G. W. HINES.

Harvester Rake.

No. 111,344. Patented Jan'y 31, 1871.

Fig. 1.

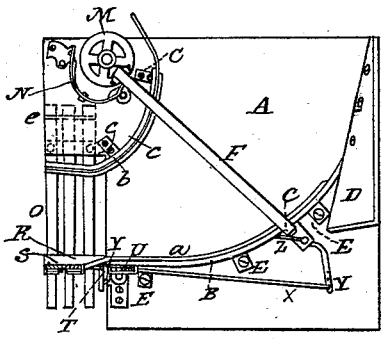


Fig. 2.

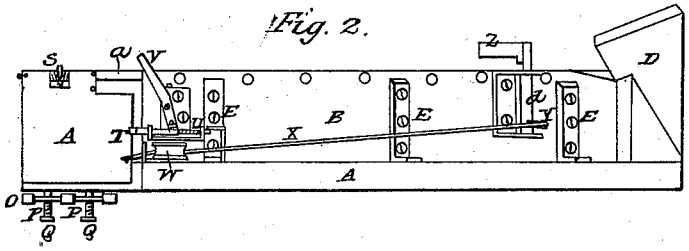
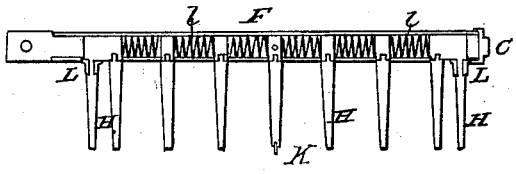


Fig. 3.



Witnesses:

William M. Hornor

Inventor:

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UNITED STATES PATENT OFFICE.

GEORGE W. HINES, OF BROOKFIELD, WISCONSIN.

IMPROVEMENT IN HARVESTER-RAKES.

Specification forming part of Letters Patent No. **111,344**, dated January 31, 1871; antedated January 28, 1871.

I, GEORGE W. HINES, of Brookfield, in the county of Waukesha, in the State of Wisconsin, have invented certain Improvements in Harvester-Rakes, of which the following is a specification:

Nature and Object of the Invention.

The object of my invention is to sweep the grain from the platform and gather it together, so that it can be bound without raking it up together after it falls on the ground, by means of the devices hereinafter described.

Description of the Drawing forming part of this Specification.

Figure I is a plan or top view, Fig. II is a side view, and Fig. III is a sectional view, of the rake.

General Description.

A is the platform. B is the outer guard; C, the inner guard. These two guards are contracted at their outer ends, so that the grain may be brought into a close compass ready for binding as it leaves the platform. D, the guard-board; E E E, the stops, screwed or bolted onto the outer guard and onto the platform, to hold the guard B firmly in position. These stops may be changed out or in on the platform, so as to contract the discharge-opening, as desired. F, the rake-head; G, nut screwed onto the outer end of the rake; H, rake-teeth. These teeth are set in blocks that work in the grooved head of the rake. I, springs to keep the rake-teeth apart; K, a sheave or truck in the end of the middle tooth, to make it roll easily on the platform; L L, loose rings on the two outside teeth; M, wheel which the rake is attached to, and which revolves the rake; N, track which raises the rake out from between the guards as it is revolved round; O, dropper, which the grain, as it falls from the platform, drops onto and rolls off onto the ground; P, springs which hold the dropper up when the grain is not on it; Q Q, stops on the platform, which the springs P are around; R, swing-guide, which holds the grain from spreading as it falls onto the dropper; S, wire spring which throws this swing-guide back at the moment the grain falls onto the dropper; T, catch which holds swing-guide up; U, spring on catch T to hold the catch out in place; V, a lever, hung by a screw or bolt about one-third the distance from the end, attached to catch T, so that when the rake-head comes round it strikes the upper end of this lever and throws catch T back, releasing it from swing-guide R; W, roller; X, a cord running from swing-guide R, behind roller W, to lever Y; Z, lever on the upper end of shaft *d*, so that when the rake-head strikes against its end it will turn the shaft and swing out lever Y and draw swing-guide up, which, striking against the chamfered end of catch T, throws it back, the guide passing behind the catch, and the spring U, throwing the catch back, holds the guide up till the rake-head releases it by striking lever V; *a*, an iron on the inside of the guard B, on the end of which is swing-guide R. Against this iron *a* the ring on the outer tooth strikes, and, following around, presses the teeth up together and contracts them in the head of the rake. *b*, an iron on the inside guard, C, against which the ring L on the inside of the rake strikes, and the teeth are pressed out together; *c c*, stops which fasten guard C to the platform; *e*, pin which passes through the back end of dropper O, and which the dropper moves on, as shown by dotted lines; *d*, shaft.

The rake-head is intended to be made as described, or I sometimes make it with two heads, with the teeth permanent in them, and slide the two heads by each other and throw them back with a spring.

Sometimes I make the rake-head of three pieces, the middle piece being stationary and the two end pieces sliding inward, with the teeth stationary.

The operation of this rake is quite simple. The rake-head is brought round with any kind of machinery suitable for the purpose, the teeth of the rake striking in at the butts of the grain and shoving it along on the platform.

The rings L L on the two teeth, at the outer and inner end of the rake-head, strike against irons *a* and *b* on guards B and C, and, as the rake passes round, press them in toward the center, the outer end of the rake striking lever Z, turning it, and lever Y pulling on cord X, which draws in swing-guide R, throwing back stop T, and as the rake-head passes le-

ver Z the cord X is loosened, the spring on stop T throws it out again, holding guide R till the rake comes up and strikes lever V and releases it, and the guide swings out again, the grain having dropped onto the dropper, when it bears the dropper down and the stubble sweeps it off onto the ground, and the rake is raised, passes round, and goes through the same operation again.

Claims.

I claim as my invention—

1. The combination of the adjustable guards B and C with stops E and *c*, irons *a* and *b*, and rake F, arranged substantially as described.

2. Rake F, provided with nut G, teeth H, springs I, and rollers L, operating substantially as described.

3. The combination of the guide R, stop T, lever V, lever Y, cord X, and lever Z, operating substantially as described.

4. Dropper O, arranged to operate in combination with rake F and guide R, substantially as described.

GEORGE W. HINES.

Witnesses:
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