Dec. 5, 1933. F. KRÄMER 1,938,146

WASHING MACHINE

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Fig. 1.

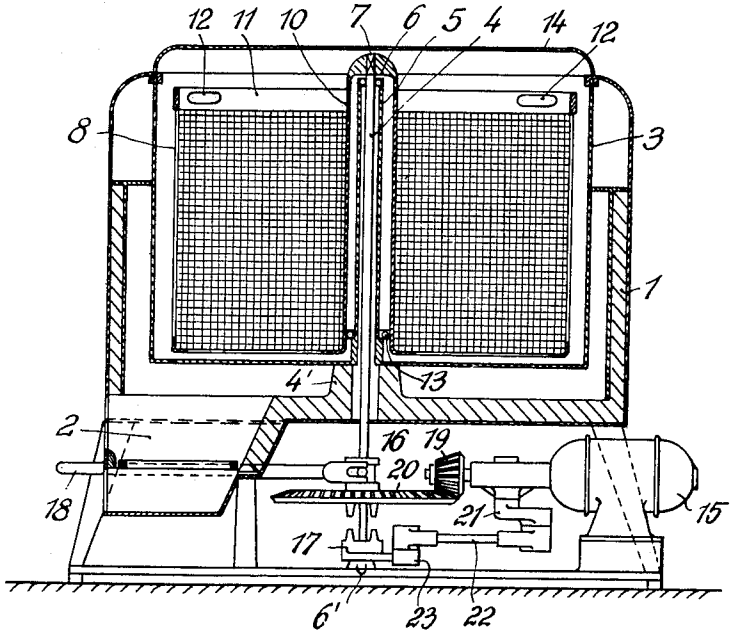
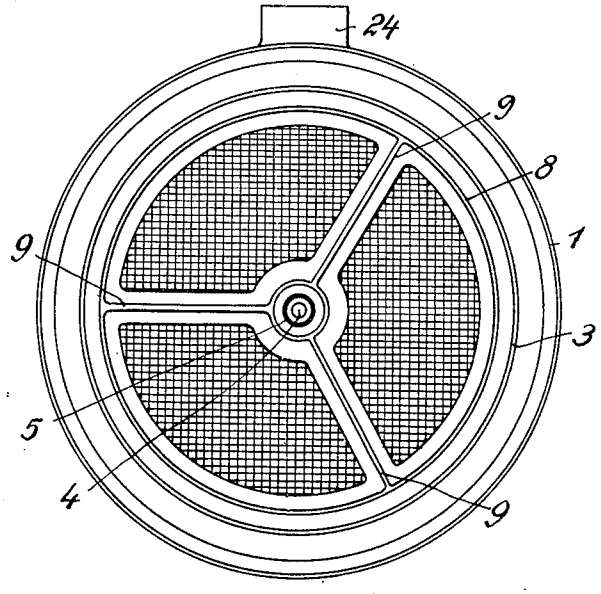


Fig. 2.



Inventor:
Fritz Krämer,
by W. Felsenberg,
Attorney.

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WASHING MACHINE

Fritz Krämer, Amalienhutte, near Laasphe, Germany, assignor to Hessen-Nassauischer Huttenverein G. m. b. H., Amalienhutte, near Laasphe, Germany, a German company

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2 Claims. (Cl. 68—18)

My invention relates to a washing machine which is characterized by the combination of a furnace that is built into the casing of the machine and transmits heat to the surface of the washing tub, a perforated drum with radial partitions constructed wholly of wire gauze which is rotatable in the washing tub and is secured to a spindle projecting through one of the walls of the wash tub and means for driving the perforated drum at a variable speed.

The machine works with particular rapidity and efficiency and treats the washing without damage. It is suitable for soaking, boiling, washing, rinsing and hydroextracting, for washing clothes as well as crockery. The articles to be washed can be left in the machine during the whole washing operation.

The perforated drum may be secured either to a vertical or to a horizontal spindle. When using a vertically arranged spindle, it is preferable to mount on the same several easily interchangeable perforated drums. The perforated drums used for crockery washing need not then be always carefully cleansed when linen has to be washed in the same machine. Moreover one drum can be filled or emptied whilst the other one rotates in the machine.

The driving gear preferably comprises a friction wheel gear with conical friction wheels, one of which, intended for changing the kind of movement, is rigidly secured to a clutch member adjustable on the spindle to be driven.

In the accompanying drawing showing by way of example two constructions according to the invention,

Figure 1 is a vertical section through a washing machine, the washing drum of which is mounted on a vertical spindle.

Figure 2 is a plan of the same, with the cover removed,

The washing machine is mounted in a casing 1 provided with a refractory inner lining and with a furnace 2 built into the floor. In the casing 1 is mounted a washing tub 3 which is played upon at the bottom and at the sides by the combustion gases of the furnace. In the centre of the casing a vertical spindle 4 projects through the wash tub and is protected from the combustion gases by a ring 4', and from the washing liquid by a sleeve 5 secured to the bottom of the wash tub.

At the upper end of the sleeve 5, the spindle 4 is supported by a ball bearing 6: at its lower end it runs in a step bearing 6'. The upper end of the spindle 4 projecting from the sleeve 5 is made into a square 7 and supports the washing drum 8 which is subdivided into three compartments by three radially arranged partitions 9 which extend from the periphery of the drum to the tubular central part 10. With the exception of the central part 10, upper flange 11 and a few reinforcing bars, the washing drum 8 including the partitions 9 is made throughout of wire gauze.

The upper flange 11 of the washing drum is provided with openings 12 which form handles and enable the washing drum to be lifted out. In order to avoid oscillations during its rotation, the lower end of the central part 10 of the drum is mounted on a ball bearing 13 on the sleeve 5 of the wash tub. The wash tub can be closed by means of a cover 14.

A motor 15 is used for driving the washing drum. A clutch constituted by two parts 16 and 17, which can be operated by means of a lever 18, makes it possible to impart either a reciprocating movement or a rapid or slow rotary movement to the spindle 4. A friction wheel drive 19, 20 is used to transmit rotation and the reciprocating movement is transmitted by a crank gear 21, 22, 23. The combustion gases of the furnace are discharged through a flue 24.

Any method of heating the washing machine may be employed. Instead of a furnace arrangements for heating by gas, steam or electricity may be made according to requirements. In such an event the outer housing provided with the refractory inner lining may be omitted if desired.

What I claim is:—

1. A washing machine comprising in combination, a casing, a wash tub located inside and spaced from said casing, heating means for said casing, a rotatable spindle projecting upwardly through the bottom of said casing and tub, a perforated drum having radial partitions connected to the spindle for rotation therewith and means below the casing for selectively oscillating and rotating the spindle and drum for effecting a washing and drying operation respectively.

2. A washing machine comprising in combination, a casing, a wash tub located inside and spaced from said casing, heating means for said casing, a rotatable spindle projecting upwardly through the bottom of said casing and tub, a central vertical pipe within said wash tub and passing through the bottom of it, and in tight fit with said pipe a further central vertical pipe within said casing and passing through the bottom of it, the two pipes surrounding said rotatable spindle, a perforated drum having radial partitions connected to the spindle for rotation therewith and means below the casing for selectively oscillating and rotating the spindle and drum for effecting a washing and drying operation respectively.

FRITZ KRÄMER.