

J. L. THOMSON.
FILTER.

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973,723.

Patented Oct. 25, 1910.

Fig. 1.

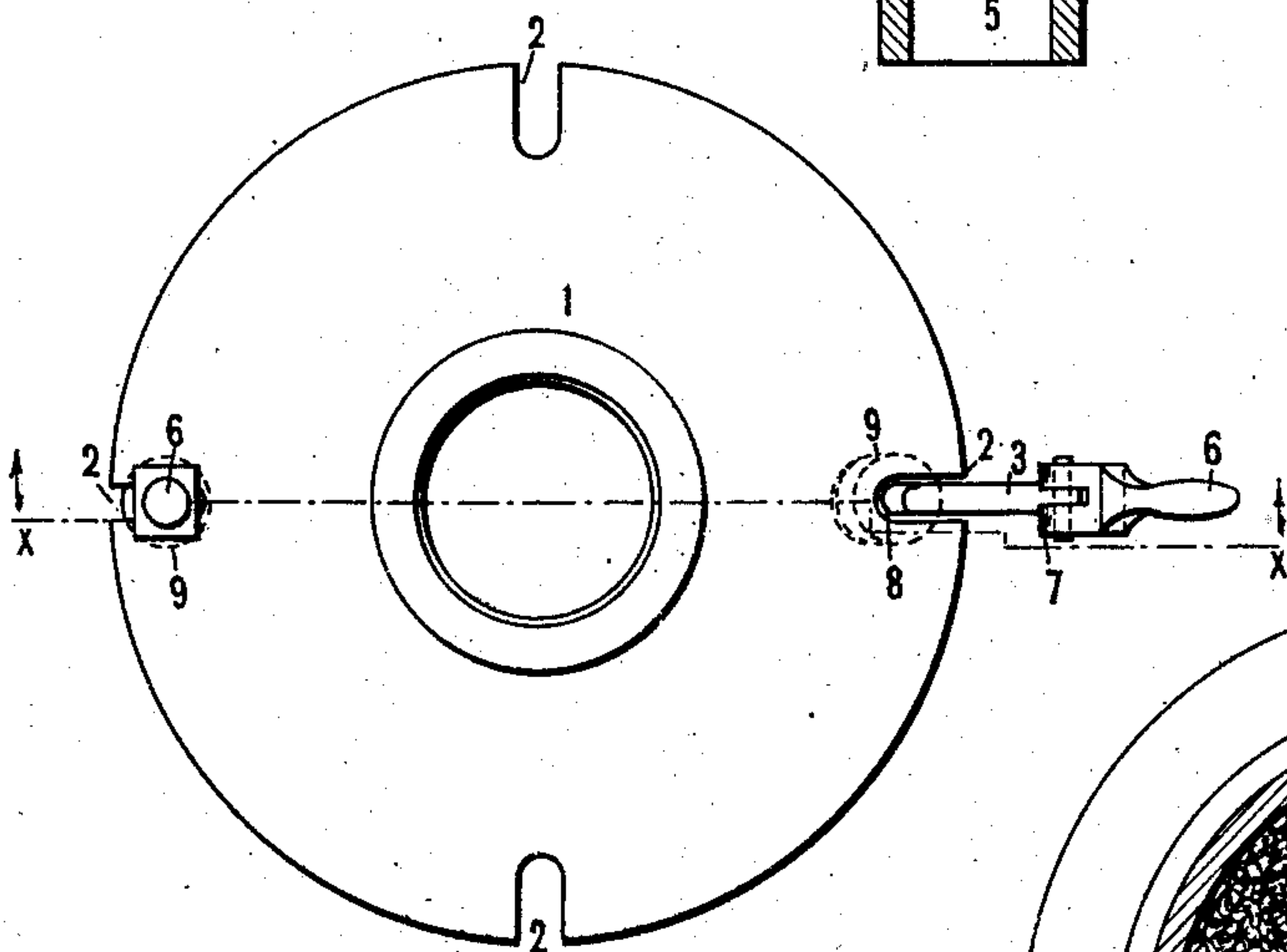
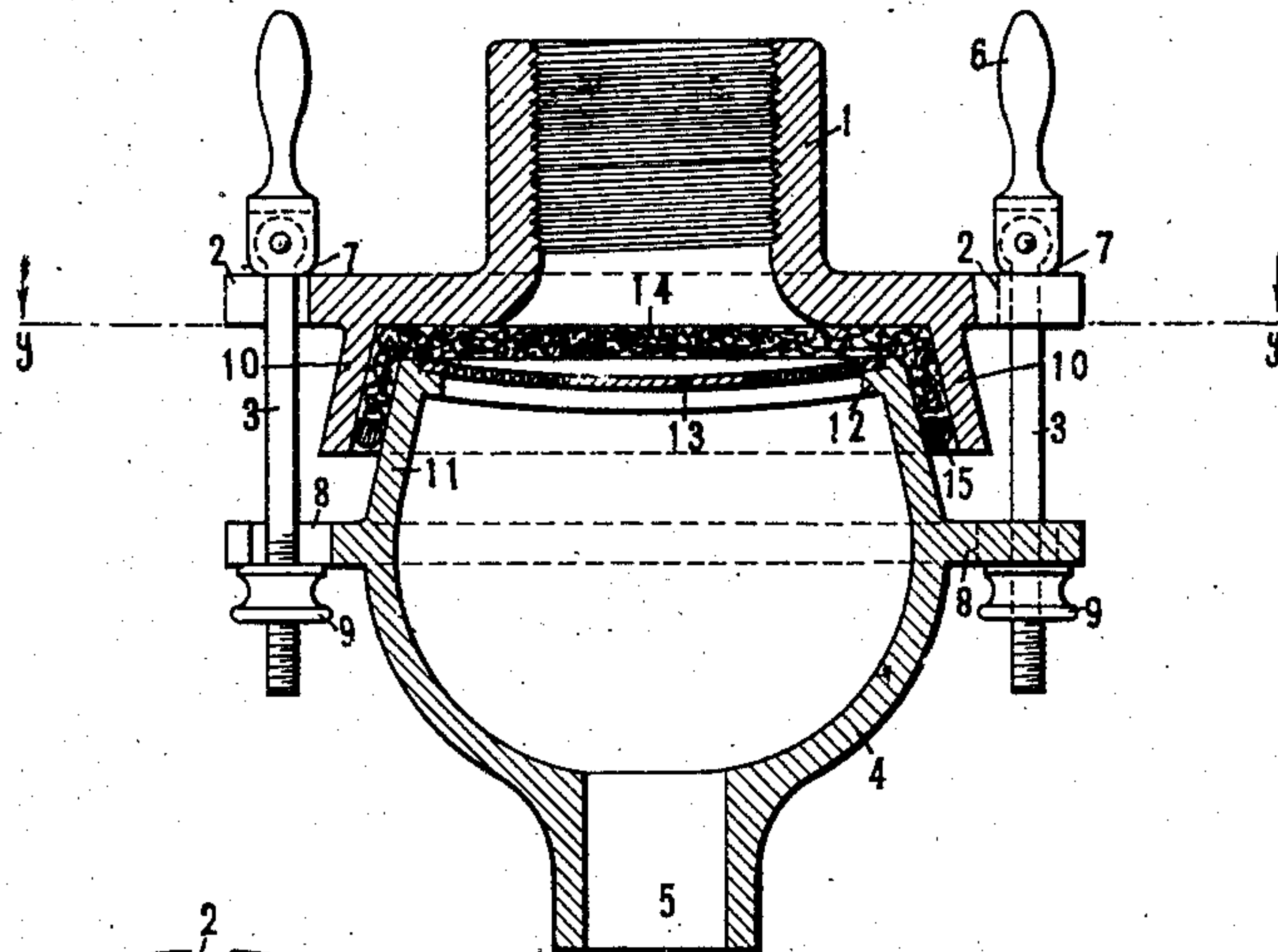


Fig. 2.

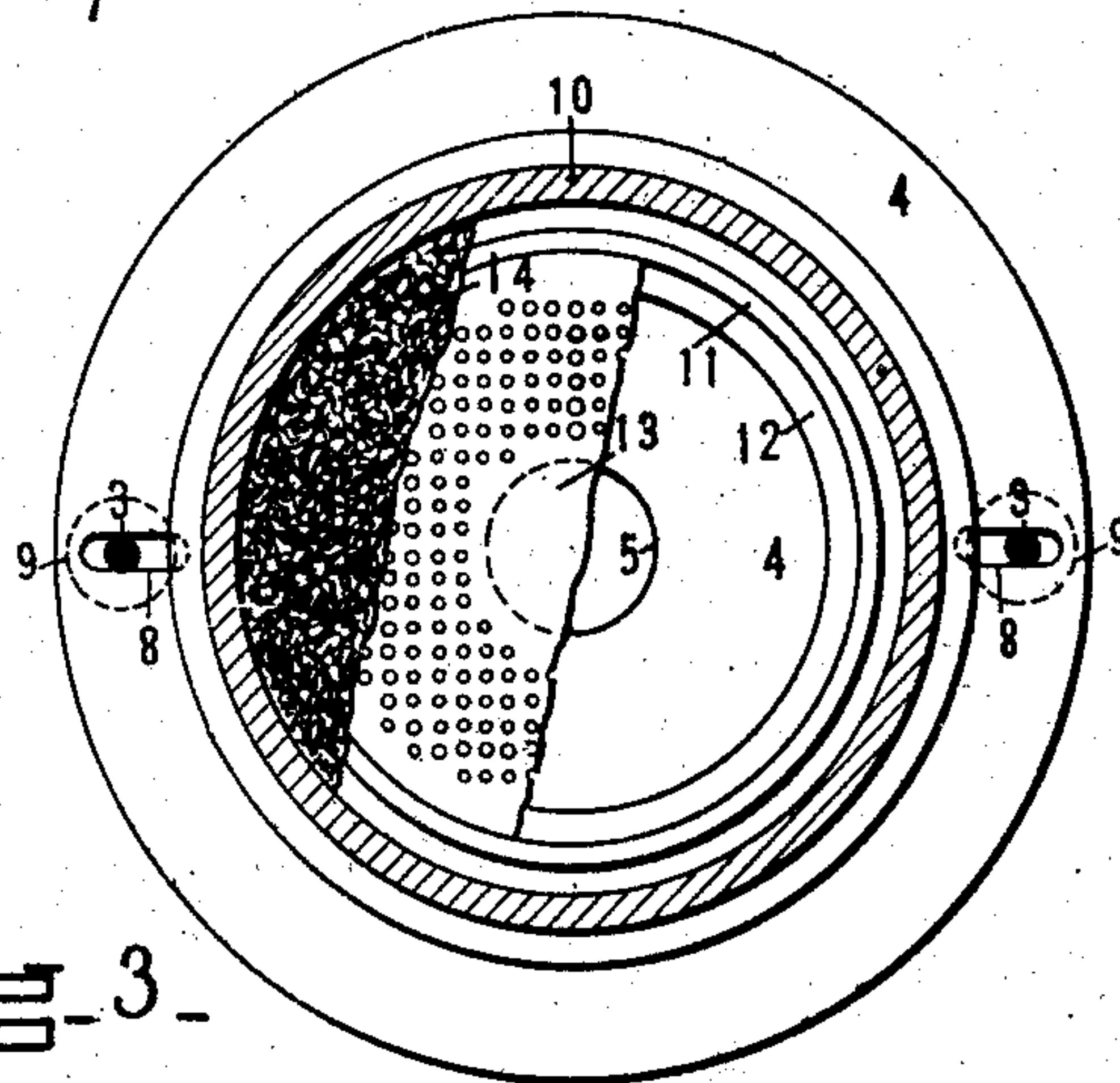


Fig. 3.

WITNESSES:

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FILTER.

973,723.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JUDSON L. THOMSON, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Filters, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to filters and particularly that style adapted to be applied directly to a faucet for filtering water for general household use.

One of the objects of the invention is to provide a simple and efficient form of filter that will be cheap to manufacture.

Another object is to provide a device of this type which will be easy to apply to a faucet and of such construction as will readily permit a detachment of the parts for renewing the filter pads.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, forming a part of the specification, in which is illustrated one of various possible embodiments of the invention, Figure 1 is a vertical, sectional view taken on the line $x-x$, Fig. 2; Fig. 2 is a plan view; Fig. 3 is a transverse section on the line $y-y$, Fig. 1, with parts broken away for the sake of clearness.

Similar reference numerals refer to similar parts throughout the several views.

Referring to these figures in detail, 1 represents a collar adapted to be permanently secured to a faucet as by means of the threaded connection shown. This member is provided around its periphery with a plurality of slots 2 adapted to receive connecting links 3 loosely connected with a removable member 4 having a central opening therein for the discharge of the filtered water. There are preferably but two of the connecting links 3, but more may be used if desired. A larger number of slots 2 are preferably provided upon the fixed collar to permit the connecting links to be inserted in

those slots which are most convenient when assembling the parts.

The fastening means between the movable and fixed members comprises besides the link 3, a lever 6 pivoted to the upper part and provided at one end with a cam surface 7 adapted to co-act with the upper part of the collar 1 at the sides of the slots 2. The lower end of the link 3 passes through one of a plurality of elliptical or oblong slots 8 about the periphery of the removable member 4. The lower end of the link 3 is threaded to receive a tightening nut 9 engaging the under side of the periphery of the removable member. By means of this construction the link 3 is permitted to swing outwardly away from the collar 1 to enable a detachment of the parts, as will be hereinafter explained in describing the operation and mode of use of this device.

The collar 1 is provided on its under side with a downwardly projecting annular flange 10 preferably provided with a slightly inclined or flaring inner wall adapted to co-act with a similarly tapered outer wall of an upwardly projecting annular flange 11 on the removable member 4. An annular shoulder 12 is provided around the inner surface of the flange 11 and near the upper edge thereof, adapted to support a perforated retaining plate 13. This retaining plate is preferably slightly concave and perforated only about its outer edge, having a solid center to prevent the water passing through that part, according to its natural tendency. A filter pad 14 is stretched above the plate 13 and is of such size that its outer edge will extend beyond the annular flange 11 so that when the parts 1 and 4 are brought together the edges of the filter pad will be clamped between the converging walls 10 and 11. In this way the filter pad and gasket 15 makes an air-tight and water-tight joint when the inclined surfaces of the flanges are wedged together. While the fixed and removable members are apparently shown as castings, it is to be understood, of course, that they may be made otherwise as of spun metal, for example, in which case it might be more convenient to make slight structural changes.

The operation and manner of use of this device is in brief as follows: Assuming that the collar 1 is threadedly connected with the faucet, the parts being in operative position, and it is desired to change the filter

pad, the levers 6 are turned downwardly, thereby relieving the cam surfaces 7 from their clamping action exerted upon the collar 1. The links 3 by means of a handle 6
5 may then be swung outwardly away from the collar 1 by reason of the loose connection through the slots 8 on the member 4. The member 4 will then drop away from the member 1 by action of gravity, and the
10 fouled pad may be removed, after which a clean pad is placed upon the retaining plate 13 and tightly stretched and held in position as the parts are again returned to normal position. As the new pad may be
15 thicker than the wet and worn pad just removed, it may be necessary to loosen the nuts 9 to permit the links 3 to be swung into position in the slots 2, after which the nuts are tightened as much as possible so
20 that a wedging or clamping action is exerted upon the filter pad between the inclined surfaces of the annular flanges 10 and 11, after which the arms 6 are swung upwardly, which, by reason of the cam surfaces 7 at
25 the end thereof, will exert a further compressive or squeezing action, making an absolutely water and air-tight joint between the collar 1 and the removable member 4.

As many changes could be made in the
30 above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description
35 or shown in the accompanying drawings shall be interpreted as illustrative and not

in a limiting sense. It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention
40 herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. In a device of the class described, in combination, a relatively fixed member, a removable member, co-acting wedging flanges on said members, means inserted between said
50 wedging flanges for making an air and water tight connection therebetween, and a filter-pad adapted to be stretched over one of said flanges and clamped in place by the other.

2. In a device of the class described, in combination, a relatively fixed member, a removable member, co-acting flanges on said members, a filter-pad adapted to have its
60 outer edge clamped between said flanges, a rubber gasket around the edge of said filter-pad adapted to be clamped between said co-acting flanges, and a perforated plate adapted to support said filter-pad when assembling the parts.

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

JUDSON L. THOMSON.

Witnesses:

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PAUL A. WOLFF.