

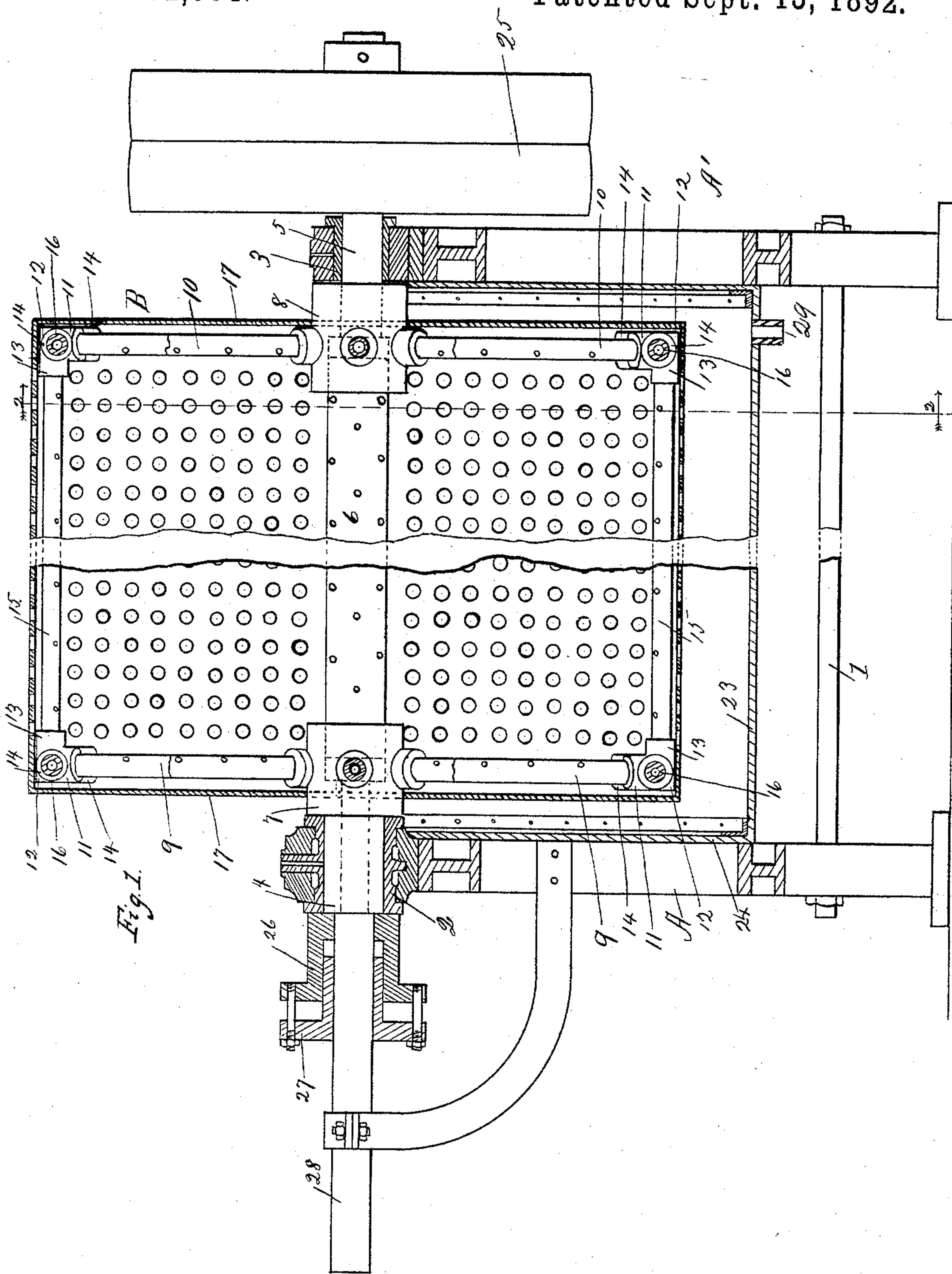
(No Model.)

2 Sheets—Sheet 1.

R. H. HERDER.
MACHINE FOR WASHING SHAVINGS.

No. 482,684.

Patented Sept. 13, 1892.



Witnesses:
Otto Luebkert
Rudolph Lotz

Inventor:
Rudolph H. Herder
By *L. J. Kennedy*
his attorney.

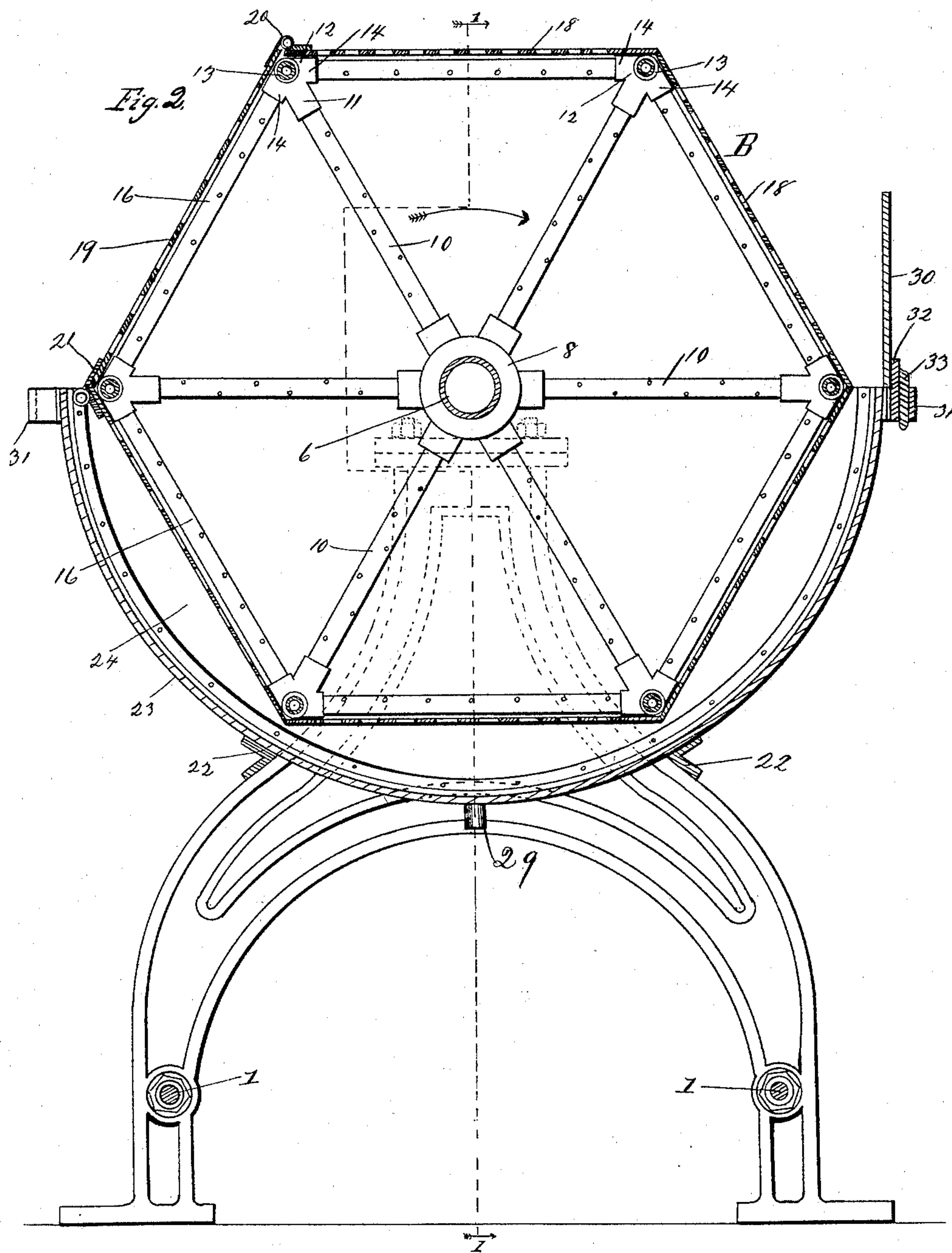
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UNITED STATES PATENT OFFICE.

RUDOLPH HENRY HERDER, OF CHICAGO, ILLINOIS.

MACHINE FOR WASHING SHAVINGS.

SPECIFICATION forming part of Letters Patent No. 482,684, dated September 13, 1892.

Application filed June 22, 1891. Serial No. 397,113. (No model.) Patented in Germany January 26, 1891, No. 58,981; in France February 6, 1891, No. 211,223, and in Austria-Hungary December 6, 1891, No. 3,712 and No. 3,767.

To all whom it may concern:

Be it known that I, RUDOLPH HENRY HERDER, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Machines for Washing Shavings, (for which I have obtained patents in France, No. 211,223, dated February 6, 1891; in Germany, No. 58,981, dated January 26, 1891, and in Austria-Hungary, No. 3,767 and No. 3,712, dated December 6, 1891;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a novel construction in a washing-machine, and more particularly to that class of washing-machines used by brewers for washing and cleansing shavings that are used for clearing the lager-beer before it is racked off from the casks or vats.

The object of my invention is to provide a device of the above description of durable construction that will thoroughly wash and cleanse such shavings.

The invention consists in the features of construction and combinations of parts herein-after fully described, and specifically claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a central longitudinal vertical section of a washing-machine constructed in accordance with my invention with part broken away for convenience in illustration, and Fig. 2 is a vertical transverse section in the line 2 2 in Fig. 1.

Referring to said drawings, A and A' indicate suitable posts or supports connected near their lower ends by tie-rods 1 and forming a main frame. In the upper ends of the said supports are arranged journal-bearings 2 and 3, in which the journals 4 and 5 on the ends of the hollow perforated shaft 6 are mounted. In the particular construction illustrated the hollow shaft is connected at its ends with star-couplings 7 and 8, and said star-couplings are provided with the outwardly-projecting journals 4 and 5. The said star-couplings are each provided with a plurality of branches, preferably six, and from these

branches radiate perforated pipes 9 and 10, that are connected at their outer ends with the inwardly-projecting branches 11 of couplings 12. The said couplings 12 are provided with lateral branches 13 and angular branches 14. Between the branches 13 are arranged longitudinal perforated pipes 15, that extend the entire length of the machine, and at the ends of the machine are located perforated pipes 16, that extend at right angles to the length of the machine and are connected with the branches 14 of said couplings 12. The perforations in the hollow shaft 6 are on all sides of the same, while the perforations in the pipes 10, 15, and 16 are only on the inner face or side thereof. It will be seen that the couplings and pipes referred to when arranged and assembled as described form, in effect, a hexagonal prismatic skeleton.

The pipes above described are inclosed within what is termed for convenience a "flat-sided cylinder" B, which is supported upon the star-couplings 7 and 8 and upon said couplings 12. The ends 17 of said cylinder B are plain, while the sides 18 are perforated, as shown. The sides 18 of said cylinder are parallel with the adjacent pipes 16, so that, as a matter of fact, the figure formed thereby is a hexagonal prism; but it will be understood that it could be provided with a greater or less number of sides, and hence the use of the expression "flat-sided cylinder."

To permit access to the inside of the cylinder, one of its sides 19 is removable or hinged, and, as shown in Fig. 2, said side is hinged along its upper edge, as at 20, and the cylinder is provided with a suitable latch or fastening device 21, located to engage and retain the lower edge of the said hinged side 19.

Between the end supports A and A' and supported by brackets 22, secured thereto, is located a semicircular trough or receptacle 23, having closed ends 24 and inclosing the lower half of the flat-sided cylinder B. The cylinder and pipes can be rotated by means of pulleys 25, mounted upon an extension of the journal 5, or by means of a hand-crank secured upon said journal. The journal 4 is hollow and communicates with the coupling

7. Upon the outer end of said journal and beyond the bearing 2 a stuffing-box 26 is rigidly mounted and turns with said journal. A follower 27 is located within said stuffing-box 5 and serves to make a tight joint between a non-rotating pipe 28 and said hollow journal 4. The said pipe 28 is connected by hose or otherwise with a source of water-supply.

The operation is as follows: The shavings 10 to be washed are placed within the cylinder through the removable side 19, which is then closed and fastened. The cylinder is revolved and water is admitted to the hollow shaft and pipes. It will thus be seen that while the 15 mass of shavings are being agitated and thoroughly separated and shaken up by reason of the flat-sided cylinder the water is being sprayed thereon through the perforations in the various pipes and from all sides and directions, and thereby thoroughly washes and 20 cleanses the shavings. The water passes out through the perforations in the sides of the cylinder into the trough 23, and then passes off through an opening 29 in the bottom of 25 said trough.

In Fig. 2 is shown a deflecting-plate 30, located along one side of the machine and rising from the upper edge of the trough or receptacle 23. In said Fig. 2 the deflecting- 30 plate is shown as located on the right-hand side of the machine to catch and direct into the trough any water that is thrown from the cylinder when it revolves in the direction of the arrow. The said deflecting-plate can, 35 however, be placed on either side, according to the direction of revolution of said cylinder, and to this end the upper edges of said trough are provided with eyes or loops 31, that receive fingers 32 on the lower edge of the de-

flecting-plate, and wedges 33, inserted between the fingers 32 and loops, serve to hold said deflecting-plate rigidly in position. 40

It is obvious that any other suitable means for securing the deflecting-plate in position can be used in place of those just described. 45

I claim as my invention—

1. In a washing-machine of the kind specified, the combination, substantially as hereinbefore set forth, of a revoluble perforated cylinder provided with a hollow perforated 50 shaft and with perforated pipes located along its ends and sides, said shaft and pipes communicating with a source for supplying water thereto, substantially as shown and described.

2. In a washing-machine of the kind specified, the combination, as hereinbefore set forth, of a revoluble perforated flat-sided cylinder provided with a hollow perforated shaft 55 and with perforated pipes located along its ends and sides, said shaft and pipes communicating with a source for supplying water thereto, substantially as shown and described. 60

3. In a washing-machine of the kind specified, the combination, as hereinbefore set forth, of a main frame, a revoluble perforated 65 cylinder having the means set forth and shown for spraying water within the same, a trough or receptacle inclosing the lower portion of said cylinder, and a deflecting-plate removably secured to said main frame along 70 one side of said cylinder, substantially as shown and described.

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

RUDOLPH HENRY HERDER.

Witnesses:

HARRY COBB KENNEDY,
OTTO LUEBKERT.