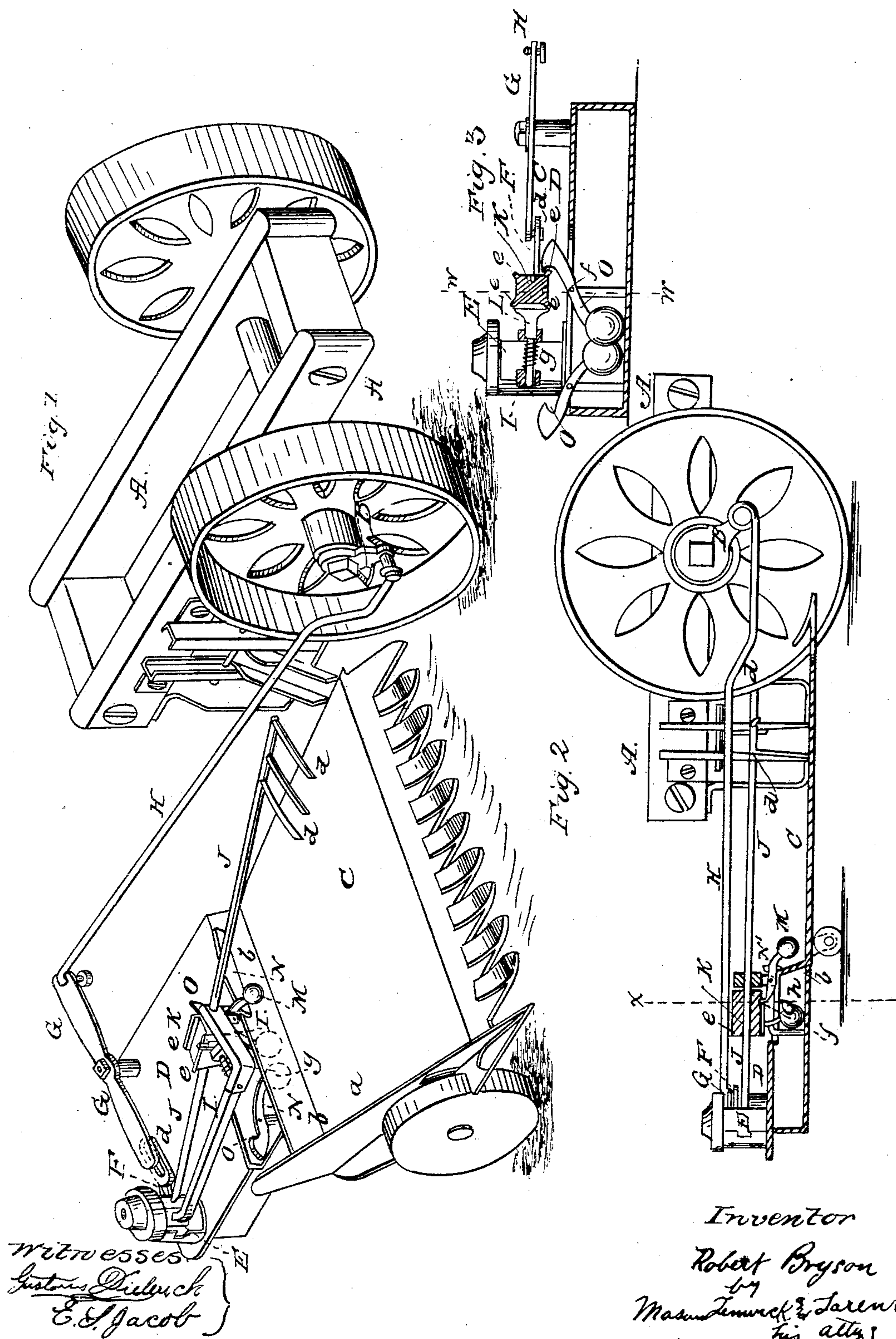


R. BRYSON.
Harvester Rake.

No. 34,875.

Patented April 8, 1862.



UNITED STATES PATENT OFFICE.

ROBERT BRYSON, OF SCHENECTADY, NEW YORK.

IMPROVEMENT IN RAKES FOR HARVESTERS.

Specification forming part of Letters Patent No. 34,875, dated April 8, 1862.

To all whom it may concern:

Be it known that I, ROBT. BRYSON, of Schenectady, in the county of Schenectady and State of New York, have invented a new and useful Improvement in Automatic Raking Attachments 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 part of this specification, in which—

Figure 1 is a perspective view of a harvester with my attachment for raking applied to it. Fig. 2 is a vertical longitudinal section of the same, looking toward the draft-frame of the harvester. Fig. 3 is a vertical transverse section, looking toward the rear of the machine.

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

My invention relates to a novel construction of means for operating a rake of a harvesting-machine.

A designates the side draft-frame. It is supported by an axle which rests upon two wheels. The axle revolves, and the wheels are made to gear fast with it, when the machine is moving forward, by means of ratchets and pawls; but when the machine is backed the wheels slip round the axle. On the inner side or end of the axle a crank or eccentric, B, is fastened by a square and a pin, as shown.

C designates the platform, hung in rear of the driving-wheels, on the side of the rear part of the draft-frame. The means of attachment may be those shown or any other of approved construction. This platform is broader at its front end than it is at its rear, and is guarded on the grain side by an inclined dividing and directing board, *a*, and at its rear side by a slightly-twisted board, *b*, which rises from the platform a proper distance. To this rear board an extension or auxiliary platform, D, is attached and closed in at all sides and at top to a very considerable extent. The form of the platform proper and of the extension thereof may, however, be different from that shown without departing from the invention which I claim.

E designates a vertical rock-shaft arranged on the rear portion of the extension D of the platform. From one side of this shaft extends a horizontal slotted arm, F, in the slot *c* of which the vertical pin *d* of a vibrating horizontal lever, G, plays freely, the lever being

pivoted to the other corner of the rear portion of the platform, and connected to the crank B of the driving-wheel shaft by a connecting-rod, H, as shown. From an opposite side of the rock-shaft a right-angle bar or rake-guide, I, projects, and extends to the rear guard-board, *b*, it standing slightly above said board; and from the front or another side of the shaft a rake-head, J, extends and passes through the front angle of the bar I. This rake-head terminates just at the back of the cutting apparatus, and has rake-teeth *d* firmly set in its side near said termination, the rake-teeth standing at right angles to the rake-head, and being slightly curved so as to hug the grain. In this connection it should be stated that the rake-head is attached, so as to turn in the path of a vertical circle a quarter of a revolution, and that vertical slots are cut in the guard-board *a* directly opposite the rake-teeth, in order that the rake-head may sweep the entire width of the platform and still may have room for its teeth to turn down from a horizontal to a vertical position.

K designates a four-sided block fitted fast on the rake-head. This block is located in rear of the front angle of the guide I, and has rounded projecting corners *e e e e* and cavities *f f'* formed on and in it. The cavities are in the center of the width of the block, and near one end, and run at right angles to each other, as shown.

L is a hammer-shaped spring-stop for bearing squarely against one or the other of two sides of the block, accordingly as the block changes its position. This stop fits in guides of the bar I, and is arranged to slide back and forth, a spiral spring, *g*, causing it at all times to act against the block with a yielding force.

M is a pivoted weighted or spring-lever hung to the under side of the angular guide-bar I, so as to cross the rear guard-board, *b*.

N N' are opposing inclined lugs attached to the top edge of the board *b*. These inclined lugs are set some distance apart, and are designed to elevate the weighted end of the lever M, and thus lower the hook or bent end *h* thereof. The said hook end of the lever M takes into the cavity *f* when the rake is sweeping the grain off of the platform, and into the cavity *f'* when it is moving back with its teeth horizontal and clear of the platform, the incline lug N throwing it out of the cavity *f*

and the incline lug N' out of the cavity f' , and its weighted end insuring its re-entrance into said cavities at the proper time, or when the inclines cease to act upon the weighted end of the lever.

$O O$ are two weighted tripping hook-levers. They are pivoted to the sides of vertical standards of the extension or oscillating platform. These levers vibrate vertically, and the hooks on their upper ends are set so as to operate in opposition to one another. Between the hooks of the levers $O O$ the square block of the rake-head moves, and in its movement, back and forth the corners $e e e e$ of the block strike one or the other of the hooks, according as the rake-head is moving, and by reason of this contact and the weights on the ends of the levers $O O$ the square block is turned the distance of a quarter of its area in its movement toward the open or discharge side of the platform, and a like distance in its return movement. Before these movements in the block are effected the lever-hook stop M is forced by the incline lugs $N N'$ out of the cavities $f f'$. The extent and rapidity of the movements of the block are controlled by means of the spring-stop L , said stop also serving to maintain the block in its proper position by bearing on the corners thereof, which corners, by being rounded and projecting, reduce the frictional contact while the changes in the position of the block and rake are being effected.

From the foregoing description it will be obvious that the crank B , in its revolution, vibrates the lever G through the rod H ; that the lever G , in its vibrations, rocks the shaft E

through the slotted arm F , and that the rake is, through the shaft E , caused to traverse the platform in the path of a horizontal circle both back and forth, the rake, in its forward motion, sweeping off the grain from the platform to position in rear of the draft-frame; and, finally, that the rake at the completion of its forward stroke is tripped and thrown up clear of the platform by the combined aid of the inclines and the lever-hooks $O O$, and maintained in this position by the hammer-shaped lever and the lever-hook M while it is making its back movement, and at the completion of said movement is again tripped and its teeth thrown down to a position for sweeping another quantity of grain from the platform and maintained in this position by the hammer-shaped lever and the hook-lever M .

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

1. The combination of the vertical shaft E , angular guide-bar I , rake-head J , slotted arm F , connecting-rod H , vibrating lever G , and crank B , in the manner and for the purpose described.

2. The combination of the many-sided block K , rake-head J , spring-stop L , incline lugs $N N'$, weighted lever-hook M , and weighted tripping hook-levers $O O$, the whole constructed, arranged, and operating in the manner herein described.

ROBERT BRYSON.

Witnesses:

SIMON CALKIN,
CHAS. FULLER.