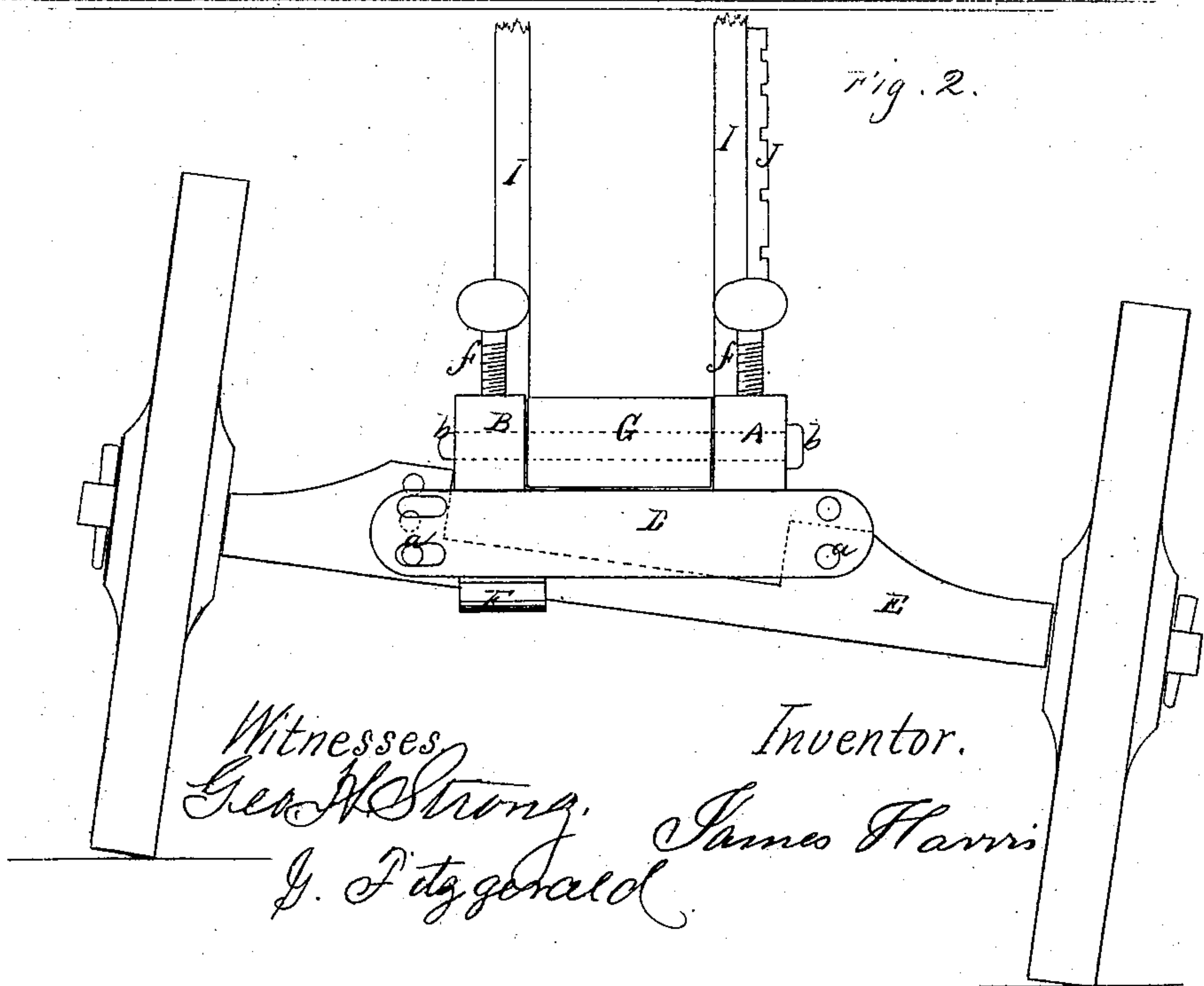
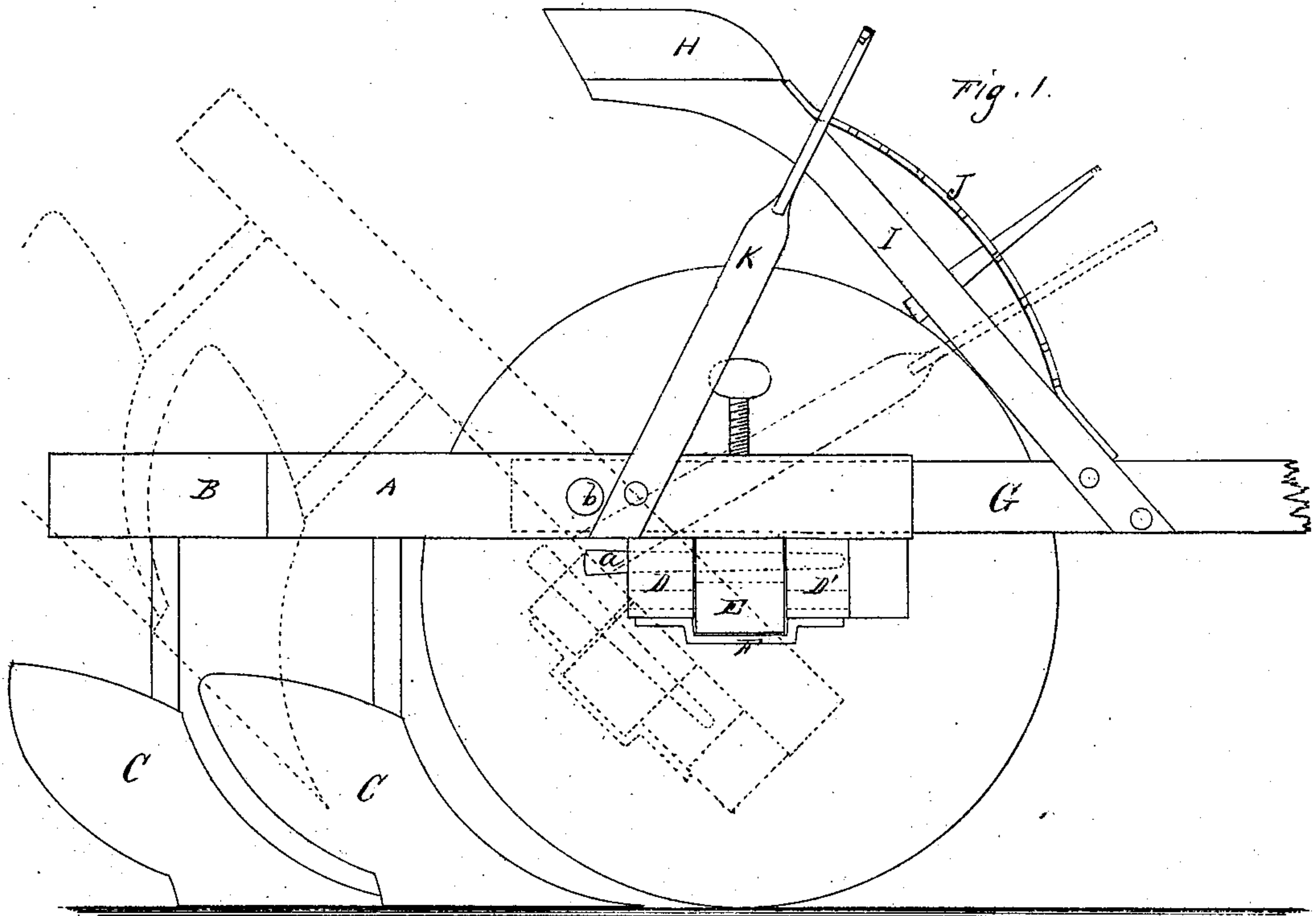


*J. Harris,*

*Gang Plow.*

*No. 110,356.*

*Patented Dec. 20. 1870.*



*Witnesses*  
*Geo. H. Strong.*  
*G. Fitzgerald.*

*Inventor.*  
*James Harris*



# UNITED STATES PATENT OFFICE.

JAMES HARRIS, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. **110,356**, dated December 20, 1870.

*To all whom it may concern:*

Be it known that I, JAMES HARRIS, of San Francisco, county of San Francisco, State of California, have invented certain Improvements in Gang-Plows; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

My invention relates to improvements in that class of gang-plows in which the plows are secured to the timbers of a frame, which can be raised or lowered, as desired, about the axle as a center, without interfering with the pole; and my object is to construct these plows much cheaper than they formerly were, while their effectiveness will be rather increased than diminished.

In order to explain my invention so that others will be able to understand its construction and operation, reference is had to the accompanying drawing, forming a part of this specification, in which—

A and B represent the two parallel timbers of a plow-frame, to the rear end of which the plows C are attached. To the under side of the forward end of these timbers are secured the two transverse cross-pieces D D', between which the straight axle E is placed so that the timbers A B shall rest upon it. The axle E is cut away directly beneath the plow-frame, as shown, sufficiently to allow the frame to settle down, when desired, into the cut; but in traveling from place to place the frame is supported by pins *a*, which pass through holes in the projecting ends of the cross-pieces D D' and into the axle, thus supporting it at each end in about the position it would be if resting upon the straight and uncut axle. A metallic strap, F, on the under side, prevents the axle from being at any time altogether detached from the frame. The rear end of the pole G rests between the forward ends of the timbers A and B upon the cross-pieces D D', and is secured to said timbers, at a point back of the axle, by means of a rod or bolt which passes horizontally through the timbers and the rear end of the pole at *b*. The seat H is attached to the pole in front of the forward end of the plow-frame by the

backwardly-inclined standards I. The inclination of these standards is sufficient to bring the seat directly over the axle. Fixed upon one of these inclined standards is a rack, J, which serves to retain the lever or sweep K at the desired point. This sweep is secured to one of the timbers of the plow-frame, back of the axle, and inclines forward, so as to engage with the rack. By throwing the lever K downward along the rack J, the plow-frame can be elevated, turning with and about the axle until its weight is brought directly upon and over the axle, the pole in the meantime retaining its horizontal position, and the draft of the horses assisting in raising the plow-frame. In this position the machine can be moved from place to place without the usual extra weight of the plows and frame in the rear of the axle. By freeing the lever K, the weight of the frame and plows will cause them to fall to the rear in position for plowing.

In order to adjust the frame, plows, and driver's seat when one of the wheels is running in the furrow, I remove the pin *a* on the side of the frame opposite the furrow-wheel and allow this side to drop into the cut in the axle beneath. This causes the frame to tilt to one side, when, by means of a set-screw, *f*, it can be readily leveled. Either side can be adjusted in the above-described manner, or the entire forward part of the frame can be lowered into the cut, as will be necessary in plowing the first furrow.

I am aware that plows have been made with devices for adjusting the wheels when running in the furrow; and therefore I do not claim, broadly, this feature of my invention.

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

The axle E, recessed as described, in combination with the timbers A B, extended cross-pieces D D', and pins *a*, for adjusting the plow-frame, seat, and the level of the plows, substantially as above described.

It witness whereof I have hereunto set my hand and seal.

JAMES HARRIS. [L. S.]

Witnesses:

GEO. H. STRONG,  
G. FITZGERALD.