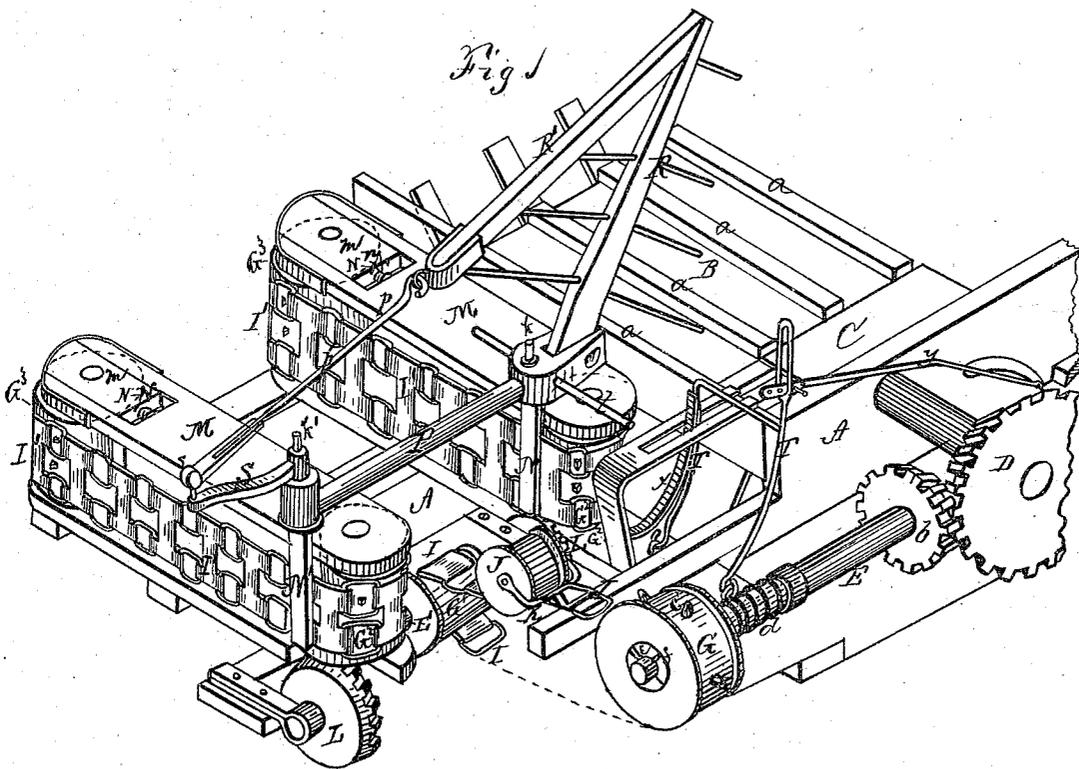


T. MURPHY.
Harvester-Rakes.

No. 142,171.

Patented August 26, 1873.



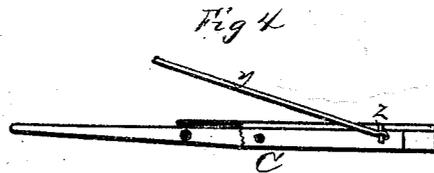
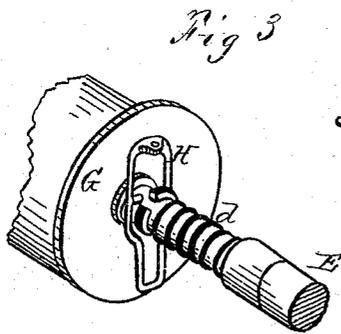
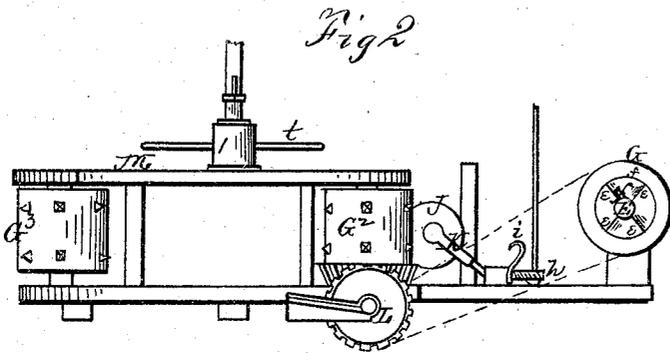
Witnesses:
F. L. Curand
C. L. Evert.

Inventor:
Thomas Murphy
By J. A. C. Perkins, Attorney

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UNITED STATES PATENT OFFICE.

THOMAS MURPHY, OF PINE BLUFFS, WISCONSIN.

IMPROVEMENT IN HARVESTER-RAKES.

Specification forming part of Letters Patent No. 142,171, dated August 26, 1873; application filed June 3, 1873.

To all whom it may concern:

Be it known that I, THOMAS MURPHY, of Pine Bluffs, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Reaper Attachments; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in the construction and arrangement of a self-raking and dropping attachment for reapers, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my reaper attachment; and Figs. 2, 3, and 4 show detached parts of the same.

In the accompanying drawing I have not deemed it necessary to show any part of a reaper, as I do not claim anything new in such, but merely in a self-raking and dropping attachment for any reaper.

A represents the frame of my attachment, in which is a platform, B, having a series of longitudinal slats, *a a*, on its upper side. The grain falls crosswise on the slats *a a*, and is by the rake moved to the inner end of the platform, where is arranged a tilting gate, C, to drop the grain onto the ground. D represents a bevel cog-wheel, to be attached to the driving-wheel, or to the axle of the driving-wheel, of the reaper. This bevel cog-wheel gears with a bevel-pinion, *b*, on the front end of a shaft, E. On the rear end of this shaft is placed a loose pulley, G, having ratchet-teeth *ee* formed in its outer end, and pressed by a spring, *d*, against pins *f* projecting from the end of the shaft E. The spring *d* surrounds the shaft E for a suitable distance on the front side of the pulley G, and holds the same against the pins *f*, so that, when the reaper moves forward, said pins will engage with the ratchet-teeth *ee* and thus revolve the pulley, while when the machine backs the shaft can turn without causing the pulley to turn backward. The hub of the pulley G

projects on the front side, and this projecting part of the hub is grooved circumferentially, and a lever, H, pivoted to the frame-work A, is forked or slotted and works in said groove. The upper end of the lever H should have a rod or cord attached to it so as to be operated by the driver for the purpose of moving the pulley G forward on the shaft and thus throw the machine out of gear. The pulley G is, on its circumference, at regular intervals, provided with teeth or projection to catch in an endless chain, I, which passes around said pulley and around a similar toothed pulley, G', on a shaft, E', thereby communicating motion to the same. By substituting a different-sized pulley for the pulley G the speed of the shaft E' is regulated, and as this shaft operates the rake the size of the bundles is accordingly made larger or smaller, as desired. The chain I is made taut under all circumstances by means of an idle-pulley, J, mounted in a frame, K, having a screw-rod, *h*, passing through a bar of the frame-work A, with a thumb-nut, *i*, screwed on the same, to move the pulley J out or in, as occasion may require. Upon each end of the shaft G¹ is a bevel pinion or cog-wheel, L, and these gear with cogged pulleys G² G³, arranged each in the inner end of a frame, M. These two frames run parallel with each other and with the slats *a a* of the platform B, and in the outer end of each frame M is another pulley, G³. This latter pulley has its journal-bearings in sliding or movable pieces *m*, which are adjusted out or in by means of a screw, *n*, for the purpose of correspondingly moving the pulley and thereby keeping taut an endless chain, I', which is placed around the pulleys G² G³. All of the pulleys G² G³ are provided with teeth to catch in the endless chains, as shown in Fig. 1. To each of the endless chains I' I' is attached a vertical bar, the one on the chain nearest to the platform being marked N and the other N', and these bars are at their upper ends provided with screw-rods *k k'*, respectively, which rods extend upward, as shown. On the rod *k* is placed a head, O, from which a rod, P, extends to the rod *k'*, with a collar on the rod P fitting loosely on said rod *k'*. In the head O is pivoted the rake R, constructed, as shown, with an inclined arm or brace, R', on top. From the upper inner end

of this brace R' a rod, *p*, extends to and connects, by a ball-and-socket joint at *s*, with a crank, S, which is firmly secured upon the upper end of the rod *k*'.

It will be seen that when the machine is in motion and the bars N N move from the outer to the inner ends of their respective frames M M the rake is down, with the teeth thereof between the slats *a a* on the platform B, and below them, moving the grain with perfect ease into the gate C, and, as the bars N turn the inner ends of the frames M, the crank S makes one-half of a revolution, raising the rake into the position shown in Fig. 1. In this position the rake travels to the outer end of the platform, when it is let down by the crank S making another half revolution as the bars N turn around the outer ends of the frames M.

Through the head O is a pin or arm, *t*, which, as the bar N passes around the inner end of its frame M, strikes a hinged lever or frame, T, and draws the same back, and, when the arm *t* clears this lever or frame, a spring, *x*, throws the same into its original position. This lever or frame T is, by a rod, *y*, connected with a pin, *z*, in the gate C, so that, by the backward movement of the frame T, the gate will be tilted and drop the grain which has just been drawn onto the same by the rake R; and when the lever or frame T is thrown forward

by the spring *x* the gate is brought back to its original position as a part of the platform B.

The connection between the rod *y* and lever or frame T is made adjustable, as shown, so as to easily regulate the extent of the movement of the gate C.

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

1. The rake R, pivoted in the head O and raised and lowered by the intermittently-revolving crank S, connected by a rod, *p*, with the arm R' of the rake, as and for the purposes set forth.

2. The endless chains I I', carrying the bars N N', in combination with the head O, rod P, and crank S, for the purposes herein set forth.

3. The combination of the platform B, tilting gate C, rake R, endless chains I I', bars N N', head O, rod P, and crank S, all constructed and arranged to operate substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 16th day of May, 1873.

THOMAS MURPHY. [L. S.]

In presence of—

ROBERT BURNS,
HENRY WENKEL.