(No Model.) 2 Sheets—Sheet 1.

J. P. BOETTIGER.

PLATE FOR FILTER PRESSES.

No. 471,741. Patented Mar. 29, 1892.

Fig I

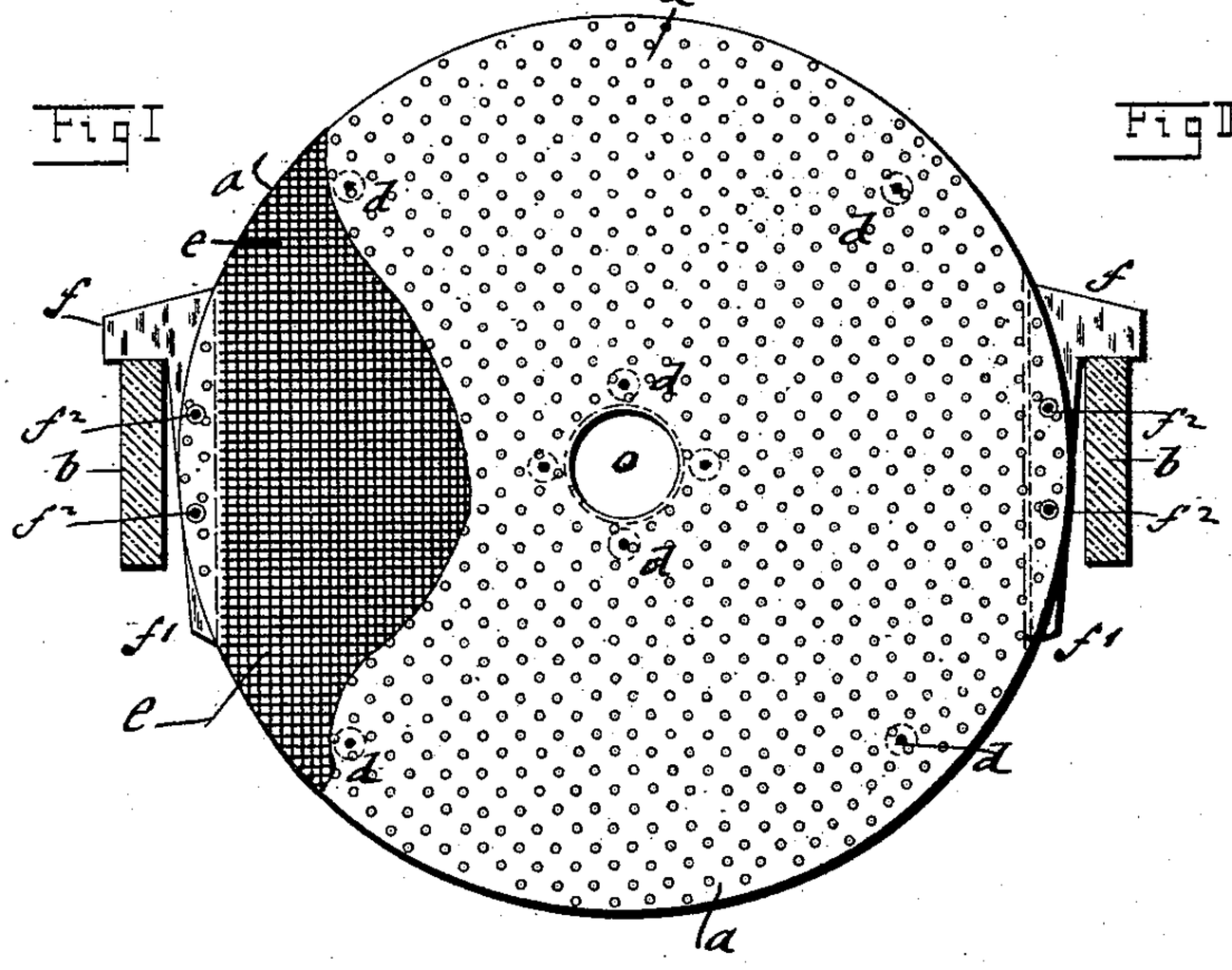

Fig II

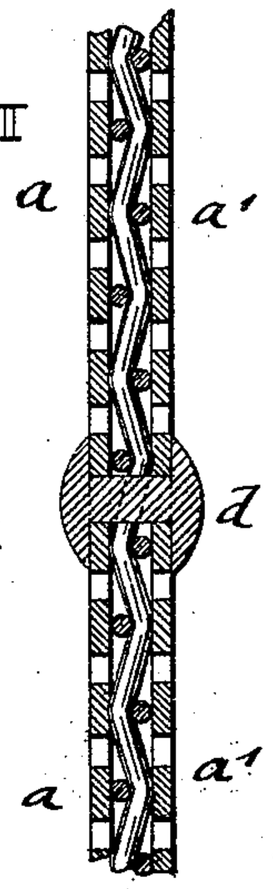

Fig IV

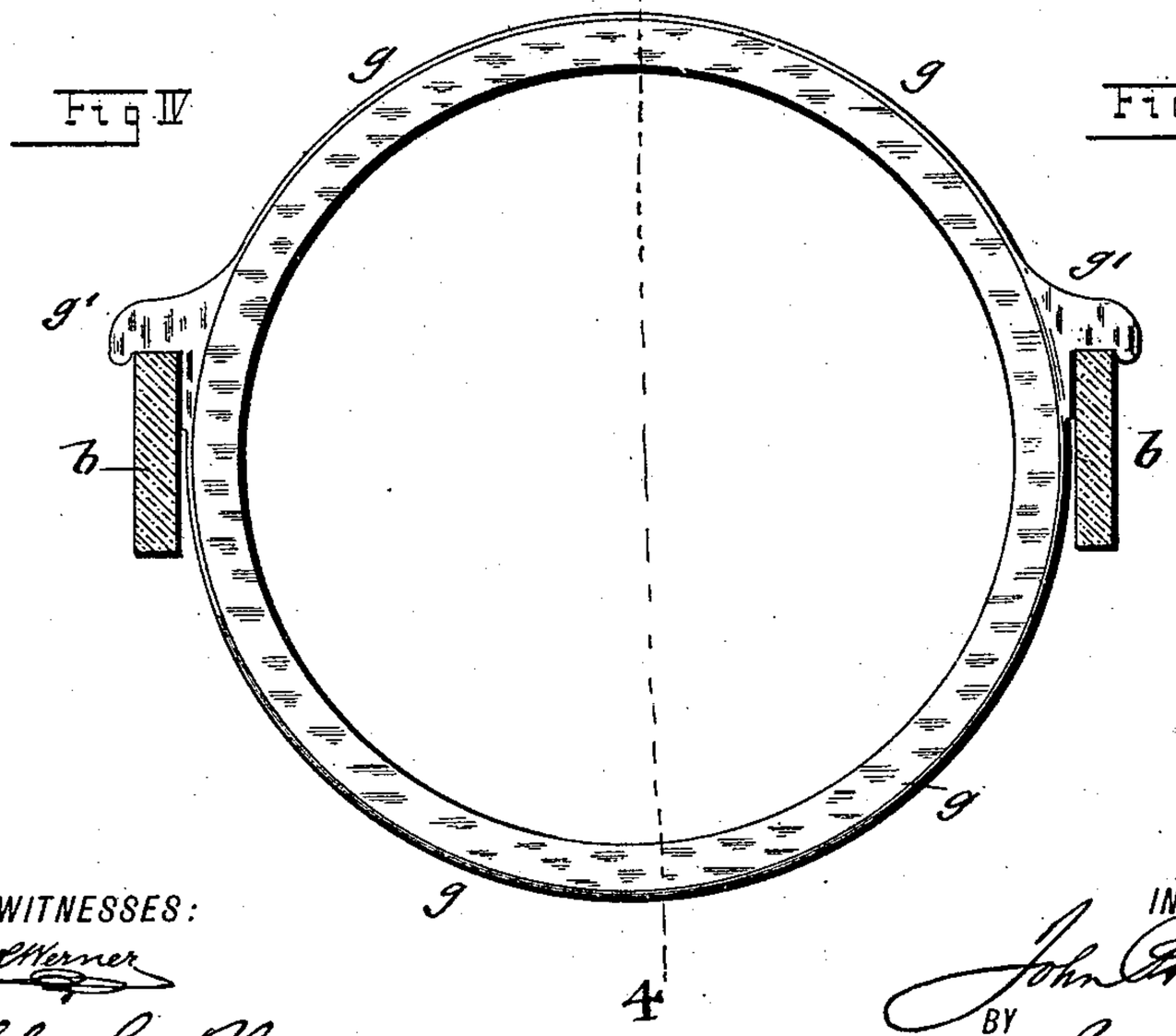

Fig III

WITNESSES:

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(No Model.) 2 Sheets—Sheet 2.

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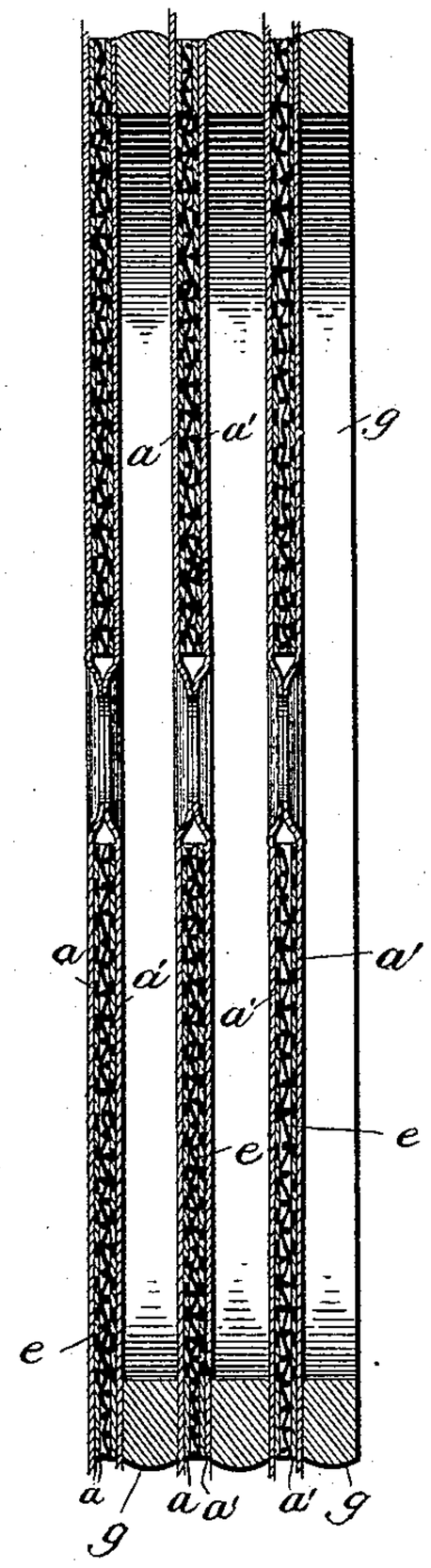
Fig. 5.



Witnesses
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A. C. Hoswell

By

Inventor:
John Philipp Boettiger
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UNITED STATES PATENT OFFICE.

JOHN PHILIP BOETTIGER, OF COLD SPRING, NEW YORK.

PLATE FOR FILTER-PRESSES.

SPECIFICATION forming part of Letters Patent No. 471,741, dated March 29, 1892.

Application filed May 28, 1891. Serial No. 394,376. (No model.)

To all whom it may concern:

Be it known that I, JOHN PHILIP BOETTIGER, of Cold Spring, in the county of Putnam and State of New York, a citizen of the German Empire, have invented certain new and useful Improvements in Plates for Filter-Presses, of which the following is a specification.

This invention has reference to an improved plate for filter-presses by which the separation of the substance to be filtered is produced with greater facility and by a considerably reduced pressure; and the invention consists of a plate or element for filter-presses, which is composed of two perforated disks and a wire-screen interposed between said disks and riveted with the same, the disks having projecting lugs, the shanks of which are riveted to said disks, so as to support the plate on the longitudinal supporting-bars of the filter-press. Each plate has an opening for the material to be filtered, and is separated from the next adjoining plate by a ring-shaped frame having projecting lugs also resting on the longitudinal bars, whereby the material to be filtered can pass readily from one chamber to the other.

In the accompanying drawings, Figure 1 represents a side elevation of my improved plate for filter-presses, showing a portion of one of its perforated disks broken away so as to show the intermediate wire-screen. Fig. 2 is a vertical transverse section of a portion of the plate shown in Fig. 1, drawn on a larger scale. Fig. 4 is a side elevation of the ring-shaped frame interposed between two adjacent filtering-plates, and Fig. 3 is a vertical transverse section of the same on line 4 4, Fig. 4. Fig. 5 is a vertical central transverse section of the filter.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, a and a' represent two perforated disks of sheet metal or other suitable material, which disks are riveted together by suitable rivets d near the center and circumference of the same. Between the perforated disks a a' is interposed a wire screen e, of which small segmental portions are cut off at diametrically opposite points, so as to permit the inserting between the disks a a' of the shanks f' of two outwardly-extending lugs f, which shanks are attached by rivets f^2 to the perforated disks a and a', the projecting lugs serving to support the filtering-plate on the longitudinal supporting-bars b b of the filter-press, as shown clearly in Fig. 1.

The material to be filtered is supplied by a central or other opening o in each plate to the different chambers which are formed between the plates by the same and ring-shaped frames g. The ring-shaped frame g is provided with laterally-projecting lugs g', that rest on the longitudinal bars b in the same manner as the filtering-plates a and a'. As thus constructed, the plates a a' are arranged in close juxtaposition and supported by the bars b b, and between each pair of said plates is placed a filtering-cloth of any suitable or usual material, the whole being inclosed and held in a casing as usual and well-known in devices of this character.

The advantages of my improved plate for filter-presses are, first, that the material to be filtered can readily pass through the plates without the high resistance heretofore experienced when forcing the same through the press, inasmuch as the filtered-off substance can pass along the intermediate wire-screen between the disks to the lower part of the press, from which it is conducted off; secondly, the plates can be quickly and cheaply manufactured; and, lastly, the filtering process is expedited and carried out at a lower pressure and in an easier and more effective manner.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a filter-press, the combination of ring-shaped frames having projecting lugs at diametrically-opposite sides and press-plates alternating with said frames, composed of a central wire-screen having recesses at diametrically-opposite points and perforated disks riveted to opposite sides of said wire-screen, projecting lugs in line with the lugs

of the ring-shaped frames, the shanks of said lugs being set into the recesses of the wire-screen and riveted to the disks, and filtering-cloths disposed upon the outer sides of the perforated disks, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOHN PHILIP BOETTIGER.

Witnesses:
PAUL GOEPEL,
A. M. BAKER.