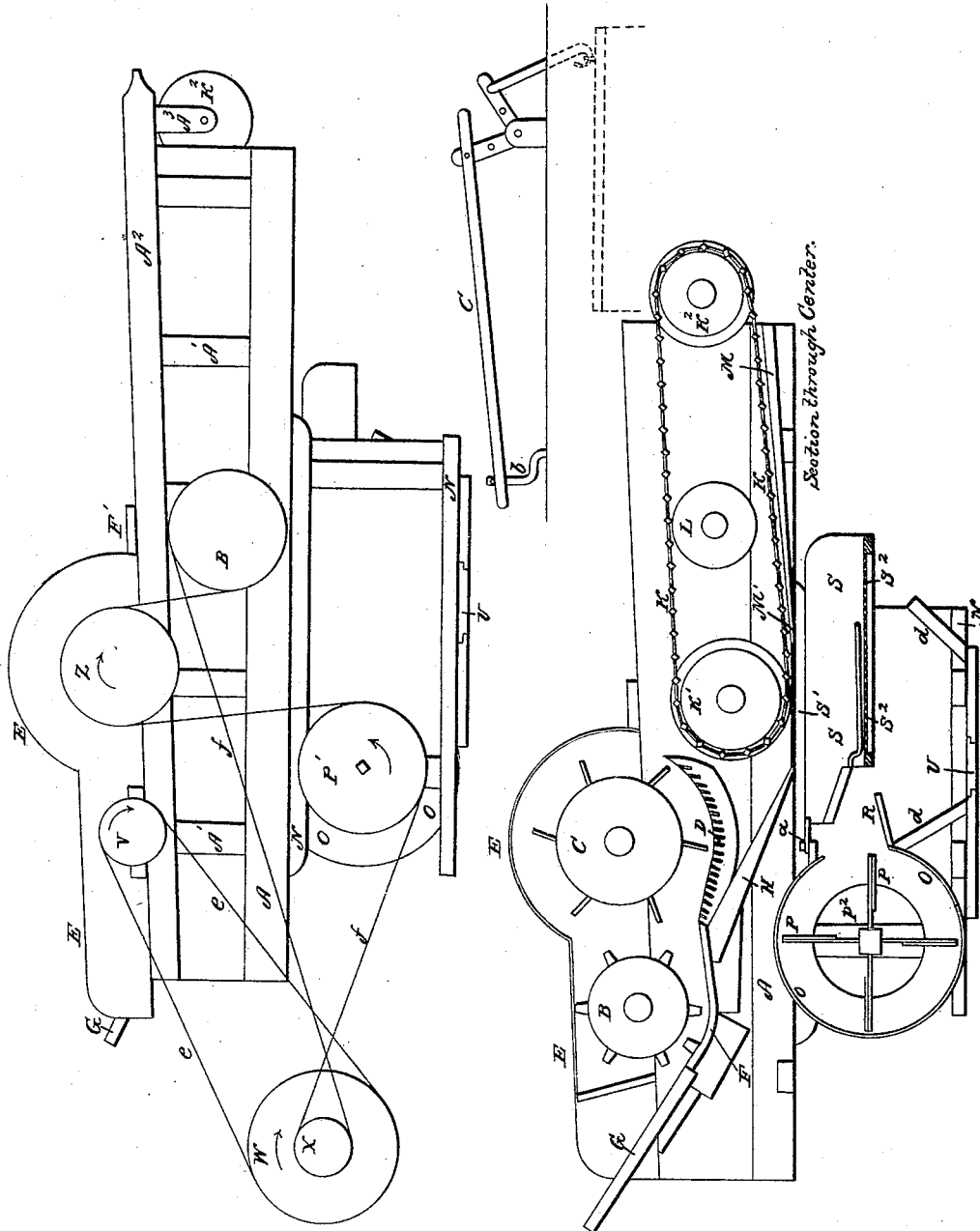


A. TOWNSEND.
Thrashing Machine.

No. 2,408.

Patented Dec. 30, 1841.



UNITED STATES PATENT OFFICE.

ASHLEY TOWNSEND, OF LE ROY, NEW YORK.

MACHINE FOR THRESHING GRAIN.

Specification of Letters Patent No. 2,408, dated December 30, 1841.

To all whom it may concern:

Be it known that I, ASHLEY TOWNSEND, of Le Roy, in the county of Genesee and State of New York, have invented a new and Improved Machine for Threshing, Raking, and Cleaning Grain; and I do hereby declare that the following is a full and exact description.

The frame work A, as seen in the drawing is made of two side sills 14 ft. long framed together by three cross sills 2 ft. 8 in. long; on each side are five upright posts A' A' framed into the sills, the first post framed 2 ft. 6 in. back of the front end of the sill, the second post 2 ft. 6 in. from the first, the third 2 ft. 6 in. from the second, the fourth 3 ft. 6 in. from the third, and the fifth 2 ft. 6 in. from the fourth; the front posts 2 ft. high, the back posts 2 ft. 6 in. high, cap pieces A² or raves are framed in the top of the posts, and projecting over the back end 1 ft. 6 in., close to the back end of the rave a short post A³ is framed 1 ft. 3 in. long which is intended to support the back end of the revolving apron and may be placed below or above the rave to elevate or depress, the back end of the revolving apron according to the pleasure of the operator. The size of timber for the frame is 2 by 3 in. excepting the side sills which should be 4 by 4 in. square, the frame should be lined inside with boards making the surface smooth.

The threshers B is made of heads and staves 14 in. diameter, and the width of the inside of the frame will be its length, it is covered with sheet iron, and is placed directly over the first posts on the top of the raves, it also has 6 or 8 rows of iron teeth about 2 in. in length, and set one and one half in. apart. The threshers is put in motion by a whur 4 or 5 in. diameter.

The concave F is formed of timber 8 in. wide curved to fit the threshing cylinder and placed directly under it, with one or two rows of teeth set to match those in the cylinder. The concave threshers should be framed into the first pair of posts so as not to have the teeth clash. The raking cylinder C is placed over the second post and made with heads and staves 18 in. diameter and covered with sheet iron, it has 6 rows of teeth with 8 in a row made of strong iron wire 5 in. long set inclining back, to beat the straw.

The concave rack D is formed of pieces of hoop iron set edgewise $\frac{3}{4}$ of an inch apart,

the top edge inclining back, the inner of which are made fast in the edge of a narrow board curved to fit the raking cylinder and placed immediately under it, and confined to the sides of the machine. The back end of the rack must rise high enough to carry the straw on to the revolving apron K, and the forward end fall nearly on a level with the concave F the object of the concave rack is to allow the grain to fall freely while the straw is passing through the machine.

The cap E to the threshing and raking cylinders is made of boards high enough to cover the cylinders and allow the lower edge of the sides to rest on the raves to the machine, so made as to be removed at pleasure, the sides of the cap forming part of the hopper; a board F' is nailed on crosswise and on top of the frame to extend the cap farther back to prevent the straw from flying over the top of the machine. The hopper G is formed partly by the sides of the cap and inside of the machine; the bottom is made of boards supported by cleats, the lower end of the bottom even with the concave F and rising on an angle of 30 degrees to the top of cap E.

H, inclined plane made of boards and kept up at the ends by two crossbars, the object of which is to conduct the grain that falls through the concave rack D into the shoe S; the upper end of inclined plane is placed even with the back edge of the concave F, and the lower end even with the bottom of the sills and projecting over the shoe S.

Revolving apron R, R, formed of slats of wood $\frac{1}{2}$ inch square set cornerwise in a wire chain about $\frac{1}{2}$ an inch apart, and running on 3 or 4 wheels two of which are seen at K¹, K², and may be 10 inches diameter, the forward set of wheels K' run in the third post and are placed so that the lower side of the wheel drops down half the thickness of the sills, the back end or back set of wheels, K² run in the short posts A³ at the back end of the raves and can be placed on the top or under side of the raves at pleasure. The friction roller L is placed under the center of the top part of the apron to prevent sagging and to keep it in its proper place. The front and lower end of the apron runs near as possible to the back end of the concave rack. The inclined plane M, is formed of boards similar to H which is supported at each end by crossbars and forms a tight bottom to the

machine from the back end of the apron R, to M' within 18 inches of the lower end of the inclined plane H, thus leaving a space at S' of 18 inches for the grain to fall into the shoe S. The inclined plane is placed close to the underside of the revolving apron K and on the same angle, for the purpose of catching the grain that falls through the apron; which scattering grain, is conducted into the shoe S, by the action of the under side of the apron, on the inclined plane which draws the grain toward the shoe while the upper side of the apron carries the straw out of the machine. The fanning mill frame N, is 5 feet long, 2 ft. 8 in. wide and 2 ft. 2 inches high and built of 2 by 3 inch stuff.

O, drum for wings 2 ft. 6 in. diameter, 4 inches of which runs up into the underside of the frame to the raker. The wings P, are turned by a whur P' 10 inches in diameter. The wind is conducted to the screen through an open space P² in the drum of about 12 or 14 in.

The shoe S, is 4 feet long and 2 ft. 3 inches wide, and the bottom part long enough to receive a screen 3 ft. long. The shoe is hung at the front end by a hook and staple, or on a pin *a*, and at the back end by a strap or stirrup on each side; to be shaken by a crank *b* and pitman *c*, the crank about 1½ in. long, attached to the shaft of the wings, the crank, pitman and shaker being shown in a top view.

The grain box T is formed by slanting boards *d*, *d* running from the underside of the opening for the wind in the drum, and from near the back end of the shoe, to the sliding draw U which is about 8 inches wide, at the bottom and near the back part of the fanning mill frame, the object of which is to gather the grain into a measure. The frame of the fanning mill is confined to the underside of the machine by 4 bolts or screws, and should be so placed as to have the back part of the drum even with the

center of the cylinder raker, or so as to have the shoe placed directly under the opening between the two inclined planes H, and M.

The manner of putting the machine in operation, is by a belt or rope *e*, *e*, from the threshing cylinder whirl V, to the band wheel W, of the moving power. The raking and cleaning apparatus is carried by a separate band *f*, *f*, which passes from the upper side of a whur X on the band wheel to the moving power and about one third its size, to the under side of the whur Y (which is 10 in. diam.) on the shaft to the wings P, thence over the whur Z (which is 15 in. diameter) on the shaft of the raking cylinder C, thence under the whur (which is 14 in. diameter) to the whirl B, forward pair of wheels that turns the revolving apron, thence over the said whur and crossing the band from Z to the underside of the whur X on the band wheel to the moving power.

The machine may be built so as to be used with any common thresher by dispensing with the threshing cylinder, and leaving a space of 3 feet at the forward end, on which to confine a common thresher. The machine is portable and can be moved from place to place with ease. When set up for use it should be placed on posts or some temporary fixture sufficiently high to admit a half bushel under the grain box to the fanning mill.

What I claim as my invention and desire to secure by Letters Patent is—

Combining the raking cylinder, concave rack and inclined plane H with the shoe and screen S, and fan P as set forth, the whole being constructed and operating in the manner described, also in combination with the foregoing the inclined plane or slide M, and endless belt or revolving apron of slats R, all as set forth.

ASHLEY TOWNSEND.

Witnesses:

BENJ. F. HAYS,
H. H. CARPENTER.