

No. 735,834.

PATENTED AUG. 11, 1903.

L. B. SKINNER.  
FILTER.

APPLICATION FILED JUNE 8, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 2.

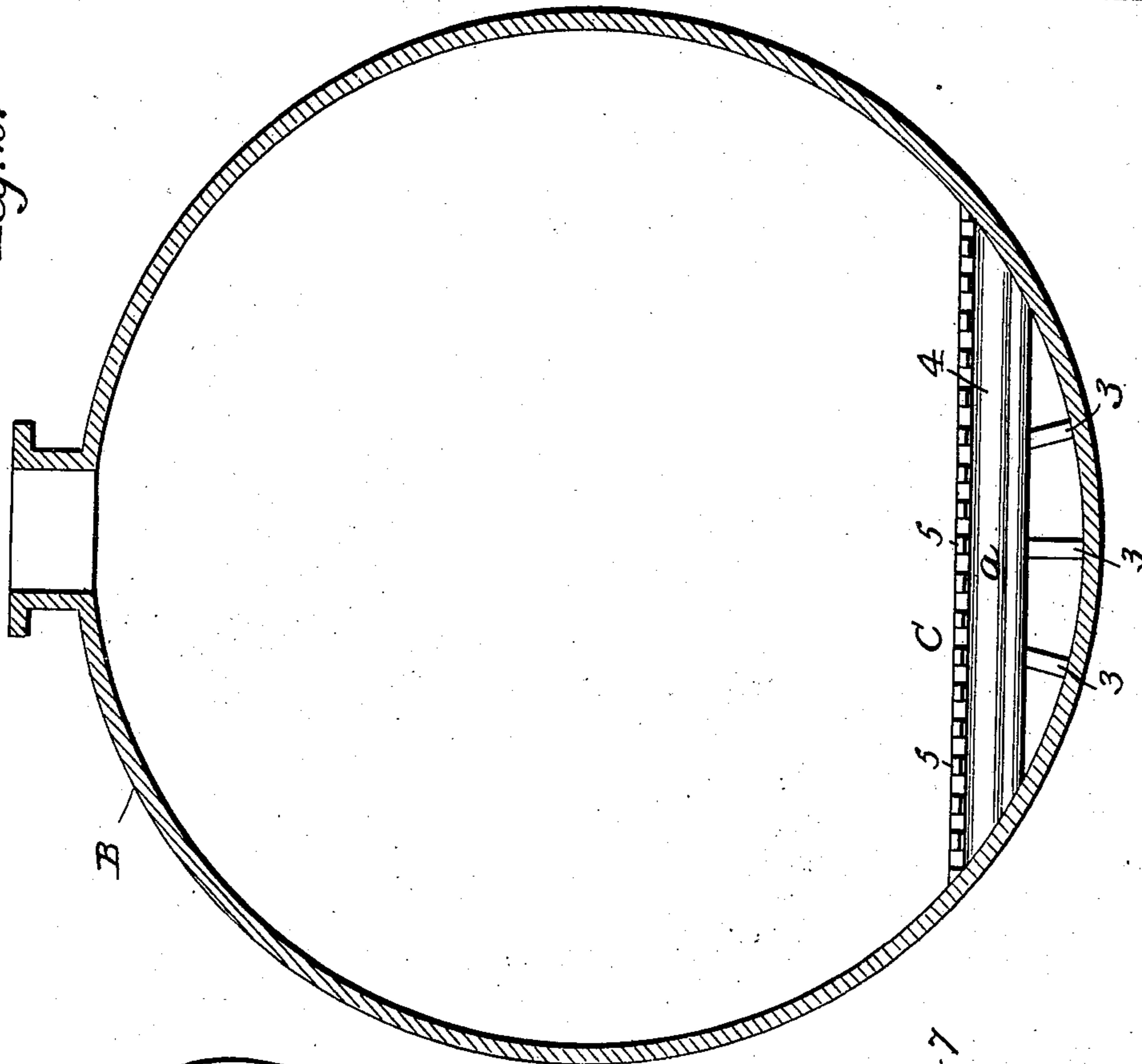
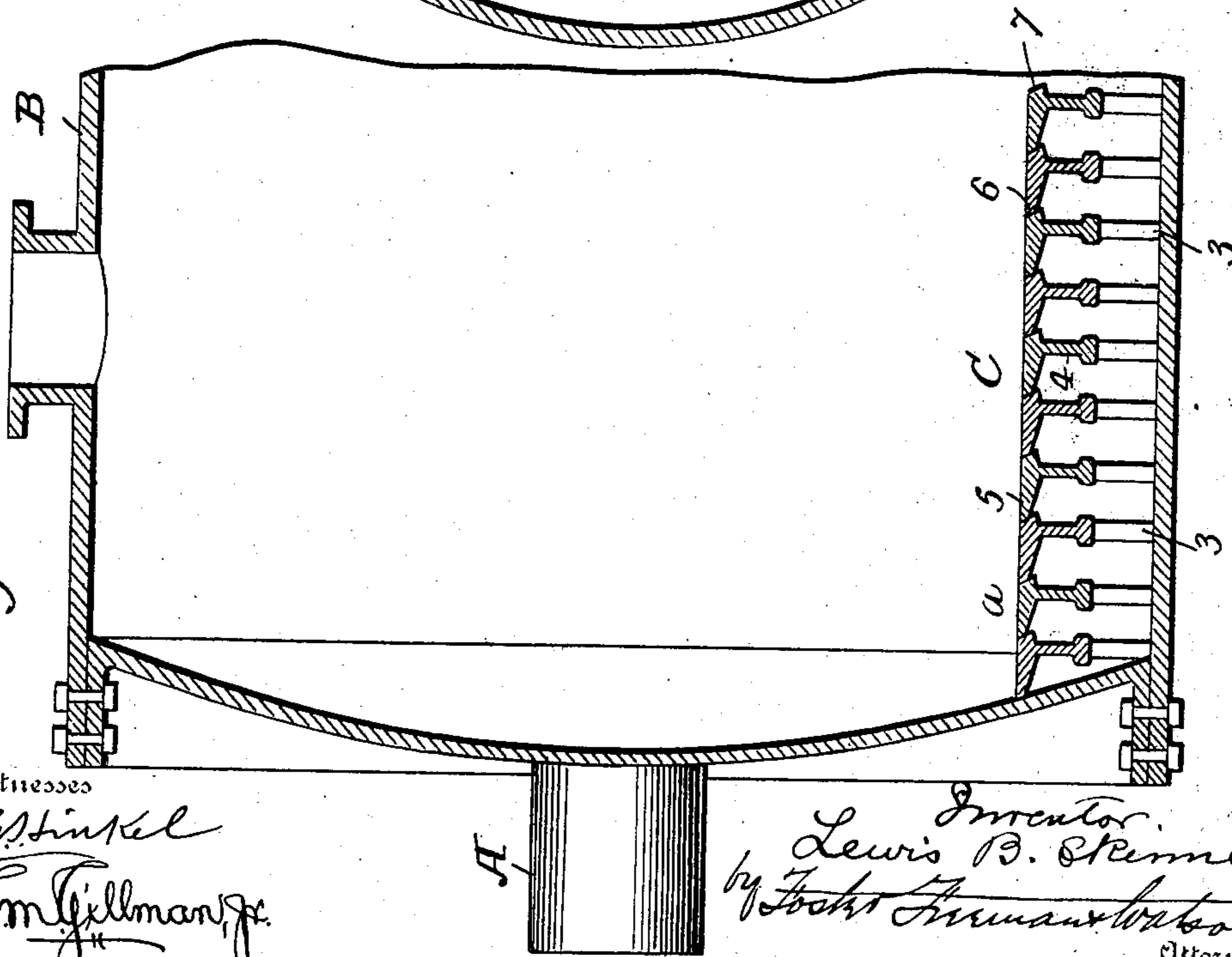


Fig. 1.



Witnesses

*J. P. Stinkel*  
*Wm. Gillman, Jr.*

*A*

Inventor  
*Lewis B. Skinner*  
by *John H. Hume & Watson*  
Attorneys

L. B. SKINNER.  
FILTER.

APPLICATION FILED JUNE 8, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 3.

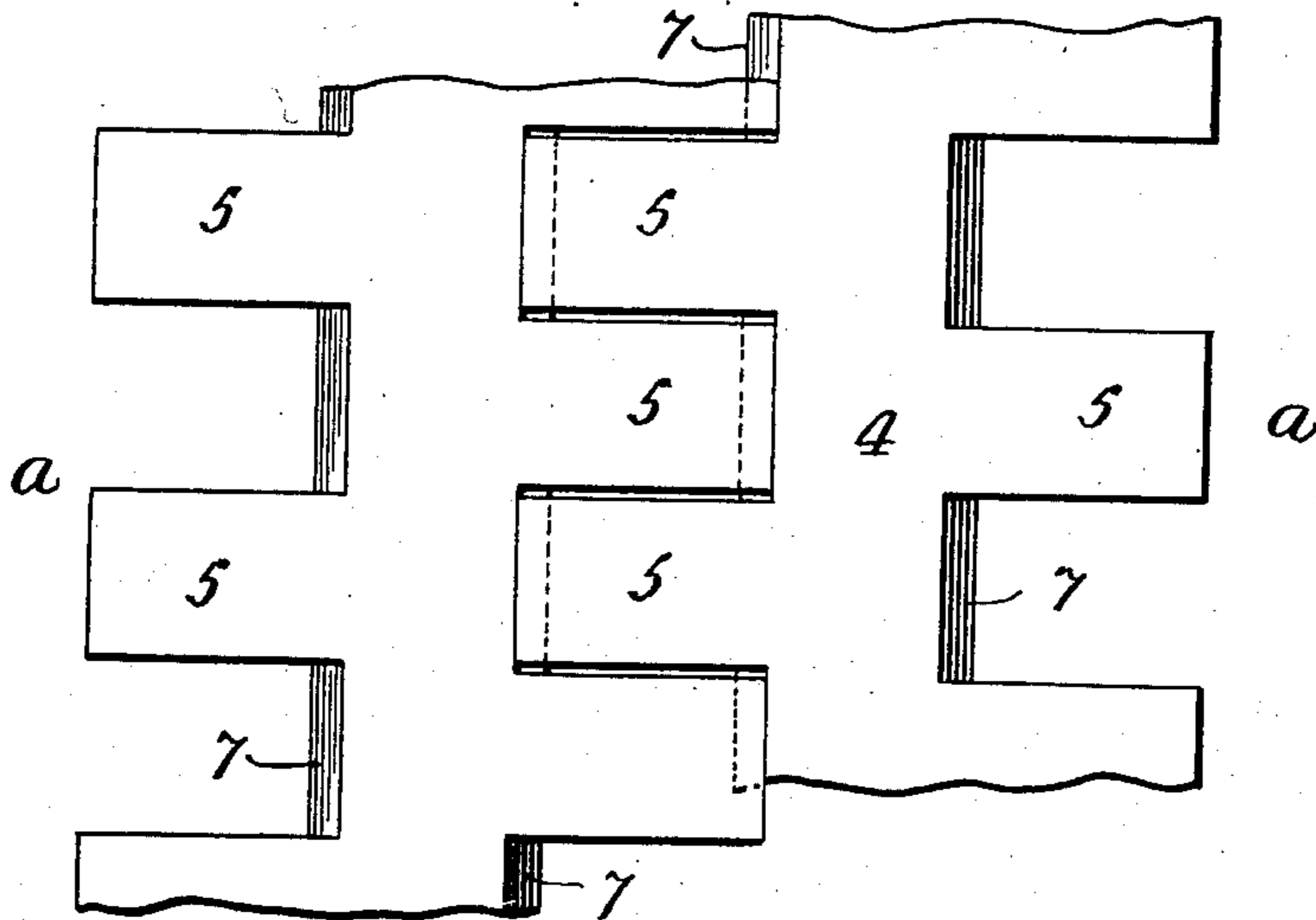


Fig. 4.

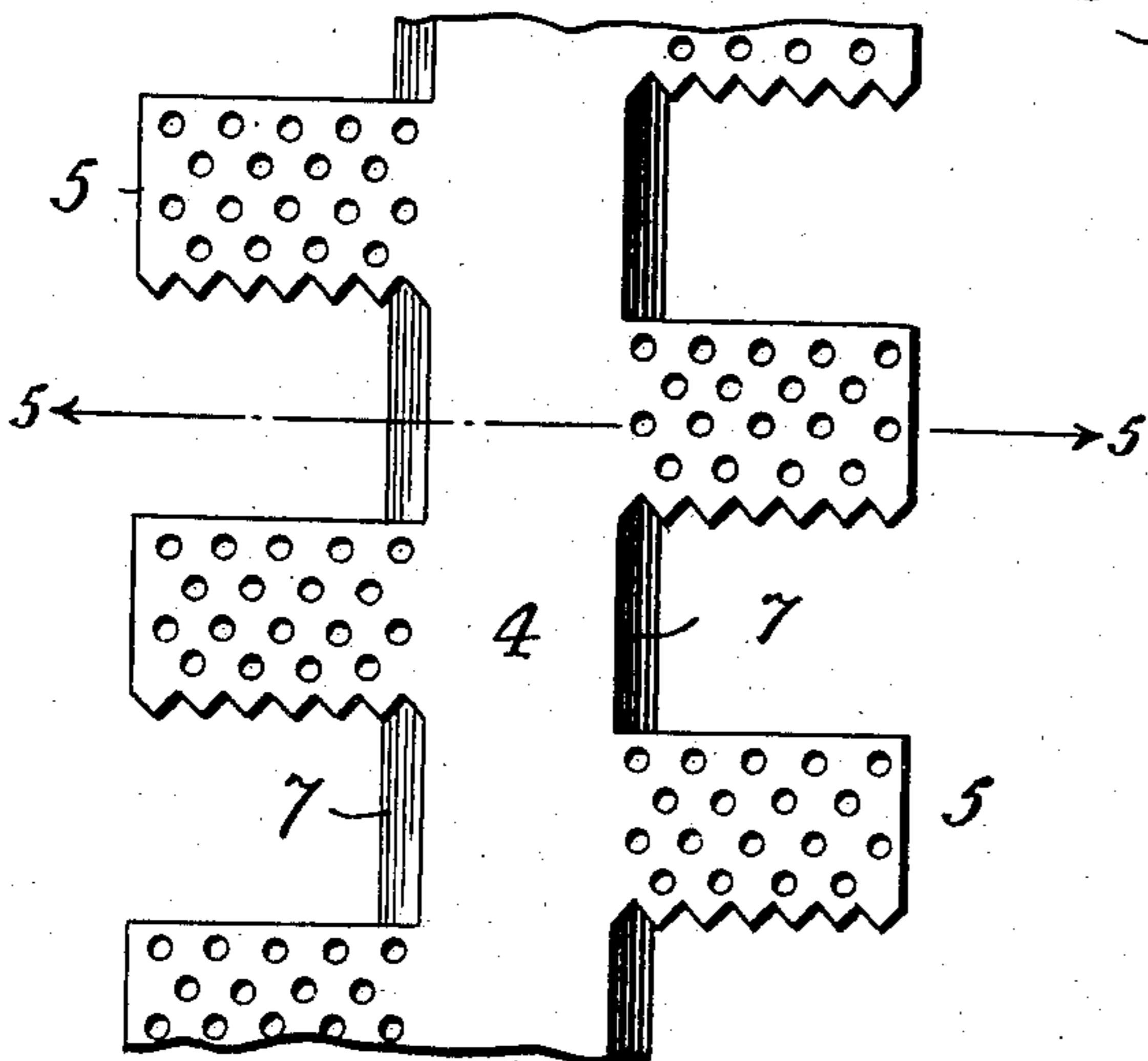
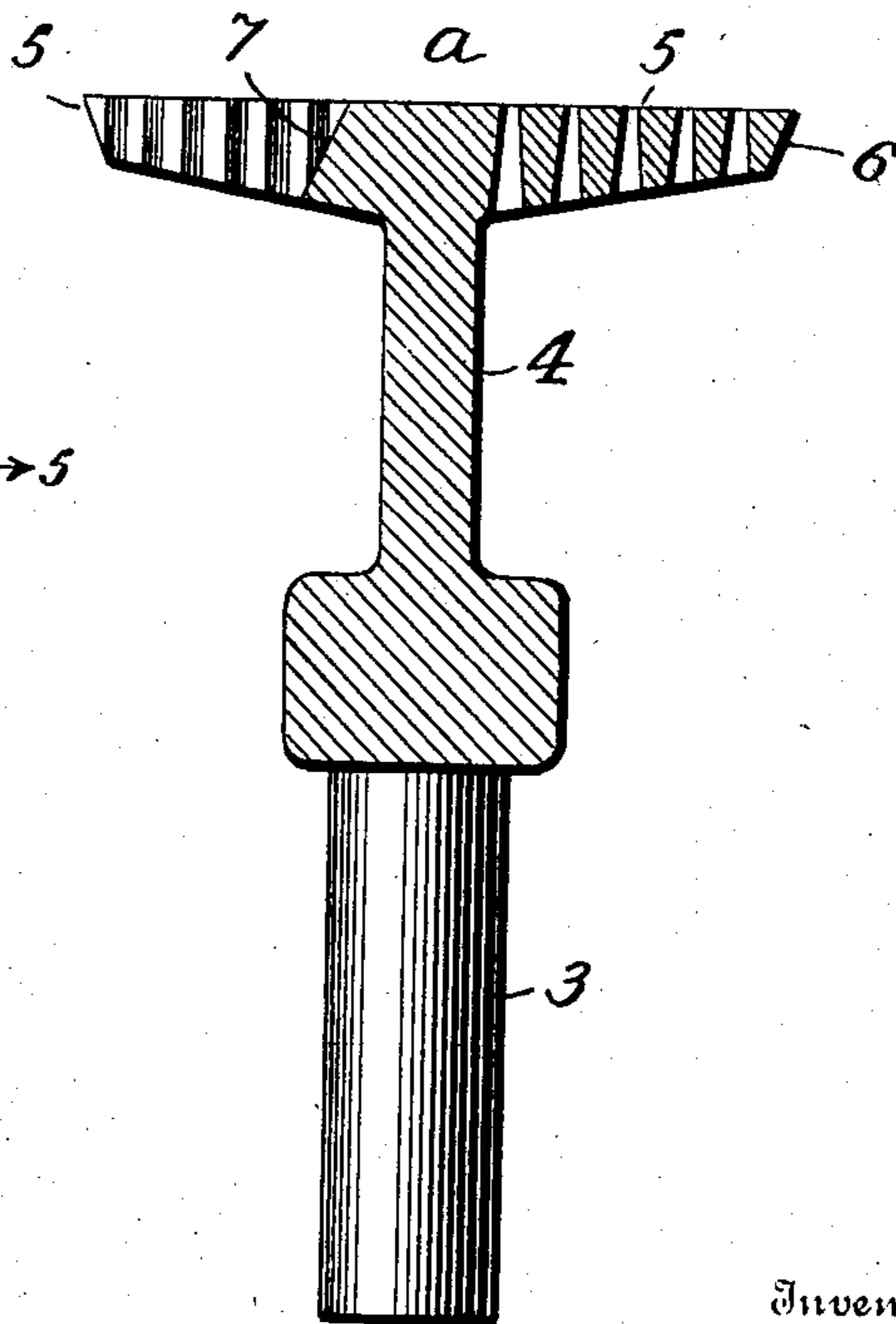


Fig. 5.



Witnesses

*J. G. S. Hinkel*  
*Wm. Gillman, Jr.*

By

Inventor  
*Lewis B. Skinner*

*Frederick Hermann Watson*  
Attorneys

# UNITED STATES PATENT OFFICE.

LEWIS B. SKINNER, OF COLORADO SPRINGS, COLORADO.

## FILTER.

SPECIFICATION forming part of Letters Patent No. 735,834, dated August 11, 1903.

Application filed June 8, 1903. Serial No. 160,623. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS B. SKINNER, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented certain new and useful Improvements in Filters, of which the following is a specification.

My invention relates to improvements in filters, and more especially to barrel-filters, although my improvements may be employed in connection with filters of different classes; and my invention consists in the peculiar construction of what I term "filtering-bars" and the arrangement thereof in respect to the casing or barrel, as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional elevation of a barrel-filter provided with my improved filter-bars. Fig. 2 is a transverse section. Fig. 3 is a plan view of part of one of the bars; Fig. 4, a plan showing additional filtering-perforations. Fig. 5 is a transverse section on the line 5 5, Fig. 4.

The filter-casing B is of any suitable construction, but is shown as a barrel provided with trunnions A at the ends, as in rotating chlorinating-barrels, and containing a filtering-bed C of any suitable character.

As an element of the filtering-bed I make use of what I term "filter-bars" *a*, which may extend longitudinally or transversely of the barrel, but, as shown, extend transversely, their ends being tapered or beveled to conform to the contour of the curved inner surface of the barrel, and, if desired, each of these bars may be supported between its ends by uprights 3 of any suitable character. Each bar consists of a longitudinal body portion or web 4 and laterally-projecting separated side tongues 5 5, which may extend from one or both sides of each bar and which are so spaced that when a number of bars are placed side by side with their upper surfaces on substantially the same plane the tongues of one bar will fit and practically fill the spaces between and alternate with the tongues of the next adjacent bar, and the said bars may be secured in place by any suitable means. The bars thus arranged and secured in any suitable manner within the casing or barrel present a substantially con-

tinuous and firm support for the ore. For filtering purposes channels are formed by recessing the tongues 5. These recesses may be formed only at the edges of the tongues either by providing the latter with vertical projections or channels, or to increase the filtering capacity they may be formed between the edges, extending vertically through the tongues, or both. Preferably each tongue has a series of projections and intermediate recesses at one edge only, so that when this edge is against the straight edge of the adjacent tongue there will be practically a series of vertical openings between them.

In order to secure a firm support for the ends of the tongues, each of the latter may have a beveled face 6, and the body of each bar between the tongues may have a corresponding beveled face 7, upon which the beveled face 6 rests.

It will be evident that the body portion *a* may be of any suitable shape and proportions and that the tongues 5 may be of any desired width. When the tongues are not recessed or perforated between the edges, they may be narrower and closer together than indicated in the drawings.

The filter-bars, it will be understood, may be of any suitable material, and when used in chlorinating apparatus will be of lead or other refractory material, and, further, the perforations may be formed in any suitable way, either in casting the structure by mill-ing or boring or punching.

If desired, any suitable filtering-cloth or other additional filtering elements may be employed.

Without limiting myself to the construction set forth I claim—

1. A filter-bar consisting of a body portion and separated tongues projecting laterally therefrom and recessed for the passage of filtering fluid, substantially as set forth.

2. A filter-bar consisting of a body portion and separated tongues projecting laterally therefrom and recessed at the edges and adapted with similar bars arranged with their tongues intermediate each other to form a floor through the recesses in which the fluid can pass, substantially as set forth.

3. A filter-bar consisting of a body portion and separated tongues projecting laterally

therefrom and recessed at the edges, substantially as set forth.

4. A filter-bar consisting of a body portion and separated tongues projecting laterally therefrom and recessed at and between the edges, substantially as set forth.

5. The combination with a barrel, of a series of filter-bars having lateral tongues, those of each bar intermediate those of the next and recessed, substantially as set forth.

6. The combination with a barrel, of a series of filter-bars having lateral tongues, those of each bar intermediate those of the next, and having recesses at the edges, substantially as set forth.

7. The combination with a barrel, of a series of filter-bars having lateral tongues extending from opposite sides, those of each bar intermediate those of the next, and recessed, substantially as set forth.

8. The combination with a barrel, of a series of filter-bars having lateral tongues extending from opposite sides, those of each bar intermediate those of the next, and having recesses passing vertically through the same.

9. A filter-bar consisting of a body portion and separated tongues projecting laterally therefrom and recessed for the passage of filtering fluid, each tongue with a beveled end, and beveled faces on the body between the tongues, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEWIS B. SKINNER.

Witnesses:

K. R. BABBITT,  
C. M. MACLEAN.