

No. 741,616.

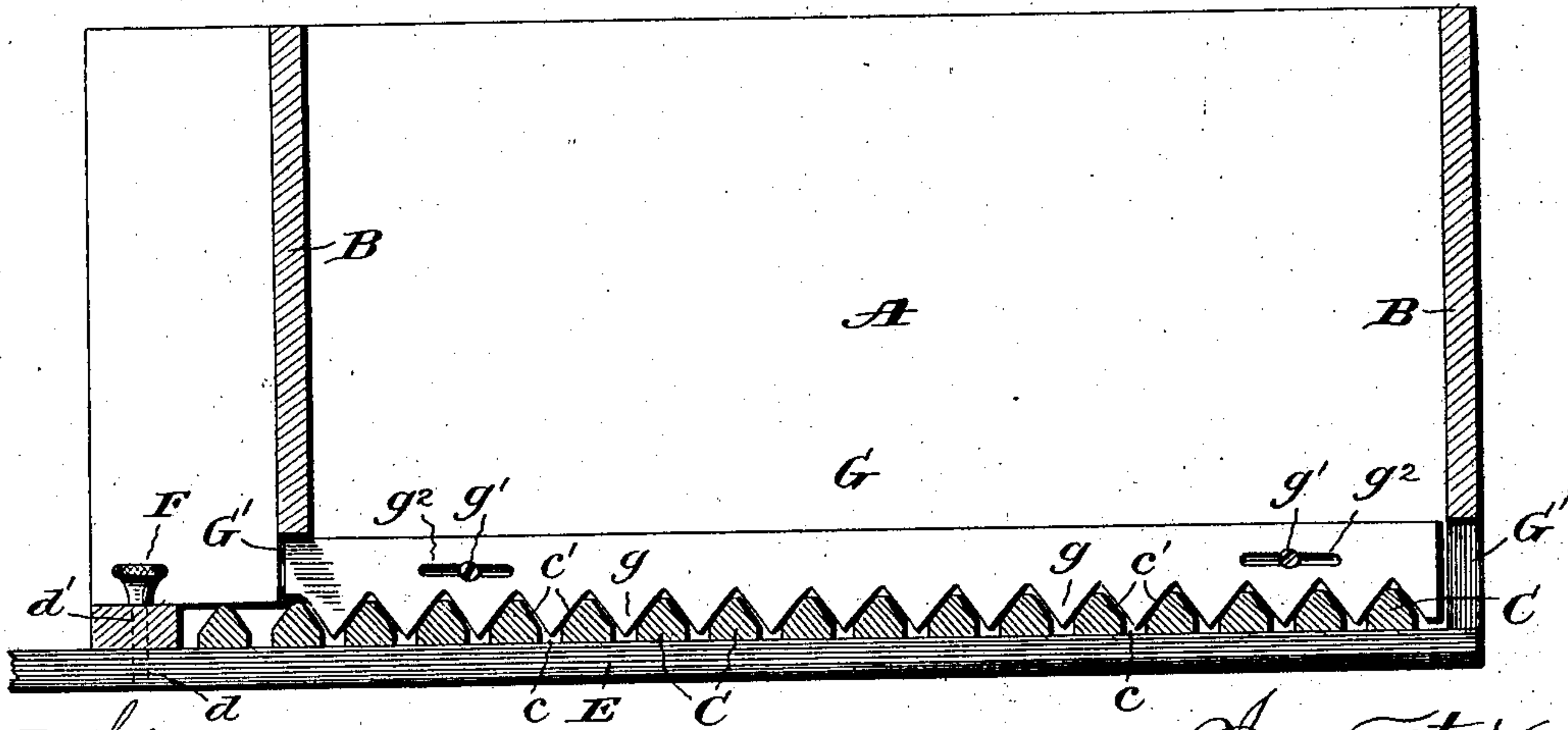
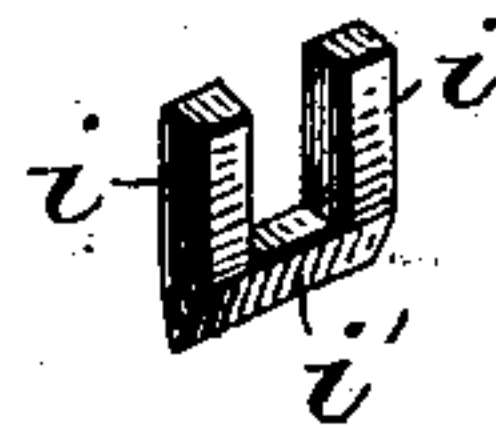
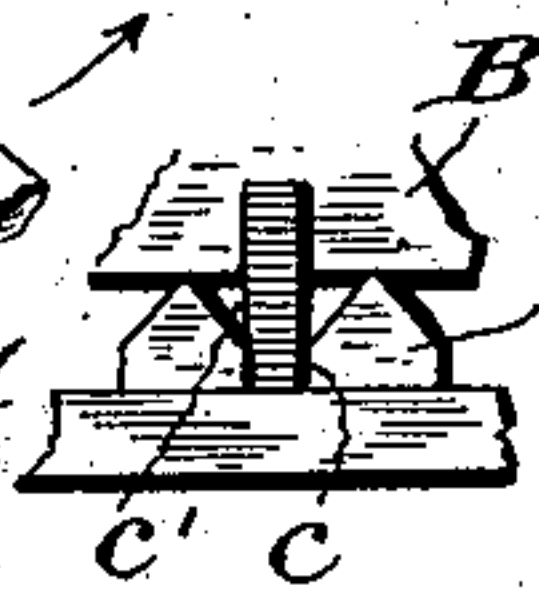
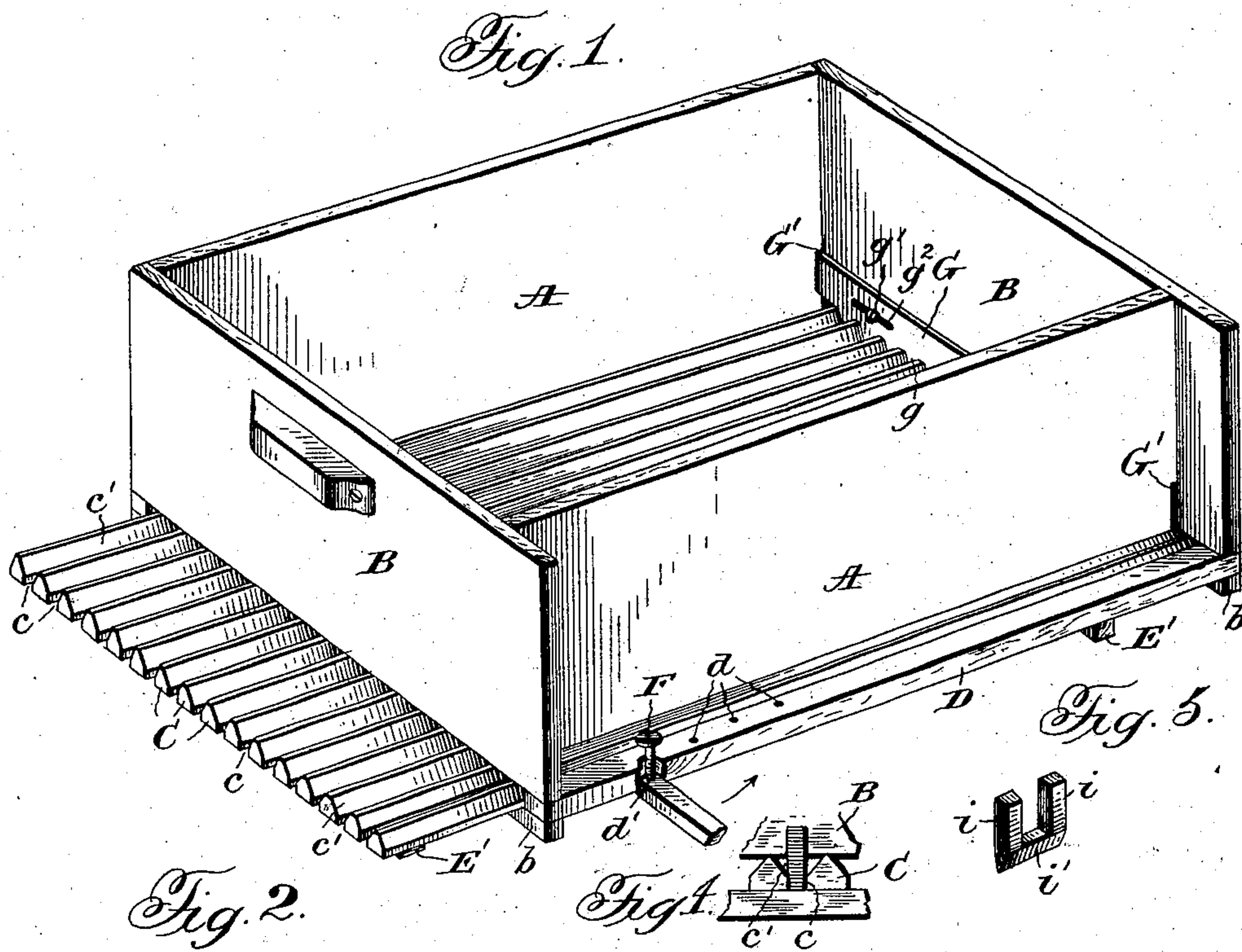
PATENTED OCT. 20, 1903.

F. L. BLOCK.  
GRAIN SORTER OR SEPARATOR.

APPLICATION FILED MAY 5, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



<sup>d</sup>  
Witnesses:

Jas. Hutchinson.  
 Calne V. Milnes.

Inventor:

Francis H. Black,  
By Taccon Milane atty's

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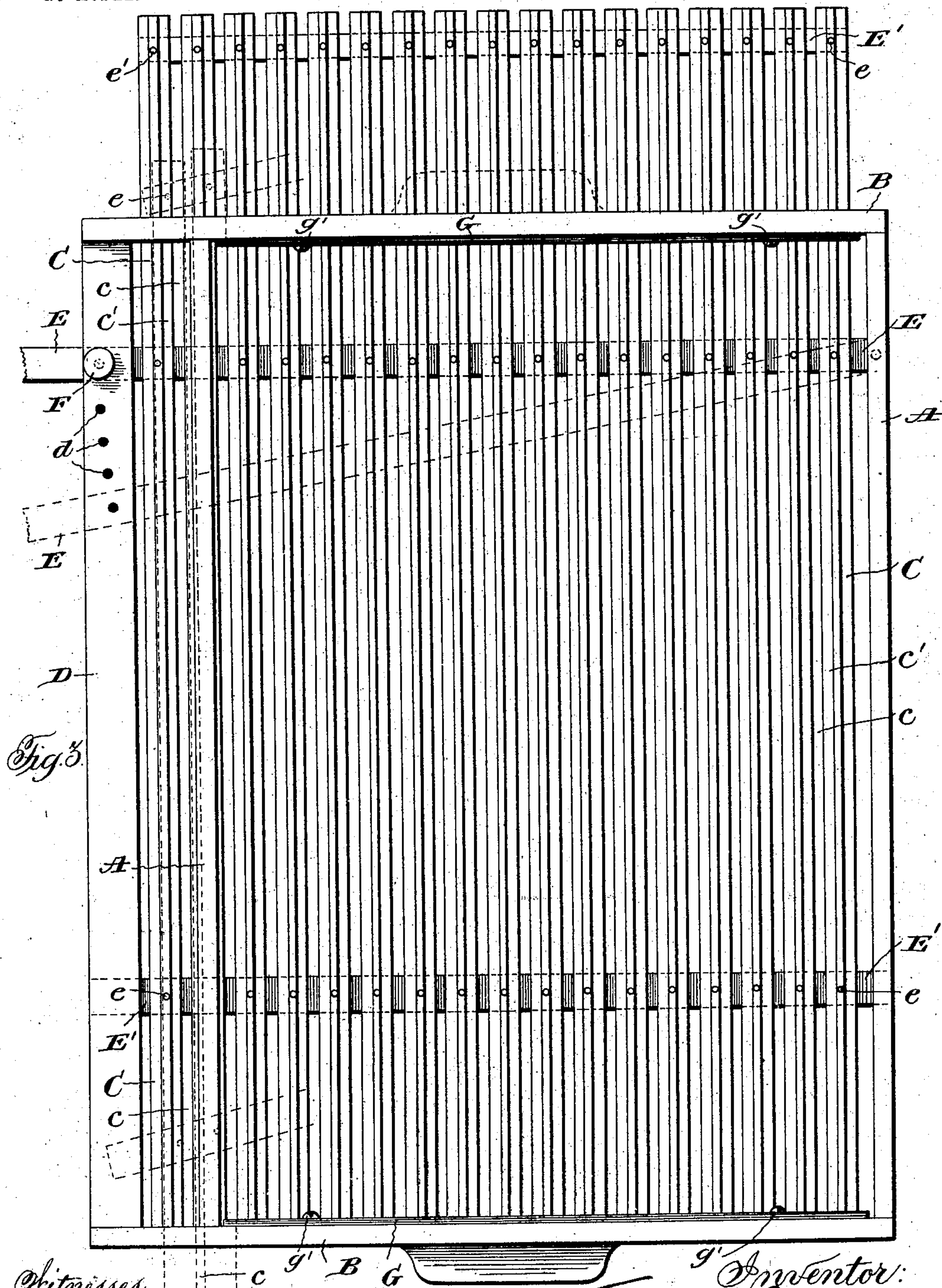


Fig. 3.

Witnesses  
Jas. S. Hutchins  
Alvin V. Milner

Inventor:  
Francis H. Block  
By *Alvin V. Milner*  
attys



# UNITED STATES PATENT OFFICE.

FRANCIS L. BLOCK, OF SIDNEY, ILLINOIS.

## GRAIN SORTER OR SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 741,616, dated October 20, 1903.

Application filed May 5, 1903. Serial No. 155,743. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS L. BLOCK, a citizen of the United States, residing at Sidney, in the county of Champaign and State of Illinois, have invented certain new and useful Improvements in Grain Sorters or Separators, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a novel grain sorter or separator, and has for its primary object the provision of adjustable instrumentalities upon which an indiscriminate supply of grain may be deposited and worked, so that all grain approximating a predetermined size may be separated from the bulk.

The invention is particularly susceptible of use in connection with shelled corn which is to be fed to and distributed by planters for cultivating purposes. It has been found that in the larger number of seed-planting machines at present being marketed, especially those types involving the use of a seed-slide, the openings in the slide through which the corn or other grain falls from the carrying-receptacle are of a standard or uniform size. Consequently it is desirable that the grain utilized for the purposes designated be also of a substantially uniform grade or size, so as to freely pass through the said openings in the slide, thereby preventing clogging of the machine and facilitating regularity in the feed therefrom.

With the above-mentioned ends in view the invention contemplates a separator provided with a slatted bottom, the slats or bars of which are separated at a normal distance apart to permit the corn or seed to pass therebetween and instrumentalities associated with said slatted bottom for adjusting the slats to cause them to approach each other or recede, as the case may be, to regulate the distance therebetween, to control the grade or size of grain which may pass therethrough, and preferably, but not necessarily, means for locking the slats or bars in adjusted position.

Novel characteristics of the several parts and of the construction and arrangement thereof will be apparent from the detailed description hereinafter when read in connection with the accompanying drawings, forming part hereof, wherein a preferable embodiment

of the invention is illustrated for the purpose of enabling a clear understanding of the same. It is, however, to be understood that in any future interpretation as to the scope of the present invention the same is by no means to be limited to the specific details of the construction described herein, except in so far as any such details may be included in the appended claims, because it is obvious that minor changes and alterations may be made without in the least departing from the spirit of the invention.

In the drawings, Figure 1 is a perspective view of the separator. Fig. 2 is a transverse vertical sectional view thereof. Fig. 3 is a plan view, the mode of adjusting the slats or bars being indicated in dotted lines; and Figs. 4 and 5 are detail views.

Referring more specifically to the drawings, in which like reference characters designate corresponding parts in the several views, A represents the side walls, and B the end walls, of a receptacle adapted to receive the corn or seed to be separated. The bottom of the receptacle is formed of a series of slats or bars C, arranged longitudinally of the receptacle and in parallel planes, said bars being normally separated to form intervening spaces *c* for the passage of corn of the proper size through the bottom, whereby the same may become separated from the bulk. The sides of the upper portion of each of the slats are beveled, as shown, to form substantially V-shaped channels *c'*, opening to the spaces *c* and serving as elongated hoppers or guides for directing the corn to the spaces *c*. The slats or bars are supported in place by cross-rods *b*, located beneath the same and rigidly secured to the ends B, said rods being spaced from the ends sufficiently to permit free movement of the bottom slats in the spaces formed between the upper surface of the rods and the lower edge of the ends. The slats are also of a length considerably greater than the length of the receptacle, so that the same may project without the end of the receptacle, as shown in Fig. 1, in which figure the parts are in normal position, with the widest possible spaces *c* between the slats, for the purpose to be hereinafter pointed out. The ends B at one side are extended outwardly beyond the adjoining side A and are connected by the



longitudinal beam D, also for a purpose as will hereinafter more fully appear. The slats of the bottom are connected at different points by transverse bars or slats E E', each slat C  
 5 being pivotally secured to each transverse bar or slat through the medium of pins  $e$ , the slat E being in turn pivoted at its inner end to the lower edge of the side A and free at its outer end, so as to be shifted into alinement  
 10 with any one of the series of apertures  $d$  passing through the beam D, said free end being also provided with an aperture  $d'$ , adapted to register with the apertures  $d$  to permit the insertion of a locking-pin F.

15 To adjust the bottom, it is simply necessary to remove the locking-pin F and shift the bar E upon its pivot in the direction of the arrow, Fig. 1, said bar being extended to constitute an operating-lever, which will in turn carry  
 20 the slats longitudinally of the receptacle, as shown in Fig. 3, and owing to the pivotal relation between the several parts said slats will have a compound movement—that is, both longitudinally and laterally—relative to the  
 25 receptacle, which will cause the slats to approach and correspondingly reduce the spaces between the same to the desired extent to regulate the fall of corn therethrough. A reverse movement of the lever-bar E will cause  
 30 the slats to separate and increase the spaces therebetween. Of course the same result may be attained by manipulating the projecting ends of the slats C. The innermost slats C are arranged adjacent to the side A of the re-  
 35 ceptacle, while the outer slats are free to move beneath the side A and inside the beam D, whereby the bottom has an adequate range of movement.

It is desirable that some means be provided  
 40 for preventing the escape of the corn from the ends of the receptacle through the V-shaped channels formed by beveling the sides of the slats C, and for this purpose serrated plates G are slidably secured upon the inner  
 45 face of the ends B of the receptacle, so that the teeth  $g$  of the plates may be projected into said V-shaped channels. The plates are preferably secured in place by pins  $g'$ , passing through slots  $g^2$  in the plates. The slot-  
 50 and-pin connection is to permit a longitudinal movement of the plates to accord with the adjustment of the bottom slats. The sides A are cut away, as at G', so as to present no obstruction to the shifting of the  
 55 plates.

In lieu of the plates G other closing devices may be employed—as, for instance, that shown in Figs. 4 and 5—in which instance the device comprises a U-shaped flexible  
 60 member, the ends  $i$  of which are adapted to

embrace the sides of the ends B, and the connecting portion  $i'$  of which is V-shaped in cross-section, so as to fit the channels, the flexibility of the material of which the device is composed permitting the same to yield to  
 65 the right and left, Fig. 4, when the slats of the bottom are shifted.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A separator comprising a receptacle, a slatted bottom therefor, the slats of the bottom being beveled along their upper edges and arranged in parallel planes to form approximately V-shaped channels therebetween, means whereby the bottom may be ad-  
 75 justed to regulate the spaces between the slats thereof, and shiftable means for closing the spaces between the slats at the ends of the receptacle. 80

2. A separator comprising a receptacle, a slatted bottom therefor, the slats of the bottom being beveled along their upper edges and arranged in parallel planes to form approximately V-shaped channels therebetween, means whereby the bottom may be ad-  
 85 justed to regulate the spaces between the slats thereof, and means for closing the spaces between the slats at the ends of the receptacle, said means being adjustable according  
 90 to the movement of the slats.

3. A separator comprising a receptacle, a slatted bottom therefor, means whereby said bottom may be adjusted to regulate the spaces between the slats thereof, and shiftable means  
 95 for closing the spaces between the slats at one end of the receptacle.

4. A separator comprising a receptacle, a slatted bottom therefor, means whereby said bottom may be adjusted to regulate the spaces  
 100 between the slats thereof, and means for closing the excessive space between the slats at one end of the receptacle, said means being adjustable according to the movement of the slats. 105

5. A separator comprising a receptacle, a slatted bottom therefor, and means whereby said slats may be given a compound movement longitudinally and transversely of the  
 110 receptacle to regulate the spaces between the slats, one side and both ends of the receptacle being open to permit the protrusion of some of the outside slats and the ends of the slats.

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

FRANCIS L. BLOCK.

Witnesses:

FELIX B. TAIT,

F. R. GOODE.