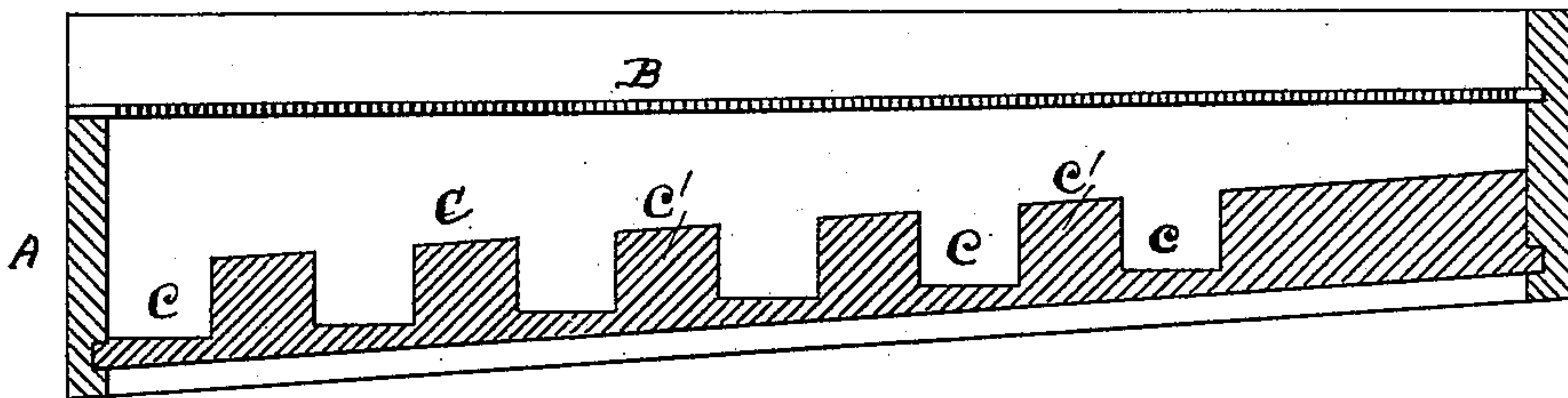


(No Model.)

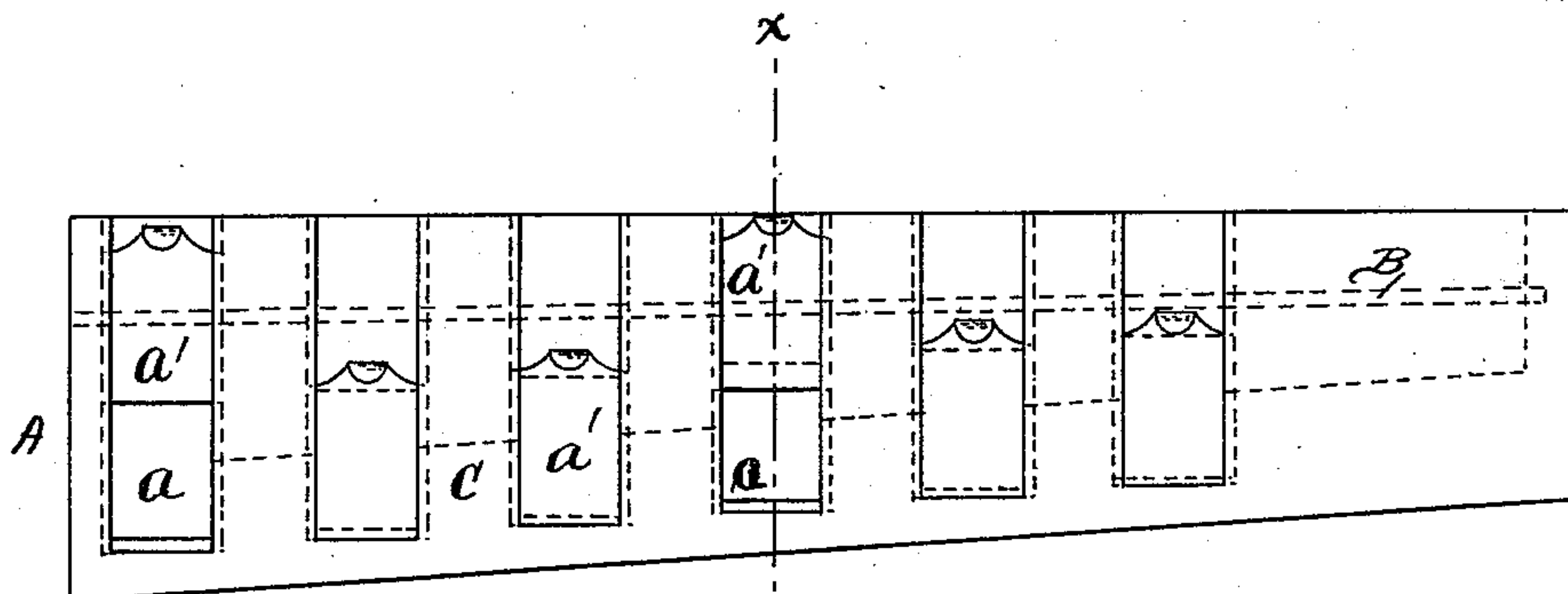
D. J. DAVIDSON.  
AGITABLE SIEVE CUT-OFF.

No. 527,834.

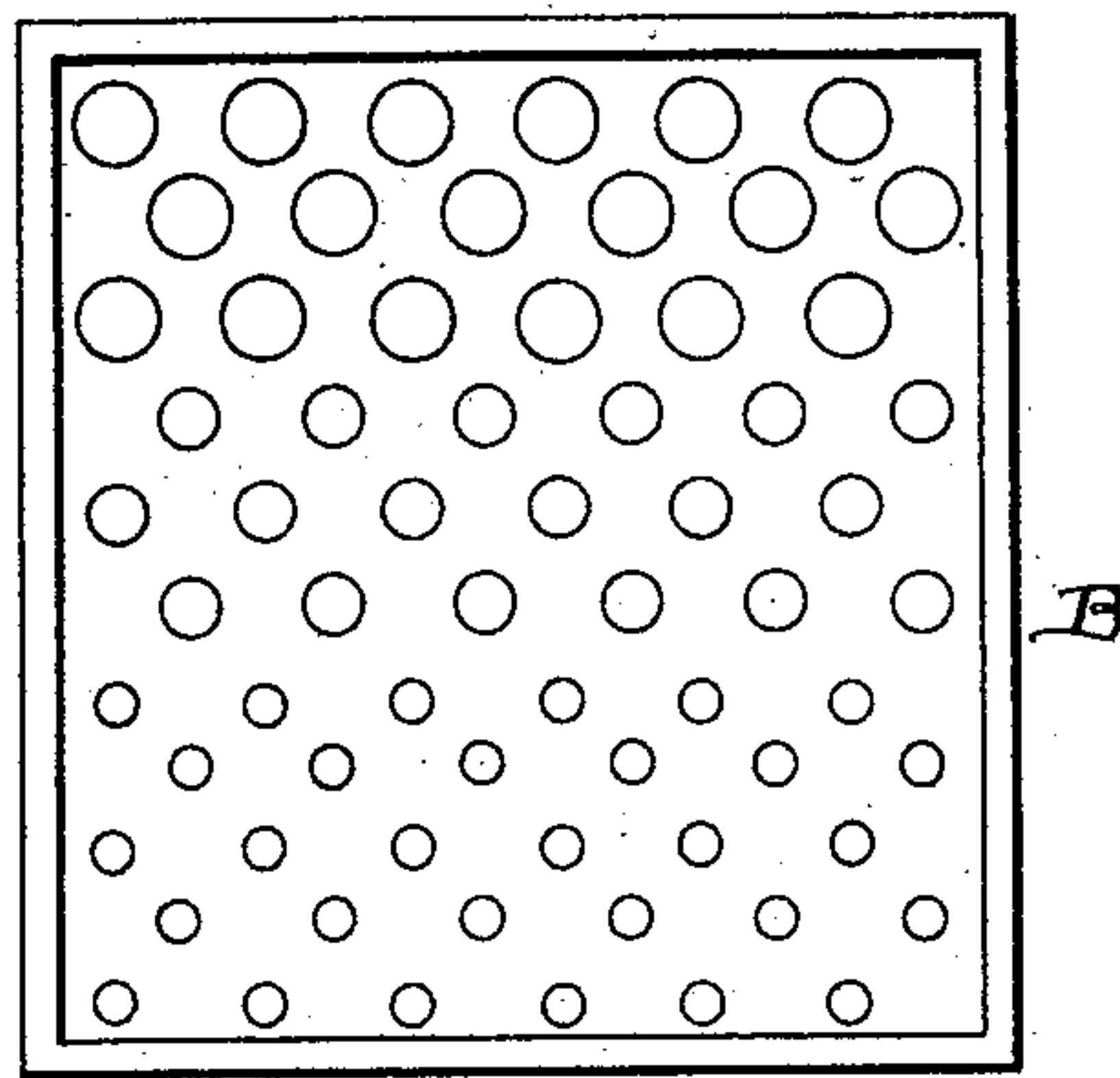
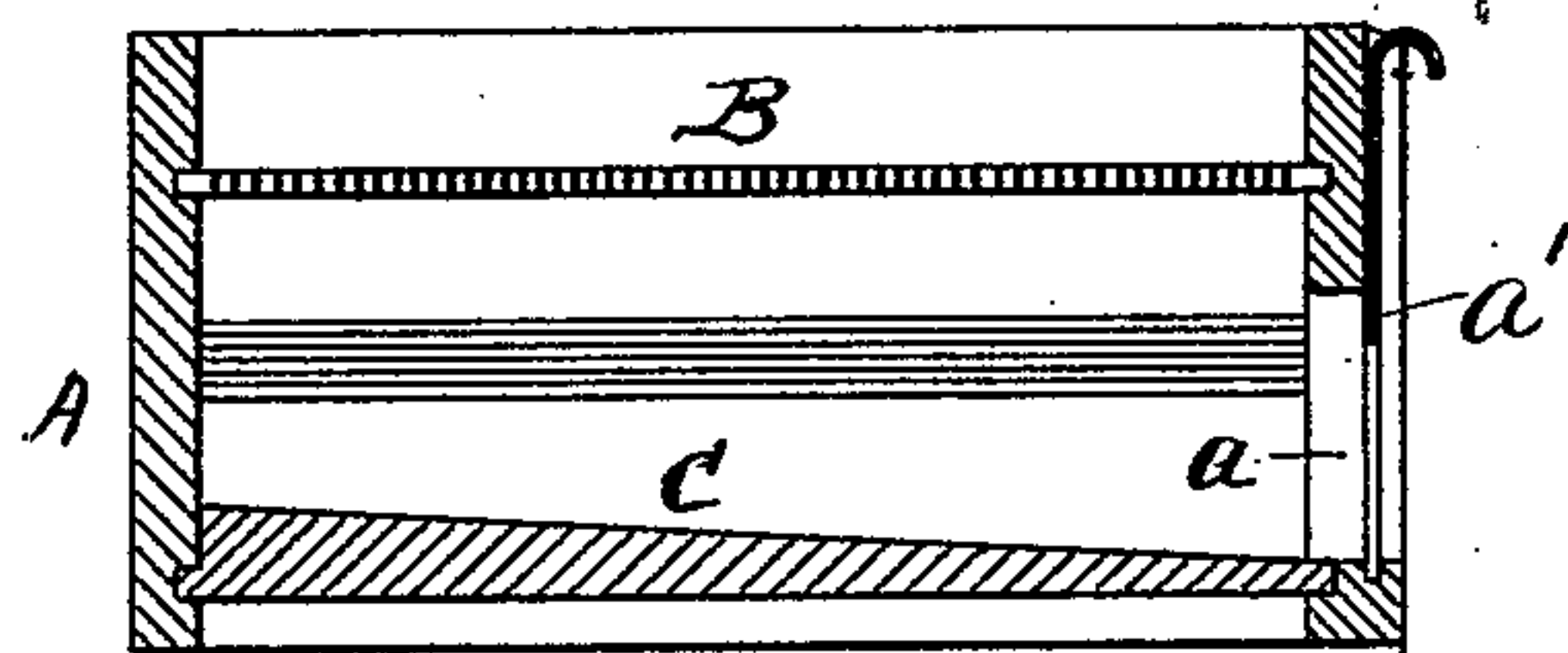
Patented Oct. 23, 1894.



— Fig. 1 —



— Fig. 2 —



— Fig. 3 — — Fig. 4 —

— Witnesses —

*O. P. Baenziger*  
*John F. Miller*

*David J. Davidson*

— Inventor —

*By his Attorney*  
*Jewell S. Wright*



# UNITED STATES PATENT OFFICE.

DAVID J. DAVIDSON, OF BROCKWAY, ASSIGNOR OF TWO-THIRDS TO ABRAHAM S. MARTIN AND STEPHEN G. MARTIN, OF PORT HURON, MICHIGAN.

## AGITABLE SIEVE CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 527,834, dated October 23, 1894.

Application filed May 26, 1893. Serial No. 475,555. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID J. DAVIDSON, a citizen of the United States, residing at Brockway, county of St. Clair, State of Michigan, have invented a certain new and useful Improvement in Agitable Sieve Cut-Offs; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object an improved agitable sieve cut off, embodying a side discharge, adapted and intended for a variety of uses, and it consists of the devices and appliances, their construction, combination and arrangement as hereinafter specified and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section. Fig. 2 is a side elevation. Fig. 3 is a vertical section on the line  $x-x$  Fig. 2, embodying my invention. Fig. 4 is a separate view of the sieve.

The purpose of my invention is to provide an agitable sieve cut off, by which a more thorough and efficient separation can be made of the article to be screened or sifted thereby, as for example, of grain, flour or other products.

I carry out my invention as follows:

A represents a sieve supporting case, in which is engaged a sieve or screen B. The screen B may be constructed in any desired manner. As shown its perforations are graduated. The case extends above the screen at all points except at one end where the screen and the top of the case are substantially even with each other which forms an outlet for the escape of anything which has not passed through the screen. Beneath the screen and spaced therefrom, is located a grooved or corrugated cut off bottom C engaged with the frame, and located on a longitudinal decline from one end of the case to the opposite end thereof. This cut off bottom I provide with a series of transverse grooves or channels "c" of any desired form separated by partitions "c'," the channels being shown of angular form in cross section, but I do not confine

myself thereto. These grooves or channels "c" of the cut off bottom C extend on a decline from one side of the case A to the opposite side thereof, as shown more particularly in Fig. 3. The case A on the side adjacent to the lower terminals of the grooves "c" is provided with a corresponding series of outlet orifices, shown at "a," said orifices being controlled by corresponding slides "a'" or other suitable controlling devices. The frame A with its screen B and channeled or corrugated cut off bottom C is intended to be vibrated or otherwise agitated in any desired manner.

The agitating mechanism, forming no feature of my invention, is not herewith shown.

The product to be screened, it will be understood, is discharged upon the screen B toward the end adjacent to the upper portion of the cut off bottom. The products passing through the screen, as the device is agitated, fall into the transverse grooves "c" and descend along the lateral decline thereof downward toward the corresponding side discharge outlet "a," at which point the screened product in any groove or channel may be drawn off by opening the slide or other valve "a'." These walls "c'" are made to increase in height toward the outlet orifices "a," thereby allowing the products to pass longitudinally downward toward the lower end of the cut off bottom when the corresponding slides or valves are closed. We have thus a lateral discharge provided for the sieve cut off, the device being so constructed and arranged that the products screened may be drawn off at any one of the outlet orifices, or at a series of said orifices.

The screen B may be graduated, if desired, to allow the screened product of any desired grade to fall into the various channels of the cut off bottom.

It will be seen that only a single sieve is required to effect the separations desired for various grades of grain or other material. The sieve may, however, be made removable for the insertion into the case A of any screen desired, to effect whatever purpose the operator may require.

By means of the cut off mechanism above described, provision is effectually made where-



by the operator may take out of the machine any grade of grain or other material desired, as, for example, grain of any desired weight.

5 The cut off provisions preferably extend the whole length of the sieve, so that the operator can effect a cut off at any desired point of the sieve. By this means the operator is not limited to cut off at any particular point.

10 What I claim as my invention is—

1. In combination, a sieve supporting case provided with a series of independent side discharge openings, a sieve in the case above the openings, a cut-off bottom below the sieve, 15 the upper surface of which is inclined and provided with transverse channels registering with the openings, the bottom of each channel being inclined downwardly from the opposite side to the openings so as to register with its respective opening, and means 20 for controlling each opening, whereby the products passing through the sieve may be cut off at any desired point.

2. In combination, a sieve supporting case, one end of which is of a less height than the 25 sides and the other end, and one of the side pieces is provided with a series of openings, the bottom of each of which toward the lowest point of the case is lower than those preceding it, a slide for controlling each opening, an inclined bottom within the case, the upper surface of which is provided with transverse inclined grooves, the lower end of each groove 30 registering with one of the openings in the side of the case, and a sieve between the bottom and the top of the case, one end of which is substantially even with the front of the 35 lower end whereby an outlet is formed at that end, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses. 40

DAVID J. DAVIDSON.

Witnesses:

WILLIAM RUDDOCK,  
W. ALLEN PEADY.