

(No Model.)

2 Sheets—Sheet 1.

G. COTTREALL.

CUT-OFF FOR SCREENING DEVICES FOR MIDLINGS, FLOUR, &c.
No. 277,547.

Patented May 15, 1883.

Fig. 1.

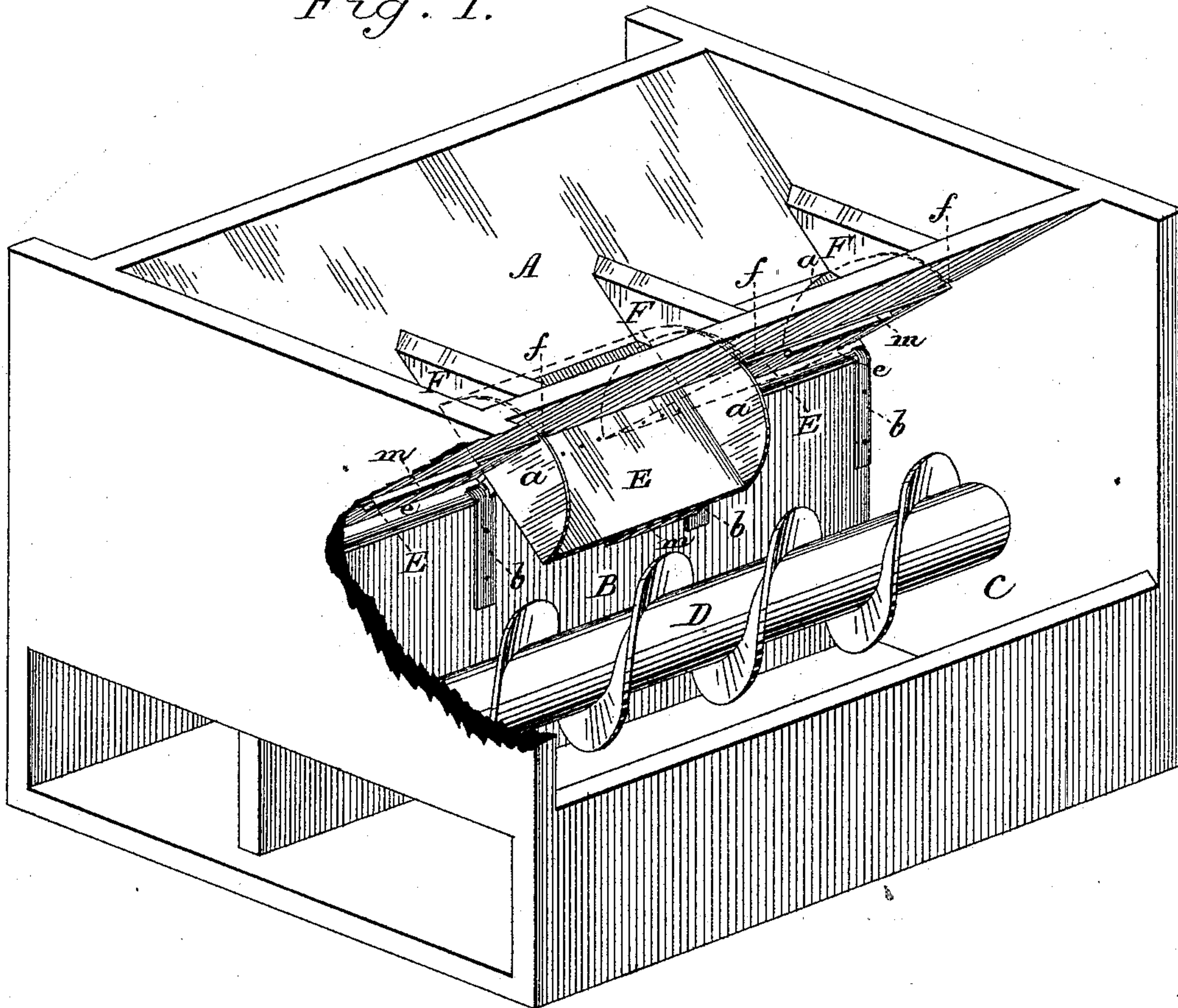
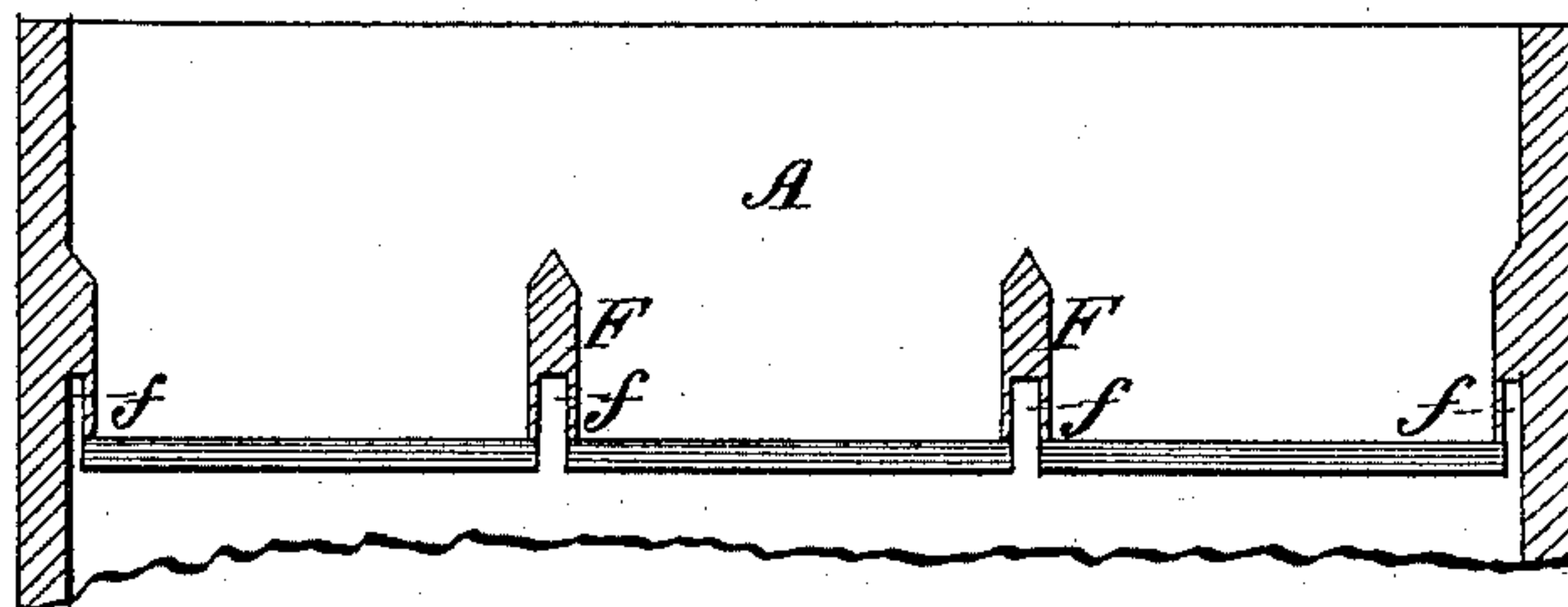


Fig. 2.



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Fig. 3.

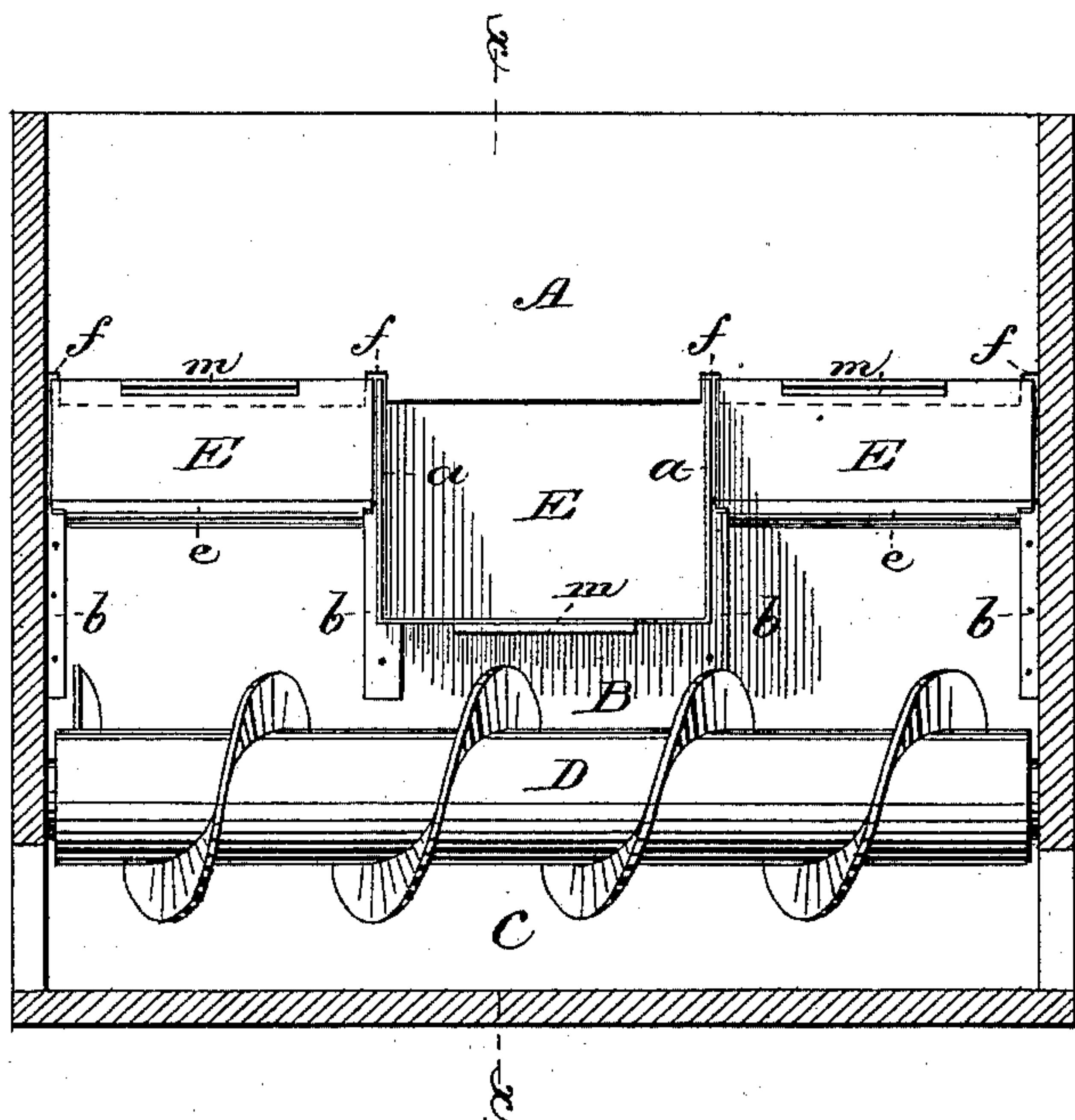
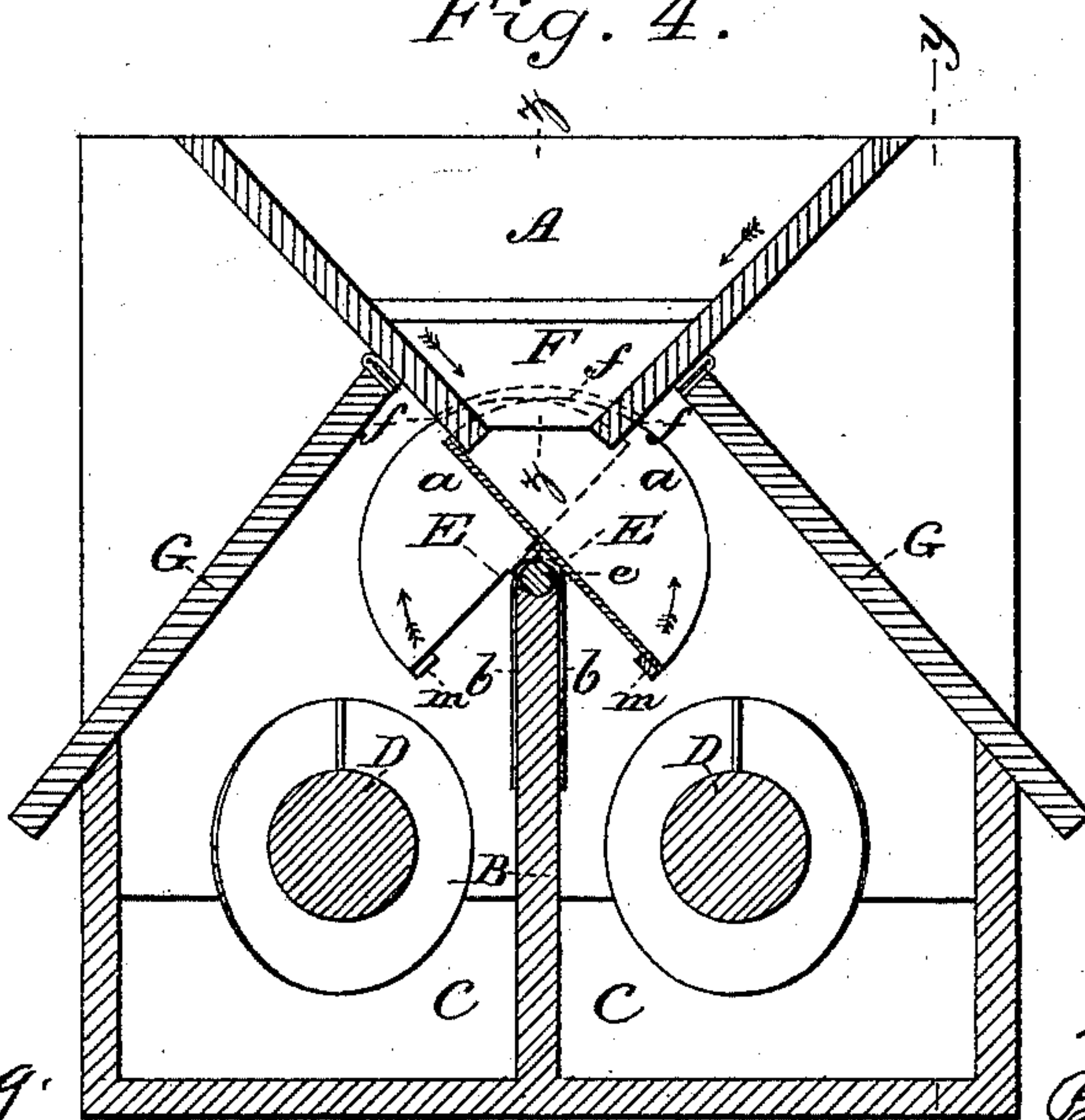


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE COTTREALL, OF SAN FRANCISCO, CALIFORNIA.

CUT-OFF FOR SCREENING DEVICES FOR MIDLINGS, FLOUR, &c.

SPECIFICATION forming part of Letters Patent No. 277,547, dated May 15, 1883.

Application filed February 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE COTTREALL, of the city and county of San Francisco, State of California, have invented an Improved Cut-Off for Screening Devices for Middlings, Flour, &c.; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a new and useful cut-off to be used in connection with purifiers, reels, centrifugal machines, and other screening devices for separating the different grades of middlings, flour, &c. In machines for this purpose, whatever may be their character, the material is sifted through the cloth sieve, reel, or other screening device to separate the good from the poor. The good passes through and is directed down to suitable screw-conveyers, by which it is carried off. In this operation when the material first passes upon or into the screening device it lies in such quantity that none but the good stuff can pass through, but as it reaches the farther end and becomes thinned out the poor material works its way through also, to some extent.

It has been the practice heretofore to arrange under the screening device slides, or what are usually called "flop-boards," which, as their name implies, are flat boards, which can be turned from one inclination to another to direct the material into one or the other of two conveyers. When it is found that at a certain point in the screening device the material comes through, poor with good, then a flop-board at that point is turned so as to direct the stuff into a separate conveyer, from which it is taken and passed through again. The objection to the slides is that they are inconvenient, and the fault with the flop-boards is that they do not fit closely enough to form tight joints.

The object of my invention is to provide an improved means for accomplishing a perfect result; and it consists in a number of spouts or chutes hinged upon the center-board separating the conveyers and having semicircular sides adapted to fit in slots or grooves made in the under portions of the separating-partitions secured between the walls of the hopper or gather-boards above. The spouts are thus made to form close joints with each other, and may swing from one inclination to the

other without allowing any material which falls into one to get into another, as will hereinafter be particularly described and shown, reference being made to the accompanying drawings, in which—

Figure 1, Sheet 1, is a perspective view of my cut-off with one corner broken away and door G left off, showing the middle spout E turned to the front and the left and right-hand spouts turned to the rear. Fig. 2 is a longitudinal section on the line $z z$, Fig. 4, showing the slots in the partitions F. Fig. 3, Sheet 2, is a longitudinal section on the line $y y$, and showing the spouts E in the same position as in Fig. 1. Fig. 4 is a transverse section on the line $x x$, Fig. 3.

I have not deemed it necessary to show herein any form of screening device, nor the means for producing the suction-blast, as these are well known to any one skilled in the art to which they appertain.

I here show the gather-boards or hopper A, above which the screening device may be supposed to operate. Below the hopper is a center-board, B, forming a division for the boxes C, in which the screw-conveyers D operate. The upper edge of the center-board B is grooved out to form a bearing for the roller-bases e of the spouts or chutes E. These spouts consist of flat pieces, preferably of sheet metal, having semicircular sides a . The roller-bases e are secured to the middle of the chutes, and are held to their bearings on the center-board by means of straps b passing through them, as shown. Between the gather-boards are secured partitions F, in the under sides of which are made slots f , and corresponding slots are made in the lower edges of the gather-boards. The sides a of the spouts fit up into the slots in gather-boards and partitions, and thus form close joints in the hopper, as far as their relations to each other are concerned. Upon the lower edges of the spouts I secure small blocks m , which serve the purpose of handles in moving the spouts.

Hinged to the outer walls of the hopper are flap-doors G, which hang down and inclose the conveyers. When any of the spouts E are in a horizontal position the passage is open from the hopper to either of the conveyers; but when the spout is turned to an inclination on

one side or the other it fits up against and in line with the gather-board, and the passage is open to but one of the conveyers, the other being cut off. There may be as many of these
5 chutes as desirable.

The upper edges of the partitions F are beveled to prevent any lodgment of the material. Now, in observing the screening device the operator soon discovers that at a certain point
10 the material ceases to come through as clean as at first. He thereupon raises the door G and turns all the spouts below that point in relation with the other conveyer, so that the clean stuff may pass through one conveyer and
15 the poor through the other. He can make this change at any point. The manner in which the spouts are set in place keeps them separate, and none of the material which is caught in one can get into the next, because of
20 the close joints, which render the device per-

fect in completely cutting off one grade from the other without any danger of mixture.

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

In a cut-off for screening devices for middlings, flour, &c., the center-board B, hopper or gather-boards A, and partitions F, having
25 slotted bases, in combination with the separate independent spouts or chutes E, hinged
30 to the center-board, and having semicircular sides *a*, fitting the slotted bases of partitions F, whereby close joints are formed between said spouts, substantially as herein described.

In witness whereof I hereunto set my hand. 35

GEORGE COTTREALL.

Witnesses:

S. H. NOURSE,
J. H. BLOOD.