E. ATKINSON.

CORN-HARVESTER.

No. 180,102. Patented July 25, 1876.

Fig. 1.

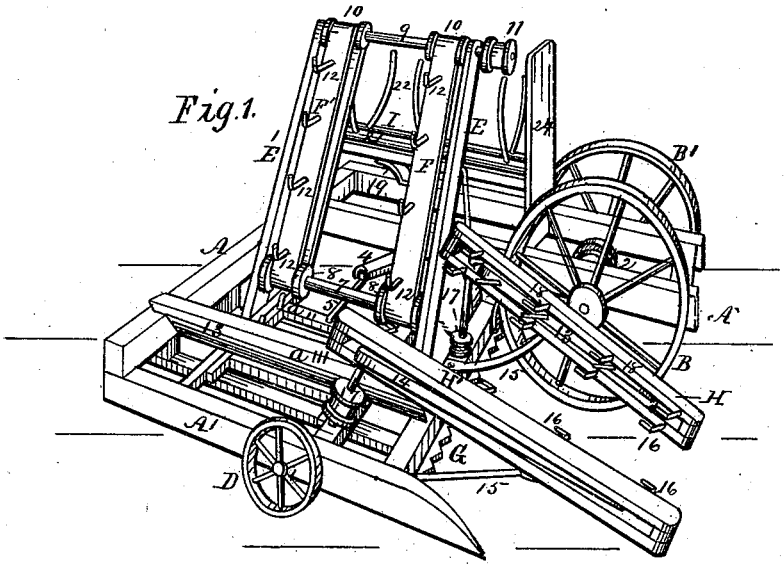
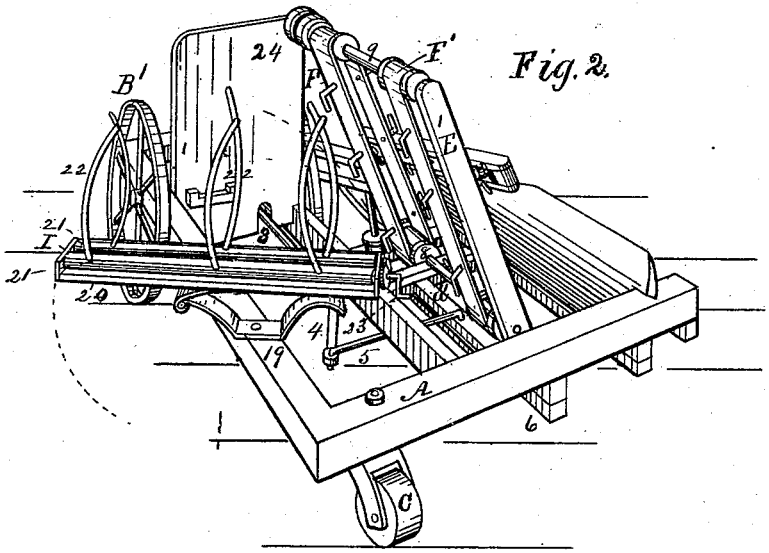


Fig. 2.



Witnesses:
W. H. Morrison,
Wm. C. Gordon

Inventor:
Empson Atkinson.
by Wm. Morrison, Atty.

UNITED STATES PATENT OFFICE.

EMPSON ATKINSON, OF WOODSTOWN, NEW JERSEY.

IMPROVEMENT IN CORN-HARVESTERS.

Specification forming part of Letters Patent No. **180,102**, dated July 25, 1876; application filed May 2, 1876.

To all whom it may concern:

Be it known that I, EMPSON ATKINSON, of Woodstown, in the county of Salem and State of New Jersey, have invented a new and useful Improvement in Corn-Stalk Cutting and Shocking Machines, which improvement is fully set forth in the accompanying drawings, in which—

Figure 1 is a perspective view of the machine from the right-hand side of the same, and Fig. 2 a perspective of the same machine from the left-hand side thereof.

The object of my invention is to afford a machine which, being drawn along by the draft-animal beside the row of stalks to be cut off and gathered into bundles, will gather the leaning and upright stalks together, cut them off near the ground, so that they will fall backward upon a reciprocating platform, from which they will be carried upward, parallel with each other, to the top of the machine, and dropped into a bundling-cradle, which, after they have been banded or tied together by hand, can readily be swung horizontally around and tilted, so as to shock the bundle beside the machine, thus greatly facilitating the cutting, bundling, and shocking the stalks, and reducing the labor heretofore required for the purpose.

The platform A of the machine is supported upon a pair of wheels, B B′, which are rigidly fixed upon one axle, which carries an eccentric and pulley, 2, and a caster-wheel, C, at the rear end of the platform, and a fourth wheel, D, at the right-hand side of the said platform. Fixed to the under side of the platform A there is a supplementary platform, A′, which carries a reciprocating horizontal platform, *a″*, which is moved to right and left across the cleared portion of the row of stalks by means of the cam 2 on the axle of the wheels B B′, which is connected, by the rod 3, an L-lever, 4, and a rod, 5, to the said reciprocating slide or platform *a″*. An inclined board, *a‴*, is fixed across over the sliding platform *a″*, and serves as a guard to prevent the stalks which fall across the platform from rolling or being shaken off of the same in the direction of the right hand of the machine. Near the inner end of the sliding platform *a″* two posts, E E′, are fixed in positions inclined toward the left side of the machine, with their respective lower ends resting on a cross-piece, 6, of the supplementary platform A′, so as to be entirely outside or clear of the guide-pieces of the sliding platform *a″*, and just a little above the said sliding platform. The two posts E E′ are connected by a fixed bar, 7, which has two loose band-pulleys, 8 8, and the upper ends of said posts E E′ support a loose shaft, which carries two like band-pulleys, 10 10, and on the projecting end of said shaft a fixed grooved pulley, 11.

Each pair of the pulleys 10 and 8 are connected together by respective bands F F′, to which a series of metal hooks, 12, are fixed so as to project outward and upward in the rising parts of the bands, when rotary motion is given to the bands by the rotary motion of the shaft 9, the pulley 11 being rotated by a cord or chain (not shown) operated in any suitable manner by connection with the pulley 2 on the shaft of the pair of carrying-wheels B B′. Projecting upward are two series of metal teeth or hooks, which are inclined toward the respective bands F F, so that as the sliding platform, in which said teeth or hooks are fixed, is moving toward the bands, the said teeth or hooks will carry the stalks falling on the platform toward the said elevating-bands F F, and when the said sliding platform is moving in the opposite direction the said inclined teeth or hooks will pass under the stalks without moving them backward.

The cutting-knife G has large serrated cutting-edges, and is placed to be operated in a horizontally-reciprocating manner at the forward end of the supplementary platform, similarly to the well-known reciprocating cutters of mowing and reaping machines, and is intended to be operated by the carrying-wheel D in any suitable manner, not necessary to be shown.

Projecting forward and downward from a sufficient height above the cutter G are two arms, H H′, each of which carries a sliding bar, 13 14. The inner end of the arm H is fixed to the upright post E, and the inner end of the arm H′ is fixed to the inclined board *a‴*, and each arm supported with its outer end a foot, more or less, above the ground by

a brace-bar, 15, so that as the machine is driven forward the front ends of the arms H H′ will, respectively, pass along the sides of the row of stalks, and thus underrun any inclined or fallen stalks of the row. The sliding bars 13 14 of the arms H H′ are each provided with a series of metal hooks, 16, and independent longitudinal reciprocating motions are given to the slides by means of respective cranks and pulleys 17 17, operated, the one slide by the carrying-wheel B, and the other by the carrying-wheel D, in any sufficiently reliable manner, so that the fallen or inclined stalks of the row will be lifted sufficiently upward to be fairly presented to the cutter G, cut off, and let fall backward upon the reciprocating platform *a″*. (See Fig. 1.) The inner sides of the arms H H′ are each provided with metal hooks or inclined pins 18, which serve to prevent the stalks which are pulled inward from being pushed back again by the slides 13 14. At the left-hand side of and below the upper end of the bands F F the bundling-cradle I is supported on a pivoted bar, 19, by a hinged joint, so that it can be readily turned horizontally at right angles to the shaft 9 of the band-frame, and tilted so as to deposit the bundle of stalks that may be therein in an upright position or shock upon the ground, and the cradle returned by hand to its normal position, parallel with the upper band-shaft 9. (See Fig. 2.) The cradle I consists of a base-bar, 20, and two parallel rollers, 21 21, the latter having long curved metallic arms 22 projecting upward from their sides, respectively, and in alignment, and the rear ends of said rollers geared together, and one of them provided with a crank-handle, 23, whereby the cradle-arms 22 can be opened and closed by the attendant, as occasion may from time to time require. When the said cradle is adjusted parallel to the shaft 9 of the band-frame, its inner end rests on a ledge, which projects from a vertically-fixed broad board, 24, and the said board serves also as an abutting-board, to square or even the ends of the stalks after the cradle has been filled, and before the same are banded. As the machine is progressing against the row of stalks, the falling stalks are constantly being carried by the sliding platform *a″* to the elevating-bands F F, which carry them up parallel with each other, and turn them over into the opened cradle I until the latter becomes filled. The machine is now stopped, the contents of the cradle squeezed compactly together by means of its crank handle 23 and banded, the cradle then swung horizontally a quarter-circuit, and the bound bundle deposited on its butt-end as a shock upon the ground, the cradle returned to its first position, and the machine again put in forward motion against the row.

It is believed that the foregoing full and minute description of my improved machine, and of its mode of operation, will be sufficient without any further explanation.

I claim as my invention—

1. The combination, in a corn-stalk cutting and shocking machine, substantially as described, of the arms H H′, and their respective slides 13 14, and their respective series of hooks or pins 16 18, operated by the carrying-wheels B and D, with the cutter G and supplementary platform A.

2. The reciprocating platform *a″*, provided with the inclined hooks or teeth, and operating substantially as described, in combination with the inclined board *a‴* and the elevating-bands F F, for the purpose hereinbefore set forth.

3. The cradle I, consisting of the base-bar 20, parallel rollers 21 21, geared together and provided with the curved arms 22, and crank-handle 23, as set forth, the said cradle being supported on the pivoted bar 19 by a hinged joint, substantially in the manner and for the purposes described.

EMPSON ATKINSON.

Witnesses:
MAHLON D. DICKINSON,
SALLIE C. DICKINSON.