

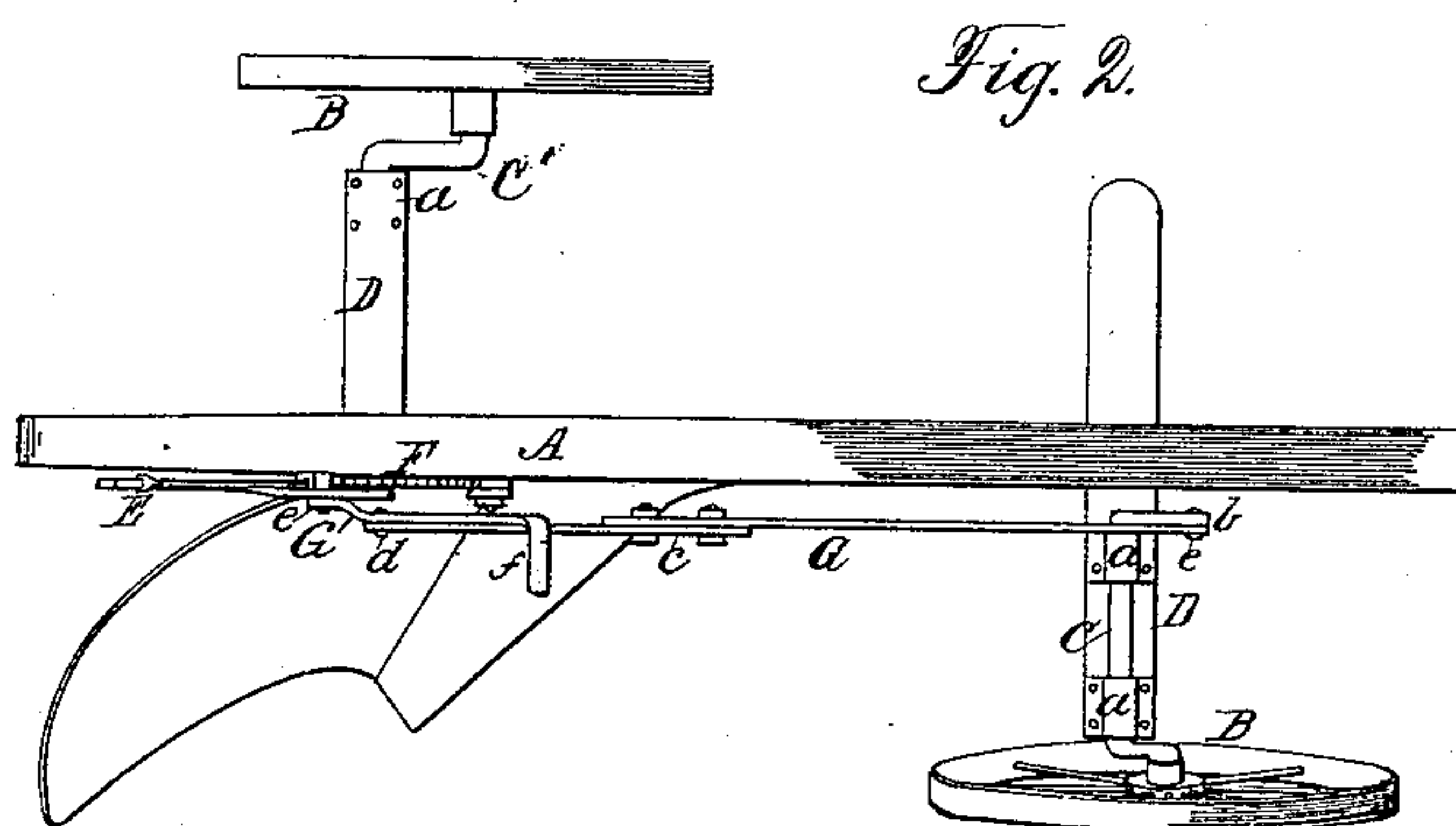
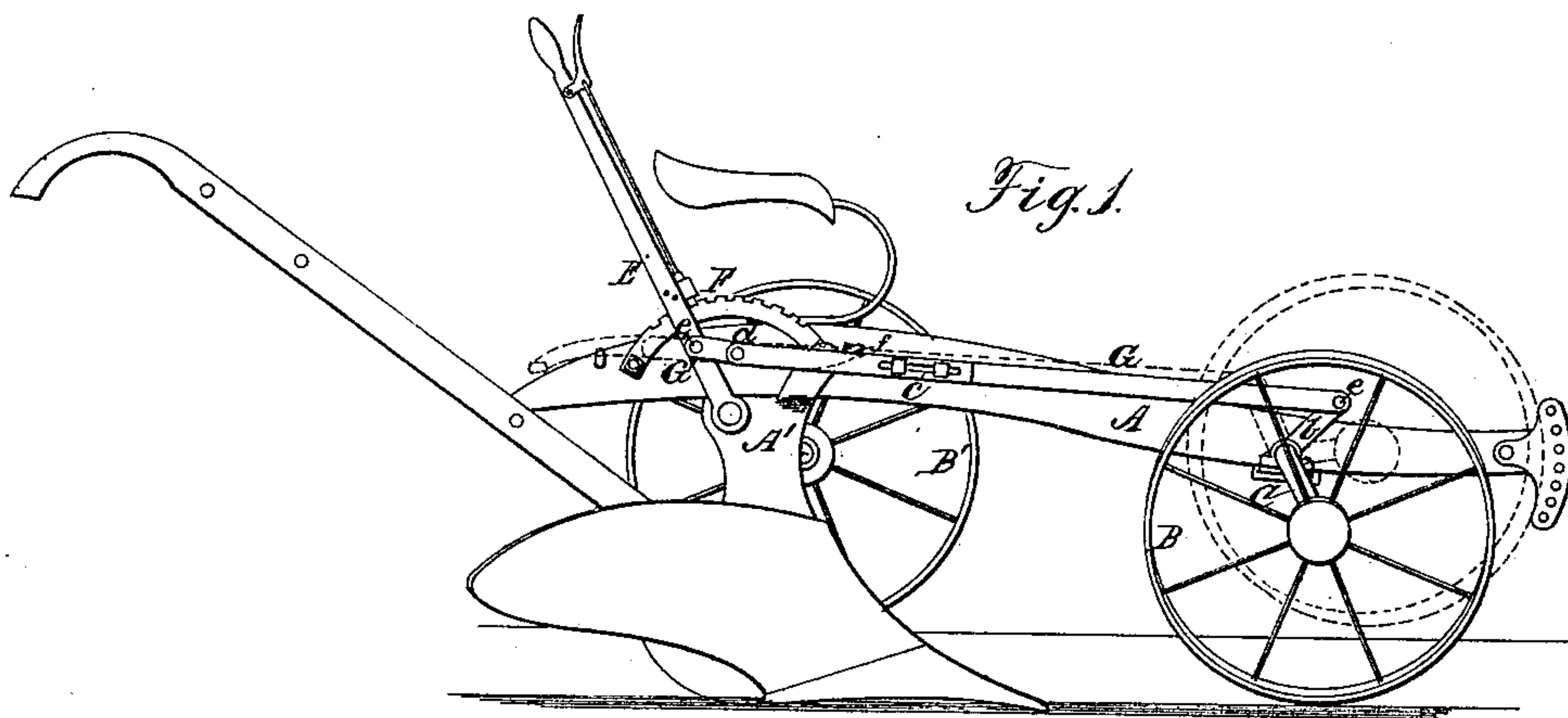
(No Model.)

G. B. ST. JOHN.

PLOW.

No. 373,497.

Patented Nov. 22, 1887.



*Attest.*  
*S. W. Norton*  
*Drum G. Clark*

*Inventor*  
*Garland B. St. John.*  
*By Justus M. St. John.*  
*Atty.*

# UNITED STATES PATENT OFFICE.

GARLAND B. ST. JOHN, OF KALAMAZOO, MICHIGAN.

## PLOW.

SPECIFICATION forming part of Letters Patent No. 373,497, dated November 22, 1887.

Application filed March 1, 1887. Serial No. 229,273. (No model.)

*To all whom it may concern:*

Be it known that I, GARLAND B. ST. JOHN, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Plows, of which the following is a specification.

The object of my invention is to improve that class of plows having a forward wheel running in the furrow in advance of the one being turned by facilitating the elevation and depression of the wheel, as required in turning corners, and otherwise.

The invention consists in the application of means whereby the furrow-wheel may be vertically adjusted by a lever within reach of the operator, as will be hereinafter more particularly set forth and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a plow with the invention attached, and Fig. 2 a plan view of the same.

Similar letters of reference indicate corresponding parts.

The invention is shown in connection with a common wood-beam plow, A, the particular construction of which need not be described. To the forward part of the beam is mounted a wheel, B, on an axle, C, which is preferably of the bell-crank form shown. A rear wheel, B', mounted opposite the standard A' on a similar axle, is also shown, though the principal features of the invention are applicable to any ordinary plow, whether provided with this landside-carrying wheel or not.

In the construction of plows having a wheel running in the bottom of the furrow in advance of the one being turned it is common to mount the wheel on a caster, which allows the wheel to swing with the lateral movement of the plow-beam. The chief objection to this is that the wheel in such case affords no aid in holding the plow in the desired line of draft, and consequently the furrow is made more or less crooked and the draft of the plow increased by this vibration of the beam. My invention is designed to remedy this defect, and this I accomplish in the following simple manner: The shaft of the bell-crank axle C is mounted on a laterally-projecting spring or bracket, D, by suitable boxes, *a a*. The rear wheel, B', when used, is similarly mounted.

To the shaft of the rear axle, C', is attached a hand-lever, E, adapted to engage with the quadrant F. A rod, G G', extends from this hand-lever to an arm of the forward axle, *b*, and thus both axles are actuated and the wheels correspondingly raised or depressed by the movement of the hand-lever. The length of this connecting-rod may be varied by means of the slotted connection *c*, with a corresponding variation of the relative position of the respective wheels.

To admit of the furrow-wheel being raised independent of the movement of the hand-lever E a joint is made in the connecting-rod, and by the shifting of the parts, as shown by the dotted lines, the wheel is raised clear out of the furrow, while the hand-lever remains in any desired fixed position. The joint *d* should be a little below the line of the terminal pivots *e e*, and the forward extension of the part G' should have a shoulder, *f*, adapted to engage with the other part of the connecting-rod and form a lock, which renders the connecting-rod rigid when in that position. This lateral projection *f* may be considerably extended, as shown, and thus serve as a handle by which the lever is operated. Thus constructed the device is adapted to the simultaneous raising or depressing of both the wheels, or the independent operation of the forward wheel alone, and this from the position of the operator either on the seat or at the handles of the plow. By it I am enabled to turn a square corner without raising the plow out of the ground, while at the same time preserving the perfect alignment of the wheel or wheels with the plow above referred to.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a plow, the combination of the vertically-adjustable axle of a furrow wheel which is in permanent alignment with the plow, a connecting-rod extending backward from said axle, a hand-lever toggle-jointed to said connecting-rod, and terminal stops limiting the movement of the lever to a little more than a semicircle, whereby the simple movement of the lever through the described arc of a circle serves to raise or depress the axle and to automatically lock the same in either position, substantially as and for the purpose set forth.



2. In a plow, the combination of vertically-adjustable axles CC', hand-lever E, and jointed connecting-rod G G', the part G' forming an automatically-locking lever adapted to operate in unison with or independent of the hand-lever E, substantially as and for the purpose specified.

3. In a plow, the combination of the vertically-adjustable axles CC', the hand-lever E, longitudinally-adjustable connecting-rod G,

and the independently-operating hand-lever G', forming a part of the connection between the lever E and the axle C', substantially as set forth.

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

GARLAND B. ST. JOHN.

Witnesses:

S. W. NORTON,

J. M. ST. JOHN.