

(No Model.)

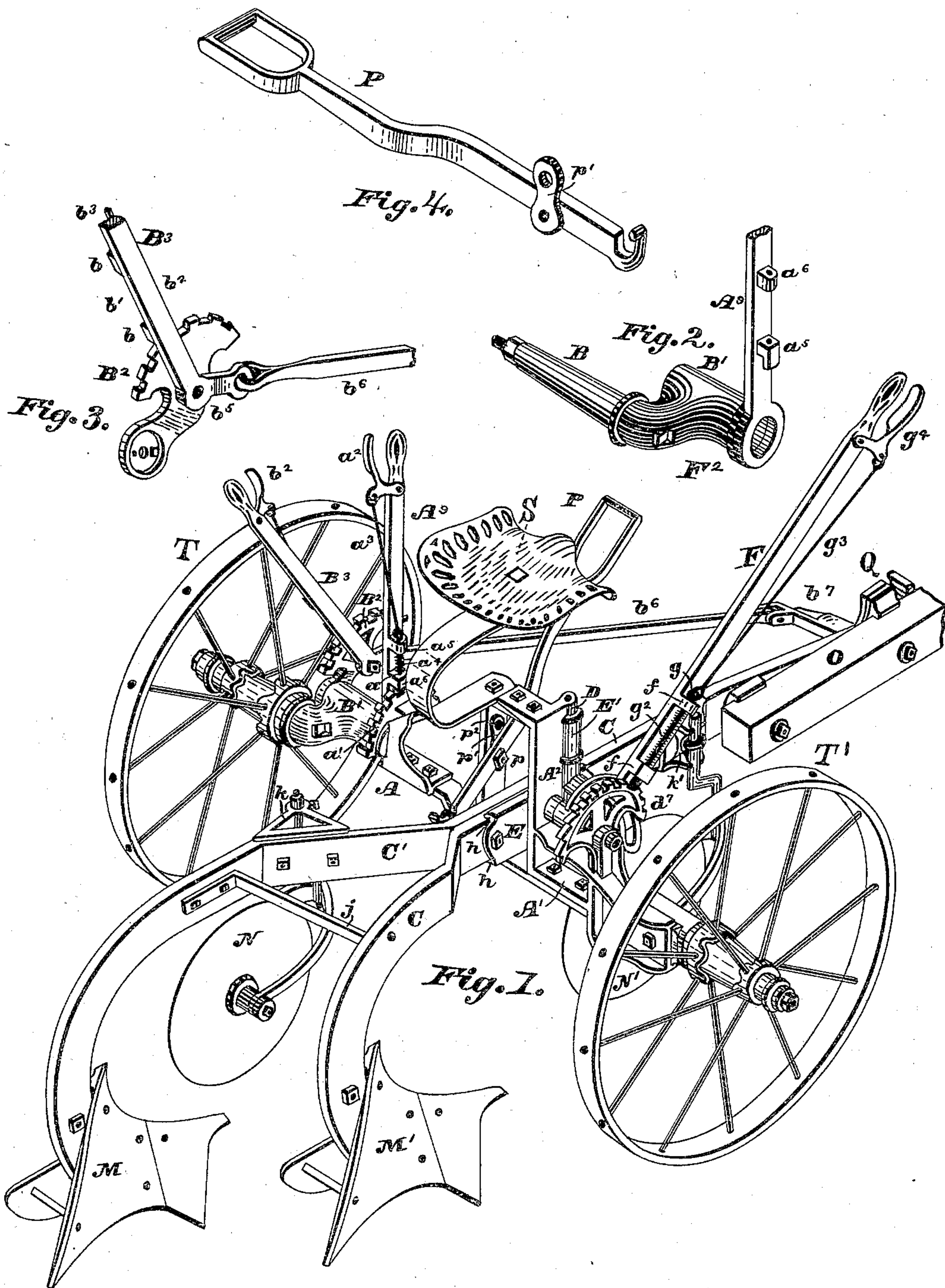
2 Sheets—Sheet 1.

L. GIBBS.

GANG PLOW.

No. 335,913.

Patented Feb. 9, 1886.



WITNESSES

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INVENTOR

Attorney

(No Model.)

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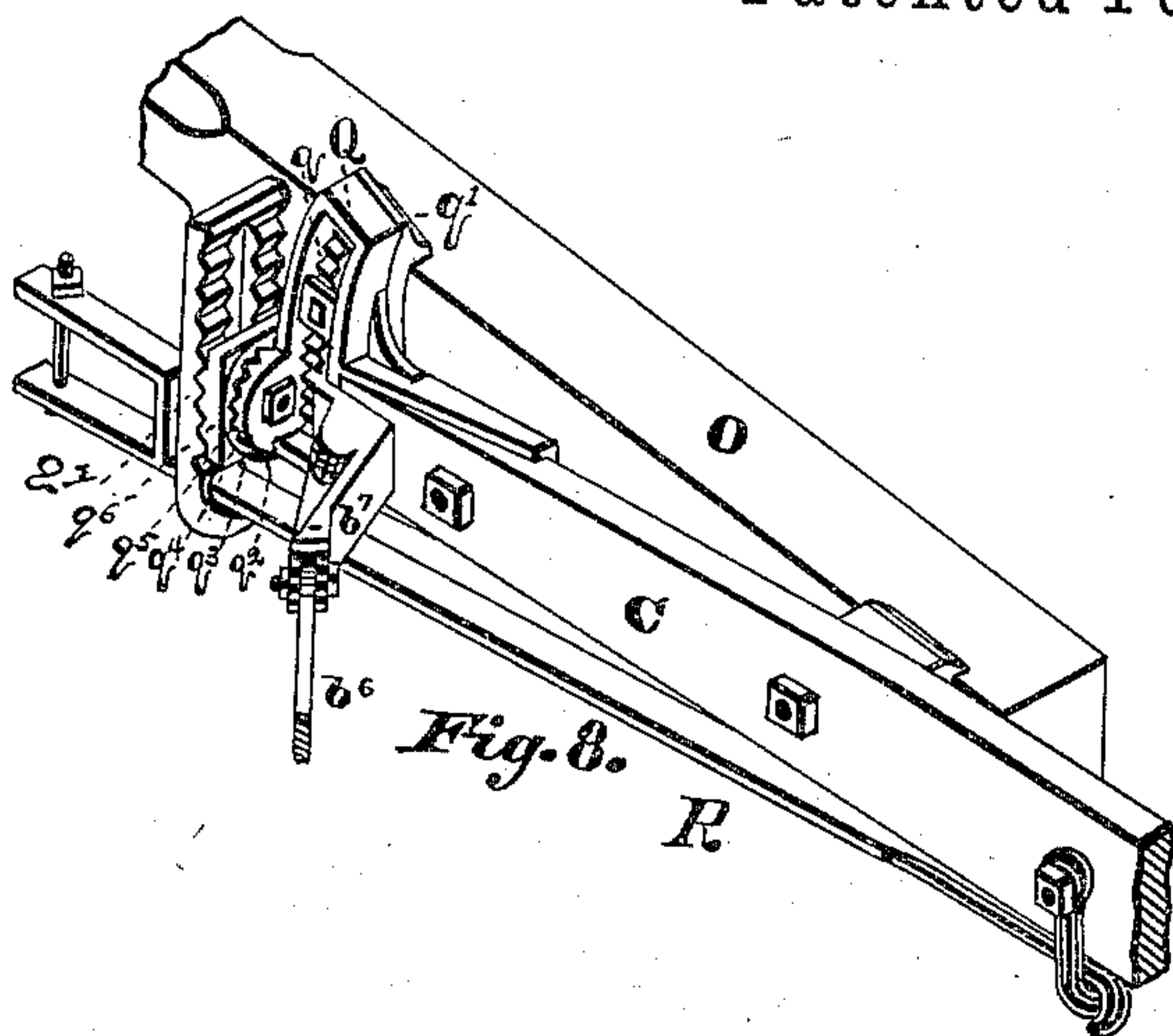


Fig. 8.

R

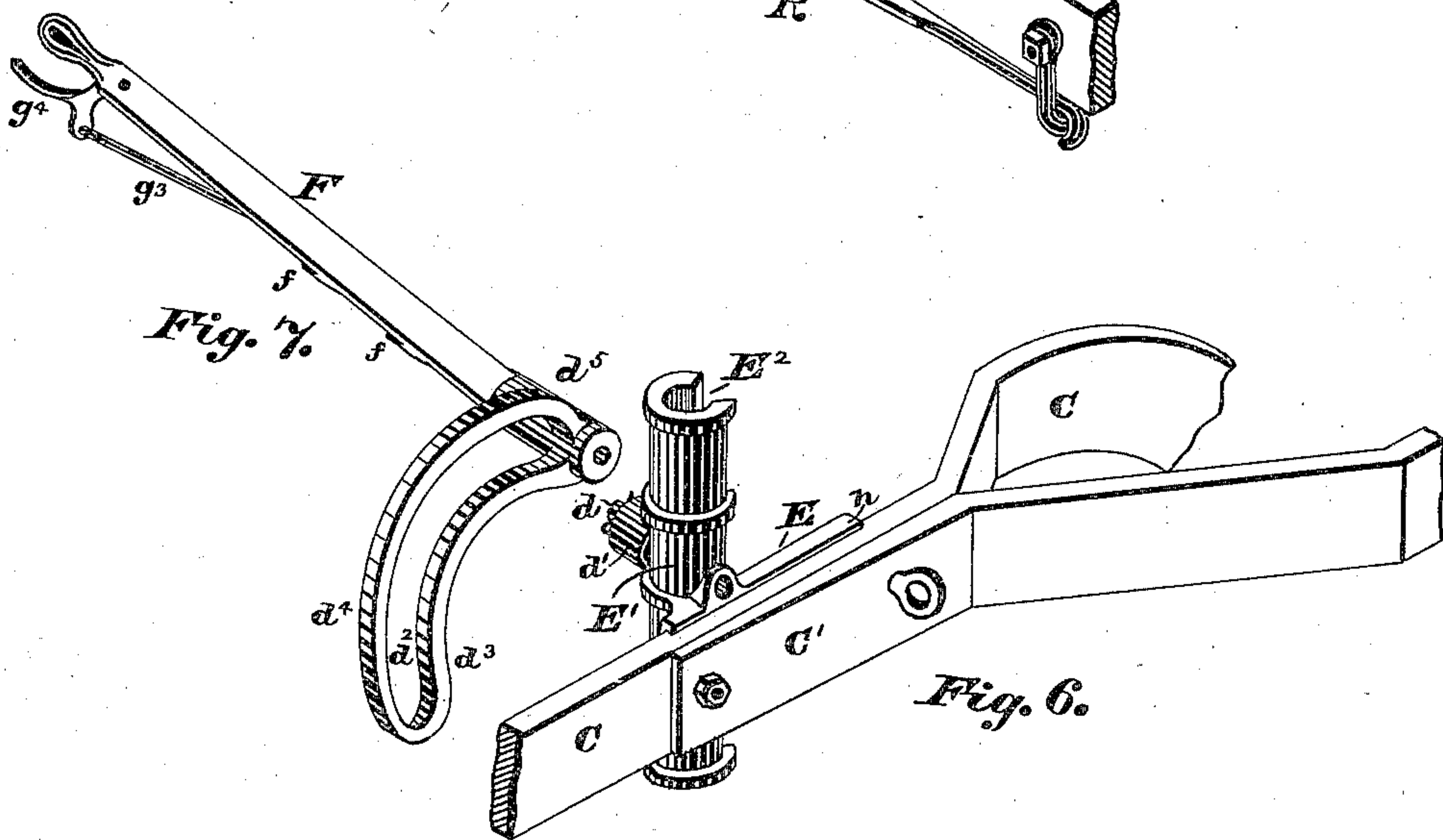
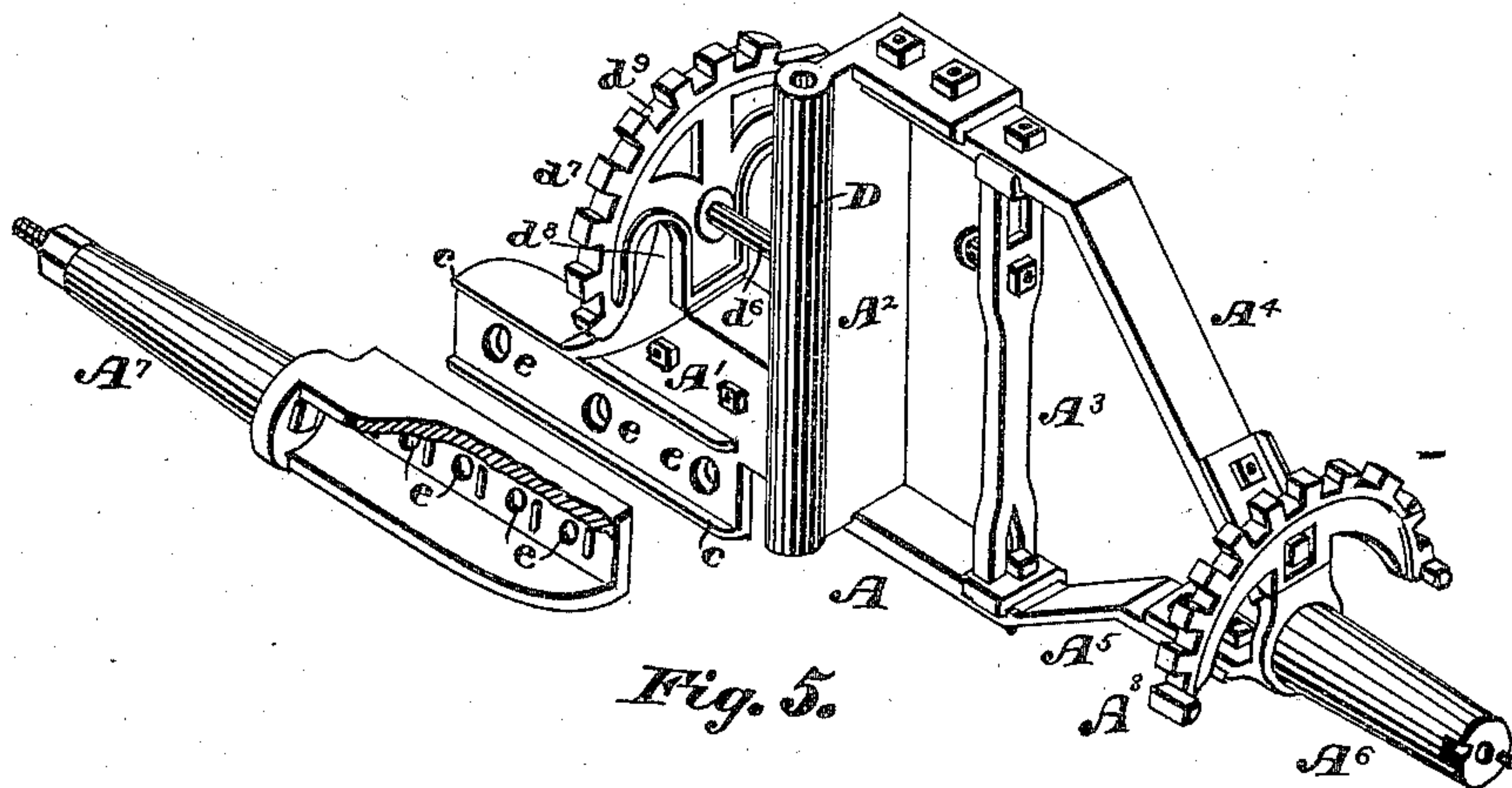


Fig. 7.

Fig. 6.



UNITED STATES PATENT OFFICE.

LEWIS GIBBS, OF CANTON, OHIO, ASSIGNOR TO BUCHER, GIBBS & CO.,
OF SAME PLACE.

GANG-PLOW.

SPECIFICATION forming part of Letters Patent No. 335,913, dated February 9, 1886.

Application filed October 9, 1885. Serial No. 179,423. (No model.)

To all whom it may concern:

Be it known that I, LEWIS GIBBS, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have invented a new and useful Improvement in Gang-Plows, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to and consists in improvements in gang-plows, the object being to provide an implement of the character indicated, with an adaptability to a wide range of adjustment, and which will combine lightness, strength, and ease of management.

With these ends in view my invention consists in certain details of construction and combination of parts, as will be hereinafter described, and set forth in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of my improved gang-plow from the furrow side and rear of the plow. Fig. 2 is a perspective of the cranked axle of the landside-wheel. Fig. 3 is a detail view showing the supporting-bracket and sector, the lower end of guide-lever, and rear end of connecting-link. Fig. 4 is a view of foot-lever. Fig. 5 is a view in perspective from the landside and in front of the wheel of the main supporting-frame, with furrow-side axle detached. Fig. 6 is a plan view of a fragment of the plow-beams and coupling-plate. Fig. 7 is a view in perspective of the operating-lever detached. Fig. 8 is a view from the landside of the front end of beam, showing devices for adjustment of draft-cord and beam.

A represents the main supporting guide-frame, and is composed of the casting A', which is integral with the vertical section A². To this A' there is bolted the wrought-iron bars A⁴ and A⁵, that converge and are adapted to the cast spindle-support A⁶, upon which is mounted a sector, A⁸, adapted for engagement with the lever A⁹, provided to rotate the cranked spindle B about the frame-spindle A⁶. The lever A⁹ has a rigid connection with the socket B' of the cranked spindle B. This socket is adapted to the frame-spindle A⁶, and

may be rotated about it by the lever A⁹ and locked in desired position by the locking-bolt a engaging with the notches on the peripheral edge of the sector A⁸. The locking-bolt is operated in one direction by the hand-lever a² and the wire-connection a³, and in the opposite direction by a spring, a⁴, journaled between the perforated lugs a⁵ and a⁶, provided to guide and support the locking-bolt by releasing the locking-bolt from engagement with the sector and vibrating the lever A⁹. The socket B' may be oscillated about the frame-axle A⁶, carrying with it the cranked axle B, thereby raising or lowering the landside of the frame.

The sector B² (see Fig. 3) is mounted on the end of the frame-axle A⁶, and has a dowel engagement by which the sector is held in rigid connection and at a desired elevation. On this sector B² is mounted a bell-crank lever, B³, which has a pivotal connection with the center of the sector, and is provided with a locking-bolt, b', supported by lugs b b, projected from the lever, and is operated by the hand-lever b², cord b³, and spring b⁴. The locking-bolt b' engages with the notches on the peripheral edge of the sector.

The detail of the locking mechanism is the same as that shown and described on lever A⁹. From the lower end of the lever B³ there is projected an arm, b⁵, to which there is connected one end of a link, b⁶, the other end of which is connected with a bracket, b', supported by and projecting from the front end of the plow-beam C. The spindle A' has an adjustable connection with the horizontal section of the frame-piece A' and rests between the supporting-ribs c c, and may be moved to and fro in the seat so provided for it in the frame-piece A', and secured in the desired adjustment by bolts passed through the perforations e. The front edge of the vertical section A² of the frame-plate A' is enlarged and rounded or cylindrical in form, and may be cored out or cast solid, thus forming a guide or king bolt, D. The beam-supporting plate E is provided and integral with an open vertical cylinder, E', which is adapted to the guide-bolt

D. The opening E^2 longitudinally on the rear face of the cylinder is a little larger than the thickness of the vertical plate A^2 . In the rear of the guide-bolt D, on the furrow side of the cylinder and integral therewith, is an arbor, d , projecting outwardly, on which there is a roller, d' , adapted to the curved way d^2 , formed by curved arms d^3 and d^4 . The said arms project from the sleeve d^5 and unite at their outer ends, forming a closed crow-bill. Lever F has a rigid connection with the sleeves d^5 , by which it is oscillated about a center-pin, d^6 , projected from the center of the sector d^7 to vertical plate A^2 . The sector d^7 is supported on an upwardly-projecting lug, d^8 , and is provided with a series of notches, d^9 . The lever F is provided with perforated projecting lugs $f f$, adapted to support a locking-bolt, g , which is actuated continuously in one direction by a spring, g^2 , journaled between the lugs $f f$. The upper end of the bolt g is connected by a link to a hand-lever, g^4 , by which the bolt may be drawn from the notches in the peripheral edge of the sector. The open cylinder E' of the beam-supporting plate E is passed on the guide-bolt D from the lower side before the bar A^5 is bolted in position shown, the bolt passing into the cylinder, the neck or edge of the plate A^2 passing into the open slot E^2 , the plate E projecting backward through the frame, and is provided with supporting-ribs $h h$, adapted to receive the beam C, to which it is secured by through-bolts.

The beam-frame is formed of two sections, C and C' , preferably of wrought bars of iron one by three inches. Section C' may be discontinued at a point just in front of the supporting-plate E, section C projecting forward and adapted for connection with the rear end of the tongue O. The rear ends of both sections are curved down and adapted to the plows M M', which may be of any of the well-known and approved forms adapted to the metal-beam, section C' projecting far enough to the rear of section C to allow the plow M, thereto attached, to turn its furrow in the rear of plow M', attached to beam-section C.

J is a brace-bar, and k a bracket for the support of the revolving cutter N, and k' a support for revolving cutter N'. Foot-lever P has a swinging fulcrum, p , on the lower end of pendant p' , which has a pivotal connection, p^2 , with the frame-piece A^3 . The rear end of the lever rests in an eyebolt-connection with the beam.

On the front end of the beam C there is mounted a coupling-piece, Q, the outer face of which is provided with serrations q on the landside-face, for engagement with a bolt adapted for such engagement, and by which a vertical adjustment of the front end of the beam C may be had by clamping the coupling-piece against the metal q' , provided for and embracing the tongue. On the land side of the coupling-piece there is projected a lug, q^2 , on

the front face of which there is a circular disk, q^3 , having serrations q^4 on its front face.

q^5 is a rectangular block having on its rear face a circular disk provided with serrations q^6 , adapted to the serrations on the disk q^3 . The front face of the block q^5 is provided with serrations across its front face, adapted for engagement with the draft-bar, supporting loop q^7 . This loop is in the form of a letter U, closed at the upper end by a cross-bar, the lower end adapted to carry the draft-bar R. These several parts are provided that the beam C may be vertically adjusted and the draft-bar R adjusted both vertically and laterally. By slacking the bolt q^8 the block q^5 may be rotated, carrying with it the loop q^7 and draft-bar, and when the desired adjustment has been made the parts may be secured in that position by the through-bolt q^8 .

I wish to call especial attention to the arrangement of the lever F, having the crow-bill on its front side embracing the roller d' and the foot-lever P, moving in opposite directions when brought into action for the purpose of raising the plows from the ground.

The supporting-wheels T and T' may be of any of the well-known and approved kinds.

The operation of the several parts is as follows: The operator, while seated on the seat S, to raise the plows from the ground, may place his left foot in the stirrup on the outer end of the foot-lever P, and by pressing down on the foot-lever and lifting or drawing back the hand-lever F the plows may be raised from the ground or the depth of furrow regulated during the progressive movement of the plows. A further adjustment may be made to adapt the plows to uneven surfaces by vibrating lever A^9 . The axle B with its supporting-wheel T may be rotated about the sub-axle A^6 on the frame, and by vibrating the lever B^3 the main frame A may be rotated about the guide-bolt D to change the direction of the plows.

Having thus fully described the nature and object of my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the guide-bolt D, formed on the front edge of the vertical section of the frame, as described, and the beam-supporting plate E, having a vertical open cylinder, E' , integral therewith, adapted to rotate about the guide-bolt D and for vertical adjustment thereon, substantially as described, and for the purpose set forth.

2. The combination of the guide-bolt D, beam-supporting plate E, having a vertical open cylinder integral therewith, adapted to rotate about the guide-bolt D, and means to adjust it vertically thereon, substantially as described and set forth.

3. In a gang-plow, the combination, with the main supporting guide-frame and a plow-beam having a laterally-projecting roller, of a foot-lever, P, pivoted to the main support-

ing guide-frame, and the hand-lever F, the said levers acting together to raise the plow from the ground, substantially as set forth.

4. The combination of the coupling-plate
5 Q, the serrated disk q^3 , the loop q^7 , the intermediate block having serrations on its front and rear sides adapted for engagement with the serrated disk q^3 and the serrations on the

loop q^7 , and the draft-cord R, substantially as described, and for the purpose set forth. 10

In testimony whereof I have hereunto set my hand this 6th day of October, A. D. 1885.

LEWIS GIBBS.

Witnesses:

CHAS. R. MILLER,

W. K. MILLER.