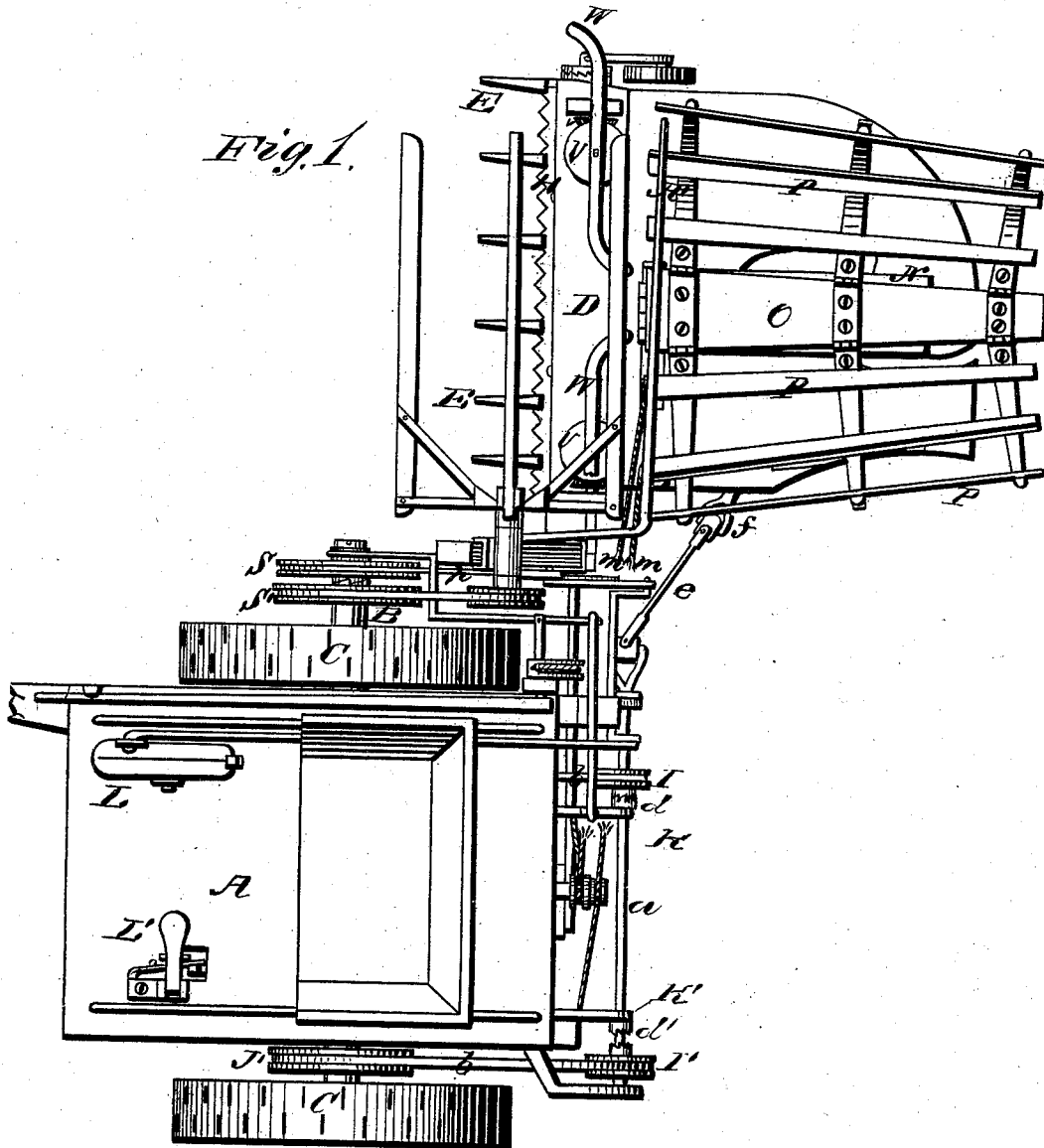


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CORN-HARVESTER.

No. 177,872.

Patented May 23, 1876.



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George C. Upham.

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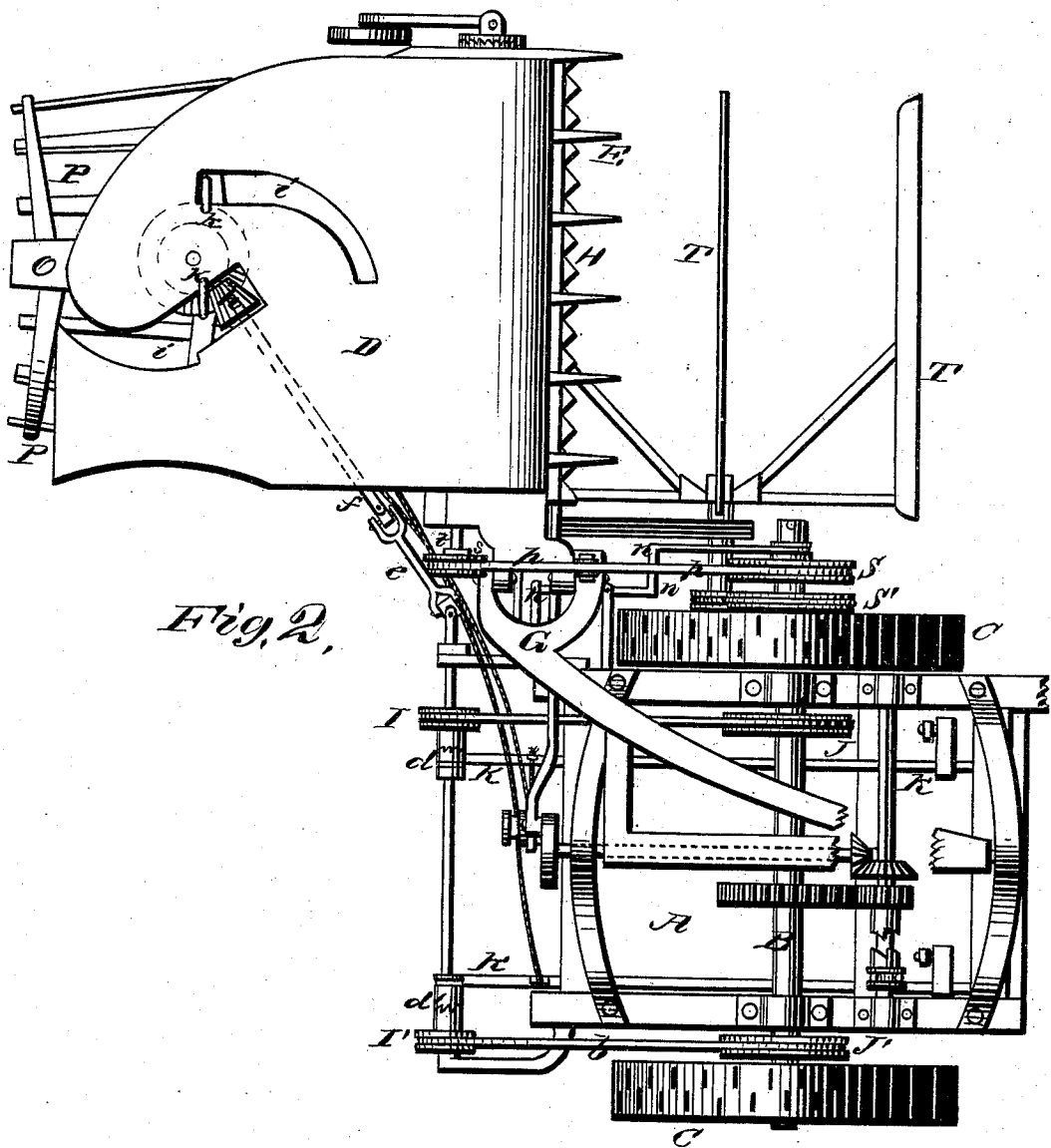


Fig. 2.

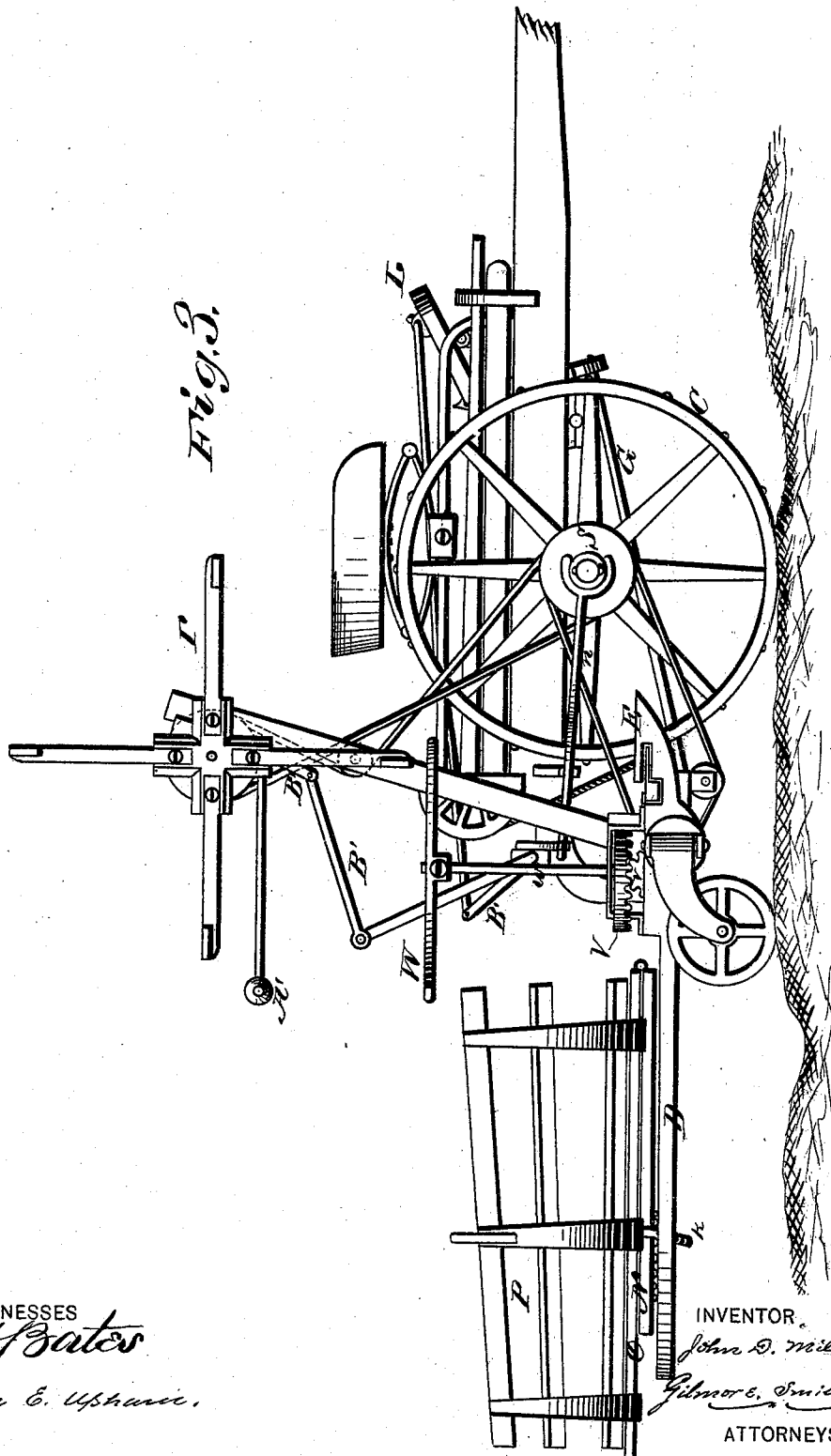
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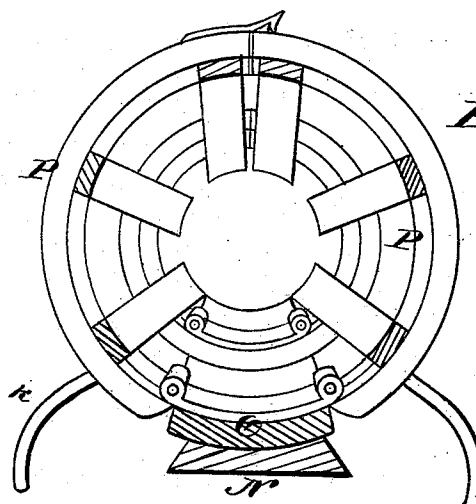
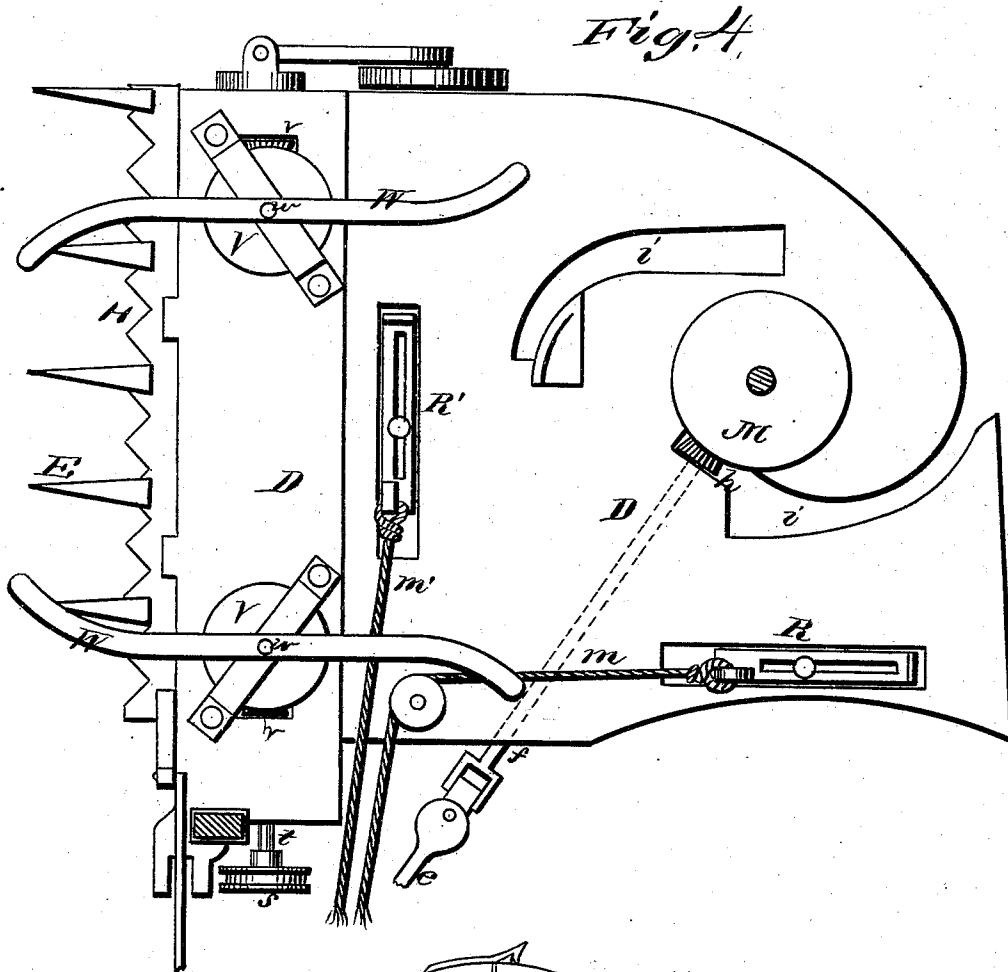
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UNITED STATES PATENT OFFICE.

JOHN D. MILLER, OF LANCASTER, OHIO.

IMPROVEMENT IN CORN-HARVESTERS.

Specification forming part of Letters Patent No. 177,872, dated May 23, 1876; application filed April 8, 1876.

To all whom it may concern:

Be it known that I, JOHN D. MILLER, of Lancaster, in the county of Fairfield and State of Ohio, have invented a new and valuable Improvement in Corn-Harvesters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a top view of my harvester, and Fig. 2 is a bottom view of the same. Fig. 3 is a side elevation, and Fig. 4 is a plan view, of the platform. Fig. 5 is a detailed cross-section of my shocker.

My invention relates to corn-harvesters; and it consists in the construction and arrangement of the devices for shocking the corn, and of such mechanisms as work in conjunction therewith, as will be hereinafter more fully set forth.

In the annexed drawings, A represents the driver's platform, supported upon the axle B, having driving-wheel C upon each end. These wheels are connected with the axle by pawls and ratchets, in the usual manner, so as to rotate the axle only when moving forward, and turn on the axle when they are moving backward. E is the finger-bar, attached to the front of the platform D, and hinged to a suspended frame, G, under the main frame A. H is the cutter-bar, moving in the fingers of the finger-bar E. These parts are all constructed and operated substantially in the same manner as is usual in corn-harvesters, and therefore need no description here.

In suitable hangers on the back of the main frame is a horizontal shaft, *a*, upon which are loosely placed two pulleys, I I', connected by chains *b* with corresponding pulleys J J' on the axle B. The chain that connects the pulleys I and J is twisted, while the one connecting the pulleys I' and J' is straight, so that the pulleys I I' will rotate in opposite directions. These pulleys are thrown, respectively, in gear with the shaft *a* by means of movable clutches *d d'*, which are connected, respectively, to arms upon the rear ends of rocking shafts K K', said shafts being operated, re-

spectively, by treadles L L' on the front of the frame or platform A, for throwing either of the pulleys I I' in gear with the shaft *a*. The end of the shaft *a* is, by a tumbling-shaft, *e*, connected with a shaft, *f*, which runs diagonally into the center of the platform D, and has a beveled pinion, *h*, upon its inner end. The pinion *h* meshes with beveled cogs on the under side of a wheel, M, which turns in suitable bearings in the platform D. On the wheel M is secured a bar, N, to the front end of which is hinged a tapering or wedge-shaped bar, O, having a tapering curved rack, P, hinged to each side. From near the center, at or near the inner edge of each rack P, projects an arm, *k*, into a curved slot, *i*, in the platform.

The operation of this part of my invention is as follows: The racks P, constituting the shocker, being open and in position to receive the falling corn, as soon as enough has been collected to make a shock the driver, by means of the treadle L, throws the pulley I in gear, when the wheel M is at once rotated. As this wheel turns, carrying the shocker and shock with it, the arms *k*, working in the slots *i*, close the racks P P, and as the shocker reaches a position at right angles with its former position it strikes and moves a slide, R, in the platform, which slide, being by a chain, *m*, connected with the arm of the shaft K, at once throws the pulley I out of gear, and stops the motion of the shocker. As soon as the shock has been tied and removed, the driver, by means of the treadle L', throws the pulley I' in gear, thereby reversing the motion of the wheel M, and bringing the shocker back to its former position. During this movement the racks P open again, and as the shocker reaches its proper position it strikes another slide, R', and, by means of connecting-chain *m'*, throws the pulley I' out of gear. On the inner end of the axle B are two pulleys, S S', the inner one, S', of which is fast on the axle, and, by means of a chain, operates the ordinary reel T. The other pulley, S, is loose on the axle, and the two pulleys have clutches on their hubs, so that the pulley S may be thrown in and out of gear. This is done by the rocking of the shaft K, said shaft being, by a series of levers, *n*, connected

with said pulley in such a manner that when the pulley I is thrown in gear the pulley S is thrown out of gear, and vice versa. The pulley S is, by a chain, *p*, connected with a pulley, *s*, on the end of a shaft, *t*, which runs back of the finger-bar through the platform D. On this shaft are two beveled pinions, *v*, which mesh with two horizontal cog-wheels, *V V*, having shafts *w w* extending vertically upward. On each of these shafts are placed adjustable curved arms *W*, fastened by a set-screw, so as to be adjusted at any height required, according to the height of the corn.

It will thus be seen that while the shocker is in position to receive the corn the arms *W* rotate, and, in conjunction with the ordinary reel *T*, throw the corn down into the shocker; but as soon as the driver operates the lever *L* to actuate the shocker, the arms *W* stop. The corn is then held in a standing position by means of the dividing-bar *A'*, operated by means of a series of cranks and levers, *B'*, from the treadle *L*, so as to be lowered thereby simultaneously with the stoppage of the arms *W*, and the commencement of the movement of the shocker, and be raised out of the

way when the arms commence to rotate, and the shocker has been brought back into position again.

What I claim as new, and desire to secure by Letters Patent, is—

1. The alternately and intermittently rotating shocker, consisting of the bars *N O* and hinged racks *P P*, with arms *K K*, in combination with the slots *i i* in the platform *D*, for opening and closing said racks, substantially as and for the purpose set forth.

2. The combination, with shocker, as herein described, of the gears *M h*, shafts *f e a*, pulleys *I I'*, chains *b b*, clutches *d d'*, pulleys *J J'*, rocking shafts *K K'*, and treadles *L L'*, all substantially as and for the purpose set forth.

3. The combination of the slides *R R'*, connecting-chains *m m'*, rocking shafts *K K'*, and the shocker, as and for the purposes set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN D. MILLER.

Witnesses:

JOHN G. REEVES,
DANIEL TSCHOPP.