(No Model.) 2 Sheets—Sheet 1.

S. ROCKAFELLOW.

SULKY PLOW.

No. 315,169. Patented Apr. 7, 1885.

Fig. 1.

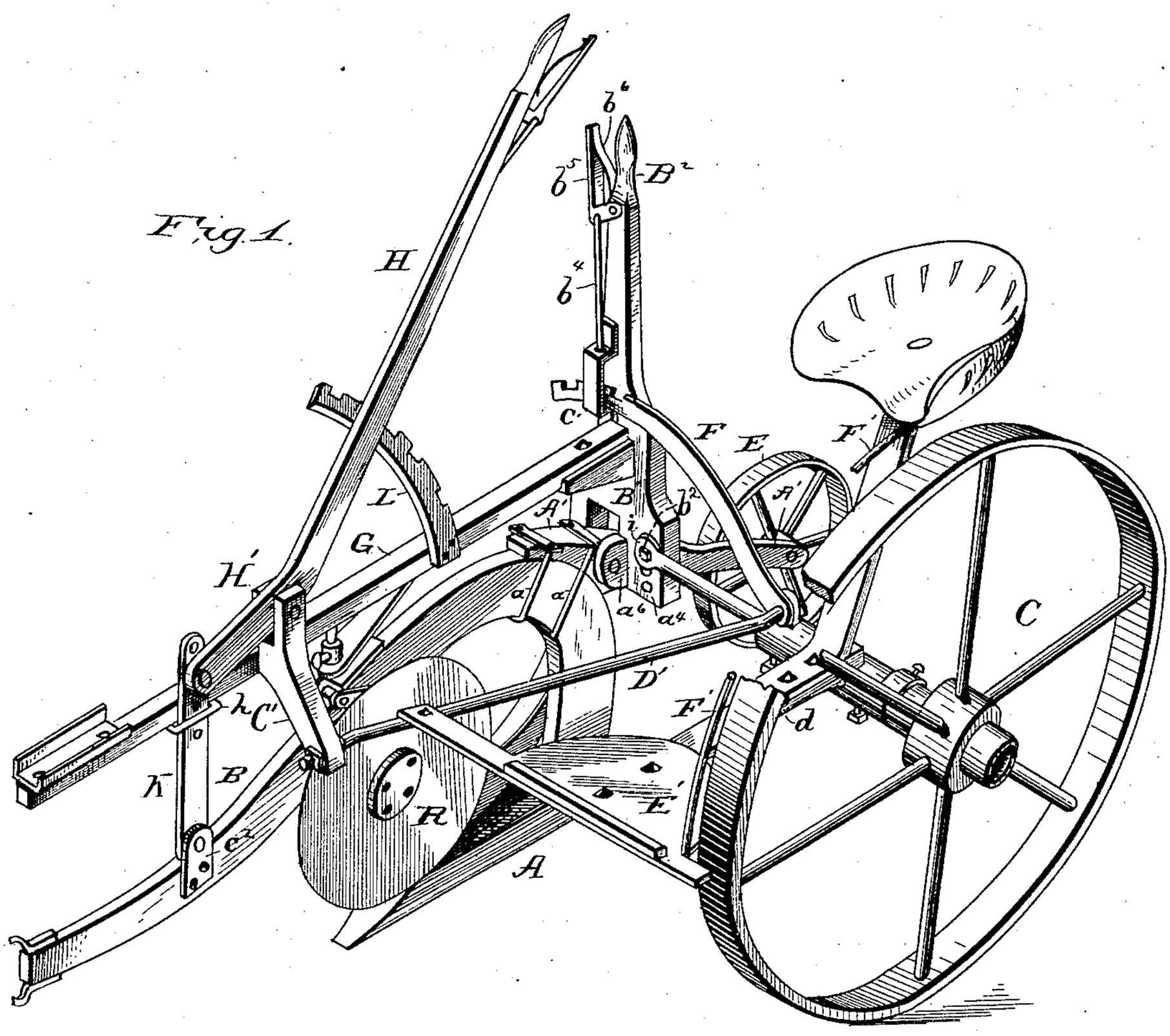


Fig. 5.

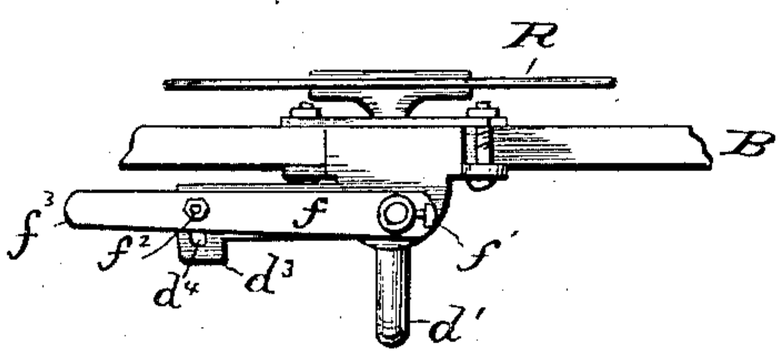
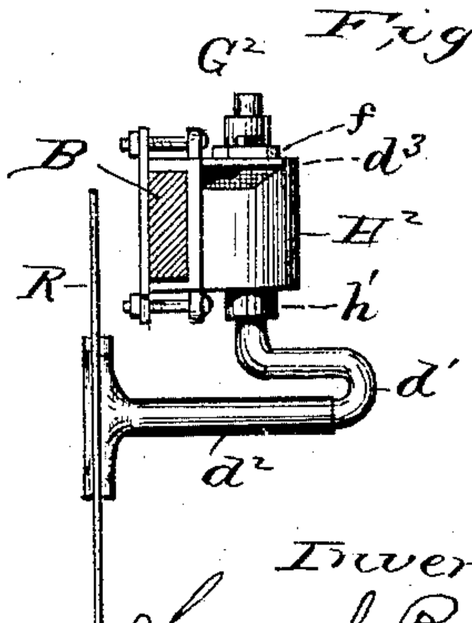


Fig. 4.



Witnesses
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H. A. Daniels

Inventor.
Samuel Rockafellow
by W. T. Burris
Atty.

(No Model.) 2 Sheets—Sheet 2.

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No. 315,169. Patented Apr. 7, 1885.

Fig. 2.

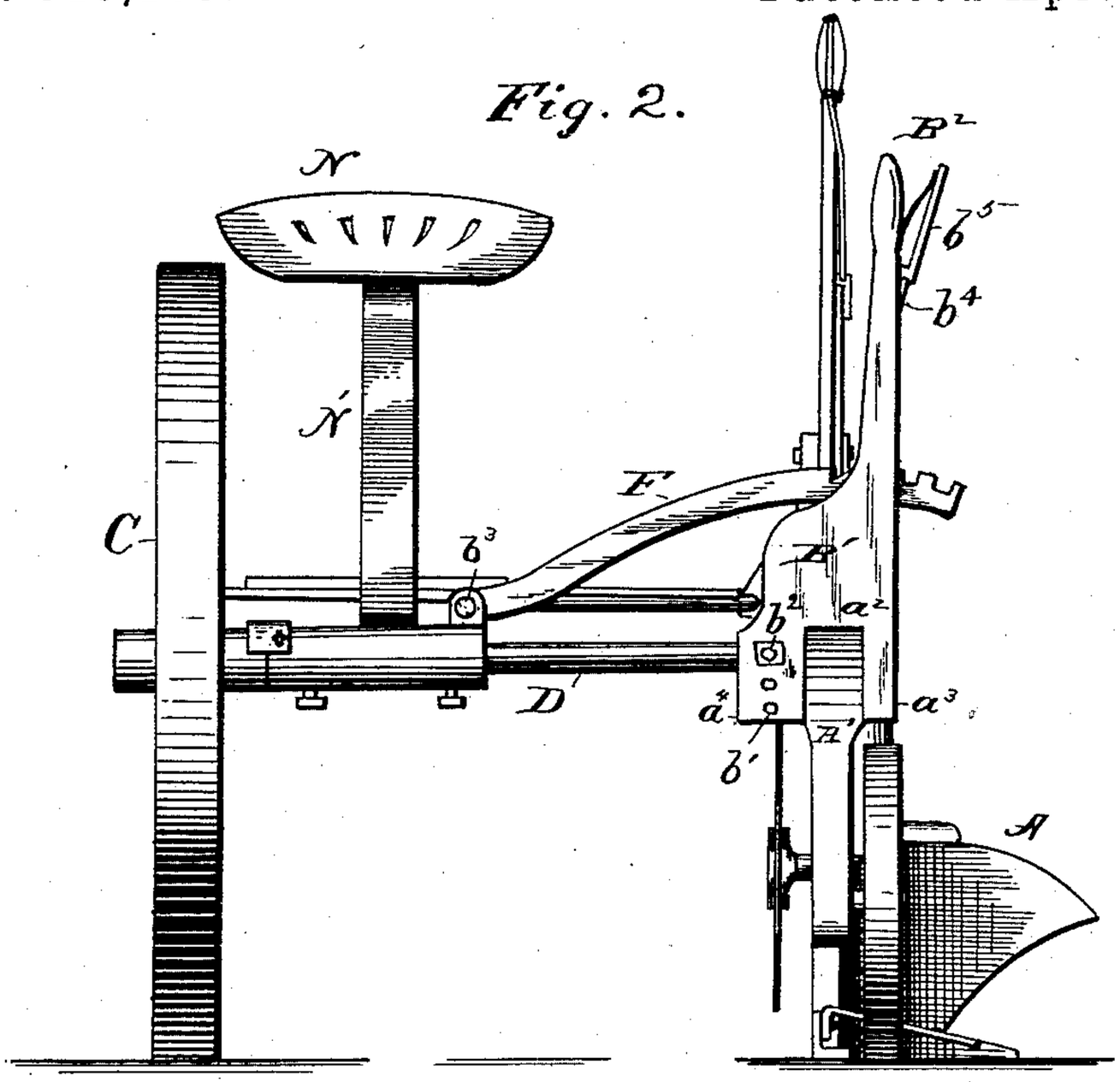
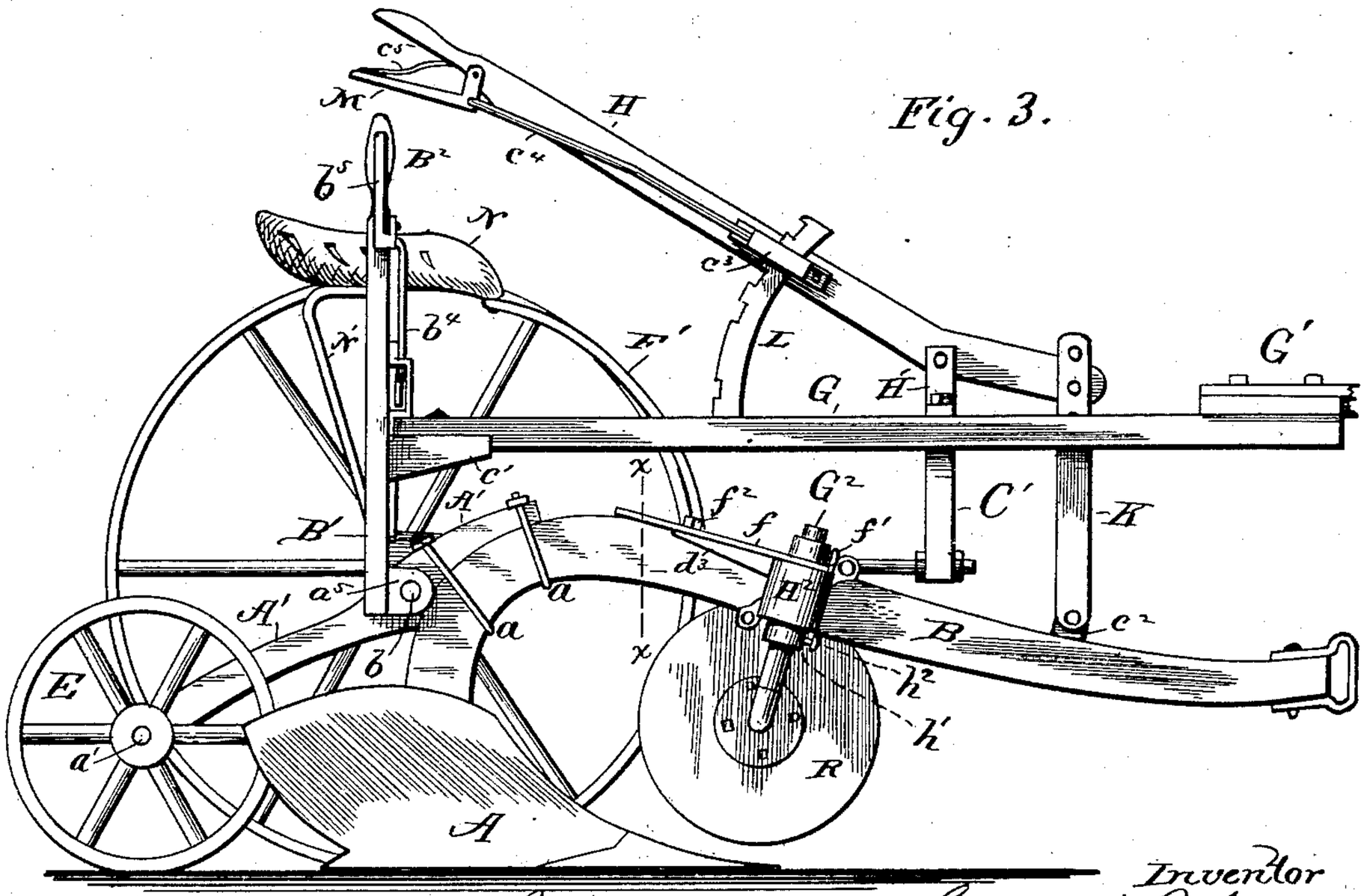


Fig. 3.



Witnesses: { Wm A Rosenbaum
H. A. Daniels

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UNITED STATES PATENT OFFICE.

SAMUEL ROCKAFELLOW, OF MUSCATINE, IOWA, ASSIGNOR OF ONE-HALF TO WILLIAM G. REEVE, OF PERU, ILLINOIS.

SULKY-PLOW.

SPECIFICATION forming part of Letters Patent No. 315,169, dated April 7, 1885.

Application filed December 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL ROCKAFELLOW, a citizen of the United States of America, residing at Muscatine, in the county of Muscatine and State of Iowa, have invented certain new and useful Improvements in Sulky-Plows, of which the following is a specification, reference being had therein to the accompanying drawings.

My improved sulky-plow is provided with a wheel arranged to run in the furrow in the rear of the plow to carry its weight, with devices to adjust the plow in an upright position on uneven and inclining ground, with devices to regulate the depth of the plow and adjust the sulky in a level position, and with devices for attaching and readily and accurately adjusting a rolling colter; and the invention consists in the construction and combination of these devices, as hereinafter described, and as shown in the drawings, in which—

Figure 1 is a perspective view of my improvements. Fig. 2 is a rear view of the same. Fig. 3 is a side elevation. Fig. 4 is a vertical section on line *x x* of Fig. 3, giving a rear view of the rolling-colter attachments. Fig. 5 is a plan view of the rolling-colter attachments.

A designates the plow; B, the plow-beam; C, the large sulky-wheel, and E a smaller wheel arranged to run in the furrow behind the plow.

A′ is an inclined beam, the forward and upper portion of which is firmly attached to the rear portion of the plow-beam by means of the yokes *a a*. On the lower and rear end of this beam A′ is formed the axle *a′*, which carries the wheel E.

B′ is a standard, the lower portion of which is widened and bifurcated by the slot a^2, formed large enough to receive the beam A′. The bifurcated parts a^3 a^4 are provided with lugs a^5 a^6, extended downward on each side of the beam A′, to which the standard is pivoted by a pin, *b*, inserted through holes in the lugs and the beam. The upper portion of the standard is reduced, so as to form the upright lever B^6. The inner portion, a^4, of the standard is provided with a series of holes, *b′*, arranged one above the other to receive the axle-bolt b^2, for adjusting the depth of the cut of the plow and the sulky in a level position, as hereinafter fully described. The bolt b^2 is inserted through an eye, *i*, formed on the end of the axle D, and through one of the holes *b′* in the standard, at a rigid angle to the axle, forming thus a hinge or pivotal connection between the axle and the standard.

F is a brace having its inner end hinged or pivoted to a lug, b^3, formed on the axle D. The outer portion of this brace is made in the form of an arc, having notches to receive the pawl end of the rod b^4. The upper end of this rod is bent and hooked through a hole in the crank-lever b^5, which is pivoted to the lever B^2. This crank-lever is provided with a spring, b^6, to hold the pawl in place in the notches of the arc. The arc and the pawl-rod are held in place laterally by means of a guide, *c*, attached to the face of the standard.

G is a bar, the rear end of which is firmly bolted to an arm, *c′*, formed on or rigidly attached to the face of the standard. To the forward end of this bar is bolted the rear end of the tongue G′.

H is a lever pivoted near its front end in a bifurcated fulcrum, H′, which is bolted to the bar G. The forward portion of this lever, from its fulcrum, is inclined upward, and to the end of this lever is pivoted the upper end of an arm, K, extended through the guide *h* on bar G, and pivoted to a plate, b^2, which is bolted to the plow-beam.

L is a sector or curved notched bar, the lower end of which is bolted to the bar G, and the upper portion is extended through a guide, c^3, on the side of the bar.

M is a crank-lever pivoted to the lever H. A hook formed on the upper end of the pawl-rod c^4 is inserted through a hole in this crank-lever, and this rod, having its lower end formed as a pawl, extends through a hole in the guide c^3 to the sector L. A spring, c^5, is attached to the crank-lever M to hold the pawl-rod in the notches of the sector.

N designates the driver's seat, supported upon a spring-bar, N′, the lower portion of which is firmly bolted to lugs formed for that purpose on the axle D as near as practicable

to the large wheel C, so that nearly all the weight of the driver may be carried on the large wheel.

C′ is an arm formed on and extended downward and inward from the fulcrum H′, fastened to the bar G.

D′ is a brace-rod, the forward end of which is fastened to the end of arm C′, and the rear end of this brace-rod is fastened to a lug formed on the axle D.

E′ is the driver's foot-board, the outer end of which is supported by the bar *d*, bolted at the rear end to lugs formed on the axle D. The inner end of the foot-board is supported by the brace-rod D′, fastened to the foot-board by a hook-bolt.

F′ is a curved rod, the upper end of which is attached to the outer side of the seat, and the lower end is attached to the outer end of the foot-board, which rod forms a guard between the driver and the wheel, and also aids in supporting the foot-board.

R designates a rolling colter journaled upon the horizontal portion of a rod, G^2, the upper vertical portion of which is swiveled in the bearing H^2, which is attached in any suitable manner to the outside of the plow-beam. This rod is formed with an outward bend, *d′*, for the purpose of increasing the length of the bearing for the extended hub-sleeve d^2 of the cutter, to hold it more steadily in an upright position and prevent it from having a wabbling movement. The top of the swivel-bearing H^2 is provided with an elongated plate, d^3, formed on or rigidly attached to the bearing, and is provided with a transverse slot, d^4, near its outer end. The upper portion of the rod G^2 is provided with a plate, *f*, rigidly attached to the rod by a set-screw, *f′*, which plate is extended over and beyond the lower plate, and is provided with a set-nut, f^2, on a bolt extended through a hole in this plate and through the slot in the lower plate. The extended end of the plate *f* forms the lever f^3, used in adjusting the cutter in the required position. A collar, *h′*, provided with a set-screw, h^2, is placed on the swivel shaft or rod G^2, below the bearing H^2, for holding the rod in position vertically.

The sulky is adjusted in a level position by placing the axle-bolt b^2 in the required position in one of the holes *b′* in the standard. When, for example, the plow is set for deep plowing, the axle-bolt is placed in the top hole, and for shallow plowing the axle-bolt is placed in the bottom hole, of the standard.

In plowing uneven or inclining ground, or when the plow is run in a dead furrow or in any place in which the plow would be inclined from the vertical position, it is readily adjusted and held in an upright position by means of the lever B^2 and its connecting devices. In thus adjusting the plow the crank-lever b^5 is grasped with and pressed toward the lever B^2 by the hand of the driver, which releases the pawl b^4 from the arc, allowing the lever B^2 to be readily moved outward or inward, as required, to place the plow in an upright position, and the crank-lever, being then released, is forced outward by spring b^6, forcing the pawl into one of the notches of the arc and holding the plow in the upright position.

The depth of the furrow to be cut by the plow is regulated by means of the lever H.

To adjust the plow to cut a deep furrow, the rear end of the lever is raised, and to cut a shallow furrow or to raise the plow out of the ground the rear end of the lever is depressed; and by means of the sector L, the crank-lever M, and the pawl c^4, operated in a similar manner as the crank-lever b^5 and pawl b^4, above described, the plow is secured in any required position.

It will be seen that the wheel E, being carried by the axle on the beam A′, which is rigidly attached to the plow-beam, is adjusted with the plow so that it is always kept in a vertical position, in which position, it is evident, it will run with the least possible friction. When the draft is applied to the plow, its own weight and the weight produced upon it by the pressure of the earth are carried almost entirely upon the furrow-wheel, thus preventing the plow from dragging upon the ground and greatly lessening its draft. This furrow-wheel is of great utility, also, in turning and backing the plow, in which operations the plow is raised above the ground, and its weight is carried upon the wheel.

The devices for adjusting the plow as to its depth or its vertical position are arranged so as to be readily operated by the driver when in his seat, or, when tired of riding, he may be walking behind the sulky. The upward inclination of the forward end of the lever H gives increased sweep to the lever, and thus allows the fulcrum to be located nearer the end of the lever than when a straight lever is used, and this construction of the lever places its lifting end in its different positions more nearly in a horizontal line with the fulcrum, thus increasing the lifting-power of the lever, so that comparatively very small force is required in raising and lowering and holding the plow in the required positions. A rolling colter to operate properly must be adjusted and held in line with the landside of the plow. This is readily and accurately accomplished by means of the plates *f* d^3 and set bolt and nut f^2. To thus adjust the cutter, the set-nut is loosened, and, by means of the lever end f^3 of the plate *f*, attached to the swivel-rod, the cutter is readily turned inward or outward, as required, and, when the cutter is thus placed in the right position, the nut is tightened, thus securely holding the cutter in place. The plates *f* d^3 are elongated, as shown, for the purpose of obtaining the leverage power for easily adjusting and firmly holding in place the cutter.

I am aware that plows have been constructed with furrow-wheels and with devices for

regulating the depth of the plows and adjusting them in an upright position, and I do not claim such devices, broadly; but

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

1. The combination of the plow-beam B and the wheel-beam A′, firmly attached together, the sulky-axle D, the bifurcated standard and lever B′ B², having a series of holes, *b′*, and hinged or pivoted to the wheel-beam and to the axle, the arc F, and the pawl *b⁴*, all adapted for adjusting and holding the sulky in a level position and the plow in an upright position, substantially as and for the purposes described.

2. The combination of the plow-beam B and the wheel-beam A′, the sulky-axle D, the standard and lever B′ B², hinged or pivoted to the wheel-beam and to the axle, the bar G, attached to the standard, the sector L, the lever H, having its forward portion inclined upward, the arm K, pivoted to the lever and to the plow-beam, and the pawl C⁴, all adapted to raise and lower the plow, substantially as and for the purposes described.

3. The combination, with a plow-beam, of the rolling-colter attachments consisting of the swivel-rod G², constructed with the outward bend *d′* and the elongated horizontal axle, and swiveled in the bearing H², the slotted plate *d³*, formed on or attached to the bearing, the lever-plate *f f³*, and the set bolt and nut *f²*, substantially as and for the purposes described.

4. The combination, with the sulky-axle D, of the driver's seat N, supported upon the spring-bar N′, near the sulky-wheel, the foot-board E′, the support-rod *d*, the brace-rod D′, and the guard and brace rod F′, attached to the foot-board and to the seat, substantially as and for the purposes described.

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

SAMUEL ROCKAFELLOW.

Witnesses:
HENRY ORTH,
H. A. DANIELS.