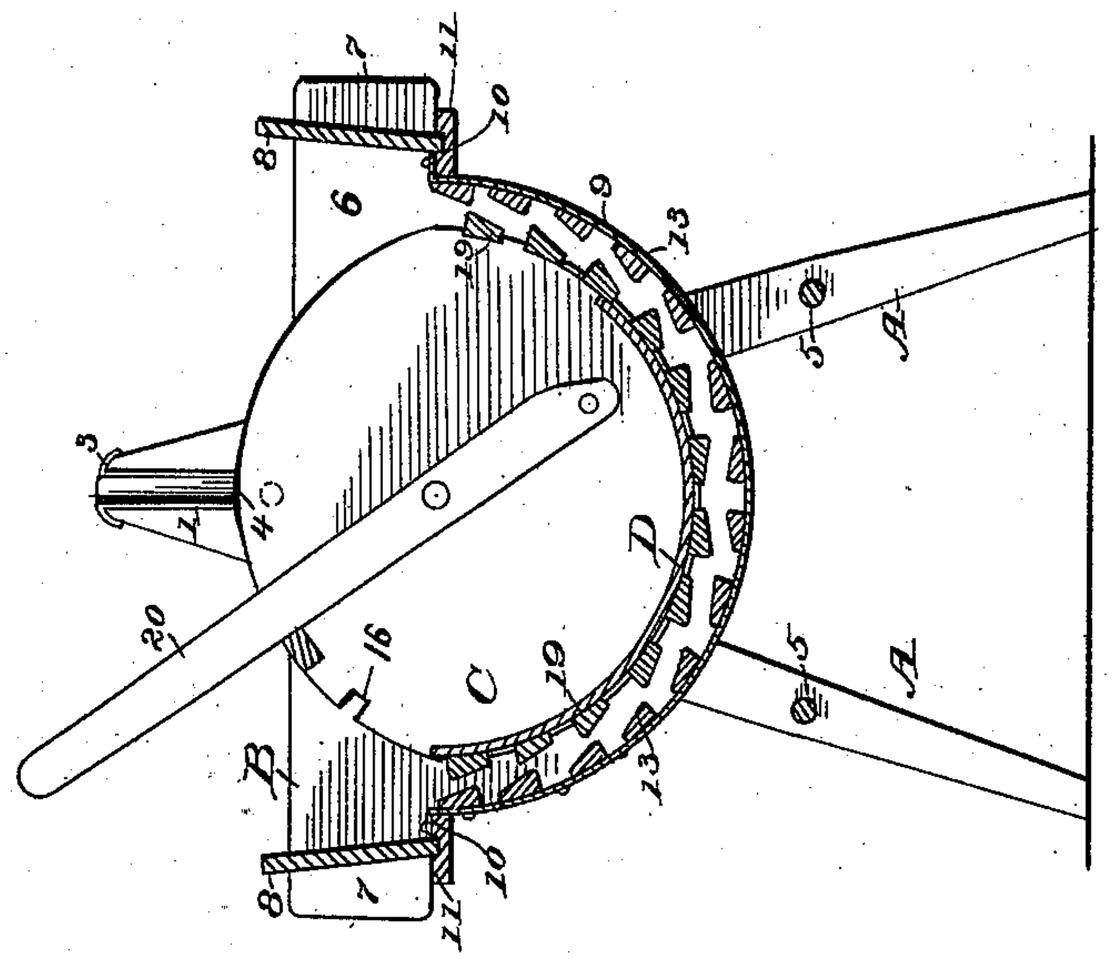


Fig. 1.



Witnesses

G. W. Taubenschmidt.

F. H. Sommers.

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By his Attorney

A. G. Heyneman

(No Model.) 2 Sheets—Sheet 2.

D. B. WAGNER.

WASHING MACHINE.

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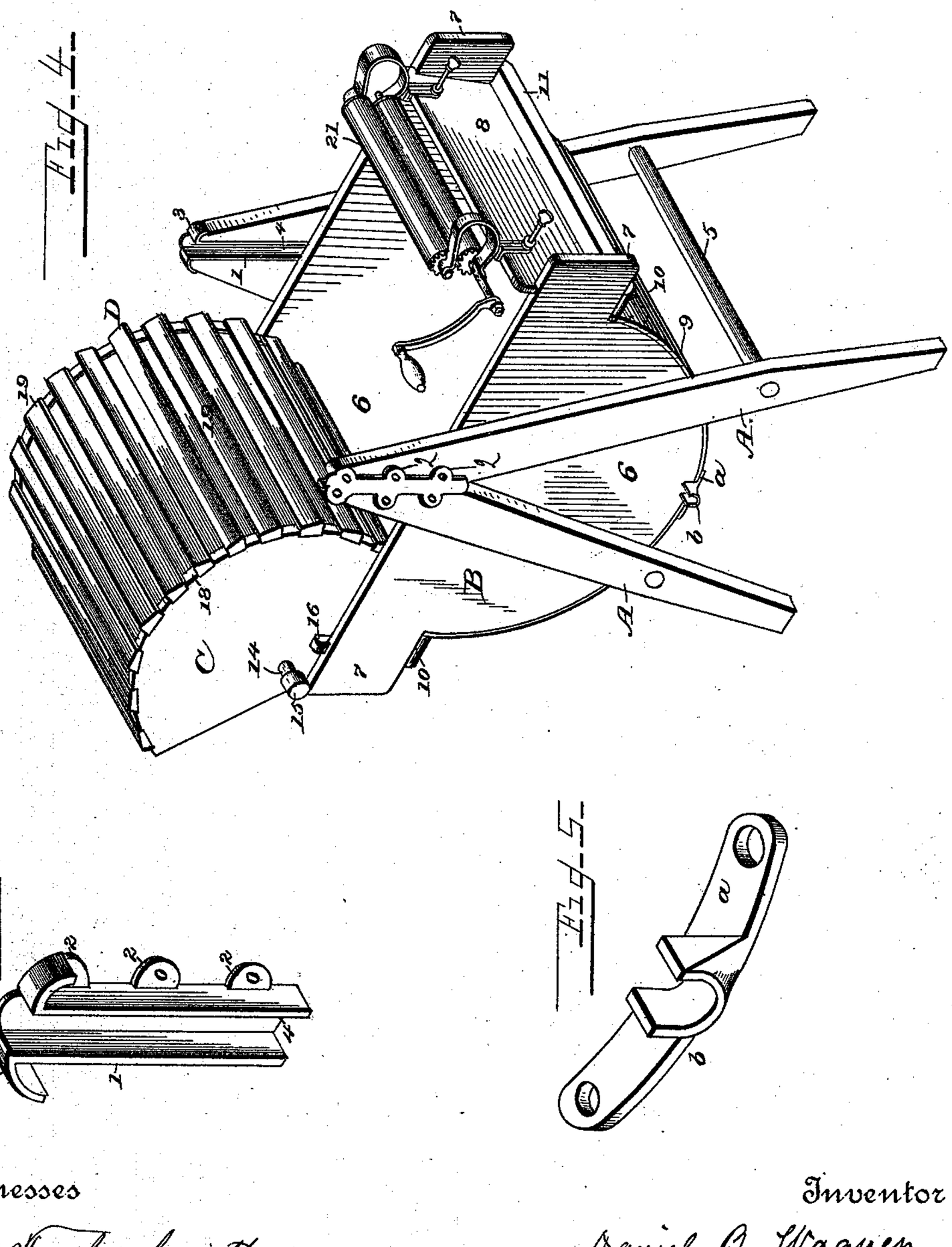

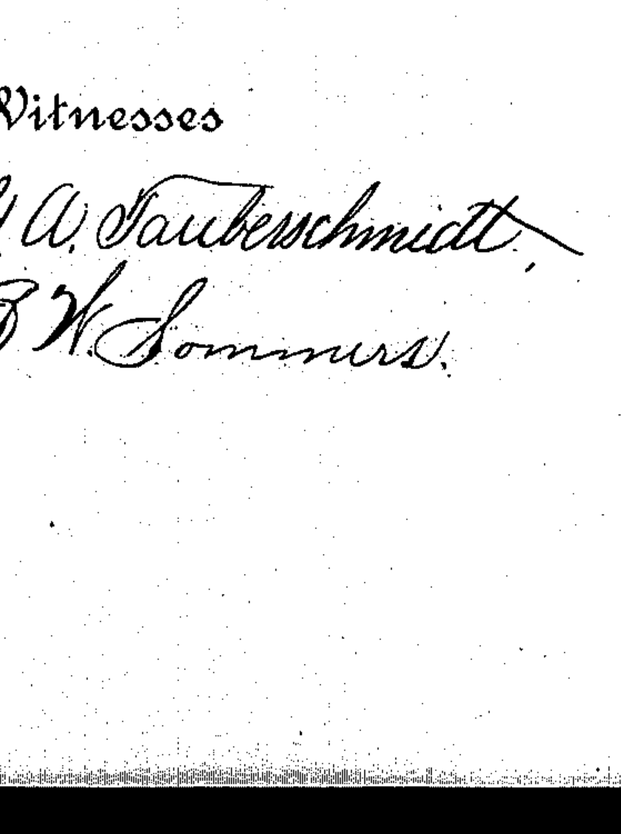

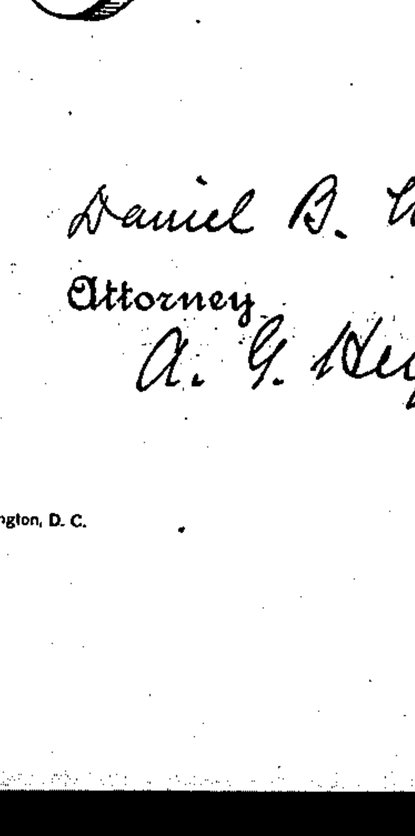

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UNITED STATES PATENT OFFICE.

DANIEL B. WAGNER, OF CAREY, OHIO.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 413,817, dated October 29, 1889.

Application filed April 9, 1889. Serial No. 306,496. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. WAGNER, a citizen of the United States of America, residing at Carey, in the county of Wyandotte and State of Ohio, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention has relation to washing-machines; and the object is to improve the construction and operativeness of existing machines of the class. My invention therefore consists in the novel construction of parts and their combination, as will be hereinafter fully specified and described, and particularly as the same is pointed out and distinctly claimed, as required by the statute.

I have fully illustrated my improved washing-machine in the accompanying drawings, wherein—

Figure 1 is a longitudinal section taken through the tub and rubber. Fig. 2 is a perspective of the metal lining of the rubber. Fig. 3 is a view of one of the brackets which unite the upper ends of the supports, showing the channel in which the journal of the rubber engages. Fig. 4 is a perspective of the complete machine, showing the rubber turned back and a wringer mounted on the end board of the machine. Fig. 5 is a detailed perspective view of the bracket-spout. Fig. 6 is a detail sectional view of a part of one side of the tub, the metallic bottom, and the lining-plate between the side and metallic bottom.

Reference being had to the drawings, A designates the legs or supports, being two on each side of the tub, and are united at the top and the feet spread at the bottom. To unite the legs at the top, I provide a bracket which consists of a central piece 1, having side flanges 2 to extend over the adjacent faces of the legs, to which they are secured by screws, substantially as shown. On the top of the brackets are formed cap-pieces 3, to set over the tops of the legs and serve to protect them, and at the same time strengthen the walls of the bracket which constitute the side of the channel 4, formed on the inner face of the bracket to serve as a guide bearing or way, in which the ends of the journals of the rubber engage when arranged for rubbing the contents of the tub. The lower parts of the legs are connected by cross-rounds 5.

B designates the tub, which is made up of the side pieces 6, duplicate in shape and having the ends 7 extended, as shown. The end pieces 8 are fitted to the side pieces so as to be water-tight at their connections. The metallic bottom 9 is fitted to the circular sections of the side pieces and has its ends carried in both directions to extend flush with the outer faces of the end pieces, as at 10. The edges of the metallic bottom are nailed to the edges of the side pieces, and to secure the extensions of the bottom at the ends a cross-plate 11 is nailed fast at these parts, as shown. The sides of the tub are secured to the legs by any of the usual means.

In order to obtain a water-tight connection between the metal bottoms and wooden side pieces of machines of this character, I interpose a stuff of specially-prepared textile material between the meeting edges of the parts, as shown at 12. (See Fig. 6.) This interposed strip is prepared and applied as follows: A paste of putty and oil is laid on the edges of the side pieces. A strip of the textile material twice the width of the thickness of the side pieces is then laid with one-half its width on the pasted side piece, and then on the outer face of this lay a coat of the paste, and then double over the strip, so as to bring it to the width of the side piece, and then coat the face of the strip with the paste, and then arrange the metallic bottom in position and nail it fast, when the bottom, end pieces, or cross-plates 11 can be secured in position.

The bracket-spout (shown in Fig. 5) for draining the water from the machine consists of a bottom flange *a*, having projected from the edge or side thereof a vertically-arranged and laterally-extending spout *b*. The bottom flange has screw-holes at the ends to receive screws or rivets, by which the bracket is secured to the bottom of the tub with the inner end faces of the spout tight against the face of the side of the tub, substantially as seen in Fig. 4 of the drawings. The bottom flange thus strengthens the connection of the parts at the lowest portion of the tub, and the metal spout formed thereon makes it

practicable to lower the drain-hole and prevent the wood of the tub from splitting.

In the bottom of the tub are arranged a series of rubbing-slats 13, usually to the number of twelve, one half of the number being arranged with their higher faces opposing those of the other half of the number. These slats are of irregular quadrilateral shape in cross-section, being thinner at their upper edges than at their lower ones, as shown, and have the upper corner of their inner portions rounded off to relieve the pressure or contact with the clothes, the arrangement or disposition in the tub being to give them an inclined upper face, with the pitch running upward toward the center of the bottom.

C designates the rubber, made of two substantially semicircular side pieces, each of which is provided with a pintle or bearing-lug 14, having a metal thimble 15 arranged thereon, which engages in the channels of the brackets. In the top edges of the side pieces are cut notches 16, which receive the top edge of one of the end pieces of the tub and hold the rubber when the latter is released from its bearings in the channels and is turned back to the position shown in Fig. 4 of the drawings.

D designates the metallic bottom of the rubber. This bottom is arranged in the rubber with one edge even with the end edge of the rubber, and covers substantially more than one-half of the interior of the rubber over the rubbing-slats, as seen in the drawings, leaving a number of the slats uncovered, through which the water escapes when the rubber is turned up, and to allow examination of the clothes. The bottom consists of a sheet-metal plate having its side edges formed with projecting tongues 17 to fit on the gains 18, cut in the edges of the side pieces to hold the plate fast in the rubber.

Rubbing-slats 19 are arranged across the rubber with their ends disposed on the gains 18, those slats over the metal plate D having their ends laid on the tongues in the gains. The slats are secured to the side pieces by screws or nails.

The slats of the rubber are identical in shape to those of the tub, but, as shown, are arranged in a contrary direction to those of the tub, the inclined lower surface of the rubber-slats being arranged parallel, or nearly so, with the inclined upper sides of the proximate tub-slats, so as to produce a better rubbing-surface. It will be seen by reference to Fig. 1 of the drawings that by the particular arrangement of the rubbing-slats, in connection with their novel construction, the clothes will receive equal pressure and agitation from both movements of the rubber. The metal lining extended partially over the slats of the rubber by carrying considerable of the water in it gives a force or agitation of the water through the goods, causing them to float and be saturated thoroughly with the discharged water from the lining at every reciprocation of the rubber, thus effecting a speedy dissolution of the dirt and presenting at every return movement of the rubber a thoroughly-saturated mass for its action.

To the sides of the rubber are secured handles 20, by which the rubber is rocked.

The operation is at once apparent on inspection of the drawings in connection with the foregoing description; but it may be here stated that to take the clothes from the tub the rubber is lifted out of its bearings and turned back, with the notches resting on the end pieces of the tub.

A wringer 21 may be secured on the end piece in the usual manner.

What I claim is—

In a washing-machine, the combination, with the semicircular tub, of the semicircular rubber having gains 18 in the bottom edges of the side pieces, a sheet-metal lining extending over about one-half of the bottom of the rubber and formed with tongues 17, projected from the side edges to lie in the gains of the side pieces, and rubbing-slats having their ends secured in the gains and over the extensions of the partial-metal lining, substantially as described.

In witness whereof I hereunto set my hand in the presence of two attesting witnesses.

DANIEL B. WAGNER.

Attest:
T. W. McCLURE,
J. F. ZIMMERMAN.