

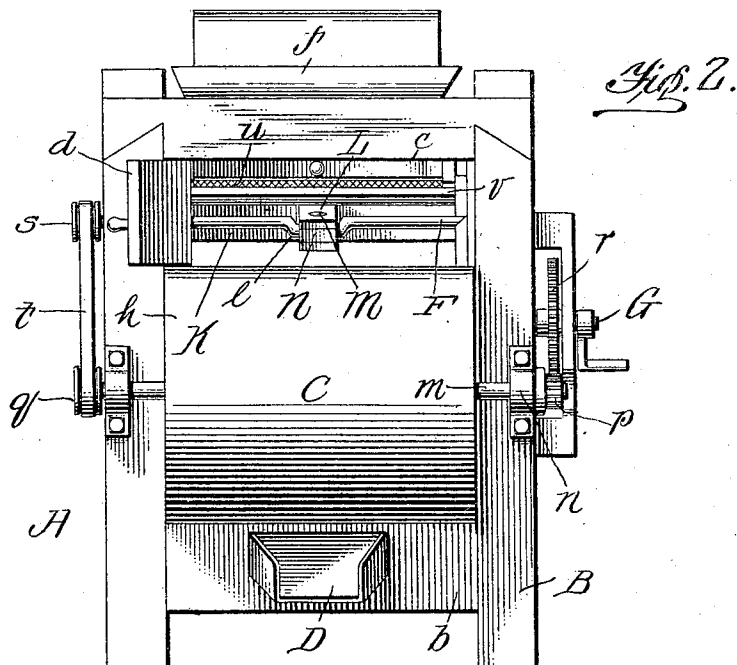
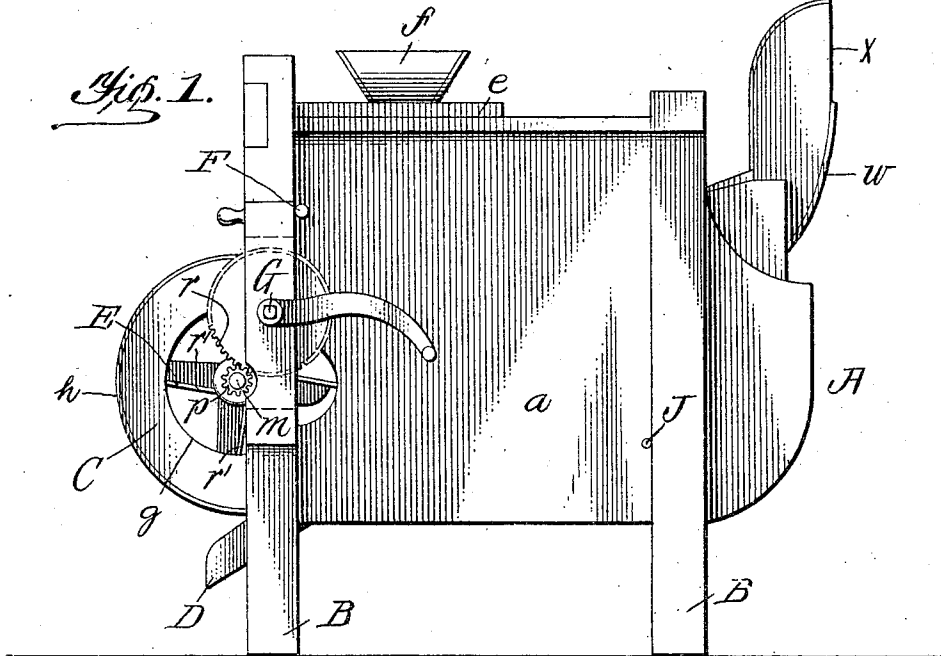
No. 856,226.

PATENTED JUNE 11, 1907.

M. D. COLLIS.
FANNING MILL.

APPLICATION FILED AUG. 30, 1906.

2 SHEETS—SHEET 1.



Witnesses

O. W. Holmes
W. C. Dealy

M. D. Collis Inventor

By James F. Sheehy
Attorney

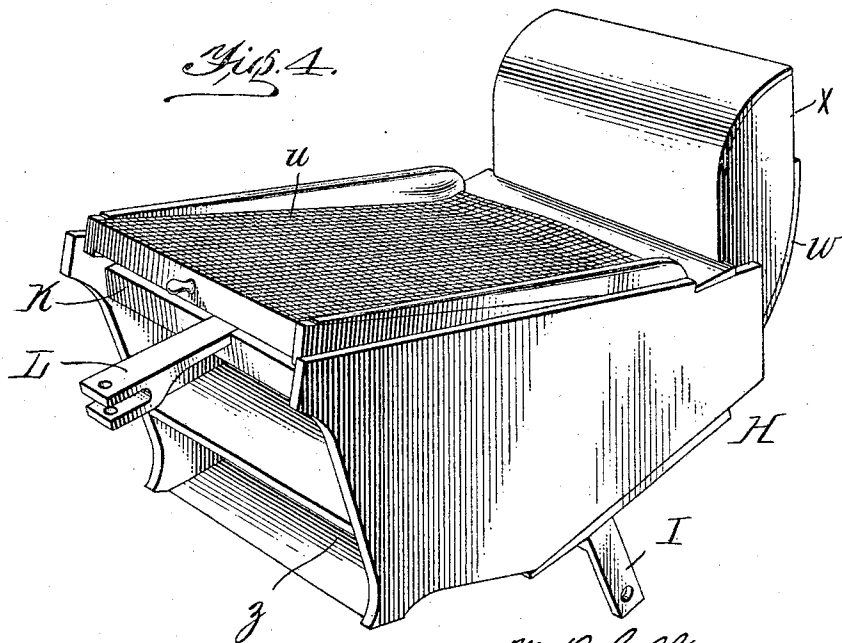
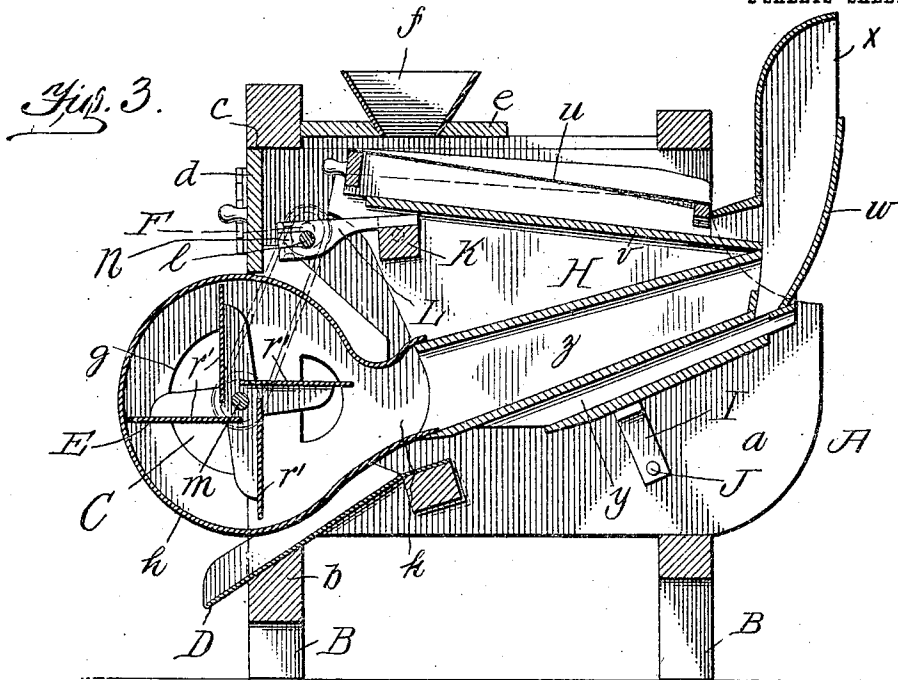
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By *James J. Sheehy*,
Attorney

UNITED STATES PATENT OFFICE.

MARINA D. COLLIS, OF ORANGEBURG, KENTUCKY.

FANNING-MILL.

No. 856,226.

Specification of Letters Patent.

Patented June 11, 1907.

Application filed August 30, 1906. Serial No. 332,663.

To all whom it may concern:

Be it known that I, MARINA D. COLLIS, a citizen of the United States, residing at Orangeburg, in the county of Mason and State of Kentucky, have invented new and useful Improvements in Fanning-Mills, of which the following is a specification.

My invention has relation to fanning mills for cleaning wheat and other grain; and it contemplates the provision of a fanning mill in which a volume of air in motion is used to the best advantage in separating chaff and other substances from the particles of grain, and one in which the vibratory trunk carrying the screen and the air and grain conduits of the machine is susceptible of being expeditiously and easily removed from the casing, without the employment of skilled labor, when it is necessary to clear the conduits of collected substance.

The invention will be fully understood from the following description and claim when the same are read in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of the fanning mill constituting the present and preferred embodiment of my invention. Fig. 2 is an elevation of the rear end of the mill, with the door in an open position. Fig. 3 is a vertical, longitudinal-central section of the machine, and: Fig. 4 is a perspective view of the trunk, removed from the casing of the machine.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

A is the casing of my novel mill. This casing is arranged in and supported by two rectangular frames B, and comprises parallel side walls *a*, a rear transverse wall *b* in the upper portion of which is an opening *c*, controlled by a swinging door *d*, and a top wall *e*, bearing a hopper *f*.

C is a fan-casing arranged at the rear end of the casing A, and fixed with respect thereto. The said fan-casing is open at its ends, as indicated by *g*, for the reception of air, and is formed by the side walls *a* of casing A in combination with a curved wall *h* the inner or forward portions of which are shaped, as best shown in Fig. 3, to form a discharge spout *k*.

D is an inclined chute for cleaned grain disposed below the fan-casing C and fixed in the main casing A.

E is a rotary fan disposed in the fan-casing C, and F is a transverse shaft journaled in the rear, upper portions of the casing walls *a* and having a crank *l* at its middle, Figs. 2 and 3, for a purpose which will presently appear. The fan E comprises a shaft *m* journaled in fixed bearings *n* on the uprights of the rear frame B and equipped at its ends with a pinion *p* and a band pulley *q*, and blades *r* which are fixed on the shaft and are solid or imperforate throughout their areas as shown so as to assure the production of a large and strong volume or current of air when the fan is rapidly rotated. The fan E is rotated from a cranked or power-driven shaft G through the medium of a proportionately large spur-gear *r* intermeshed with the pinion *p*, and the shaft F is rotated from the fan shaft *m* through the medium of the pulley *q* on said shaft *m*, a pulley *s* on said shaft F, and a band *t* connecting the pulleys *q* and *s*.

H is the vibratory trunk of the mill, which, as clearly shown in Fig. 4, is removable as a whole from the casing A. The said trunk H comprises a screen *u* which receives the grain to be cleaned from the hopper *f* and has for its office to separate sticks and other large foreign particles from the grain, a board *v* which is inclined downward and forward so as to move the grain received from the screen *u* forward, a boot *w* arranged to receive grain from the board *v* and having a discharge *x* for air and foreign particles in the forward side of its upper portion, a conduit *y* arranged to receive cleaned grain from the lower end of the boot *w* and shoot such grain to the chute D, and a conduit *z* arranged to receive the volume or current of air in motion from the fan casing C and carry the same to the lower portion of the boot *w*. It will be apparent from the foregoing that in falling from the forward, lower end of the board *v* through the boot *w* to the grain conduit *y*, the grain passes through the strong upward current of air in the boot, with the result that dirt, chaff and other foreign substance are effectually separated from the grain and discharged with the air through the eduction opening *x* of the boot.

As shown in Figs. 3 and 4, the trunk H also comprises depending arms I which are pivotally connected by removable pintles J to the side walls *a* of the casing A, and a transverse rock-shaft K which is mounted in the

upper rear portion of the trunk and has a rearwardly-extending bifurcated arm L. This arm L receives in its bifurcation the crank *l* of shaft F, and it is detachably secured on said crank, preferably through the medium of a bolt M and a block N held by said bolt between the walls of the fork or bifurcation. From the foregoing it will be apparent that when the conduits *y* and *z* of the trunk H require clearing or it is desirable for any other purpose to remove the trunk from the casing A, the same may be accomplished by removing the pintles J and opening the door *d* and removing the bolt M and block N, and then lifting the trunk through the forward, open end of the casing A. With the trunk H removed, all of its parts may be thoroughly cleaned with facility; and subsequent to the cleaning the trunk may be replaced and secured in the casing A with the same ease and expedition that attend its removal.

In the practical operation of the mill, the crank *l* of shaft F imparts a vibratory motion to the trunk H which assists the passage of grain through the trunk and in that way contributes to the capacity of the mill.

When deemed necessary in practice, the chute D may extend nearer than is illustrated to the rear end of the grain conduit *y* of the trunk or to a point under said end, or else an auxiliary chute may be arranged intermediate the conduit *y* and chute D without involving departure from the scope of my invention as claimed.

It will be gathered from the foregoing that notwithstanding the large grain-cleaning capacity of my novel mill, the same is simple, compact and inexpensive in construction and embodies no parts that are liable to wear out after a short period of use.

Having described my invention, what I

claim and desire to secure by Letters-Patent, is:

In a fanning mill, the combination of a casing open at its forward end and having an opening in the upper portion of its rear wall and a door controlling said opening, a fan casing fixed in the lower rear portion of the casing and having a forwardly disposed discharge spout; a rotary fan mounted in the fan casing, a chute for cleaned grain inclined downward and rearward, below the fan casing, a hopper on the upper rear portion of the casing, a transverse shaft journaled in the upper, rear portion of the casing in front of said door and having a crank, a driving connection intermediate the rotary fan and the shaft, a trunk removable through the forward open end of the casing and having a rearwardly extending arm detachably connected to the crank of the shaft in front of said door and also having depending arms; said trunk comprising a screen arranged to receive uncleaned grain from the hopper, a forwardly declined board arranged to receive grain from the screen, a forward boot arranged to receive grain from the board and having a discharge opening in its upper portion, a conduit for air connecting the discharge spout of the fan casing and the lower portion of the boot, and a conduit disposed below the air conduit and arranged to receive cleaned grain from the boot, and removable pintles pivotally connecting the depending arms of the trunk to the side walls of the casing.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MARINA D. COLLIS.

Witnesses:

H. B. WALTON,
J. N. KEHOE.