

No. 808,043.

PATENTED DEC. 19, 1905.

J. L. GRAY.
PRESSURE FILTER.
APPLICATION FILED JUNE 19, 1905.

Fig. 1.

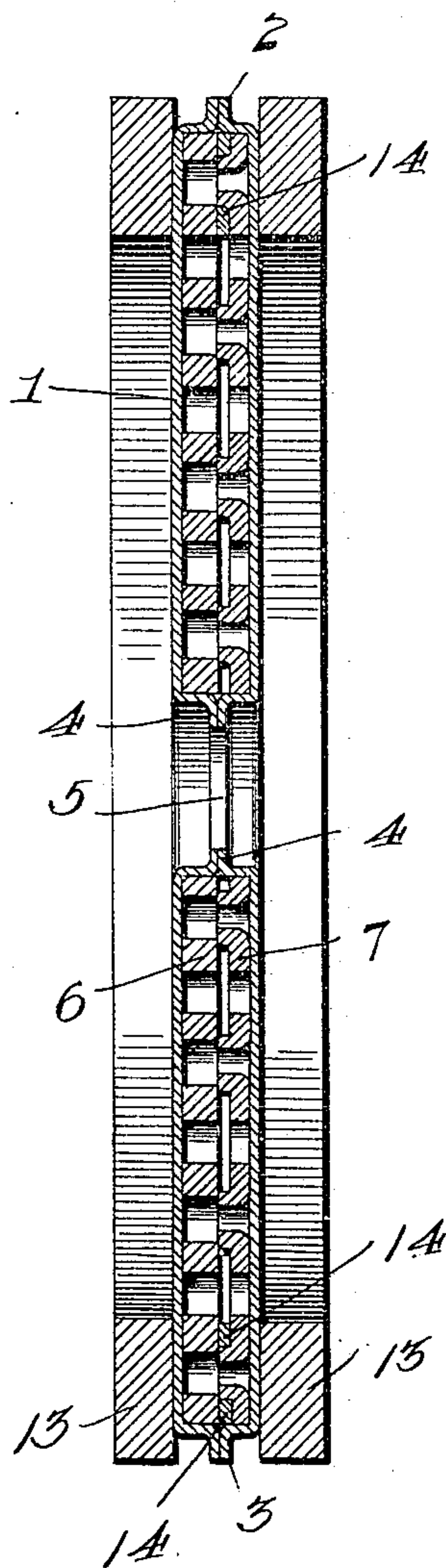


Fig. 2.

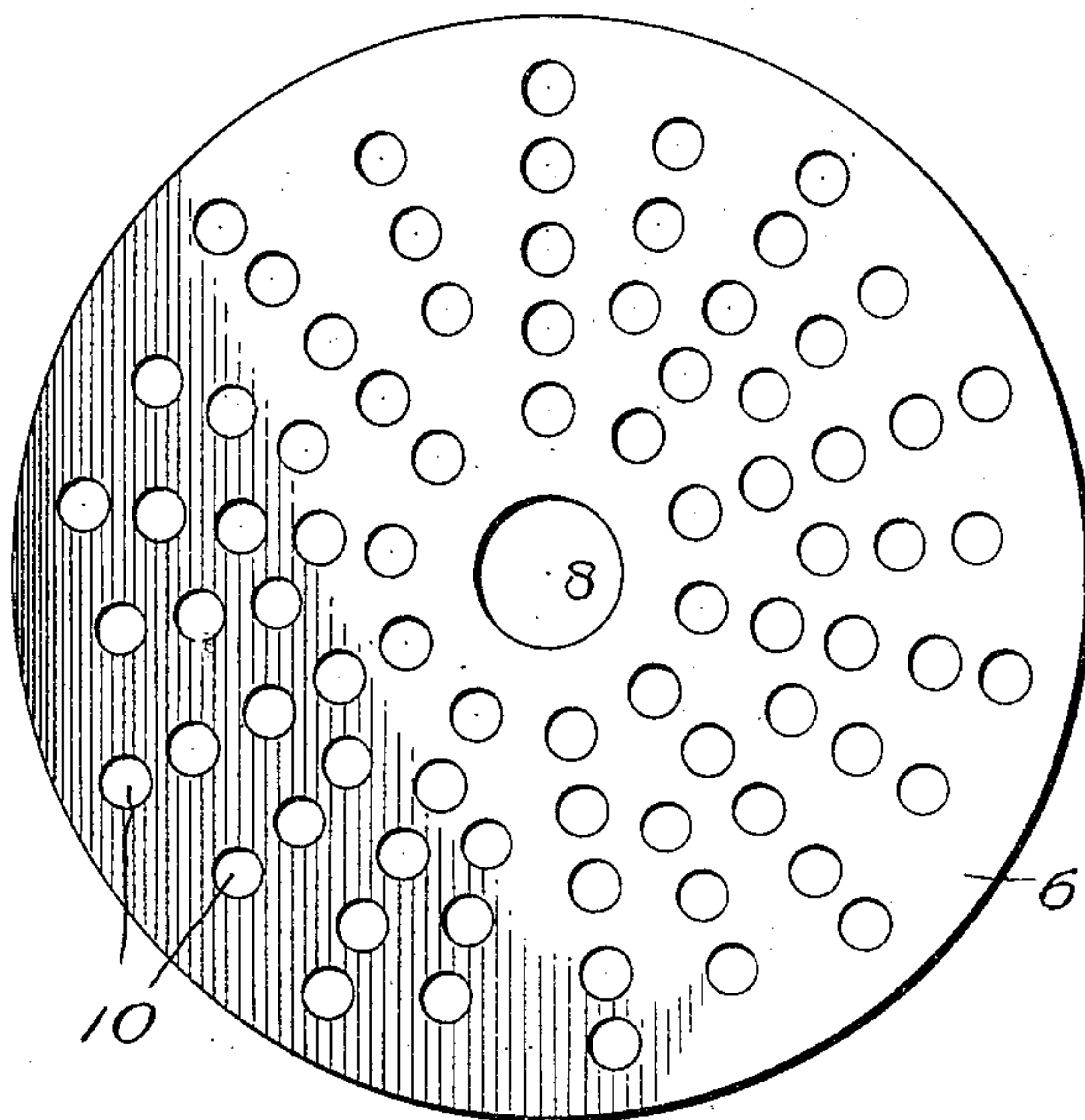
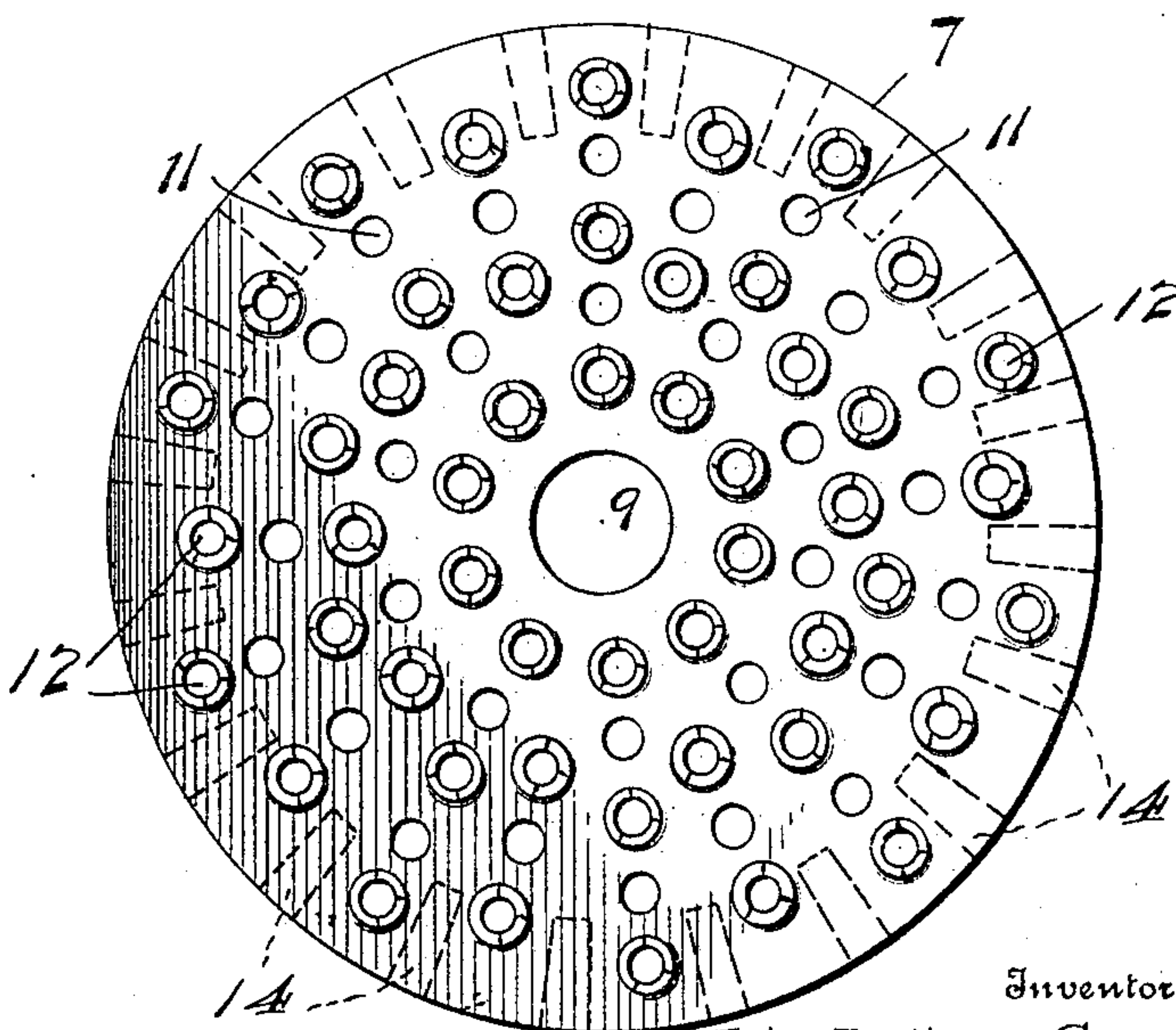


Fig. 3.



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Witnesses

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JOHN LATHROP GRAY, OF ELIZABETH, NEW JERSEY.

PRESSURE-FILTER.

No. 808,043.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed June 19, 1905. Serial No. 266,076.

To all whom it may concern:

Be it known that I, JOHN LATHROP GRAY, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Pressure-Filters; 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.

My invention relates to pressure-filters.

Pressure-filter sections as generally employed comprise a canvas bag made up so that in a circular space surrounding the shaft-space there is inclosed the body of a central plate and two perforated plates, one on each side of the central plate, the central plate being generally of heavy material.

The object of my invention is to simplify the construction of the filter and especially to dispense with one of the plates of the filters as generally used and to at the same time provide for the free discharge of the oil.

In the accompanying drawings, Figure 1 is a central vertical section of one of the sections of my improved pressure-filter. Fig. 2 is a side elevation of one of the plates. Fig. 3 is a side elevation of the other plate—the burred plate.

In the drawings, 1 represents a canvas bag in two parts, which meet at the top and bottom 2 and 3 and near the center at 4 about a central orifice 5. Two perforated plates 6 and 7 have central openings 8 and 9. The canvas bag in its inclosed portions surrounds these central plates. The heavier plate 6 is perforated, as indicated at 10, in the ordinary manner, leaving a clean face on each side of the plate. The plate 7 has a series of plain perforations 11 and is also perforated, so that the metal is driven through to form burs 12 on one side of the plate. These burs are preferably rough burs, being simply that part of the metal which is driven through by a tool, and, as indicated in Fig. 3, the burs generally break or divide as the displaced metal turns over on the back of the plate. I preferably, as illustrated in Fig. 3, arrange the burs in groups, or lines, or circles, alternating with the ordinary perforations 11.

13 represents spacing-rings, it being understood that these filter-sections have between each pair a spacing-ring. Great pressure is exerted upon these spacing-rings and through them upon the edges of the plates. In a circle coincident with the area of force exerted by the spacing-rings I place between adjacent perforations or at intervals a pressure-resisting filler or block of some material, preferably iron-cement or a similar composition, because while it serves the same purpose as would a metal or other strip or block it is also easily applied to accord with the space. I have illustrated blocks of this cement at 14 in an arrangement which permits the ready outflow of oil, while at the same time effectually preventing the crushing of the burs and the consequent closing of the discharge between the plates. The two plates are brought together with the burs projecting inward and separating the plates, so that free spaces for the escape of the oil are created. The heavy plate 6 is sufficient to resist the pressure, and the two plates thus not only perform the service hitherto performed by three plates in this class of filter-sections, but they also permit of a freer discharge of the oil than with the familiar filter-sections, such as described and in general use.

Having fully described my invention, what I claim is—

1. A pressure-filter section comprising two plates, one of which has series of plain perforations and series of perforations surrounded on one face by burs.

2. In a pressure-filter, the combination of two abutting plates, with separating-burs formed about some of the perforations on one plate, spacing-rings and a series of pressure-resisting blocks between the edges of the plates.

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

JOHN LATHROP GRAY.

Witnesses:

FRANK B. MASON,
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