

J. J. UNBEHAGEN.  
Apparatus for Draining Sugar.

No. 29,115.

Patented July 10, 1860.

Fig. 3.

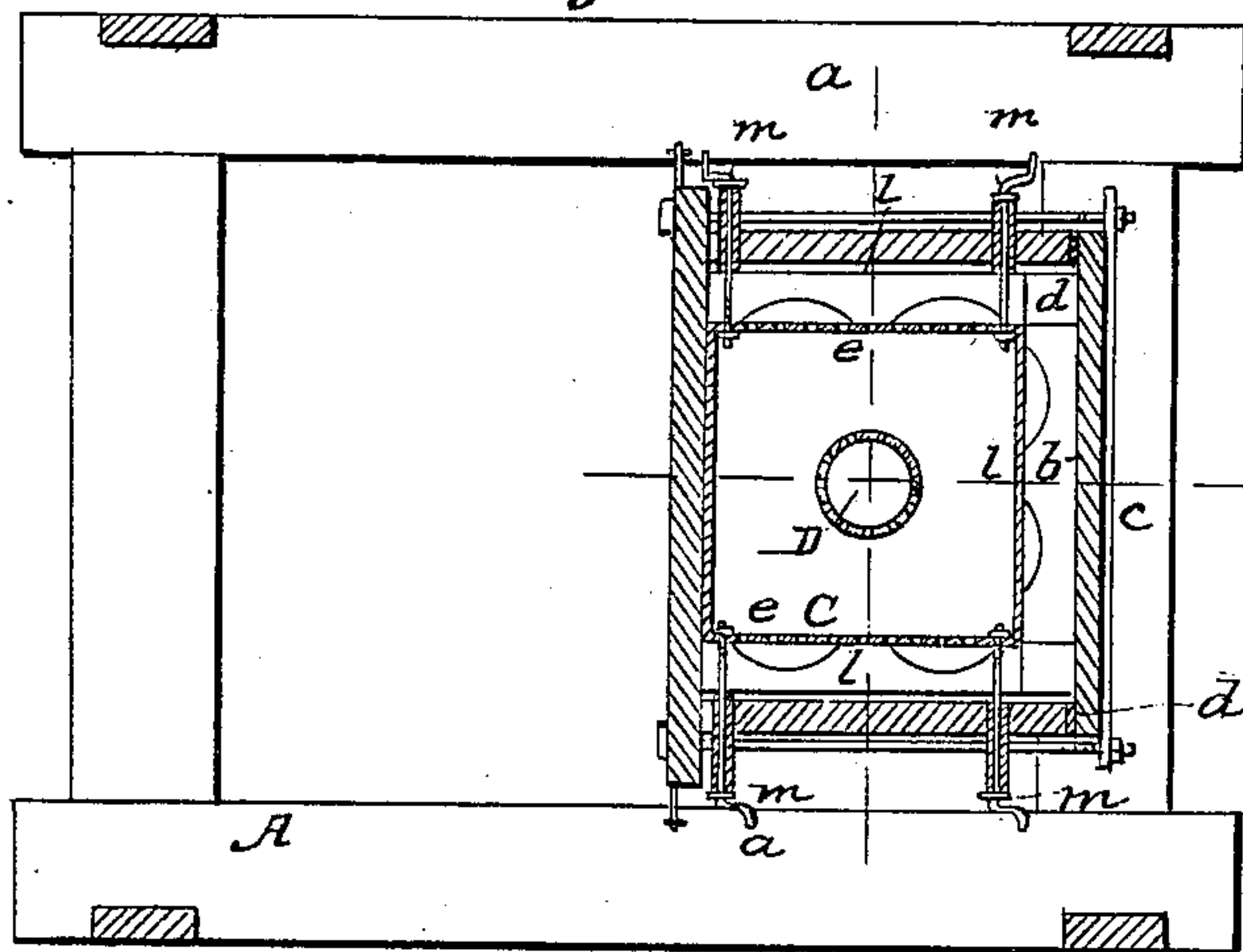


Fig. 1.

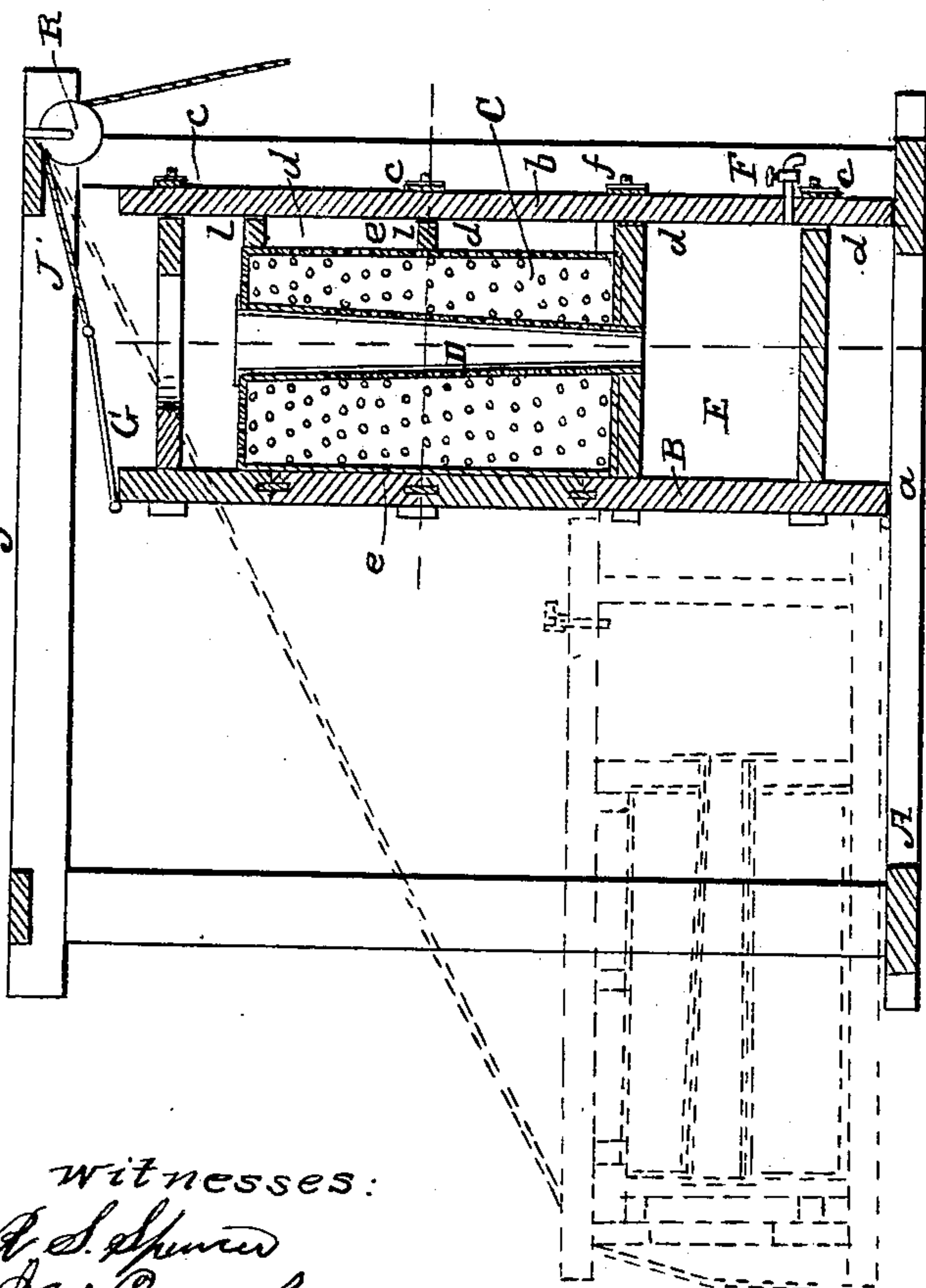
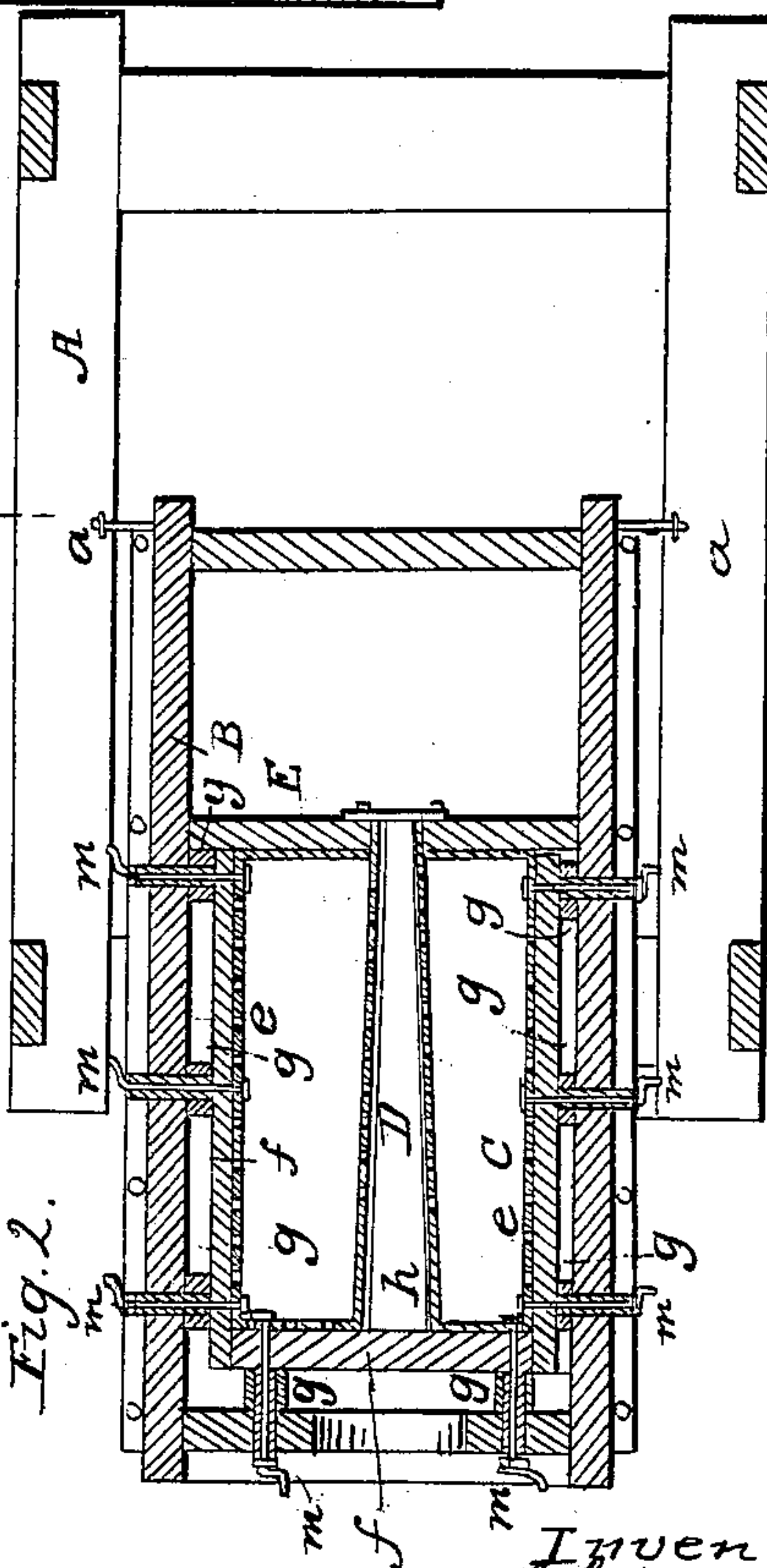


Fig. 2.



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# UNITED STATES PATENT OFFICE.

J. J. UNBEHAGEN, OF BATON ROUGE, LOUISIANA.

## IMPROVEMENT IN APPARATUS FOR DRAINING SUGAR.

Specification forming part of Letters Patent No. 29,115, dated July 10, 1860.

*To all whom it may concern:*

Be it known that I, J. J. UNBEHAGEN, of Baton Rouge, in the parish of East Baton Rouge and State of Louisiana, have invented a new and Improved Apparatus for Draining Sugar; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of my apparatus, showing the same in a position to receive the hot liquid sugar, in red outlines, and in a draining position in black outlines; Fig. 2, a horizontal section of the same when used for cooling; Fig. 3, a similar section of the same when used for draining.

Similar letters of reference in both views indicate corresponding parts.

This invention consists, first, in arranging a cooler in combination with an air-tight hinged case surrounding the same in such a manner that it can be brought in a horizontal position when used for cooling and in a vertical position when used for draining; second, in arranging the cooler with double walls, the inner stationary walls to consist of perforated sheet metal, and the outer movable walls to be arranged so as to form an air-tight inclosure around the perforated inner wall as long as the liquid is subjected to the cooling process, and which can readily be removed if the draining operation is to commence; third, in combining with the cooler a perforated conical central tube for the purpose of facilitating the draining operation.

To enable those skilled in the art to make and use my invention, I will proceed to describe it with reference to the drawings.

A represents a frame, constructed of timber and of sufficient strength for the operation. Supported by this frame and hinged to its bottom timbers, *a*, is the case B, constructed of planks and fitted together so as to form an air-tight inclosure around the cooler. One side, *b*, of said case is secured to the rest by means of clamps *c*, and india-rubber strips *d* are employed to make the joints between this side and the edges of the case tight. This case surrounds the cooler C, which consists of a metal case with perforated walls, *e*, surrounded by an air-tight inclosure, *f*, the walls of said inclosure being kept in place by wedges

*g*, interposed between the inside of the case B and the outside of said walls, as clearly shown in Fig. 2. A conical perforated tube, D, extends through the entire length of the cooler, and as long as the apparatus is in a horizontal position, as shown in Fig. 1 in red and in Fig. 2 in black outlines, the interior of this tube is stopped up by a plug, *h*, to prevent the liquid sugar running through the perforations of said tube. The tube terminates in a cistern, E, which is separated from the cooler by a partition, *i*, and which occupies that portion of the case B which is situated under the cooler if the apparatus is brought in a vertical position, as shown in Fig. 1. As long as the apparatus is used for cooling, the ends of the tube D are stopped up. The cistern E serves to receive the molasses, and it is provided with a faucet, F, that serves to draw off its contents. The hot liquid sugar is introduced into the cooler from the open kettles in which the juice is boiled, and after it has granulated the apparatus is raised to a vertical position. To facilitate the operation of raising the apparatus, a bar, G, is hinged to the top edge of the case B, and a rope, *j*, is secured to this bar and drawn over a pulley, *k*, which is suspended from one of the top bars of the frame A. After the case B has been raised to a vertical position by the aid of the rope *j*, the inclosure *f*, which surrounds the cooler, is removed, and the perforated walls of the cooler are strengthened by supporters *l* and screws *m*, as clearly shown in Fig. 3. The plug *h* is now withdrawn from the inside of the tube D, and its ends are opened and the apparatus is ready for draining. The operation of draining is facilitated by introducing steam into the space surrounding the cooler C and by rarifying the air in the reservoir E. The molasses is forced toward the center, and it passes off through the perforations of the tube D, and it collects in the cistern E, from whence it is drawn off by the aid of the faucet F. By these means the sugar is cooled and drained without removing it from the cooler C, and by the aid of the perforated conical tube D and the perforated walls *e* a perfect separation of the molasses from the granulated sugar is effected, and it will be noticed that by the action of the pressure of the steam on the outside of the perforated sides of the cooler and by the vacuum created under the conical

tubes D all the molasses is driven to the center and collected in the reservoir E in a short and easy manner, and at the same time by the action of the steam the sugar contained in the cooler C is bleached. A superior article is thereby produced, and less labor is required than with other apparatuses for the same purpose.

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

1. The combination of a cooler, C, with an air-tight hinged case, B, constructed and operating substantially in the manner and for the purpose specified.

2. Arranging the cooler C with double walls—viz., the perforated inner walls, *c*, and the air-tight inclosure *f*—constructed and operating substantially in the manner and for the purpose described.

3. The arrangement of the perforated conical tube D, in combination with the cooler C, substantially as and for the purpose set forth.

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Witnesses:

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