

UNITED STATES PATENT OFFICE.

FRANCOIS XAVIER PAYMENT AND JOHN CONRAD HARTIG, OF CHICAGO,
ILLINOIS.

WINDOW-FRAME.

SPECIFICATION forming part of Letters Patent No. 605,335, dated June 7, 1898.

Application filed November 9, 1896. Serial No. 611,502. (No model.)

To all whom it may concern:

Be it known that we, FRANCOIS XAVIER PAYMENT, a subject of the Queen of Great Britain, and JOHN CONRAD HARTIG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Window-Frames, of which the following is a specification.

Our invention relates to window-frames, and has for its object to provide a new and improved window-frame, of which the following is a description, reference being had to the accompanying drawings, wherein—

Figure 1 is a section through a window-frame embodying our invention. Fig. 2 is a view similar to Fig. 1 with the parts differently disposed. Fig. 3 is a front view of one corner of the window-frame. Fig. 4 is a section on the line 4 4, Fig. 1. Fig. 5 is a side view of a pulley used in connection with our window. Fig. 6 is a section on the line 6 6, Fig. 5. Fig. 7 is a view of a portion of the side of one of the sashes, showing the manner of attaching the cord thereto. Fig. 8 is a section on the line 8 8 with parts omitted. Fig. 9 is an end view of the clamping-piece attached to the movable strips carrying the sash-grooves.

Like letters refer to like parts throughout the several figures.

Windows and window-frames are ordinarily constructed in such a manner that it is difficult to clean them, as they cannot be readily removed from the frame and must be cleaned while in position.

One of the objects of our invention is to provide a window-frame of such construction that the parts of the window containing the glass can be controlled and manipulated so as to allow the glass to be easily, quickly, and conveniently cleaned.

As illustrated in the drawings, the window-frame A is provided with the sashes B and C, said sashes being constructed in the ordinary manner. The lower sash B works in grooves B' in the side of the frame and is provided with the cords B², which pass over the pulleys B³, the ends of the cord being provided with a weight or spring device which tends to hold the window-sash in any desired position.

The frame A has connected to its sides the movable strips D D, said strips being connected to the frame at the top thereof by means of the connecting devices D'. These connecting devices pass through holes in the strips, said holes being larger than the connecting devices, so as to allow a limited longitudinal motion of the strips. These strips D contain the grooves B', in which moves the lower sash B. The lower ends of the strips D are preferably beveled and when in position engage the beveled surfaces D² of the strips containing the remaining parts of the grooves B', the grooves on each side of the window-frame being continuous when the strips D are in their normal position. Pivotaly connected with the lower end of each strip D is an arm D³. This arm is provided with a projection D⁴, which normally fits in the opening D⁵ in said strip, as shown in Fig. 1. The piece D⁶, which contains the groove B' for the lower sash, is cut away at D⁷, so as to allow the arm D³ to be moved, so that its end engages the surface D⁸, as shown in Fig. 1. When the arms are in this position, it will be seen that the pieces D are locked in line with the pieces D⁶. The pulleys B³, as well as the pulleys C³, which are associated with the sash C, are located at the top of the sash, (see Fig. 3,) so that the sash can be moved to the top of the frame. Said pulleys are provided with a frame C⁴, in which they are mounted, the top of the pulleys being covered with a shield C⁵, which is separate from the frame C⁴. The sash C is supported by the cords C⁶. These cords are preferably connected with the sash at a point half-way between their upper and lower edges. We have described these several parts in detail; but it is evident that they may be varied in form, construction, and arrangement without departing from the spirit of our invention, and we do not wish to be limited to the exact construction herein shown.

The cords are attached to the window-sashes at the sides and at the center of said sashes by means of plates F, the sashes being grooved at F' to receive the cords. By attaching the cords in this manner to the sashes the sashes can be inverted when desired.

In windows where the strips D are long it

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One of the objects of our invention is to provide a window-frame of such construction that the parts of the window containing the glass can be controlled and manipulated so as to allow the glass to be easily, quickly, and conveniently cleaned.

As illustrated in the drawings, the window-frame A is provided with the sashes B and C, 45 said sashes being constructed in the ordinary manner. The lower sash B works in grooves B' in the side of the frame and is provided with the cords B², which pass over the pulleys B³, the ends of the cord being provided with a weight or spring device which tends to hold the window-sash in any desired position.

The frame A has connected to its sides the movable strips D D, said strips being connected to the frame at the top thereof by means of the connecting devices D'. These 55 connecting devices pass through holes in the strips, said holes being larger than the connecting devices, so as to allow a limited longitudinal motion of the strips. These strips D contain the grooves B', in which moves the 60 lower sash B. The lower ends of the strips D are preferably beveled and when in position engage the beveled surfaces D² of the strips containing the remaining parts of the grooves B', the grooves on each side of the 65 window-frame being continuous when the strips D are in their normal position. Pivotaly connected with the lower end of each strip D is an arm D³. This arm is provided with a projection D⁴, which normally fits in the opening D⁵ in said strip, as shown in Fig. 70 1. The piece D⁶, which contains the groove B' for the lower sash, is cut away at D⁷, so as to allow the arm D³ to be moved, so that its end engages the surface D⁸, as shown in Fig. 75 1. When the arms are in this position, it will be seen that the pieces D are locked in line with the pieces D⁶. The pulleys B³, as well as the pulleys C³, which are associated with the sash C, are located at the top of the 80 sash, (see Fig. 3,) so that the sash can be moved to the top of the frame. Said pulleys are provided with a frame C⁴, in which they are mounted, the top of the pulleys being covered with a shield C⁵, which is separate 85 from the frame C⁴. The sash C is supported by the cords C⁶. These cords are preferably connected with the sash at a point half-way between their upper and lower edges. We have described these several parts in detail; 90 but it is evident that they may be varied in form, construction, and arrangement without departing from the spirit of our invention, and we do not wish to be limited to the exact construction herein shown. 95

The cords are attached to the window-sashes at the sides and at the center of said sashes by means of plates F, the sashes being grooved at F' to receive the cords. By attaching the cords in this manner to the sashes 100 the sashes can be inverted when desired.

In windows where the strips D are long it

may be desirable to have a clamping device for clamping said strips to the window-sash intermediate between their ends, so as to prevent them from standing away from the sash, which might be the case if such clamping devices were not used. As shown in the drawings, these clamping devices consist of the plate G, provided with the beveled tongue G'. These plates are attached to the inner surface of the strips D (see Fig. 2) at the hollowed portion G². A projection H is attached to the window-frame and engages the tongue of the plate G when the strips D are in their normal position. The tongue is beveled at the end and sides, so that it will be engaged by the screw, the engagement between the screw and tongue drawing the strips tightly against the frame. The projection H may be a screw, as shown, the head of the screw engaging the tongue of the plate G.

The use and operation of our invention are as follows: The parts are normally in the position shown in Fig. 1, and when in this position the strips D are locked to the frame, so that they cannot be moved and are hence held in line with the strips D⁶. If it is desired to clean the windows, the lower sash is raised to the position shown in Fig. 1 and the arms D³ are lifted upwardly by means of the projecting pieces D⁴ until they become disengaged from the surfaces D⁵ on the strips D⁶. The strips D are then moved outwardly to the position shown in Fig. 2, the arms D³ being moved around their pivotal points until they come in a position to engage the end of the strip D⁶. These arms now hold the strips D in the position shown in Fig. 2, and the upper sash B may then be moved downwardly, so as to be in a position where both its sides may be easily cleaned. When the strips D are in this position, the upper sash C may be moved outwardly and downwardly to the position shown in dotted lines in Fig. 2, and may therefore be easily and quickly cleaned. The window-sashes may then be replaced and the arms D³ rotated about their pivots until the projection D⁴ engages the notch D⁵, and the strips D may then be swung back into position and locked in such position by a slight downward movement of the arms D³. It will be seen that by this construction the parts are held in their normal position and in the position which allows the removal of the sashes without the assistance of the operator, and hence the parts can be easily and satisfactorily manipulated. The pulleys which are used and provided with the shield C⁵ allow the cord to be easily passed there-through, for all that is necessary is to insert one end of the cord beneath the shield and then push upon said cord, the shield turning the cord so as to make it pass over the pulley. The cords which are connected to the window-sashes being connected near their middle and being situated in grooves which extend the length of the sashes, said sashes

may be drawn down out of engagement with the grooves in the strips and then inverted or rotated through an arc of ninety degrees and replaced, thereby bringing the outer surface on the inside, so that it may be readily and easily cleaned while the window is in position in the sash. The clamping device for clamping the strips D to the sash will be used when the strips are so long as to endanger their normally standing away from the side of the frame. Any desired number of these devices may be used.

We claim—

1. A window-frame provided with grooves at each side thereof in which fits the window-sash, the upper part of the grooves on each side being associated with a strip, said strips connected with the window-frame so that they may be moved to an angular position, an arm pivotally connected to the lower end of one of said strips, said arm adapted to engage the window-frame when the strip containing the groove is in such a position that the two parts of the groove are in line so as to lock said strip in this position, said arm adapted to be moved so as to release the strip and allow it to be moved to its angular position.

2. A window-frame provided with grooves at each side thereof in which fits the window-sash, the upper part of the grooves on each side being associated with a strip, said strips connected with the window-frame so that they may be moved to an angular position, an arm pivotally connected to the lower end of one of said strips, said arm adapted to engage the window-frame when the strip containing the groove is in such a position that the two parts of the groove are in line so as to lock said strip in this position, said arm adapted to be moved so as to release the strip, and allow it to be moved to its angular position, said arm adapted to be rotated about its pivotal point until it projects toward the window, the arm engaging the window-frame so as to hold said strip in its angular position.

3. A window-frame provided at its sides with grooves in which the window-sashes move, the upper part of each groove being associated with a strip which is pivotally connected with the window-frame in such a manner that it has a slight longitudinal movement, said strips constructed so that they can be moved to an angular position, one or more plates connected with the inner surface of each of said strips and provided with a beveled edge, projections on the window-frame adapted to engage the beveled edges of said plate when the strips are moved to their normal position and force said strips against the side of the frame.

4. A window-frame provided with grooves at the sides thereof, in which fit the window-sash, a portion of each groove associated with a movable part and adapted to be moved to an angle with the frame, an arm pivotally connected to each of said movable parts and pro-

(No Model.)

M. L. PERROTTET.
DISH DRAINER.

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Fig. 1.

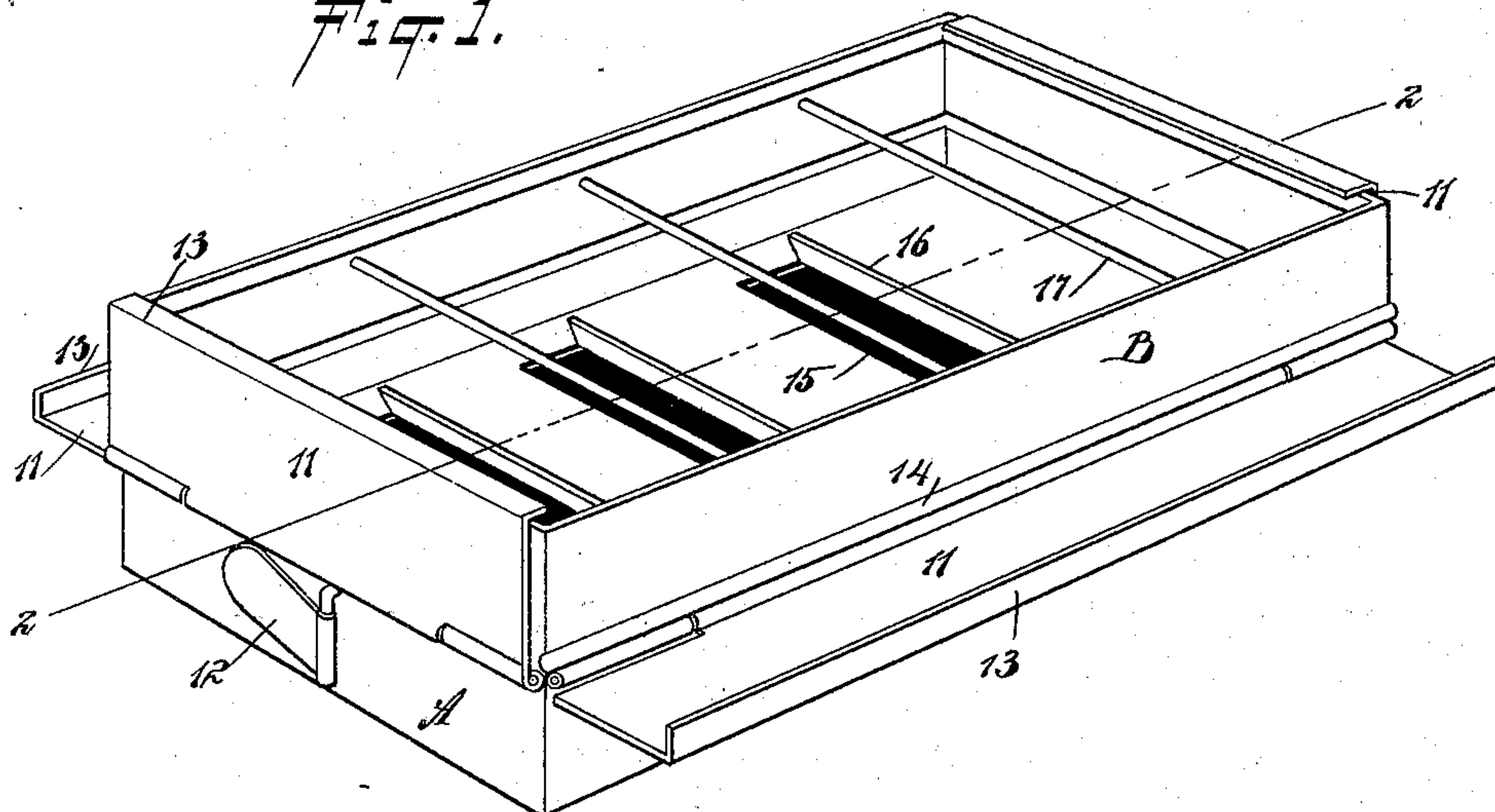
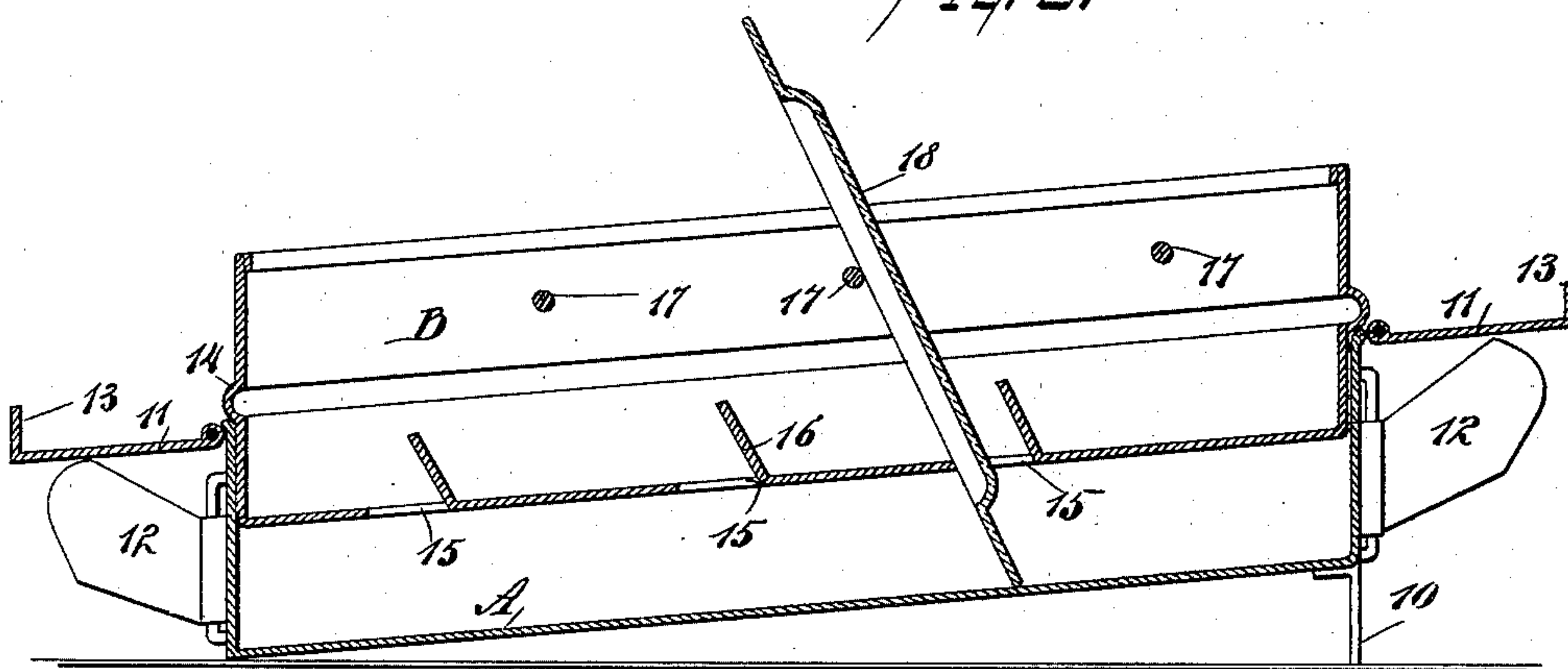


Fig. 2.



WITNESSES:

William P. Goebel
J. H. A. K.

INVENTOR

Marie L. Perrottet.

BY

M. L. Perrottet

ATTORNEYS.