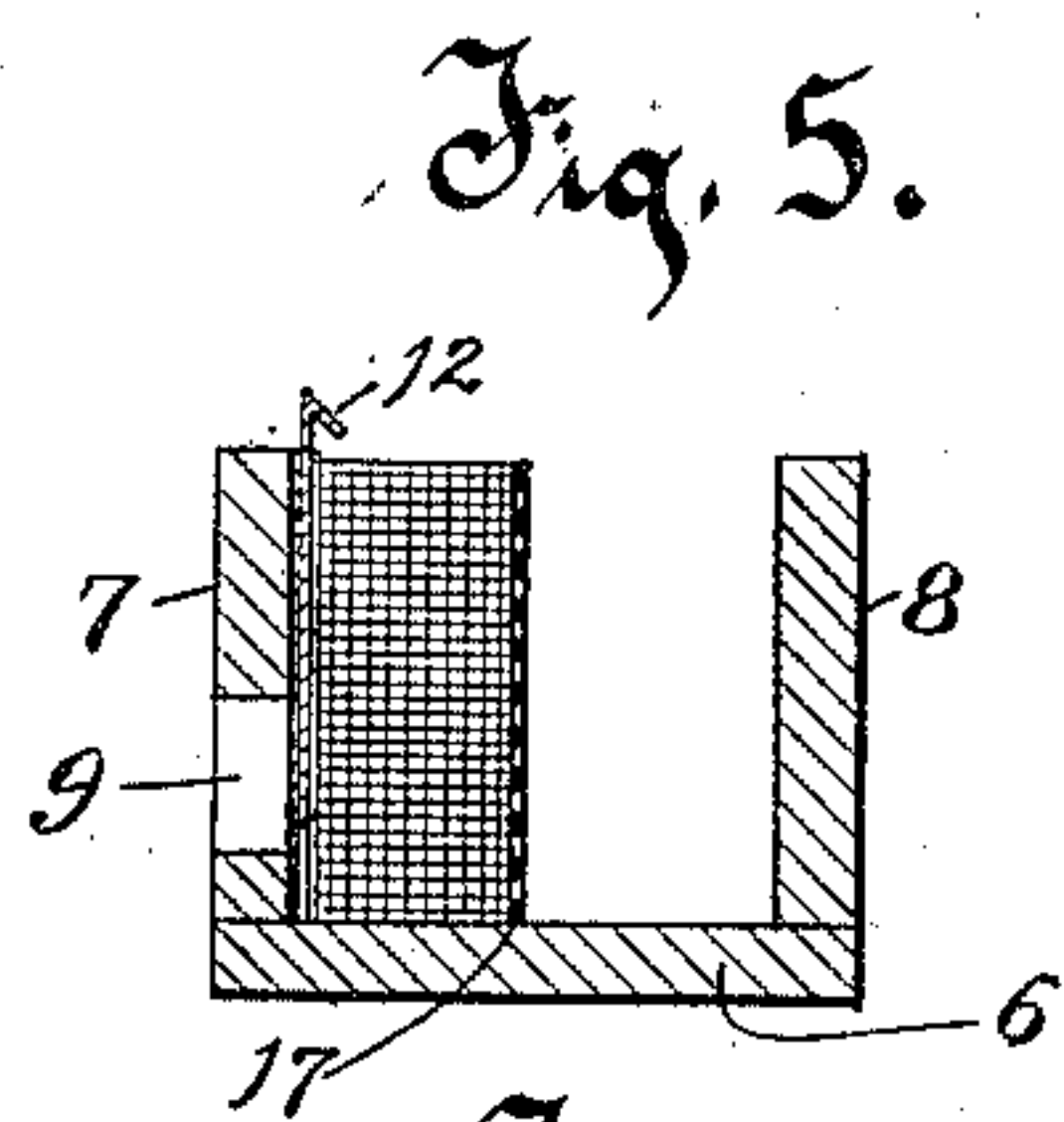
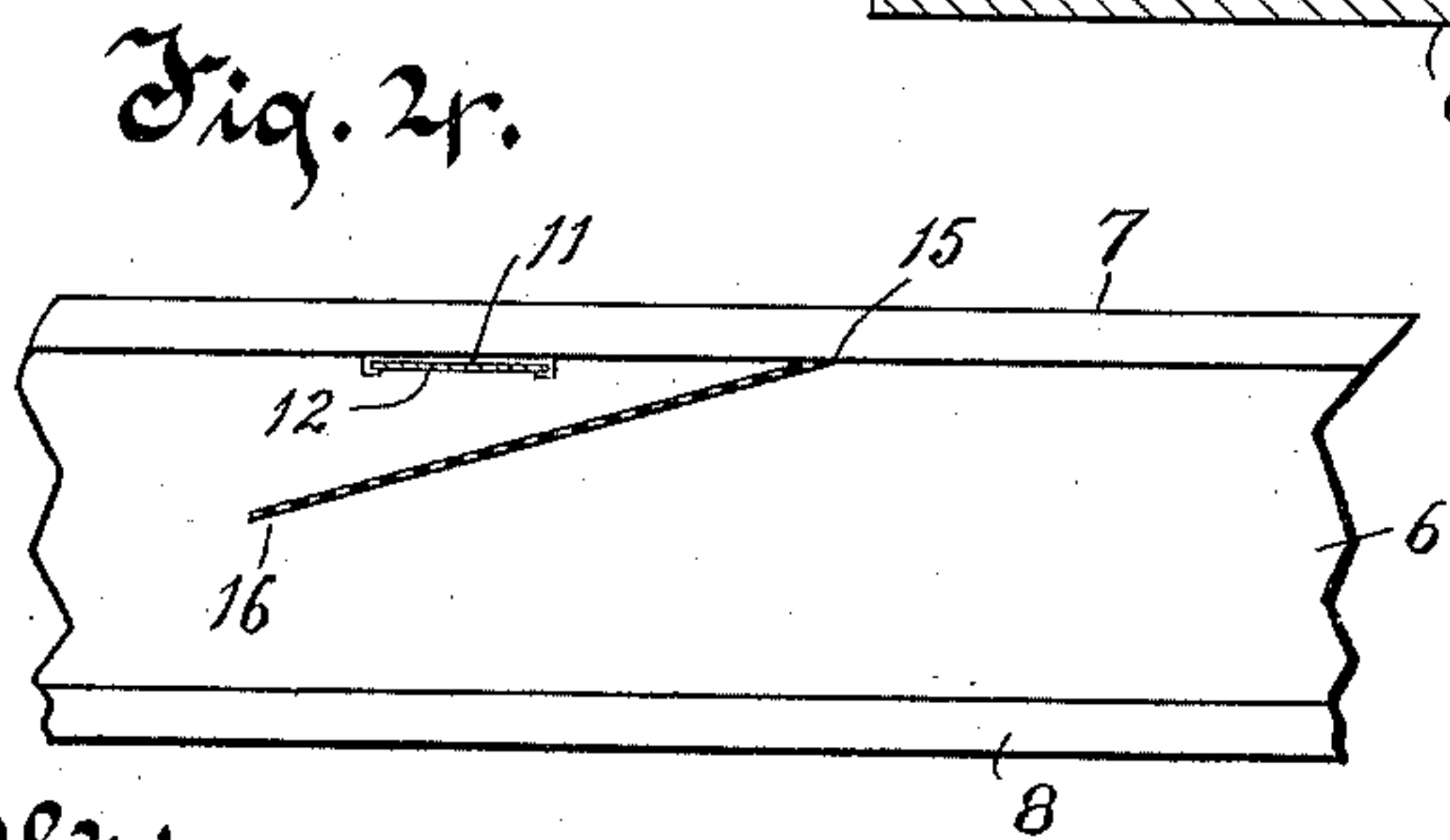
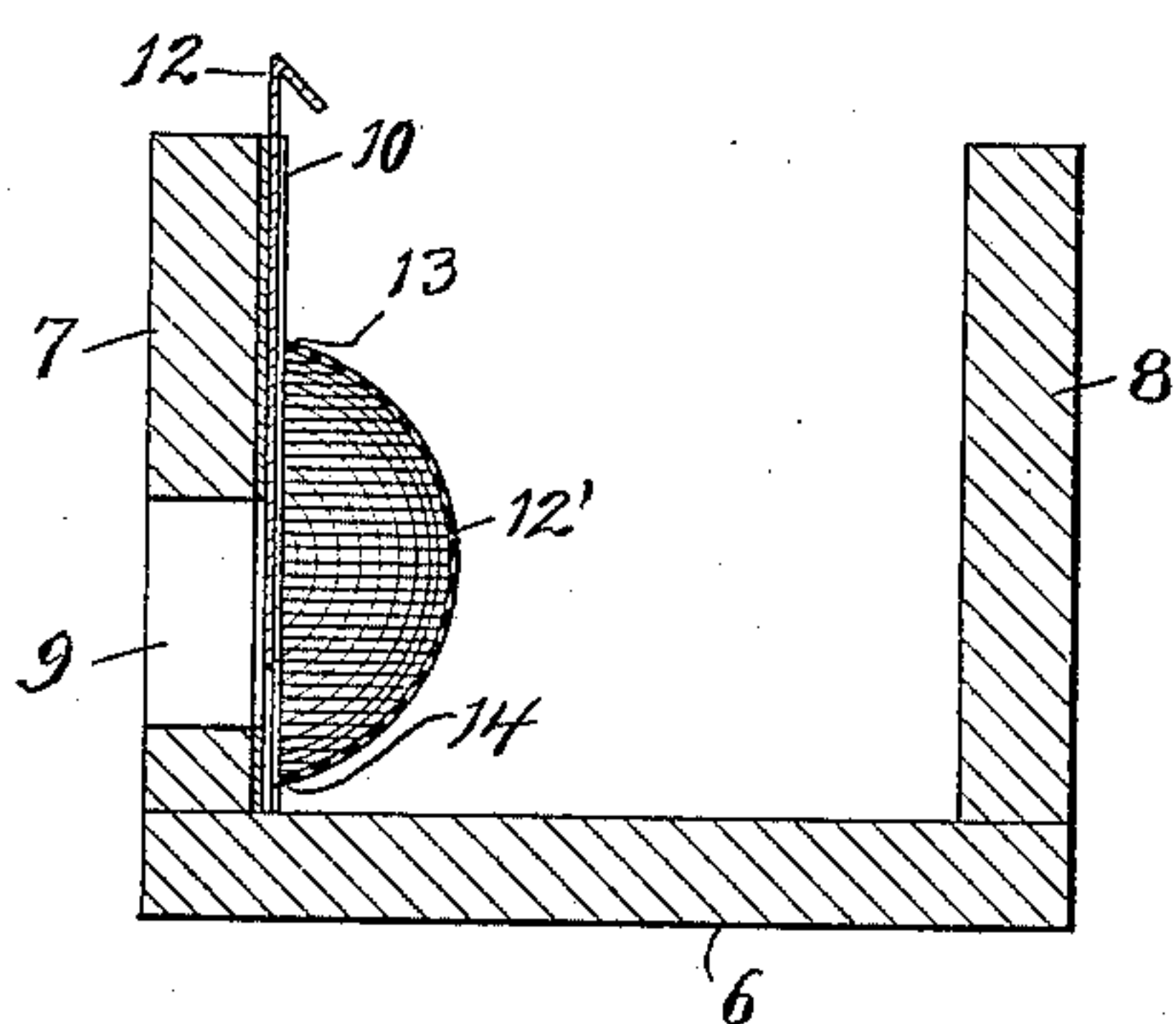
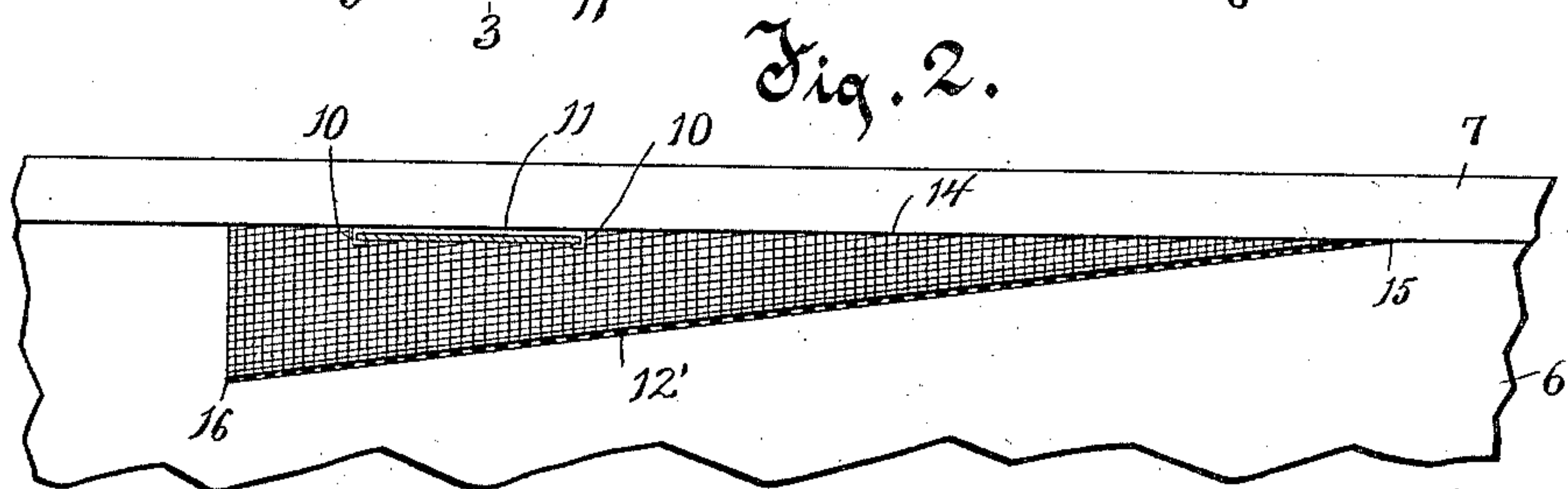
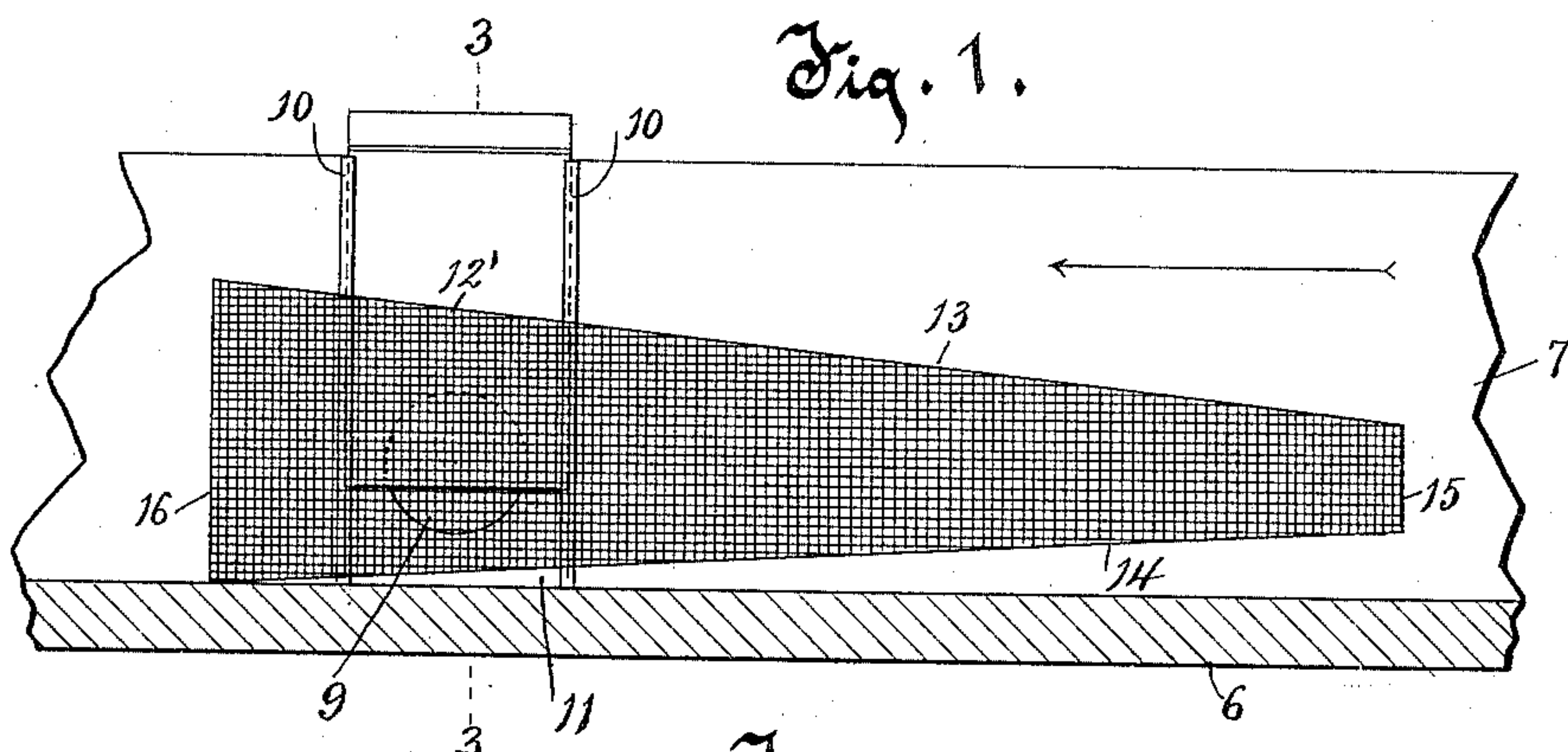


J. F. PEIRCE.
RUBBISH DIVERter FOR FLUME GATES.

APPLICATION FILED OCT. 18, 1902.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

JONATHAN F. PEIRCE, OF MILWAUKEE, WISCONSIN.

RUBBISH-DIVERTER FOR FLUME-GATES.

SPECIFICATION forming part of Letters Patent No. 726,564, dated April 28, 1903.

Application filed October 18, 1902. Serial No. 127,789. (No model.)

To all whom it may concern:

Be it known that I, JONATHAN F. PEIRCE, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Rubbish-Diverter for Flume-Gates, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

10 This invention relates to improvements in rubbish-diverter for flume-gates.

In certain localities where irrigating-flumes are utilized and gated ports lead from the flumes to branches or to land to be irrigated 15 much trouble is experienced on account of the quantities of rubbish and leaves carried by the water, the ports and gates become clogged, and unless carefully watched the proper amount of water will not reach the desired destinations. Numerous means have been devised for the object of overcoming this difficulty, but all of them, so far as I am aware, are open to objections more or less serious.

25 The object of this invention is to produce a simple and cheap rubbish-diverter for these ports and gates which will be efficient and free from the objections common to those devices heretofore utilized, one which will divert the rubbish from the gate without materially retarding the speed of the flow of the water through the flume or diverting the water from the gate. This and other objects I attain by means of a diverter constructed 30 and utilized as described in the specification, and illustrated in the drawings presented herewith.

In the drawings, Figure 1 is a sectional elevation of a portion of a rectangular flume adjacent to one of its gates, and this view illustrates this invention as applied to said gate, the flow of water through the flume being in the direction of the arrow in said figure. Fig. 2 is a plan view of the flume, showing the diverter in section taken on line 2 2 in Fig. 1. Fig. 3 is a cross-sectional view of the flume with the diverter in place and is taken on line 3 3 in Fig. 1. Fig. 4 is a plan view of a modified form of this device, and Fig. 5 is a 45 cross-sectional view of this modified form applied to a rectangular flume.

Throughout the several views like elements are denoted by like characters.

While in the drawings this device is shown as applied to a rectangular flume, it will be understood that the flume may be of any desired shape, and it may be formed of any desired material, whether wood, concrete, or masonry. The flume consists of the bottom 6 and sides 7 and 8, and a port 9 is shown 60 leading from the interior of the flume through side 7. This port may lead to a branch of the flume or to an irrigating ditch, or a field or orchard, as the case may be, to be irrigated, and as many ports as are desired may 65 lead from one flume. Secured to the interior of wall 7 and extending vertically of said wall are two gate-guideways 10, and these guideways are preferably struck up out of a plate 11 of sheet metal and bent over toward 70 one another to form the guideways. The plate 11 is provided with an opening adapted to register with the opening 9 in the wall of the flume, and a sheet-metal gate 12, having its top bent at an angle to its body to form a 75 handle, fits within the guideways and is adapted to be moved up and down therein to open and close the port 9, as is desired.

In order to hold the gate 12 in the desired adjusted positions within its ways, the irregularities of the gate itself—that is, the spring 80 of the metal and the irregularities in the guideways—will be relied on to produce the proper amount of friction.

The rubbish-diverter 12 consists of a four-sided piece of meshed fabric, such as wire 85 screen, having two of its edges 13 and 14 diverging one from the other and one located above and one below the top and bottom, respectively, of the port 9. The forward edge 90 15, which is that edge or end above the gate, is secured to the wall 7 by means of tacks or staples or in any other suitable manner, and the body of the diverter between the edges 13 and 14 is curved out into the flume from 95 one of said edges to the other, as shown in Fig. 3, thus providing an opening or open end for the diverter. The edges 13 and 14 may be secured to the wall of the flume by means of staples or tacks or in any other suitable 100 manner, and, if desired, the edge 14 may be left free, for on account of the nature of the

meshed fabric this edge will tend to hug the wall of the flume. From this construction it will be seen that water moving through the flume in the direction of the arrow will pass
 5 through the diverter and, if the gate is open, through the gate to the destination desired. Any leaves or rubbish carried by said water will be diverted from the gate and allowed to pass on through the flume past said gate. The
 10 diverter being open at its lower end will not substantially retard the speed of the flow of the water through the flume or through it.

It will be seen that with the use of these diverters the large screens which are now
 15 utilized for collecting rubbish or straining the water before it enters the flume may be done away with, and these screens are the cause of much trouble and are open to serious objections. When these screened strainers are
 20 utilized, they often become clogged with rubbish and leaves and form a sort of dam, preventing the proper amount of water from flowing through the flume. They cannot take the place of the diverters, because they have no
 25 effect on the rubbish and leaves which fall into the flume below them.

It will be seen that with my diverter if some rubbish or leaves should collect on it, and this is practically impossible on account of
 30 its slight inclination toward the axis of the stream, the port would receive practically the full force of the water on account of the large straining and diverting surface which is presented.

This diverter on account of its construction and on account of being reticulated throughout its entire length does not allow any air to be trapped behind it between it and the
 35 wall 7 of the flume nor does it interfere with the pressure of the water at the gate.
 40

It will be understood that the gate 11 of the port and its guideways may be located, if desired, on the outside of wall 7.

In Figs. 4 and 5 a modified form of this diverter is illustrated, and in this form it consists of a sheet of suitably stiff, meshed, or
 45 reticulated material, having its forward end 15 secured to the wall of the flume above the gate and its lower end 16 extending out into the flume and below the gate. When this form
 50 is used, the bottom 17 of the meshed fabric will be secured to the floor of the flume and the top of the fabric will extend to the top of the flume or above the water-line. The curved
 55 form of diverter as shown in Figs. 1, 2, and 3 is preferable to the form shown in Figs. 4 and 5, because it presents a surface on which leaves and rubbish are less apt to collect than on a straight surface. It presents more
 60 meshed fabric to the water, but in such a form as to retard the flow of the water less than the straight form. The straight form, however, may be utilized with very good results.

What I claim as my invention is—

65 1. The combination with a flume, of a port leading therefrom, and a rubbish-diverter for

said port constructed of meshed fabric, having two diverging flume-wall-contacting edges and from one of said edges to the other being bent into a curved form. 70

2. The combination with a flume, of a port leading therefrom, and a rubbish-diverter for said port constructed of meshed or reticulated fabric with two diverging flume-wall-contacting edges. 75

3. The combination with a flume, of a port leading therefrom, and a rubbish-diverter for said port cut from meshed or reticulated fabric and having two diverging flume-wall-contacting edges. 80

4. The combination with a flume, of a port leading from the side thereof, a gate for said port, and a rubbish-diverter for said gate extending into the flume at an angle to the line of travel of the water therethrough and formed
 85 of meshed fabric.

5. The combination with a flume, of a port leading from the side thereof, a gate for said port, and a rubbish-diverter for said gate formed of meshed fabric and extending into
 90 said flume; said diverter having its lower end open and extending from a distance above said gate to a distance below the same.

6. The combination with a flume, of a port leading therefrom, a gate for said port, and
 95 a rubbish-diverter for said gate; said rubbish-diverter being formed of meshed fabric and being of concavo-convex form in cross-section and extending from a distance above said gate to a distance below the same and having
 100 its forward end secured to the wall of the flume and its lower end open.

7. In combination with the wall of a flume, a gated port leading therefrom, and a rubbish-diverter for said port; said diverter being formed of meshed fabric and curved outward from its top to its bottom edge throughout the major portion of its length, and secured to the flume-wall so that its end above
 105 the gate is flattened whereby it hugs the wall, and so that its end below said gate, aside from the top and bottom edges, stands out from the wall whereby the diverter is provided with an open lower end. 110

8. The combination with a flume, of a port
 115 leading therefrom, and a rubbish-diverter for said port extending into the flume at an angle to the line of travel of the water therethrough and formed of meshed fabric.

9. The combination with a flume, of a port
 120 leading therefrom, and a rubbish-diverter for said port, formed of meshed fabric and extending into said flume; said diverter having its lower end open and extending from a distance above said port to a distance below the
 125 same.

10. The combination with a flume, of a port leading therefrom, and a rubbish-diverter for said port; said diverter being formed of meshed fabric and being of concavo-convex
 130 form in cross-section, and extending from a distance above said port to a distance below

the same and having its forward end secured to the wall of the flume and its lower end open.

11. In combination with the wall of a flume,
5 a port leading therefrom, and a rubbish-diverter for said port; said diverter being formed of meshed fabric and curved outward from its top to its bottom edge throughout the major portion of its length, and secured
10 to the flume-wall so that its end above the port is flattened whereby it hugs the wall,

and so that its end below said port, aside from the top and bottom edges, stands out from the wall whereby the diverter is provided with an open lower end.

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

JONATHAN F. PEIRCE.

Witnesses:

ANNA V. FAUST,
ALMA KLUG.