

(No Model.)

C. MCINTIRE.
COMBINED RAKE AND TEDDER.

No. 350,207.

Patented Oct. 5, 1886.

Fig. 1.

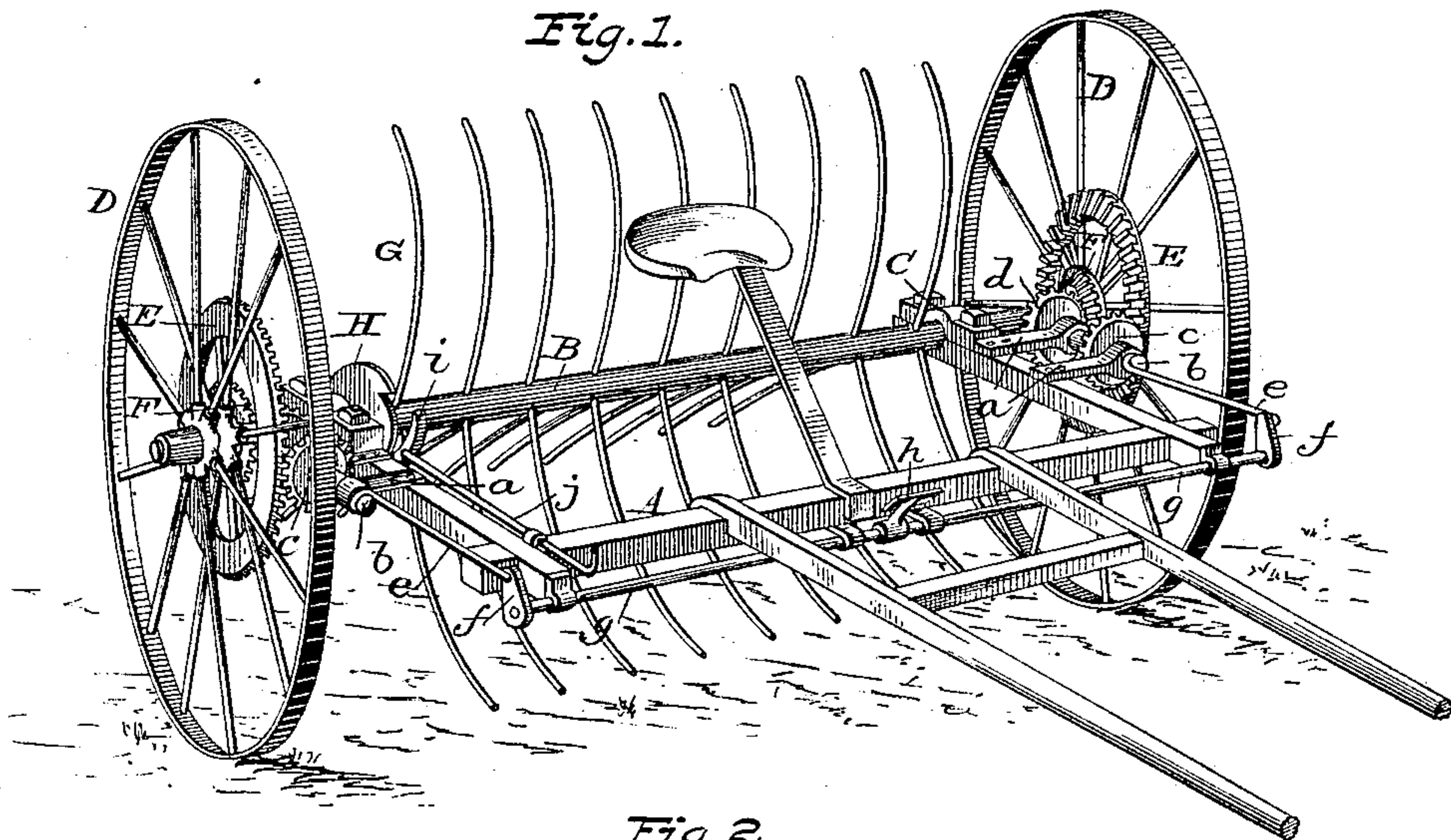


Fig. 2.

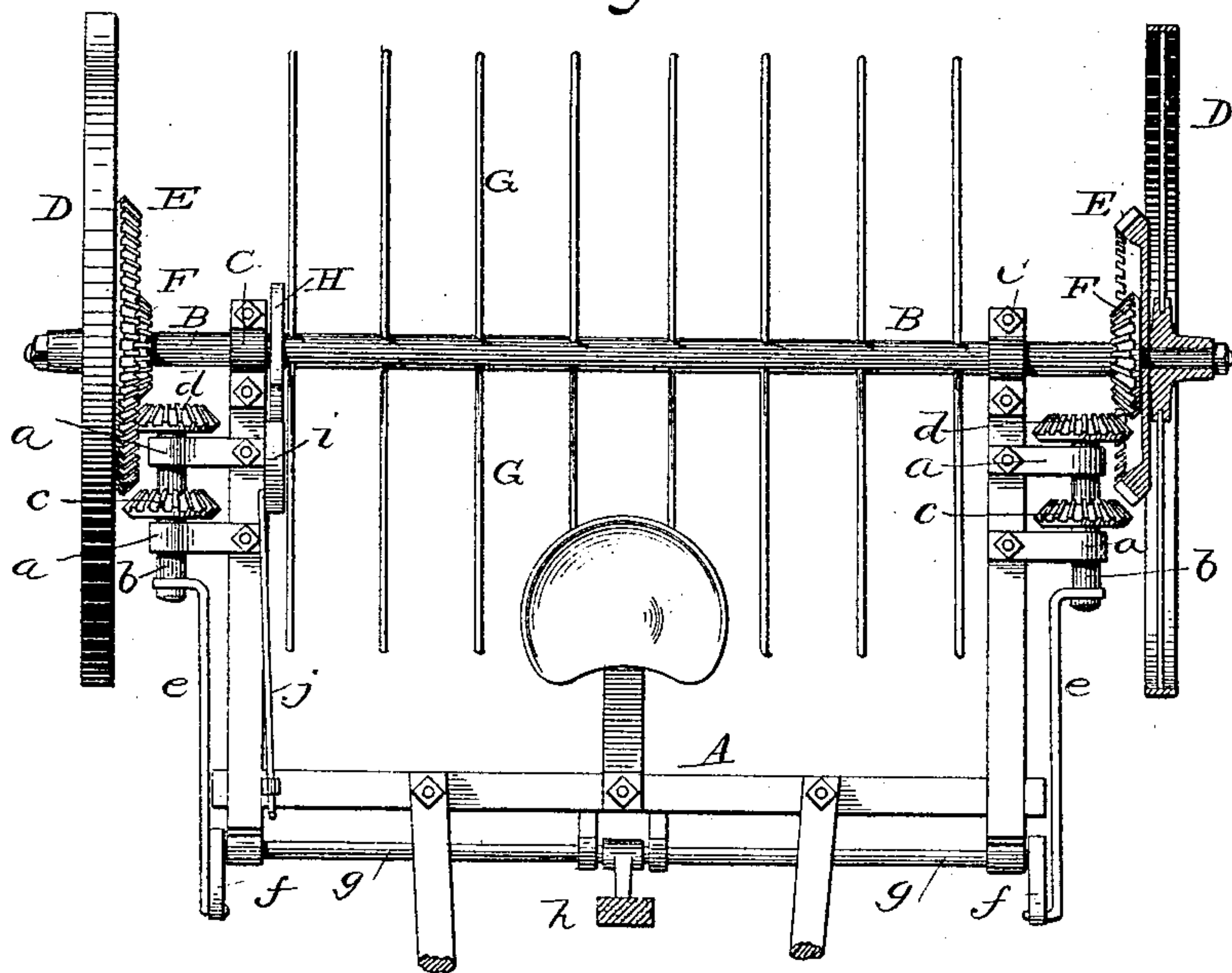


Fig. 3.

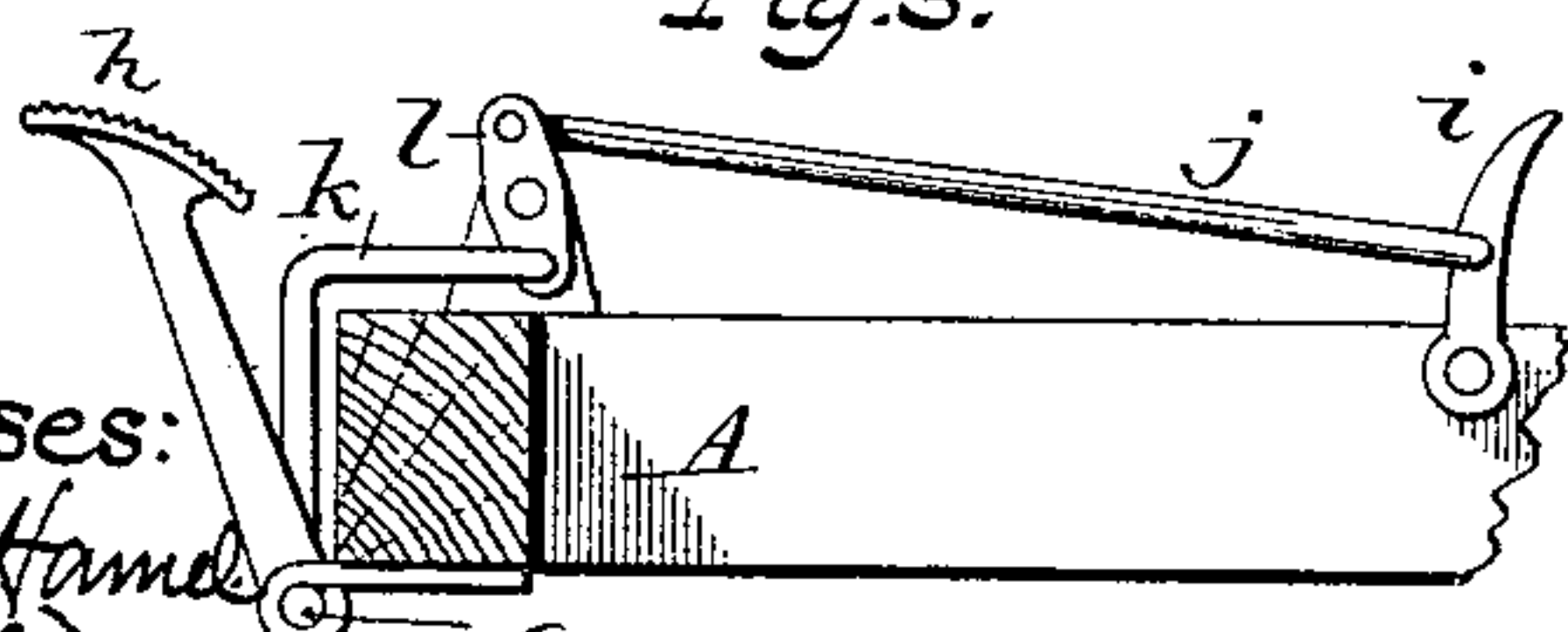
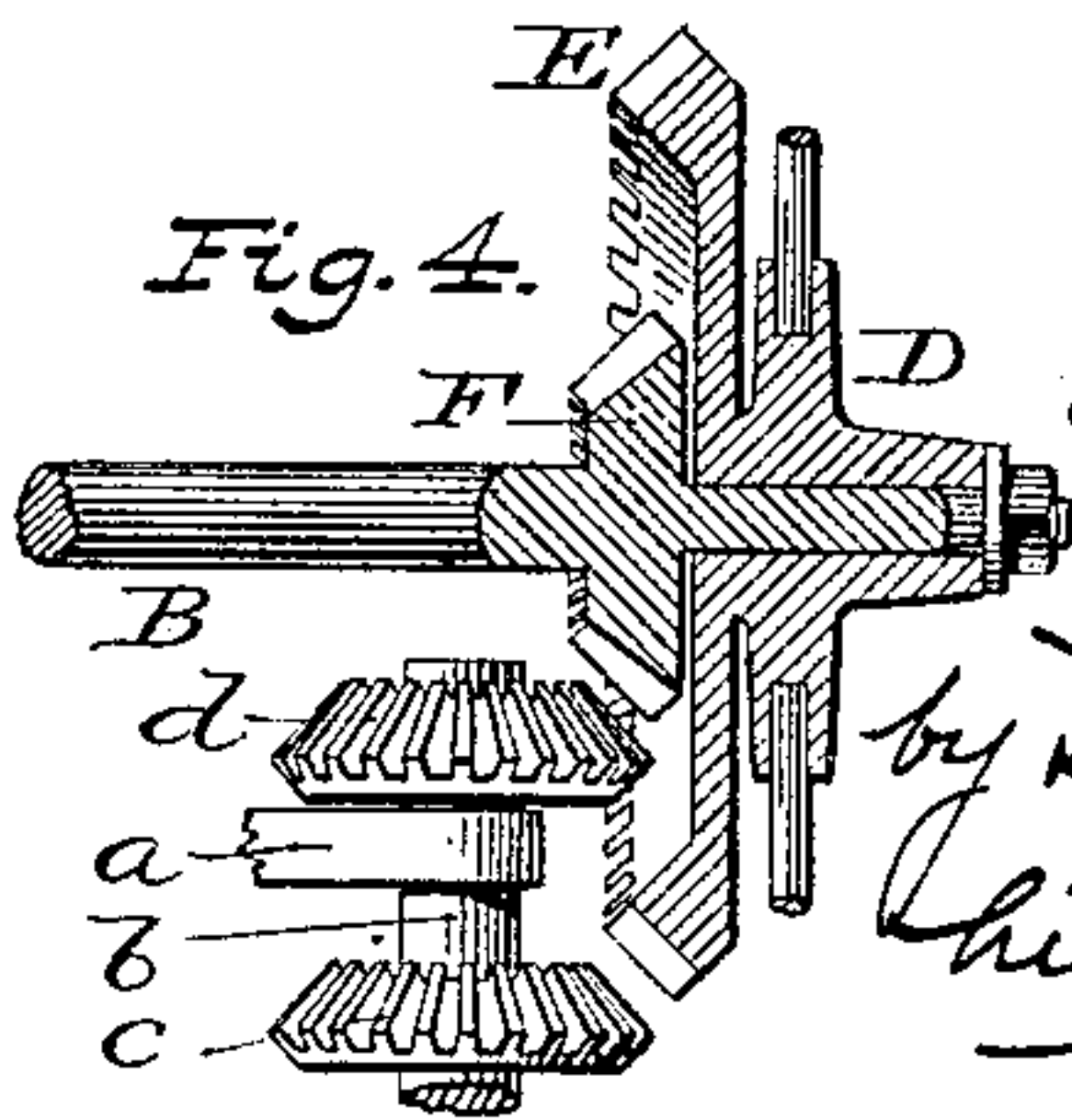


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES MCINTIRE, OF GENEVA, NEW YORK.

COMBINED RAKE AND TEDDER.

SPECIFICATION forming part of Letters Patent No. 350,207, dated October 5, 1886.

Application filed January 12, 1886. Serial No. 188,887. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MCINTIRE, of Geneva, in the county of Ontario and State of New York, have invented certain new and useful Improvements in a Combined Rake and Tedder, of which the following is a specification.

My invention relates to that class of machines known as "combined rakes and tedders," and has for its object to improve the general construction of the same.

In the drawings, Figure 1 is a perspective view of my improved machine; Fig. 2, a top plan view; and Figs. 3 and 4 views illustrating various details of construction.

The invention consists in a novel construction of the machine, as hereinafter fully set forth and claimed, whereby it is adapted to be used either as a rake or tedder at will.

In carrying out this invention I employ a rotary shaft provided with teeth, and connect and disconnect said shaft with and from the driving mechanism, so as to cause said shaft with its teeth to rotate in tedding, or to remain stationary while raking.

Referring to the drawings, A indicates a frame of the construction usually employed in machines of this class, said frame being provided with a shaft or axle, B, revolving in boxes or bearings C on the frame.

The machine is supported on wheels D D, which are mounted loosely on the shaft or axle, each of said wheels being provided with a bevel gear-wheel, E, as shown. The axle B is also provided at each end with a similar gear-wheel, F, in the same plane as the gears E, but considerably smaller than the latter. The axle B is provided with three sets of teeth, G, slightly curved, as shown, and also with a ratchet-wheel, H, as shown in Fig. 1.

At each side of the machine, on the framework thereof, is a bracket, a, in each of which is journaled a shaft, b, each shaft provided with bevel-gears c d, to engage with the gears E F, respectively, so that the motion imparted to wheel D is transmitted through gears E, c, d, and F to the shaft or axle B. The shafts b are adapted to slide longitudinally in their boxes or brackets a, to engage or disengage the gears c d and E F, and in order to effect such sliding movement of the shafts b and gears c d the construction shown in

Figs. 1, 2, and 4 is adopted. A rod or bar, e, is connected to one end of each shaft b, and is also attached to a crank arm or lever, f, on the end of a shaft, g, journaled on the front of the frame. The shaft g extends entirely across the machine at its top side, and is provided with a foot piece, h, near the driver's seat, so that it may be operated by the driver, and is connected at each end with the shaft b, so as to operate the ends simultaneously and clutch or unclutch both driving-wheels and the axle. A pawl, i, pivoted to the frame, engages with the ratchet-wheel H, and prevents rotation of the same and the shaft B when raking, the pawl i being provided with a rod, j, by which the pawl may be thrown out of engagement with the ratchet-wheel H, and the said rod j may be operated by means of a hand-lever or direct.

When it is desired to use the machine as a rake, the lever h is thrown forward or depressed, the shaft g rocked, and the shafts b slid longitudinally, so as to disengage the wheels c d from the wheels E F. This allows the wheel D to turn loosely upon and independent of the axle B, which latter will remain at rest. In order to prevent the shaft or axle from turning as the machine is driven along, the pawl i must be dropped into engagement with the ratchet-wheel H, and as said wheel is secured rigidly to the axle B, and is thus prevented from rotating, it will be seen that the shaft B and the fingers G are retained in proper position for raking.

When the machine is to be used for tedding, the shaft D is rocked in the reverse direction from that above stated, and gear-wheels c and d are thus thrown into engagement with the wheels E and F, and the motion transmitted from the driving-wheel D to the axle or shaft B and the teeth G thereon. The pawl i must be raised, so as to allow the rotation of the shaft D and the teeth G carried thereby. The rod j may be connected to the shaft g, so that as the latter is rocked to clutch the gears c d and E F, the pawl i will be thrown out of engagement with the wheel H, and so that when the gear-wheels are unclutched the pawl will be thrown into engagement with the shaft B and prevent rotation thereof. Such an arrangement is shown in Fig. 3, in which the shaft g is provided with an arm, k, connected to the

lower end of a rocking block, *l*, pivoted to the frame *A*, the rod *j* being connected to the upper end of said rocking block *l*, as shown.

The tedder may be driven from one end only, if desired, in which case only one shaft *b* with its attendant parts, will be used.

Having thus described my invention, what I claim is—

1. In a combined tedder and rake, the combination, with a frame, of an axle or shaft loosely mounted therein and provided with teeth or fingers, driving-wheels loosely mounted upon said axle, a gear-wheel secured to the axle, a gear-wheel secured to the driving-wheel, and a clutch for connecting and disconnecting the gear-wheels, as shown, whereby the shaft is caused to rotate or remain at rest, as desired.

2. In combination with frame *A*, having fingers *G*, ratchet-wheel *H*, gear-wheel *F*, driving-wheels *D*, loosely mounted on the shaft *B*, a gear-wheel, *E*, secured to one of said wheels, shaft *b*, mounted on the frame and provided with gear-wheels *c* and *d*, and a pawl, *i*, to engage the wheel *H*, substantially as shown and described.

3. In combination with frame *A*, shaft *B*, loosely mounted therein and provided with

teeth or fingers *G*, a gear-wheel, *F*, at each end of said shaft *B*, a ratchet-wheel, *H*, secured to said shaft, driving-wheels *D*, mounted loosely upon the shaft, a gear-wheel, *E*, secured to each of said wheels, shaft *b*, secured to the frame and provided with gears *c* and *d* to engage the gears *E* and *F*, a rod, *g*, journaled in the frame and connected with the sliding shaft *b*, and a pawl, *i*, to engage the ratchet-wheel *H*, arranged substantially as shown and described, whereby the machine is adapted to be used as a tedder or rake at will.

4. In a combined tedder and rake, the combination, with a frame, of a shaft or axle loosely mounted therein and provided with rake-teeth, wheels supporting said frame and adapted to impart motion to said shaft at will, a clutch for connecting and disconnecting the shaft and wheels, a locking device for holding said shaft at rest, and connections, substantially such as shown and described, for simultaneously operating the clutch and the locking device.

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