

No. 688,248.

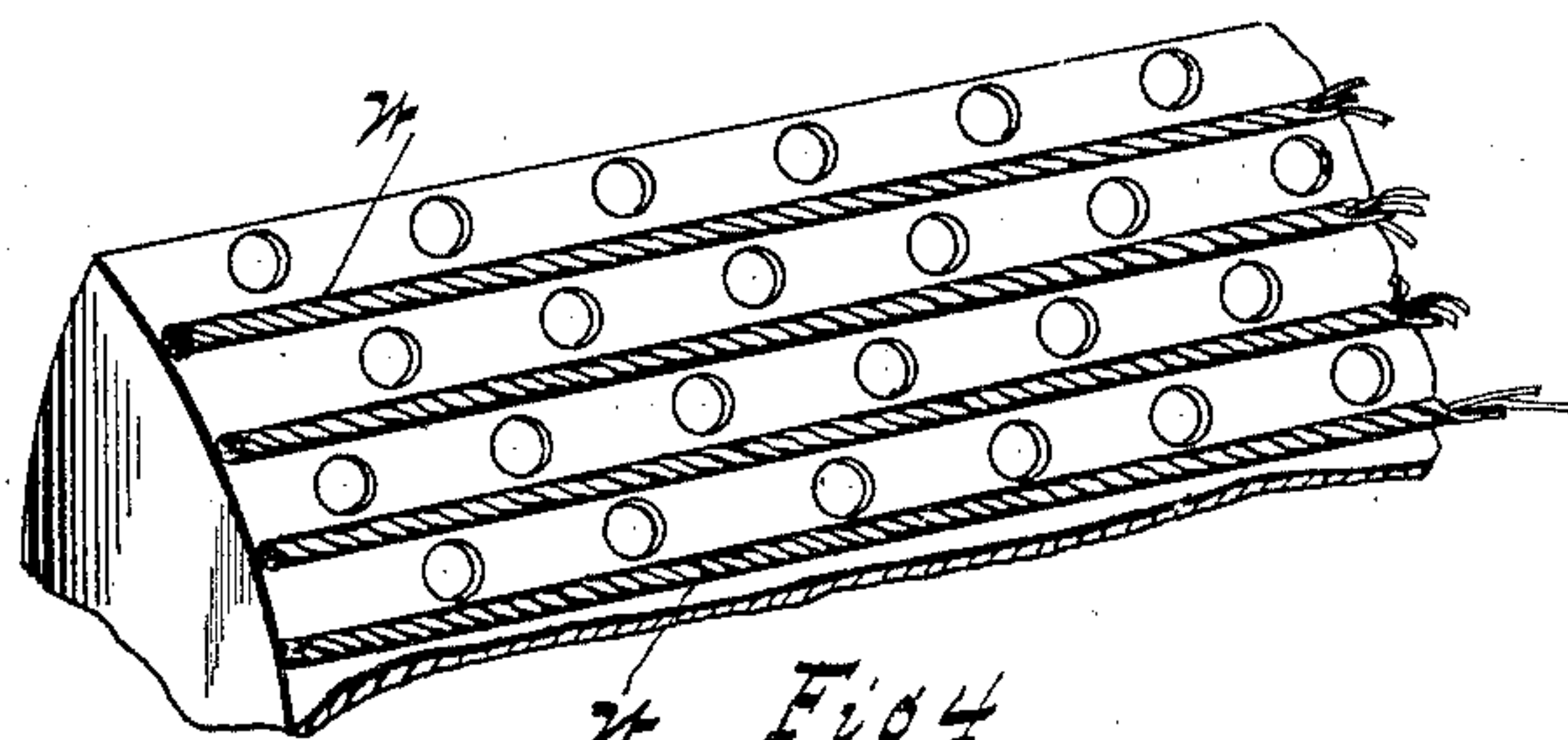
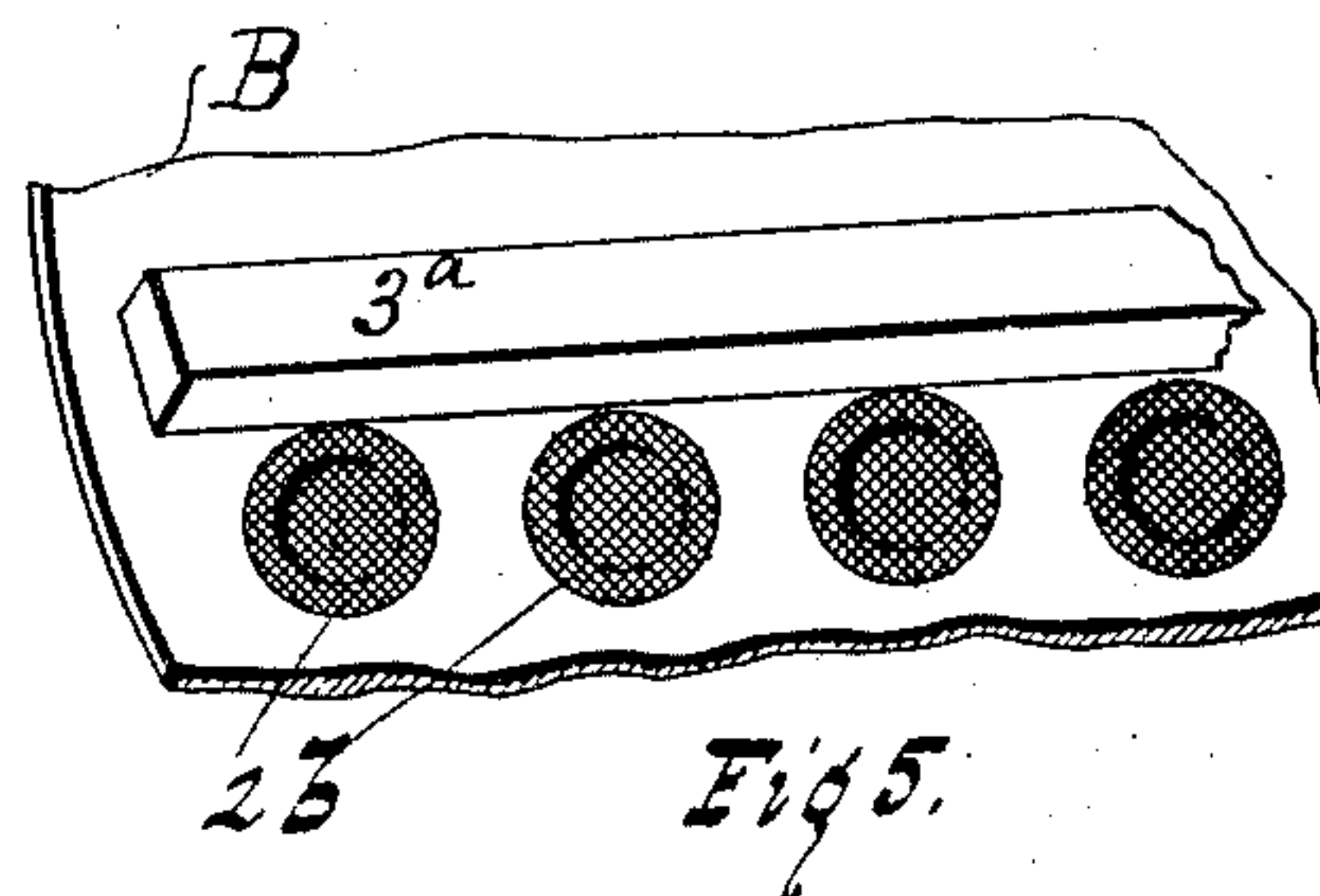
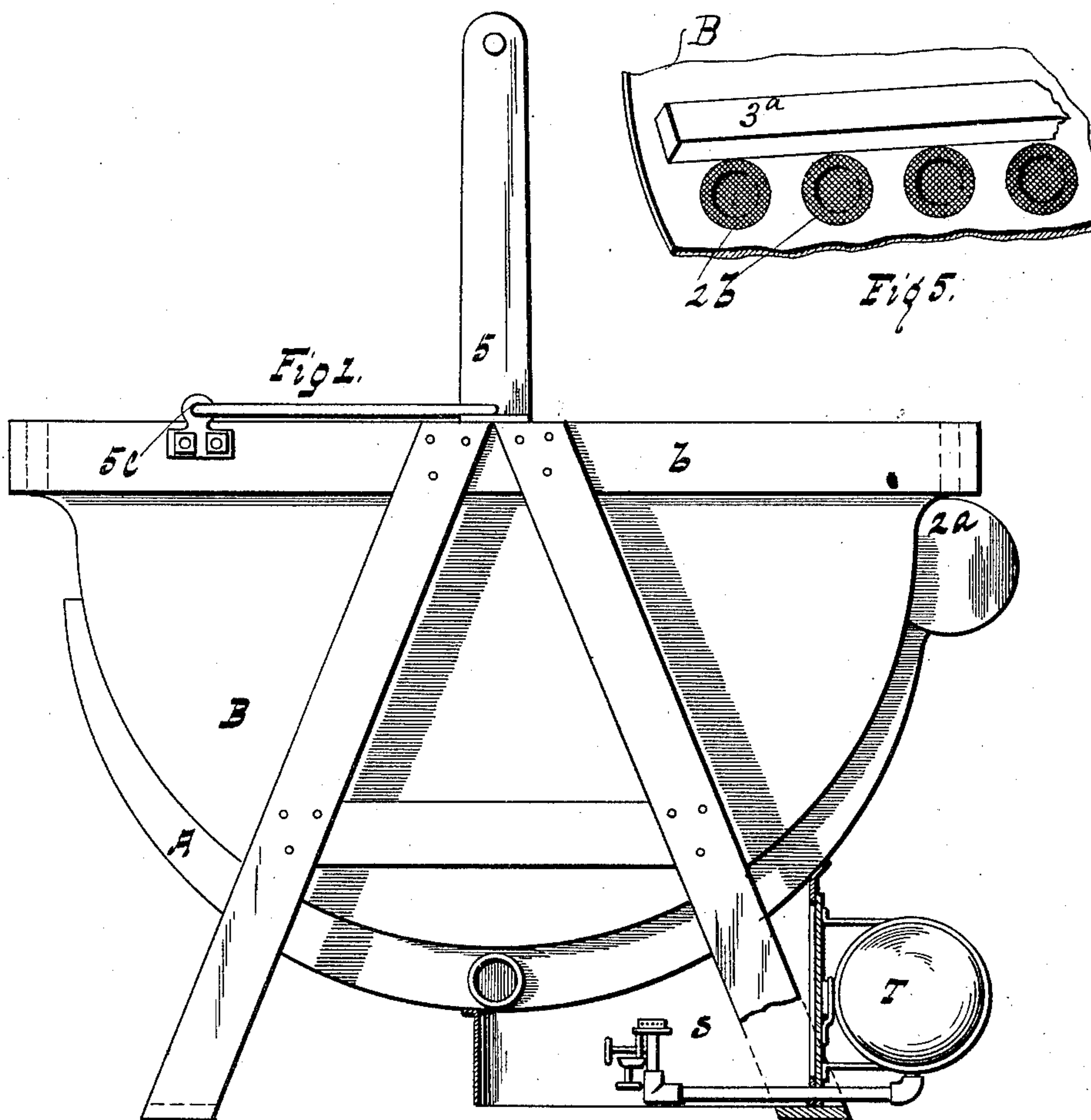
Patented Dec. 3, 1901.

C. HOGARTH.  
WASHING MACHINE.

(Application filed Feb. 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES  
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Fig. 4  
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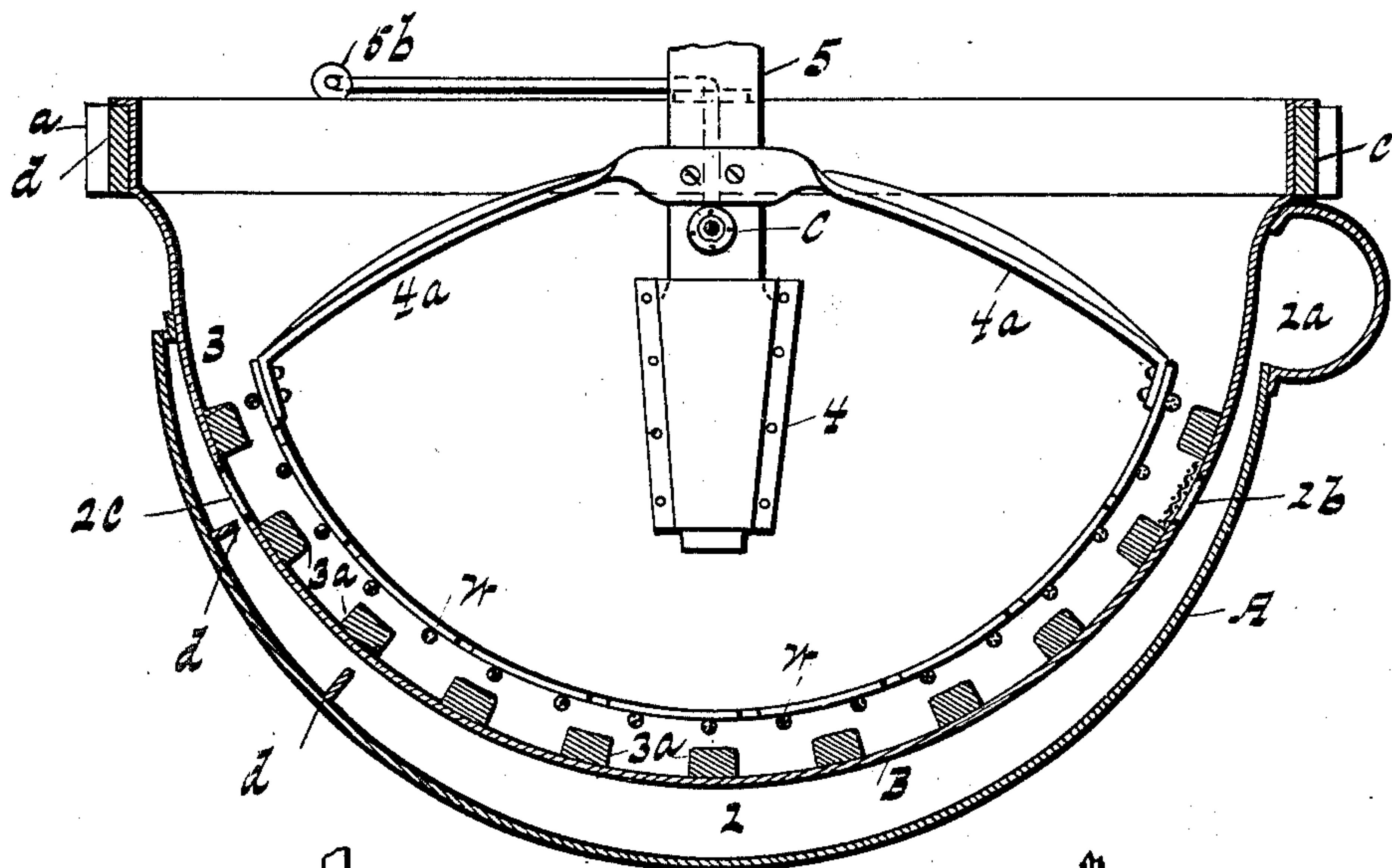


Fig. 2.

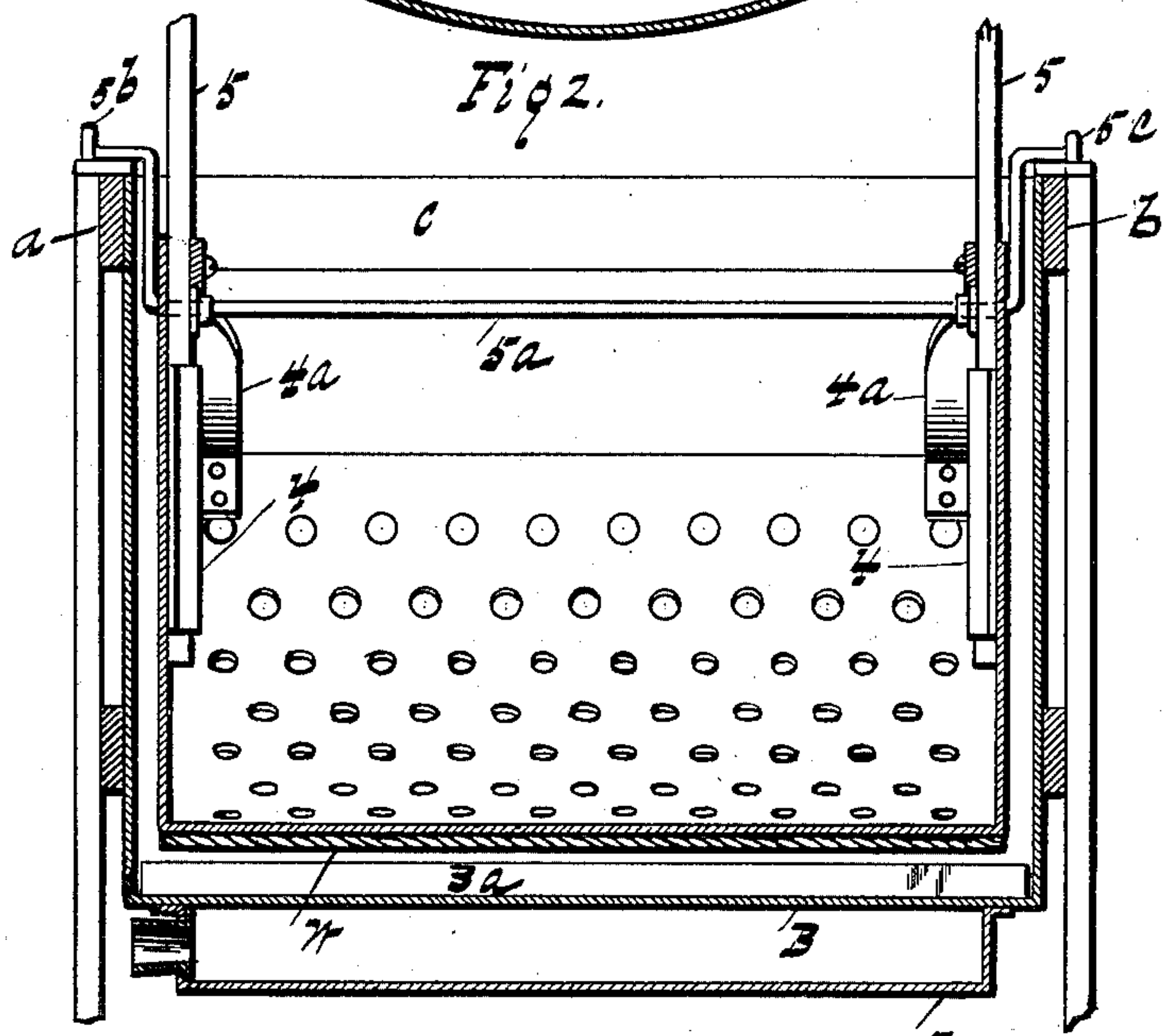


Fig. 3.

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By



# UNITED STATES PATENT OFFICE.

CLARK HOGARTH, OF WAYNE, MICHIGAN.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 688,248, dated December 3, 1901.

Application filed February 25, 1901. Serial No. 43,870. (No model.)

*To all whom it may concern:*

Be it known that I, CLARK HOGARTH, a citizen of the United States, residing at Wayne, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Washing-Machines; and I do 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to washing-machines, and has for its object an improved machine for washing clothes and heating water and keeping the water hot with which the washing is done.

The machine consists substantially of a double-bottomed vessel arranged with a chamber between the two parts of the bottom. Water is introduced into the chamber between the two parts of the bottom and also into the interior of the machine, where the clothes to be treated are held. Heat is applied to the external wall at one side of the middle line and somewhat above the lowermost part of the chamber, and a constant circulation of water is produced through the chamber, with overflow on one side into the interior of the machine and inflow on the other side into the chamber within the concave, and arranged to oscillate therein is a rubber.

In the drawings, Figure 1 is an end elevation of the machine. Fig. 2 is a vertical cross-section. Fig. 3 is a vertical longitudinal section. Fig. 4 shows a portion of the bottom of the oscillating rubber. Fig. 5 shows a portion of the inner shell of the machine, showing the holes through which the water pours from the heating-chamber into the scrubbing-chamber.

A indicates the outer part of the machine-bottom, and B indicates the inner part thereof. The two parts are separated by a space and have between them a chamber used for the heating of the water that is employed in washing. The outer part A may be of any desirable shape, preferably, however, arched and somewhat eccentric to the arch of the in-

ner part B. The inner part is arched concentric with a point C on the end walls of the casing. The end walls are nearly semicircular. The walls are preferably made of metal and are stayed along the upper edges by frame-pieces *a*, *b*, and *c* and *d*. The heating-chamber 2 lies outside of and under the scrubbing-chamber and is somewhat crescent-shaped, with the points of the crescent directed upward, and one of the points enlarges into a chamber 2<sup>a</sup>, which is a condenser for steam generated by heating the washing-water. Steam generated in the heater is gathered in the condenser 2<sup>a</sup> and held from escape into the laundry-room. Through the wall which divides the heating-chamber from the washing-chamber are two rows of holes, one row 2<sup>b</sup> situated somewhat below the top of the crescent on the condensation side, which is also the heating side of the chamber, and the other row of holes 2<sup>c</sup> a corresponding distance below the opposite point of the crescent. The inner surface of the scrubbing-chamber 3 is provided with bars 3<sup>a</sup> or ribs that extend along the surface parallel with the axis of the partial cylinder formed by said wall. These ribs or bars 3<sup>a</sup> serve to hold the clothing in place under the scrubber or movable washboard.

The scrubber consists of an arched segment of a cylinder, hollow, provided on its outside with scrubbing appliances, and pierced through its walls with a large number of perforations. The ends are closed in, and on the inside of each end there is provided a pocket 4, in which is inserted the end of an actuating-lever 5, and the lever is secured in said pocket. The upper part of the scrubbing-cylinder is open and the edges are held together by bars 4<sup>a</sup>. The scrubbing-cylinder itself is held by a bent bail, the cross-bar 5<sup>a</sup> of which passes horizontally across the machine through the two levers 5 and outside of each lever bends vertically upward and continues upward to the upper surface of the side rail *a*. It is here again bent at right angles and each end continues along the rails, one rail continuing along the rail *a* and the other along the rail *b* to near each of its outer ends, where it is again bent at right angles



and where each end engages through an eye inserted in the side rail. The two eyes 5<sup>b</sup> and 5<sup>c</sup> hold the scrubbing-cylinder from sliding movement with respect to the side bars *a* and *b*, but the scrubbing-cylinder can swing on the cross-bar 5<sup>a</sup> as a center. It can also swing in the eyes 5<sup>b</sup> and 5<sup>c</sup>, and consequently is capable of an oscillating movement around the bar 5<sup>a</sup> or a substantially vertical movement in the scrubbing-chamber, the slight curve of this movement being so small that the movement is practically vertical and the scrubbing-cylinder can be oscillated over the articles interposed between itself and the bottom wall of the scrubbing-chamber, whether the space between them be small or great. On the outside of the scrubbing-cylinder, parallel with the longitudinal axis, are a number of scrubbing or rubbing bars. Preferably these bars are made from cables or twisted wire *W*.

Underneath the machine and at one side of the central line is placed the burner *S* of a gasoline-stove. There may be one burner or several burners, as may be necessary, to heat the water to be used. The burner is fed from a tank *T* and in arrangement does not differ from ordinary gasoline-burners, any suitable style of which may be used.

As will be seen in Fig. 1, the water-heating burner is placed somewhat toward one side and not quite at the center of the machine. The water directly above the burner is heated thereby and rises on that side, because of its smaller specific gravity, toward the chamber 2<sup>a</sup>, the cooler water from the other side of the machine flowing in to take the place of the rising water. The level of the water being above the holes 2<sup>b</sup> 2<sup>c</sup>, the rising hot water flows slowly through the holes 2<sup>b</sup>, mingling with the cooler water in the scrubbing-chamber 3, from whence it flows through the holes 2<sup>c</sup> and descends to take the place of the rising hot water just over the burner. The surface of the hot water over the burner is inclosed by the walls of the chamber 2<sup>a</sup>, so that the hot water is prevented from supersaturating the air of the laundry-room with its vapor. The water running into the heating-chamber has been through the soiled clothes and contains some dirt, and the heaviest of this dirt is allowed to settle and sepa-

rate from the water and is caught by baffle-plates *d*.

What I claim is—

1. In a washing-machine, the combination of a receptacle provided with a curved two-part bottom having a crescent-shaped chamber between the two parts of said bottom, said chamber being enlarged at one end to make a condensation-chamber, and the inner part being provided with a line of perforations at each end near the upper part of said crescent chamber and being imperforate therebetween, and an oscillatory scrubber, substantially as described.

2. In a washing-machine, a scrubbing-chamber provided with double walls at the bottom and ends, forming a continuous chamber therebetween extending up the ends and across the bottom, the inner walls of the sides having holes formed therethrough beneath the normal level of the water, and a source of heat adapted to heat the water between the double walls at one end of said continuous chamber, said continuous chamber being closed at its upper end above said source of heat.

3. In a washing-machine, in combination with a curved plate forming the bottom of a scrubbing-chamber, a second curved plate below the first forming the bottom of a heating-chamber, the first of said plates being provided with a row of perforations at one side near the top thereof for the inflow of heated water from the heating-chamber, and with a second row of perforations at the opposite side and near the top thereof for the outflow of water from the scrubbing-chamber into the heating-chamber, whereby when heat is applied to the heating-chamber, a circulation of water is produced that flows from above down into the scrubbing-chamber and is required to pass entirely across the scrubbing-chamber before reëntering the heating-chamber, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

CLARK HOGARTH.

Witnesses:

HAMILTON BALUSS,  
HAMILTON BALUSS, Jr.