

B. F. HARTMAN.  
WASHING MACHINE.

No. 451,048.

Patented Apr. 28, 1891.

FIG. 1—

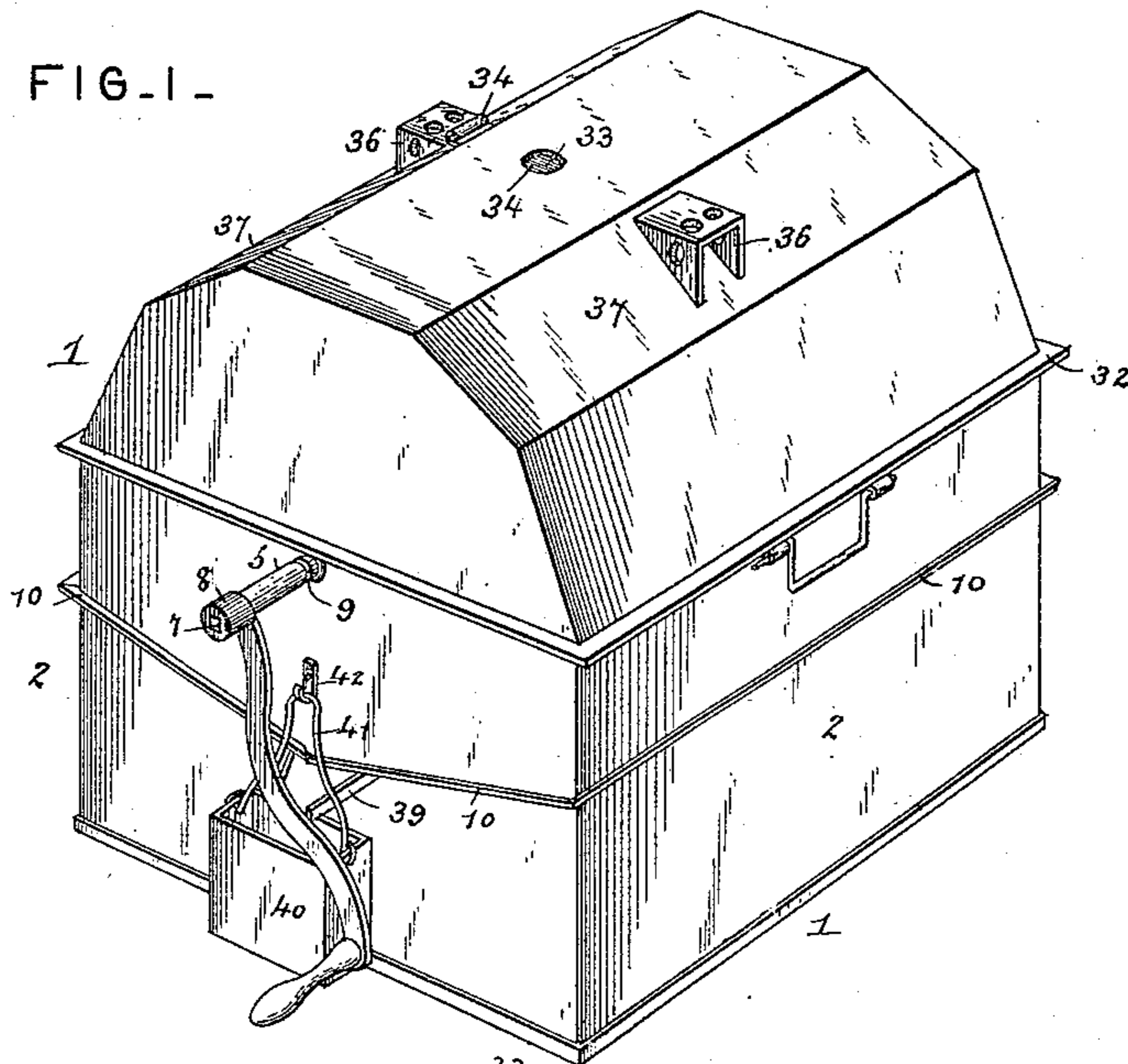
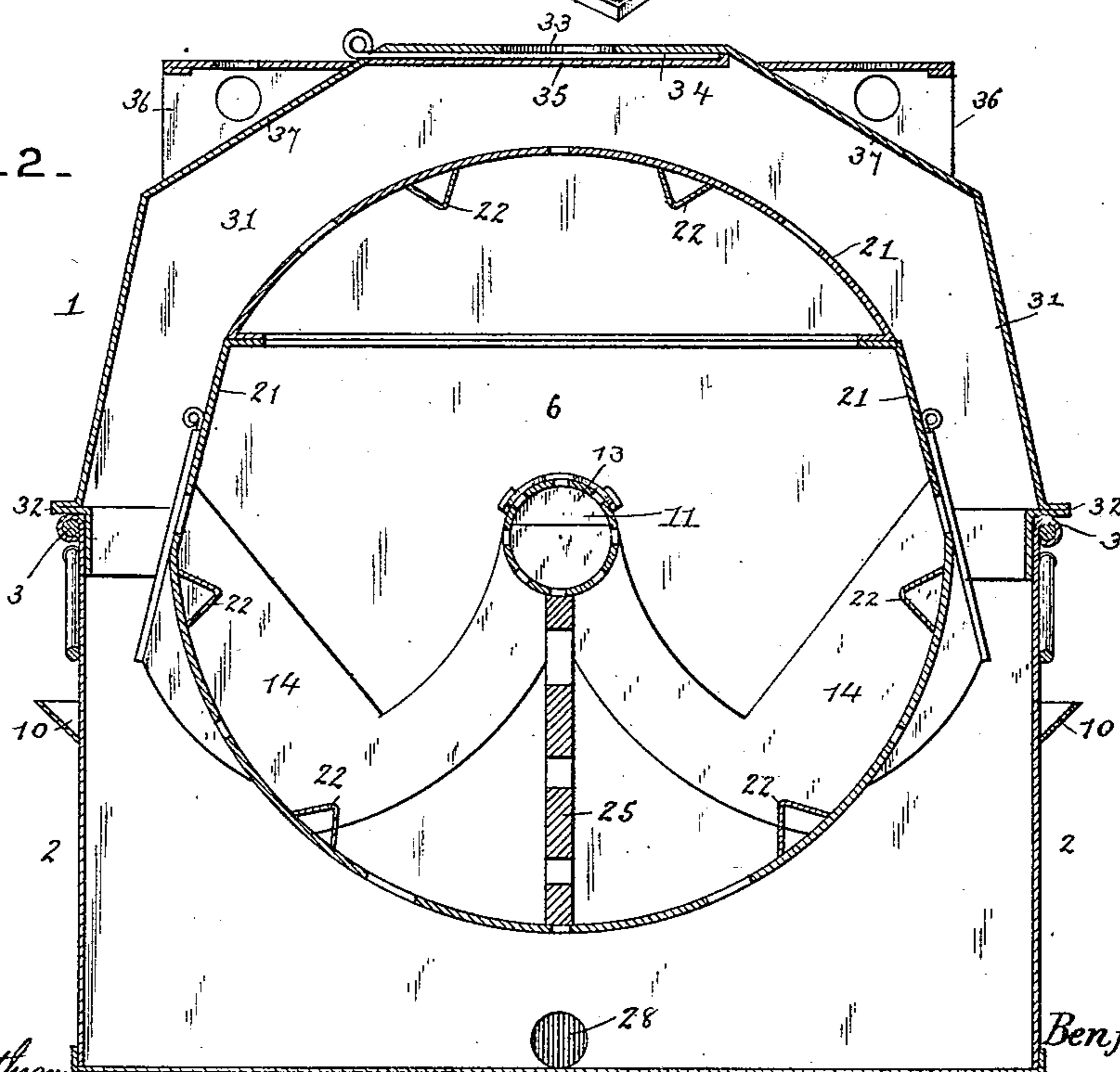


FIG. 2—



Witnesses

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(No Model.)

2 Sheets—Sheet 2.

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FIG. 4-

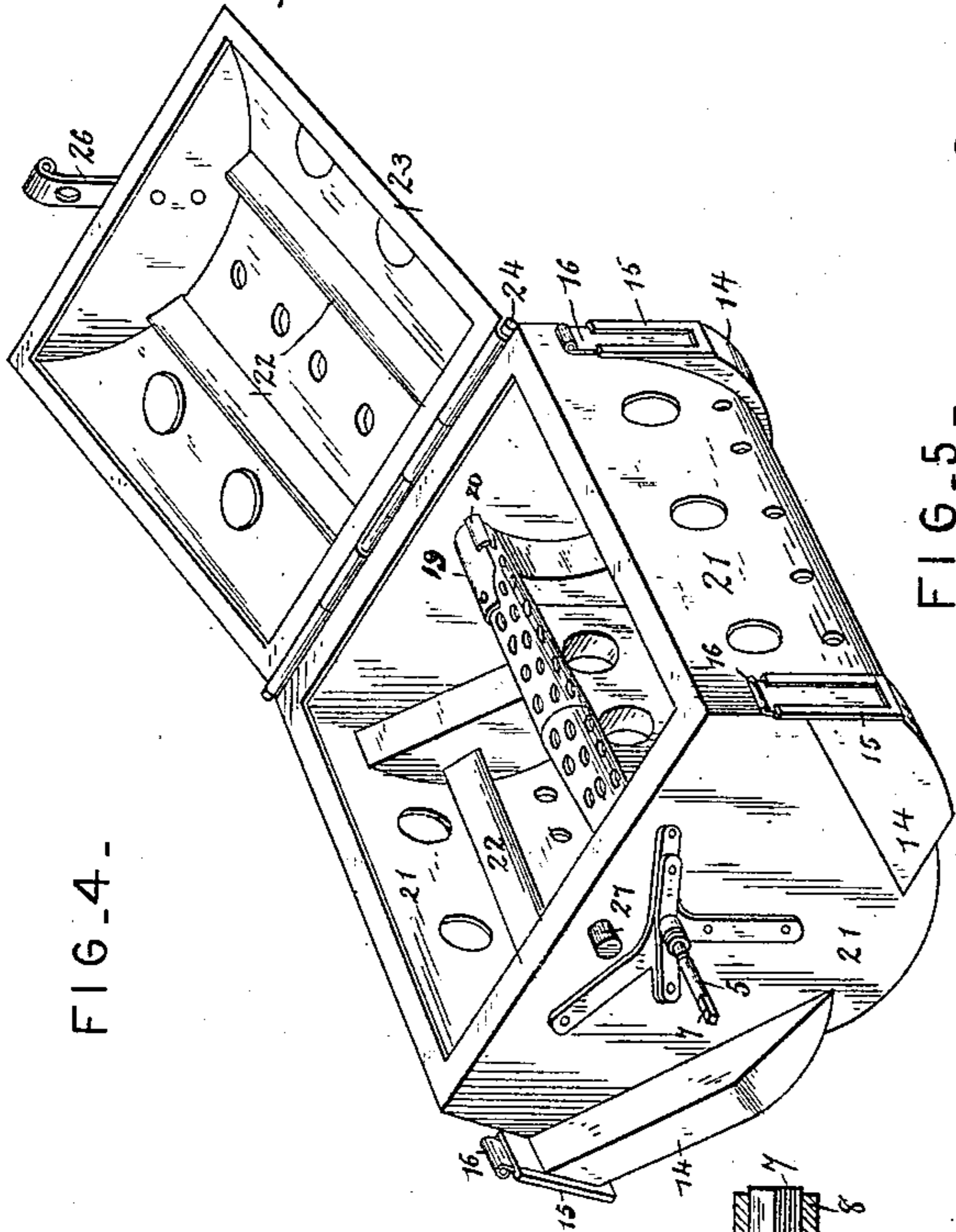


FIG. 5-

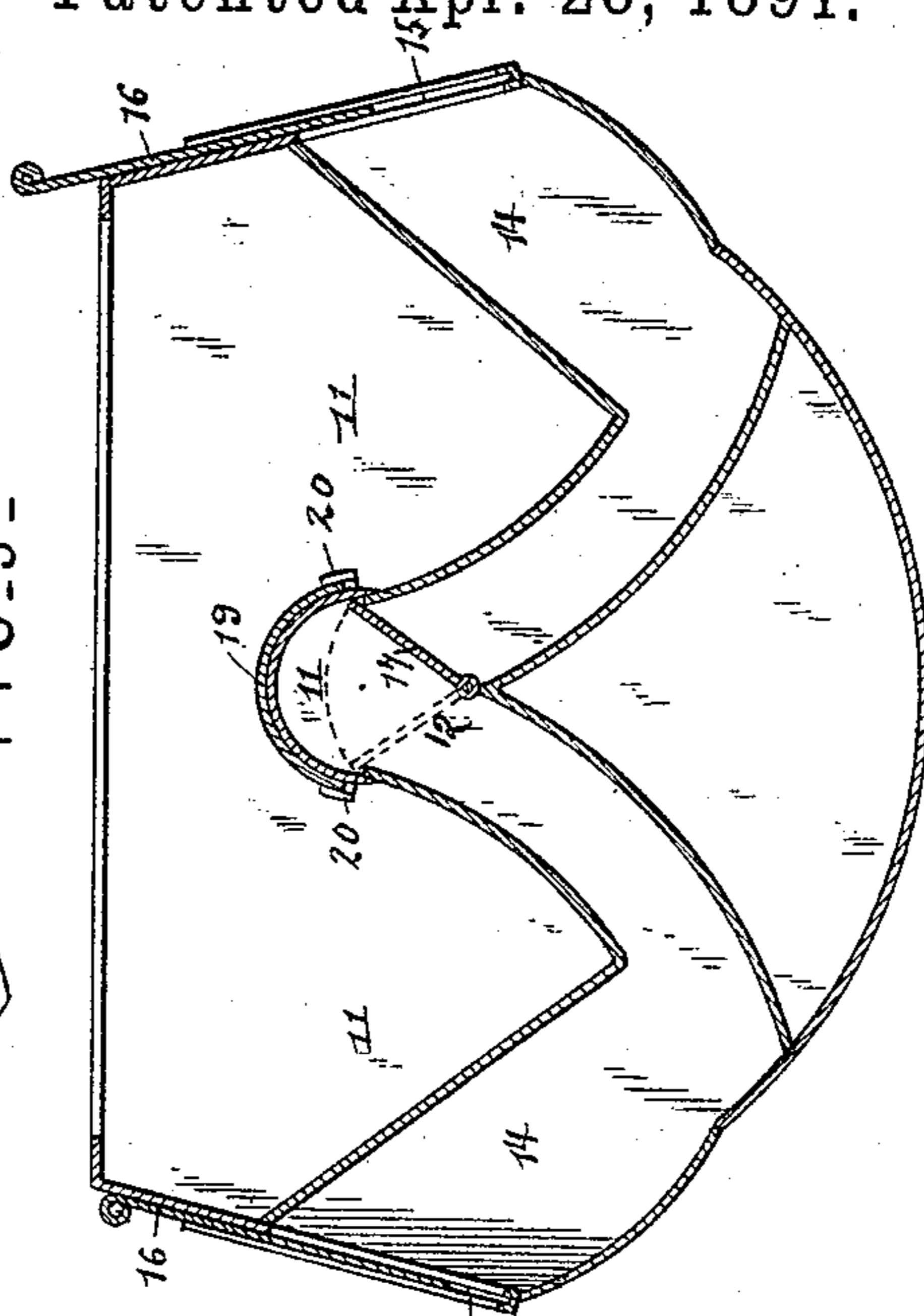
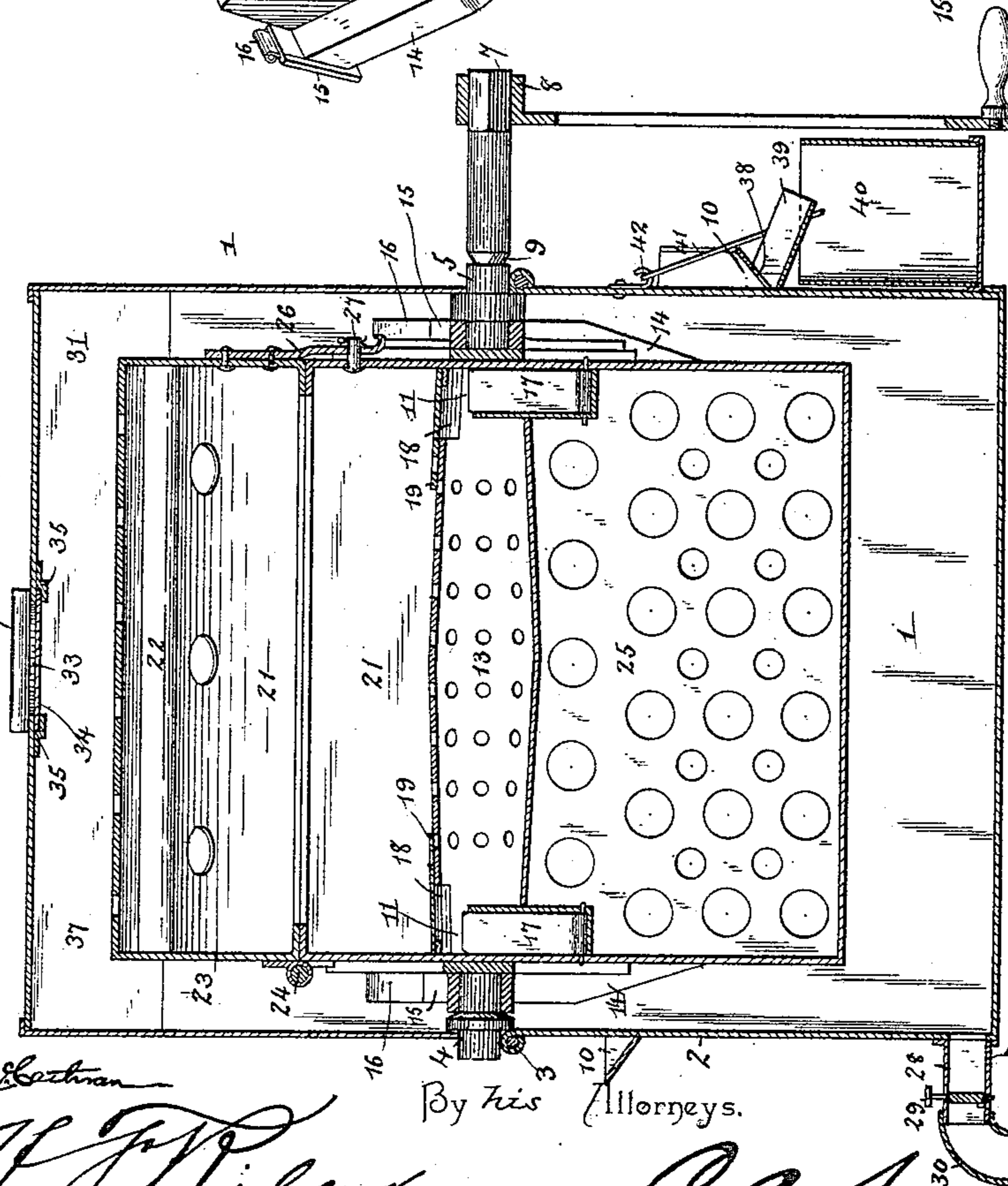


FIG. 3-



Witnesses

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# UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN HARTMAN, OF PICKERING, PENNSYLVANIA.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 451,048, dated April 28, 1891.

Application filed April 29, 1890. Serial No. 349,905. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN FRANKLIN HARTMAN, a citizen of the United States, residing at Pickering, in the county of Chester and State of Pennsylvania, have invented a new and useful Washing-Machine, of which the following is a specification.

The invention relates to improvements in washing-machines.

10 The object of the present invention is to provide a machine of simple and comparatively inexpensive construction adapted to thoroughly clean clothes and capable of wringing and expelling the moisture there-  
15 from after the operation of washing has been completed without necessitating the readjustment of the parts or the addition of other parts of the machine.

20 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.

25 In the drawings, Figure 1 is a perspective view of a washing-machine constructed in accordance with this invention. Fig. 2 is a central vertical longitudinal sectional view. Fig. 3 is a central transverse sectional view. Fig. 4 is a detail view of the washing-cylinder, the  
30 hinged section being swung back. Fig. 5 is a detail sectional view of the cylinder, illustrating the water-tube and showing the slides partially open.

Referring to the accompanying drawings, 1  
35 designates the body of the machine, constructed of suitable sheet metal and preferably rectangular in section, and provided in the upper edges of its sides 2 with curved notches 3, which form bearings for journals  
40 4 and 5 of a washing-cylinder 6, adapted to receive clothes and to be rotated to force water and steam through them and to expel the moisture therefrom after the operation of washing has been completed. The journals  
45 4 and 5 are secured to the sides of the washing-cylinder by spiders constructed of suitable material, either metal or wood, and riveted or similarly fastened to the cylinder, and the journal 5 is extended beyond the side of  
50 the body and has its end 7 squared and adapted to receive a crank-handle 8, and the said journal is provided with an annular groove

9 to prevent water or the overflow of the boiler running beyond it and to cause the same to fall in a gutter 10, extending around  
55 the sides and ends of the body and arranged a short distance from the upper edges thereof.

The sides of the washing-cylinder are provided with oppositely-disposed water-tubes 11, that have their inner ends 12 communi-  
60 cating with each other and with a perforated tube 13, which extends centrally and axially across the washing-cylinder, and is centrally bulged or flaring to cause the water forced  
65 through the water-tubes to run toward its middle and to be forced centrally through the clothes.

The outer ends of the water-tubes are provided with mouths or buckets 14, provided at  
70 their outer edges with grooves or ways 15 to receive slides 16, adapted to open and close the openings of the mouths or buckets 14 and regulate the amount of water forced through  
75 the water-tubes and directed upon the clothes. The inner ends of the water-tubes 11 are alternately closed by hinge valves or doors 17,  
that are operated by the water passing through the water-tubes at one side of the cylinder to  
80 close the tubes at the other side of the cylinder to direct the water into the perforated tube 13 and prevent the same passing out through the opposite water-tubes without en-  
85 tering the perforated tube, and the said hinged doors or valves 17 are operated automatically and can be examined through openings 18,  
arranged in the upper faces in the ends of the perforated tube and adapted to be closed  
90 by curved slides 19, that are fitted in suitable ways 20.

The periphery 21 of the rotating washing-  
95 cylinder is perforated and provided on its inner face with V-shaped rubbers 22, that are constructed of suitable material, and are adapted to contact with the clothes and aid in the process of cleansing, and the said cyl-  
100 inder is provided with a hinged section 23, secured to the cylinder by a rod 24, which passes through suitable eyes and is adapted to be withdrawn from the eyes to permit the hinged section 23 to be removed.

The washing-cylinder is provided with a perforated partition 25, constructed of suitable material, either wood or metal, and extending from the perforated tube 13 to the

periphery 21 of the cylinder, and is secured in place by screws, and is adapted to be removed, and is preferably arranged between the curved water-tubes, which stay and brace it, and the said partition is exceedingly advantageous when it is desirable to wash different kinds of clothes and also in the operation of wringing. The hinged section is secured to the cylinder by a suitable hasp 26, and engages a pin 27. The water is placed several inches in the body or a sufficient height to be readily engaged by the buckets or mouths 14 of the water-tube, and as the cylinder rotates the water is first forced in one set of curved tubes and passes up the same and operates the hinged doors or valve and enters the perforated tubes 13, and upon further rotation of the cylinder the other set of mouths or buckets comes in contact with the water, which enters the water-tube, as before, operates the hinged doors or valves, and is expelled through the perforations of the tube 13. The boiler is placed upon a stove or heating apparatus to raise the water to the desired temperature and produce steam, and after the operation of washing the water is drawn off by means of a tube 28, which is provided with a cock 29, and is adapted to receive a spout 30 to direct the flow downward into a suitable receptacle. After the operation of washing has been completed and the water drained the cylinder is rapidly rotated to expel the moisture from the clothes, and it will thus be seen that the machine is a combined washer and wringer.

The washing-machine is provided with a cover 31, having a suitable distance from its lower edges a ridge 32 to rest upon the upper edges of the body, and the top of the cover is provided with a central opening 33, adapted to be closed by a slide 34, arranged in suitable ways 35, and upon each side of the central opening 33 is a perforated handle 36, secured to the inclined portion 37, and one of the handles supports the slide when withdrawn to expose the opening 33 and allow the steam to escape.

The overflow of the machine runs into the gutter 10, which is inclined to direct the water to an opening 38, beneath which is arranged a spout 39, that directs the water into a drip-

cup 40, suspended beneath the spout by a bail 41, engaging a hook 42, secured to the side of the body, and the said drip-cup is adapted to be readily removed from time to time to empty its contents.

What I claim is—

1. In a washing-machine, the combination of the body, the rotating cylinder arranged therein, and the oppositely-disposed curved water-tubes having mouths or buckets 14 at the periphery of the cylinder and provided with the automatically-operating doors or valves at their inner ends, substantially as described.

2. In a washing-machine, the combination of the body, the rotating cylinder arranged therein, the oppositely-disposed water-tubes having communicating inner ends and provided at their outer ends with mouths or buckets 14, the slides arranged to close the mouths or buckets, and the automatically-operating valves or doors arranged to alternately close the water-tubes, substantially as described.

3. In a washing-machine, the combination of the body, the rotating cylinder arranged therein, the oppositely-disposed water-tubes provided at their outer ends with mouths or buckets and having their inner ends arranged together, the automatic valves arranged to alternately close the water-tubes, and the perforated tube connecting the inner ends of the water-tubes, substantially as described.

4. In a washing-machine, the combination of the body, the rotating cylinder, the oppositely-disposed water-tubes provided at their outer ends with mouths or buckets and having their inner ends arranged together, the automatically-operating valves or doors, the perforated tube connecting the inner ends of the water-tubes and provided with openings 18 at its ends and having its central portion enlarged or bulged, and the slides 19 to close the openings 18, substantially as described.

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

BENJAMIN FRANKLIN HARTMAN.

Witnesses:

JOSEPH WILSON,  
J. KEENAN.