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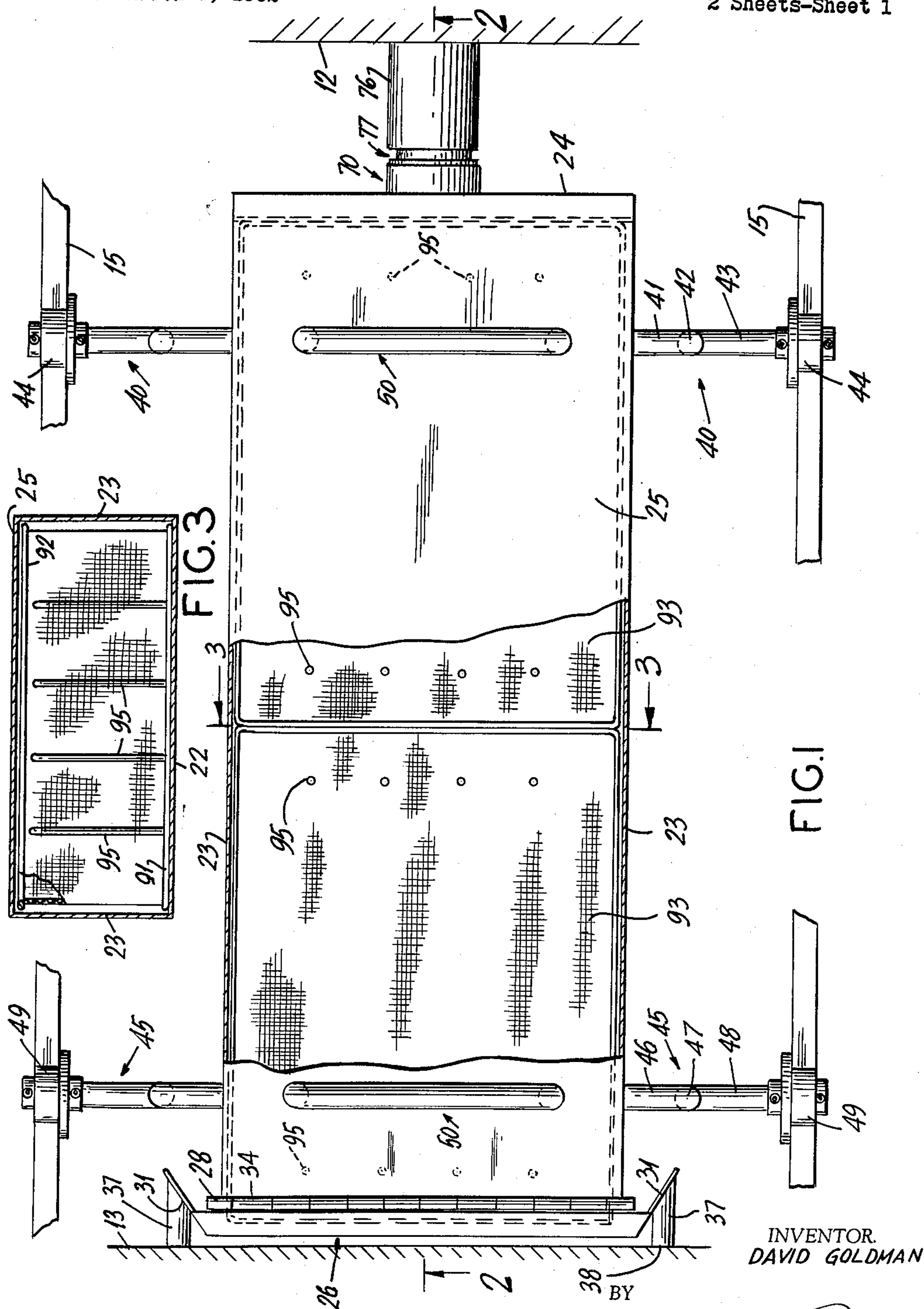
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3,101,729

INSTRUMENT WASHERS

Filed March 7, 1962

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

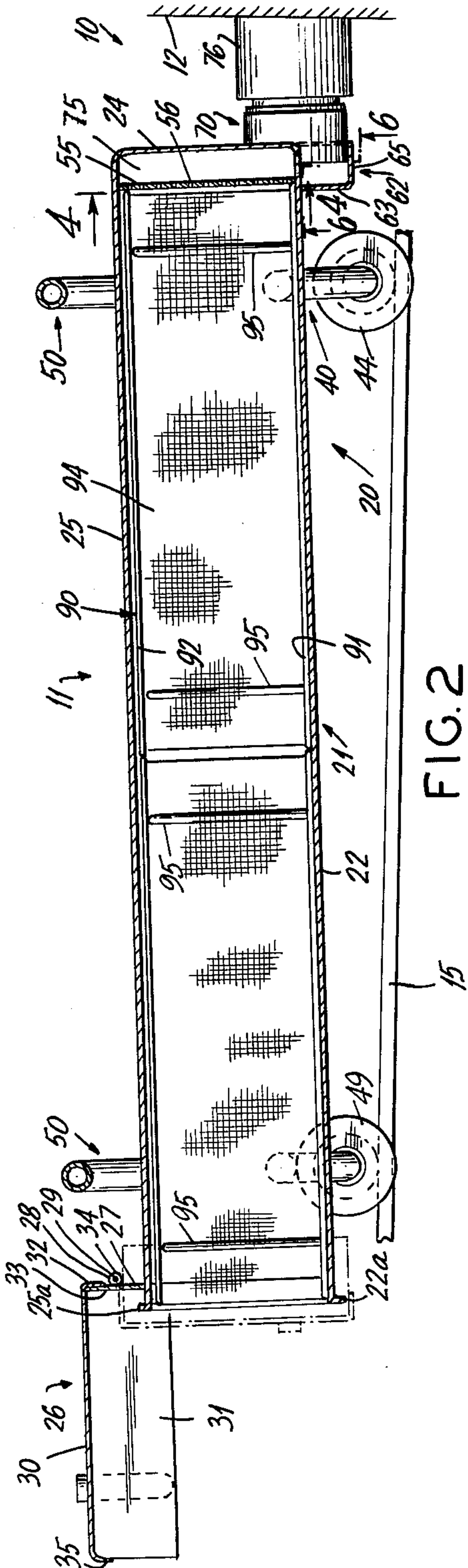


FIG. 2

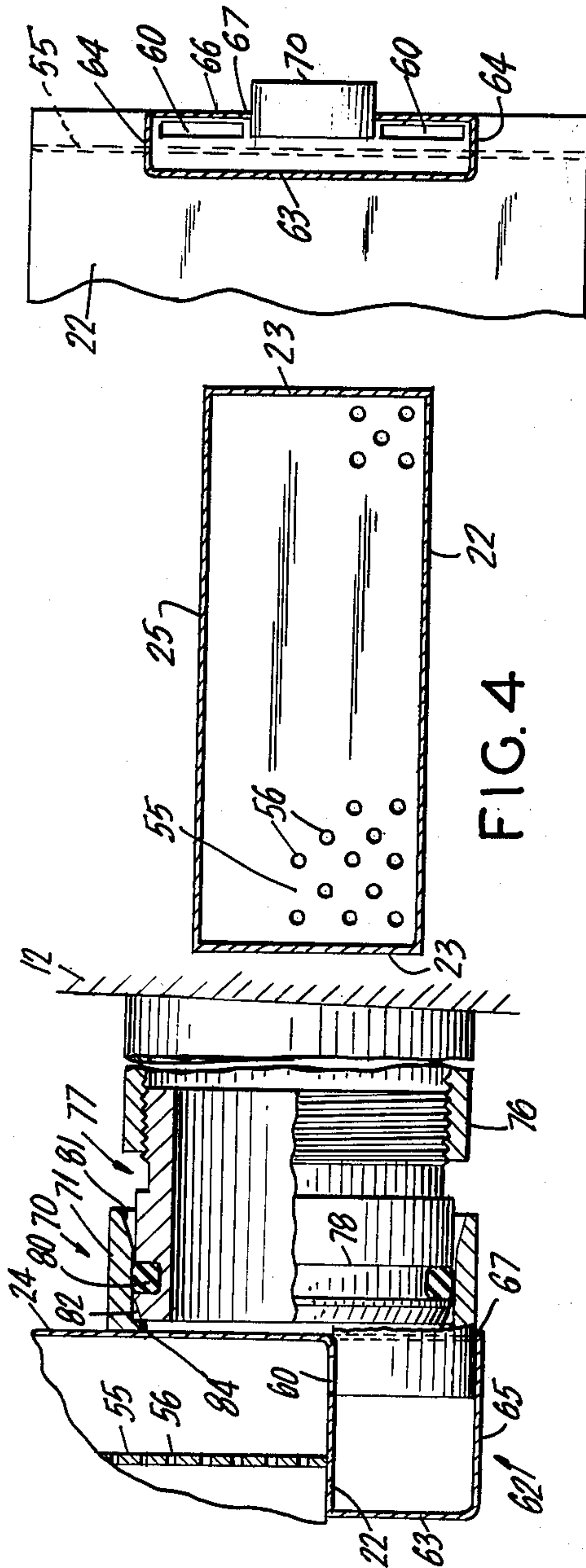


FIG. 4

FIG. 6

FIG. 5

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INSTRUMENT WASHERS

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7 Claims. (Cl. 134-145)

This invention relates to instrument washers.

It is particularly directed to an instrument washer which may be used in a washing machine such as disclosed in Patent No. 2,786,480, issued March 26, 1957. A washing machine such as disclosed in said patent comprises a cabinet having a rear wall and a front door which swings open downwardly, and is provided with rails extending from front to rear. It is further provided with a water coupling member at the rear wall. A header may be moved on said tracks through the open door rearwardly, and such header is provided with a complementary coupling member to couple with the coupling member on the rear wall of the cabinet, as the header is pushed rearwardly, so as to receive water therefrom.

It is an object of the present invention to provide a highly improved instrument washer which may be moved through the open door of such a cabinet on its tracks rearwardly, said instrument washer being likewise provided with a coupling to engage the coupling on the rear wall of the cabinet, when fully inserted into the cabinet.

It is a further object of this invention to provide an instrument washer of the character described comprising a casing mounted on wheels or rollers, to roll on the tracks, with the coupling located at the front end of the casing, and said casing being provided with integral bottom, top, side and front walls, and having an opening at its rear end (which may be loosely covered by a cover) through which one or more wire cages containing instruments may be inserted, the arrangement being such that water from the coupling will pass into and through the casing and cages, and pass out through the end of the casing, so as to thoroughly wash the instruments within the cages.

Another object of this invention is to provide in an instrument washer of the character described, open top baskets having wire mesh screen at all sides thereof and at the bottom, and being provided adjacent the opposite ends of the bottom wall with upstanding pins to be received in the finger holes of instruments deposited in the baskets for washing.

Yet another object of this invention is to provide in an instrument washer of the character described, a rear hinged cover to loosely encompass the rear open end of the casing, said cover having means to be engaged by the front door of the cabinet to hold the cover of the casing in covering position.

Yet another object of this invention is to provide an instrument washer of the character described, which is supported on front and rear wheels so arranged that the washer tilts downwardly toward the front door of the cabinet so that water will more easily pass therethrough, and the casing of said instrument washer being provided with top handles to facilitate carrying the washer, and the wheels of the washer being located on axles and being so spaced from the longitudinal center of the washer as to ride on the same tracks that support headers and the like, such as shown in said Patent No. 2,786,480.

Another object of this invention is to provide a strong, rugged and durable device of the character described, which will be relatively inexpensive to manufacture, easy to manipulate, and which shall yet be practical and efficient to a high degree in use.

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Other objects of this invention will be in part obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction described, and of which the scope of invention will be indicated in the following claims.

In the accompanying drawings in which is shown an illustrative embodiment of this invention,

FIG. 1 is a top plan view through a washing machine, illustrating an instrument washer embodying the invention, with parts broken away and in cross-section;

FIG. 2 is a cross-sectional view taken on line 2-2 of FIG. 1;

FIG. 3 is a cross-sectional view taken on line 3-3 of FIG. 1;

FIG. 4 is a cross-sectional view taken on line 4-4 of FIG. 2;

FIG. 5 is an enlarged vertical cross-sectional view through the coupling on the cabinet and the coupling on the instrument washer; and

FIG. 6 is a cross-sectional view taken on line 6-6 of FIG. 2.

Referring now in detail to the drawings, 10 designates a cabinet of a washing machine in which an instrument washer 11 embodying the invention may be mounted. The washing machine 10 may be of the construction disclosed in said Patent No. 2,786,480. It comprises generally a rear wall 12, and is provided with a front door opening which is closed by front door 13 hinged at its lower end and swung downwardly and forwardly to open, and upwardly and rearwardly to close. There is fixed within the cabinet a pair of horizontal, spaced tracks 15 such as disclosed in said patent. Tracks, not shown, may also be mounted on the inside of the door to align with the tracks 15 when the door is swung open, as disclosed in said patent. The instrument washer 11 may be inserted into the cabinet by first swinging the door 13 downwardly to extend horizontally, mounting said washer on the door tracks, and then pushing the washer forwardly onto the tracks 15. The tracks 15 extend from front to rear and are parallel to each other, as shown in the drawing. Any suitable tracks may be employed.

The instrument washer 11 comprises a carriage 20. Said carriage 20 comprises a casing 21 having a bottom wall 22, side walls 23, a rear wall 24, and a top wall 25, all made of rustproof sheet metal. The front end of the casing may be loosely covered by a cover 26. At its front end, the bottom wall 22 has a downwardly extending flange 22a, and the top wall 25 has an upwardly extending flange 25a. Affixed to the top wall 25 adjacent the flange 25a is an upwardly extending wall 27 formed with hinged sleeve fingers 28 through which extends a hinge pin 29. The cover 26 comprises a front wall 30 from which extend side walls 31 adapted to straddle the front end of the casing. The cover also has a top flange 32 to the underside of which is attached a plate 33 formed with hinged sleeve fingers 34 alternating with the sleeve fingers 28, and likewise receiving the hinged pin 29 therethrough. The cover 26 also has a bottom flange 35 shown in FIG. 2. The cover is so arranged that when it is swung downwardly, it loosely receives the front end of the casing so that water flowing through the casing may pour out between the casing and the cover. The side walls 31 of the cover are inclined rearwardly and outwardly, and fixed thereto are forwardly extending pins 37 having flat front ends 38 adapted to be contacted by the

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door 13 when the cover is down and the door is swung upwardly to closed position.

Means is provided to support the casing 21 for rolling movement on the tracks 15. To this end there are provided a pair of rear symmetrically disposed axles 40 which may be made of tubular rust-proof metal stock. Each axle 40 comprises a horizontal portion 41 extending outwardly from and welded to a side wall 23 of the casing. Extending downwardly from portion 41 is portion 42 from which extends outwardly a horizontal portion 43 supporting a wheel 44 resting on track 15. It will be noted that the casing 21 is inclined upwardly and rearwardly. The front end of the casing is supported by means of axles 45, each comprising a horizontal, outwardly extending portion 46 welded to a side wall 23 of the casing. Extending down from portion 46 is a portion 47, from the lower end of which extends outwardly, portion 48 carrying a wheel 49, likewise mounted on track 15.

The wheels 44 are aligned with the wheels 49, and are located outwardly of the casing 21.

Handles are provided for carrying the carriage 20. To this end there is affixed to the top wall 25, a pair of spaced, U-shaped handles 50 which may likewise be made of tubular metal stock, as shown, one located near the front end of the casing, and the other near the rear end of the casing. Said handles are centrally located with respect to the sides of the casing, and may be welded to the casing.

Within the casing 21 and in spaced relation to the rear wall 24, is a transverse wall or partition 55 parallel to wall 24 and formed with spaced rows of spaced openings or perforations 56. The bottom wall 22, adjacent wall 24, and between said wall and the partition 55 and on opposite sides of the center thereof is formed with a pair of longitudinal slots 60 for the purpose hereinafter appearing. Affixed to the underside of the rear end of the casing 21, is a box 62 comprising a front wall 63 contacting at its upper edge the underside of wall 22. Extending rearwardly from the ends of the front wall 63 are side walls 64 (FIG. 6). Disposed on the outer sides of slots 60, and extending rearwardly from the lower end of wall 63, is a bottom wall 65 connected by a rear wall 66 to the junction of walls 22 and 24 and to the rear ends of the side wall 64. Wall 66 is formed with a substantially semi-circular cut-out 67. Fixed to the rear end of the casing is a pipe coupling member 70 (FIGS. 2, 5 and 6). Coupling member 70 comprises a cylindrical wall 71, the axis of which is somewhat above the bottom wall 22. An angular portion is cut from the front end of the coupling so that its lower portion fits within the cut-out 67 and projects into the box 62, whereas its upper end contacts the rear wall 24. Thus water entering the coupling member 70 will flow into the box 62 and then upwardly through the slots 60 into the space 75 between wall 24 and partition 55, and then through the openings 56 and through the casing.

Attached to the rear wall 12 of the cabinet is a forwardly extending nipple 76. Screwed into the nipple is a coupling member 77 complementary to the coupling member 70. Coupling member 77 is formed near its front end with an annular groove 78, in which is received a flexible O-ring 80. The rear end of the coupling member 70 is formed with an internal chamfer or bevel 81, and the front end of the coupling 77 is formed with an external chamfer 82, to facilitate reception of the coupling 77 within the coupling 70. It will be noted that the front end of the coupling 77 will contact an internal annular rib 84 on the coupling 70, and the O-ring 80 will contact the internal surface of the cylindrical portion 71 of the coupling 70.

When the carriage is inserted into the cabinet of the washing machine, the location of the tracks is such that the couplings 70, 77 will interfit when the carriage is moved all the way into the cabinet to effect the coupling engagement.

Within the casing are placed a pair of baskets 90 in

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tandem. Each basket 90 has a lower rectangular frame 91 of rod stock and an upper rectangular frame 92 of rod stock, a bottom wall 93 of wire mesh, and side and end walls 94 of wire mesh. Welded to the bottom wall 93 of each basket adjacent either end of the basket, are upwardly extending prongs or pins 95. The instruments to be washed may be mounted within the baskets with the finger openings of the instruments receiving the prongs or pins 95. The baskets are inserted into the carriage while the carriage is outside of the washing machine. When the carriage is inserted and the cover 26 dropped, the door of the cabinet may be closed and the washing operation may commence with water passing through the baskets and cleaning the instruments therein. Thereafter, the front door of the cabinet may be opened, the carriage pulled out straight back, and then the baskets may be removed one at a time.

It will thus be seen that there is provided an apparatus in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As possible embodiments might be made of the above invention, and as various changes might be made in the embodiment set forth above, it is to be understood that all matter herein set forth or shown in the accompanying drawings, is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. An instrument washer comprising a casing having a bottom wall, side walls, a top wall and a rear wall, said walls being fixed with respect to each other, a tubular coupling member at the rear end of the casing, a perforate partition adjacent to but spaced from said rear wall forming a water chamber adjacent said coupling, said casing being open at its front end, cover means loosely to close the front open end of the casing to allow drainage of water from said front end of the casing, a basket dimensioned to fit snugly within said casing slidably received within said casing and insertable therein through the front open end thereof, said basket having a bottom wall resting in the bottom wall of the casing.

2. The structure of claim 1 wherein said basket is open at the top and provided with a bottom wall, side and end walls comprised of wire mesh, and pins are fixed to the bottom wall adjacent the end walls of the basket and projecting upwardly therefrom to be received in the finger holes of the instruments placed in the basket.

3. The structure of claim 2 wherein said basket includes upper and lower frames of rod stock fixed to said walls of said basket.

4. The structure of claim 1 wherein front and rear axles are affixed to the casing, wheels are provided on the ends of said axles adapted to ride on parallel tracks, said rear axle being spaced further below the bottom wall of said casing than said front axle, whereby said casing inclines upwardly and rearwardly when said wheels are on horizontal tracks.

5. An instrument washer comprising a casing having a bottom wall, a top wall, side walls and a rear wall, and being provided with a transverse partition parallel and in spaced relation to the rear wall and formed with perforations, said bottom wall having openings therein between said rear wall and said partition, and a pipe coupling fixed to the casing, a chamber fixed to the under side of the bottom wall of said casing adjacent said rear wall and communicating with said coupling and said openings to allow water received by said coupling to pass to the space between the rear wall and said partition, and a basket having wire mesh walls slidably received in and substantially filling said casing.

6. The combination of claim 5, and pins on said wire mesh basket to be received in finger holes of instruments in said basket.

7. The combination of claim 6, said casing being open at its front end and a loosely fitting cover having outwardly and rearwardly inclined side flanges and being hinged

to the top wall of the casing and swingable downwardly
to overlie the front open end of the casing.

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