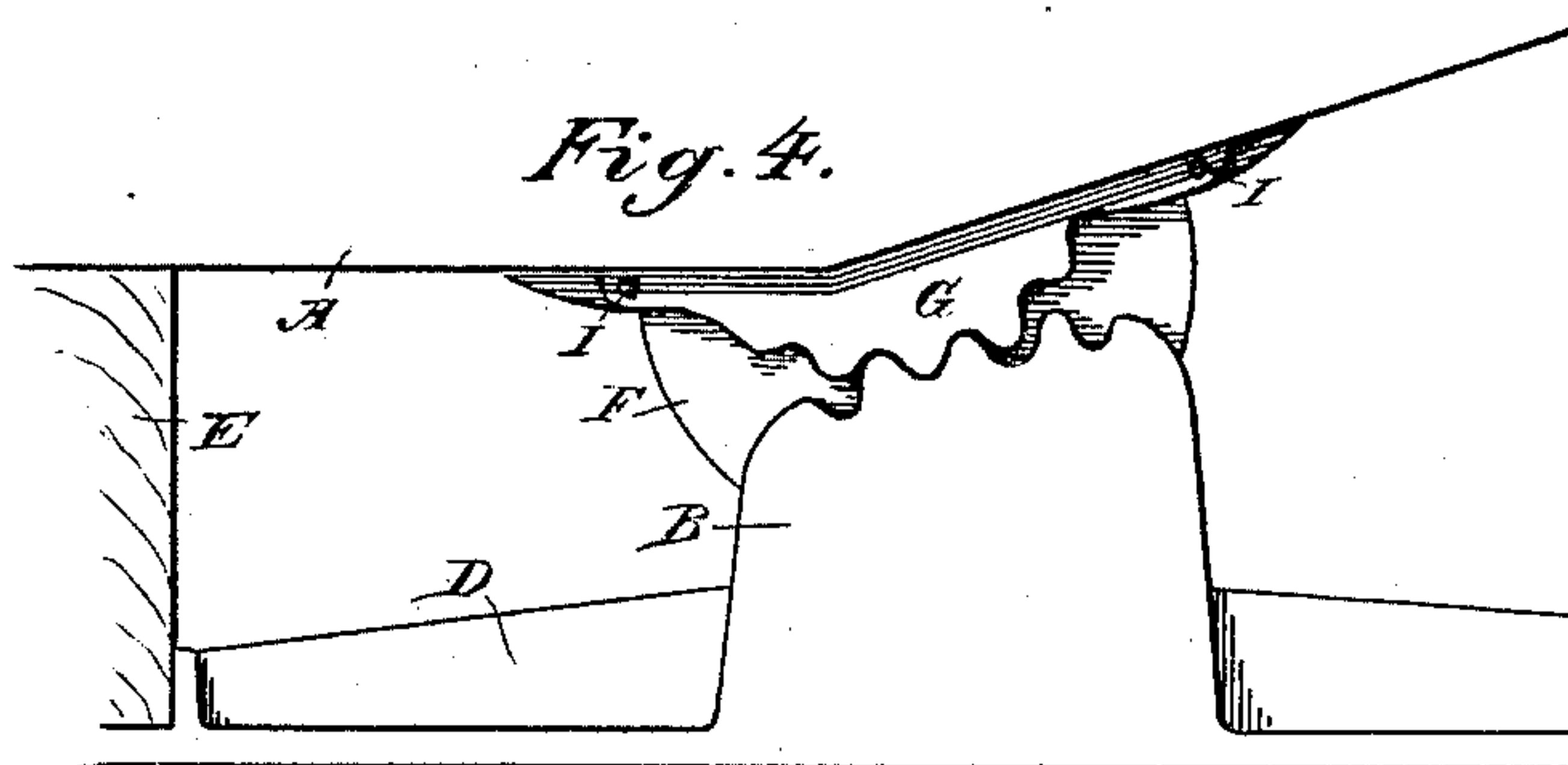
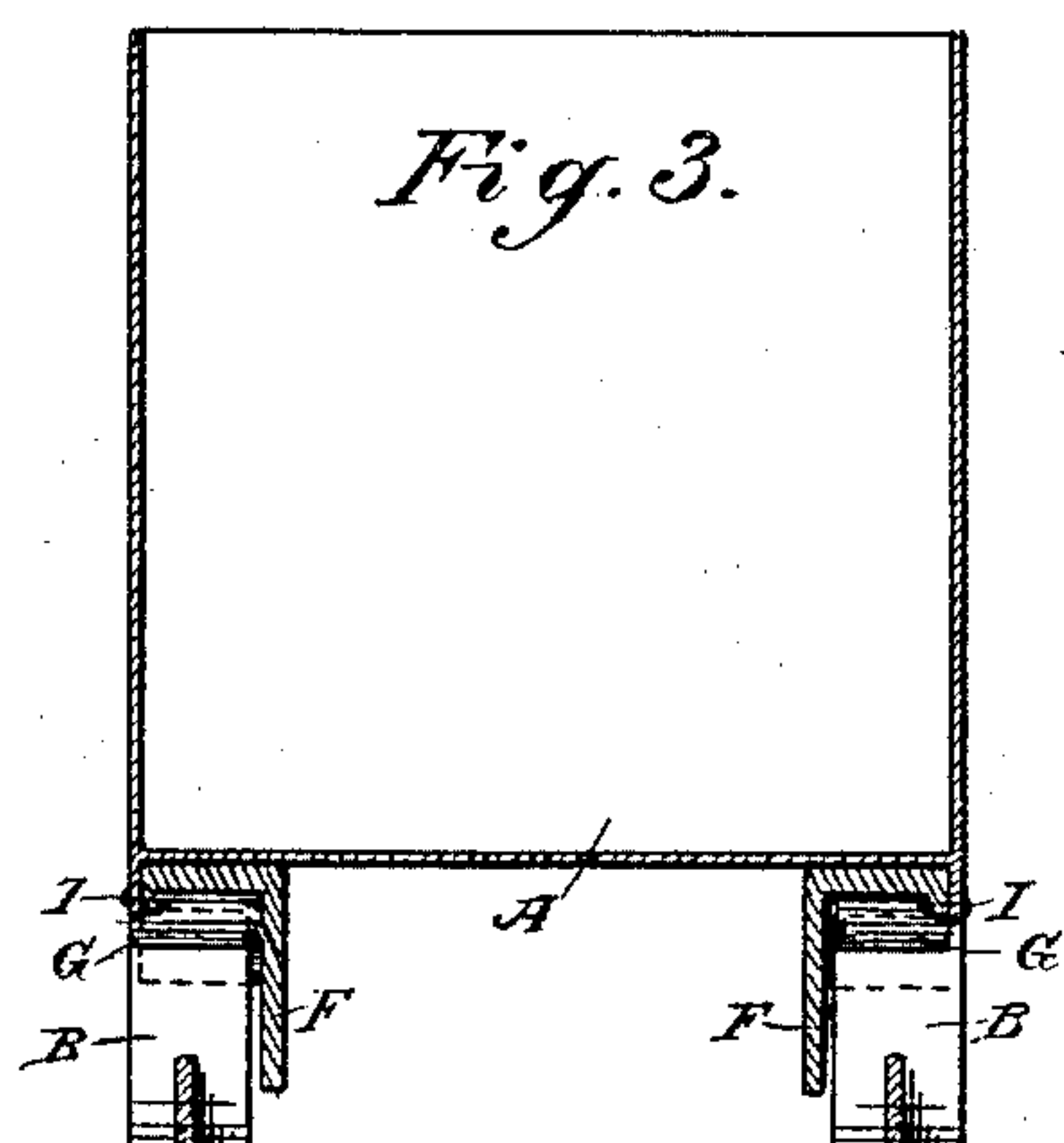
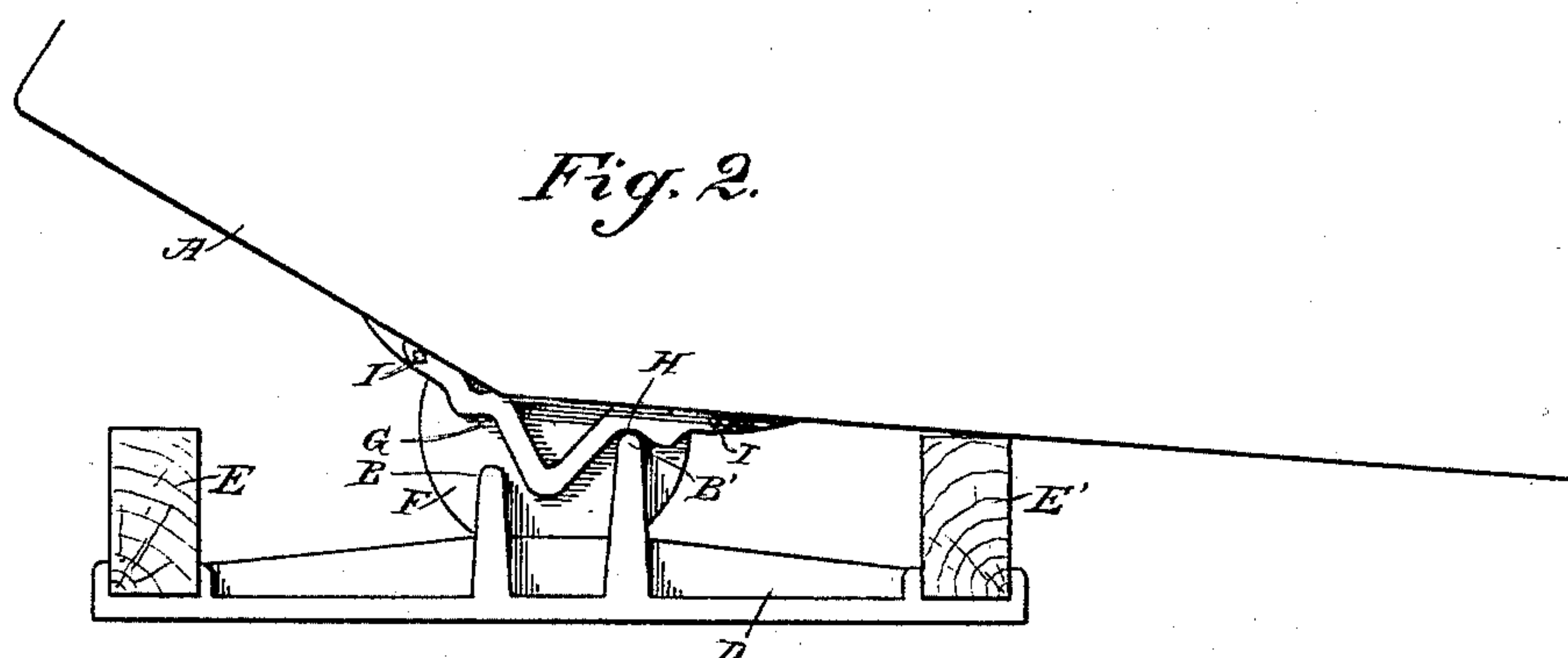
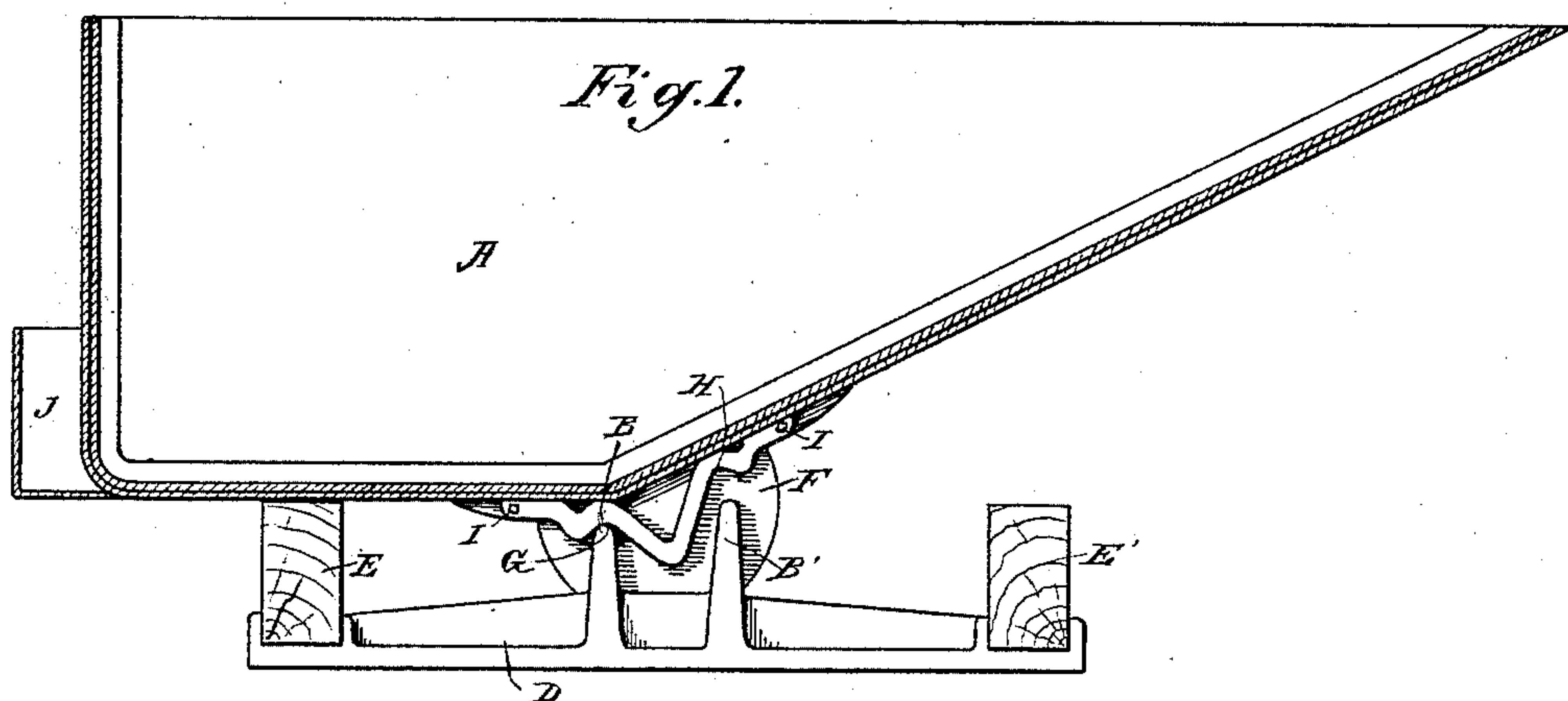


(No Model.)

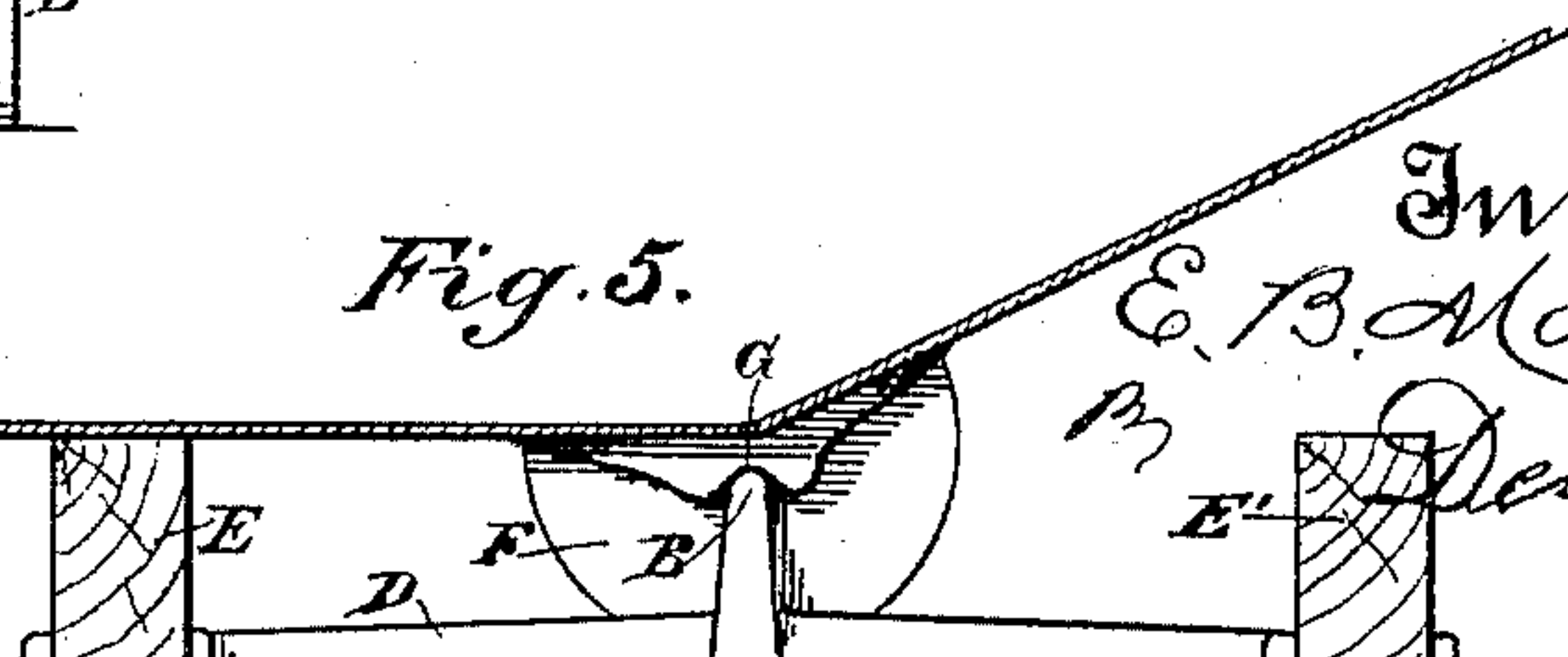
E. B. MASTICK.
AUTOMATIC SEWER FLUSHING TANK.

No. 412,965.

Patented Oct. 15, 1889.



Witnesses,
Geo. B. Strong,
Chas. H. Houser,



Inventor,
E. B. Mastick
By Dewey & Co.
attys

UNITED STATES PATENT OFFICE.

EDWIN B. MASTICK, OF ALAMEDA, CALIFORNIA.

AUTOMATIC SEWER-FLUSHING TANK.

SPECIFICATION forming part of Letters Patent No. 412,965, dated October 15, 1889.

Application filed January 11, 1889. Serial No. 296,099. (No model.)

To all whom it may concern:

Be it known that I, EDWIN B. MASTICK, of Alameda, Alameda county, State of California, have invented an Improvement in Automatic Sewer-Flushing Tanks; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device for automatically flushing sewers and for other purposes where it is necessary to have a periodical and intermittent discharge; and my invention consists in the constructions and combinations of devices which I shall hereinafter fully describe and claim.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a view of the tank in its normal position. Fig. 2 is a view showing it in position to discharge. Fig. 3 is a transverse section. Figs. 4 and 5 show a modification of the variable fulcrum.

A is a tank, which may be made of sheet metal or other suitable or desirable substance, and of any desired shape, size, or capacity. The main portion or body of the tank, as shown in the present case, is rectangular in transverse section, having vertical sides. The bottom of this portion of the tank is horizontal to a point at or near the fulcrum B, about which the movement is made. From this point the bottom slopes or inclines upwardly at such an angle as will make a long extension, gradually decreasing in depth, the two sides of the tank being continued out, so that the shape of the tank will be as shown in Fig. 1. By reason of this construction the tank may be very nearly filled with water and still maintain its normal position; but as the water rises and the weight is transferred more and more to the outer or wedge-shaped end it will finally be overbalanced, so that this shallow-pointed end will be tilted downward. In order to effect this, and also to properly support the tank, I have a frame-work D of any suitable form or construction. In the present case it is shown as made of iron, rectangular in plan view, and having the blocks or standards E at each end. The fulcrum or fulcrums are fixed to the frame at or near the center, as shown in Fig. 5. By properly weighting the rear end the tank

will act automatically with a single fulcrum; but I have here shown a variable fulcrum as being in some respects preferable.

In Figs. 1 and 2 I show two fulcrums B B'. To the bottom of the tank A and upon each side are secured a casting or castings F, having the depressions G and H formed in them, the distance between these depressions corresponding exactly with the distance between the bearing parts of the standards or fulcrums B B'. These castings may be attached to the tank in various ways. I prefer to continue the sides of the tank downward a short distance, so as to form vertical flanges, and the castings F have corresponding extensions, through which rivet or bolt holes may be made, as shown at I, so that they may be secured to the flanges; but any other convenient or suitable method may be adopted, this not being essential.

If desired, a channel or pocket may be made at the rear of the tank, as shown at J, into which small weights may be placed, if there be any error in the construction or balancing of the tank. In construction the fulcrums B B' are made in pairs and consist of vertical standards under each edge of the tank, as shown in the transverse section, and the semi-circular disks or plates F extend downward inside of these fulcrum-standards, so as to prevent the tank from sliding off to either side.

In Fig. 4 I have shown the fulcrum in a single curved or arched bearing, upon which the base of the tank rests, the two meeting surfaces being corrugated or toothed to allow the tank to turn upon the fulcrum and change its point of support without slipping. In this construction the points of support change by degrees and with a rolling movement.

The operation of this device will then be as follows: That portion of the tank which is just at the angle between the horizontal and inclined portion of the bottom rests upon the top of the fulcrum-post B, which is preferably a little shorter than the fulcrum-post B', and the rear portion of the tank rests upon the standard or support E, before described, while the long portion, with the inclined bottom, projects unsupported in front of the fulcrum B. The water is admitted into the tank

in a stream, which is regulated so as to fill the tank in any desired time, which may be from ten minutes to many hours. The water rises gradually to the tank and fills it, and the center of gravity is gradually transferred outwardly and along the inclined unsupported bottom until the weight at this portion of the tank exceeds the weight in the portion behind the fulcrum. This will cause the tank to tilt or roll upon its fulcrum, the rear portion rising from the standard or support E, and when the depression H rests upon the top of the fulcrum-post B' or forward part of the fulcrum the weight will cause the tank to continue to tilt, turning upon the fulcrum-post B' and rising from the post B or rear part of the fulcrum until the front or inclined bottom rests upon the post or support E', in which position this inclined bottom will have reached a horizontal position or be slightly beyond the horizontal, so that all the water in the tank will flow out at once into the sewer or other receptacle prepared for it. As soon as the water has flowed out of the tank the weight of the rear portion of the tank will tilt it backward, so that it will rest upon the two posts B B'; or, if preferred, it can be weighted sufficiently to cause it to return to its normal position at once, when the rear portion of the bottom rests upon the post or support E and the fulcrum B. If, however, the tank remains resting upon the two posts B B' when separate ones are used, the water still flowing into the tank will again commence to fill it, and as it rises the weight increases in the rectangular or rear portion of the tank until it is returned to its normal position, resting upon the fulcrum-post B and standard E, where it will remain until it is again filled, when the operation of discharging again takes place. This provides an automatic self-discharging tank, which will continue to operate as long as the supply of water or other liquid flows into it, and it needs no attention, having no joints, hinges, or other parts to get out of order.

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

1. The fulcrum or fulcrum-posts B and B', and the depressions or channels formed in the bottom or base of a tank having the bottom formed of a horizontal and inclined portion, in combination with the standards or supports E and E', placed beneath opposite ends of the tank so as to support it in conjunction with one or the other of the fulcrums, substantially as and for the purpose herein described.

2. The fulcrum or fulcrums and the standards E and E', standing in line, in combination with the tank, the bottom of which forms an obtuse angle, and depressions or points of support upon said bottom, about which it may turn upon the fulcrum or fulcrums, so as to be supported alternately upon the fulcrum and standard E and the fulcrum and the standard E', substantially as and for the purpose herein described.

3. The tank having the bottom formed of two planes meeting each other at an obtuse angle, and the variable fulcrum and standards upon which the tank turns and is supported, in combination with the channeled or grooved plates having the flanges or disks F to retain the tank in place, substantially as and for the purpose herein described.

4. A tank so shaped that its center of gravity will be changed as it is filled or discharged, and a fulcrum or fulcrums with varying points of rest beneath its bottom, about which it turns to discharge or right itself automatically, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

EDWIN B. MASTICK.

Witnesses:

BEN MORGAN,
H. J. LANG.