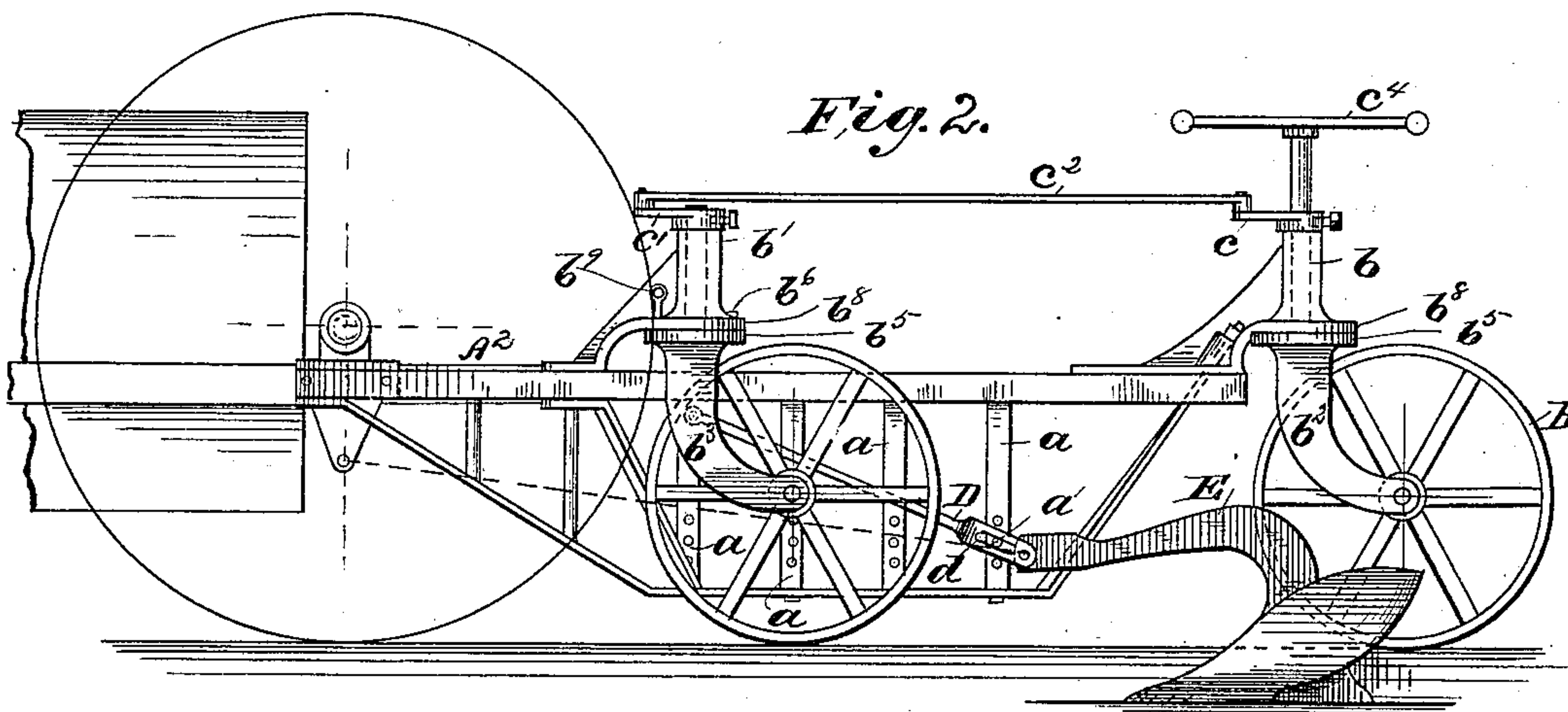
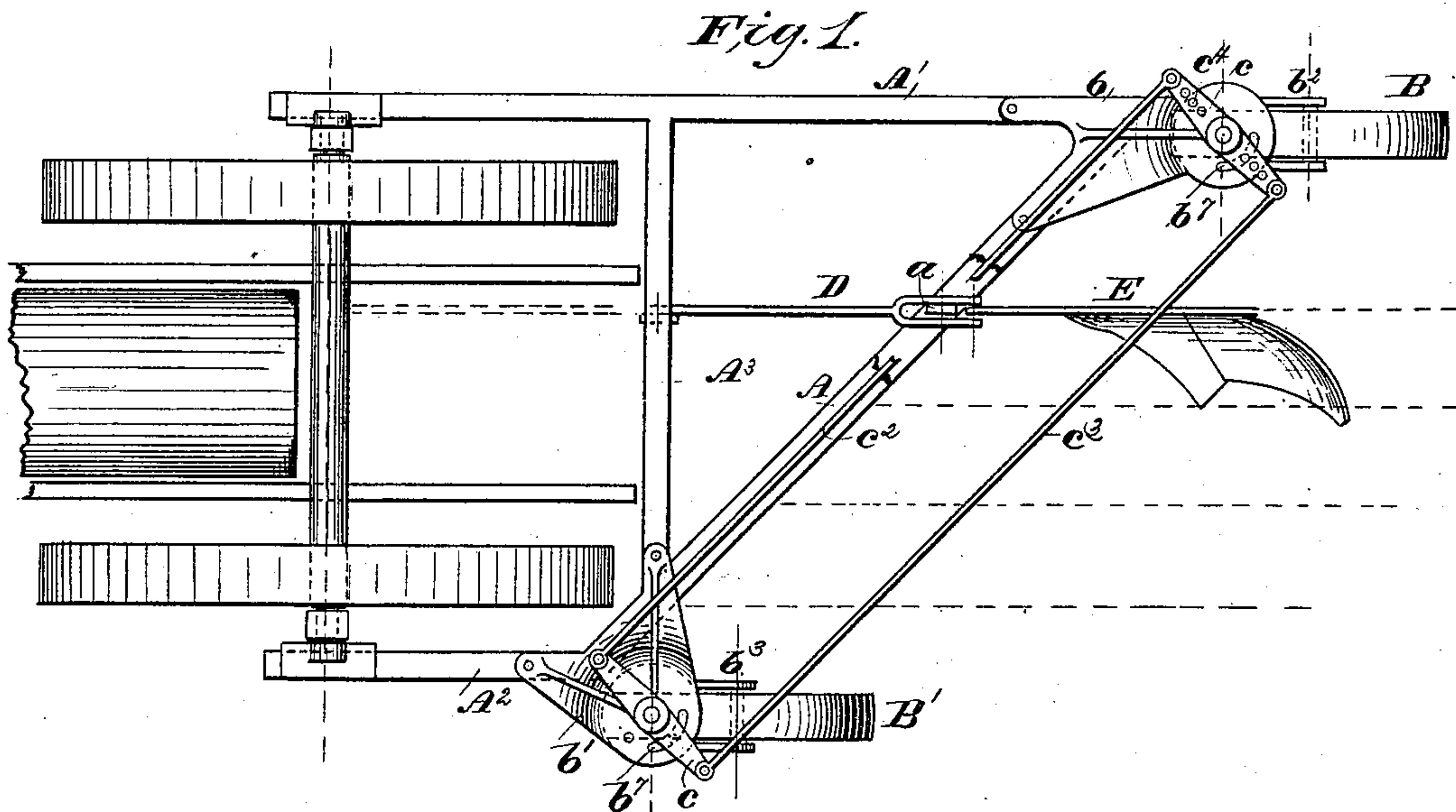


(No Model.)

E. PENNEY.
STEAM GANG PLOW.

No. 316,392.

Patented Apr. 21, 1885.



Witnesses:

E. J. Walker

W. W. Mortimer

Inventor

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UNITED STATES PATENT OFFICE.

EDGAR PENNEY, OF WAYNESBOROUGH, PENNSYLVANIA.

STEAM GANG-PLOW.

SPECIFICATION forming part of Letters Patent No. 316,392, dated April 21, 1885.

Application filed October 14, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDGAR PENNEY, a citizen of the United States, residing at Waynesborough, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Steam Gang-Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that type of steam gang-plow wherein a diagonal gang of plows is mounted on a separate frame, which frame is connected with a traction-engine.

My improvement consists of certain combinations of mechanical devices, which combinations are specifically pointed out in the claims at the close of this specification, and the practical application and *modus operandi* of which are clearly set forth in the following detailed description, aided by the annexed drawings.

Figure 1 is a plan view showing so much of a steam gang-plow as will suffice to illustrate the application of my invention. Fig. 2 is a side elevation of the same.

The same letters of reference indicate identical parts in all the figures.

The plow-frame consists of a diagonal hitching-beam, A, side beam A', side beam A², and cross-beam A³. The forward ends of the side beams, forming a fork, are provided with suitable bearings for attachment to the extension ends of the rear axle of the traction-engine. The hitching-beam is trussed, substantially as described in my application for United States Patent filed October 14, 1884, Serial No. 145,491. I disclaim here whatever is claimed in said application. The diagonal rear end of the plow-frame is supported upon the two caster-wheels B and B'. In order that these caster-wheels may be of large diameter, while the plow-frame is a comparatively low one, and that said wheels may be ranged to run at opposite ends of and substantially abreast with the diagonal rank of plowshares, I provide suitable overhung goose-necked brackets, b and b', in which the stocks b² and b³ of the respective wheels are journaled. The brackets project sufficiently beyond and to the

rear of the diagonal hitching-beam to range the wheels with the plowshares, and the goose-necked form of the brackets allows all necessary swing to the wheels. The upper end of the journal of stock b², projecting above its bracket, has a cross bar, c, fixed to it, and a similar cross-bar, c', is fixed to the projecting upper end of the journal of stock b³. These cross-bars c and c' are connected by rods c² and c³. The stocks of the wheels being thus connected, the wheels will always swing in unison. A hand-wheel, c⁴, is applied to cross-bar c, as shown in Fig. 2, so that the plowman may swing the caster-wheels, if necessary, to effect the proper guidance of the machine. Since these wheels are at different distances from the traction-engine, they must be turned at different angles in the turnings of the machine. This is approximately effected by hitching the rods c² c³ to one cross-bar at points differing in their relation to the axis of the stock from the points where they are hitched to the other cross-bar, so that by turning hand-wheel c⁴ one of the caster-wheels will assume a greater angle than the other. Series of holes c⁴ in cross-bar c provide for adjustments of one end of rods c² c³ for the purpose of obtaining any required differential dispositions of the caster-wheels. The cross-bars c and c' may project in one direction only and be connected by a single rod, all as shown in Fig. 2. The collar b⁵ of each stock is provided with a stop-pin, b⁶, which projects up through a concentric slot, b⁷, in the collar b⁸ of the bracket, so that the swing of the caster-wheels is limited by the play afforded pin b⁶ in slot b⁷. Holes are also bored in the collars b⁵ and b⁸, which register when the wheels B and B' are parallel with the side beams A' and A², or, in other words, are parallel with the traction-wheels of the engine. A locking-pin, b⁹, may be used to lock the stock to its bracket when the caster-wheels are in the position just mentioned. Wheel B runs on the unplowed ground, while wheel B' runs on the plowed ground.

The drawings show only one of the gang of plows; but the positions of the others are indicated by broken lines in Fig. 1. Each plow is independently hitched. It is drawn by a draft-rod, D, the forward end of which is connected either to the plow-frame or to a

fixed part of the traction-engine. The rear end of the draft-rod is forked to embrace a flat strut, a , of the truss of the hitching-beam A, and to receive, in rear of said strut, the end of the plow-beam E, which is pivoted to the fork. The fork of the draft-rod is of sufficient length to have free play on the strut a , with which it is connected, however, by a cross-pin, a' , which is inserted in one of a vertical series of holes in the strut, and passes through elongated longitudinal slots d in the respective arms of the fork of the draft-rod. It will be observed that the pin a' merely serves to hold the forked end of the draft-rod and forward end of the plow-beam at the required height, and that it has to sustain but a small fraction, if any, of the strain due to the draft.

The wheels B and B', running abreast with the shares of the diagonal gang of plows, will practically maintain a uniform depth of furrow in plowing undulating ground, because the rising and falling motions of the plow-frame (which affect the pitch of the plowshares) will be practically coincident with the passage of the plowshares along the unevennesses which cause these motions.

I claim as my invention—

1. The combination, substantially as before

set forth, of the plow-frame, the diagonal gang of plows hitched thereto, and the wheels for supporting the rear end of the plow-frame, the said wheels being arranged to run abreast with the plowshares of the diagonal gang of plows.

2. The combination, substantially as before set forth, of the traction-engine, the plow-frame having a forked forward end directly attached to extension ends of the rear axle of the traction-engine, the diagonal gang of plows hitched to said plow-frame, and the wheels for supporting the rear end of the plow-frame, the said wheels being arranged to run abreast with the plowshares of the diagonal gang of plows.

3. The combination, substantially as before set forth, of the trussed hitching-beam, a strut thereof provided with a vertical series of holes, the draft-rod forked to embrace the strut, and having elongated longitudinal slots in the arms of its fork for the passage of a pin supporting it on the strut, and the plow-beam pivoted to the outer end of the fork of the draft-rod.

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

EDGAR PENNEY.

Witnesses:

S. M. STOLER,

A. H. CAMPBELL.