A. Pritz.
Harvester Rake.

No. 30835 Patented Dec. 4. 1860

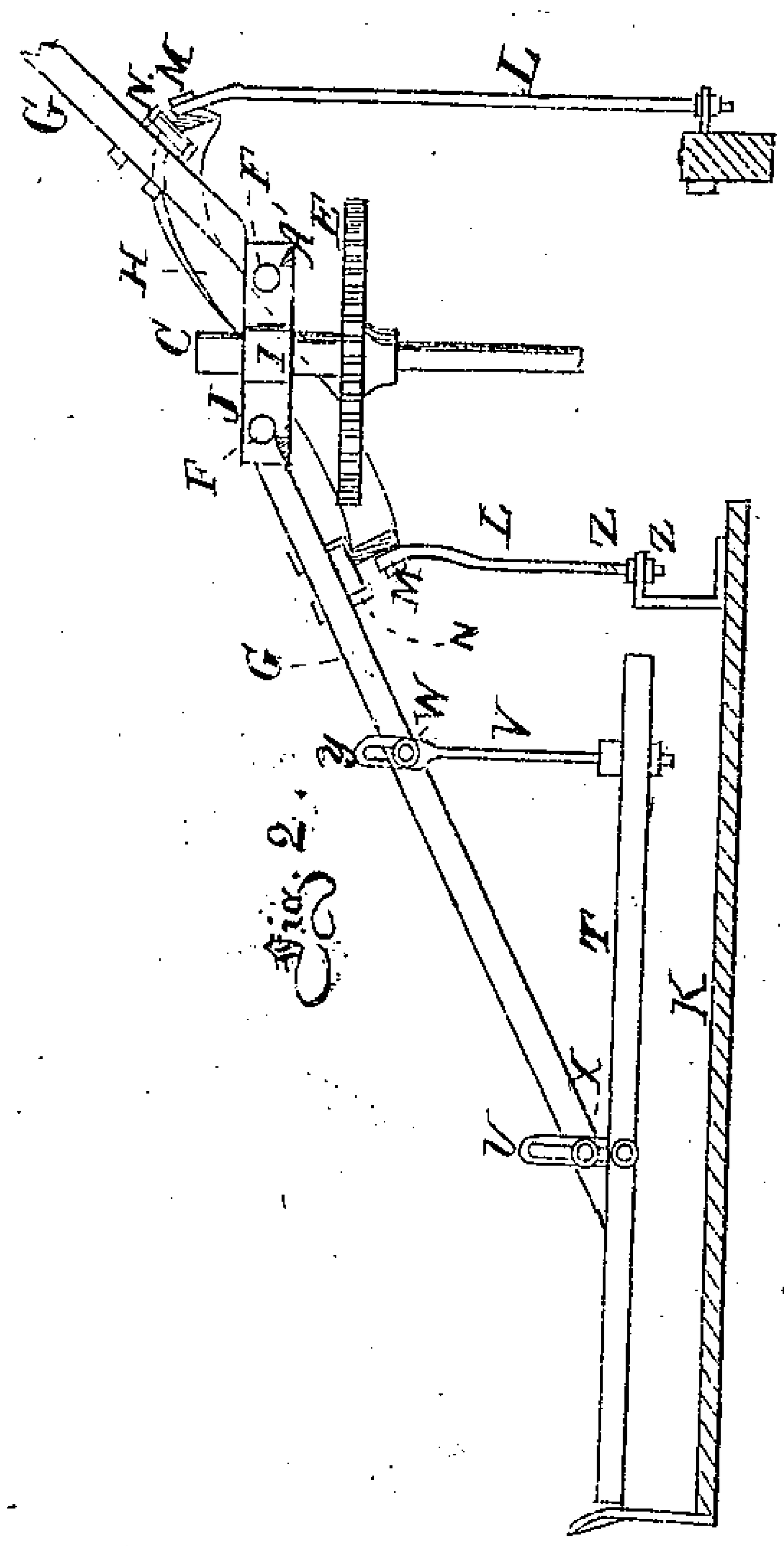

Fig. 2.

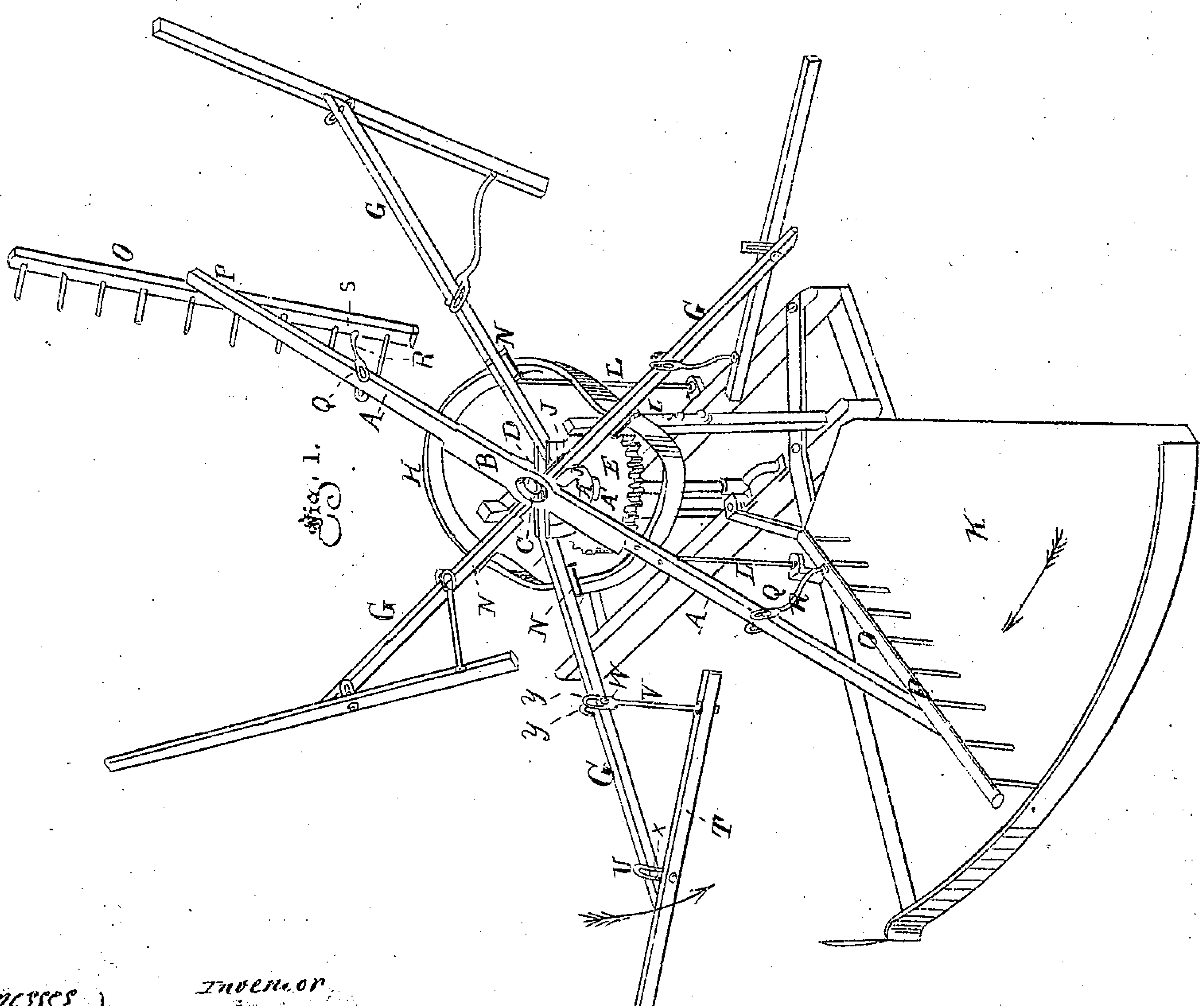

Fig. 1.

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UNITED STATES PATENT OFFICE.

ADAM PRITZ, OF DAYTON, OHIO.

IMPROVEMENT IN RAKES FOR HARVESTERS.

Specification forming part of Letters Patent No. **30,835,** dated December 4, 1860.

To all whom it may concern:

Be it known that I, ADAM PRITZ, of Dayton, in the county of Montgomery and State of Ohio, have invented a new and useful Improvement in Rakes for Harvesters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a perspective view, and Fig. 2 a vertical section, of the machine.

Similar letters of reference in each of the several figures indicate corresponding parts.

The nature of my invention consists, first, in the peculiar manner hereinafter described, of arranging the hinged independent reel-arm G for operation in connection with the centrally-pivoted rake-arm A A B and undulating cam H. By this part of my invention the same construction of rake-arm, cam, &c., as is adopted by Owen Dorsey in his patents of 1856 can be used without interfering with the independent movement of each reel-bar.

It consists, second, in combining with the ordinary set-screw and slotted brace an auxiliary adjustable slotted wing and a set-screw, so that not only the angle the reel-bar forms with the reel-arm may be adjusted, but also the height of the reel-bar above the platform may be changed, as occasion requires.

It consists, third, in the arrangement (with the centrally-pivoted rake-arm, center shaft, cam and flanged hub, independent reel-arms, circular platform, pivoted reel-bars and rakes, and the adjusting-braces) of the slotted wings and set-screws, in the manner and for the purposes hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

C is a vertical center shaft, which has its bearing in the frame-work of the machine, and receives a revolving motion by means of a cog-wheel, E, keyed to said center shaft. A swinging beam, B, is provided with an elliptical center hole, the flat sides of which fit the upper end of the center shaft, C, and a pin, D, is passed through the shaft C across the said elliptical hole and through the center part of the beam B, so as to allow the said beam to swing upon the pin D as a fulcrum. Immediately underneath said beam, and above the cog-wheel E, there is a hub, I, keyed to the center shaft, provided with four double flanges, J J. The outer ends of each of these double flanges are connected with the outer ends of the other double flanges by braces A′, so as to increase the strength of the piece.

Two rake-arms, A A, are secured one to each end of the swinging beam B. Four reel-arms are hung to the hub I, the inner end of each reel-arm G being placed between the two wings J J of one of the double flanges, and a pin, F, being inserted through the wings J J and the end of the reel-arm, so that said pin F shall serve as a fulcrum for the reel-arm to swing on. The two wings J J of each double flange, while they allow the reel-arms to swing in a vertical direction, prevent the reel-arms from moving or yielding laterally.

A reel-bar, T, is secured to the outer end of each reel-arm G in the following manner: A slotted wing, U, extends from the center of the reel-bar upward, and a rod, V, terminating into two slotted wings, Y Y, is fastened near the inner end of the reel-bar. The wings Y Y embrace the reel-arm, and are secured in place by a set-screw, W, passing through the reel-arm. The wing U is secured to the outer end of the reel-arm by a similar set-screw, X.

It will be seen that, by loosening the set-screws X W, adjusting the slotted wings higher or lower, and tightening the set-screws again, each reel-bar may be set at a proper height in relation to the platform K so as to suit grain of greater or less height, which is of great advantage in cutting the grain. It will also be understood that by means of said slotted wings and set-screws the angle which the reel-bar forms with the reel-arm may be regulated so that the reel-bar, when striking the grain, may be parallel to the plane of the platform and line of cutters.

A rake, O, is secured to the outer end of each of the rake-arms A A in the following manner: A pin or screw, P, passes through the outer end of the rake-arm and through the center of the rake. A brace, R, secured to the inner end of the rake by nuts S, has, at its upper end, two slotted wings, which embrace the rake-arm, and are fastened to it by a set-screw, Q, passing through the slotted wings and the rake-arm.

It will be seen that on loosening the set-screw Q the rake may swing on its fulcrum P as far as the extent of the slots of the brace

R allows. In this manner the angle which the rake forms with the rake-arm may be so adjusted and the rake secured in such position by tightening the set-screw Q that the rake, while swinging across the platform, shall be exactly parallel to the latter.

When it is desired to use only one rake instead of two, in case the grain stands thin, one of the rakes may be reversed, as represented in Fig. 1, so that the rake-teeth project upward and the rake-bar performs the functions of a reel-bar. To reverse the rake the nuts S have to be unscrewed, so as to allow the inner end of the rake to be slipped off of the brace R, and the center pin or screw, P, has to be removed. The rake can then be reversed and again secured in its new position by reinserting the center pin, P, and the end of brace R and fastening the latter by means of the nuts S.

A cam, H, is arranged underneath the rake and reel arms, so as to serve as a guide for their vertical motions while revolving together with the center shaft, P. The arms, where they rest against the cam-surface, are provided with friction-rollers N. The cam itself, which is of such a shape as to guide the reel-bars and rakes, so as to suit the functions they have to perform, is supported upon three or more vertical rods, L, the upper ends of which are pivoted at M, while their lower ends are screw-threaded, and each secured to brackets projecting from the main frame by two nuts, *z z*. By means of three or more such rods it will be seen the cam can be adjusted not only higher or lower, but the angle which the cam forms in relation to the platform can be varied so as to conform to the position of the platform, which will be found to be of great advantage in putting the machine together and insuring the proper working of the above-described parts in conjunction with each other. Besides, three or more rods, L, will form a rigid support, while the cam, when supported by two rods only, will be liable to yield under the weight of the rake and reel arms to one or the other side.

I disclaim the use of a cam for guiding the vertical motions of reel and rake arms, &c., as exhibited in Owen Dorsey's patents of 1856; but

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

1. The peculiar manner herein described of arranging the hinged independent reel-arms G for operation in connection with the centrally-pivoted rake-arm A A B and undulating cam H, substantially as and for the purposes set forth.

2. Combining with the ordinary set-screw, W, and slotted brace *y y* an auxiliary adjustable slotted wing, V, and a set-screw, X, substantially as and for the purposes set forth.

3. The arrangement (with the centrally-pivoted rake-arm A A B, center shaft, C, cam H and flanged hub I J, independent reel-arms G G, circular platform K, pivoted reel-bars T and rakes *o*, and the adjusting-braces *y*) of the slotted wings U and set-screws X, substantially as and for the purposes set forth.

ADAM PRITZ.

Witnesses:
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