(No Model.) 3 Sheets—Sheet 1.

F. W. ANDRÉE.

FLOUR DRESSING MACHINE.

No. 266,264. Patented Oct. 24, 1882.

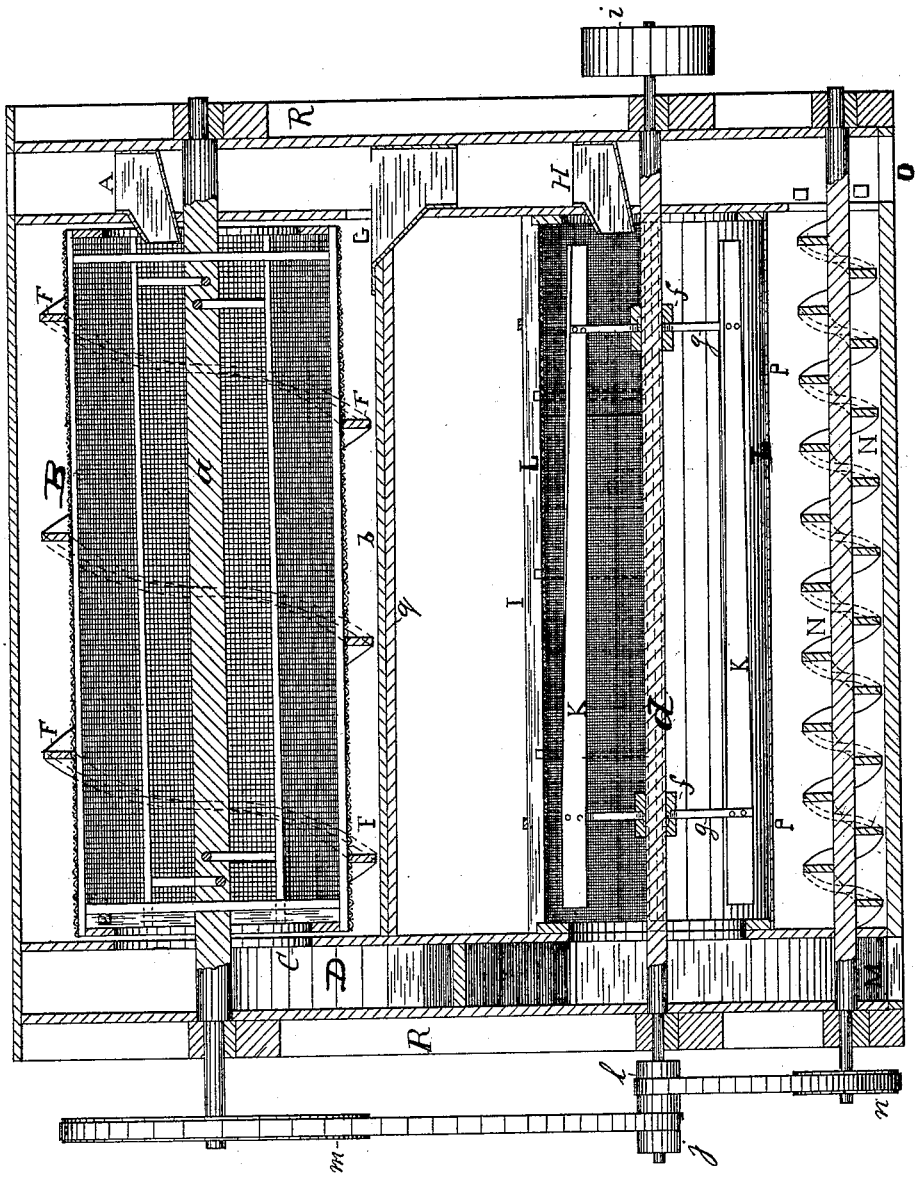

Fig. 1.

WITNESSES—

M. Nicolai

C. Fischer

INVENTOR—

Franz Wilhelm Andrée.

(No Model.) 3 Sheets—Sheet 2.

F. W. ANDRÉE.

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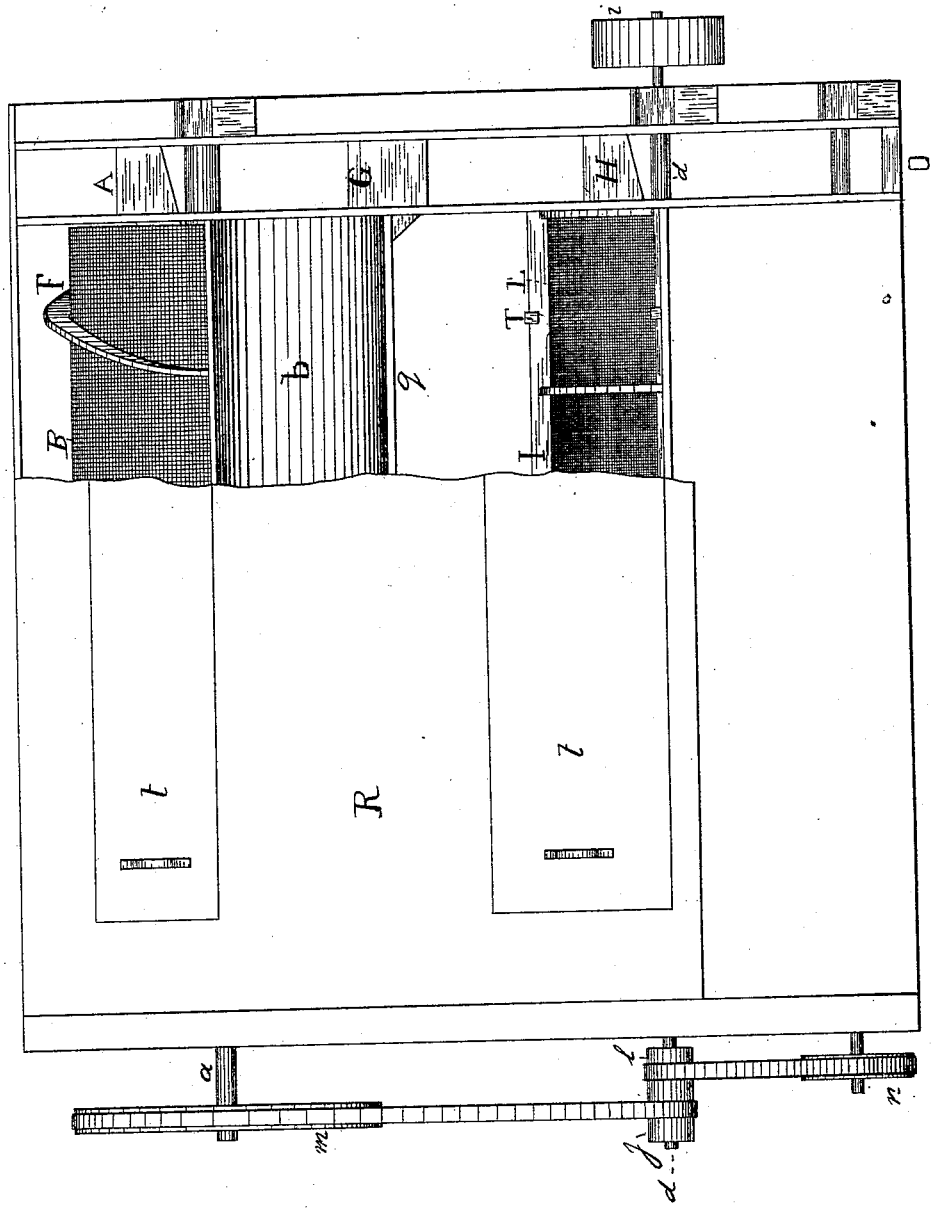

Fig. 2.

WITNESSES—
F. W. Adams.
F. W. Kasebagen

INVENTOR—
Franz Wilhelm Andrée.

(No Model.) 3 Sheets—Sheet 3.

F. W. ANDRÉE.

FLOUR DRESSING MACHINE.

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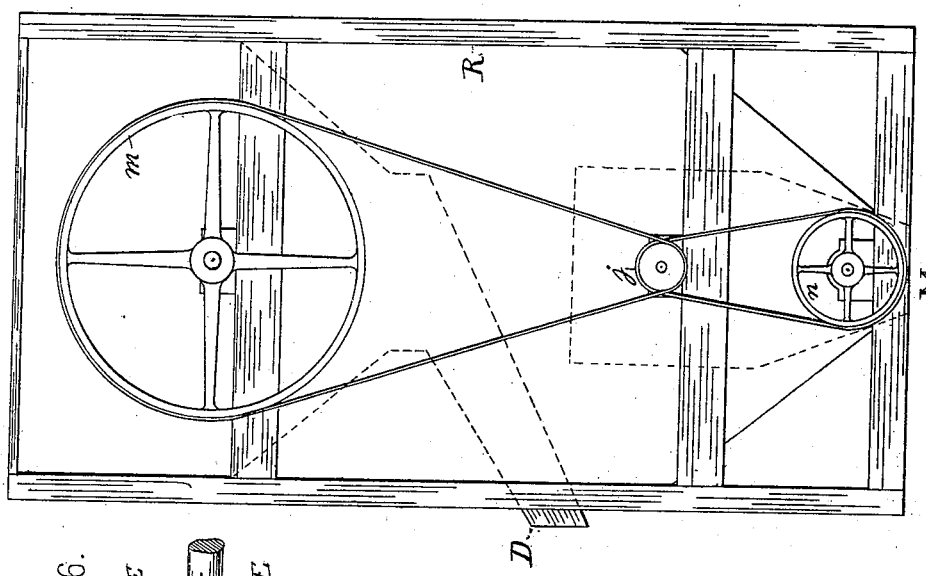
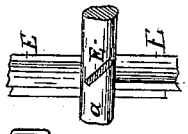


Fig. 3.

Fig. 6.



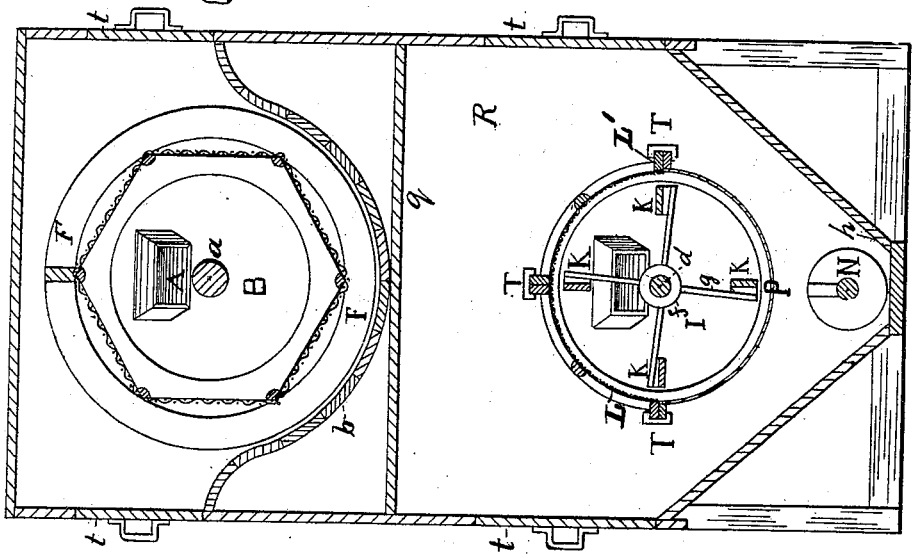
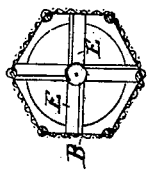


Fig. 4.

WITNESSES—
F. W. Adams
D. W. Kavanagen

Fig. 5.



INVENTOR—
Franz Wilhelm Andrée.

UNITED STATES PATENT OFFICE.

FRANZ W. ANDRÉE, OF CHICAGO, ILLINOIS.

FLOUR-DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 266,264, dated October 24, 1882.

Application filed August 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRANZ WILHELM ANDRÉE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Flour-Dressing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to machines for separating the flour and middlings from the bran; and it is my object to produce a machine which is compact and simple in its construction and will accomplish the intended work with celerity and perfection, and will require comparatively little power for driving it. Therefore my invention consists of the novel devices and combinations of devices hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 represents a longitudinal vertical section through the center of my machine; Fig. 2, an exterior side elevation of the machine, with part of the casing broken away to show the internal arrangement. Fig. 3 is an end elevation of the machine; Fig. 4, a vertical cross-section of the same; Fig. 5, a cross-section of the bran-separating bolt, showing the conveyer-wings that are applied in one end of the same; and Fig. 6, a plan of a portion of the bolt-shaft, with one of the conveyer-wings in section.

The same letters in the several figures of the drawings designate the same or corresponding parts.

B denotes the bolt, that consists of a light frame-work of arms, longitudinal bars, and end rings, which are fixed around a shaft, *a*, in the usual manner. This frame-work is covered with a coarse-meshed gauze that will allow the flour and middlings to pass through, but not the bran. The meal is fed into one end of this bolt through the spout A, whence, on account of the inclination of such bolt and by the rotation of the same, the material will roll toward the opposite end of the bolt and will separate the flour and middlings, that will drop through the meshes of the gauze upon the semi-cylindrical bottom *b*. In its opposite end the bolt B is provided with four (more or less) radial wing-plates, E, which are placed relative to the axis of the shaft *a* on an angle of about forty-five degrees in a manner that with the rotation of the bolt the bran will be pushed through opening C into the discharge-spout D, that conducts such bran outside of the machine. This bolt B also has secured to its perimeter a spiral plate, F, that extends from end to end and forms a conveyer-screw for pushing the flour and middlings upon semi-cylindrical bottom *b* toward and into the hopper G, whence they will drop into spout H and be discharged into cylinder I. This cylinder I is stationary, and is composed of a solid imperforate semi-cylindrical bottom, P, preferably made of zinc plate, and a top of two sections, L and L′, that consist of quarter-cylindrical frames covered with fine gauze and removably secured in position by clamps T. Axially through this cylinder I is placed a shaft, *d*, that is journaled in suitable boxes forming part of frame R. Upon the shaft *d* are mounted hubs *f*, that carry spokes or arms *g*, to the ends of which are secured iron wing-plates K. These wing-plates K are arranged to be on a spiral line, so that, being rotated at a high speed, they will sweep the bottom P of cylinder I and will throw the flour and middlings with great centrifugal force against the gauze in the upper half of cylinder I, and will at the same time move the material toward the opposite end in said cylinder. The material thus being thrown against the gauze in frames L L′, the flour will pass through and drop into the hopper-sided channel *h* of frame R, while the middlings, too large to pass through the meshes of the gauze, will be discharged into and through the spout M.

A conveyer-screw, N, is arranged within the channel *h*, that will push the flour collecting in said channel toward and into the discharge-opening O.

The shaft *d*, that carries the wing-plates K, is driven at a high speed—of about two hundred and forty revolutions per minute—by a belt placed over pulley *i*, that is mounted upon the overhanging portion of the shaft *d* at one end; and upon the opposite end of this shaft are mounted two small pulleys, *j* and *l*—one for driving by a belt the bolt B, that has a pulley, *m*, mounted upon the overhanging end of its shaft *a* at a speed of about forty revolutions

per minute, and the other pulley, *l*, for driving by a belt the conveyer-screw N, having a pulley, *n*.

The frame R is a square box, having a hopper-sided bottom, and being intersected by the spout-partitions at both ends and by a horizontal partition, *q*, and the semi-cylindrical bottom *b*, and provided with the necessary journal-boxes for the several shafts. This box-frame is also provided with doors *t* at its sides, that will give admittance to the bolt B and cylinder I for inspection, removal, and repairing of the several parts.

Bolt B, after separating from the brans the flour and middlings, will by its conveyer-screw deliver the same into the cylinder I, in which the wings K, by their centrifugal force, will separate the flour from the middlings and from any fine particles of bran that may have passed through the gauze of bolt B. These wings K, by their high velocity, will simultaneously act as ventilators for cooling the flour, and will throw the particles of bran flat against the gauze in frames L, so as not to wear and damage such gauze, nor to work through and thereby impair the quality of the flour.

In the bottom of the cylinder I gauze would wear very rapidly, and therefore it is a great improvement in such machines to make such portion of the cylinder of solid plate and only apply gauze in the upper half of the same, where the material that will not pass through the meshes has no chance to stick, but will drop back again into the bottom of such cylinder, to be kept in motion until either reduced by the concussions with the wing-plates or to be discharged through spout M.

This machine, as will be noticed, is very simple and compact in its construction, so as to require but very little room in a mill, is reliable in its operation, is not apt to get out of order, and requires a proportional small power for its working capacity.

What I claim is—

1. In a flour-dressing machine, the bolt B, provided at one end with the radial wing conveyer-plates E, arranged angularly to the shaft *a*, and having on its perimeter a spiral plate or conveyer-screw, F, the trough *b*, cylinder I, and a hopper and spout intermediate of said bolt B and cylinder I, for connecting the same together and admitting of the passage of the flour and middlings from the bolt to the cylinder, substantially as set forth.

2. In a flour-dressing machine, the stationary cylinder I, having solid imperforate semi-cylindrical bottom P and removable gauze-covered sections L L′, consisting of quarter-cylindrical frames, and the clamps T for securing said sections together and to the bottom P, in combination with shaft *d*, having hubs *f*, arms *g*, and spiral wing-plates K, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

FRANZ WILHELM ANDRÉE.

Witnesses:

G. HUZEL,

E. G. WESTLAKE.