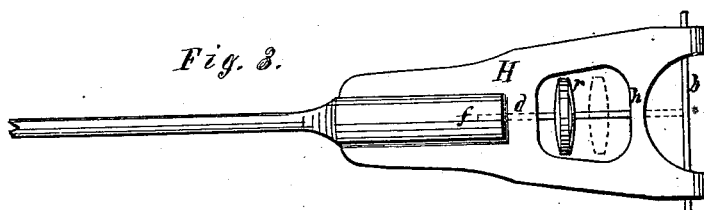
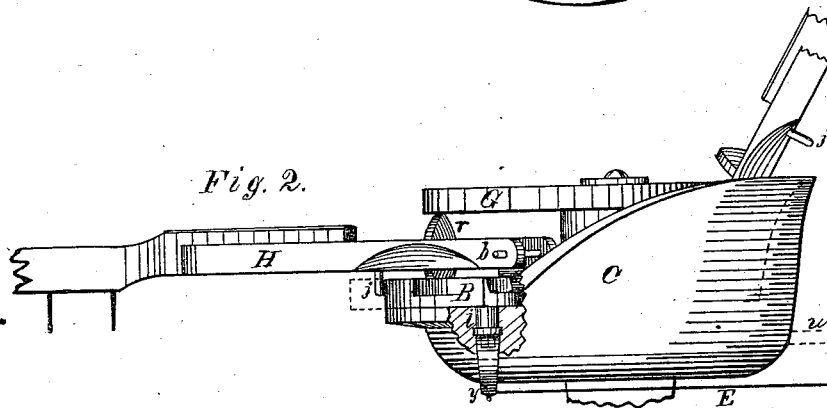
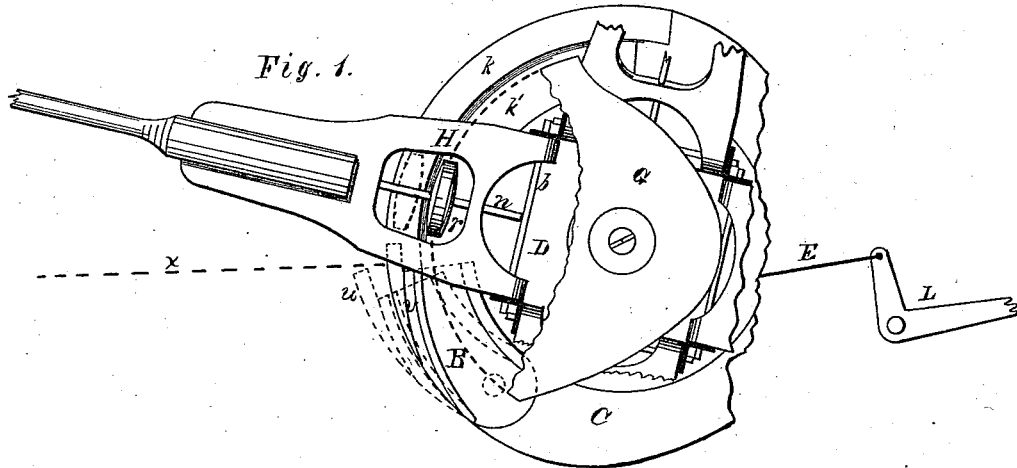


M. F. GIBBS.
Harvester-Rake.

No. 161,220.

Patented March 23, 1875.



Witnesses:
C. B. Whitmore.
H. Kingsbury

Inventor:
M. F. Gibbs
By *[Signature]*
S. Loughborough
Att'y

UNITED STATES PATENT OFFICE.

MANSON F. GIBBS, OF LIVONIA, NEW YORK.

IMPROVEMENT IN HARVESTER-RAKES.

Specification forming part of Letters Patent No. 161,220, dated March 23, 1875; application filed October 29, 1874.

To all whom it may concern:

Be it known that I, MANSON F. GIBBS, of Livonia, in the county of Livingston and State of New York, have invented certain new and useful Improvements in Reel-Rakes for Grain-Harvesters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a top sectional view of my invention, a portion of the guard G being broken away. Fig. 2 is a front sectional elevation of the same. Fig. 3 is a top view of one of the rake-heads or stocks H detached.

The main object of my invention is to provide the ordinary reel-rakes of grain-harvesters with a simple and efficient method of converting the reel-arms into rakers. Its nature consists, first, in the employment of a grooved switch, which is governed and adjusted by the driver, and when placed in its inner position the traverse-rollers of the reel-arms are made to travel upon the lower track while the arms are passing over the platform, and act as rakers, and when it is thrown to the outer position the rollers are forced to mount the elevated track on that portion of the sweep, and the arm only acts as a reel. Second, in the employment of a locking-guard in connection with a radially-adjustable traverse-roller for holding down the rake-arms.

I use the ordinary supporting-cam C and revolving driver D, to which latter I hinge the stocks H of the reel-arms, in the usual manner. I form the stocks substantially as shown, and hang the traverse-rollers *r* therein, as shown in Figs. 1 and 3. These rollers are rigidly fixed to their spindles *n* so as to secure an easier journal-bearing, one that shall produce far less friction and wear by the rotation and the radial changes of the rollers than would result if they were allowed to turn loosely upon their spindles. The radial changes of the rollers may be governed, as shown in Fig. 3, by the spindle *n*, resting against the hinge-bolt *b*, when the rollers are in their inner adjustment, and the other end of said spindle resting against the bottom of the hole in the arm, as shown by dotted lines at *f*, when the rollers are in their outer adjust-

ment; or, if desired, the spindle *n* might be provided with a suitable collar or shoulder, either side of the roller, to strike against the stock at *d* and *h*. The segmental switch B forms a portion of the track over which the roller passes, and is for the purpose of changing the roller from the upper track *k* to the lower track *k'*, and *vice versa*. It is formed with an axial pivot, *i*, projecting from the lower side near the front end. This pivot passes through an opening in the case C made to receive it. It is secured in its place by the head of the lever *y* and a nut or otherwise. The lever has a square opening to fit upon a corresponding shaped section of the pivot. This causes the switch to move in whichever direction the lever is moved, and the latter is operated by means of a rod, E, and bell-crank lever, L. This lever is arranged at any convenient point, preferably where the driver may operate it by his foot, similarly to other methods of adjusting or governing the operations of the reel-arms in this class of machines. The switch may be thrown out by means of a spiral or other spring, arranged between the switch and the bed it rests upon, or attached to one arm of the lever L, or to the lever *y*. In either case, it will be seen that a movement of the lever against the spring would force the switch inward, and the spring, when released, would restore it to its normal position. The switch is effectually locked in either position during the transit of a reel-arm, H, over it, by means of the pin or lug *j*, which bears against the outer face of the rib *u*, when the switch is swung in, and when it is swung outward the pin travels through the groove *v*. The guard G is designed more especially to hold the arms down upon the platform when they act as rakes. This is effected by the traverse-rollers traveling under the outer edge of the guard-plate, while the arms are describing that portion of their sweep from the front to the rear of the platform. The revolving head D may be driven in the usual way. The rollers will always traverse the outer track except when thrown in by the movement of the switch. The dotted line *x*, in Fig. 1, indicates the position of the cutter-bar.

What I claim as my invention is—

1. In combination with the roller r , having a lateral adjustment parallel to its axis, and tracks k and k' , the hinged switch B forming a portion of the track over which the roller passes, all constructed and operating substantially as shown and described.

2. The reel-arms H, provided with the locking-pins j , and the radially-adjustable rollers r , in combination with the hinged switch B, for the purpose of locking said switch while the arm and roller is passing over it.

3. In combination with the arms H, and traverse-rollers r , the locking guard or disk G, for the purpose of holding the rake upon the platform while it is required to act as a rake, as set forth.

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Witnesses:

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