

(No Model.)

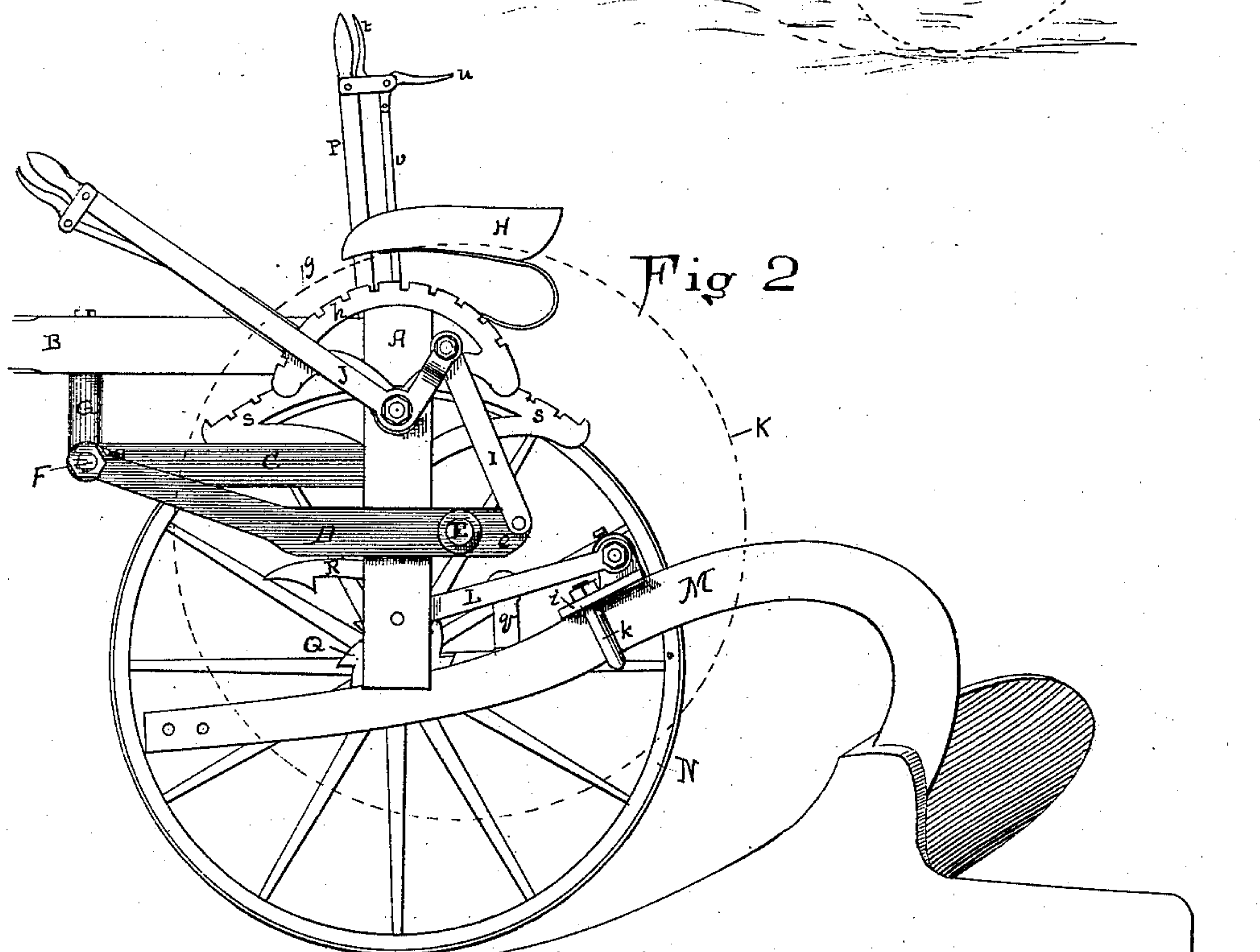
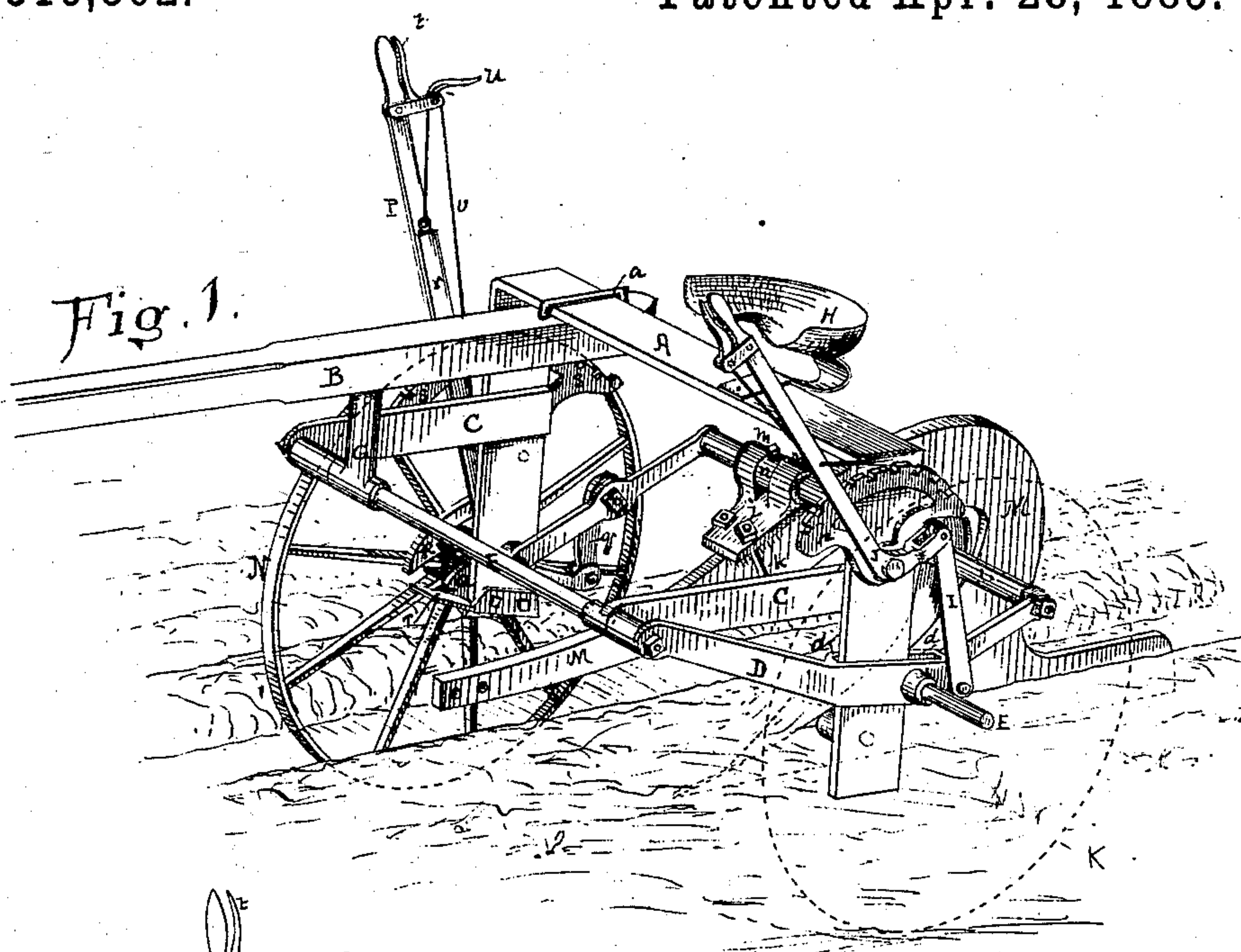
3 Sheets—Sheet 1.

J. W. MEIKLE.

WHEEL PLOW.

No. 316,802.

Patented Apr. 28, 1885.



WITNESSES

J. C. Turner
G. Bacon

INVENTOR,
James W. Merkle

By his Attorney
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(No Model.)

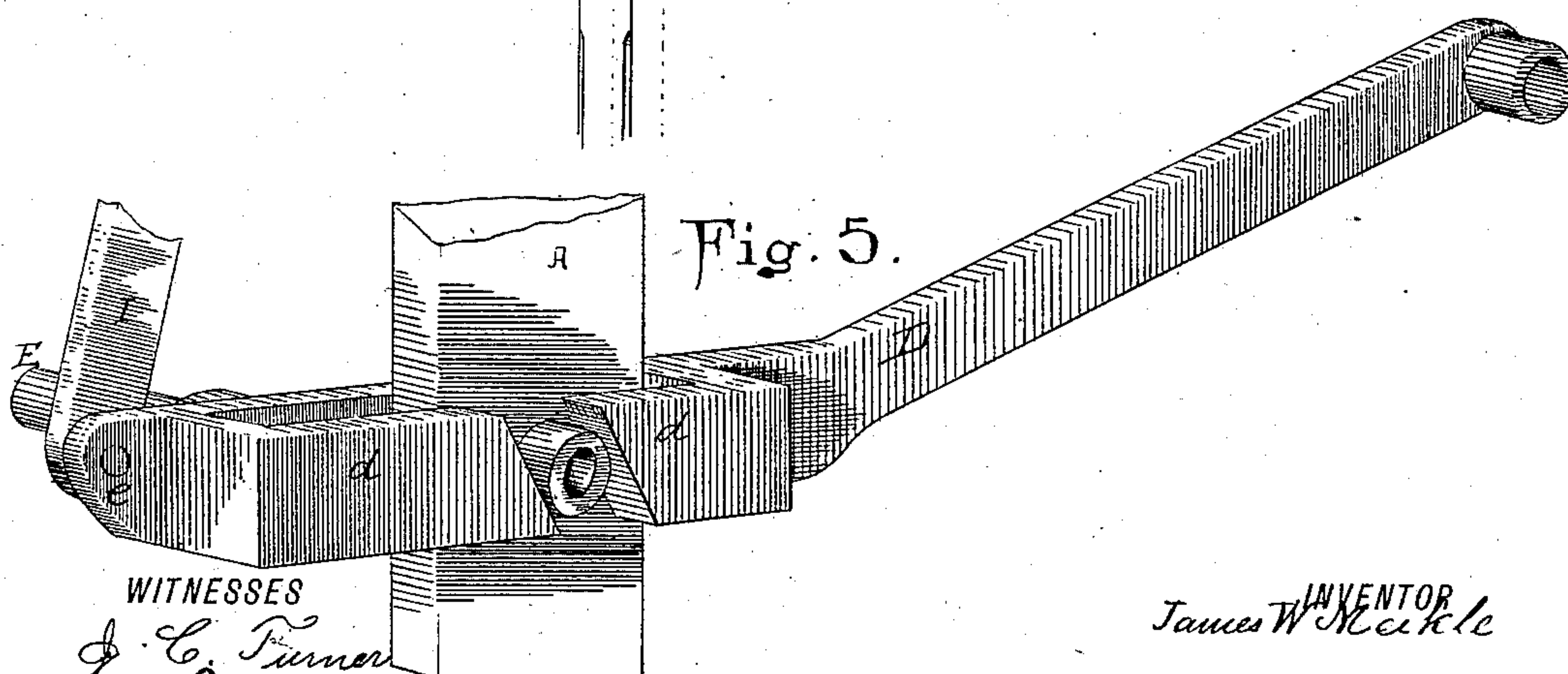
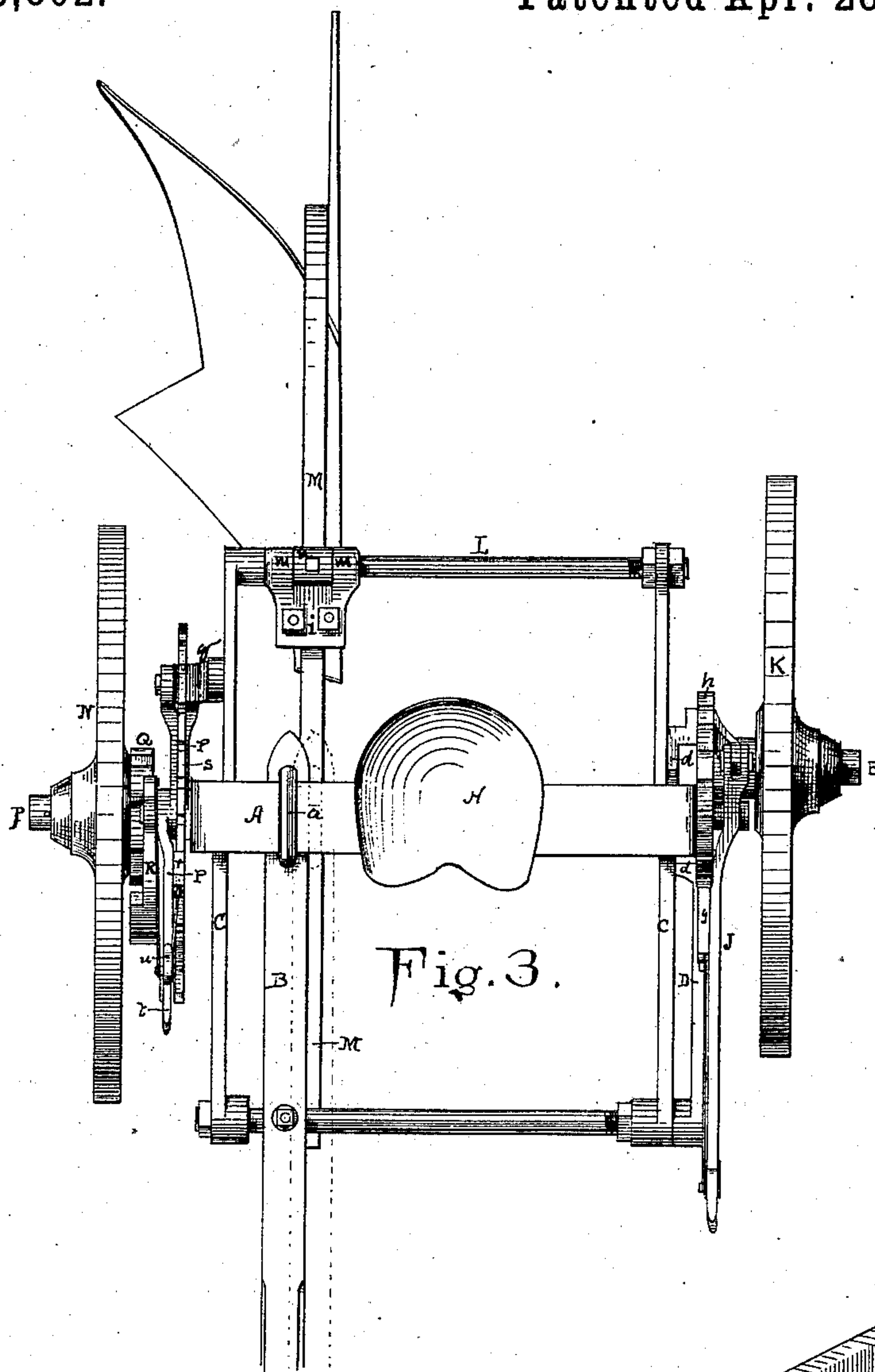
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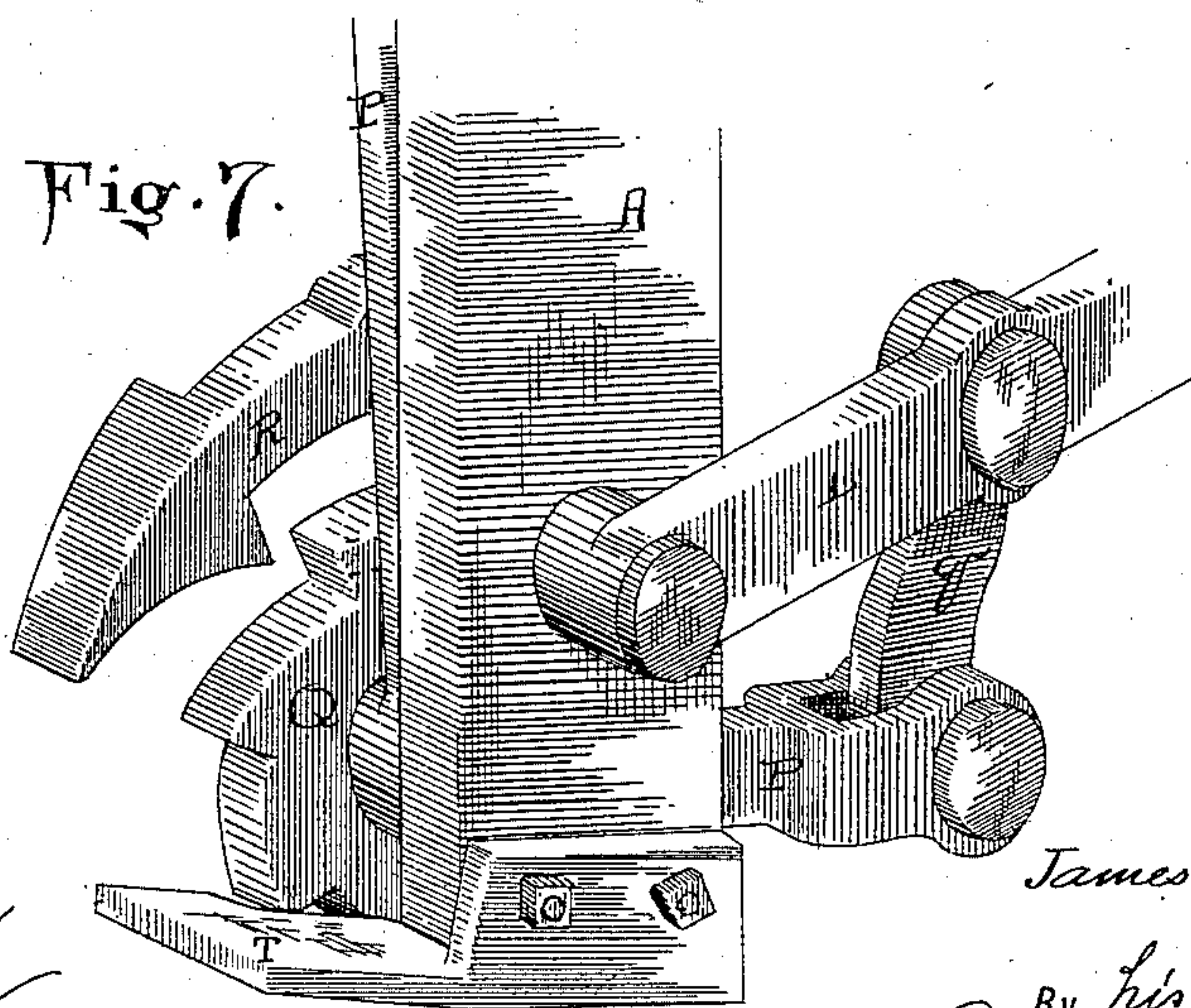
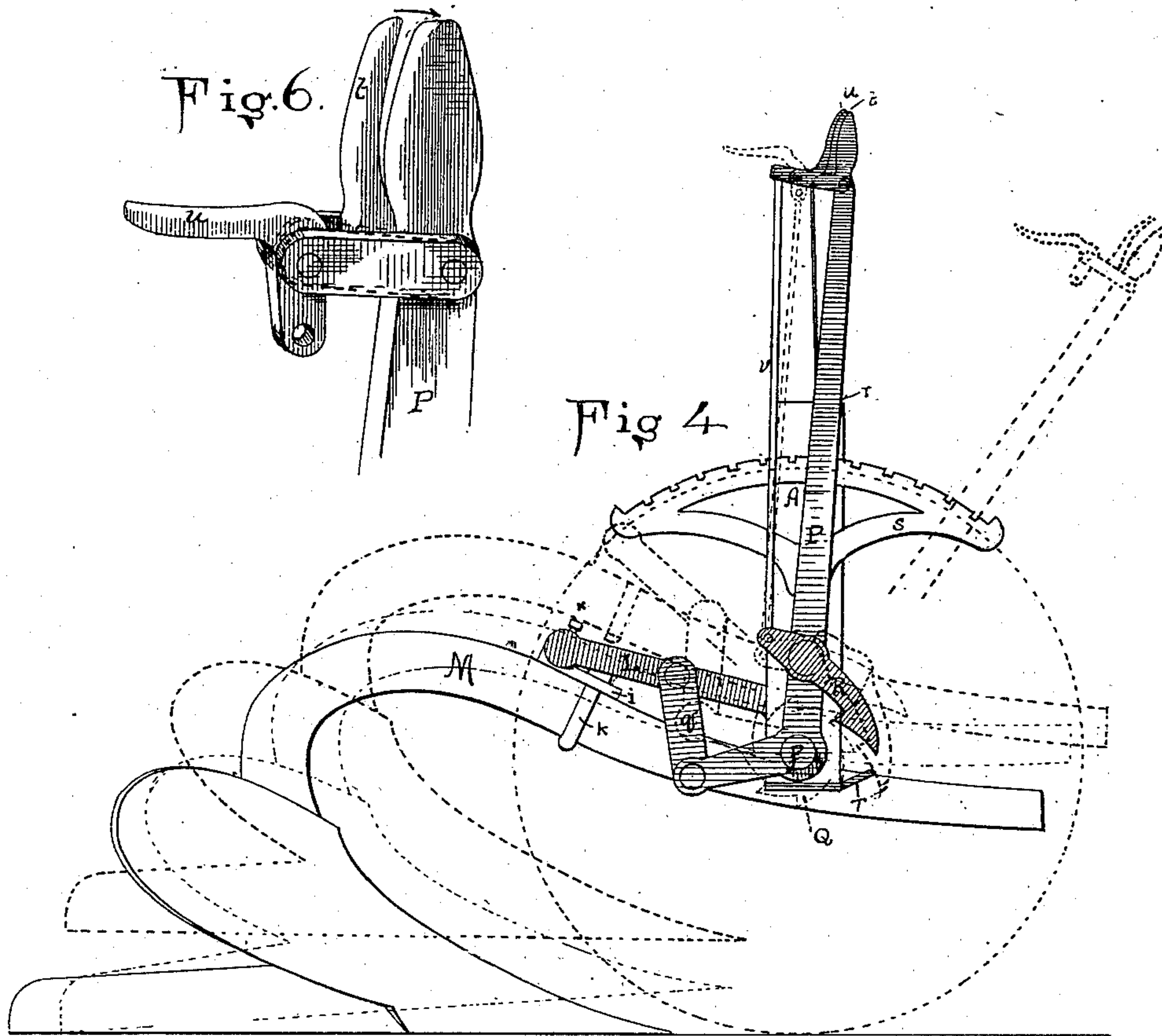
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INVENTOR
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UNITED STATES PATENT OFFICE.

JAMES W. MEIKLE, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO THOMAS MEIKLE & COMPANY, (CORPORATION,) OF SAME PLACE.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 316,802, dated April 28, 1885.

Application filed December 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. MEIKLE, of Louisville, in the county of Jefferson and State of Kentucky, have invented new and useful Improvements in Plows; and I do hereby declare that the following is a full and accurate description of the same.

My invention relates, first, to the device for raising and lowering the axle-spindle; second, to the device for attachment of the plow-beam to the bail; third, to the latch arrangement for raising and lowering the plow by hand or by power of the team; fourth, to the trip-plate for the power-lift.

That my invention may be fully understood, I will particularly describe it, having reference to the accompanying drawings, wherein—

Figure 1 is a perspective view of my plow. Fig. 2 is a side elevation, the land-wheel being removed. Fig. 3 is a plan. Fig. 4 is an elevation on the furrow side. Figs. 5, 6, and 7 are details, enlarged.

A is the main axle-arch of my plow, which I find it convenient to make from a single iron bar of suitable size, with its ends bent downward in vertical and parallel planes. The draft pole or tongue B is fastened to the axle by a clip, *a*, which passes over the axle with its ends through the tongue and secured by screw-nuts. This permits a lateral adjustment of the tongue on the axle, as may be desirable. Two arms, C, are rigidly secured to the vertical parts of the axle A, and project therefrom a suitable distance to afford support for the tongue in advance of the axle, and to provide a center of vibration for the arm D, to which the land-wheel spindle E is attached. A rod, F, extends from one arm, C, to the other at their forward extremities. The tongue B is supported upon the rod F by means of a post, G, which is adjustable on said rod, and provided with a set-screw, whereby it may be fixed in position. The end of the rod F also extends through the forward end of the arm D as a pivot for said arm, though it may be otherwise pivoted, if desired. The driver's seat H is mounted on the axle, and the rod F serves as a foot-rest.

When the wheel-spindle E has been here-

tofore mounted upon a vibrating arm pivoted in front of the axle, its rear end has been fitted to travel in a curved guide, which constituted a segment of a circle whose center was the axis of the arm's vibration. This arrangement requires the lifting-link to be located in front of the guide, and practically, therefore, in front of the axle, because it is desirable to locate the guide as close as possible to the axle. My improvement obviates the disadvantage of this arrangement by making the axle itself a guide for the vibrating arm, and by extending said arm to the rear of the axle for attachment of the lifting-link, and thereby the leverages are increased and the management of the parts is rendered easier. I therefore slot the arm D and pass the axle through said slot. This structure is conveniently effected by placing upon the side of the arm D one or more lugs or loops, *dd*, which inclose the axle and confine the arm to its position in close contact with it, while it leaves said arm free to move up or down. The lug or extended end *e* of the arm D affords a place for jointed attachment of the link I, the upper end whereof is jointed to the bell-crank lever J, pivoted to the axle A, and provided with the latch *g* and notched rack *h*, whereby the land side of the axle may be raised or lowered upon the land-wheel K, (shown by dotted lines in Figs. 1 and 2,) and held in the desired position. The loop *d* might be made continuous; but I prefer to joint the bail L to the axle near to its lower end, and it is therefore necessary to construct the loop so that it will pass the bail-joint, and this is easily done by making the loop *d* in two parts, with a division or open space between them, through which the bail-joint may pass. (Shown in Fig. 5.)

The plow-beam M is coupled to the bail L by means of a coupling-plate, *i*, with a clip, *k*. The coupling-plate is bifurcated, as at *m*, and the axle passes through the branches *m*. A collar, *n*, with a set-screw, is placed upon the bail L between the branches *m*, and thereby, by means of a single set-screw, the coupling is retained at any desired point on the bail. By this means it is possible to attach any plow, or a plow of any style, whether with wooden or iron beam, and whether it is an ordinary hand-

plow or a wheel-plow, because it merely involves a different clip, *k*, to adapt it to different styles of plow-beam, and it is evident to change the clip will not involve any invention. Furrow-wheel N is mounted upon a spindle, *p*, set permanently in the axle A. Said spindle serves as a bearing for the bell-crank lever P, which is connected by a link, *q*, with the bail L, to lift the same and the plow attached to it out of and support the same above the ground for transportation or otherwise. The lever P is provided with the usual latch, *r*, coupled by the hand-piece *t* and notched racks *s*. The hand-piece *t* conforms to the shape of the hand-hold of the lever P, so that it closes against said hand-hold for convenience in grasping with the hand. By means of this lever and the rack the plow may be lifted from the furrow to a position above the ground, or may be lowered from such elevated position; but when the plow is advancing the team is made to lift the plow by engaging the lifting-lever with the wheel. For this purpose the wheel N is provided with a ratchet, Q, attached to the inner end of its hub, and the lever P is provided with a hook, R, pivoted to said lever and adapted to engage the teeth of said ratchet Q. When so engaged, while the plow is advancing, the revolution of said wheel pulls said lever over and raises the plow from the furrow. It is necessary, however, that the same movement which throws the hook R into engagement with the ratchet Q shall also disengage the latch *r*, so as to permit the lever P to move freely over the rack *s*. A second hand-piece, *u*, is attached to the lever P, and connected with the hook R by means of a link, *v*. The hand-piece *u* is adapted to be thrown backward so far as to be entirely out of the way of the hand until wanted. When the plow is to be raised from the ground, the hand-piece *u* is moved forward against the hand-piece *t*, and then by a single grasp of the fingers the latch *r* is released and the hook R thrown into engagement with the ratchet Q. I am aware, however, that two hand-pieces have heretofore been employed on a lever, and therefore I do not claim the same, broadly.

When the plow has been raised to a point which is above the ground, the latch-hook R encounters the let-off plate T, which is attached to the lower end of the axle A, and is thereby forced out of engagement with the ratchet Q. The grasp of the hand being then relaxed, the latch *r* engages with the rack *s*, and thereby retains the plow in its elevated position. The let-off plate T is an angle-plate, and is secured to the end of the axle-bar A, projecting forward and outward therefrom until it is in the path of the hook R and forces said hook out of engagement with the ratchet Q. Said plate is attached by means of one or more screws, which pass through slotted holes, and thereby make said plate adjustable as to the path traveled by the hook R. When the hook R is engaged with the ratchet Q, the first effect is to raise the front end of the plow-beam M, say, to

the position shown by the lines of small dots in Fig. 4. This causes the point of the plow to be inclined upward, and the advance of the plow runs it out of the ground at the same time that it is lifted to the position shown in lines of larger dots in said figure.

When the hook R has been engaged with the ratchet Q, by pressure of the fingers upon the hand-piece *u*, the pressure of said ratchet-tooth against the hook R will be sufficient to hold the hand-pieces *t u* closed against the hand-hold of lever P, as shown in Fig. 4, and the hand may be removed from said lever.

When the lever P has been carried forward by the revolution of the ratchet Q to the position shown in dotted lines, Fig. 4, the let-off plate T will have disengaged the hook R, and the spring behind the latch *r* will immediately cause said latch to engage the rack *s* and hold the plow above the ground.

Having described my invention, I claim—

1. In a sulky-plow, and combined with the arched axle thereof, a slotted vibrating arm pivoted in front of the axle and provided with an axle-spindle, the axle being passed through said slot, and thereby caused to act as a guide for said arm, as set forth.

2. In a sulky-plow, a vibrating arm pivoted in advance of the axle and provided with an axle-spindle, and with a loop or lug to constitute a slot to embrace the axle-bar, and thus cause said axle to act as a guide for said arm D, combined with a lifting bell-crank lever and a connecting-link, whereby said lever is connected with said arm, as set forth.

3. The pivoted arm D, with the lugs *d d* and extension *e*, and provided with the axle-spindle E, combined with the axle A, and the bell-crank lever J, and link I, connecting said lever and the extension *e* at a point behind the axle-spindle and guide, for the purpose set forth.

4. In a sulky-plow, an adjustable wheel mounted on an arm pivoted in front of the axle, and guided by contact with the axle, combined with a bell-crank lever and link jointed to said arm in rear of the axle, as set forth.

5. In combination, the axle A and the forward-projecting arms C C, rigidly secured thereto, the vibrating arm D, pivoted to the front end of one of said arms, and extending backward therefrom, embracing the axle for guidance and support, and a bell-crank lever attached to said arm at its rear extremity in rear of the axle, as set forth.

6. A hand-wheel provided with a ratchet, Q, a bell-crank lever connected with the bail, so as to raise and lower the same, and a hook-latch, R, pivoted to said lever, to operate the same by force of the team when in engagement with said ratchet Q, combined with a hand-piece, *u*, attached to said lever, and connected with said hook to control the same, said hand-piece being adapted to lie back out of the way when not wanted, and when in action to lie against the hand-piece *t* and lever-handle, so that by

a single grasp of the hand the latch *r* is withdrawn and the hook R caused to engage with the ratchet Q.

7. Combined with the ratchet Q and hook
5 R, pivoted to the lifting-lever P, the let-off plate T, constituted by a plate bolted to the lower end of the axle, with holding-screws

passed through slots, whereby said plate may be adjusted to position, as set forth.

JAMES W. MEIKLE.

Witnesses:

THOS. MALONE,
C. B. HALL.