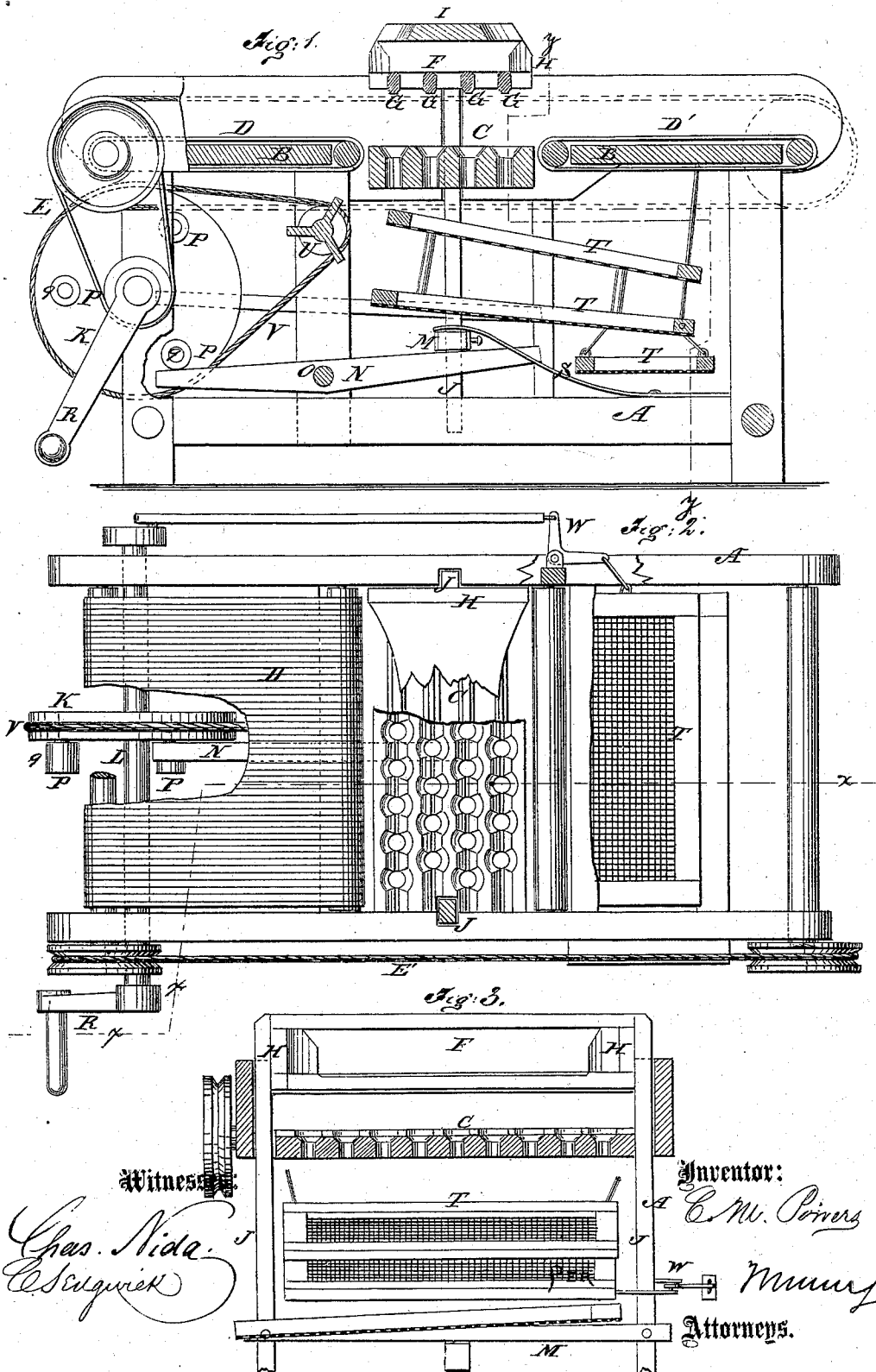


C. M. POWERS.
Thrashing-Machines.

No. 137,863.

Patented April 15, 1873.



UNITED STATES PATENT OFFICE.

CHARLES M. FOWERS, OF RIDGEWOOD, NEW JERSEY.

IMPROVEMENT IN THRASHING-MACHINES.

Specification forming part of Letters Patent No. **137,863**, dated April 15, 1873; application filed February 8, 1873.

To all whom it may concern:

Be it known that I, CHARLES M. POWERS, of Ridgewood, in the county of Bergen and State of New Jersey, have invented a new and useful Improvement in Thrashing-Machines, of which the following is a specification:

The object of this invention is to furnish a machine for thrashing and cleaning grain which may be used either by hand or motive power, and which shall effectually beat out the grain without injuring the straw; and it consists in the construction, arrangement, and combination of parts hereinafter set forth and described.

In the accompanying drawing, Figure 1 represents a vertical longitudinal section of the machine taken on the line *xx* of Fig. 2. Fig. 2 is a top view, partly in section. Fig. 3 is a cross-section of Fig. 1 taken on the line *yy*.

Similar letters of reference indicate corresponding parts.

A is the frame of the machine, which is of rectangular form, and elevated to a convenient height. B is the platform, in the middle and on a line with which is the corrugated and perforated bed C. D D' are endless aprons, which are revolved by means of the belts or bands E and E'.

The grain to be thrashed is laid upon the apron D, which carries it along over the bed C, where the grain is beaten out. The straw is then carried along by the apron D' and discharged from the tail of the machine.

While the grain is passing over the bed C it is subjected to the action of the beater F. This beater is composed of a series of bars, G, confined in the heads H H, the heads being connected by the cap-piece I. Attached to the outside of each head is a vertical guide-rod, J, which works in a groove in the side of the frame.

The thrashing is effected by a rapid up-and-down motion of the beater F, the bars G of which are brought in contact, or nearly in contact, with the bed at each stroke. The motion of the beater is produced by means of the pin-wheel K on the driving-shaft L.

M is a transverse bar, by which the two rods J of the beater are connected. N is a lever whose fulcrum is on the rock-shaft O. P represents three (more or less) projecting pins on the side of the wheel K. Each pin is provided with a roller, q, to lessen the friction.

This wheel is revolved by means of the crank R, or by a pulley to which the actuating power is applied. The inner end of the lever N passes under and is attached to the transverse bar M. Its outer end is in a position to receive the pins P as the wheel revolves and is forced downward by each pin. This action raises the beater.

The down motion is produced by means of a spring, S, on each side of the machine, which bears with a constant pressure on the transverse bar M. As the driving-shaft is revolved a rapid up-and-down motion is imparted to the beater, to which the grain is subjected, as before stated.

T represents sieves, upon which the grain and chaff fall as they pass through the bed C. These sieves are given a vibrating motion by means of the ordinary fanning-mill device for the same purpose, seen at W. U is a fan, which is revolved from the pin-wheel by the band V.

By this machine the grain is thrashed by an action similar to that of the old "flail," while the straw is kept straight and in good condition and the grain is cleaned by the same operation.

The machine is designed to be driven by hand, so that small crops of grain may be thrashed out and cleaned without extra help and with very little trouble.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A machine for thrashing grain, having a stationary bed and a vertical beater for beating out the grain, in combination with one or more endless aprons, arranged substantially as described.

2. The pin-wheel K, lever N, and transverse bar M, arranged in combination with the beater F, substantially as and for the purposes described.

3. The sieves T and fan U, in combination with the bed C and beater F, as and for the purposes described.

4. In combination with the beater F, bar M, lever N, and wheel K, the springs S, as and for the purposes described.

CHARLES M. POWERS.

Witnesses:

T. B. MOSHER,
ALEX. F. ROBERTS.