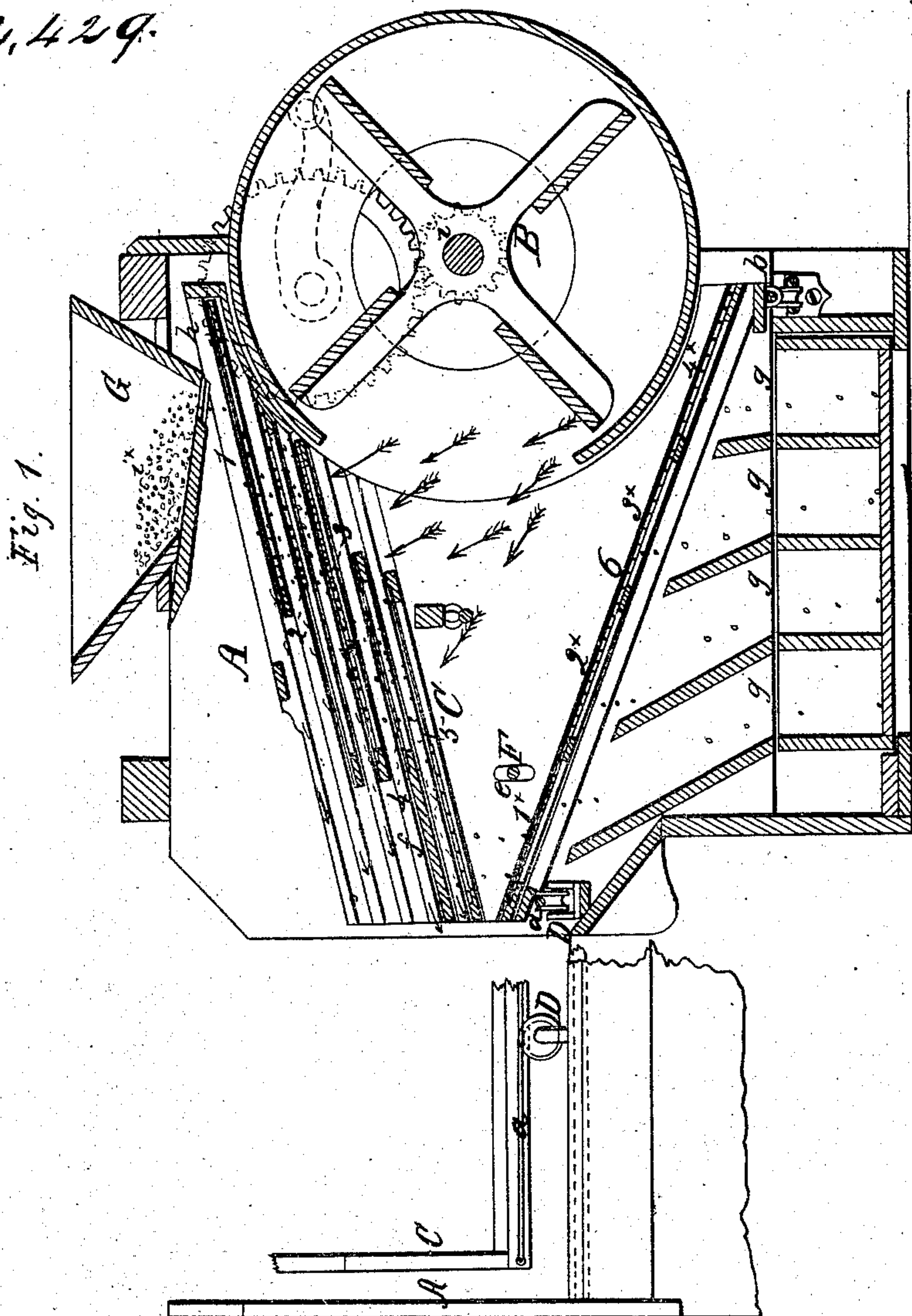


Sheet 1, 2 Sheets.

C. B. Martin.
Grain Winnower.
Patented May 28, 1861.

32,429.



Witnesses.
W. C. Couch,
A. S. Spencer

Inventor.
Chas B. Martin
per Mun Hg
Attorneys

This invention is not in print.

Sheet 2, 2 Sheets

C. B. Martin.
Grain Winnower.
Patented May 28, 1861.

32,429.

Fig. 2.

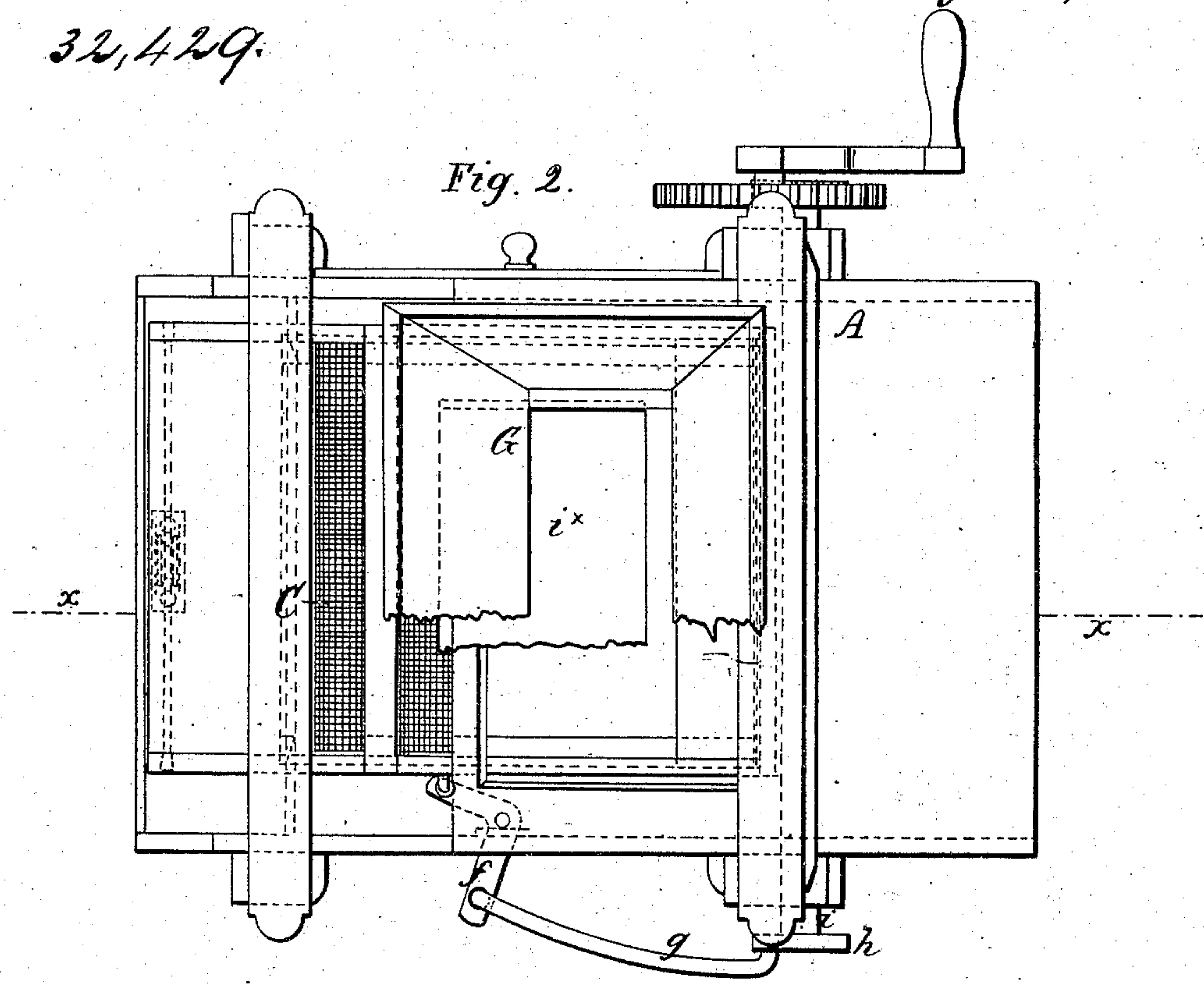
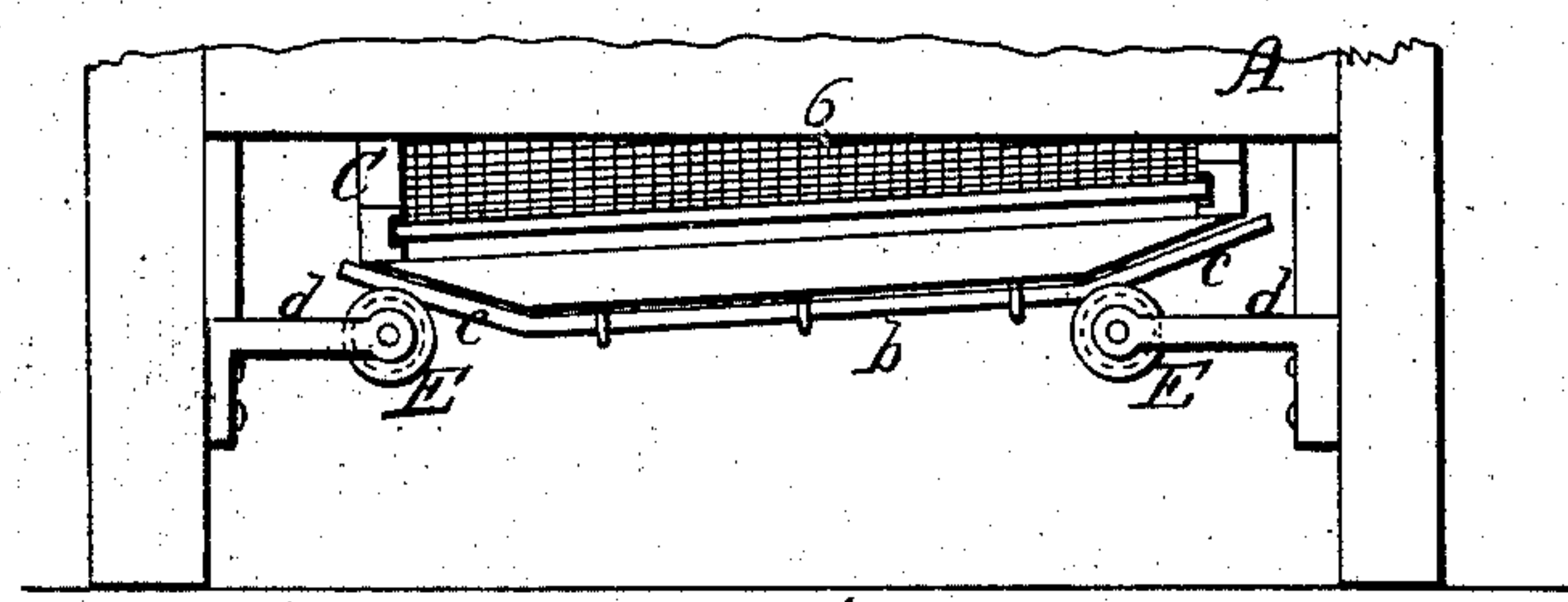


Fig. 3.



Witnesses.

Geo. Coombs
A. S. Spencer

Inventor.

Chas. B. Martin
per Munroe & Co.
Attorneys

UNITED STATES PATENT OFFICE.

CHARLES B. MARTIN, OF FOND DU LAC, WISCONSIN.

GRAIN-SEPARATOR.

Specification of Letters Patent No. 32,429, dated May 28, 1861.

To all whom it may concern:

Be it known that I, CHARLES B. MARTIN, of Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented a new and Improved Grain-Separator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x. x.* Fig. 3. Fig. 2, a plan or top view of the same, Fig. 3 a detached and sectional view of the same. Fig. 4 a view of a portion of the front part of the case and shoe.

Similar characters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain, by a very simple means, a more thorough separation than heretofore of the grain from foreign substances, and to this end I arrange a series of screens in a novel way in the shoe and relatively with a rotary fan, whereby the best results are obtained from the screens and also from the fan. The shoe is also arranged in a novel way so that it may adjust itself in a horizontal position if the separator be out of level or in an inclined position in consequence of being placed on uneven ground.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it. A, represents the case of the implement which may be constructed in much the usual way and is provided with a rotary fan B, at its front end. This fan B, may be constructed in the ordinary way. C, is a shoe which also may be of the usual form and construction, but fitted in its case A, in a novel way as follows. The outer end of the shoe C, at its lower part has a rod *a*, attached to it transversely and this rod serves as a way or guide and is fitted in a grooved roller D, attached to the case A, as shown in Figs. 1 and 4. The back end of the shoe C, at its lower end has a rod *b*, attached to it transversely, said rod at its ends being inclined upward as shown at *c, c*, in Fig. 3. The rod *b*, as well as the rod *a*, serves as a way or guide and rests on rollers E, E, which are fitted in brackets or arms *d, d*, attached to the inner sides of the case A. Transversely through the shoe C, a rod F, passes said rod passing through oblong

slots *e*, in the sides of the shoe and having its ends attached to the sides of the case. The shoe C, has a lateral shake motion given it by a bent lever *f*, operated by a rod *g*, which receives its motion from a crank pulley *h*, at one end of the fan-shaft *i*, see Fig. 2.

From the above description it will be seen that the shoe C, will adjust itself so as to work perfectly even if the case A, be out of a horizontal position, for the oblong slots *e*, do not permit the guide rod F, to control the position of the shoe, and the shoe consequently will adjust itself perfectly on the rollers D, E, E, that is to say, within any moderate degree of inclination of the case A.

The shoe C, is provided with five inclined screens 1, 2, 3, 4 and 5, at its upper part and with one 6, at its lower part the latter being inclined in a reverse direction to the former as shown clearly in Fig. 1. The uppermost screen 1, is a coarse one and of equal mesh throughout but the screens 2, and 3, are each composed of two different sized meshes, one fine, and the other coarse, the coarse mesh of screen 2, being under the screen 1, and the fine mesh of screen 3, being underneath the coarse mesh of screen 2, and the coarse mesh of screen 3, underneath the fine mesh of screen 2. The screen 4, has a coarse mesh and is of equal size throughout a board *f*, being attached to the lower end of said screen. The screen 5, has a coarse and fine mesh, the fine mesh being under screen 4, and the coarse mesh under the board *f*, below screen 4. The lower screen 6, has four different sized meshes 1^x, 2^x, 3^x, 4^x, and below each sized mesh there is a compartment *g*, to receive what passes through the screen as will be fully understood by referring to Fig. 1.

In the upper part of the shoe C, at its inner or most elevated end there is placed a curved board *h^x*, which has a tendency to distribute the grain properly on the screens 2, and 3.

G, is a hopper which is placed on the case A, and is provided with a slide *i^x*, for a bottom. By adjusting the slide *i^x*, the discharge of grain from the hopper G, may be regulated as desired.

The fan B, is placed in such a relative position with the screens 1, 2, 3, 4, and 5, as to throw a blast entirely through them in the direction indicated by the arrows. The grain passes from the hopper G, down

on the screen 1, and the coarsest foreign substances pass off from this screen by their gravity, and the action of the blast generated by the fan B. The grain passes through
5 screen 1, and is leveled or distributed evenly on the screen 2, the grain passing through the large mesh of said screen on the fine mesh of screen 3, the fine mesh preventing the grain passing through it and the grain
10 passes down to the coarse mesh of screen 3, and passes through said coarse portion on the screen 4, and through the latter on the fine mesh of screen 5, and from thence down to the coarse mesh of said screen, and
15 through the same down on the screen 6, through which the grain passes and is divided or separated into 4 different sizes corresponding to the different sized meshes of the screen 6.
20 The fine portions of the screens 2, 3 and 4, admit of the blast from the fan passing entirely through the screens and admit of the blast acting in a very efficient manner, to expel the light foreign substances. The
25 boards usually employed to conduct the

grain from one screen to another obstruct the blast and render it very inefficient.

By having the shoe C, arranged or hung as described within its case so that it may adjust itself in a horizontal position if the
30 case be out of level, the grain is allowed to pass evenly and in a well distributed sheet over the screens in the shoe thereby enabling the implement to operate efficiently, whereas other machines when out of level operate
35 very imperfectly.

What I claim as new in the above described invention, and desire to secure by Letters Patent is:

The combination with the shoe C, of the
40 rods F, *a*, *b*, *c*, slot *e*, and rollers D, E, E, the whole being constructed and arranged as herein shown and described, and operating in the manner and for the purposes explained.

CHARLES B. MARTIN.

Witnesses:

HENRY CONKLIN,
K. GILLET.