

*J. B. Smith,
Horse Rake.*

No. 83,002.

Patented Oct. 13, 1868.

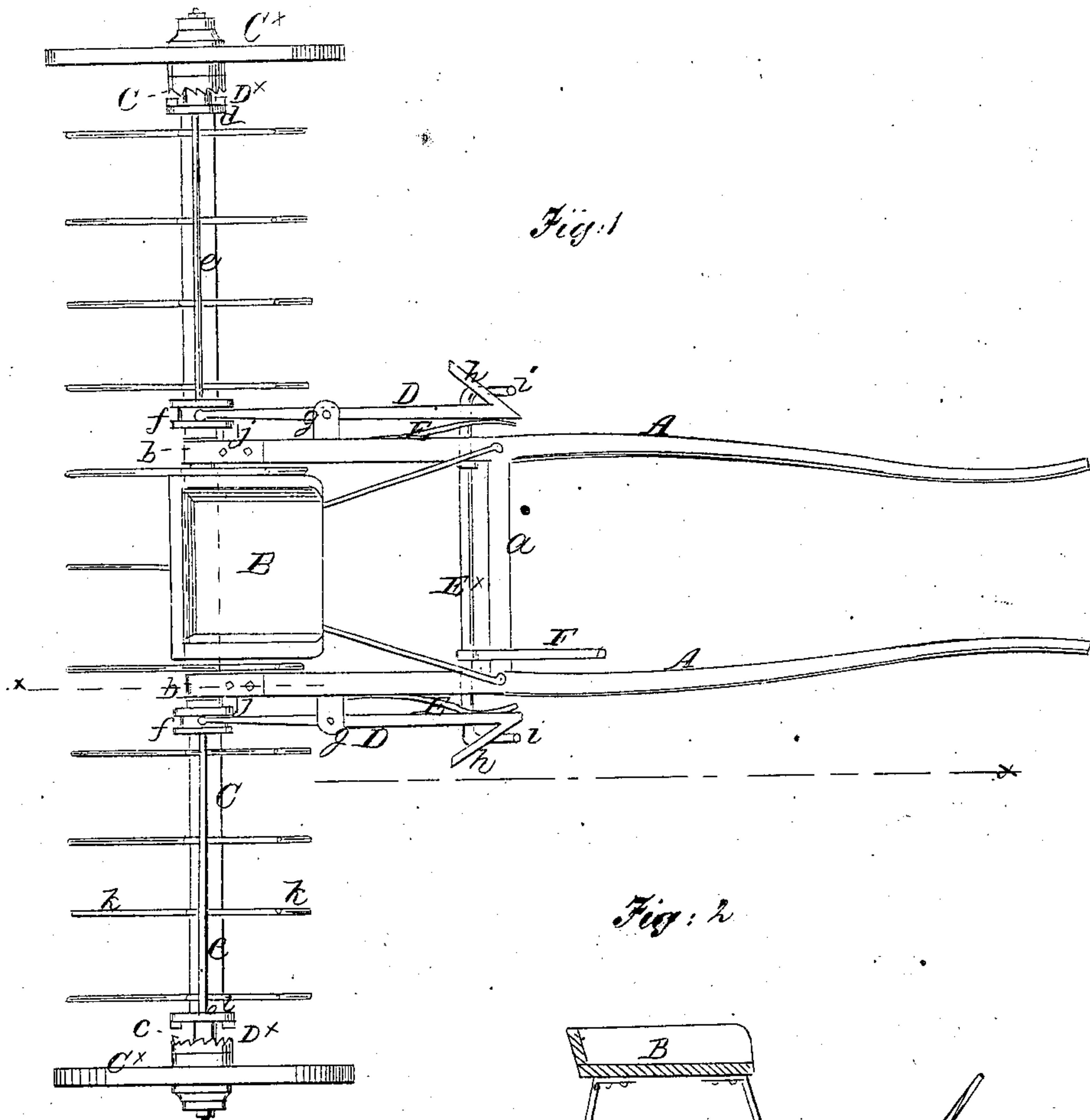


Fig. 1

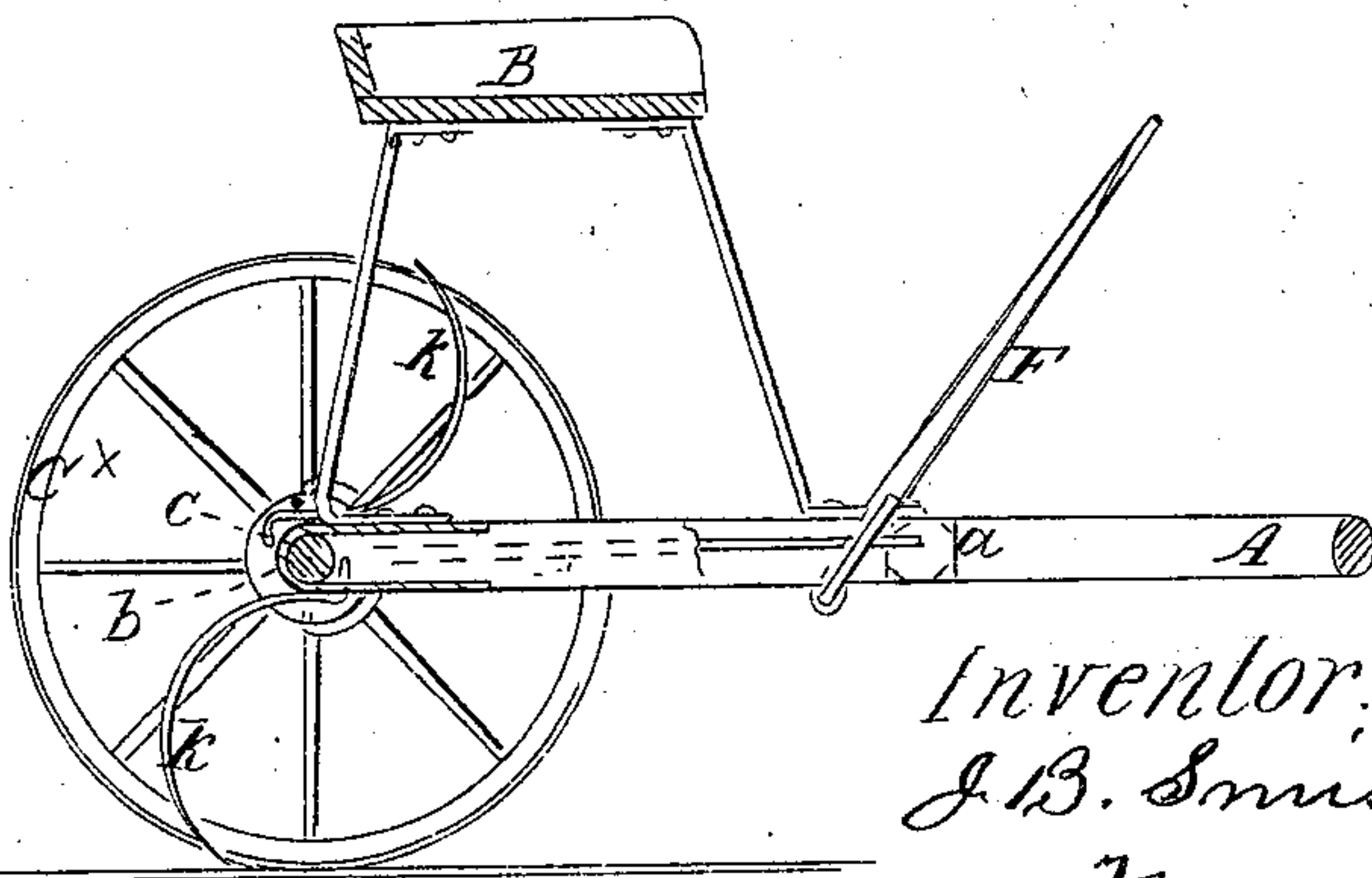


Fig. 2

*Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN B. SMITH, OF NEWTON, ASSIGNOR TO HIMSELF, JAMES B. STEVENS,
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IMPROVEMENT IN HORSE-RAKES.

Specification forming part of Letters Patent No. 83,002, dated October 13, 1868.

To all whom it may concern:

Be it known that I, JOHN B. SMITH, of Newton, in the county of Jasper and State of Illinois, have invented a new and Improved Horse-Rake; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and improved horse-rake of that class which are provided with wire teeth; and it consists in a peculiar construction of the device, as hereinafter fully shown and described, whereby this class of rakes is very much simplified and rendered capable of being manipulated with greater facility than hitherto.

In the accompanying sheet of drawings, Figure 1 represents a plan or top view of my invention; Fig. 2, a section of the same, taken in the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

A A represent the thills of the device, connected by a cross-bar, *a*, and having the driver's seat B secured on their rear part. C represents the rake-head, which is fitted and allowed to turn freely in metallic straps *b b* at the rear ends of the thills. This rake-head has wheels C^x C^x fitted loosely on its ends, and it therefore performs the double function of a rake-head and axle.

The inner ends of the hubs of the wheels C^x C^x are formed with ratchet-shaped teeth *c*, which form parts of clutches D^x, the other parts, *d*, of the clutches being circular slides, provided with one or more teeth, fitted on the rake-head in such a manner that while always turning with it, whenever it is turned, they are allowed to slide longitudinally upon it. These slides *d* are connected by rods *e* to other slides, *f f*, which are fitted on the rake-head C in a similar manner, and are grooved circumferentially to receive the forked ends of levers D D, which are attached to the thills by their fulcrum *g*, as shown clearly in Fig. 1.

The outer ends of these levers D D are of V form, having each an arm, *h*, extending obliquely back, and these arms *h* are made to bear, by means of springs E E, against crank ends *i* at the ends of a shaft, E^x, the bearings of which are attached to the thills just back of the cross-bar *a*.

The springs E, it will be seen, have a tend-

ency to keep the parts *d* of the clutches disconnected from the parts *c* on the hubs, so that the wheels C^x C^x may turn without turning the rake-head.

The shaft E^x has a hand-lever, F, attached to it, and the slides *f f* have notches or projections at their inner sides, to catch against projections *j* at the sides of the thills and hold the rake in working position.

The rake-head has two sets of teeth, *k k*, one set having a position above the rake-head when the other set has a downward position and are at work, (see Fig. 2,) and when the latter set have raked up a requisite quantity of hay the driver draws backward the upper end of the lever F, and thereby forces inward the front ends of the levers D D, on account of the crank ends *i* of the shaft E acting against the oblique arms *h* of the levers D, and the latter thereby force the parts *d* of the clutches in contact with the parts *c* on the hubs of the wheels, the slides *f f*, in moving outward to effect this connection, being freed from the projections *j* on the thills, and the rake-head, being thus connected with the wheels C^x, is allowed to turn and make a half-revolution and discharge its load, the upper set of teeth descending while the lower set rises, so that the two sets will exchange positions, the turning of the rake being stopped when the teeth arrive at the proper position, the lever F being released at the proper time to admit of the springs E throwing the levers D back and the slides *f* to their former position, so that a projection on the slides may come in contact with the projections *j* on the thills.

It will be seen that the device is composed of but few parts, and the arrangement of the same extremely simple, so that it may be manipulated with the greatest facility.

I claim as new and desire to secure by Letters Patent—

The levers D D, in connection with the slides *f f* and clutches D^x, oblique arms *h* at the front ends of the levers, the crank ends *i* of shaft E^x, and the projections on the slides *f* and thills, all arranged to operate in the manner substantially as and for the purpose specified.

JOHN B. SMITH.

Witnesses:

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