

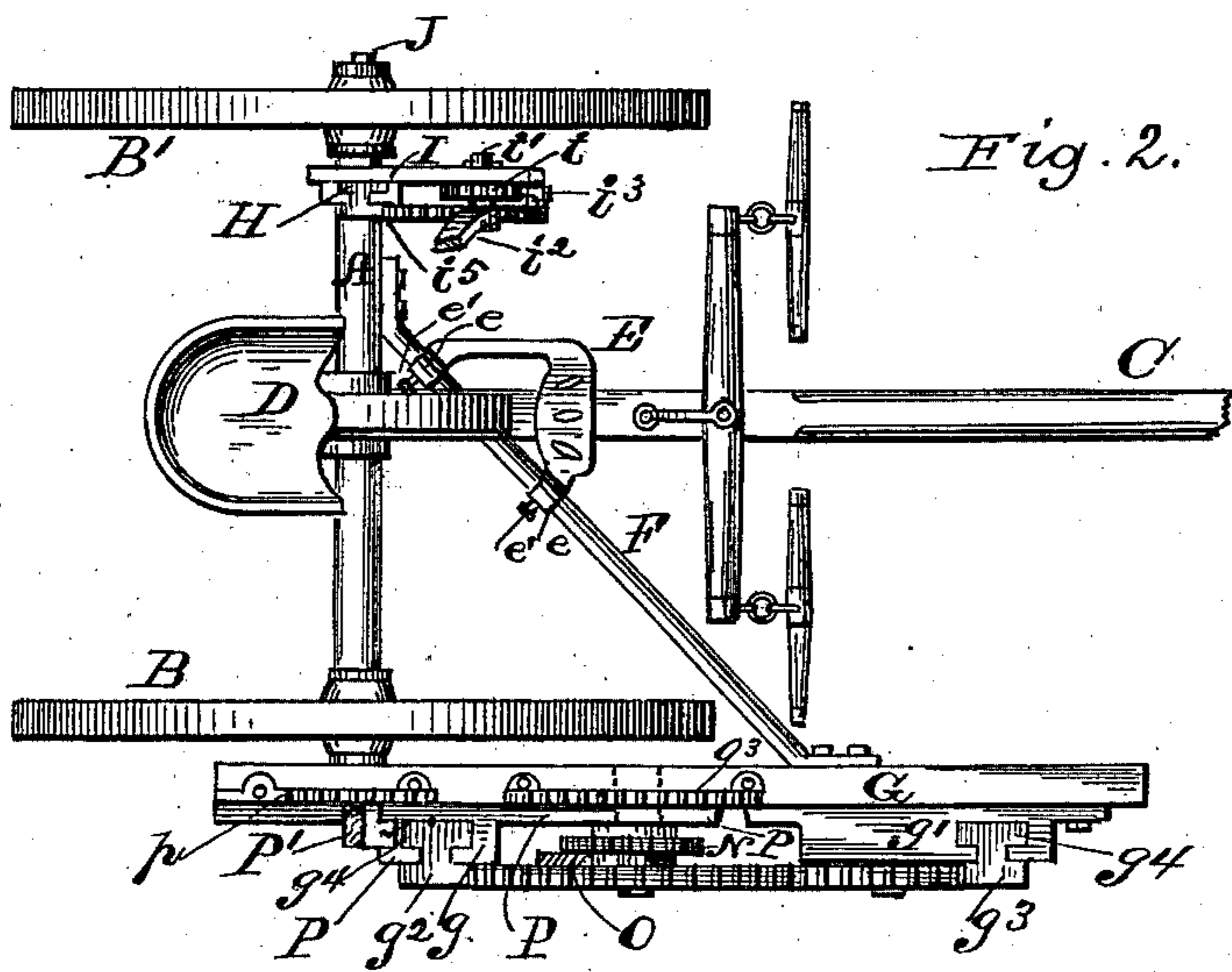
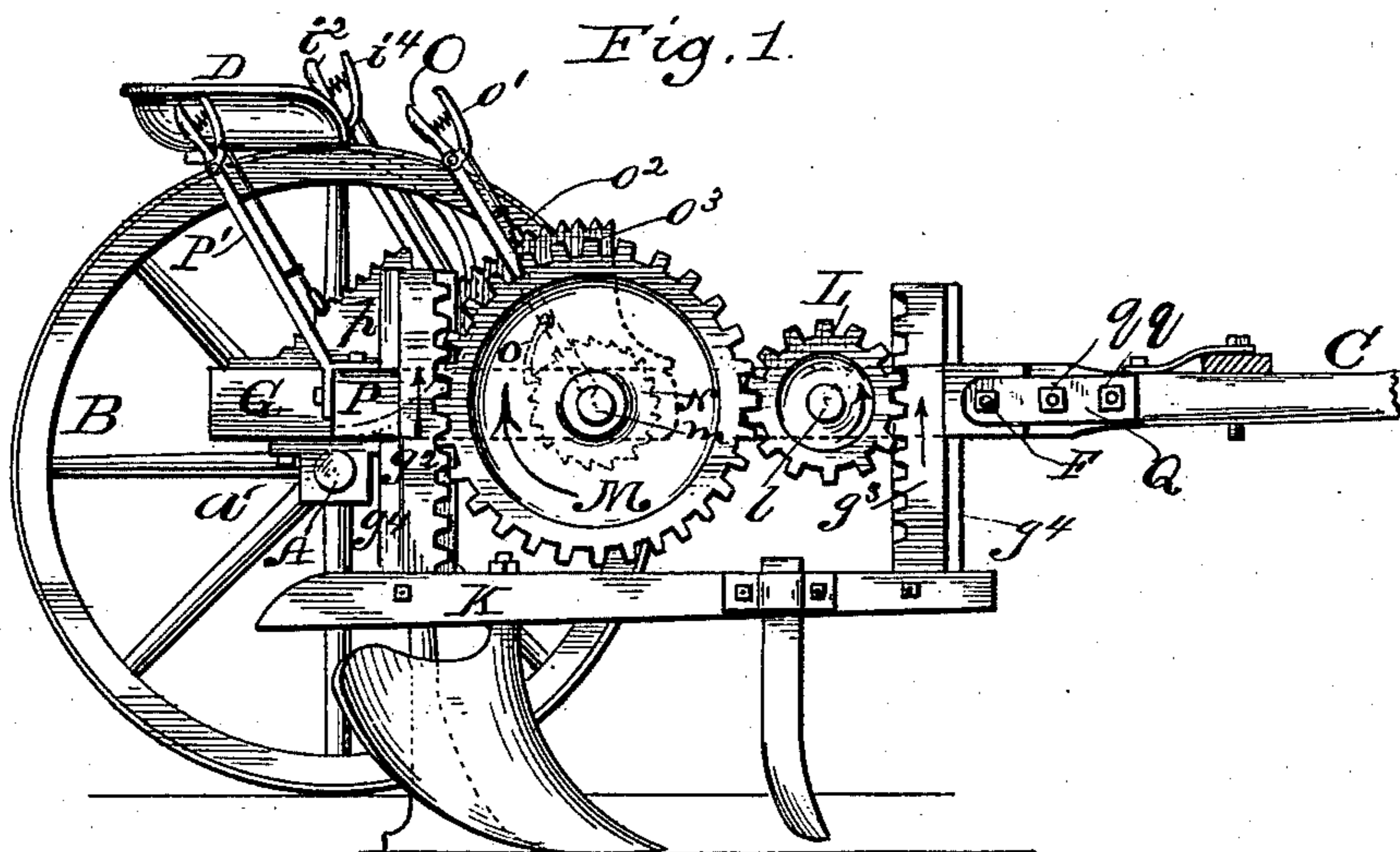
(No Model.)

E. F. O'HAYER.

WHEEL PLOW.

No. 294,261.

Patented Feb. 26, 1884.



Witnesses:

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UNITED STATES PATENT OFFICE.

E. FRANK O'HAYER, OF MURPHYSBOROUGH, ILLINOIS.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 294,261, dated February 26, 1884.

Application filed December 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, E. FRANK O'HAYER, a citizen of the United States, residing at Murphysborough, in the county of Jackson and State of Illinois, have invented certain new and useful Improvements in Wheel-Plows, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a side elevation, and Fig. 2 a plan, with levers in section, of a wheel-plow constructed in accordance with my invention.

Like letters refer to like parts in both figures.

The object of my invention is to provide means whereby a plow may be operated from a running-gear adapted to pass entirely upon the landside, and provided with such controlling devices as will enable the operator to regulate at will the running-gear to level or inclined land, and to control the plow relative to the depth of furrow which it shall make. Other objects and advantages will appear in the following description, and the novel features of construction will be specifically set forth in the claims.

A represents the axle, and B B' the wheels, of a running-gear, which by any suitable framework is adapted to be connected to or provided with a pole, C, seat D, and foot-rest E. In this instance a diagonal brace, F, is secured to the axle and to a plow-supporting beam, G, mounted on the axle outside of the wheel B, the box *a* for the axle being secured to the under side of the beam G. The opposite end of the axle terminates in a T-head, H, which slides in a guide-head, I, which is provided with a short axle, J, for the wheel B'. The guide-head is provided with a rigidly-secured ratchet-wheel, *i*, and a central pin or journal, *i'*, on which is mounted a lever, *i''*, having a pawl, *i'''*, adapted to take into the teeth of the ratchet *i*, and having a hand-piece, *i''''*, connected with the pawl. The pivoted end of the lever *i''* constitutes a geared sector, which meshes with the gear or rack *i'''*, formed on the T-head H. It will be seen that by the operation of these devices in a manner usual and apparent the end of the axle to which they are applied may be elevated or depressed relative to the center of the wheel B', and the entire running-gear of the plow adapted to inclined or side-hill land.

In this instance the foot-rest comprises a single casting or bracket, having sleeves *e*, adapted to embrace or slide upon the brace F, and to be secured at desired points thereon by set-screws *e'*; but, as before stated, any suitable arrangement of these usual elements of wheel-plows may be employed.

The plow-supporting beam G is provided with two guide heads or blocks, *g g'*, in which are two rack-bars, *g'' g'''*, each having T projections *g''''*, adapted to fit the blocks *g g'*. By any suitable means the rear portion of a plow-beam, as K, is secured to the rear rack-bar, *g''*, and the front portion to the rack-bar *g'''*.

Meshing with the front rack-bar is a pinion, L, mounted on an arbor, *l*, projecting from the beam G. Meshing with the pinion L and with the rack-bar *g''* is a master-gear, M, mounted on an arbor, *m*, and provided with a ratchet-wheel, N. A lever, O, is mounted on the arbor *m*, and is provided with a pawl, *o*, (see dotted lines, Fig. 1,) adapted to operate the ratchet N. A hand-piece, *o'*, is connected with a pawl, *o''*, adapted to take into a segmental rack, *o'''*, fixed to the beam G, and projecting upwardly therefrom. By these devices it will be seen that the operator, by raising the pawl *o''* and forcing lever O from him—that is, toward the front of beam G—rotates the master-gear and pinion in the direction indicated by the arrows, and thus lifts the plow-body, whereby the depth of cut is reduced as desired.

The weight of the plow will at times be sufficient to lower it when desired; but in case such a change is desired in the position of the plow while it is in operation, I provide other means for changing its position, and therefore changing the operation of the plow—that is to say, I provide means for elevating and depressing the rear end of the plow-beam, so as to present the plow-point to the earth with a greater or less angle of inclination to the bed of the furrow. When thus depressed and in operation, the plow automatically tends to rise near the surface, and when thus elevated there is a tendency to deepen the cut.

P represents an arm, on which is secured a lever, P', provided with a hand-piece and pawl adapted to operate with a segmental rack, *p*, secured upon the beam G. The front end of the arm is mounted on the arbor *m*, and the guide-block for the rear rack-bar, *g''*, is secured

to the arm P, so that when by means of the lever P' the free end of the arm is depressed the rear end of the plow is depressed, while the front end of its beam, pivotally secured to the front rack-bar, g^3 , is neither depressed nor elevated.

By the employment of the devices described, vertical and horizontal adjustment of the plow is secured, and is under the control of the operator, who rides entirely upon the landside.

I do not limit myself to the exact construction and arrangement of the parts herein shown, but reserve the right to alter the same to any extent and in any manner within the skill of persons conversant with the construction of similar implements. For example, the rear rack-bar may be secured directly to the plow and the front rack-bar to the colter, or to a rotary caster or colter. Furthermore, the pole C may be secured in either position shown. When secured to the plow-supporting beam, as in Fig. 1, I connect the pole by means of a plate, Q, held to the pole by bolts q q , which plate is pivotally connected with the beam by means of the passage therethrough of the brace F, which is provided with a nut, f . A still more direct draft may be had by bolting the pole on the outside of the plate, instead of the inside, as shown. Other such minor changes will suggest themselves, and therefore require no description, as my invention is not dependent thereon.

Having described my invention, what I claim is—

1. In a wheel-plow, a plow-supporting beam having at each end front and rear guide-blocks and rack-bars, the combination of a master-gear and pinion arranged parallel with the beam and meshing with each other and with said rack-bars, and a lever adapted to operate the master-gear, substantially as specified.

2. The combination of a plow-supporting beam having a front guide-block and rack-bar with a rear guide-block and rack-bar pivotally supported thereon, a master-gear and pinion meshing with each other and with said rack-bars, and means for operating at will either the master-gear or the pivotally-supported block and rack, substantially as specified.

3. The combination of the beam G, gear M, pinion L, arm P, rack-bars g^2 g^3 , and levers O P', substantially as shown and described.

4. The combination of beam G, segmental ratchet p , arm P, lever P', rack-bar g^2 , plow-beam K, and rack-bar g^3 , substantially as shown and described.

5. The combination of the beam G, segmental racks p o^3 , levers P' O, the latter having pawls o^2 o , ratchet N, gear M, pinion L, rack-bars g^2 g^3 , and plow K, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

E. FRANK O'HAYER.

Witnesses:

JOHN R. KANE,
DON JOHNSON.