

No. 763,158.

PATENTED JUNE 21, 1904.

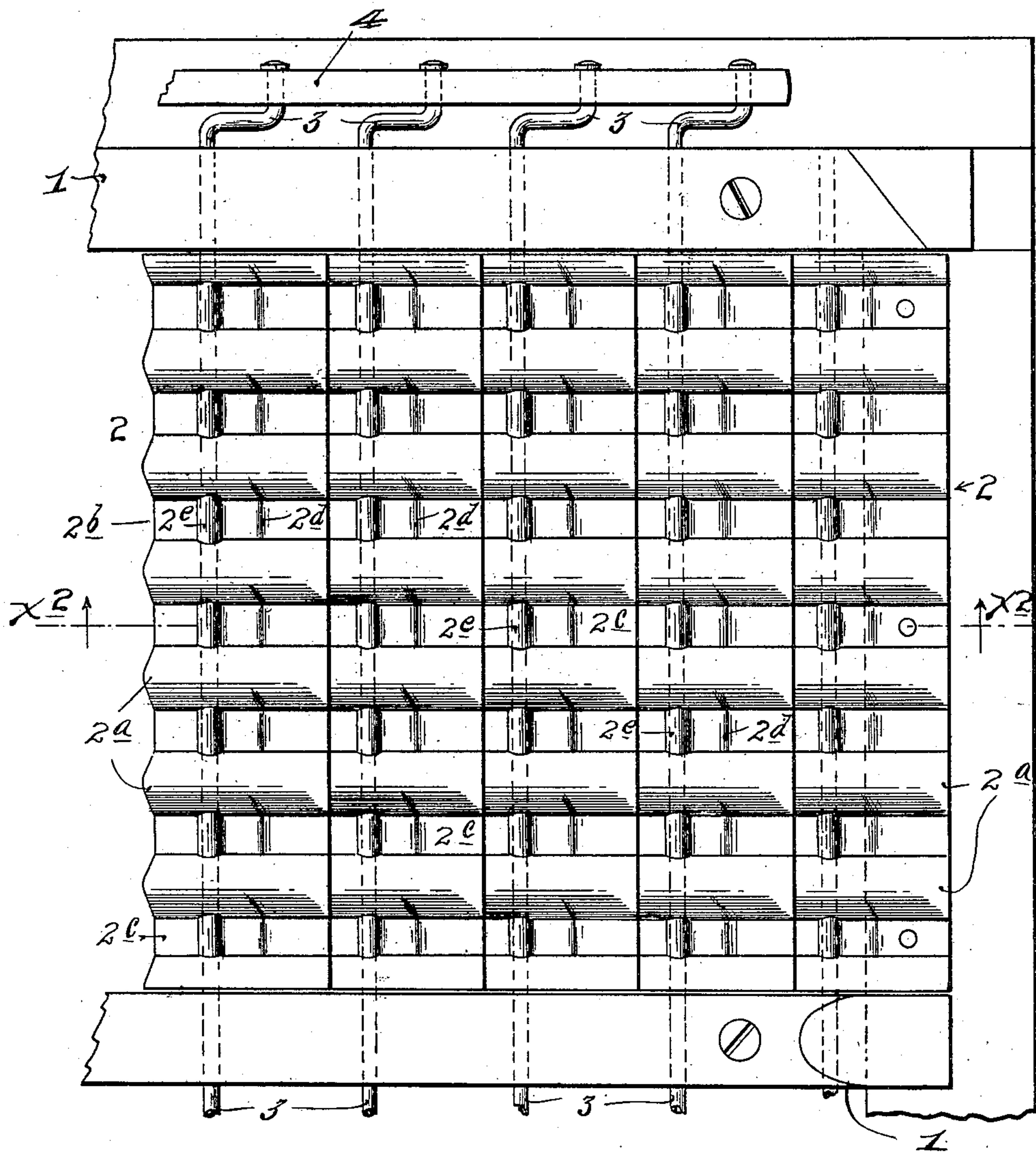
C. CLOSZ.  
ADJUSTABLE SIEVE.

APPLICATION FILED NOV. 21, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

*Fig. 1.*



Witnesses.

H. S. Tilgore.

A. H. Opsahl.

Inventor.

Charles Closz.

By his Attorney.

William M. Merchant

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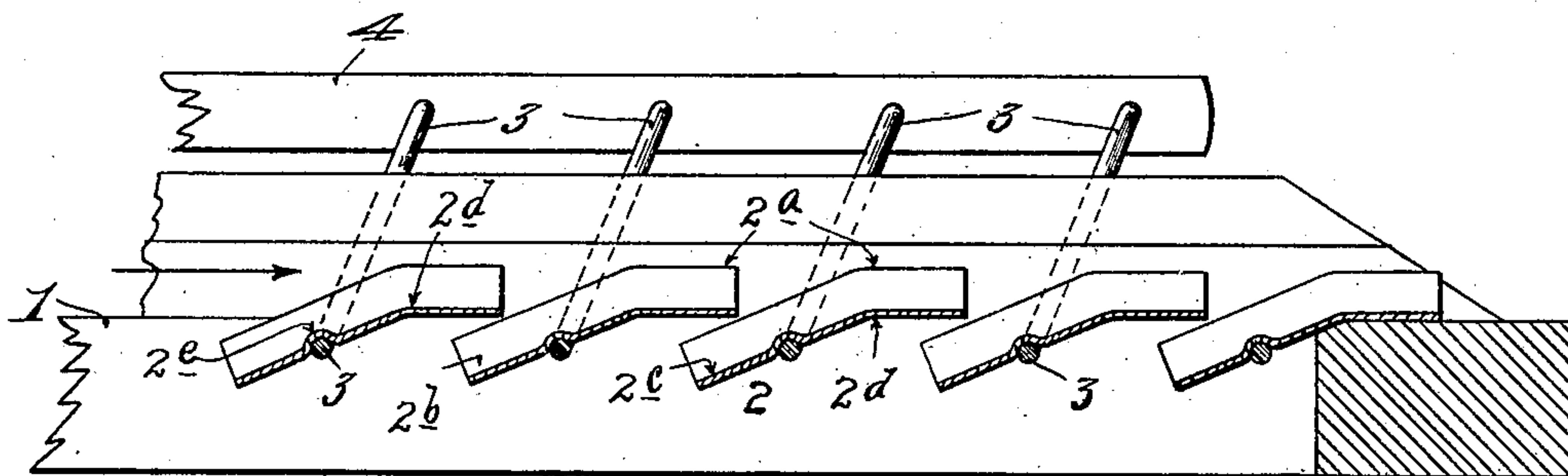
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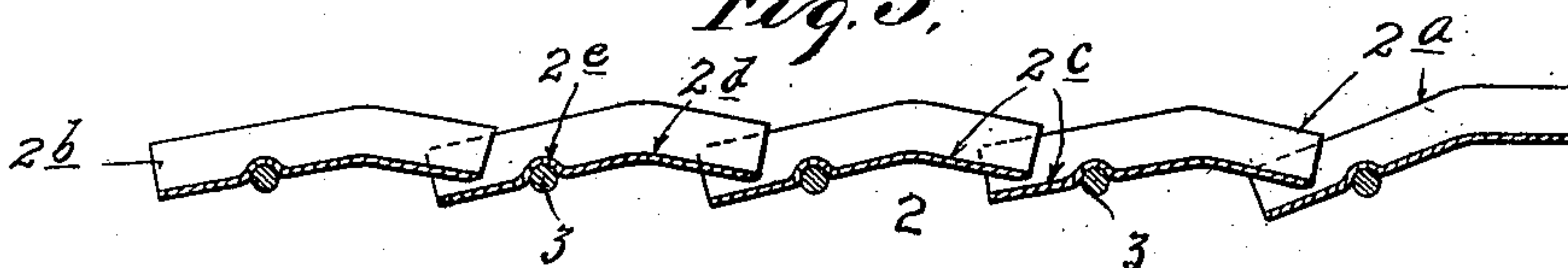
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2 SHEETS—SHEET 2.

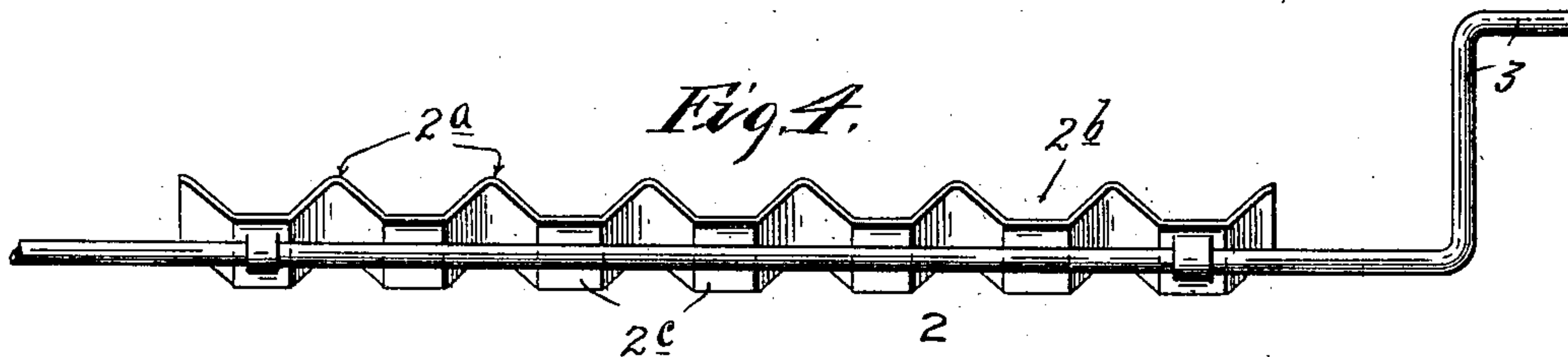
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



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A. H. Opsahl.

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# UNITED STATES PATENT OFFICE.

CHARLES CLOSZ, OF WEBSTER CITY, IOWA.

## ADJUSTABLE SIEVE.

SPECIFICATION forming part of Letters Patent No. 763,158, dated June 21, 1904.

Application filed November 21, 1903. Serial No. 182,073. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES CLOSZ, a citizen of the United States, residing at Webster City, in the county of Hamilton and State of Iowa, have invented certain new and useful Improvements in Adjustable Sieves; and I do hereby 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.

My present invention relates to that class of sieves which are made up of sheet-metal sections, and is especially intended as an improvement on the form for sieve disclosed and claimed in the patent to Frank Hixson, No. 624,333, of date May 2, 1899, entitled "Separator." That patent discloses a series of pivoted overlapping sieve sections or slats having V-shaped corrugations forming a series of channels that are straight from end to end. In practice I have found that there are two objections to this form of sieve-surface. The first is that the channels have no bottoms proper, but convey the stock by upwardly-diverging surfaces, between which the stock is liable to tightly pack when the sieve is heavily loaded. Such a form of sieve is therefore objectionable for the reason noted, even when the sieve is given a longitudinal vibration in the direction of the travel of the stock; but the sieve is absolutely unadapted for use under a transverse vibratory motion or "side shake" for the obvious reason that the stock is not given a chance to shift transversely in the channels, and hence a good separation of the grain and straw and other foreign materials cannot be accomplished. The second objection to the said sieve-surface disclosed in said patent is that whenever the sieve-sections are adjusted to form an opening between them, and especially when they are adjusted to form a quite large opening, as is necessary in separating wheat and oats and some other materials, there is too great a backward incline given to the channels of the sieve-surface. Furthermore, the backward incline is too long, since it runs from end to end of the channels, and a good supporting-surface for the straw is not afforded. It further results with the above construction that turning of

the sieve-sections into horizontal positions closes the meshes of the sieve.

In accordance with my invention I form the corrugation or channel of the sieve-sections with flat bottoms and form these flat bottoms, as well as the intervening ridges with longitudinally-extended surfaces that join each other at an angle. Otherwise stated, I bend the transverse slats and sieve-sections longitudinally of the channels and ridges to form the same with intersecting flat surfaces.

The invention is further illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a plan view showing a portion of the sieve embodying my present invention. Fig. 2 is a longitudinal section on the line  $x^2x^2$  of Fig. 1. Fig. 3 is a section on the same line as Fig. 2, but shows a different adjustment of the sieve-sections; and Fig. 4 is a detail view, in front elevation, showing one of the corrugated slats or sieve-sections and its supporting crank-shaft.

The numeral 1 indicates the rectangular supporting-frame of the sieve.

The numeral 2 indicates as entireties the corrugated slats or sieve-sections, each of which is secured to its own crank-shaft 3, which crank-shafts are suitably journaled in the sides of the frame 1. The crank ends of the shafts 3 are connected by a common bar 4, which imparts simultaneous adjustments to the several crank-shafts and their corrugated slats and is itself adapted to be adjusted and held in any set adjustment by any suitable means. (Not shown.) The slats or sieve-sections 2 are corrugated in such manner that they are formed with a series of V-shaped ridges 2<sup>a</sup> and a plurality of truncated channels 2<sup>b</sup>, having flat bottoms 2<sup>c</sup>, as best shown in Fig. 3. It will thus be seen that the channels 2<sup>b</sup> are much wider than the intervening ridges 2<sup>a</sup> and that they are provided with flat supporting surfaces or bottoms over which the stock and grain may freely travel longitudinally of the channel and over which they may also travel transversely back and forth under a transverse vibratory movement of the sieves. This, as already indicated, is a



very important feature in adapting the sieve to operate sufficiently under a transverse movement or side shake.

The stock will be delivered over the sieve in the direction of the arrow marked on Fig. 2. At a point (indicated at 2<sup>d</sup>) about two-thirds of the length of the channel forward of its receiving end the slats are bent so as to form the channel-bottoms and intervening ridges with straight or plain surfaces that intersect at an angle. It should be here further noted that the bottoms 2<sup>c</sup> of the channels are bulged upward at 2<sup>c</sup> to form a dividing-ridge and incidentally to clear the shaft. This ridge performs important functions, which will presently be noted. It will be noted that the delivery member of the slats 2 is rigidly secured to the transverse portion of the delivery end of the frame 1.

When the sieve is to be used for separating and cleaning wheat, the sieve slats or sections should be adjusted substantially as shown in Fig. 2, by reference to which it will be noted that the delivery portions of the several slats lie in the same or approximately the same horizontal plane and that the receiving portions thereof incline downward and backward on a straight line, interrupted only by the ridges 2<sup>c</sup>. With this adjustment the straw and coarser material will travel over the horizontal surface of the sieve afforded by the horizontal delivery-sections of the slats, while any wheat or other grain or seed which falls onto the sections back of the ridge 2<sup>d</sup> will be delivered backward and downward through the sieve and will pass without difficulty over the ridges 2<sup>c</sup>. When, however, the sieve is to be used to separate small seed, the slats or sieve-sections should be adjusted substantially as shown in Fig. 3, by reference to which it will be noted that the delivery ends of the channels incline forward and downward, while the receiving ends of the channels incline but slightly downward and rearward. In fact, the ridges 2<sup>d</sup> have been thrown downward as

low or lower from the tops of the ridges 2<sup>c</sup>, so that any material which falls onto the sieve-surface forward of the ridges 2<sup>c</sup> will under the action of the blast of air be carried forward, while only those portions which fall onto the bottom of the channels rearward of the ridges 2<sup>c</sup> will be delivered backward and through the sieve-surface. It will of course be understood that with small seeds it is especially essential to clean out small sections of weeds and straw and other foreign material, and hence that a shorter space is required between the dividing-ridges and the delivery ends of the channels or slats.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A sieve-surface made up of a plurality of pivotally-adjustable corrugated slats or sieve-sections, forming channels, with intervening V-shaped ridges, the said channels and ridges being bent to form straight longitudinally-extended surfaces, intersecting at an angle.

2. A sieve-surface made up of a plurality of overlapping corrugated pivotally-adjustable slats or sieve-sections, formed with channels having flat bottoms and intervening V-shaped ridges, the said channels and ridges being bent longitudinally, and in a vertical direction.

3. A sieve-surface made up of a plurality of overlapping pivotally-adjustable corrugated slats or sieve-sections 2, formed with channels 2<sup>b</sup> having flat bottoms 2<sup>c</sup> and intervening V-shaped ridges, the said slats being bent in the direction of the travel of the stock, to form the said flat bottoms with two dividing-ridges 2<sup>d</sup> and 2<sup>e</sup>, substantially as and for the purposes set forth.

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

CHARLES CLOSZ.

Witnesses:

C. BIERNATZKI,  
I. L. CLOSZ.