

(No Model.)

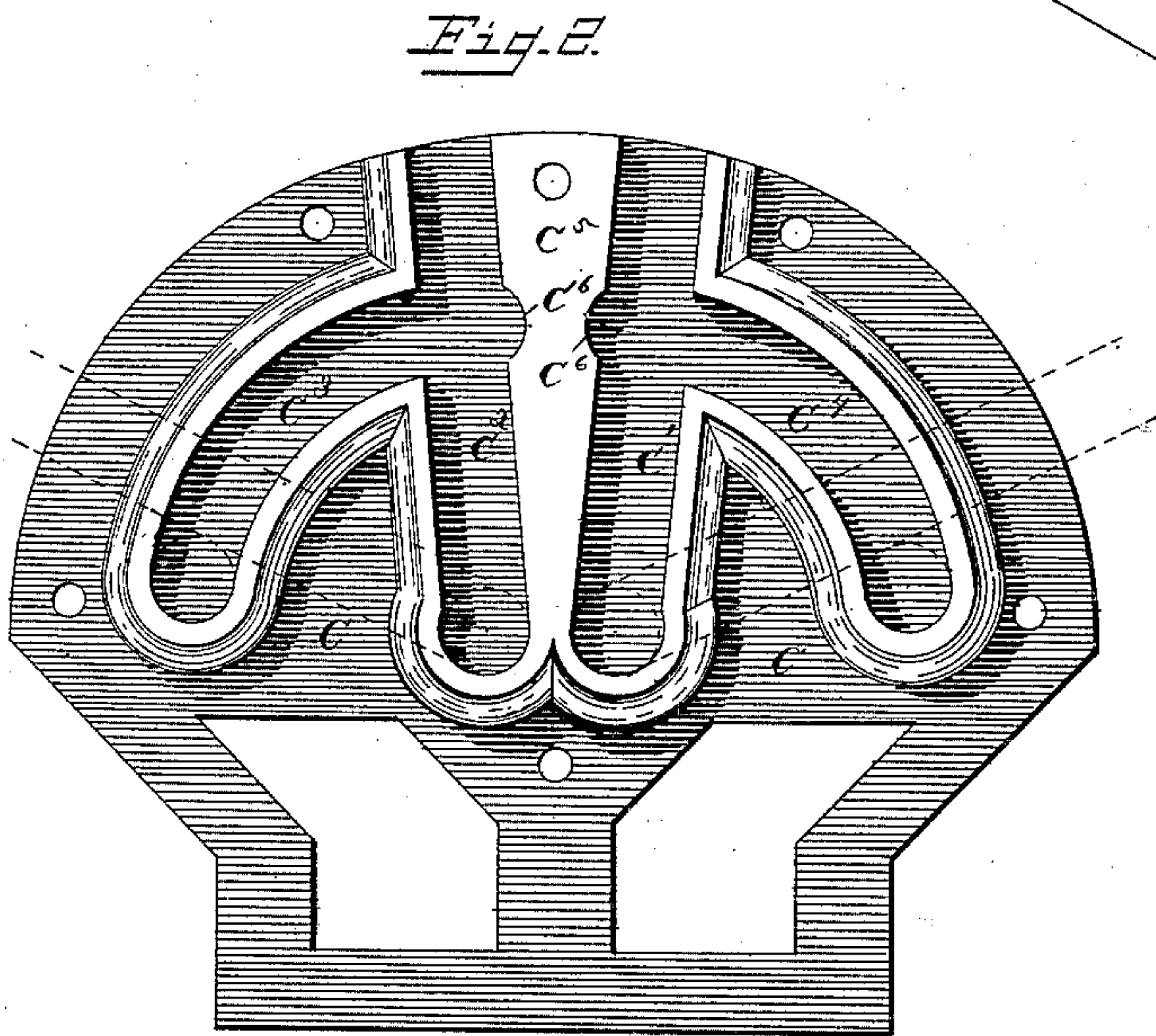
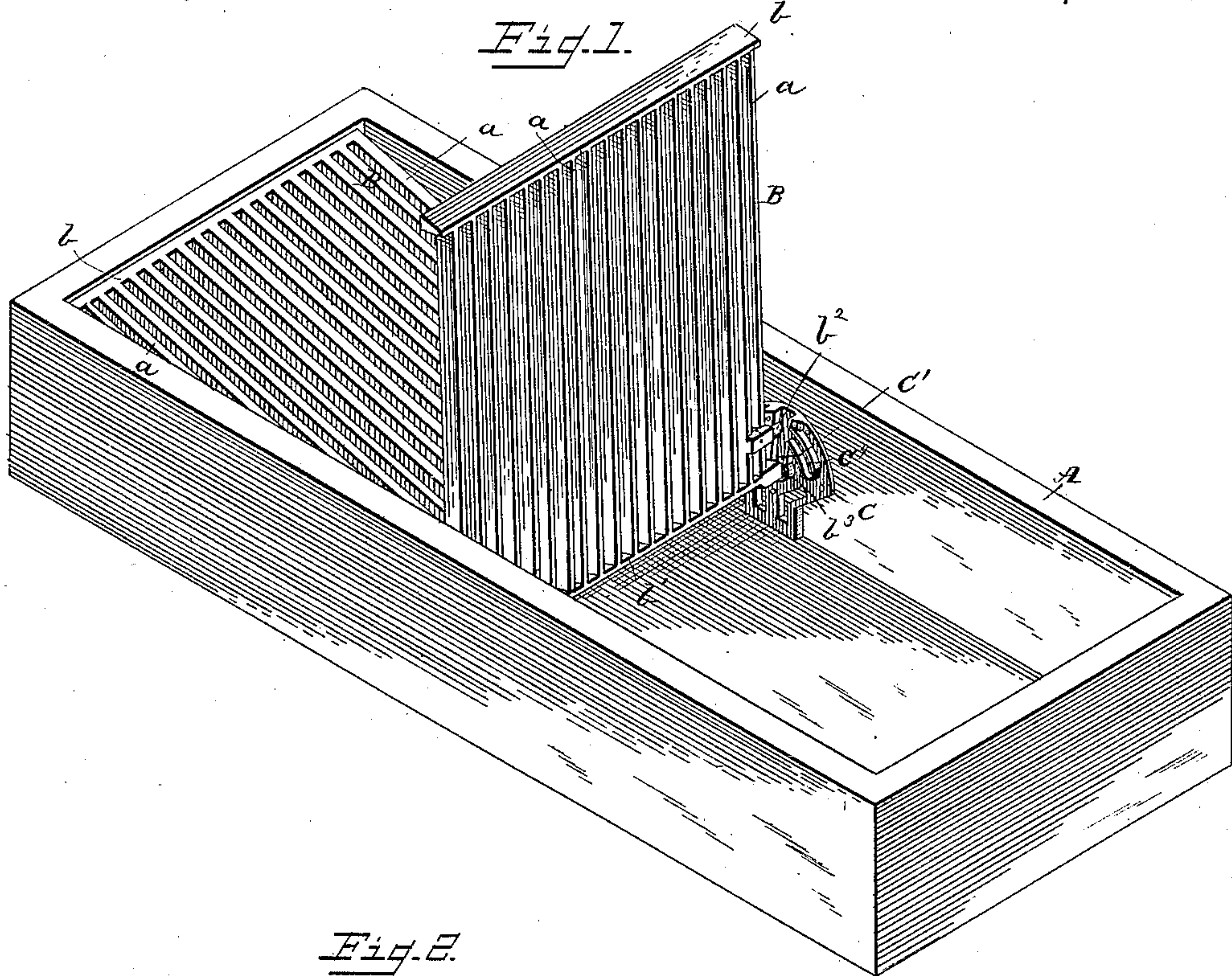
2 Sheets—Sheet 1.

T. W. CARRICO.

BOX FOR WASHING GRAVEL, &c.

No. 378,765.

Patented Feb. 28, 1888.



Witnesses,  
Edwin L. Bradford,  
Charles J. Stockman.

Thomas W. Carrico, Inventor.  
By his Attorney in fact,  
Chas. E. Barber.



(No Model.)

2 Sheets—Sheet 2.

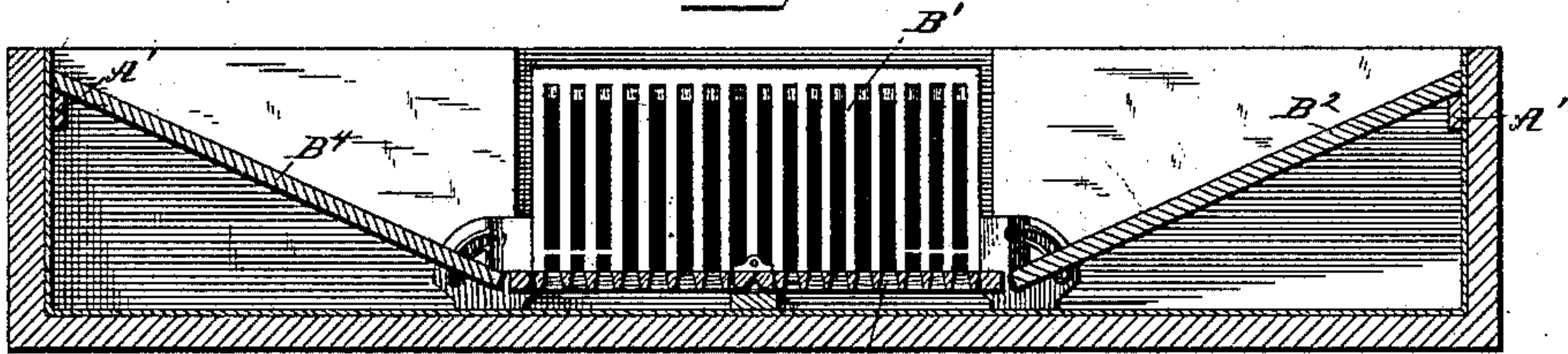
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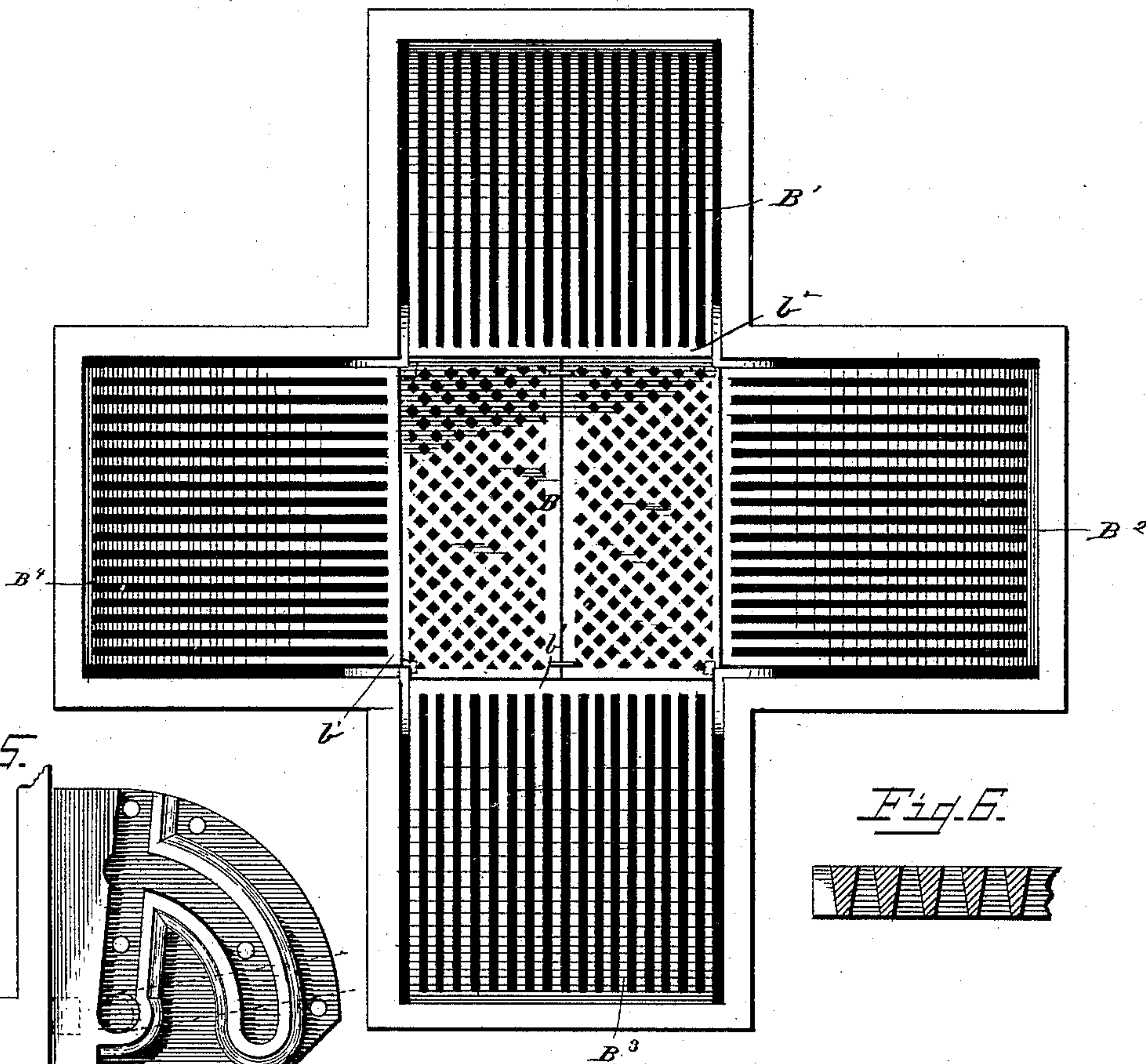
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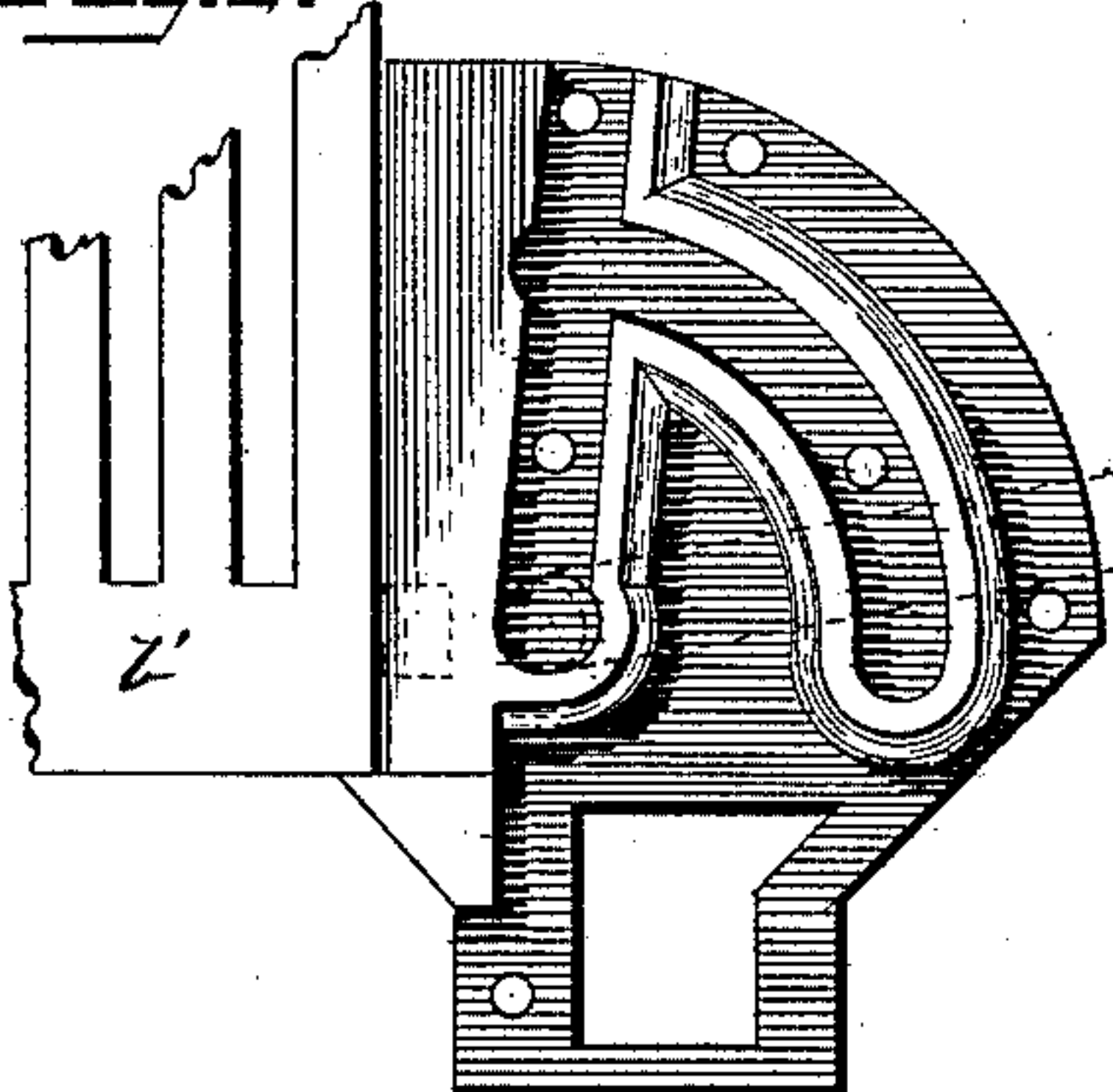
*Fig. 3.*



*Fig. 4.*



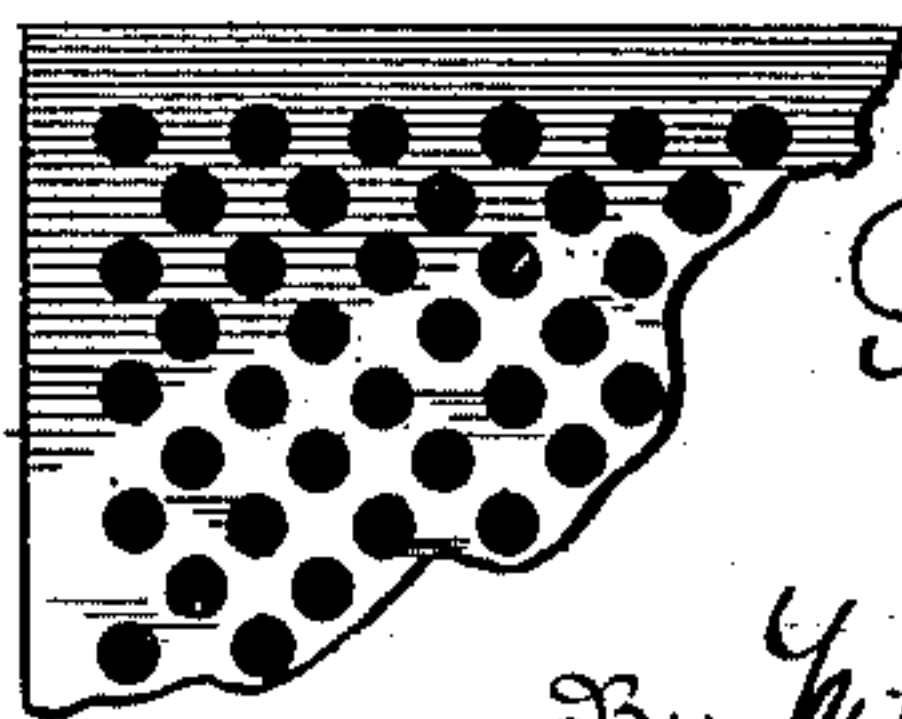
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



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# UNITED STATES PATENT OFFICE.

THOMAS W. CARRICO, OF SAN ANTONIO, TEXAS.

## BOX FOR WASHING GRAVEL, &c.

SPECIFICATION forming part of Letters Patent No. 378,765, dated February 28, 1888.

Application filed July 25, 1887. Serial No. 245,248. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS W. CARRICO, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Boxes for Washing Gravel, Stone, or other Material Used in the Manufacture of Concrete, of which the following is so full, clear, and exact a description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings.

This invention relates to an improvement in boxes for washing gravel, stone, or other material used in the manufacture of concrete, the object being to construct a simple and inexpensive device which will accomplish its purpose in a thorough manner in the shortest possible time and with the least expense of physical labor, and one which will facilitate the washing of concrete material with a comparatively small amount of water.

Another object of my invention is to construct a box for washing concrete material which may be cleaned out without removing the grates.

To these ends my invention consists in certain peculiarities in the construction, arrangement, and combination of the various parts, substantially as will be hereinafter described, and then particularly pointed out in the appended claims.

In the accompanying drawings, illustrating my invention, Figure 1 is a perspective of the box provided with two grates, one being shown as lowered and the other raised in order to clean the box. Fig. 2 is a detail representation of one of the slotted plates used to permit the raising and lowering of the grates, and showing in dotted lines the grates lowered. Fig. 3 is a longitudinal section of a box equipped with five grates. Fig. 4 is a top plan of the same. Fig. 5 is a detail of one of the slotted plates employed when the construction shown in Figs. 3 and 4 is used. Figs. 6 and 7 are details of different forms of grates which I may use.

Similar letters of reference denote corresponding parts in the several views.

A represents the main box, of which any suitable form may be used; but I prefer the

one shown in my former patent, No. 340,484, granted April 20, 1886, as being in every way suited for its purpose. Within this box A are situated the inclined grates B B, which may consist of a series of longitudinal bars, *a a*, connected at their ends by transverse bars *b b'*, as shown in Fig. 1; or any other suitable form of grate may be used—such, for instance, as those shown in detail, Figs. 6 and 7—without departing from the spirit of my invention. These grates are supported at their upper ends by the cleats A' A', secured to the interior of the box A at its ends, as shown best in Fig. 3, and the transverse bar *b'*, situated at the lowermost extremity of the grates, is extended out beyond the sides of the said grates and rests in grooves C', formed in a plate, C, (to be hereinafter fully described,) forming a pivot by means of which the grates can be raised and lowered, as will be readily observed. The grates are also provided on their sides, at suitable distances from their bottom, with pins or lugs *b<sup>2</sup>*, extending outwardly, as shown, and working in slots C' C<sup>2</sup> and C<sup>3</sup> C<sup>4</sup>, formed in the plate C. These plates C are preferably made in the form shown, and are situated on each side of the box, (being secured thereto in any suitable manner,) and are formed with vertical grooves C' C<sup>2</sup>, within which the pins *b<sup>2</sup>* of the grates work, and with curved grooves C<sup>3</sup> C<sup>4</sup>, within which the lugs *b<sup>3</sup>* work, as has before been stated.

Heretofore when it was desired to cleanse the box it was necessary to remove the grates in order to have access to its bottom, which was often very difficult, and, to say the least, caused a great loss of valuable time. Obviously by using a device constructed after the plan herein set forth access can be had to the bottom of the box for the purpose of cleaning simply by raising the grates. It will also be observed that when the grates have been lowered into position for washing gravel, stones, &c., the lugs *b<sup>2</sup>* *b<sup>2</sup>* and *b<sup>3</sup>* *b<sup>3</sup>* will rest against the bottom of the grooves C<sup>3</sup>, C<sup>4</sup>, C<sup>2</sup>, and C', respectively, and form an additional support for the said grates, as shown best in Fig. 2. It will be observed, further, that should it become necessary or desirable to remove the grates from the box it can be done simply by raising the grates up, as the groove C' extends to the top of the plate C.

The portion C<sup>5</sup> of the plate C between the



grooves  $C'$  and  $C''$  is formed on opposite sides, at a suitable distance from its top, with grooves  $C^6$   $C^6$ , within which the lugs  $b^2$  are adapted to rest when the grates are in their elevated position, as shown best in Fig. 2.

Referring, now, to Figs. 3 and 4, it will be observed that the box A is provided with five grates,  $B$   $B'$   $B^2$   $B^3$   $B^4$ , and the box is made of a suitable form to accommodate them. The grates  $B$  are situated in the center of the box and are horizontal. The other grates,  $B'$   $B^2$   $B^3$   $B^4$ , are inclined upwardly and pass from the center grate,  $B$ , to near the top of the box, resting at their upper extremities upon the cleats. When this form of box is adopted, the plate shown in detail in Fig. 5 is used. This plate is made precisely like the other so far as the grooves and lugs are concerned; but it is bent at its middle portion at right angles to permit it to embrace two sides of the box, as shown clearly in Fig. 4, thus allowing one plate to serve for the adjacent ends of every two grates. The extended portion of the extremities  $b'$  of the center grates,  $B$ , are situated within perforations formed in projections secured to opposite sides of the main box, as shown more clearly in Fig. 3, permitting the said grates to be raised and lowered. Obviously when this form of box is used four men can work at it, one at each of the inclined grates.

The manner of using my device is as follows: The gravel, stones, shells, &c., are placed in the box upon the grates. A stream of water is then let into the box upon the stones, &c., in any convenient manner, and they are turned over and over and stirred in the water until thoroughly cleaned, all the dirt, sand, mud, and foreign substances passing down through the grate into the bottom of the box. The stones, &c., are then removed and another "batch" put in and operated upon in the same manner. When it is desired to cleanse the bottom of the box from the dirt, &c., the grates are raised in the manner previously described, giving ready access to the bottom of the box.

It will be obvious that many advantages result from the use of a device constructed after the plan herein set forth. The washing can be rapidly and thoroughly done, and there will be great economy in the use of water, (which is a great desideratum and will be readily appreciated by builders and others using such devices,) owing to the fact that the box can be filled with water and the stones, &c., turned over and over therein, none of the water being permitted to escape, thus allowing the same water to be used for a number of batches.

I do not wish to be understood as limiting myself to the exact construction herein described, as many of the details might be varied at will without departing from the spirit of my invention, which consists, essentially, in providing a box for facilitating the washing of stones, &c., with grates capable of being elevated to give access to the bottom of the box, obviating the necessity of removing them from the box.

Having now described the construction, uses, and advantages of my invention, and having described a preferred means of carrying the same into effect, what I believe to be new and desire to secure by Letters Patent, and what I therefore claim, is—

1. In a device of the character described, the main box having grates situated therein, the lower edges of which are extended outwardly, and the lugs formed upon the said grate, in combination with plates secured to the sides of the said box and having grooves for the reception of the said lugs and the extended portion of the grates, all arranged and combined to operate substantially as shown and described.

2. In a device of the character described, the main box provided at its inner ends with cleats and having grates situated in the said box, the lower extremities being extended outwardly and the sides having lugs or projections, in combination with plates secured to the sides of the box and formed with vertical and curved grooves for the reception of the extended portion of the grates and the said lugs, respectively, all combined and arranged to operate in the manner and for the purpose substantially as herein shown and described.

3. In combination with the main box, plates secured thereto and having vertical and curved grooves and a projection between the vertical grooves, substantially as herein shown and described.

4. In combination with the main box, plates secured thereto and having vertical and curved grooves, and a projection between the vertical grooves formed on its opposite sides with grooves, and the grates having lugs running in the said grooves, all arranged and combined in such a manner that access can be had to the bottom of the box without removing the grates, substantially as shown and described.

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

THOMAS W. CARRICO.

Witnesses:

JNO. J. STEVENS,  
MADISON FOSTER.