(No Model.)

G. & J. W. GRAY.

FANNING MILL.

No. 347,706. Patented Aug. 17, 1886.

Fig. 1.

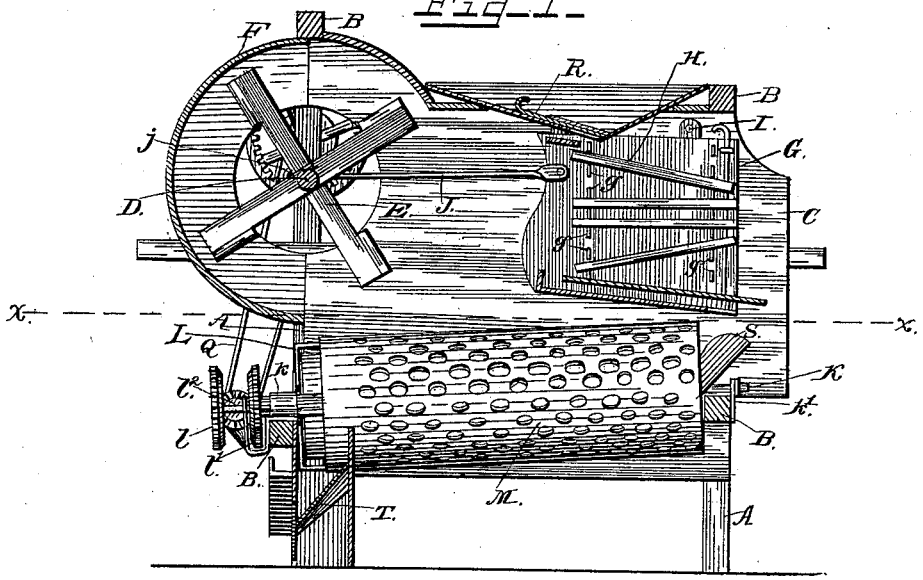
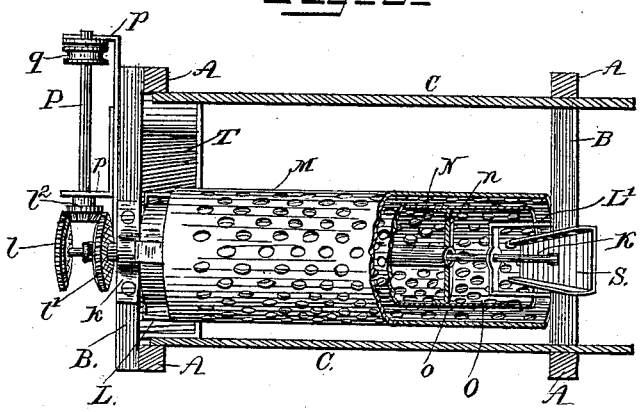


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE GRAY AND JOHN W. GRAY, OF SAUK CENTRE, MINNESOTA.

FANNING-MILL.

SPECIFICATION forming part of Letters Patent No. 347,706, dated August 17, 1886.

Application filed December 16, 1885. Serial No. 185,837. (No model.)

To all whom it may concern:

Be it known that we, GEORGE GRAY and JOHN W. GRAY, citizens of the United States, residing at Sauk Centre, in the county of Stearns and State of Minnesota, have invented certain new and useful Improvements in Fanning-Mills; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to fanning-mills; and it consists in the novel construction and combination of parts herein shown, and more particularly hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side view of our improved mill with the nearer side removed, and partly in section, to more clearly show the internal construction. Fig. 2 is a sectional detail on the line *x x* of Fig. 1, parts being broken away to show the relative arrangement of other parts.

The frame consists of corner-posts A, cross-bars B, and the sides C. Between the rear corner-posts a fan-shaft, D, is journaled, carrying a suitable fan, E, incased within a suitable shell, F. A shoe, G carrying a gang of sieves, H, resting on stops *g*, is pivotally hung by straps I to the sides of the frame. In the operation of the machine, this shoe, with its gang of sieves, receives a vibratory movement from the fan-shaft by a rod, J, connecting the shoe with an eccentric, *j*, on the fan-shaft. To the lower cross-bars is journaled a shaft, K, in a slightly-inclined position, in bearings *k k'*.

Spiders L L', secured to the front and rear of the outer cylinder, support the same on the shaft K. The spider L' is keyed to the front of the shaft K and communicates motion thereto. Spider L revolves freely on the sleeve N, mounted on the shaft K. Arms *n* support the inner cylinder, O, on the sleeve N, leaving an annular space, *o*, between the two cylinders. The rear end of the shaft is projected beyond the sleeve N, and is provided with a pinion, *l*, while the end of the sleeve has a corresponding pinion, *l'*. Between these two pinions, and in mesh therewith, works a pinion, L^2, on the end of a shaft, P, journaled at right angles to the shaft K in bearings *p*. A band, Q, extending from the fan-shaft-driving mechanism, passes around a pulley, *q*, on the shaft P, and communicates motion thereto. The cylinders M and O are open at both ends, and are inclined to correspond with the inclination of the shaft K.

A hopper, R, located over the gang of sieves, supplies grain thereto through a slide-regulated opening in its bottom. The grain, as it leaves the gang of sieves, drops onto a chute, S, which extends within the inner cylinder.

In practice, motion being imparted to the shaft P, the cylinders are revolved in opposite directions, by reason of the connections hereinbefore referred to. The grain delivered to the inner cylinder passes through its meshes onto the outer cylinder, and as the inner cylinder carries the grain in one direction and the outer cylinder carries it in an opposite direction the grain is always deposited from the inner cylinder onto a clear portion of the outer cylinder, and is thereby more thoroughly cleaned, and the dust and foreign matter entirely removed. The grain as it leaves the outer cylinder drops onto a chute, T, and is conveyed to any suitable vessel or other convenient point.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

In a fanning-mill, the combination of the shaft K, cylinder M, spiders L L', secured to opposite ends thereof, the latter, L', being keyed to the front of the shaft, and the former, L, loosely mounted thereon and having an enlarged opening at its center, a sleeve, N, journaled on the shaft, and having its end projected through the spider L, within which it is free to rotate, cylinder O, located within cylinder M, arms *n*, supporting it on the sleeve, pinions *l* and *l'*, keyed to the ends of the shaft and sleeve, respectively, pinion l^2, located intermediate of the pinions *l* and *l'*, and meshing therewith, and shaft P, supporting pinion l^2, and provided with means for rotating it, substantially as described, and for the purposes specified.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE GRAY.
JOHN W. GRAY.

Witnesses:
A. BARTO,
L. R. BARTO.