

No. 735,835.

PATENTED AUG. 11, 1903.

L. B. SKINNER.
FILTER.

APPLICATION FILED JUNE 8, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 2.

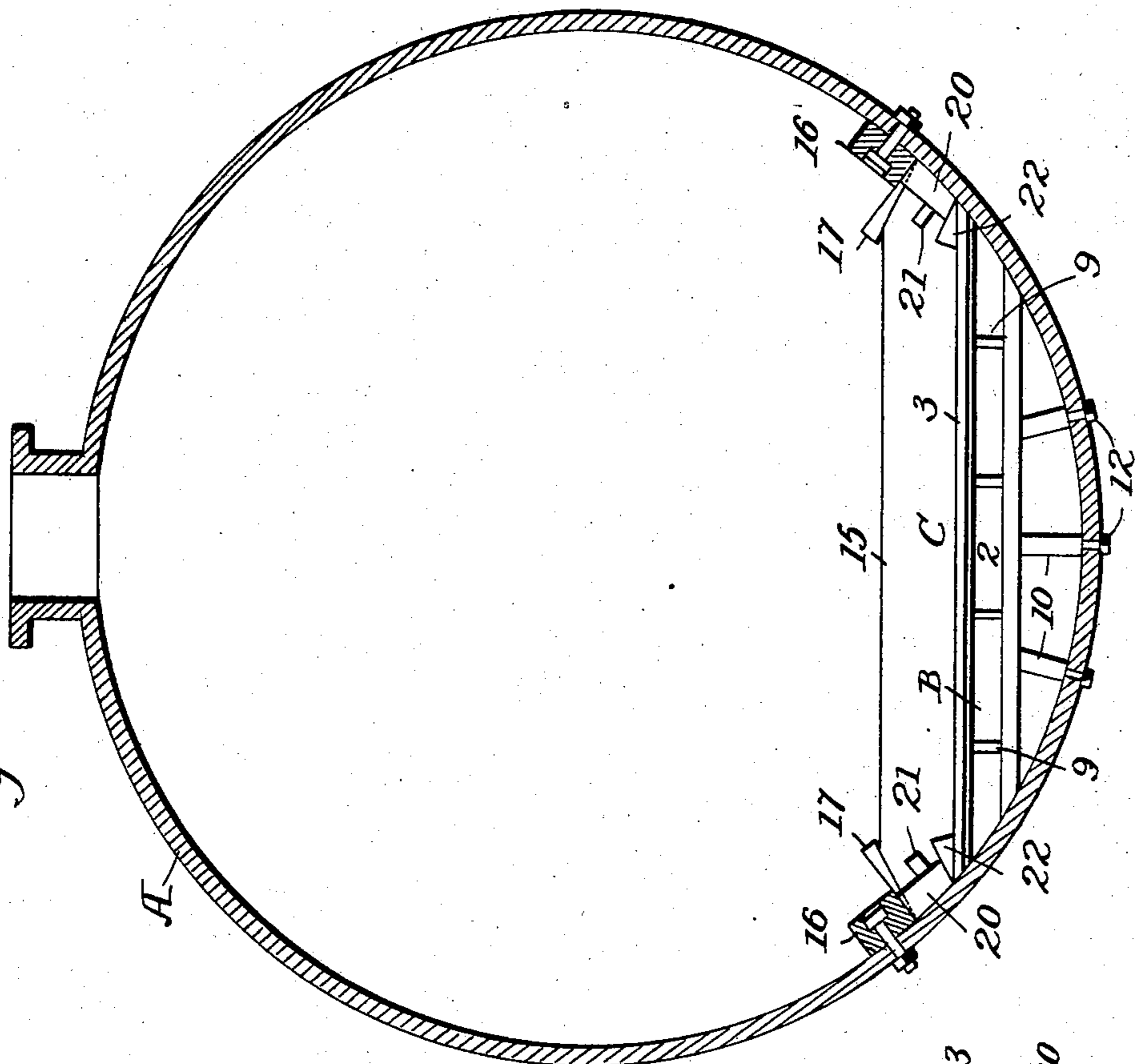
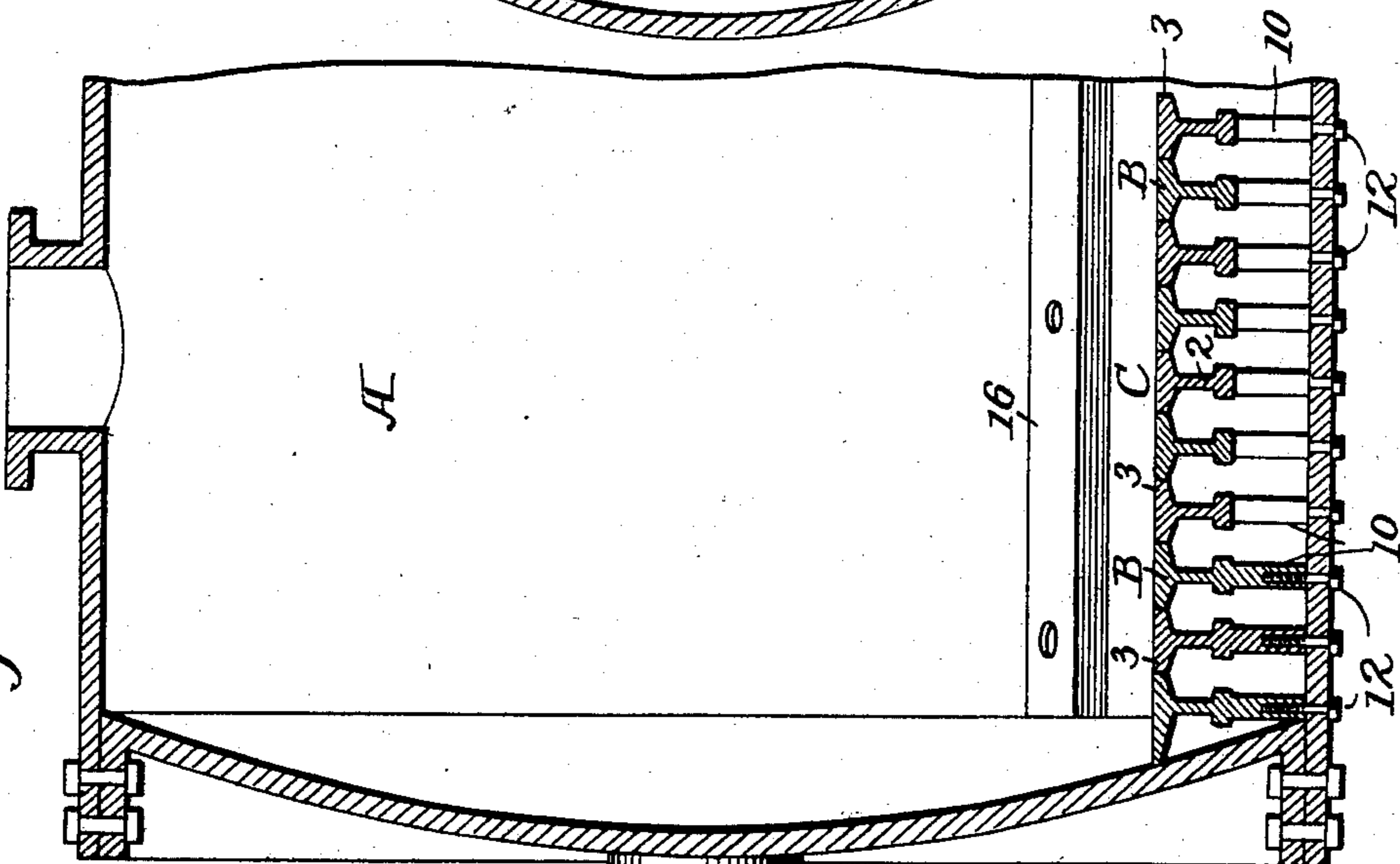


Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

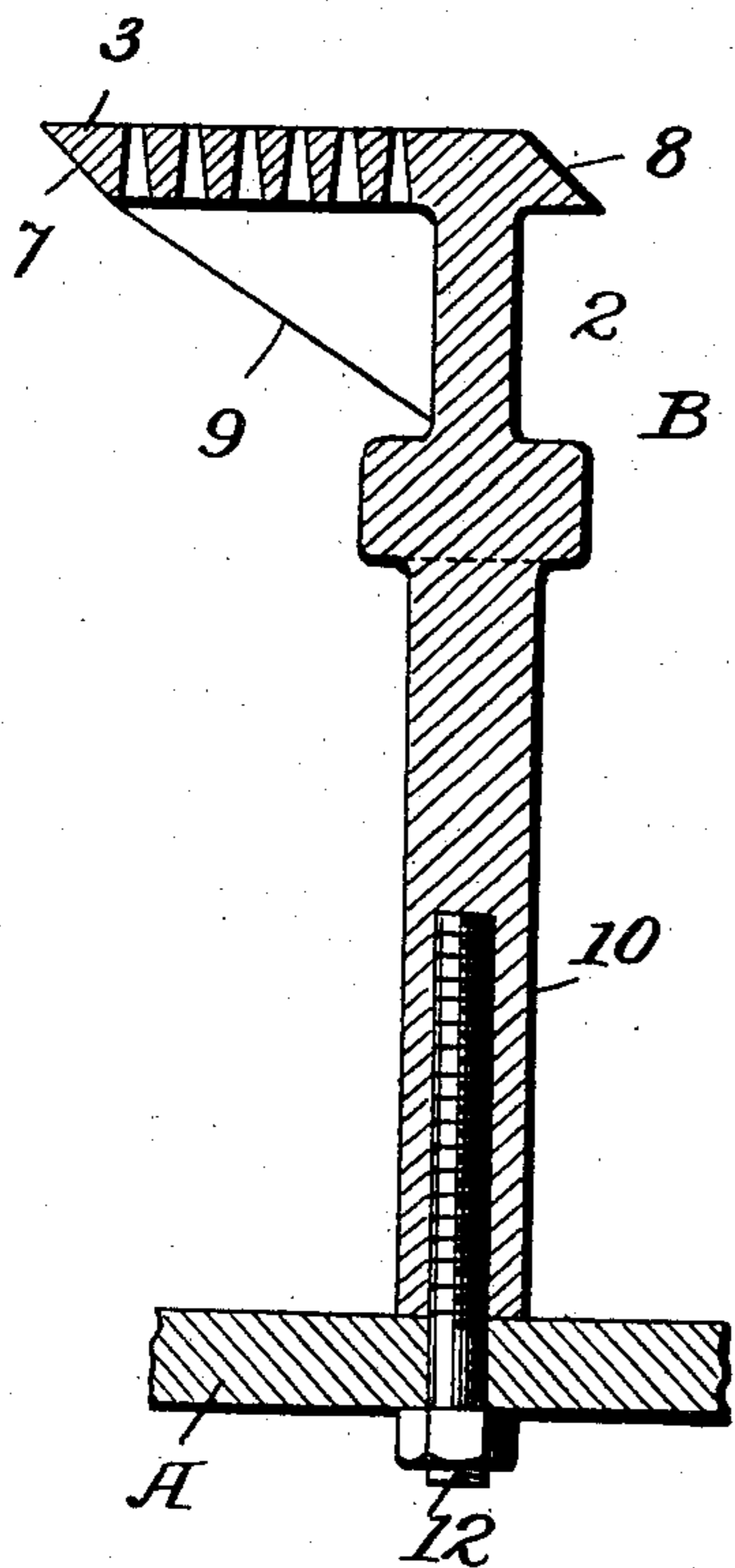
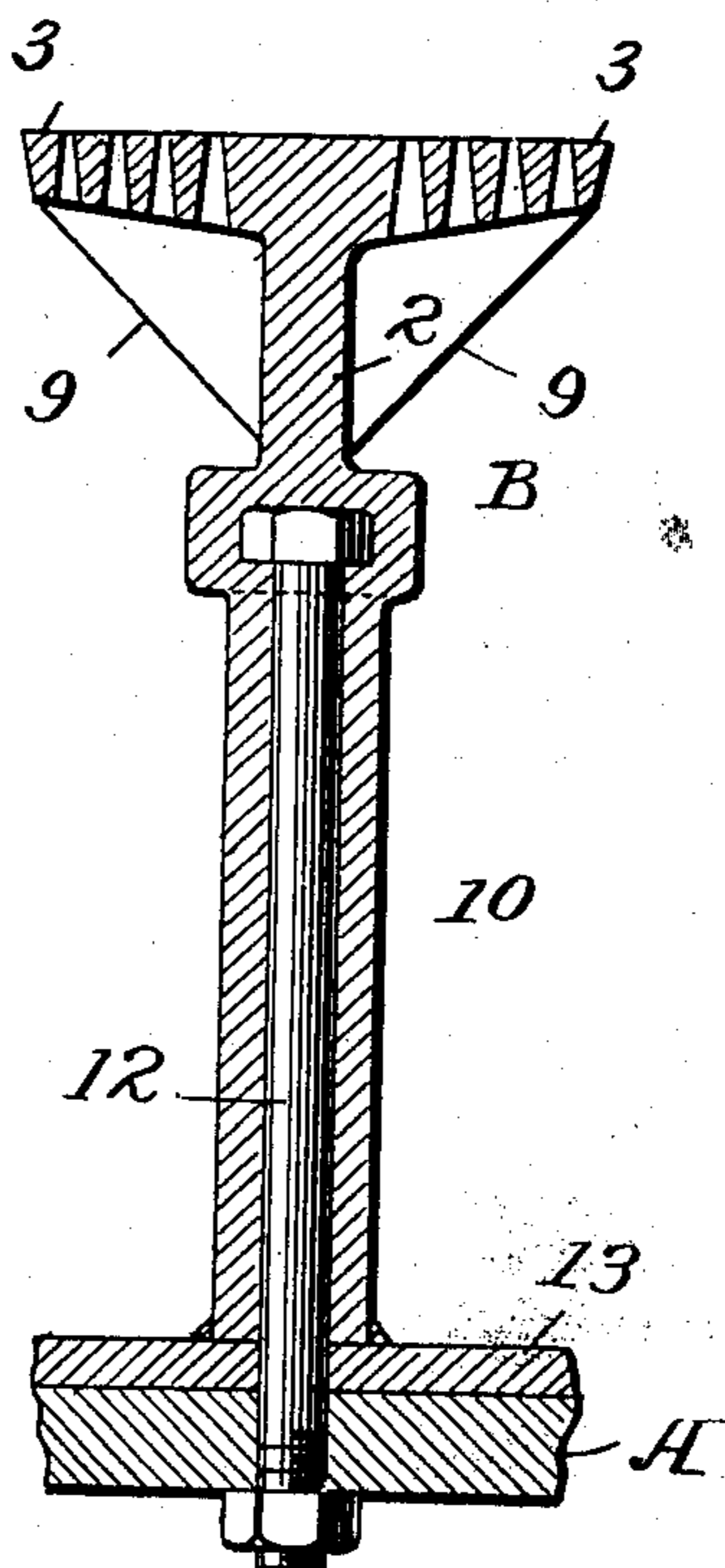


Fig. 4.



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UNITED STATES PATENT OFFICE.

LEWIS BAILEY SKINNER, OF COLORADO SPRINGS, COLORADO.

FILTER.

SPECIFICATION forming part of Letters Patent No. 735,835, dated August 11, 1903.

Application filed June 8, 1903. Serial No. 160,624. (No model.)

To all whom it may concern:

Be it known that I, LEWIS BAILEY 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 filters, and more especially to filters used in chlorinating processes; and it consists in providing a foundation and in forming the filtering-bed in part of certain flanged and perforated bars and in securing the latter as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a chlorinating-barrel, showing my improvement. Fig. 2 is a transverse section; Fig. 3, a transverse section of one of the filter-bars; Fig. 4, a transverse section showing a filter-bar with two flanges and illustrating a different bolt connection from that shown in Fig. 2.

The construction of the casing A will depend upon the purpose for which the filter is to be employed, but, as shown, it represents a barrel of a chlorinating-filter with the usual lead lining, if desired, and with end trunnions 1 and a filtering-bed C, constituted by what I term "filter-bars" B. Each of these bars consists of a body portion or web 2 and a flange 3 at the top of the body or web, extending laterally the length thereof and having perforations 4, which preferably increase in diameter toward the lower ends.

As shown in Figs. 1 and 4, the flanges 3 project from the webs 2 at both sides; but they may project from only one side, as in Fig. 3. When they project from one side, the end of the flange is preferably beveled to form an inclined face 7, which can bear upon an inclined face 8 of the adjacent bar, thereby securing a rigid support. A further support may be secured by means of laterally-projecting wings or brackets 9, extending from the web to the under side of the flange. When the bars extend transversely to the rounded casing or barrel A, it is desirable to support them at intermediate points, and for this purpose I prefer to use posts 10, extending downward to the casing. As shown in Fig. 2, these posts are recessed and threaded to receive the threaded ends of

bolts 12, extending through the casing, or, as shown in Fig. 4, the head of the bolt is embedded in the bar and the stem extends through the post 10 and through the casing and is secured at the outer end by a nut or other fastening device.

The bars may consist of any suitable material, but in chlorinating-barrels must be of some acid-resisting material, as lead, in which case the posts 10 are also of lead and the bolts 12 serve to strengthen the same. In this case also the casing or barrel is lined with lead 13.

Any suitable means may be employed for clamping the parts of the filtering-bed to the foundation, and to further brace the filter cross-beams 15, extending between side bars 16, are held in place by wedges 17 driven between the bars 16 and space-blocks 20. The space-blocks are held in place by end wedges 21, and wedges 22 are driven between the space-blocks and the bars B, which are thus firmly held in place. If desired, they may be burned to the usual lining of the barrel.

Without limiting myself to the construction set forth, I claim—

1. A filter-bar consisting of a body portion or web with a laterally-projecting perforated flange at the top, substantially as described.

2. A filter-bar consisting of a body portion or web with a laterally-projecting perforated flange extending from one side at the top, substantially as set forth.

3. A filter-bar consisting of a body portion or web with a laterally-projecting perforated flange, the end of the flange beveled and the body having a beveled face at the side opposite the flange, substantially as set forth.

4. A filter-bar consisting of a body portion or web with a laterally-projecting perforated flange at the top, and webs or brackets extending between the flange and body, substantially as set forth.

5. The combination with a casing A, of filter-bars B each having a body portion or web and a perforated side flange, substantially as set forth.

6. The combination with a casing A, of filter-bars B each having a body portion or web and a perforated side flange extending to and resting on the body of the next bar, substantially as set forth.

7. The combination in a filter with the casing A, of flanged bars B, arranged side by side, supporting-posts, and bolts extending into said posts and through the casing, substantially as set forth.

8. The combination with the filter-casing A, of flanged bars B arranged side by side with the flanges in contact, supporting-posts, and bolts having heads embedded in the bars extending through the posts and casing and secured thereto, substantially as set forth.

9. A filter-bar consisting of a body portion or web with a laterally-projecting perforated flange at the top and with lateral wings, substantially as set forth.

10. A filter-bed consisting of separated bars arranged side by side and having side flanges perforated, substantially as described.

11. A filter-bed consisting of bars having perforated side flanges arranged with the said flanges in contact at the edges, substantially as set forth.

12. The combination in a filter-bed, of bars having each a body portion and a perforated side flange with a beveled edge, and a beveled face constituting the bearing of the flange of the adjacent bar, substantially as set forth.

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

LEWIS BAILEY SKINNER.

Witnesses:

K. R. BABBITT,

R. C. THAYER.