

No. 780,158.

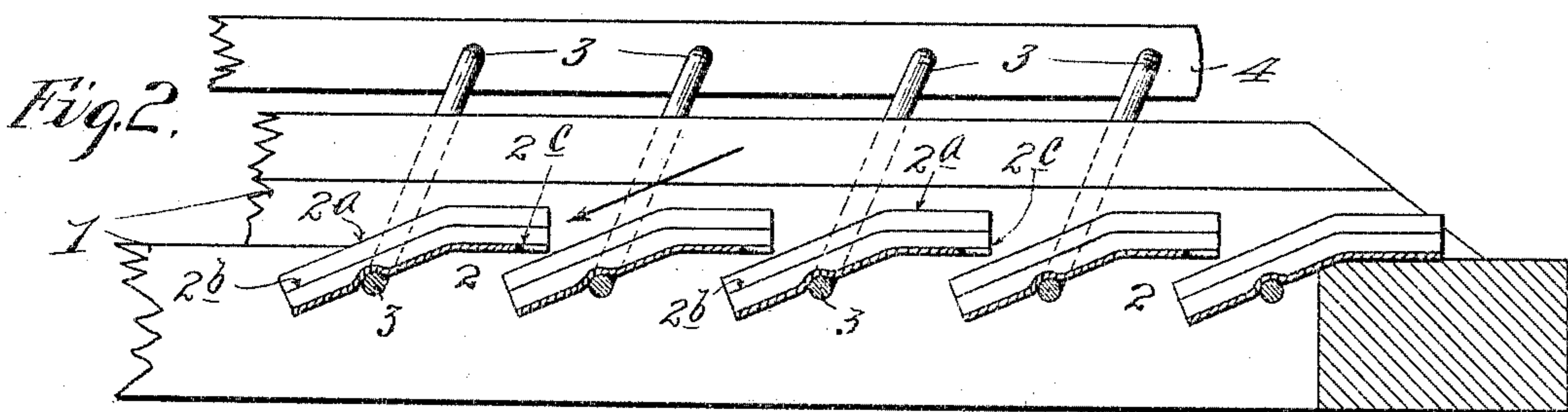
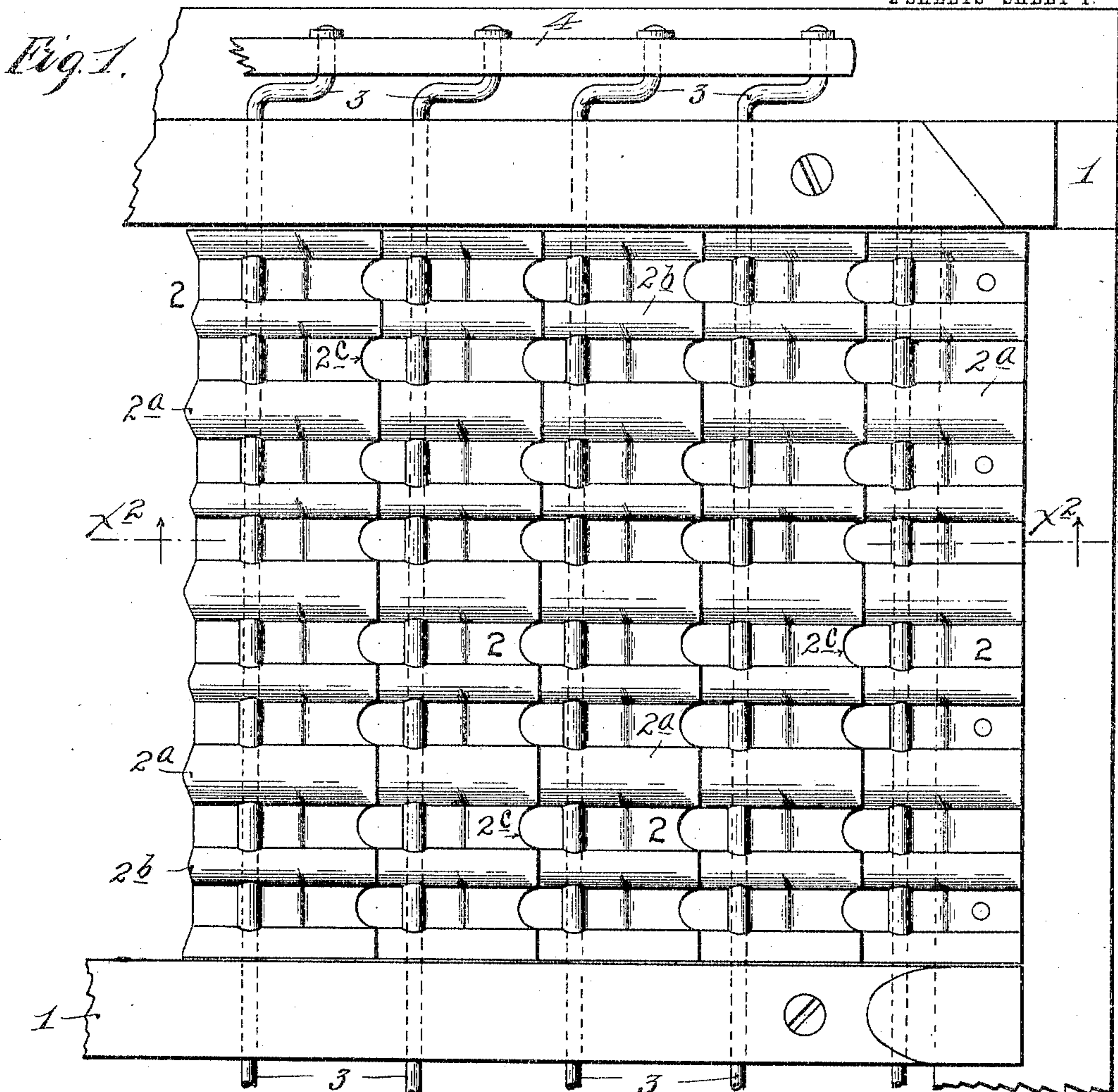
PATENTED JAN. 17, 1905.

C. CLOSZ.

ADJUSTABLE SIEVE.

APPLICATION FILED NOV. 21, 1903.

2 SHEETS—SHEET 1.



Witnesses.

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2 SHEETS—SHEET 2.

Fig. 3.

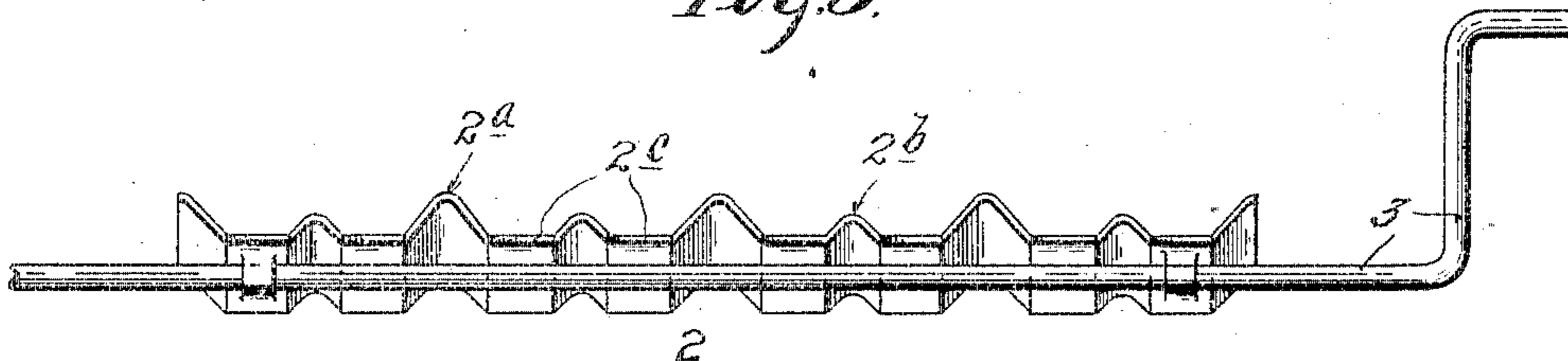


Fig. 4.

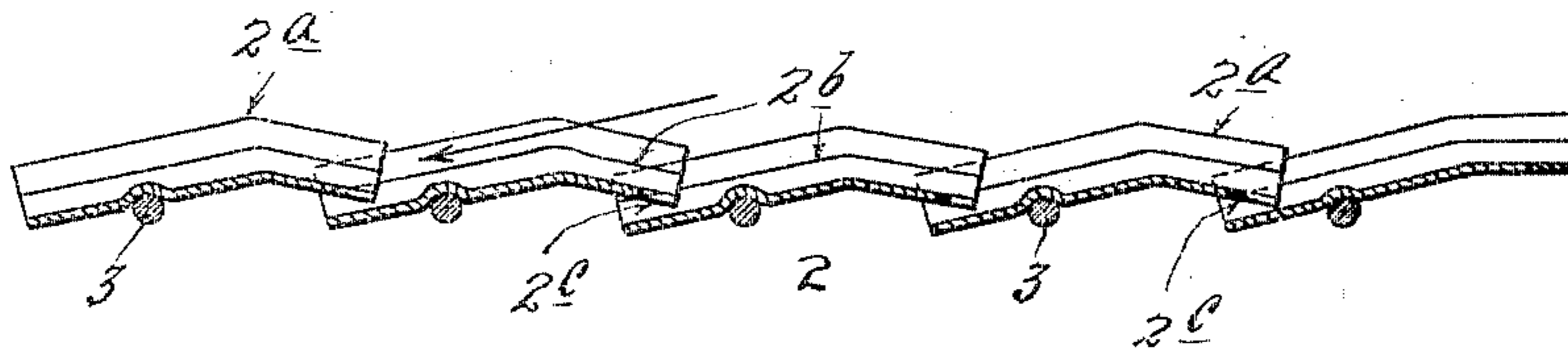


Fig. 5.

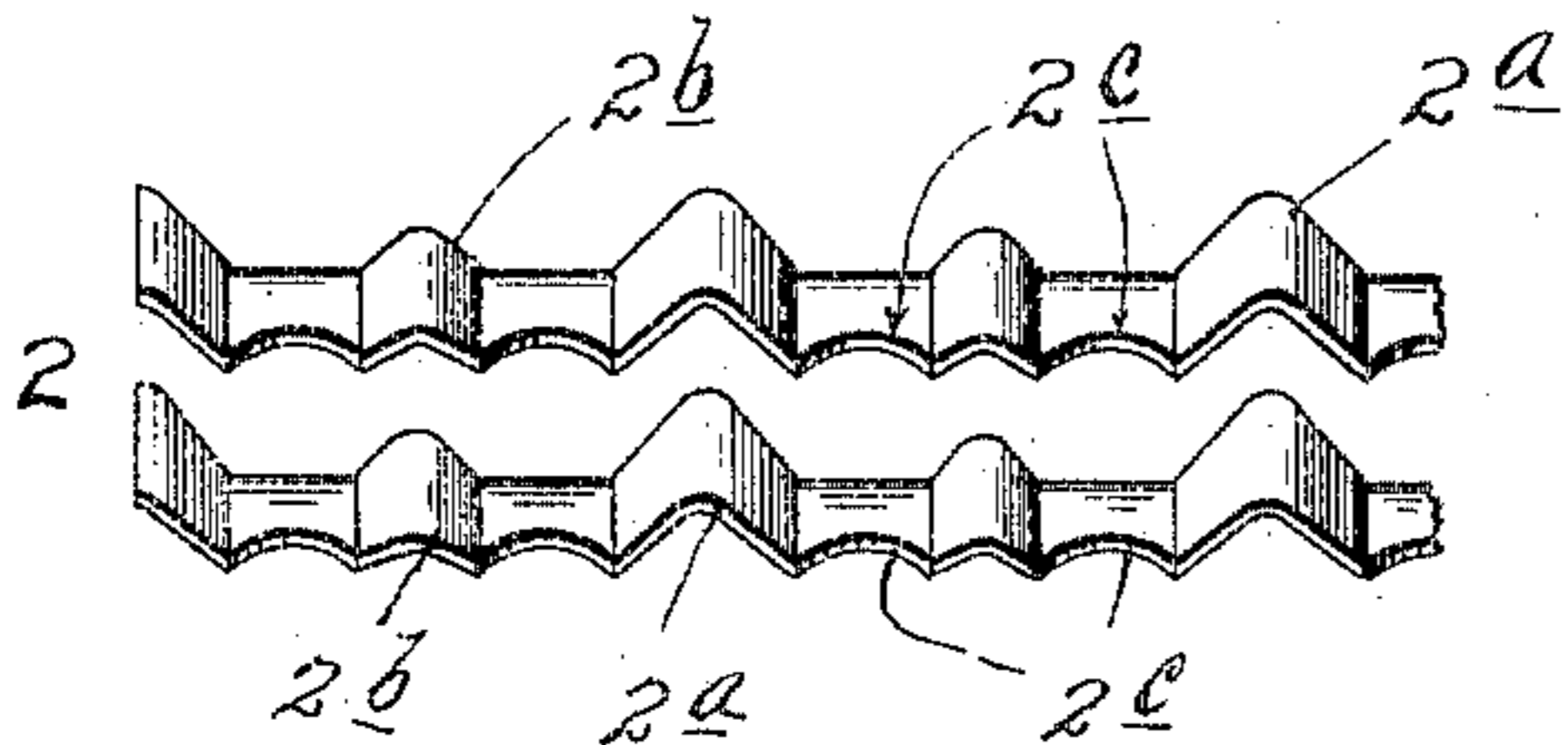
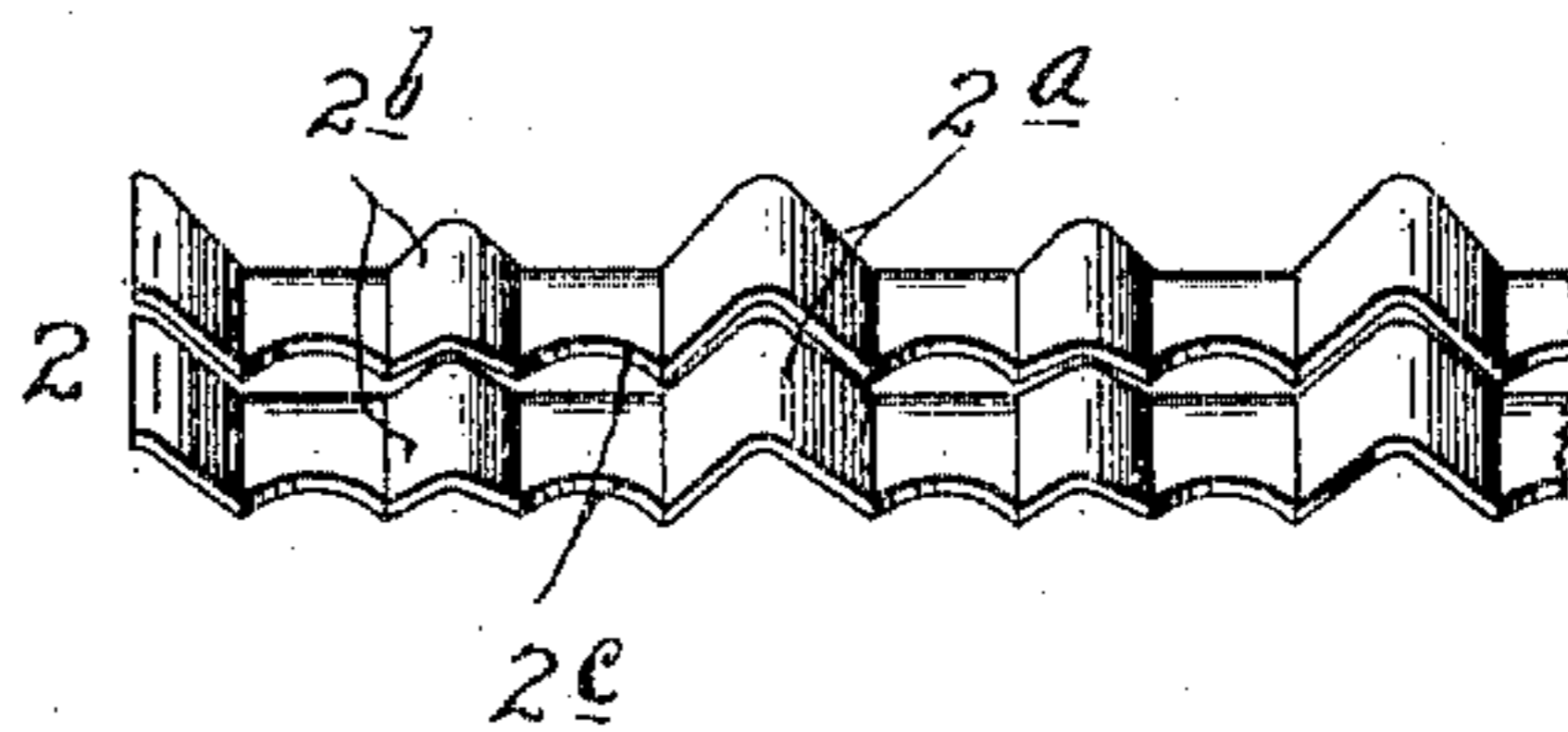


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES CLOSZ, OF WEBSTER CITY, IOWA.

ADJUSTABLE SIEVE.

SPECIFICATION forming part of Letters Patent No. 780,158, dated January 17, 1905.

Application filed November 21, 1903. Serial No. 182,072.

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 has for its object to improve the construction and operation of adjustable sieves of the type which are made up of oscillating slats or sections that overlap to form the mesh of the sieve.

The especial object of my invention is to provide sieves of the above character in such manner that they are better adapted for use in threshing-machines and elsewhere where the sieves are given a vibratory motion transversely of the line of feed of the stock over the screen—that is, wherein the screens are given what is known as a “side shake.” When sieves are thus applied in threshing-machines, a blast of air passes through the meshes of the sieve at approximately right angles to the line of transverse vibratory movement. A sieve improved in accordance with my present invention is, however, better adapted for certain classes of separation, even where the sieve is given an end shake—that is, a reciprocating movement in the general direction of the line of feed of the stock.

To insure the proper movement of the grain and seeds over a sieve having a lateral motion or side shake, it is important that the sieve have a very considerable surface which lies approximately level or approximately in a given plane, so as to impede as little as possible the movement of the stock. This is especially so when the sieve is adjusted and used for separating wheat. Furthermore, it is a decided advantage to have a corrugated surface, for the reason that these corrugated surfaces tend to turn the straw and long material lengthwise in the direction of the travel of the stock, in which position they travel more freely and permit a freer separation of the grain. It is also important in separating and cleaning flax or other fine seeds that a

certain size mesh be formed which is suitable for making the fine separations, and it is desirable to have a sieve suitable for making all of the different separations simply by different adjustments thereof. I have provided a sieve which will meet all of the above conditions. This sieve is 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 a sieve designed in accordance with my invention. Fig. 2 is a section on the line $x^2 x^2$ of Fig. 1. Fig. 3 is a detail showing one of the sieve-sections in front elevation. Fig. 4 is a detail in section on the same line as Fig. 2, but with parts removed and with the screen-sections shown in different positions. Fig. 5 is a detail looking at a portion of the sieve in the direction indicated by the arrow marked on Fig. 2, and Fig. 6 is a similar view looking at a portion of the sieve in the direction indicated by the arrow marked on Fig. 4.

The sieve-frame, which directly supports the shafts of the sieve-sections, is indicated by the numeral 1. The corrugated slats or sections of the sieves are indicated as entireties by the numeral 2. As shown, each slat or section 2 is rigidly secured to its own crank-shaft 3, which shafts are suitably mounted in the sides of the frame 1, with their cranks connected for simultaneous movement by an adjusting-bar 4, which may receive movement and may be held in different positions by any suitable means. The delivery ends or edges of the slats 2 are bent at an angle to the body portions thereof and overlap the receiving edges of the adjacent slats. In accordance with my invention the slats are formed with relatively high corrugations or ribs 2^a and with relatively low corrugations or ribs 2^b . The said low corrugations are placed intermediate of and midway between the high corrugations 2^a for an important purpose which will presently appear. The delivery edges of the slats 2 between the relatively high and the relatively low corrugations or ridges are notched or fluted, as shown at 2^c , for another important purpose, which will also presently appear. The high corrugations or ridges 2^a are placed far enough apart to allow sufficient

movement of the grain to effect a good separation under the lateral or transverse movement of the sieve, and these high corrugations are high enough to confine the transverse shifting movement of the grain or stock within the main channels formed thereby. The intermediate relatively low corrugations or ridges are low enough to allow the stock to pass over them under the transverse movement of the sieve, but are, nevertheless, high enough to guide the long straw or stuff which has fallen into the divided sections of the channels endwise over the sieve and to serve as dividing-ridges for the seeds or grain and to direct the same through the channels toward the delivery end or portions of the adjacent slats. Furthermore, the notches 2° between the relatively high and low ridges or corrugations when the sections or slats of the sieve are closed together, as shown in Figs. 4 and 6, cooperate with the adjacent underlying portions of the overlapped slats to form mesh-openings of the character known as "horseshoe-lip" meshes.

The most important function which a sieve of the above character is called upon to perform is the separation of the wheat from the straw, chaff, and other foreign materials, and for this purpose the sieve slats or sections should be adjusted substantially as shown in Figs. 2 and 5, by reference to which it will be noted that the delivery portions of the slats or sections lie in horizontal or in the same plane, while the receiving portions thereof incline backward and downward. The stock is of course forced over the sections of the sieve by a blast of air delivered from a fan, (not shown,) but which is operated in the usual way. For separating flax and small seeds the sieve sections or slats should be adjusted substantially as shown in Figs. 4 and 6, so as to afford the small horseshoe-lip openings or meshes. In this adjustment of the sieve the receiving portions of the slats incline downward and backward, while the delivery portions thereof incline downward and forward.

The last or delivery section slat 2 is in the drawings shown as rigidly secured to the transverse rear portion of the frame 1.

As before stated, the corrugations of the sieve have a tendency to turn the straw longitudinally in the direction of the feed or travel of the material over the sieve, this being an action desired to effect the best separation. It is evident that this arighting or turning action takes place whenever the straw or stalks get crosswise and approximately

within the main channels afforded by the relatively high corrugations or ridges 2^a. It is further evident that the wider these channels the more straw will come within the influence of these corrugations or ridges. Hence the straw will first be partly arighted or turned by the relatively high corrugations or relatively wide main channels and falling into these channels will become subject to the relatively small channels formed between the high and low ridges. It will thus be seen that there are two important reasons for forming the sieve with the alternative relatively high and low corrugations or ridges.

From what has above been said it will be understood that the device described is capable of modification within the scope of my invention as herein set forth and claimed.

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

1. A sieve made up of a plurality of overlapping sections formed with relatively high and relatively low corrugations or ridges, the sieve-sections having surfaces bent or extended at an angle, substantially as described.

2. A sieve made up of a plurality of sections formed with relatively high and relatively low corrugations or ridges extending in the general direction of the travel of the stock over the sieve, the said sections having marginal notches located between the said high and low corrugations, substantially as described.

3. A sieve made up of a plurality of overlapping pivoted sections, and with notches at their delivery edges located between the said high and low corrugations and cooperating with the overlapping receiving portions of the adjacent sections, substantially as described.

4. A sieve made up of a plurality of overlapping pivoted sections bent at an angle in the direction of the travel of the stock and formed with relatively high and relatively low corrugations extending in the general direction of the travel of the stock, said sections further having notches at their delivery edges, located between the high and low corrugations and cooperating with the overlapped receiving portions of the said sections, substantially as described.

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

CHARLES CLOSZ.

Witnesses:

C. BIERNATZKI,
J. I. CLOSZ.