(No Model.)

C. BOLLINGER.

Horse Rake.

No. 237,951. Patented Feb. 22, 1881.

Fig. 1.

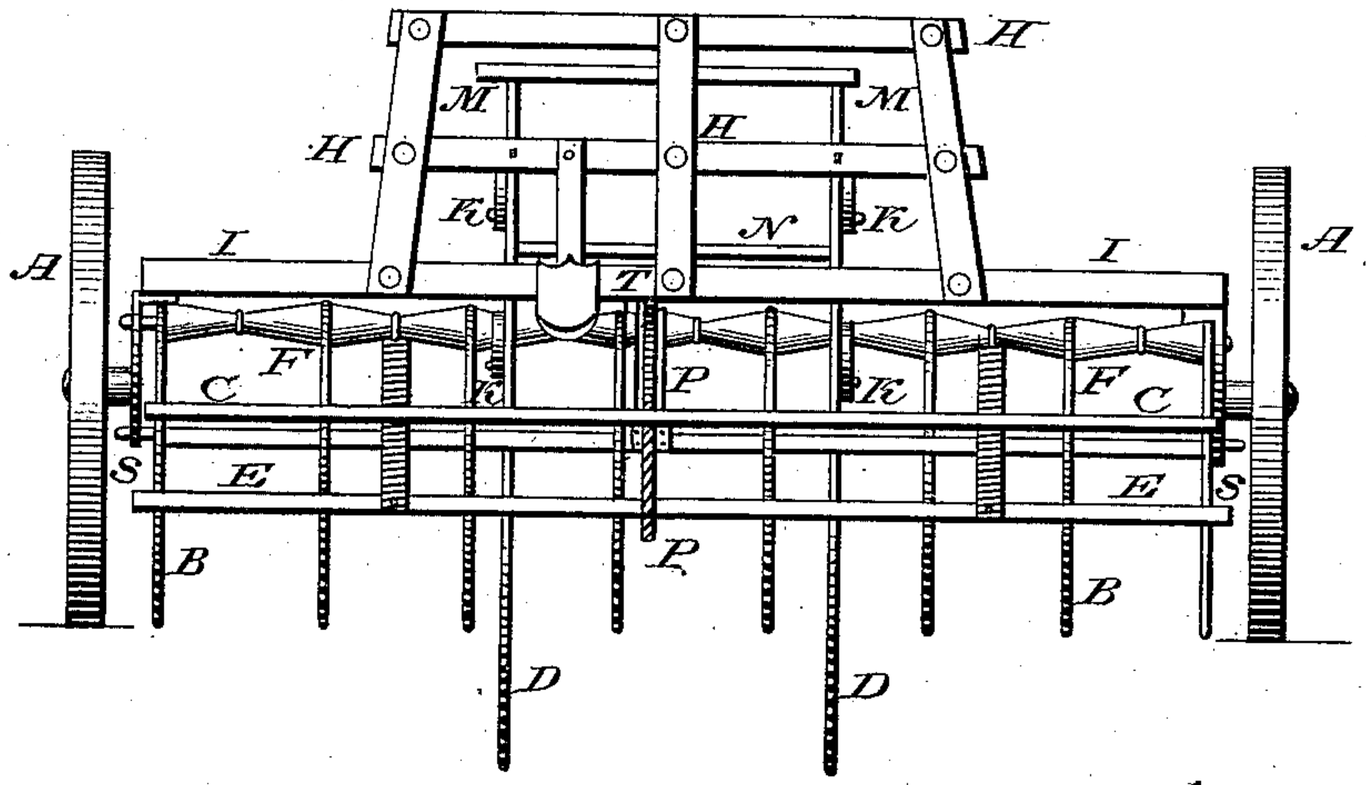


Fig. 4.

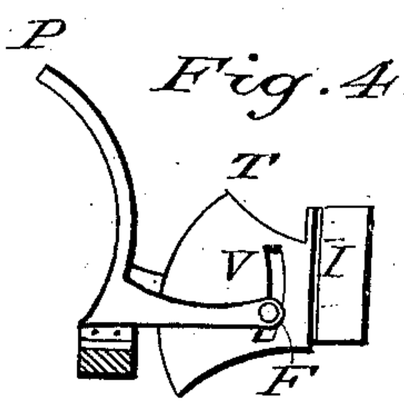


Fig. 3.

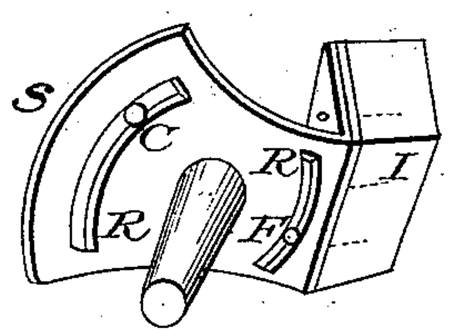
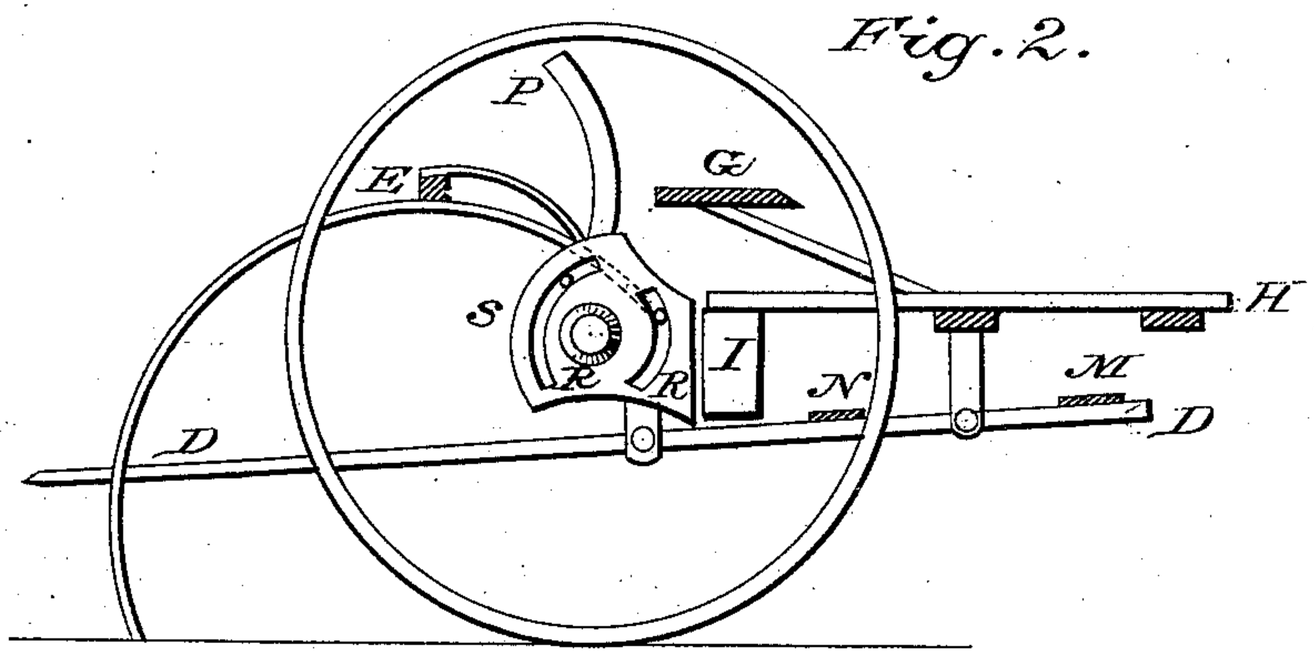


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

CORNELIUS BOLLINGER, OF HARRISBURG, PENNSYLVANIA.

HORSE-RAKE.

SPECIFICATION forming part of Letters Patent No. 237,951, dated February 22, 1881.

Application filed September 23, 1880. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS BOLLINGER, of the city of Harrisburg, county of Dauphin, and State of Pennsylvania, have invented new and useful Improvements in Horse-Rakes; and I do hereby declare the following to be an exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 represents a top view of the horse-rake. Fig. 2 exhibits a side elevation of the same. Fig. 3 shows the shape of the slotted guide-plate, with the journal for the carriage-wheel cast solid with the plate, and as permanently screwed fast to the ordinary square wooden carriage-axle. Fig. 4 shows how the main upright lever is permanently attached to the rocking bar, and how it moves up and down on each side of the center guide-plate and operates the rocking bar and head-bar.

The nature of my invention consists in the construction of the circular slotted guide-plate S, cast solid with a carriage-wheel journal, W, and attached to the back side of the axle I, the pivoted posts K, connecting the head-bar F and clearers D, and the pivoted main upright lever P, all combined to give an up-and-down reciprocating motion to the rake, the horse-rake being attached to a two-wheel carriage, with bent steel teeth B resting on a rocking frame, C, and with clearers D D, arranged between the teeth B, for the purpose of discharging the material raked from the teeth as they are raised; also a pressure-bar, E, extending across the teeth, to hold them down back of the rear bar of the rocking frame C, in order to bring it more nearly over the points of the teeth, for the purpose of giving increased support and steadiness to the teeth. The rake-teeth B B are wound around and firmly attached to head-blocks F, and through these blocks F a rod passes, that forms the head of the rake-teeth.

A driver's seat, G, is attached to the carriage-frame H in front and above the axle I, and in such a position to enable the driver to work the lever P, that operates the teeth—at the same time control and operate with his foot the clearers to also operate the teeth.

The clearers D are pivoted to flat bars or posts K K, bolted and attached to the front part of the carriage-frame H above, and the clearers are also pivoted to two posts, K, permanently fastened to the head-bar F of the teeth B, the front pivots or posts, K K, acting as a fulcrum for the clearers D, so that when the driver treads upon the front cross-piece, M, of the clearers, the rear ends or points of the clearers rise up between the teeth, raising at the same time the rake-head F, for the rake to operate and collect the material, and when the driver treads upon the rear cross-piece or foot-board, N, of the clearers D, the points of the clearers are pressed down and clean the teeth, while the driver with his right hand draws the upright lever P forward, raising the teeth and unloading the rake. The upright lever P is permanently fastened to the center of the rocking frame C and head-bar F, that support the teeth, and the journals of the rocking frame C and the journals of the head-bar F work up and down in the circular slots R of the guide-plates S, fastened to the back side and near the end of the axle I. A center guide-plate, T, with a circular slot, V, in which the head-bar F operates, is also a guide for the up-and-down motion of the head-bar F, and a guide for the upright lever P. The lower end of lever P clasps the plate T on each side, so as to have a free and steady movement for the lever P and the teeth B when moving up and down. The guide-plates S S are made of smooth metal castings fastened to and projecting from the rear of the axle I, having two circular slots, R R, the outer slot longer than the inside one, for the journals of the head-bar F and rocking frame C both to work in with a vertical and circular action, giving the rake two free motions—vertical and circular. The journals of the rocking frame, working in the outer circular slots, R, of the plates S, act as a pivot for the center of the teeth B, giving them a central pivoted action between the head-bar F and points of the teeth, which effects the easy operation of the upright lever P, to raise the

teeth and clean the rake, acting as balancing rake-teeth. The journal W, instead of being, as usual, upon the end of the main axle I of the carriage, is cast solid with the plate S.

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

The head-bar F, with its pivoted clearers D attached, when operating with a reciprocating motion, and combined with the circular slotted guide-plates S, constructed with the journals W of the carriage-wheels, as herein described and set forth.

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Witnesses:

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