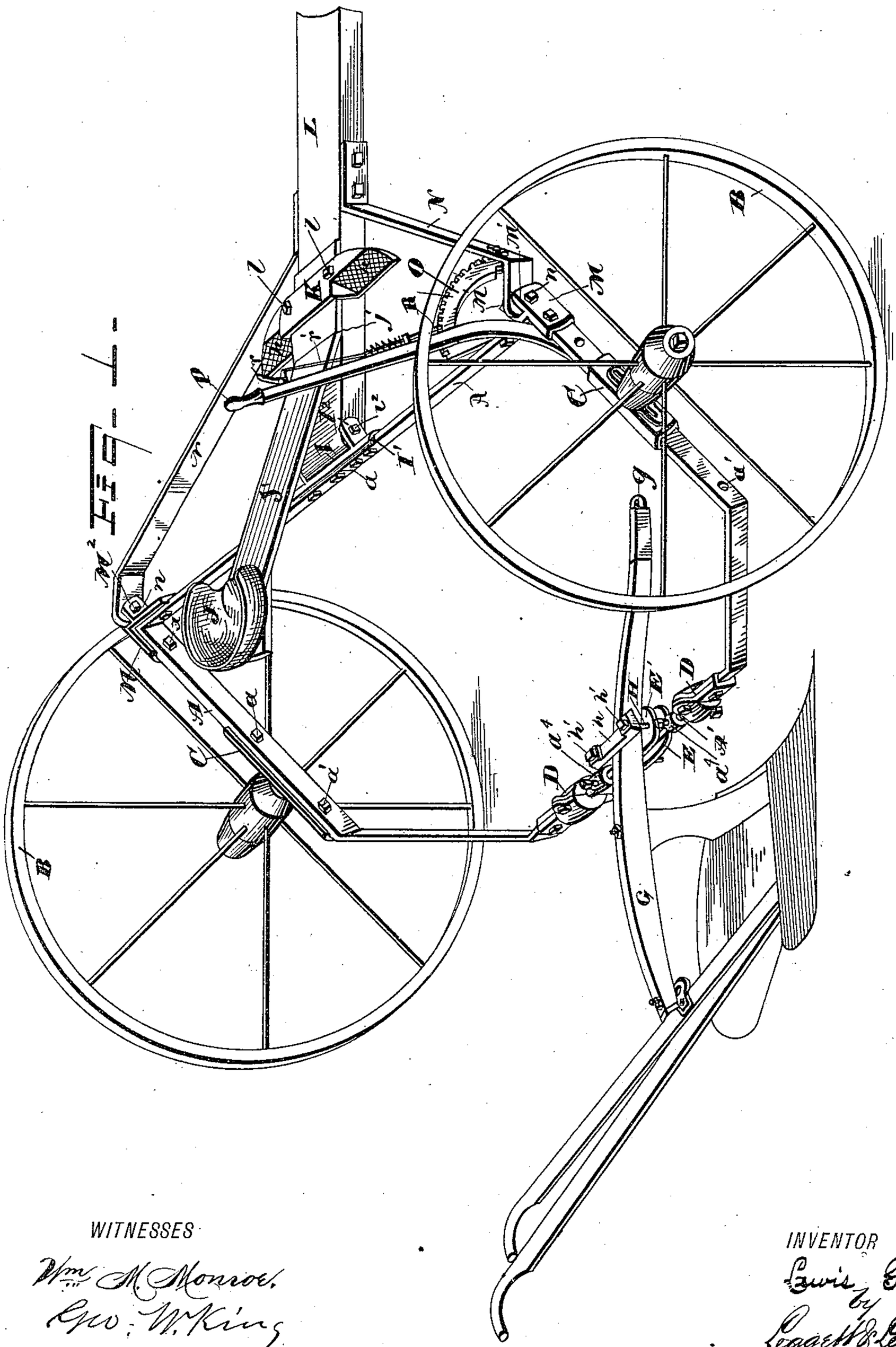
(No Model.) 2 Sheets—Sheet 1.

L. GIBBS.

SULKY PLOW.

No. 310,043. Patented Dec. 30, 1884.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

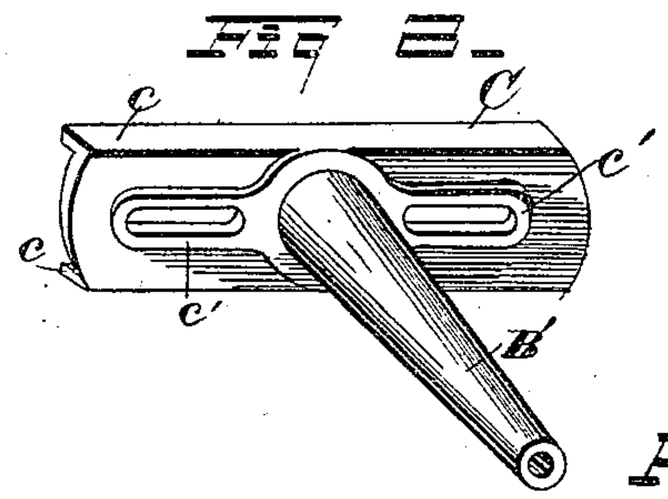


Fig. 4.

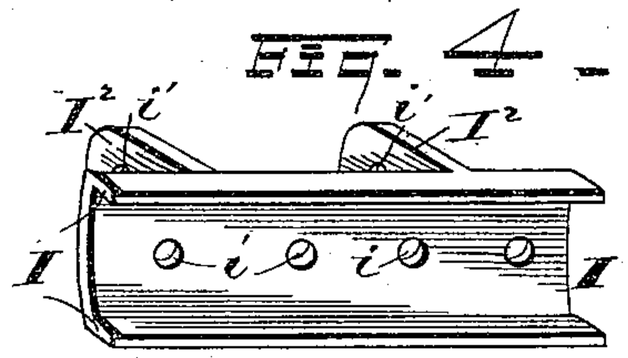


Fig. 3.

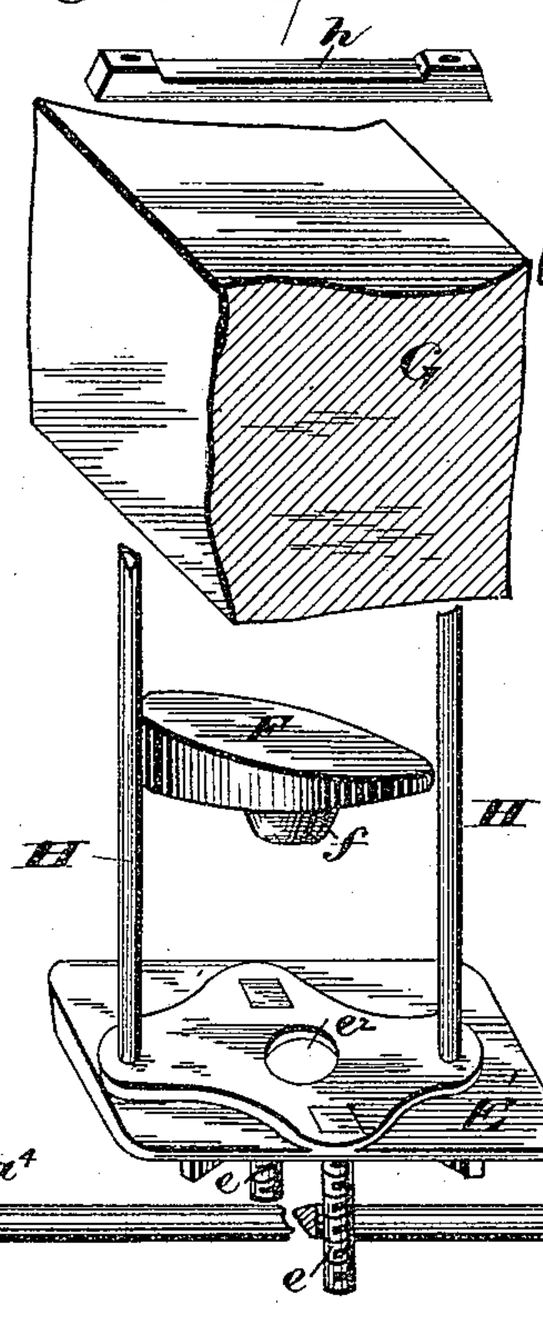


Fig. 5.

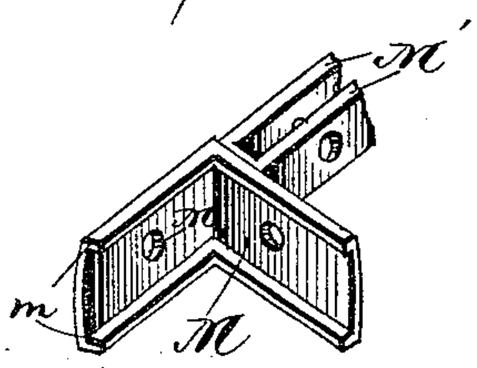


Fig. 6.

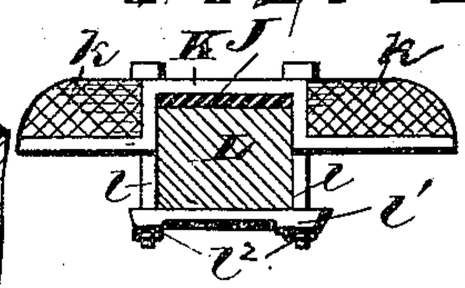


Fig. 8.

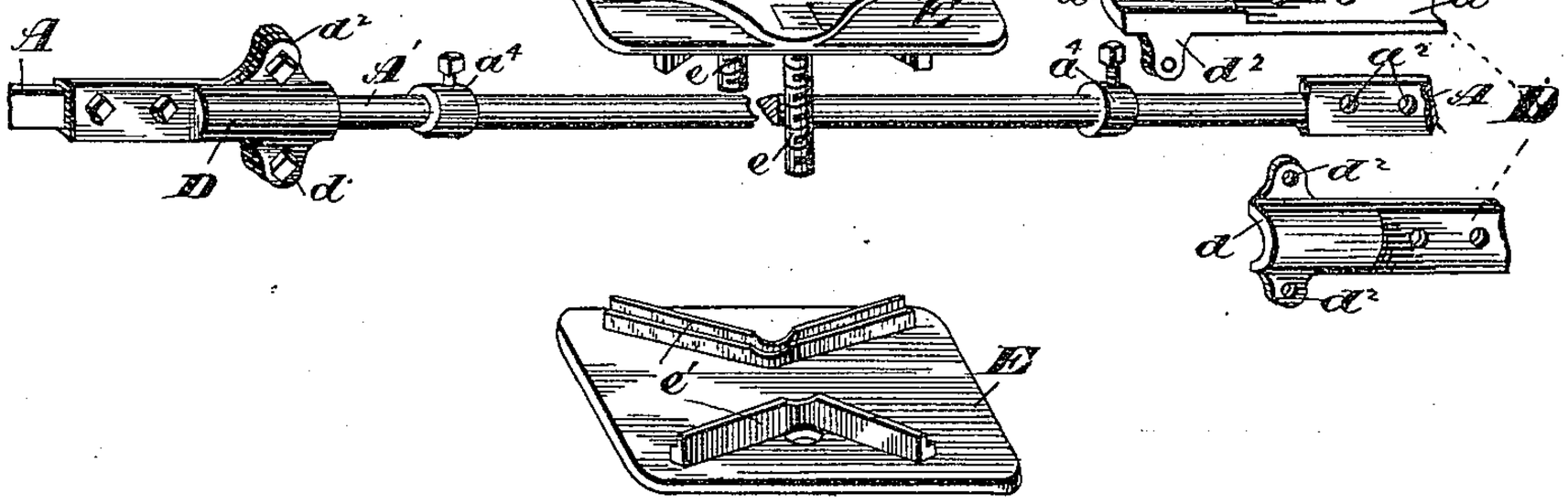
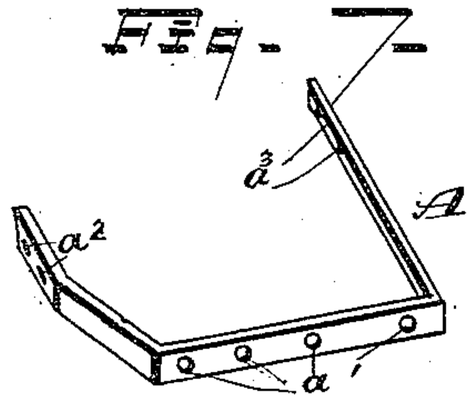


Fig. 7.



WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

LEWIS GIBBS, OF CANTON, OHIO.

SULKY-PLOW.

SPECIFICATION forming part of Letters Patent No. 310,043, dated December 30, 1884.

Application filed July 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, LEWIS GIBBS, of Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Sulky-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 pertains to make and use the same.

My invention relates to improvements in sulky-plows, the object being to provide wheel-spindles adjustably secured to a bail or frame that is in place of but performs the functions of a crank-axle, and so arranged that by the adjustment of the spindles on the frame the relative position of the respective wheels may be changed to accommodate a right-handed or left-handed plow.

A further object is to provide a seat-spring secured to the tongue by a combined clamp and foot-rest, with the parts so arranged that the spring may be adjusted to give the desired distance between the seat and foot rest, and the foot-rest and spring together may be adjusted according to the weight of the operator to give the required balance.

A further object is to provide an improved clamping device for securing together the round and rectangular parts of the frame.

A further object is to provide a combined clamp and tongue attachment for securing the ends of the frame and hinging the tongue thereto.

A further object is to provide a combined angle-iron and brace attachment for re-enforcing the corners of the frame and hinging the tongue-brace thereto.

A further object is to provide a self-adjusting clamp for securing the plow to the frame, in combination with a wedge-shaped disk for adjusting the pitch or "set" of the plow.

A further object is to provide mechanism for tilting the frame, to the end that the plow may be gaged to enter the ground the required depth, or be elevated above the ground, as may be required.

A further object is to simplify the construction and reduce the initial cost of sulky-plows.

With these objects in view my invention consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of my improved sulky-plow. Fig. 2 is an isometric view of a wheel-spindle and attachments. Fig. 3 is a view in perspective of the device for clamping and adjusting the plow to the frame, and shows also portions of the frame and the clamp for securing the same. Fig. 4 is an isometric view of the device for coupling the frame and attaching the tongue. Fig. 5 is an isometric view of the device for re-enforcing the corners of the frame and attaching the tongue-braces thereto. Fig. 6 is a rear view in elevation of the combined clamp and foot-rest, and in transverse section is shown the tongue and seat-spring. Fig. 7 is a view in perspective of a detached portion of the frame. Fig. 8 is a view in perspective of the clamp for securing together the round and rectangular portions of the frame.

The frame is made preferably of two flat metal bars, A, bent in the form shown in Fig. 7, with the ends abutted together at *a*, and bolted to the part I, hereinafter described, and of the round bar A′, joined to the ends of the respective bars A by the clamps D, in a manner hereinafter shown.

B are the wheels that are mounted on the spindles B′, that may be secured in the blocks C or made integral therewith, and are bolted to the sides of the frame. These blocks are provided with ribs or flanges *c*, that embrace the edges of the bars A, and have elongated holes *c′*, through which the bolts pass that secure the blocks C to the bars A. Three bolt-holes, *a′*, are provided in each of the bars A, only two of which are used at a time, and by changing the bolts in the holes, (always using the central hole,) and by sliding the blocks C as far as the elongated holes *c′* will admit, any adjustment of the wheels may be had that is required to use a wheel as a furrow or land wheel, according as the plow is right or left handed.

The clamps D, that secure the parts A and A′, are made in halves, as shown in Fig. 8, and have round seats *d* at one end for embracing the bar A′, and flat seats *a′* at the other end for grasping the flat bars.

The ears d^2 have holes for bolting together one end of the clamp, that has bolt-holes at the other end that correspond with holes a^2 in the end of the bar A, through which bolts pass that secure this end of the clamp.

E and E′ are plates that when in position are respectively secured above and below the bar A′ by the bolts *e*. The plate E has upwardly-projecting angular ribs *e′*, as shown, and similar ribs depend from the plate E′. When these plates are in position, the respective ribs register, and between the opposing central or angular parts of the ribs there is room for the bar A′. With this construction the plates may swing in either direction, as on a pivotal point, so that the plow may assume any position required in turning corners and avoiding obstructions.

The rod A′ between the clamps D is longer than the plates E and E′, and has movable collars a^4, provided with set-screws, as shown. These collars abut against the respective ends of the plates E and E′, and by adjusting these collars on the rod A′ the plow may be held in the required position on the rod. The plate E′ has a central opening, e^2, into which fits the boss *f* of the wedge-shaped disk F, forming a steady-pin for the disk. This disk forms a seat for the plow-beam G, and by turning this disk the plow may be inclined or "set," as required, for either right or left handed plow. The bolts H pass through the plate E′ respectively on either side of the plow-beam, and through the cap *h*, that rests on top of the plow-beam, and are provided with nuts *h′*, by means of which the parts are securely fastened.

The forward end of the plow-beam is provided with an ordinary clevis, *g*, for the attachment of the double-tree.

The part I has ribs or flanges I′, that embrace the edges of the bars A, and have holes *i*, that correspond with holes a^3 in the parts A, and have ears I^2 extending forward, that embrace the rear end of the tongue, and provided with holes *i′*, through which passes the bolt i^2, on which the tongue is pivoted. The two parts A might be made in one piece; but it is more convenient to make two pieces, as shown.

J is the seat, and is supported by the spring J′, that is bent a trifle at *j*, so that the forward end lies flat on the tongue, and is secured by the clamping device K, of which the laterally-projecting parts *k* form foot-rests, and for this purpose are suitably inclined downward and rearward, as shown. The bolts *l* pass through the part K and down respectively on either side of the tongue L and the spring J′, and through the plate *l′*, and are provided with the nuts l^2. By loosening these nuts the spring may be moved endwise through the clamp, forward or rearward, to give the required distance between the seat and foot-rest; or the clamp and spring may be slid along the tongue to extend the seat more or less rearward, according to the weight of the operator, that acts as a counter-balance.

The angular parts M are made to fit the respective corners of the frame, and have ribs *m* or flanges on the top and bottom, that embrace the bars A, and parallel ears M′, projecting forward, that embrace the rear end of the tongue-braces N, which are pivoted on the bolt *n*.

O is a toothed sector, one end of which is rigidly secured to one of the braces N, and the other end is pivotally secured between ears that project forward from the bar A. The pivotal bearing respectively of the tongue, braces, and sector should be in line, so that the frame can turn easily and without cramping or bending the parts.

A hand-lever, P, is rigidly secured to the frame, and may be bent in a suitable manner to bring the handle in reach of the operator.

A spring-dog, R, engages the notch on the sector, and is operated by the lever *r* of the bell-crank variety, and connected with the dogs by the rod *r′*. When the lever P is moved forward, it tilts the frame and raises the plow, that by this means may be supported above the ground. When the lever P is moved rearward, the plow is lowered until it enters the ground to the required depth. The dog, when left free, engages the notch on the sector and holds the parts in the position to which they have been adjusted by the lever P.

The parts B′ and C are preferably integral.

The frame and braces are of wrought-iron, and require little fitting, having only to be bent in proper shape and the holes drilled or punched. The other parts are made all of cast metal—some of them preferably of malleable cast-iron—and require little or no fitting, so that the whole structure may be made at a small initial cost.

As aforesaid, any ordinary plow, either right or left handed, may be easily adjusted in the machine, and when secured in position is entirely under the control of the operator.

The machine is simple, strong, durable, and effective.

What I claim is—

1. A frame for a sulky-plow, consisting of the parts A and A′, secured together by the clamps D and the part I, and provided with adjustable wheel-spindles, substantially as set forth.

2. The combination, with a frame for sulky-plows having a series of holes therein, of the elongated blocks C, having longitudinal side ribs, a central spindle, and elongated openings on opposite sides of said spindle, substantially as set forth.

3. The clamps D, made in halves, and provided with the round seats *d* and flat seats *d′*, and provided with the ears d^2 and suitable bolts for securing the parts, substantially as set forth.

4. The clamping-plates E and E′, provided, respectively, with the angular ribs *e′*, adapted to embrace the rod A′, and so arranged that when secured in position on the rod A′ the plate and attached plow are made to move for-

ward or rearward with the frame, but may turn more or less on the rod either in a vertical or horizontal plane, substantially as set forth.

5. The combination, with the plate E′, provided with the annular central orifice or seat e^2, of the wedged-shaped disk F, provided with the boss *f*, adapted to fit the seat e^2 and form a steady-pin for the disk, substantially as set forth.

6. In a wheel-plow, the combination, with a tongue and the part I, provided with ears, by means of which it is pivotally secured to the rear end of the tongue, and with the ribs and holes, of a plow-frame rigidly secured to said part I between the ribs, substantially as set forth.

7. The angular part M, provided with the ribs *m* and the ears M′, in combination with the parts A and N, substantially as set forth.

8. The part K, provided with the inclined laterally-projecting parts *k*, and provided with suitable bolts, and the plate *l*′, forming a clamping device for securing the spring J′ to the tongue L, and so arranged that the spring may be moved endwise through the clamp, or the clamp and spring may be moved forward or rearward on the tongue, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 18th day of July, 1884.

LEWIS GIBBS.

Witnesses:
HENRY A. CAVNAH,
F. B. NIESZ.