

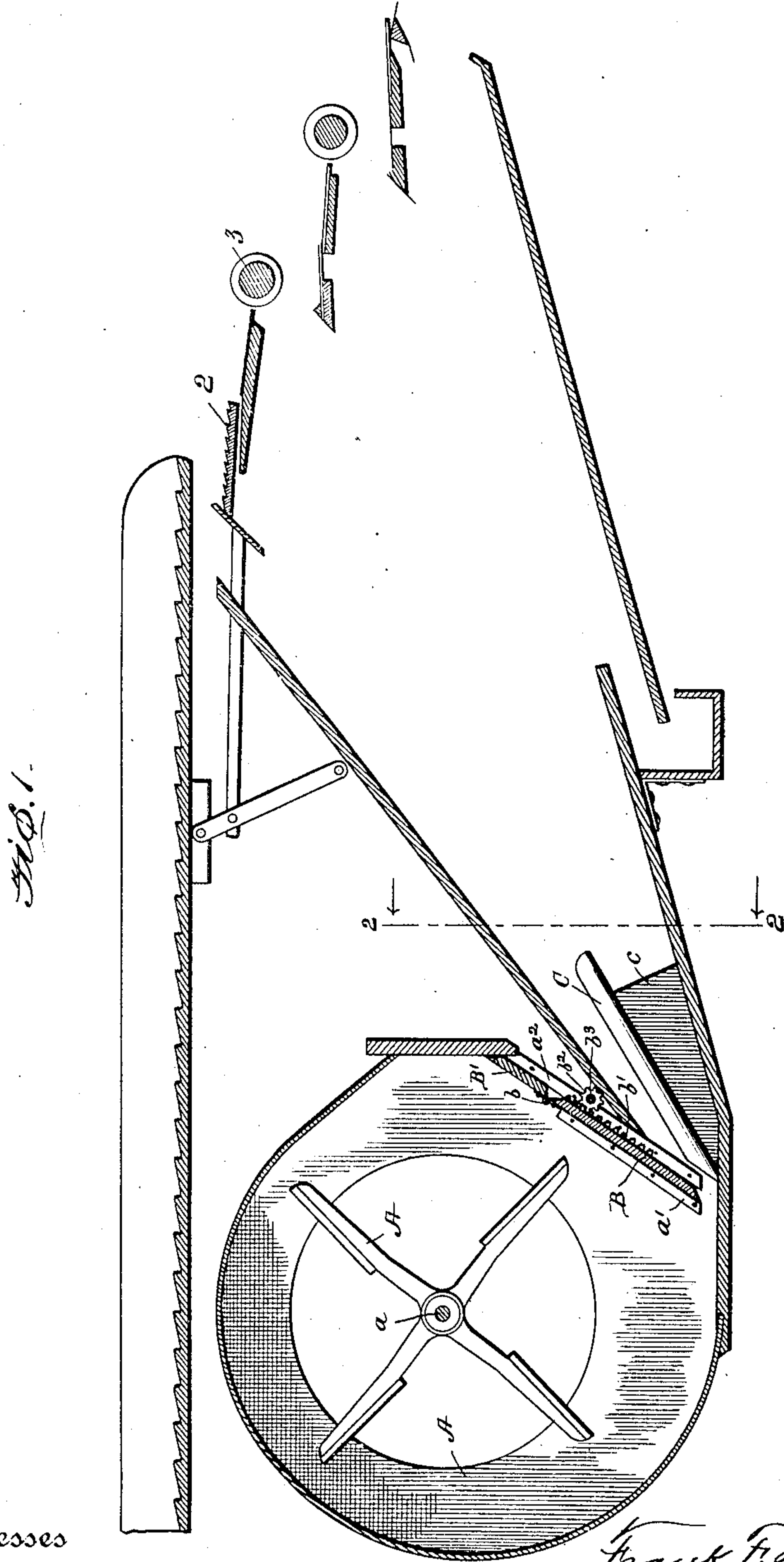
No. 892,598.

PATENTED JULY 7, 1908.

F. F. LANDIS.  
WINNOWING MACHINE.

APPLICATION FILED AUG. 20, 1904. RENEWED OCT. 15, 1907.

2 SHEETS—SHEET 1.



Witnesses  
*B. M. Offutt*  
Chas. K. Davies

Inventor  
*Frank F. Landis*  
By *E. W. Burdett*  
Attorney

No. 892,598.

PATENTED JULY 7, 1908.

F. F. LANDIS.  
WINNOWING MACHINE.

APPLICATION FILED AUG. 20, 1904. RENEWED OCT. 15, 1907.

2 SHEETS—SHEET 2.

Fig. 2.

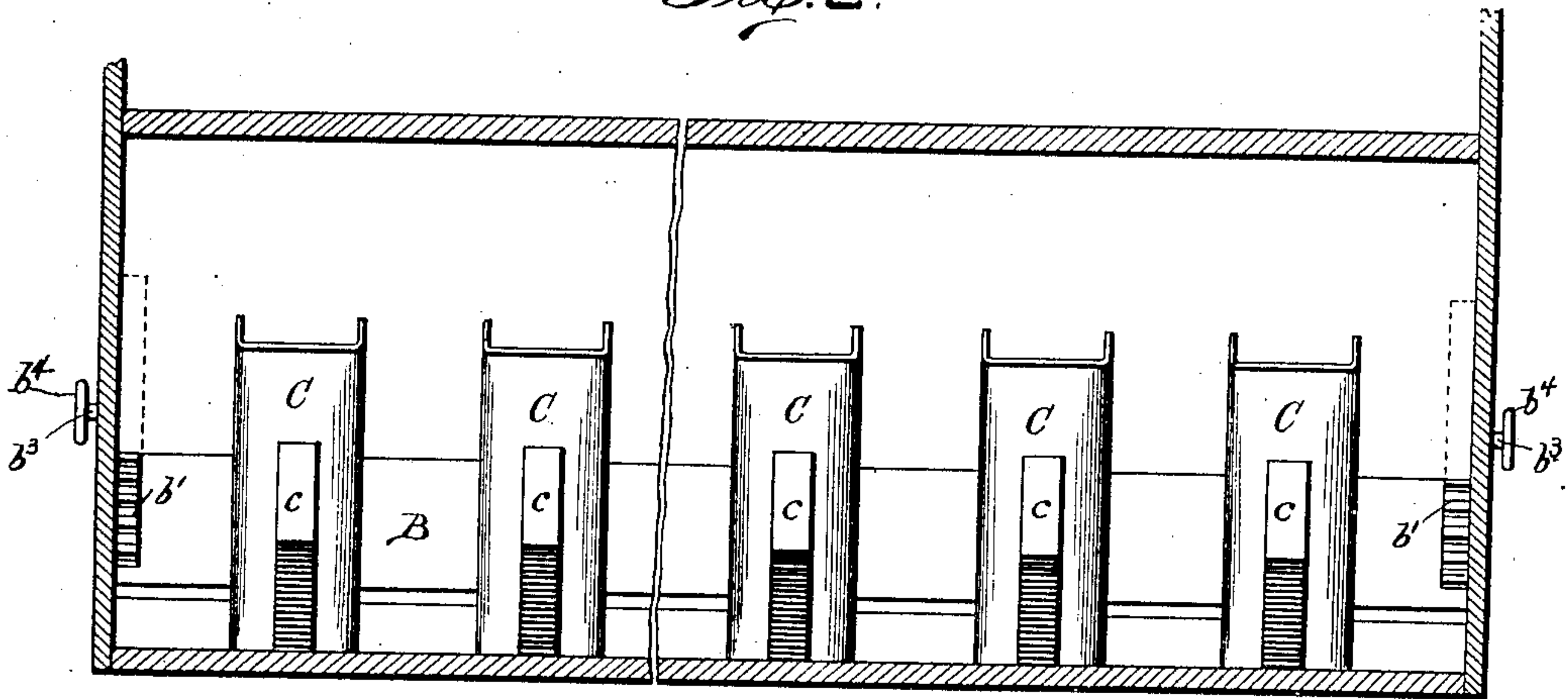


Fig. 3.

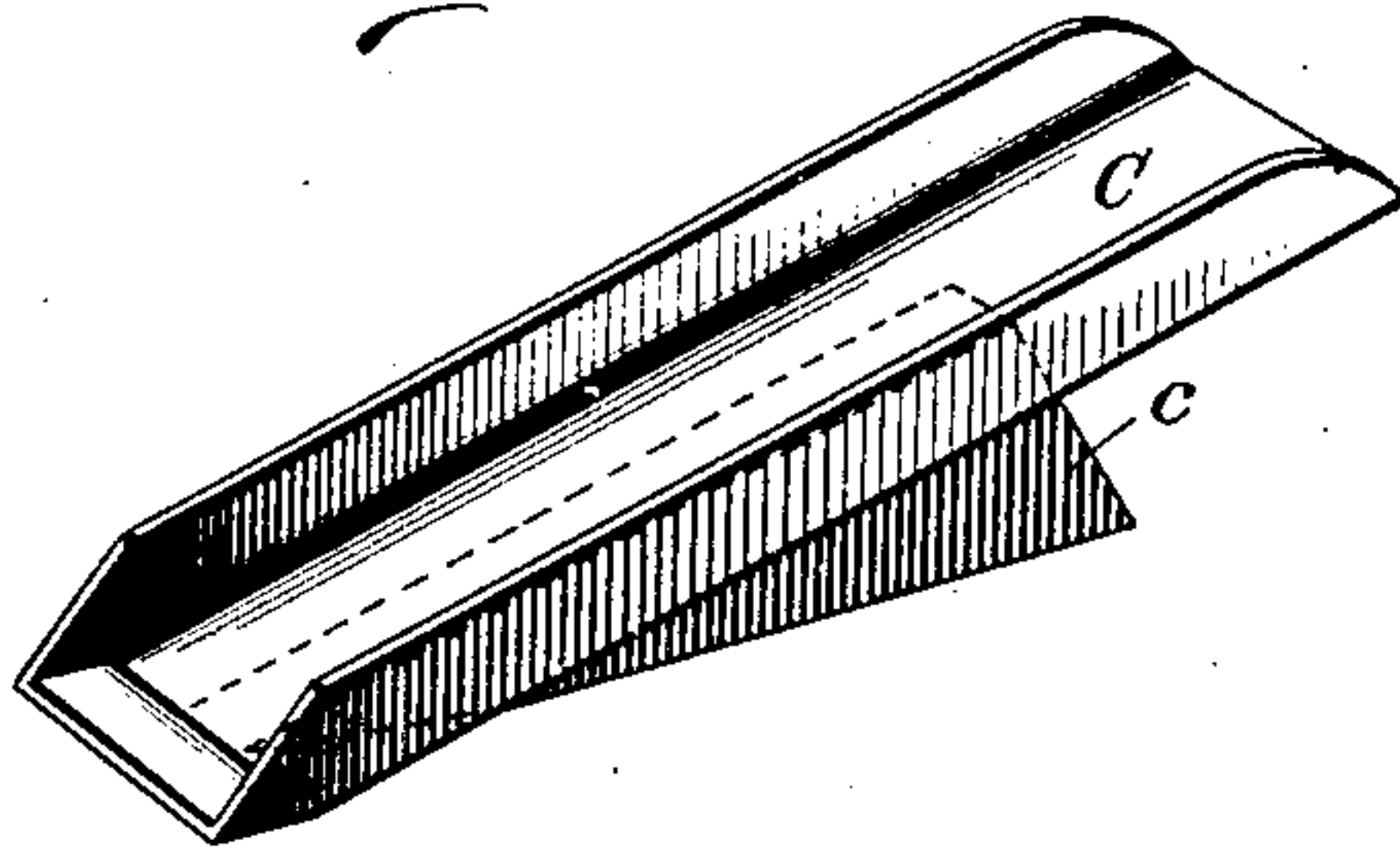
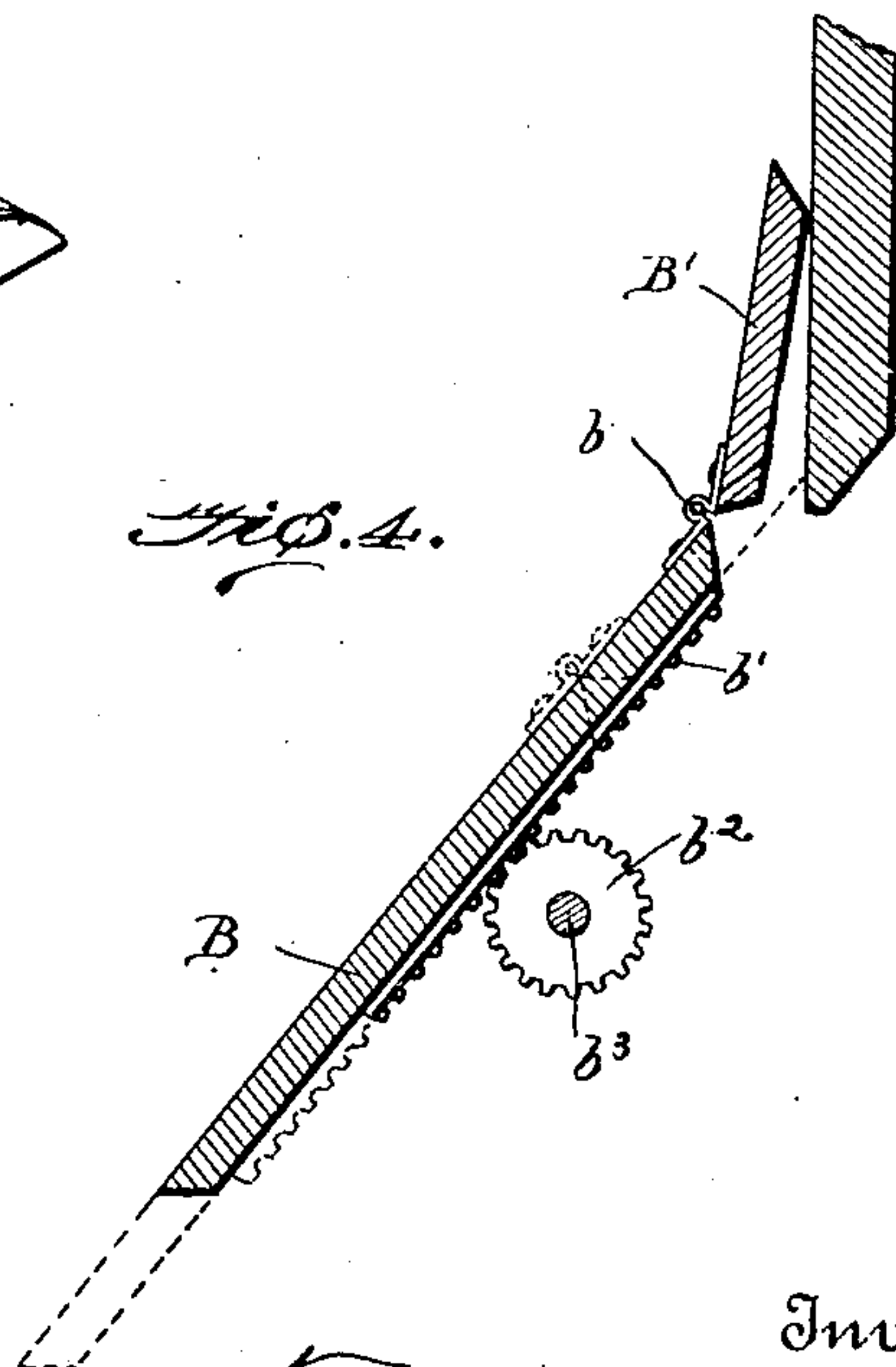


Fig. 4.



Witnesses  
*B. M. Offutt*  
Chas. K. Davies.

Inventor  
Frank F. Landis,  
by *E. W. Bradford*—  
Attorney



# UNITED STATES PATENT OFFICE.

FRANK F. LANDIS, OF WAYNESBORO, PENNSYLVANIA.

## WINNOWER-MACHINE.

No. 892,598.

Specification of Letters Patent.

Patented July 7, 1908.

Application filed August 20, 1904, Serial No. 221,492. Renewed October 15, 1907. Serial No. 397,566.

*To all whom it may concern:*

Be it known that I, FRANK F. LANDIS, a citizen of the United States, residing at Waynesboro, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Winnowing-Machines, of which the following is a specification.

The object of my said invention is to provide a means for more equally distributing the force of the blast of air throughout the area of a grain-cleaning machine of the general character shown in the accompanying drawings, whereby the operation of said machine is rendered more perfect in this particular, all as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts, Figure 1 is a longitudinal section through the rear end of a grain cleaning machine of the type known as a roller and shaft or gravity cleaner, Fig. 2 a transverse section looking in the direction indicated by the arrows from the dotted line 2—2 in Fig. 1, Fig. 3 is a detail perspective view of one of the blast deflectors, and Fig. 4 a detail sectional view similar to a portion of Fig. 1 showing the blast-gate on an enlarged scale.

In said drawings the portions marked A represent the blast fan, B the gate to its outlet, and C the blast deflectors or distributing devices. The blast fan A is or may be of any usual or approved construction mounted upon a shaft *a* which is connected with suitable power in the usual way or any well known manner. The blast gate B preferably has an upper section *B*<sup>1</sup> hinged thereto by means of hinges *b* and is mounted across the air-duct, or outlet from the fan casing, to slide in ways formed by the cleats *a*<sup>1</sup> and *a*<sup>2</sup> secured to the sides of the fan casing on each side of said air-duct. A rack-bar *b*<sup>1</sup> is mounted upon the rear side of said gate at each end and pinions *b*<sup>2</sup> mounted upon a shaft *b*<sup>3</sup> mesh therewith. Said shaft is operated by a hand-wheel *b*<sup>4</sup> on one end which projects outside of the casing.

The air-distributing devices C are of the form shown most clearly in Figs. 2 and 3, being substantially U-shaped in cross section and preferably consist of metal sheets bent into said form, although other material may be used, of course. They are supported at

regular intervals throughout the width of the air-duct upon wedge-shaped braces or supports *c*. The front ends of said devices are set upon the bottom of the air-duct close to the blast-gate and extend rearwardly at an angle toward the grain cleaning devices. By this means said air-duct is practically divided into several ducts, a portion of which discharge at one level while the other portion discharge at another level, the result being that the blast passing through said ducts is distributed over a wider area and delivered evenly to the several parts of the grain cleaning devices.

In operation, the grain and chaff coming over the grain-bottom 1 is delivered upon the feed-board 2, which, being connected to vibrating mechanism, feeds the grain and chaff to the roller 3. The grain cleaning mechanism is in general form, arrangement and operation substantially the same as shown in my Letters Patent No. 562,625, of June 23, 1896, and being well known and understood need not be particularly described herein. When it is desired to vary the quantity of blast for different kinds and conditions of grain, the blast gate is adjusted by turning the shaft *b*<sup>3</sup> to open or close said gate to admit a greater or less quantity of air to the grain cleaning mechanism.

This application is a modification of the subject matter of my application No. 221,875, or an application of said invention to a detail construction.

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

1. In a grain cleaning machine, the combination with a blast-fan provided with an air-duct arranged to deliver the blast to the grain cleaning devices, said air-duct being divided by a series of U-shaped deflectors set at intervals and supported at their front ends upon its bottom and extending upwardly from said front end at an angle in line with the direction of the blast, substantially as set forth.

2. In a grain cleaning machine, the combination with the grain bottom, feed-board, cleaning rolls, etc., of a blast fan arranged with an air-duct to deliver its air discharge to said grain cleaning devices, an adjustable gate mounted to slide across the mouth of said air-duct, a rack and pinion connection for adjusting the same, and a series of

U-shaped deflectors set at an angle and arranged at intervals across the bottom of said air-duct, substantially as set forth.

3. In a grain cleaning machine, the combination of the cleaning devices, a blast-fan provided with an air-duct arranged to deliver to the said cleaning devices, a blast-gate formed in two parts hinged together and mounted to be adjusted across the entrance to said air-duct, and a series of U-shaped deflectors set at an angle at intervals across the

bottom of said air-duct, substantially as set forth.

In witness whereof, I, have hereunto set my hand and seal at Washington D. C. this 15 twenty fifth day of July, A. D. nineteen hundred and four.

FRANK F. LANDIS. [L. s.]

Witnesses:

MARY A. WILSON,  
E. W. BRADFORD.