YALE & STIMPSON.

Thrashing Machine.

No. 739. Patented May 17, 1838.

Fig. 1

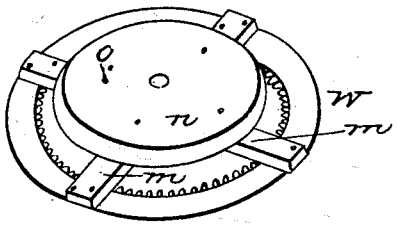


Fig. 2

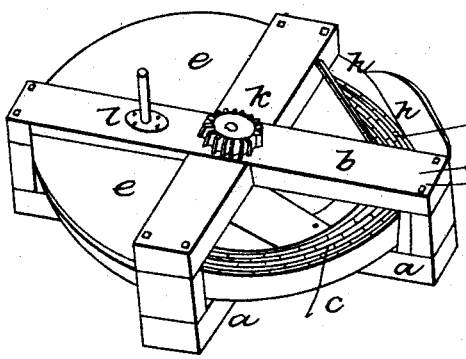
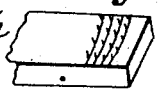


Fig. 3



UNITED STATES PATENT OFFICE.

LINUS YALE, SAMUEL W. STIMSON, AND NATHANIEL STIMSON, OF LITTLE FALLS, NEW YORK.

MACHINE FOR THRESHING GRAIN, &c.

Specification of Letters Patent No. 739, dated May 17, 1838.

To all whom it may concern:

Be it known that we, LINUS YALE, SAMUEL W. STIMSON, and NATHANIEL STIMSON, of Little Falls, in the county of Herkimer and State of New York, have invented a new and useful Improvement on Machines for Threshing Grain; and we do hereby declare that the following is a full and exact description.

The nature of our invention consists in using a large wheel (instead of a common cylinder), running or placing this wheel in a horizontal position, on a vertical shaft, and constructing the hopper in such a manner that the machine will feed itself, after the sheaf of grain is put in, without the trouble of spreading it.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation: we take two pieces of plank six feet long, from two to three inches thick and twelve inches wide, lock them together at right angles in the center, which forms the sills of the frame, (*a*, *a*.) Two other pieces of plank, of the same width and thickness locked together in the same manner, form the plates (*b*, *b*.) We sustain the plates above the sills by pieces of the same kind of plank set up edgewise between the plates and sills near the ends of the same with iron bolts running through the sills, end pieces and plates, and secured by screws on the bolts, and nuts. This completes the frame.

In the upper side of the sills (in the center) is a step of iron or steel, and in the plates exactly over the step is a cast iron box in which stands a shaft of iron resting in the step below and projecting some three inches above the plates on which is a pinion (*k*.) On the plate is a cast iron stem or stud (*l*,) about five inches in height standing perpendicular, two inches in diameter secured to the plate by a flange around the bottom with holes near the outer edge by or through which it is bolted to the plate. On this stem is a cast iron wheel (*w*). The wheel *w*, is a cast iron rim with converging teeth with a flanch projecting out about two inches wide and half an inch thick, through which passes bolts to secure it to wood arms, two inches thick and from six to eight inches wide about three feet in diameter which carries the pinion (*k*) about ten turns to one of the wheel (*w*). On the shaft to which the pinion (*k*) is attached is a pair of arms of wood two inches thick and eight inches wide, locked together in the center at right angles, the shaft passing through the center and made fast by a flanch and bolts or by keys. On the outer ends of those arms is a rim (*c*, *c*,) of wood or iron making a wheel from four to six feet in diameter. If made of wood the rim should be about five inches square. The upper side and outer edge of this rim is turned smooth and somewhat beveling and on the upper face or outer edge of this wheel there are four or five circles (struck at the time of turning the wheel) about one inch apart, and iron spikes $\frac{3}{8}$ or $\frac{1}{2}$ inch in diameter and four inches long are driven into this wheel on those circles about one foot apart and project out about one inch, but so placed on each circle that they will form rows diagonal across the wheel instead of pointing to the center. A piece of wood or iron about six inches wide and from fifteen to eighteen inches long, with the same kind of teeth in rows is fastened to the lower side of one the plates in such a manner that the spikes will project down or in and come between the rows of teeth on the wheel, that they may pass each other without interfering while the wheel is running. There are about sixty spikes in the rim of the wheel and from fifty to seventy in the piece of wood or iron described above.

A hopper (*h*, *h*,) is attached to the frame over the wheel (*c*, *c*,) the bottom of which is made so as to leave about two feet in length and about four or five inches wide (of the part of the wheel in which is the spikes) exposed to act on the grain when pitched in the hopper by which means it is carried through the spikes which project down, by the motion of the wheel and discharged on the opposite side of the plate from the hopper. The other two quarters of the wheel covered by boards (*e*, *e*,) attached to the plates (*b*, *b*.)

To propel this machine by horse power we fasten a pulley (*n*,) on the arms (*m*, *m*,) of the wheel (*w*,) on which runs a rope or belt from a large wheel driven by the horse. To propel it by hand power we have an

iron pin (*o*,) about one inch in diameter and three inches in height standing perpendicular ten or twelve inches from the center of the wheel, two light wood pitmen eight or ten feet long with a hole in each end to slip on to this pin and a pin passing through an upright piece of wood or lever, the lower end of which is attached to a block on the floor and the upper end turned smooth above where the pitman is attached, and two men take hold of those levers and by pushing and pulling alternately put the machine in motion.

What we claim as our invention and desire to secure by Letters Patent is—

Placing the spikes in a narrow circle on the face or edge of the large wheel in combination with the hopper as herein described.

LINUS YALE.
SAMUEL W. STIMSON.
NATHANIEL STIMSON.

Witnesses:
ELECTUS ADAMS,
JOHN A. SCHUYLER.