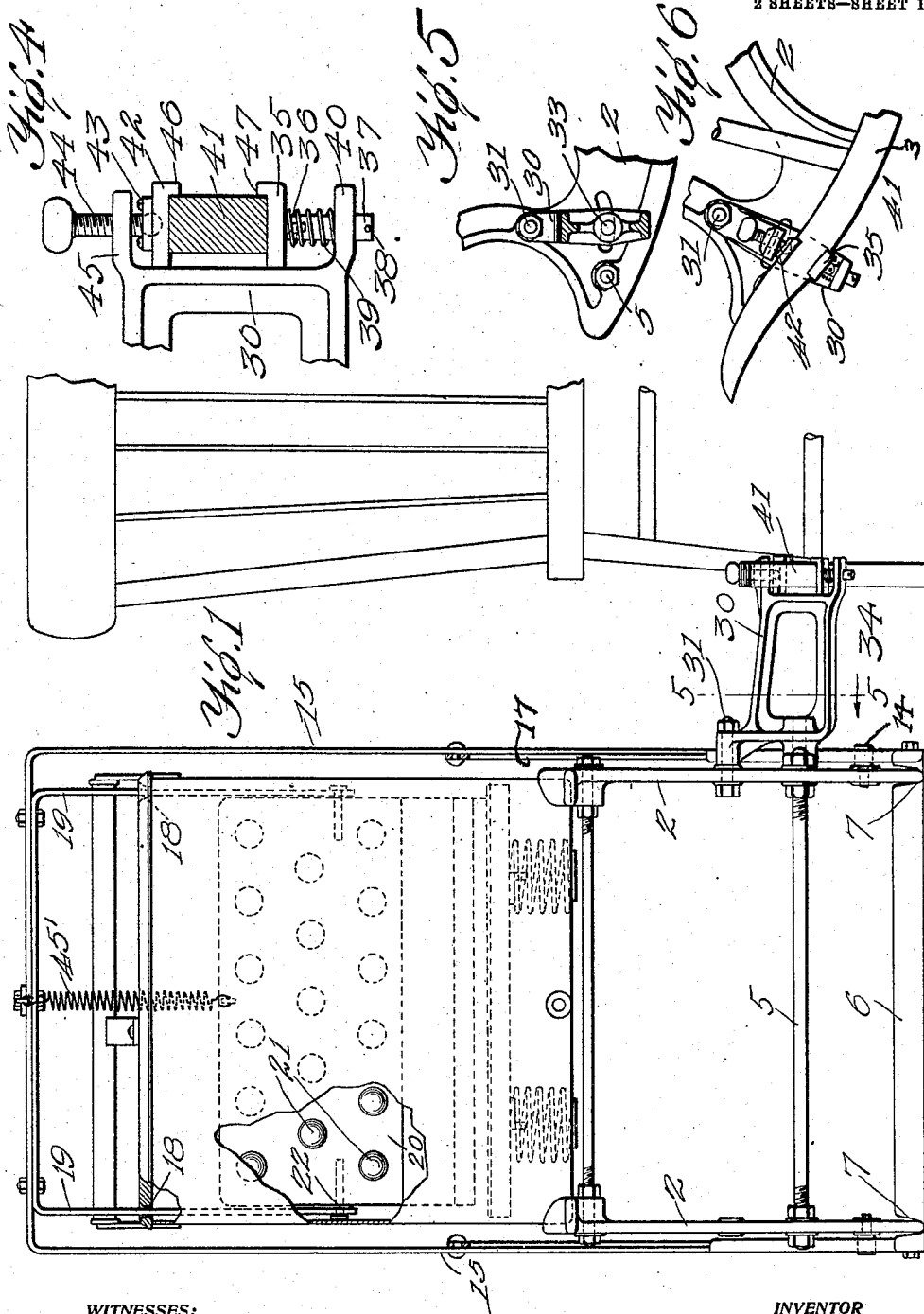


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WASHING MACHINE.
APPLICATION FILED OCT. 26, 1908.

936,642.

Patented Oct. 12, 1909.
2 SHEETS—SHEET 1.



WITNESSES:

E. H. Lichtenberg
J. J. Morgenthal

INVENTOR

Hans Kraut

BY *Carl M. Crawford*

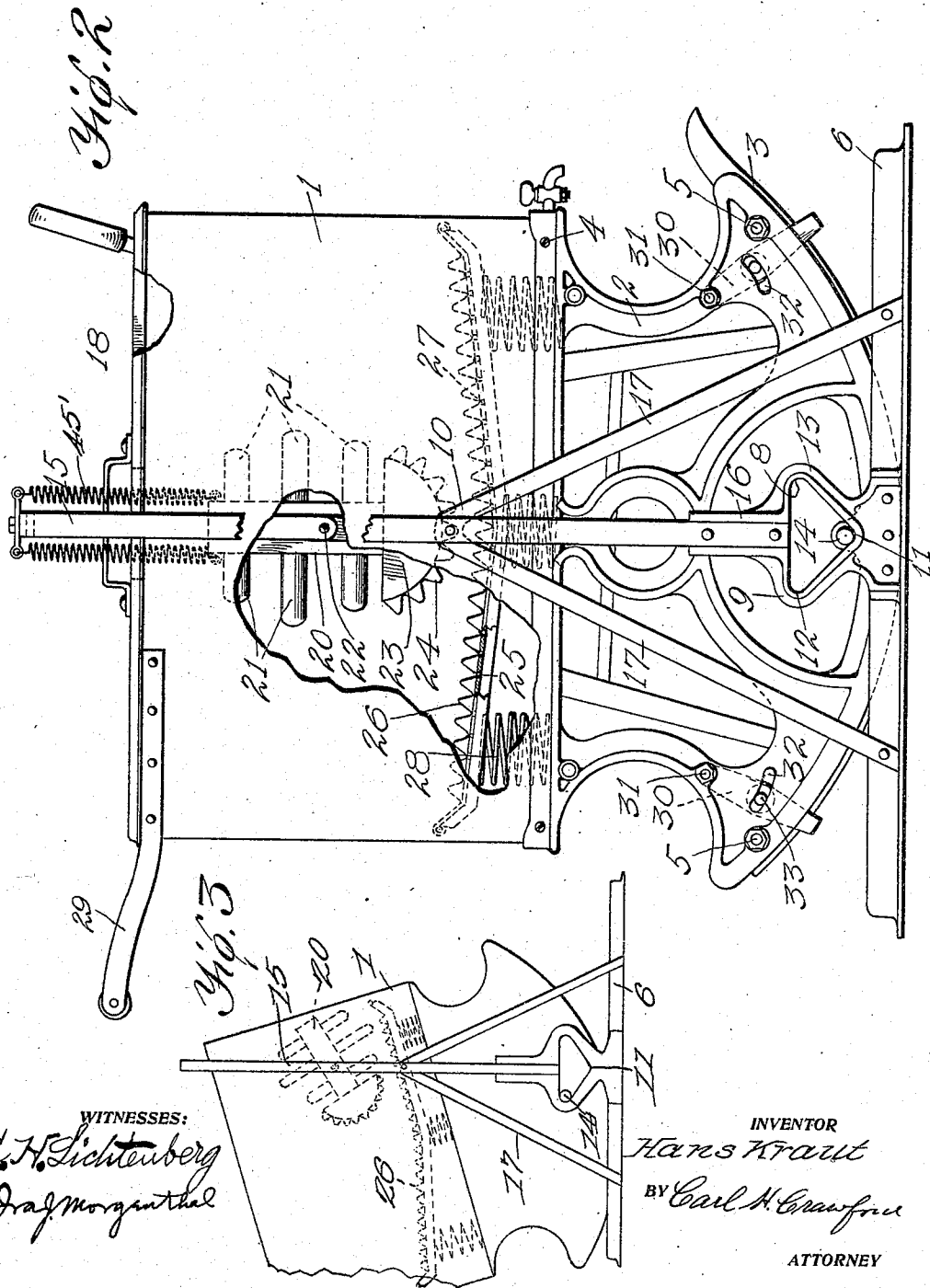
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UNITED STATES PATENT OFFICE.

HANS KRAUT, OF CHICAGO, ILLINOIS, ASSIGNOR TO OLGA THIMM, OF CHICAGO, ILLINOIS.

WASHING-MACHINE.

936,642.

Specification of Letters Patent.

Patented Oct. 12, 1909.

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To all whom it may concern:

Be it known that I, HANS KRAUT, a subject of the Emperor of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to improvements in washing machines of that character in which the tub or receptacle for the clothes is oscillated or rocked to and fro for the purpose of effecting the desired movement of the clothes therein.

One of the objects of the invention is the provision of a rubbing board within the tub and a cooperating member comprising a combined clothes rubber and presser adapted to be actuated in the performance of its function by means of the clothes interposed therebetween and the rubbing board.

A further object of the invention consists in an improved means for detachably and movably connecting a rocking chair with the tub in a manner to actuate the same by rocking movement imparted to the chair by the occupant thereof.

The invention also consists in features and details of construction which will hereinafter be specifically set forth in connection with the accompanying drawings and which will be more particularly pointed out and ascertained in and by the appended claims.

In the drawings Figure 1 is an end elevation of a washing machine and a chair attachment embodying the main features of my invention with parts of the washing machine broken away to show the internal mechanism thereof. Fig. 2 is a side elevation of the washing machine with parts broken away and showing the parts in their normal position. Fig. 3 is a diagrammatic view showing the parts in the position which they assume when the tub is rocked to the left. Fig. 4 is a detail side elevation of the chair attachment showing the chair rocker in section. Fig. 5 is a sectional view on line 5—5 of Fig. 1, and Fig. 6 is a detail view of rocker clamping members hereinafter described.

Like numerals of reference designate similar parts throughout the different figures of the drawings.

The invention will now be described in

connection with the specific embodiment shown in the accompanying drawings but it will be understood that the invention is not to be limited to the specific embodiment shown except for such limitations as the claims import.

As shown a tub, designated as 1, is mounted on a frame 2, the lower portion 3 thereof being in the form of a rocker. Said tub 1 may be removably secured to said frame 2 in any desirable manner as by screws 4. Suitable bracing is provided for the frame 2 in the form of rods 5.

A rocking base 6 is grooved at 7 to receive the rockers 3 so as to maintain the tub 1 and frame 2 in prescribed lateral relation with respect to the base 6. The grooves 7 are formed relatively deep in the base 6 so that the rockers 3 will traverse a surface approximately in alinement with the floor level.

Means are provided for permitting rocking movement of the frame 2 and positively limiting such rocking movement in opposite directions, said means being constructed and arranged to always bring the tub to a given position, longitudinally with respect to the base 6, when the tub is returned to a normal or vertical position. The said means also serves to prevent the rockers 3 from creeping in the grooves 7 and thereby maintains the rockers 3 in a prescribed longitudinal position with respect to the base 6 throughout their rocking movement. As shown said means comprises a triangular opening 8 formed in a stationary member 9 which may conveniently form a part of a frame structure 10 secured to the base 6. As shown the triangular opening 8 is inverted and the lower extremity is designated at 11 while the upper lateral extremities are designated at 12 and 13 respectively. I desirably provide an opening 8 on each side of the machine and on the frame 2 studs 14 are provided in a manner to project into said opening and engage the walls thereof. In the normal position of the tub 1, as shown in Fig. 2 the studs 14 engage the lower extremities 11 of the openings 8 and as the tub 1 is rocked in opposite directions the studs 14 will advance toward either of the extremities 12 and 13 until they engage the same whereupon rocking movement in such direction will be positively arrested. It will be understood that the only essential parts of

this feature are the studs and the angularly or triangularly disposed arresting or engaging portions 11, 12 and 13.

The frame 10 as shown consists of a U-shaped vertically disposed member 15 which extends about the tub 1 and has its lower extremity removably secured to an extension 16 of the stationary member 9 which latter is removably secured to the base 6. The frame member 15 may be additionally anchored by braces 17 secured to the member 15 and the base 6 respectively. The tub 1 is slotted at 18 and the frame member 15 is provided with depending extensions 19 which project through said slots 18 and form a support upon which the combined clothes rubber and presser is movably mounted. Said rubber as shown consists of an upper member in the form of a rectangular block 20 provided with a plurality of oppositely disposed beaters or pressers 21. Said beaters preferably consist of cylindrical studs disposed in rows and projecting laterally from opposite sides of the block 20. Preferably three rows are provided on each side of the block 20 and the same are disposed in staggered relation, the intermediate row being preferably longer than the beaters of the upper and lower rows. The block 20 is shown pivotally mounted at 22 to the extensions 19. The lower member of said rubber comprises a semi-cylindrical block 23 provided on its periphery with a toothed or corrugated rubbing surface 24. In order to return the rubber to a normal position and to prevent the rubber from wedging and becoming fast, when in the position shown in Fig. 3, yielding means are provided which may be in the form of springs 45' anchored to the rubber and to the frame 15.

In the bottom of the tub 1 a rubbing board 25 is provided having on its up perface a toothed or corrugated surface 26. Said board 25 is provided with a plurality of apertures 27 to permit the wash water to flow through the same during the washing operation. The board 25 is preferably yieldingly mounted in the tub 1 and as shown springs 28 are secured to said board 25 and the bottom of the tub respectively. Said springs are expansible and permit of yielding movement of the board 25 when the clothes are rubbed or pressed thereagainst in a manner to simulate the natural hand action on a rubbing board and to prevent the clothes from clogging and thereby arresting operative parts.

It will be seen by reference to Figs. 2 and 3 that when the tub 1 is oscillated on its rockers the moving board 25 will act through the interposed clothes to swing the rubber 23 upon its pivotal mounting and before the tub 1 has reached the extreme limit of its rocking movement and the rubber 23 will have reached the position shown in Fig. 3

so that the beaters 21 will engage the clothes and press the same against the board 25 and therefore the clothes will be engaged both by the heaters and the rubber prior to and until the board 25 has reached the limit of its rocking action. It will thus be seen that the clothes will be subjected to a rubbing action by the board 25 and that they will be held thereagainst and given a pressing action by both the rubber 23 and the pressers 21. The wash water will therefore be pressed out of the clothes, to a certain extent, and the water beneath the adjacent or depressed end of the board 25 will be forced through the openings 27 in a manner to saturate the clothes. In practice it has been found that a very efficient washing action may be obtained by such preliminary rubbing and subsequent pressing or beating of the clothes, it being obvious that in the more rapid operation the parts 21 combine the action of pressers and beaters. When the rocking movement of the tub 1 is reversed from that shown in Fig. 3 the clothes will oscillate the rubber in a reverse direction and the operation hereinbefore described will be repeated. The foregoing operation approximately describes the action as it will be understood that within certain limits the action of the combined rubber and beater will vary in the absence of any mechanism to actuate the same in prescribed relation with respect to the rocking movement of the tub. This variable action of the combined beater and rubber with respect to the movement of the rubbing board constitutes one of the main features of the invention in view of the fact that it insures an effective washing action.

A handle 29 is provided on the tub 1 for rocking the same manually but one of the features of the invention consists in improved means for detachably, and preferably yieldingly, connecting a rocking chair with the tub so that the rocking movement of the occupant of the chair will impart the necessary rocking movement to the tub.

As shown connections are provided in the form of clamping brackets 30 and said brackets are pivotally connected with the frame 2 at 31. Below such pivotal connections the frames 2 are slotted at 32 and pins or studs 33, on the brackets 30 project into said slot thereby permitting a limited amount of movement of the brackets 30 about the pivots 31. The brackets 30 at their outer ends terminate in jaws 34 and on the lower jaw is movably and yieldingly mounted a clamping member or rocker clamp 35. Said clamp 35 is pivotally secured at 36 to a shank 37 so that the clamp 35 may readily be swung to engage a chair rocker of any probable contour. The shank 37 is provided with a pin 38 to limit upward movement thereof and a spring 39 is interposed between the exten-

sion 40 and the clamp 35 to yieldingly hold the latter in an engagement with the chair rocker 41. An upper clamp 42 is provided with a swivel connection 43 whereby it may be attached to a clamping screw 44 having threaded engagement with a jaw extension 45. It will thus be seen that when the clamps are attached to the front and rear portion of a chair rocker the necessary rocking action will be imparted to the tub and furthermore it will be obvious that the yielding and adjustable arrangement will readily compensate for any inequality between the rockers of the tub and the chair. If desired the clamps 35 and 42 may be provided with suitable padding 46 and 47, as shown in Fig. 4, so that the clamps will not wear or injure the surface of the chair rocker. It will be seen that by reference to Fig. 1 that the surface on which the tub rockers rest is slightly elevated with respect to the floor line on which the chair rockers rest but it will be readily seen that the construction of the clamps will compensate for this difference. Clamps according to the improved construction will also permit of connecting chair rockers having a different curvature from the curvature of the tub rockers but in practice the chair rockers will be especially made and sold with the machine.

In using a chair rocker not having the curvature of the washer rockers it will be readily seen that the improved clamps will automatically adjust themselves to the difference of movement of the washer and chair rockers and will prevent the latter from creeping to such an extent as to get out of operative relation with the washer.

I claim:—

1. A washing machine comprising in combination, an oscillating tub provided with a rubbing board, and a combined rubber and beater or presser idly mounted within said tub and coöperating with said board, said

rubber comprising a lower member provided with a curved rubbing surface and an upper member provided with a plurality of pressing or beater studs.

2. A washing machine comprising in combination, a tub provided with a rubbing board and rockers, a grooved base receiving said rockers, a frame on said base provided with a U-shaped member extending about said tub, a second U-shaped member mounted on said first-mentioned member and extending into said tub, a combined rubber and beater mounted on said second U-shaped member, and means limiting rocking action of said rockers in said grooved base.

3. A washing machine comprising in combination, a tub provided with a rubbing board and rockers, said rockers being provided with studs, a base provided with grooves receiving said rockers, a frame on said base provided with triangular openings receiving said studs, the walls of said triangular openings limiting rocking movement of said rockers when engaged by said studs and serving to maintain said rockers in prescribed longitudinal relation with respect to said base, said frame having extensions projecting into said tub, and a combined rubber and beater movably mounted on said extensions.

4. A washing machine comprising in combination, an oscillating tub provided with a rubbing surface, a combined clothes rubber and beater coöperating with said rubbing surface and movably mounted independently of and within said tub, and yielding means for returning said rubber to a normal position.

In testimony whereof I affix my signature in presence of two witnesses.

HANS KRAUT.

Witnesses:

C. H. CRAWFORD,

A. W. FENSTERMAKER.