(No Model.)

F. MELKERSMAN.

CENTRIFUGAL GRAIN DRYING MACHINE.

No. 383,747. Patented May 29, 1888.

Fig. 1.

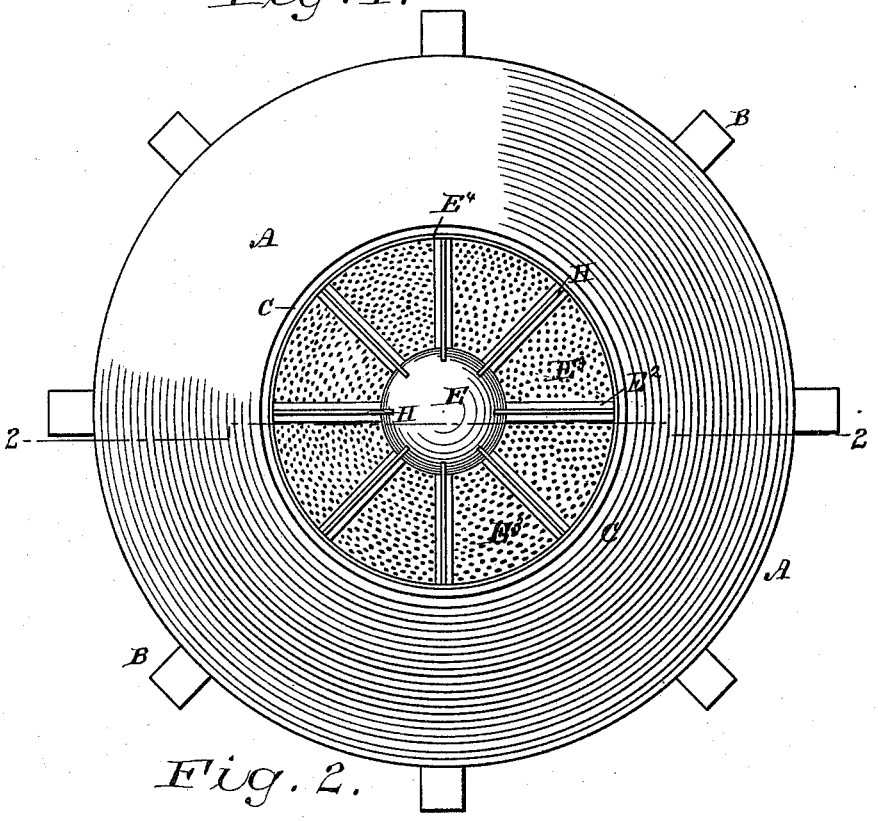
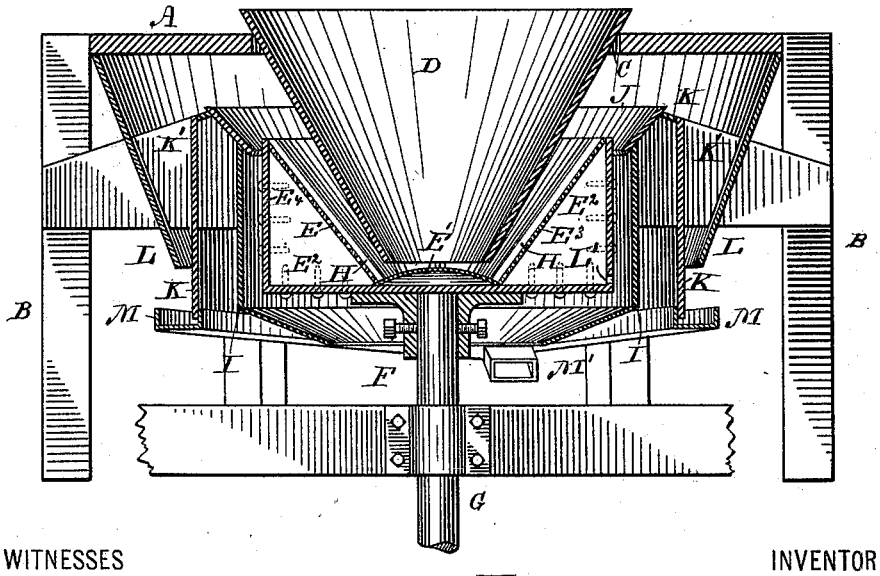


Fig. 2.



WITNESSES

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CENTRIFUGAL GRAIN-DRYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 383,747, dated May 29, 1888.

Original application filed July 16, 1887, Serial No. 244,528. Divided and this application filed December 19, 1887. Serial No. 258,338. (No model.)

To all whom it may concern:

Be it known that I, FREDRICH MELKERSMAN, a citizen of the United States, residing at St. Charles, county of St. Charles, and State of Missouri, have invented certain new and useful Improvements in Centrifugal Grain-Drying Machines, of which the following is a specification.

My invention is especially designed to dry grain, particularly oats.

I have found it desirable in hulling, cleaning, and purifying grain to pass it from a hulling-machine to a washer. After passing through the washer it is desirable to dry the grain, and my improved apparatus is especially designed for this purpose.

Briefly stated, it consists of a rotary strainer of an improved construction, adapted to separate the water and moisture from the grain by centrifugal action, to deliver to suitable receptacles, and to subject the grain during the operation to currents of air to aid in the drying operation.

In the accompanying drawings, Figure 1 is a plan view of my improved apparatus, the hopper being removed; and Fig. 2 a vertical section thereof on the line 2 2 of Fig. 1.

The top plate, A, of the main frame is arranged on suitable standards, B, and is provided with a central opening, C, through which extends a funnel-shaped hopper, D. A funnel-shaped strainer, E, is arranged around the inner end of the hopper and is secured to a carriage, E^4. The carriage E^4 consists of a cylindrical casing, to which the upper end of the strainer is secured. The lower end of the strainer is secured to the bottom of the carriage by the convex plate E′, located under the hopper D a short distance below its inner end. The carriage is provided on its lower side with a boss, F, which is secured to the driving-shaft G. The driving-shaft is mounted in bearings in the main frame, as indicated. The strainer is perforated throughout, and is supported by triangular braces E^2, located between the carriage and the plates E^3, of which the strainer is formed. The plates E^3 are of segmental shape, and are secured to the braces at their point of junction, at which point are secured ribs or wings H, which extend from the lower to the upper end of the strainer.

Around the carriage is arranged a jacket, I, at the top of which is an inclined annular deflector, J. The jacket extends part way under the carriage, and has a discharge-opening around the driving-shaft. An annular partition, K, is arranged around the jacket and between it and an inclined outer casing, L, which is secured to the top plate, A, and opens at its lower end over an annular trough, M. The partition K is supported on braces K′, secured to the standards. The lower end of the outer casing may also be attached to these braces. The trough M is provided with a discharge-opening, M′, and one or more discharge-openings, L′, are formed in the carriage E^4 at its side near the bottom.

The grain is delivered into the hopper D, passes down onto the convex plate E′, and then by centrifugal force is carried up the inclined standards, over the deflector J, and against the outer casing, L, which delivers it to the trough M, from which it is discharged through the spout M′. The trough may be inclined toward the spout M′ to facilitate the delivery of the grain. The water and moisture that come in with the grain pass through the perforated plates or strainers into the space between the strainer-plates and through the openings L′ in the carriage, thence into the space between the carriage and the jacket I, and so out through the discharge-opening. Some water may by centrifugal action be carried up along the surface of the inclined strainers and strike against the inclined deflector J. This deflector will stop the progress of the water and deliver it into the space between the carriage and the jacket I. It will then find its way to the discharge-opening of the jacket. The carriage carrying the strainers is rapidly revolved, and currents of air are induced by the ribs or wings H. These currents of air will aid materially in drying the grain.

This application is a division of an application filed by me July 16, 1887, serially numbered 244,528. Any patentable matter shown in said application and not herein claimed is disclaimed in favor of said application and other divisions thereof.

I claim as of my own invention—

1. The combination, substantially as hereinbefore set forth, of the main frame, the ro-

tary carriage, and the strainer mounted in the carriage, with the hopper extending into the strainer, the convex plate below the mouth of the hopper, and the radial ribs or wings arranged on the inside of the strainer and extending from the convex plate to the other end of the strainer.

2. The combination, substantially as hereinbefore set forth, of the main frame, the rotary carriage mounted therein, and the funnel-shaped strainer mounted in the carriage, with the hopper extending into the mouth of the strainer, the convex plate on the bottom of the strainer under the mouth of the hopper, and the radial ribs or wings extending from the convex plate to the top of the strainer.

3. The combination, substantially as hereinbefore set forth, of the main frame, the carriage, the strainer mounted in the carriage, and the jacket surrounding the carriage and having a discharge-opening at the bottom, with the annular deflector arranged around the top of the carriage and over the jacket, the outer casing, the partition between the outer casing and the jacket, and the annular trough arranged under the outer casing.

4. The combination, substantially as hereinbefore set forth, of the main frame, the rotary carriage having a water-discharge opening near the bottom, the funnel-shaped strainer contained in the carriage, and the jacket surrounding the carriage to receive the water therefrom, with the inclined annular deflector arranged around the top of the carriage and over the jacket and provided with an annular water-opening into the jacket around the carriage, the inclined outer casing, the partition between the outer casing and the jacket, and the top plate over the partition and the outer casing.

In testimony whereof I have hereunto subscribed my name.

FREDRICH MELKERSMAN.

Witnesses:

S. H. MERTEN,

GUSTAVE HACKMANN.