

Nov. 17, 1953

B. PELLERIN

2,659,226

WASHING MACHINE IMPELLER HAVING NONRADIAL VANES

Filed June 2, 1952

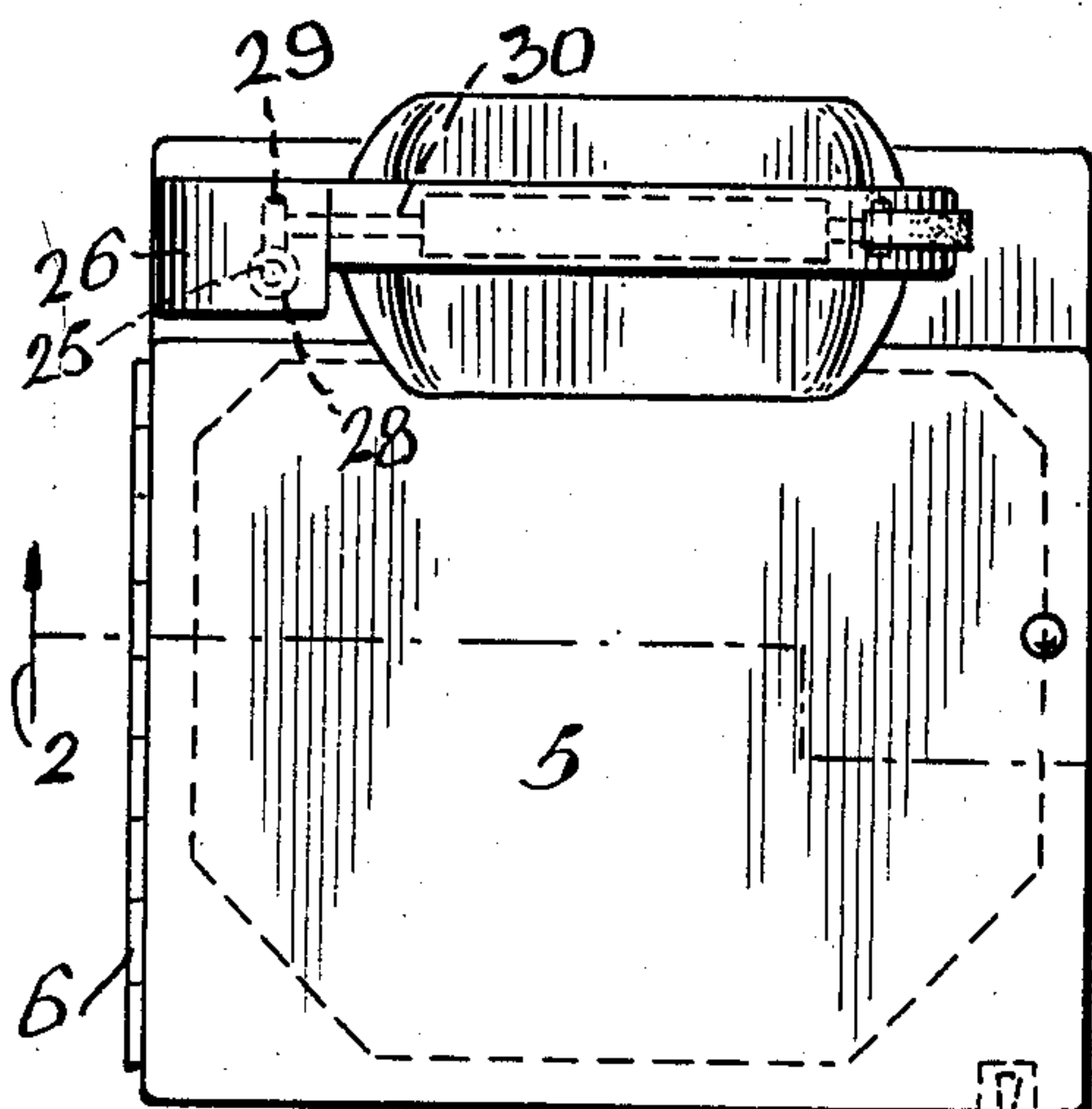


Fig. 1

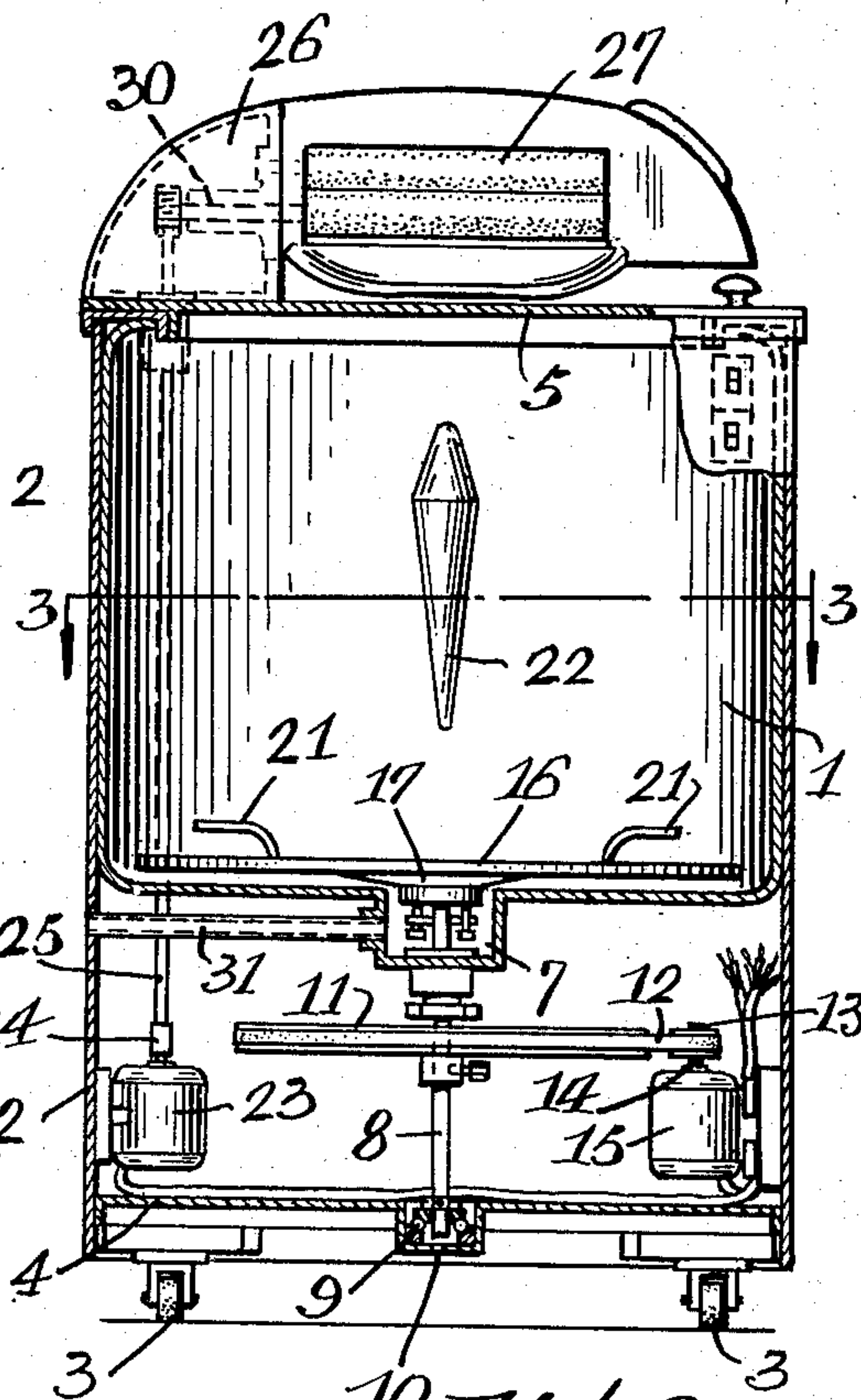


Fig. 2

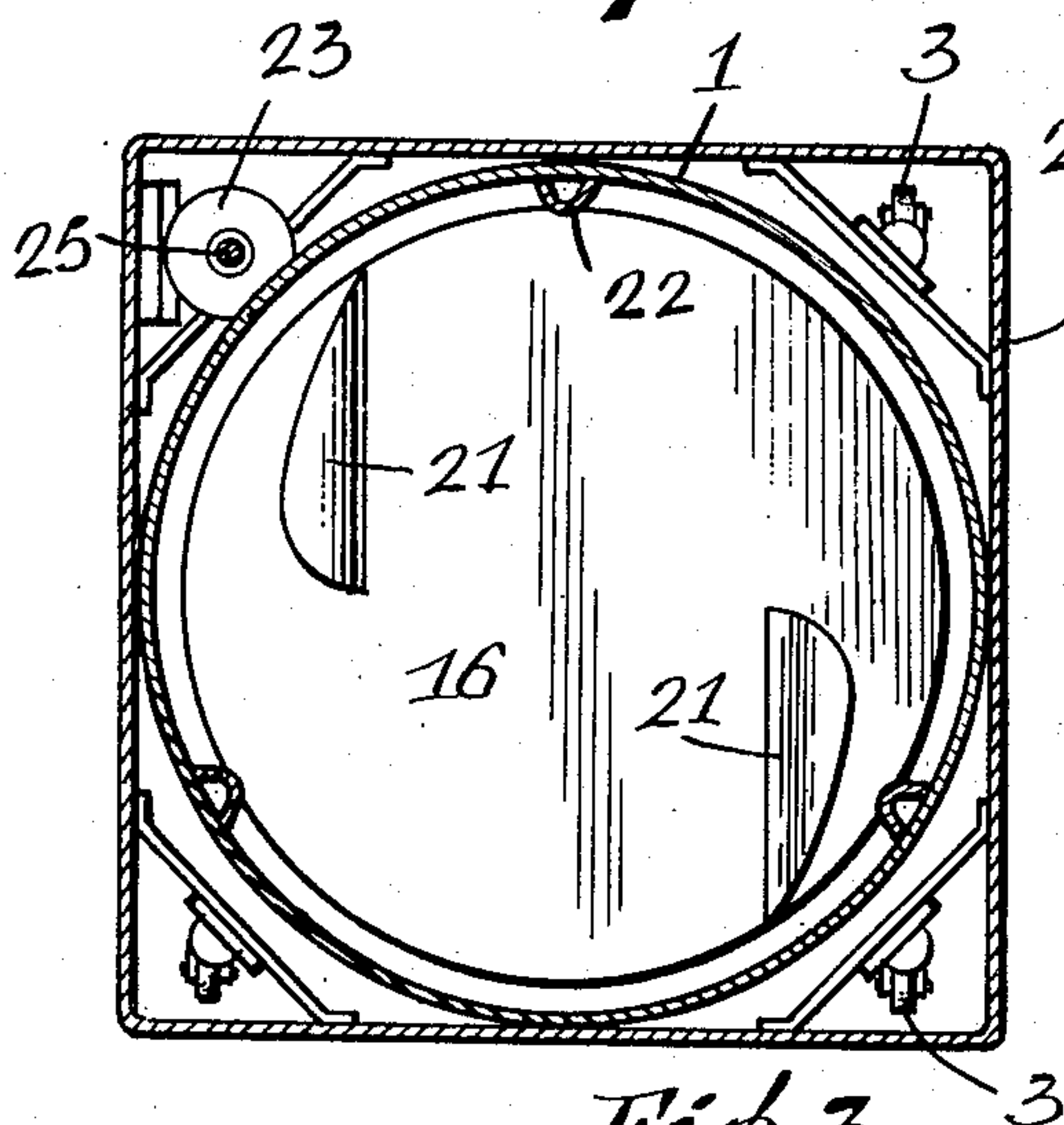


Fig. 3

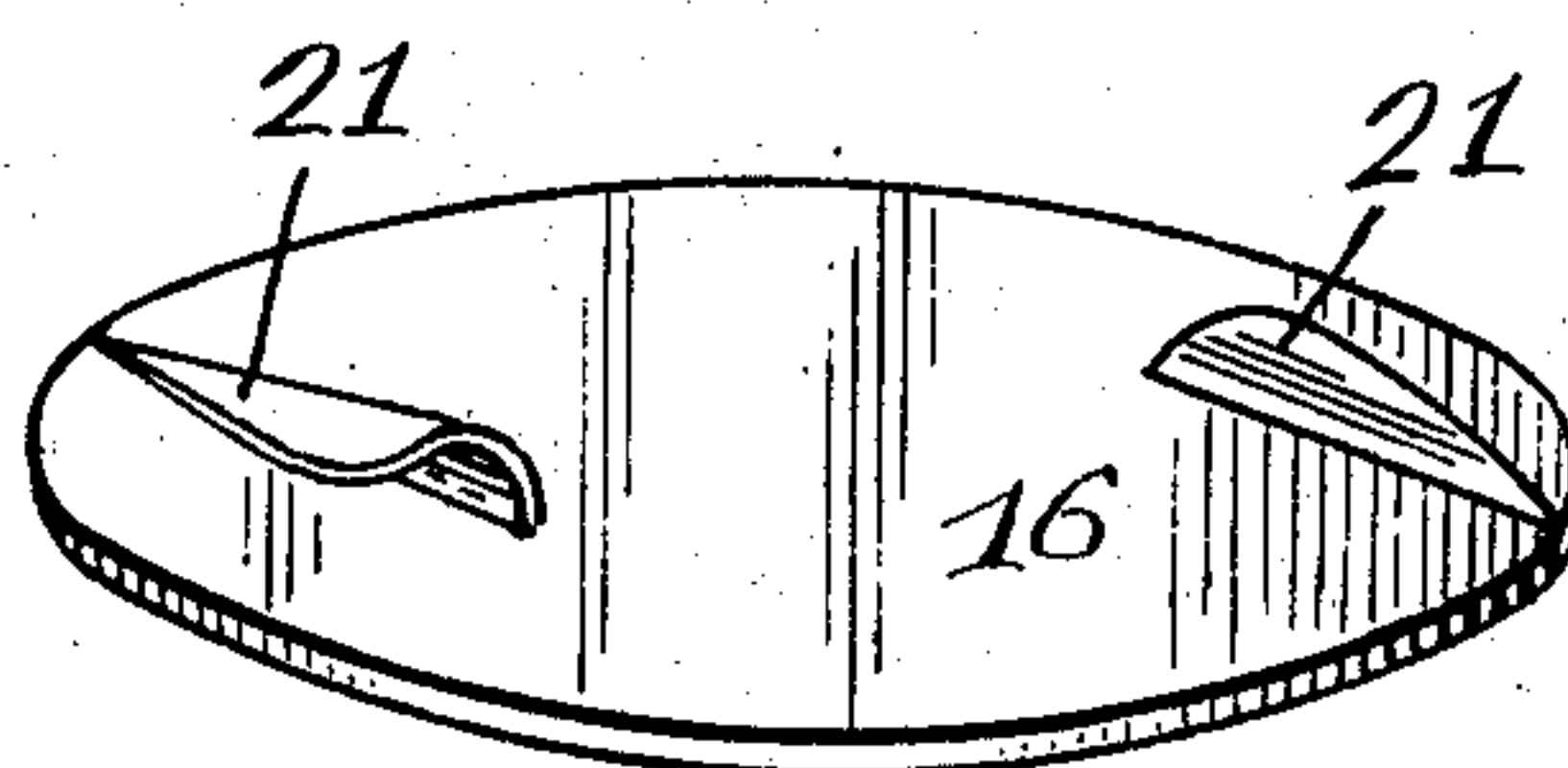


Fig. 4

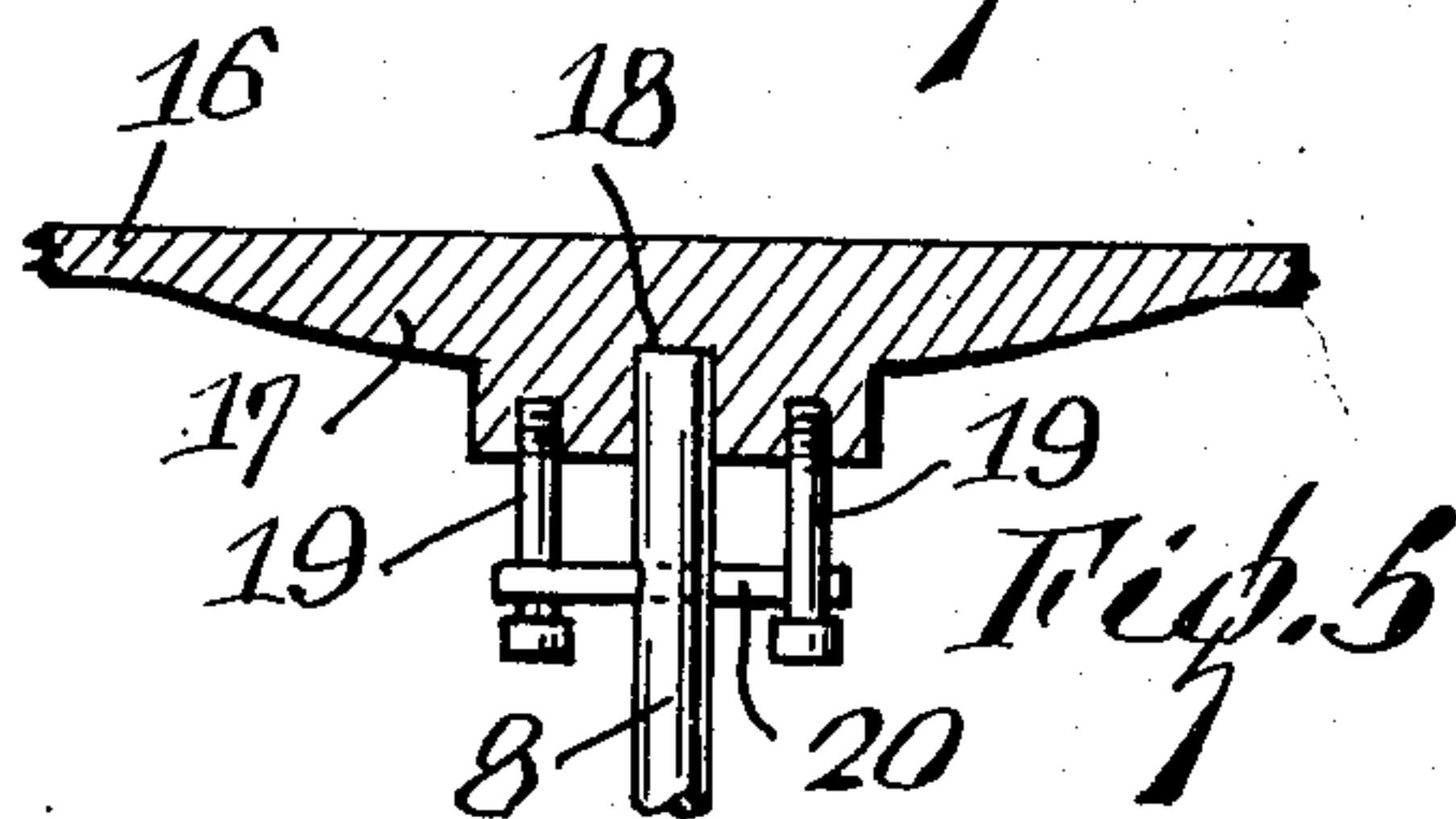


Fig. 5

Inventor:  
**Bruno Pellerin**

By *Alfred Journeir*

Attorney



## UNITED STATES PATENT OFFICE

2,659,226

WASHING MACHINE IMPELLER HAVING  
NONRADIAL VANESBruno Pellerin, Shawinigan Falls, Quebec  
Canada

Application June 2, 1952, Serial No. 291,243

1 Claim. (Cl. 68—133)

1

The present invention pertains to a novel washing machine.

The principal object of the invention is to provide a washing machine which requires less soap than other machines and less hot water, current and time.

Another object is to provide a machine that washes the load gently or with little force so that the life thereof is prolonged. Thus, the finest fabrics can be washed without damage since there is no friction nor traction thereon.

Another object is to wash the pieces by action of the water alone and thus gently as set forth above, i. e. without mechanical action on the pieces. A further object is to obtain rapid washing and treatment of a larger load in a tub of normal capacity.

Still another object is to provide a durable, relatively simple and inexpensive construction for the purposes set forth.

In the accomplishment of these objects, the device consists of a cylindrical tub in a square housing that imparts a modern appearance. The top of the tub has a hinged cover, and in the bottom is mounted an agitator consisting of a disk having curved vanes on its upper surface. In the center of the bottom of the tub is formed a well in which a vertical driving shaft is connected to the disk. Below the tub, the shaft carries a pulley driven by a belt from an electric motor.

The invention is fully disclosed by way of example in the following description and in the accompanying drawings in which:

Figure 1 is a plan view of the machine;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a section on the line 3—3 of Figure 2;

Figure 4 is a perspective view of the agitator; and

Figure 5 is a partial section of the agitator.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

The machine includes a cylindrical tub 1 set in a square housing 2 which extends downward to form an enclosing base for the mechanism. The housing is mounted on four casters 3 and has a floor 4. It is also fitted with a cover 5 mounted on hinges, which also applies to the tub 1.

At the bottom of the tub is formed a well 7 in the center of which is mounted the upper end of a shaft 8 which extends to the floor 4 and is

2

there received in a bearing 9 fitted in another well 10.

As the midpoint of the shaft 8 is secured a pulley 11 joined by a belt 12 to a smaller pulley 13 keyed on the shaft 14 of an electric motor 15. At a short distance above the bottom of the tub 1 is located an agitator or impeller comprising a disk 16 covering the entire bottom. A bearing 17 is formed on the lower surface of the disk which sets on the upper end of the shaft 8. Two fingers 19 hang from this bearing (Figure 5) and are spaced 180° apart to engage opposite points on a pin 20 passed through the shaft 8. On the disk 16 are secured two curved vanes 21 extending inward from the edge in parallel relation and having a substantial spacing between them. The spacing is 180° on the circumference, where they are angular to the tangents. The secured edges of the vanes are rectilinear, and the vanes are curved and of semi-ovoid shape in plan view, tapering toward the circumference of the disk.

On the inner vertical wall of the tub 1 are mounted three ribs 22 elongated vertically and pointed at both ends. They are equidistantly spaced and midway between the ends of the tub.

Below the tub is another electric motor 23 having its shaft formed as a sleeve 24 receiving the lower end of another shaft 25 which extends into the mounting 26 of a wringer comprising two parallel rubber rollers 27. The shaft 25 carries at its upper end a worm 28 engaging a pinion 29 secured on the shaft 30 of one of the rollers 27. The other roller turns by friction with the first roller. For emptying the tub, a pipe 31 extends from the well 7 through the housing 2.

In the use of the device, the wash is placed on the disk 16 after the necessary soap and water have been put in the tub. When the motor 15 is started, the vanes 21 agitate the solution and tumble the wash therein. By reason of the centrifugal action, the wash comes into contact with the ribs 22 which partially retard the rotary movement and the displacement. The pieces remaining at the bottom of the tub are suspended in the solution, which penetrates them without mechanical pressure. The agitation of the solution alone effects the washing which is performed rapidly and without damage or tearing of the wash.

The washing of the load is automatic, and because the load tends to descend by gravity, the rotating vanes impart to the wash an intermittent upward movement occasioned through the agitation of the solution. The oscillation and

3

agitation of the load in the tub assures perfect washing without damage to the finest pieces.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention as indicated by the appended claim.

What I claim is:

A washing machine comprising a tub, a disk 10 rotatably mounted in the bottom thereof, a vertical shaft extending upward to the lower surface of said disk and fitted non-rotatably therein, vanes on the upper surface of said disk, means

4

for rotating said shaft, said vanes being non-radial to said disk, said vanes being secured to the disk on parallel lines, curved through 90°, and semi-ovoid in plan view.

BRUNO PELLERIN.

#### References Cited in the file of this patent

#### UNITED STATES PATENTS

Number	Name	Date
1,580,778	Coverstone	Apr. 13, 1926
1,721,956	Hoff	July 23, 1929
2,192,758	Skinner	Mar. 5, 1940
2,264,202	Forney	Nov. 25, 1941