

(No Model.)

A. LINDGREN.

SULKY PLOW.

No. 254,558.

Patented Mar. 7, 1882.

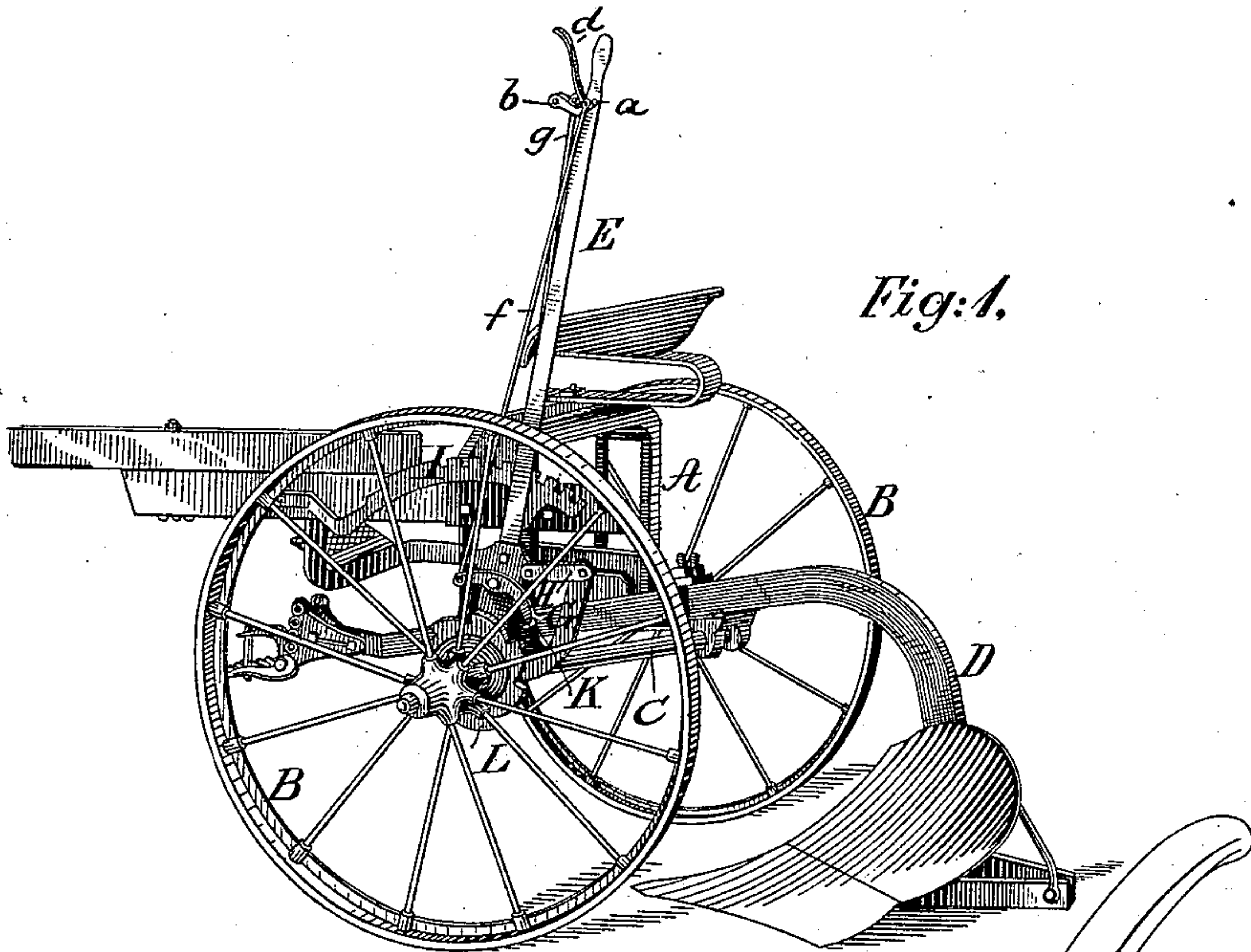


Fig. 1.

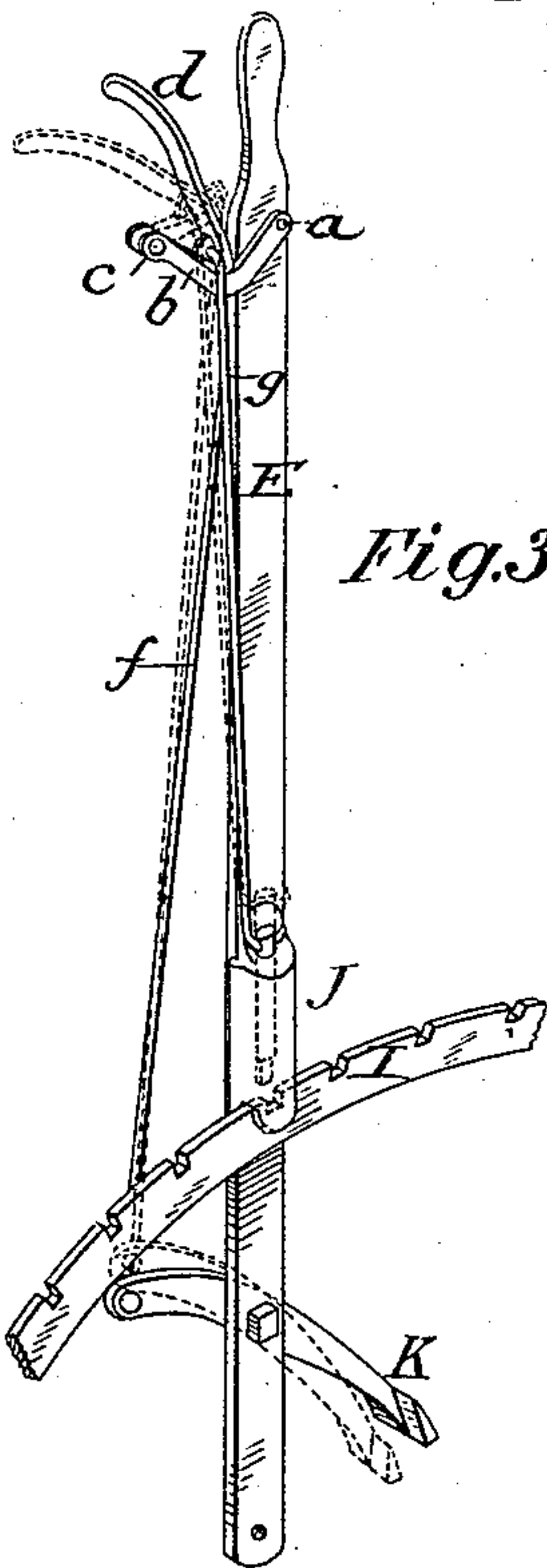


Fig. 3.

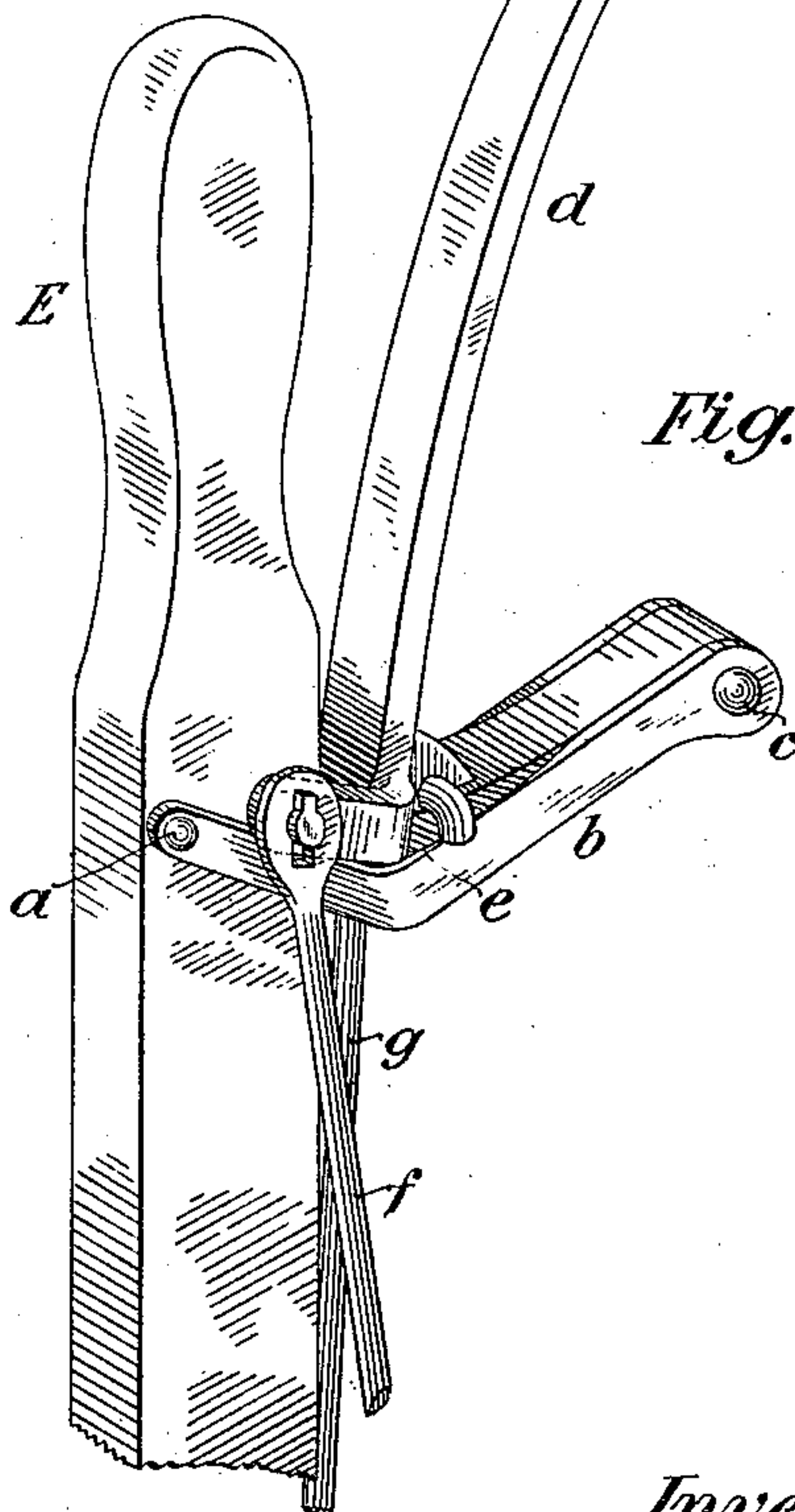


Fig. 2.

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UNITED STATES PATENT OFFICE.

AUGUST LINDGREN, OF MOLINE, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO
THE MOLINE PLOW COMPANY, OF SAME PLACE.

SULKY-PLOW.

SPECIFICATION forming part of Letters Patent No. 254,558, dated March 7, 1882.

Application filed January 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, AUGUST LINDGREN, of Moline, in the county of Rock Island and State of Illinois, have invented certain Improve-
5 ments in Mechanical Movements for Sulky-Plovs, of which the following is a specification.

My invention relates to an improved mechanical movement adapted for use in plows, grain-
10 drills, rakes, and other machines, but designed more particularly for use in that class of sulky or wheeled plows in which a lever employed for elevating the plow may be operated at will, either by hand or by a connection with the
15 draft-wheels of the machine.

The invention relates to the devices employed in immediate connection with the hand-lever for the purpose of locking the same in
20 different positions, and causing its engagement with the ratchet-wheel or equivalent device, by which it is operated from the friction-wheels.

The improvement consists essentially in combining with the hand-lever a secondary lever, or finger-lever, adapted to swing from differ-
25 ent centers, according as it is moved to one side or the other of its normal position, said lever having suitable connections, by which it is caused, when moved in one direction, to operate only the dog by which the hand-lever is
30 locked, but when moved in the opposite direction to operate both the locking-dog and the lifting-pawl.

Referring to the accompanying drawings, Figure 1 represents a perspective view of a
35 plow provided with my improved lever. Fig. 2 is a perspective view of the lever; and Fig. 3 is an elevation of the same, looking from the opposite side.

Referring to the drawings, A represents an
40 arched-frame sustained at its ends by means of traction-wheels B, and provided at the middle with a swinging crank-frame, C, upon which the beam of the plow D is mounted.

E represents an upright hand-lever mounted
45 loosely on one end of the axle, and connected by a link, H, to an arm, G, secured to the plow-supporting crank C, so that upon moving the lever forward the crank C will be operated and caused to elevate the plow.

50 In order to lock the hand-lever in different

positions to sustain the plow above the ground and regulate its depth when in action, the lever is provided with a vertical sliding bolt or
dog, J, arranged to engage in a fixed rack-
bar, I.

In order to operate the hand-lever automati-
55 cally from the traction-wheels, one of the wheels is provided with a ratchet-wheel, L, and the lower end of the lever provided with a pawl, K, which may be engaged with the
60 ratchet-wheel at the will of the operator, where-upon the ratchet-wheel will, through the pawl, turn the lever forward and effect the elevation of the plow.

The above parts are of ordinary construc-
65 tion and arrangement, and constitute no part of the present invention, which is limited to the devices employed for controlling the pawl K and the locking-dog J. These devices are constructed as follows: To the upper end
70 of the hand-lever, at *a*, is pivoted a horizontal arm, *b*, extending forward therefrom, the arm being provided with a shoulder, by which it is prevented from swinging below a horizontal
75 position, but left free to swing upward. Within the outer end of the arm *b*, which is grooved or slotted longitudinally, I pivot, at the point
80 *c*, the lower end of an L-shaped finger-lever, *d*. Under this construction the arm *b* sustains and gives support to the finger-lever *d*, which is
85 provided with a shoulder, *e*, resting upon the upper side of the arm *b*, and serving as a stop to hold the upper end of the lever *d* normally away from the upper end of the hand-lever.

To the rear or free end of the arm *d*, I pivot
85 the upper end of a rod, *f*, which extends thence downward to the front end of the lifting-pawl K. I also pivot to the lever *b*, near the middle of its lower or horizontal portion, the up-
90 per end of a rod, *g*, which extends thence downward to the locking-bolt J, to which it is connected. The locking-bolt is mounted, as shown, within an inclosing case or guide, and sur-
95 rounded by a spiral spring, which urges it constantly downward toward a locked position. Figs. 2 and 3 represent the parts as they stand
in their normal positions. Upon moving the finger-lever *d* backward toward the hand-lever it remains locked firmly against the arm
100 *b*, causing the latter to swing upward around

the point *a* as a fulcrum, thereby elevating the rod *g* and releasing the hand-lever, so that it may be moved by hand to raise or lower the plow. If, however, instead of moving the lever *d* toward the hand-lever, it be thrown forward, the arm *b* will remain rigidly in position, while the finger-lever will turn upon the point *c* as a fulcrum, causing its rear end to rise and lift both the rods *f* and *g*, and thereby unlock the hand-lever, and at the same time operate the lifting-pawl *K*, so that it will engage with the ratchet-wheel, and cause the plow to be lifted by means of the traction-wheel, as before explained.

The movements of the various parts produced by the forward and backward motion of the finger-lever are clearly represented by the dotted lines in Fig. 3.

The essential feature of the invention consists in the arrangement of the finger-lever to swing upon different fulcra, according as it is moved in one direction or the other, and it will be obvious to the skilled mechanic that this may be accomplished in many different ways without essentially changing the mode of action or departing from the limits of the invention.

The forms of the lifting-ratchet and the locking devices constitute no part of the present invention, and they may be modified to any extent desired. Either or both of the said devices may be arranged to slide or swing upon a pivot, as preferred.

I am aware of the invention of C. E. Kneberg, described in his application for patent, wherein a finger-lever is arranged to swing in two different directions for the purpose of operating the locking device, or the locking device and pawl, as may be required; and I therefore lay no broad claim to said feature, my invention being restricted to a construction and mode of operation substantially such as described and shown.

While I have described this invention in connection with sulky-plows, it is manifest that it

may be used with equal advantage in connection with hay-rakes, grain-drills, and other machines in which means are provided for lifting drag-bars, beams, rake-teeth, &c., by hand or by the traction-wheels at the will of the operator.

Having thus described my invention, what I claim is—

1. In combination with the hand-lever, the arm *b*, pivoted thereto, and the finger-lever *d*, pivoted to said arm, substantially as described and shown.

2. In combination with the hand-lever, the arm pivoted thereto, and the finger-lever pivoted to the arm, connecting devices, substantially such as shown, extending to the pawl, and the locking device.

3. In a sulky-plow, the combination, with the rack-bar and the ratchet-wheel or equivalent lifting device, of a hand-lever, the arm pivoted to said lever, the finger-lever pivoted to the arm, and the two rods extending from the finger-lever to the pawl, and the locking device, substantially as shown.

4. In a sulky-plow, the combination of the hand-lever, its locking device, a pawl, a finger-lever mounted upon the hand-lever, and arranged, substantially as described, to swing upon different centers, according as it is moved to one side or the other of its normal position.

5. The combination of the hand-lever, its pawl, and a locking device, the pivoted arm, the finger-lever pivoted to said arm, the connecting-rods, and a spring, substantially as described and shown.

6. In combination with a hand-lever and two co-operating rods, a finger-lever pivoted to the hand-lever, and arranged to swing from different centers, according as it is moved to one side or the other of its normal position, substantially as described and shown.

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Witnesses:

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