O. L. GENUNG & W. H. BLACKMAN.

Improvement in Horse Hay-Rakes.

No. 133,091. Patented Nov. 19, 1872.

Fig. 1.

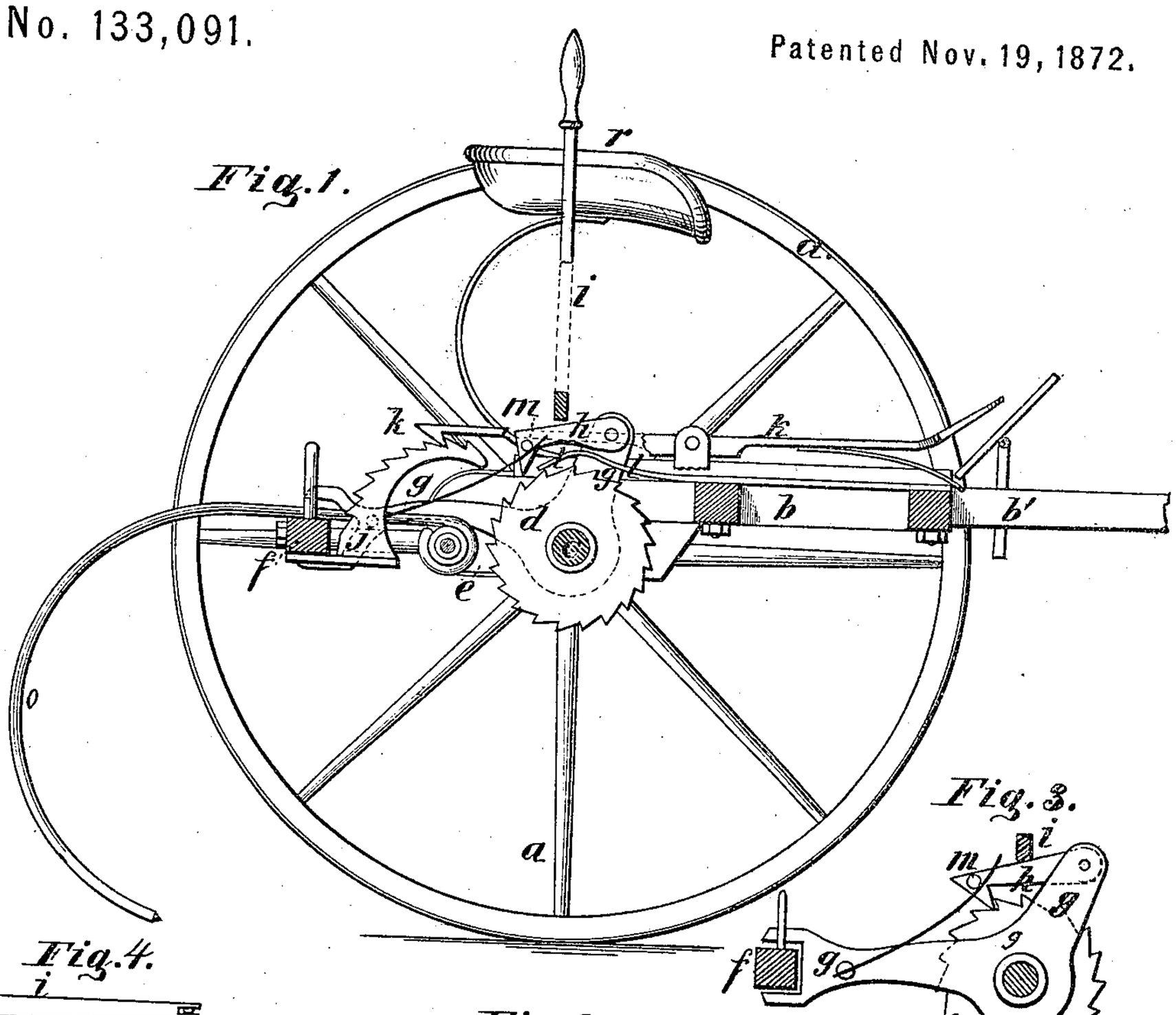
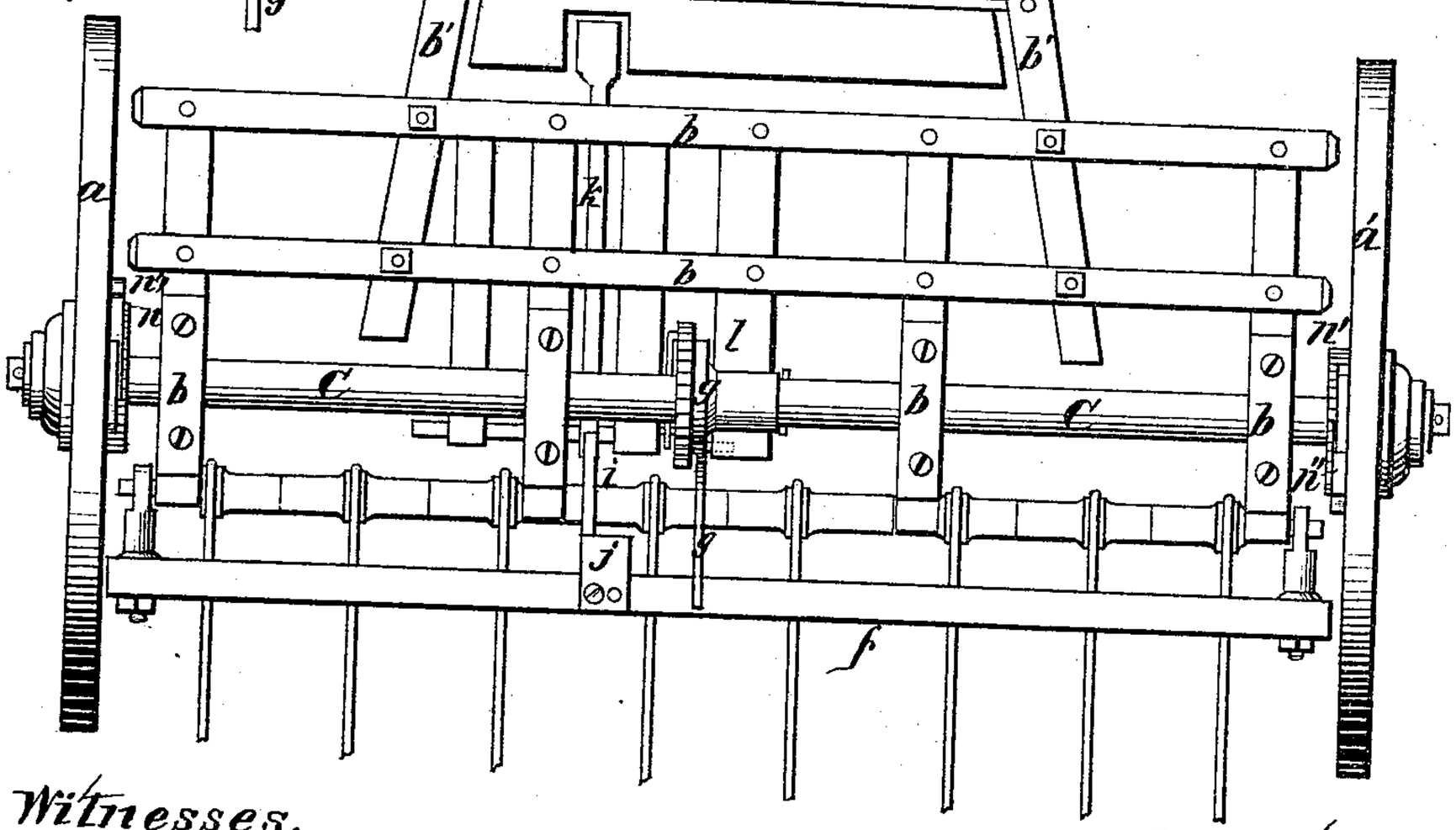


Fig. 3.

Fig. 4.

Fig. 2.



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UNITED STATES PATENT OFFICE.

ORRIN L. GENUNG AND WILLIAM H. BLACKMAN, OF CAROLINE, NEW YORK.

IMPROVEMENT IN HORSE HAY-RAKES.

Specification forming part of Letters Patent No. **133,091**, dated November 19, 1872.

To all whom it may concern:

Be it known that we, ORRIN L. GENUNG and WILLIAM H. BLACKMAN, of the town of Caroline, Tompkins county, New York, have invented certain Improvements in Horse-Rakes, of which the following is a specification:

The object of our invention is the dumping of an iron-toothed horse-rake by means of the wheels of the rake, as hereinafter described and claimed.

We make out of gas or other pipe a revolving axle, to which we attach three toothed wheels, two next to the wheel-hubs, and one at any convenient point on the axle; but preferably at or near the middle of it. We place the rake-head just so far back of the middle cog-wheel as to clear that wheel, and hinge it fast to the rake-frame. We put, at any convenient distance back of the rake-head, a lifting-bar, which elevates all the teeth; and to it we attach a metallic piece or segment of a circle, with teeth or cogs, in which plays a toothed click in the end of a lever, operated, preferably, by the foot of the driver, and which holds the teeth at any convenient distance from the ground; and this cog-wheel and lever have several uses. Near the middle cog-wheel, on the axle of the rake, we put a two-armed lever, whose hub is on the axle. To one end of this angled lever is fast a click, raised by a spring, and depressed by a hand-lever. Its object is to catch into the cog at or near the middle of the revolving axle, and, by the other arm of the lever, elevate the teeth of the rake, as it does by being forked about the lifting-bar of the rake. A cam-surface is fast near the click just spoken of, and out from the click a stud projects for detaching this elevating click, so as to clear the cogs of the elevating cog-wheel on the revolving axle, just as soon as the rake-teeth are raised to the proper dumping height.

The following accompanying figures are designed to show the parts just named, as well as other parts connected with them, viz: Figure 1, a partial side elevation, showing the mechanism of our rake; Fig. 2, a view of the frame and arrangement of our rake, as seen by inverting our rake, or placing it bottom side upward; Fig. 3 shows the elevating-lever and its click; and Fig. 4, the angled lever, which throws the click of the elevating-lever in gear with the cog-wheel at or near the middle of the axle.

In Fig. 1, *a* is one of the wheels that support the rake; and *b b'*, the frame and thills of the rake fast to the revolving axle *c;* and *d* is the elevating cog-wheel, fast to the revolving axle at or near its middle; and *e* is the rake-head, hinged to the frame *b;* and *f* the elevating-bar for the rake-teeth; and *g* is the two-armed lever, journaled loosely on the axle; and *h* is its elevating-click, thrown, by by the hand-lever *i*, at the pleasure of the operator, in gear with the cog *d*. At *j* is seen the segmental cog, fast to the elevating-bar; and at its upper end the tooth of the foot-lever *k* is in gear with the segment *j;* and at *l* is the cam-surface for the stud *m*, projecting from the click *h* to slide on, and thus throw the click *h* out of gear from the wheel *d*.

The operation of these just-named parts is, that the driver, seated at *r*, lets the rake run until the cavity *o* of the rake-teeth is filled, when he, by the hand-lever *i*, depresses the click *h* into the constantly-turning cog *d*, when this cog, by the click *h*, pushes the two-armed lever *g* forward, and thus the elevating-bar *f* is raised, and the rake-teeth with it, until the stud *m*, bearing on the cam-surface *l*, disengages the click *h* from the teeth of the cog *d*, and thus the hay is dumped; and in the meantime the segment *j* has run up by the tooth on the end of the foot-lever *k*, and thus the teeth of the rake are held from the ground until the driver puts his foot on the lever *k*, when the rake-teeth fall, and raking again commences. By the repetition of this operation, with these simple devices, the rake is used as long as the operator desires.

In Fig. 2 the same letters show the same parts.

At *n* and *n'* on the axle *c* is seen two cog-wheels fast to the axle, with two clicks fast to the wheels, *a* and *a'*. The action of these cogs and clicks is to let either wheel revolve in turning the rake, while the axle revolves continually whenever the rake advances.

The advantages and uses of our invention are considered as apparent to those skilled in the art to which it appertains.

Claims.

1. The toothed segment *j*, and bar *f*, in combination with the foot-lever *k*, substantially as and for the purpose described.

2. The combination of axle *c*, cog-wheels on the axle, armed lever *g*, click *h*, and cam *l*, combined with the bar *f*, segment *j*, and lever *k*, substantially as and for the purpose described.

3. The combination, of the hand-lever *i* constructed as described, the click *h*, wheel *d*, the two-armed lever *g*, with the bar *f*, segment *j*, and foot-lever *k*, substantially as set forth.

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Witnesses:
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