

(No Model.)

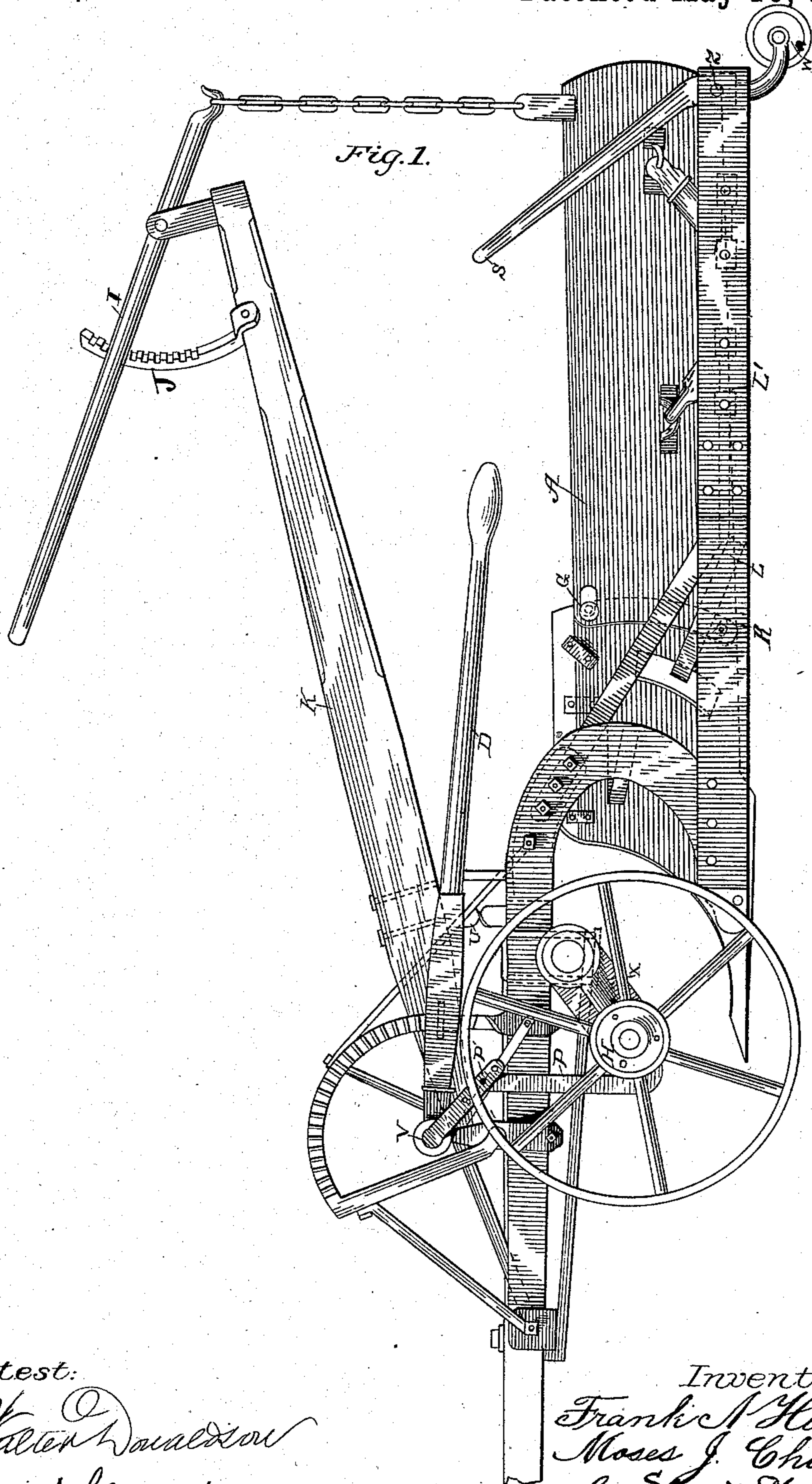
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F. A. HILL & M. J. CHURCH.

DITCHING AND GRADING PLOW.

No. 258,064.

Patented May 16, 1882.



Attest:

Walter Donaldson
David H. Mead

Inventor
Frank A. Hill
Moses J. Church
by Eli Spear
Atty

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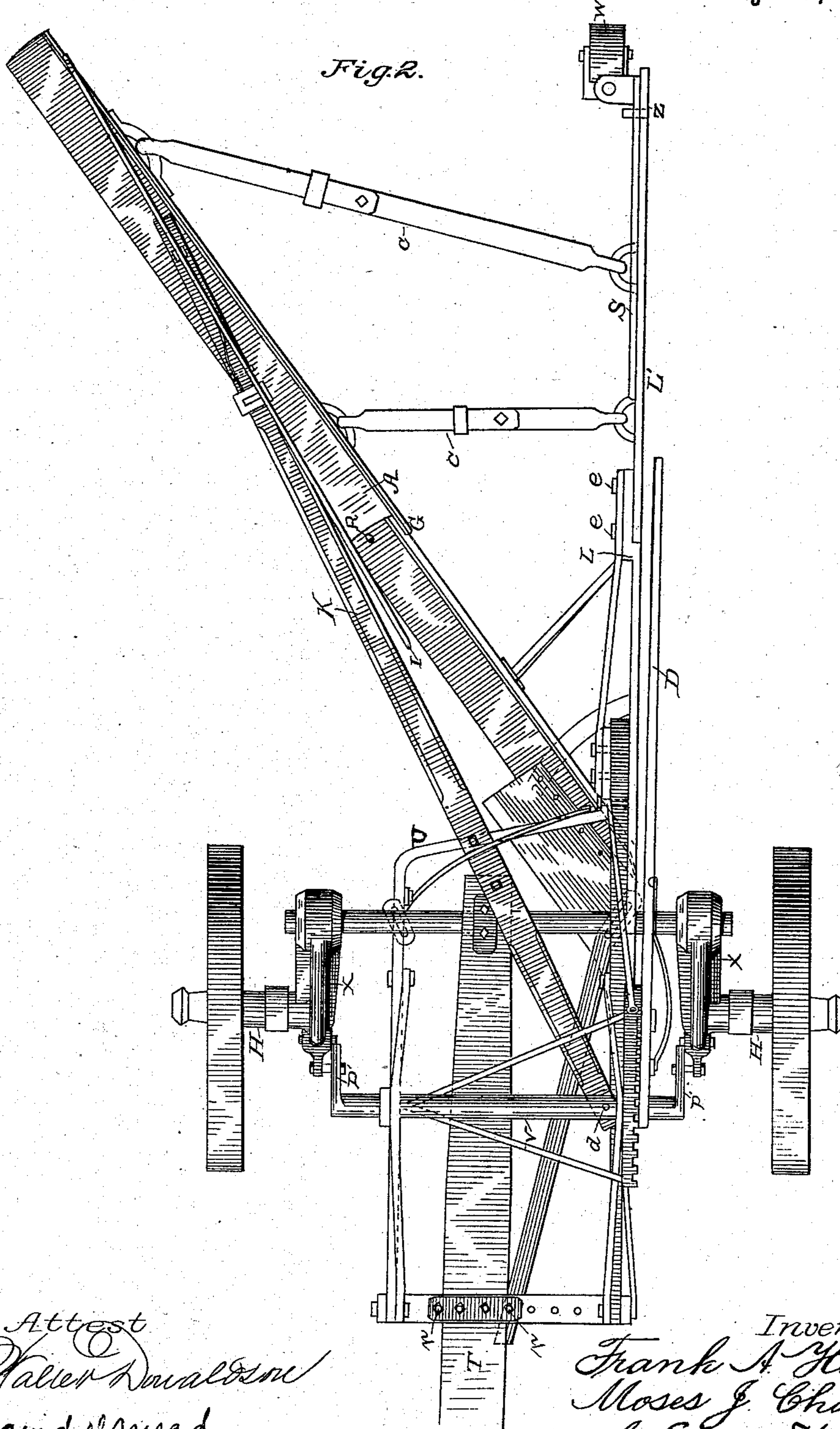
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UNITED STATES PATENT OFFICE.

FRANK A. HILL, OF BENICIA, AND MOSES J. CHURCH, OF FRESNO, CAL.

DITCHING AND GRADING PLOW.

SPECIFICATION forming part of Letters Patent No. 258,064, dated May 16, 1882.

Application filed January 14, 1882. (No model.)

To all whom it may concern:

Be it known that we, FRANK A. HILL, of Benicia, in the county of Solano and State of California, and MOSES J. CHURCH, of Fresno, in the county of Fresno and State of California, have invented a new and useful Improvement in Ditching and Grading Plows; and we hereby declare that the following is a full, clear, and exact description of the same.

Our invention relates to plows; and it consists mainly in the improved and novel construction and adjustment of the extension of the mold-board, and in other details of construction hereinafter more fully set forth.

Figure 1 is a side elevation, and Fig. 2 a plan view, of the improved apparatus.

In these drawings the plow is represented as mounted upon an axle, the beam of the plow being connected thereto, as shown in Fig. 1. The axle is provided with cranks x , and is unusually heavy. The wheels are provided with wide tires and with adjustable boxes H, which are bolted to the hub with three small bolts, and can readily be replaced when worn out or broken. The plow is of the "slip-share" class, and its depth is adjusted by means of the lever D, which is fixed, as shown more clearly in Fig. 1, to the rock-shaft V. This is mounted on suitable standards, and is provided at its ends with arms P' P', Fig. 2, which are connected to the crank-axes by means of links P P. The lever engages with a bent rack-bar, 1, by means of which it is held in any required position. To the beam, which is of the ordinary bent form, a permanent mold-board and landside are connected and securely braced. A movable or adjustable extension of the mold-board is shown at A. This is pivoted at the lower forward corner, as shown at R, and is held at the forward upper corner to the fixed mold-board by means of a bolt passing through a slot. This construction permits the movable mold-board to be raised to an angle of forty-five degrees, more or less, as may be required, to enable the operator to adjust the machine to suit the soil in which he is working. The ditching mold-board is supported upon a lever, K, which is pivoted at d , Fig. 2, and is capable of swinging laterally on this point. It is supported on a bar, U, Fig. 2, around which it moves to accommodate itself

to the different positions of the end of the movable mold-board A. The cross-bar is supported on suitable standards. The rear end of the lever K is provided with a lever, I, engaging with a rack-bar, J, on the lever K and supporting by means of a chain the end of the detachable mold-board. This mold-board is also adjustable laterally, the angle which it makes with the landside being variable at will by means of the jointed bars cc , Fig. 2. These bars are connected to the mold-board and landside by means of suitable hooks and eyes or in any other convenient way, and may be increased or decreased in length, as required.

The landside is also composed of a fixed and removable part, L L', the latter being bolted to the former by means of bolts E E, and when desired this part L' may be removed with its appurtenances and with the ditching mold-board, and the plow used as a deep tiller.

In order to carry the landside when the plow is not working, we have provided a caster-wheel, W, upon the end of a pivoted bent lever, S. The lever is pivoted at the end of the landside, and when the machine is not at work the lever is thrown forward into the position shown in Fig. 1, which brings the wheel under the end of the broadside, thereby slightly elevating it. When it is desirable to lower the landside for work the lever is thrown backward to trail upon the ground.

The pole T is fixed adjustably to the front cross-bar, t , of the frame and to the axle. Preferably it is clamped to the axle by a strap and bolted to the front bar by two or more bolts. This front bar is provided with a series of holes, so that the pole can be shifted laterally, and always be located in the central line of draft in whatever position or manner the plow or mold-board is adjusted.

The plow-beam, frame-work, and all other appurtenances are preferably made of metal, except the pole and sustaining-lever K, which may be wood. The whole machine is constructed with a view to strength as well as for the special functions, and may be attached to a number of horses without danger of breakage in any of its parts.

Having thus described our invention, what we claim is—

1. In a ditching-plow, the combination of

the carrying-wheels, the rock-shaft V, the plow
having a permanent mold-board, the pivoted
extension A, having independent vertical and
lateral adjustment, and the lever K, pivoted
5 to the rock-shaft and connected to the extension of the mold-board.

2. The combination, with the mold-board, of
the extension A, pivoted at R, and having the
pin and slot G, the support K, and the rack and
10 lever J I.

In testimony whereof we have signed our

names to this specification in the presence of
two subscribing witnesses.

FRANK A. HILL.

MOSES J. CHURCH.

Witnesses to signature of F. A. Hill:

MATT. CLARKEN,
LEO MORGAN.

Witnesses to signature of M. J. Church:

A. KUTNER,
H. C. TUPPER.