

J. L. OWENS.
Harvester Rakes.

No. 142,644.

Patented September 9, 1873.

Fig. 3.

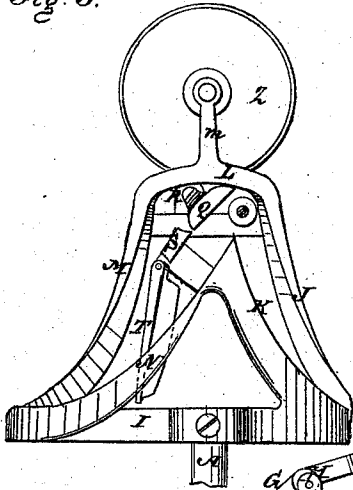


Fig. 1.

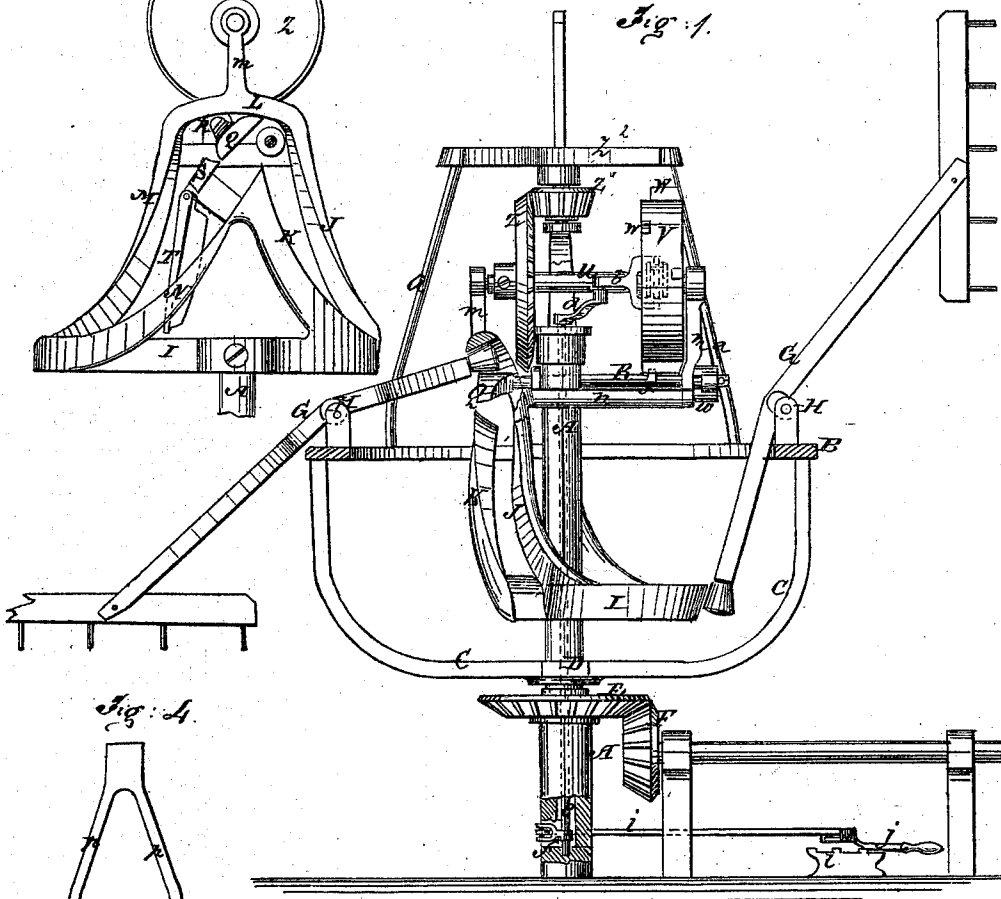


Fig. 4.

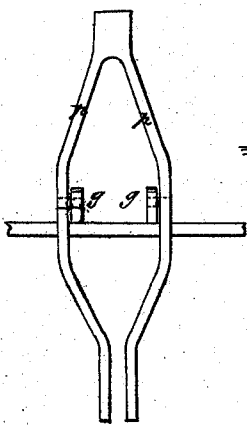
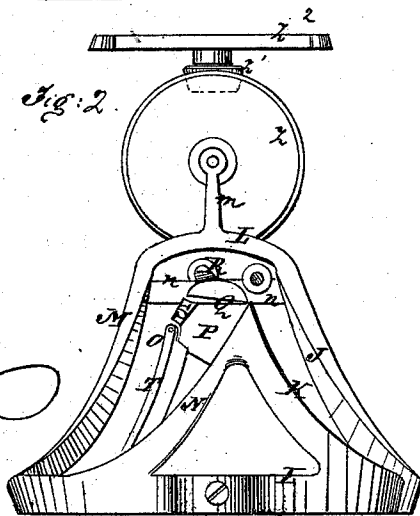


Fig. 2.



Witnesses.

Chas. Nida
Bedgwick

Inventor.

J. L. Owens
Per *Wm. H. [Signature]*
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN L. OWENS, OF CAMBRIA, WISCONSIN.

IMPROVEMENT IN HARVESTER-RAKES.

Specification forming part of Letters Patent No. 142,644, dated September 9, 1873; application filed May 31, 1873.

To all whom it may concern:

Be it known that I, JOHN L. OWENS, of Cambria, in the county of Columbia and State of Wisconsin, have invented a new and Improved Self-Rake, of which the following is a specification:

My invention relates to certain improvements in harvesters adapted to act more or less frequently, so as to make a gavel of uniform size.

The improvements will be first described in connection with parts necessary to form an operative machine, and then specifically indicated in the claims.

Figure 1 is a side elevation of my improved self-rake with a part represented in section. Figs. 2 and 3 are partial side elevations, showing the different positions of some of the devices by which the rakes are caused to work or not. Fig. 4 is a detail, showing the construction of the rake-arms.

Similar letters of reference indicate corresponding parts.

A represents a tubular standard for supporting the rake carrying and actuating apparatus. It is mounted on the reaper in any suitable position for the rakes to work on the apron properly for raking off the gavels. It carries the large horizontal rim B by the curved arms C, which branch outward and upward from a hub, D, fitted loosely on the standard A, a suitable distance above the bottom and attached to the top of the bevel-wheel E, which also turns loosely on the standard A, and carries the rim. It is turned by the driving-wheel F. The rake-arms G are pivoted to standards H on the upper side of this rim, and arranged so that the inner ends work upon the stationary cam I J K L M as they are carried around by the rim. The horizontal part I of the cam holds them up, as indicated at the right-hand side of Fig. 1, during that part of their travel in which they move after leaving the apron and before reaching it again. The part J allows the arms to rise at the inner ends and fall at the outer ends to bring the rakes down to the apron. The part K insures the swing of the rakes down to the apron. The rakes work on the apron while passing the part L, and they are lifted again by the part M. This cam is supported on the

standard A a little above the hub D. In order that this cam may allow some of the rakes to pass above the grain on the apron of the machine when the grain is so light that a quantity sufficient for a gavel does not accumulate as each succeeding arm passes, I provide sufficient room between the part M of the cam and the part N for two channels, O and P, through either of which the arms can descend to the horizontal part of the cam. The one P is intended to let the rake-arms down again immediately after passing one part, K, of the cam, so that the rakes will, when so passing, not rake the grain off the apron. Over the top of channel P is a little plate, Q, on a shaft, R, by which the rake-arms are caused to descend in passage P, or pass along over said plate and down the channel O, as required, in the latter case to rake off the gavel, and in the former to pass over the grain. Below this plate is a short fixed partition, S, between the two passages, and below that a switch, T, which guides the arms when going down the channel O, and rises up to allow them to pass down channel P. A weighted arm, Q, on the shaft R, is arranged to close over the channel P to cause all the rakes to act on the apron when it is desired they should. But for intercepting some of the rakes, I have a tappet-wheel, V, with, say, three rows of tappets, W, on its face, revolving over the shaft R, which also has a tappet, X, to raise the plate Q by the wheel V acting on it, whenever it may be desired to have a rake pass over the grain. This wheel is mounted on a shaft, U, which is geared by a wheel, Z, with a wheel, Z¹, on the under side of the arms Z², which are mounted on the standards *a* rising up from the rim B, and having a pivot extending down through said wheel into the top of the standard A. This tappet-wheel is capable of sliding lengthwise on the shaft U to bring either row or set of its tappets into action with the tappet X, according as demanded by the volume of grain, the said sets each being arranged for having a different effect in throwing out the rakes—that is, varying the order of throwing them out. It is shifted by the fork *b*, crank *d*, rod *e*, arm *f*, rod *i*, and lever *j*, the latter being arranged in a place where it can be

reached conveniently by the operator to shift it at will, and provided with a holder, *l*, by which it can be held in either of three positions corresponding to three sets of tappets on the wheel *V*. The shaft is mounted in standards *m*, one of which is on the top of part *L* of the cam, and the other on the horizontal platform *n*, attached to the standard *A* and to the cam. In order to make the rake-arms strong and pivot them to the rim *B* substantially, I propose to make them of two members, *p*, bent and connected together, as shown in Fig. 4, and pivoted to independent standards *q* on the rim, at such distances apart as will secure the requisite strength to resist the shocks they are subject to as the machine runs along the ground.

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

1. The combination of the tappet-wheel *V* with the shaft of the plate *Q* and the tappet thereon, substantially as specified.

2. The said wheel arranged to slide on its shaft, and connected with the adjusting-lever *j* by the fork *b*, crank *d*, rod *e*, arm *f*, and rod *i*, the rod *e* being arranged in the hollow standard *A*, substantially as specified.

3. The standard *A*, arms *C*, rim *B*, standards *a*, and arms *Z*², constructed and arranged substantially as specified.

4. The rake-arms, composed of two members, *p*, arranged and pivoted to the rim *B*, substantially as specified.

JOHN L. OWENS.

Witnesses:

E. O. JONES,

B. R. HUGHES.