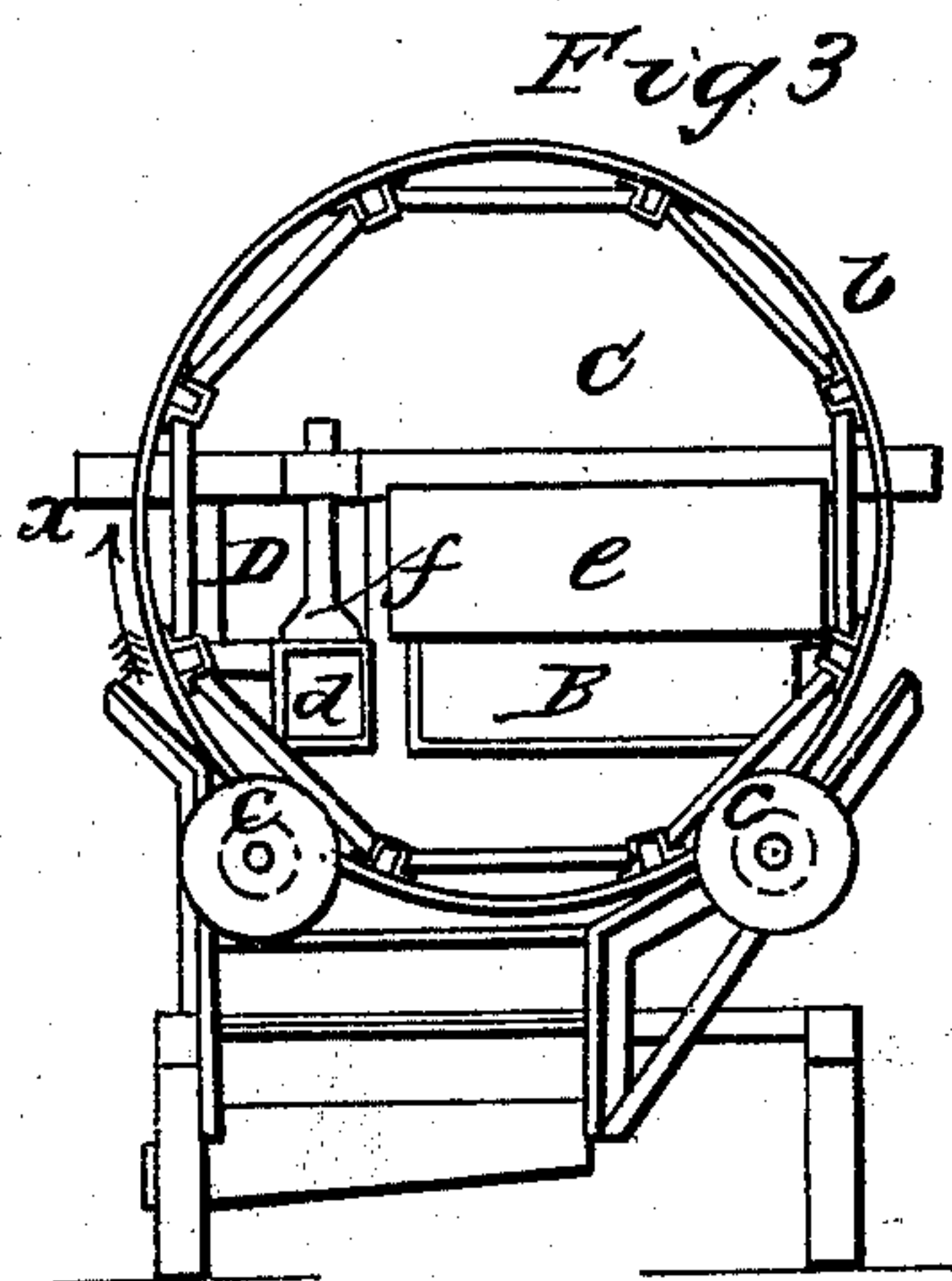
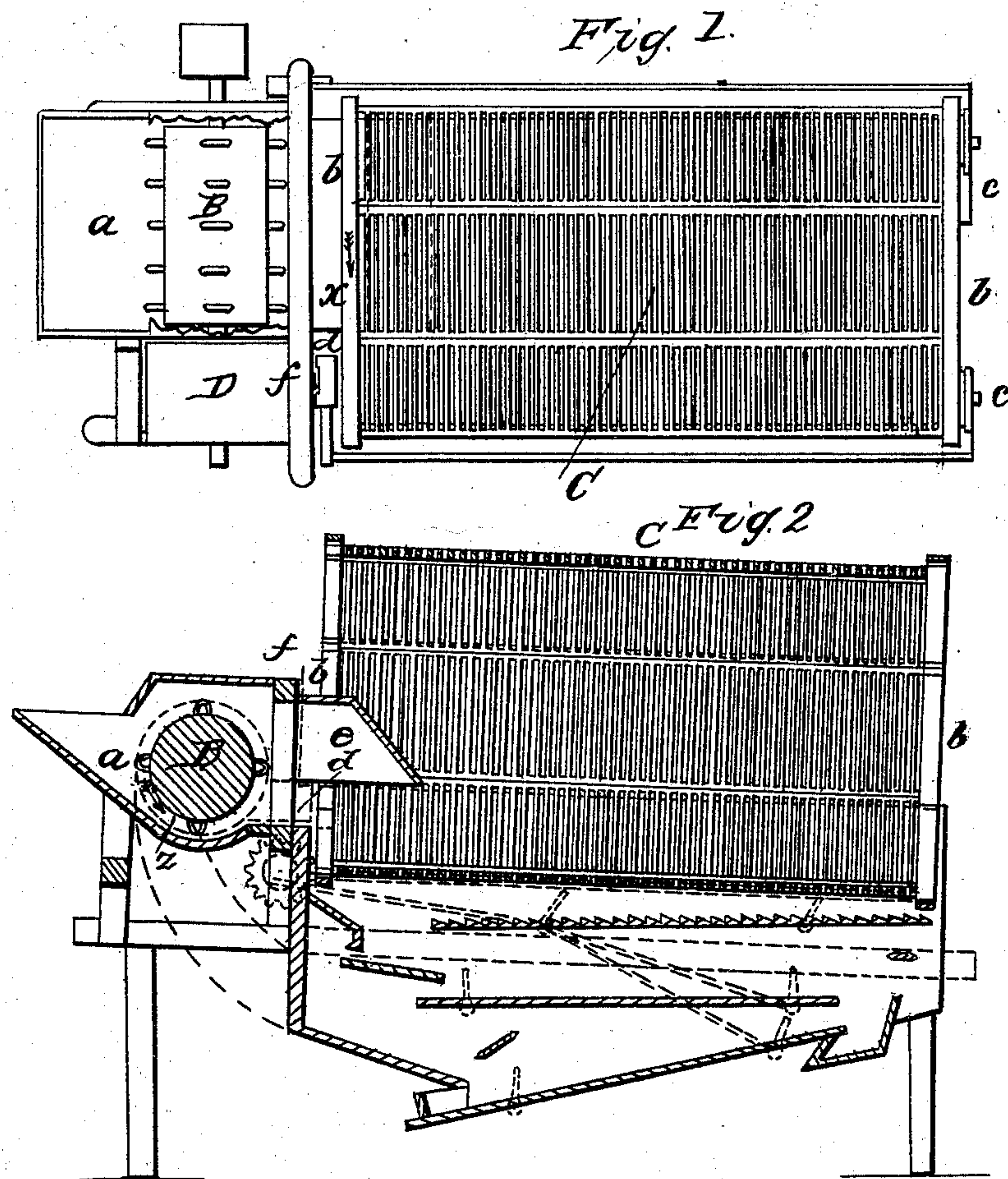


J. BARNES.
Thrashing Machine.

No. 15,917.

Patented Oct. 21, 1856.



UNITED STATES PATENT OFFICE.

JOHN BARNES, OF MOUNT MORRIS, NEW YORK.

GRAIN THRESHING AND SEPARATING MACHINE.

Specification of Letters Patent No. 15,917, dated October 21, 1856.

To all whom it may concern:

Be it known that I, JOHN BARNES, of Mount Morris, in the county of Livingston and State of New York, have invented a certain new and useful Improvement in Machines for Threshing and Separating Grain, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figure 1 represents a top view or plan of the machine, Fig. 2 a longitudinal vertical section and Fig. 3 a back end view, in part.

In the machine represented in the accompanying drawing, the grain is fed into a hopper (a) against and past or under a threshing cylinder (B) by which it is forced or driven into a reticulated bolt (C). The threshing cylinder (B) it should be observed is situated on one side of the center longitudinal line of the bolt in transverse relationship to the mouth or front end of said bolt, and as shown in the drawing preferably arranged on the outside, but it might be arranged within the mouth of the bolt.

The threshing cylinder is made to rotate as indicated by the arrow *x* in Fig. 2, and the reticulated cylinder or bolt (C) revolves as indicated by the arrow *x* in Figs. 1 and 3. The bolt (C) is set slightly inclined, dipping downward from the mouth toward the back end; it has no fixed bearings but is provided at either end (also intermediately if desired) with rings or hoops (b) which encircle the bolt and which rest on rollers (c) that, being set in motion, communicate by the friction of their surfaces with those of the rings (b), by reason of the weight of the bolt, the specified revolving motion to the bolt; this arrangement dispenses with all obstruction, by shaft and so forth, to the passage of the straw through or from the bolt, gives a smooth, easy driving action to it, prevents injury to it by the facility with which it will slip upon any hard foreign body coming in contact with it on the outside, and admits of the speedy removal of the bolt for the purposes of repair either to it or other under part of the machine.

The grain forced into the bolt from the threshing cylinder is drawn forward, or it should be said the straw is, by the revolving bolt and brought in contact with a forced current of air or blast issuing from a branch (d) of a fan (D) or other blower, which blast strikes the straw on the other side of

the mouth of the bolt as compared with the situation of the threshing cylinder thereto, that is on the rising side of the bolt and prevents the straw being again carried under the cope (e), said blast urging the passage of the straw along or down the bolt and the speed of the straw through the bolt is governed in part by the inclination of the bolt and in part by the action of the blast which avoids the necessity of setting the bolt much inclined, the objections to which are many, while by means of a valve or slide (f) to the blast branch (d), to regulate the force of the blast, the speed of the straw through the bolt may be speedily adjusted according to the damp or dry, light or heavy condition of the straw or as other circumstances may require; thus the blast, as issuing from the branch (d), serves a double purpose, that of its natural and ordinary one in grain threshing machines of "separating" the grain, and that of an auxiliary to pass the straw along or down and through the bolt which latter (the bolt) of course also acts in its natural capacity of a separator as the straw and grain passes along and through it. Under the cope (e) or near it is of course where most of the grain is separated and falls through the bolt to the winnowing apparatus below, which apparatus it is not my intention here to describe.

The lateral position of the threshing cylinder (B) crosswise to the bolt (C) insures the straw being carried from under the cope (e) and admits of the blast being introduced as specified to act upon the straw on the rising side of the bolt and separate the straw from the grain by catching it as it rises and falls in the bolt, keeping it so light and loose that it readily separates and at the same time is easily worked through the bolt.

I do not claim as new a threshing cylinder (B) and revolving screen (C) in transverse relationship to each other when the said cylinder occupies a central position across the mouth of the screen, as such has been used; neither do I claim the introduction of a blast into the mouth of the screen to assist the separation and urge the straw down through the screen irrespective of the lateral and relative arrangement of the blast here described: but

What I do claim as both new and useful herein, and desire to secure by Letters Patent, is—

The arrangement, in its transverse rela-

tionship to the screen (C) and across the
mouth thereof, of the threshing cylinder (B)
on the falling side of the screen when in mo-
tion or mainly on said side, in combination
5 with the introduction of the blast (by branch
d) on the rising side of said screen and be-
tween said side and the inner end of the
cylinder's throw or action, for the better
clearance of the grain from under the cope
10 and the more easy and effectual separation

of the grain as it rises and falls and is kept
free and loose by the lift of the screen, as
shown and described.

In testimony whereof, I have hereunto
subscribed my name.

JOHN BARNES.

Witnesses:

JNO. B. STARKEY,
M. P. MORGAN.