3 Sheets—Sheet 1.

J. C. LEIDY.

Sulky-Plow.

No. 201,025. **Patented March 5, 1878.**

Fig. 1.

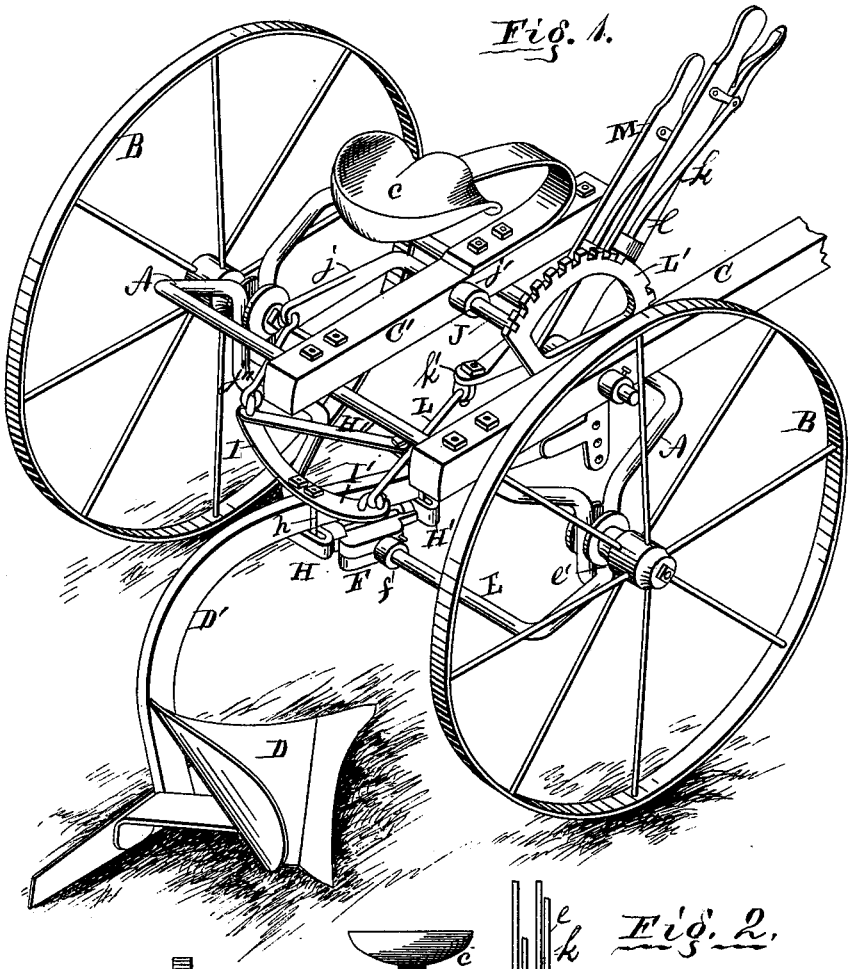
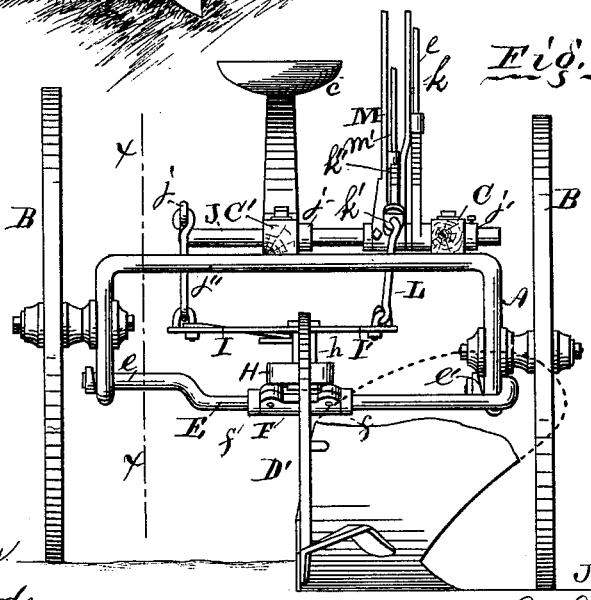


Fig. 2.



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3 Sheets—Sheet 2.

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Fig. 3.

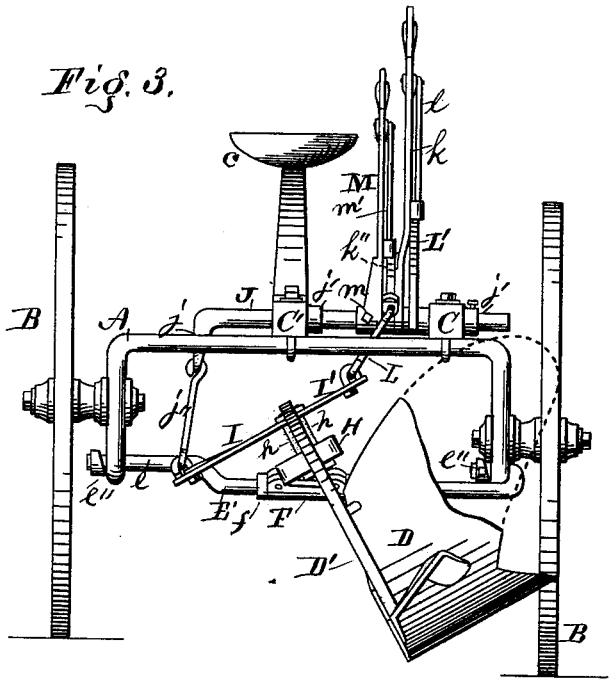
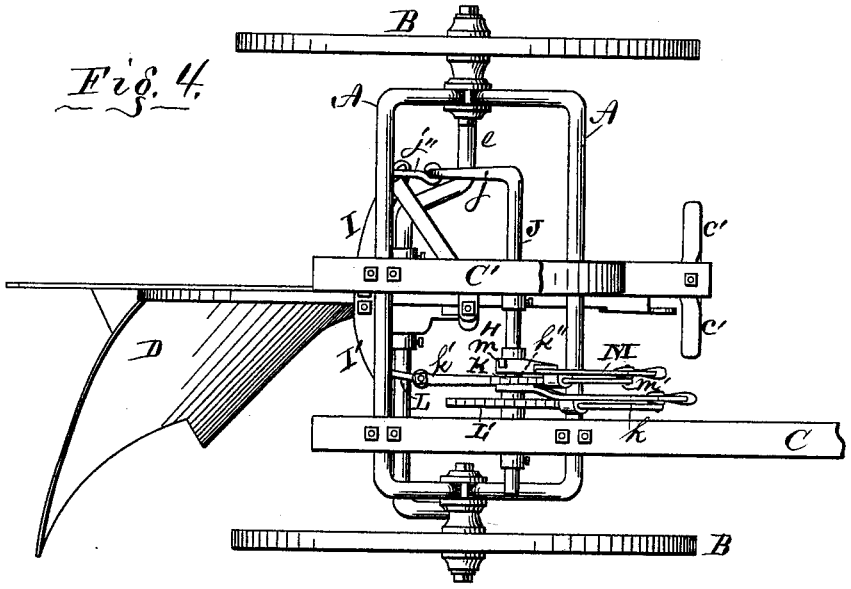


Fig. 4.



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3 Sheets—Sheet 3.

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Sulky-Plow.

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Fig. 5.

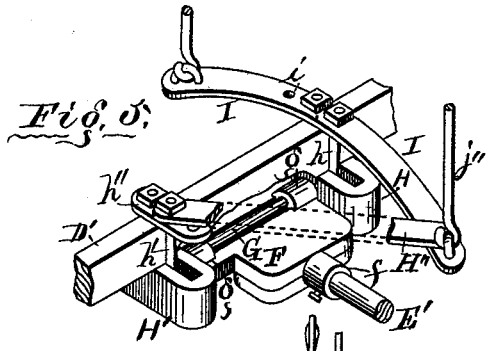


Fig. 6.

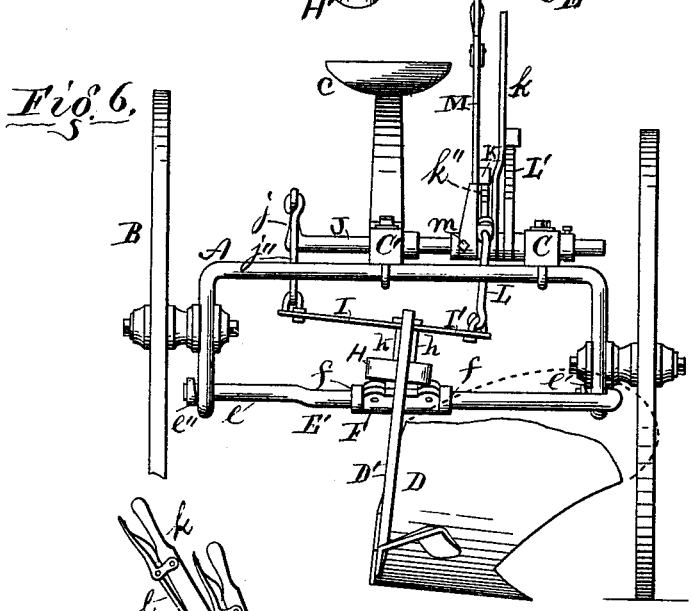
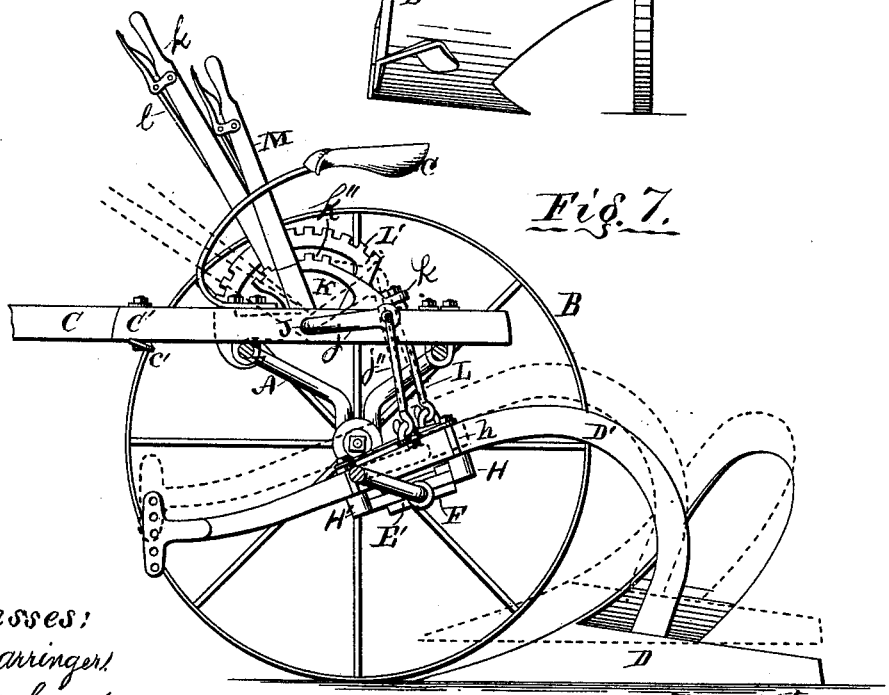


Fig. 7.



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UNITED STATES PATENT OFFICE.

JAMES C. LEIDY, OF GALESBURG, ILLINOIS.

IMPROVEMENT IN SULKY-PLOWS.

Specification forming part of Letters Patent No. **201,025**, dated March 5, 1878; application filed October 12, 1877.

To all whom it may concern:

Be it known that I, JAMES C. LEIDY, of Galesburg, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Sulky-Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of a sulky-plow embodying my invention, showing the parts in position for ordinary plowing. Fig. 2 is a rear elevation of Fig. 1, the mold-board partly broken away. Fig. 3 is a rear elevation, showing the plow inclined and the mold-board partly broken away. Fig. 4 is a top view of Fig. 1. Fig. 5 is a perspective view, an enlarged detail view of the device connecting the plow-beam to the axle. Fig. 6 is a rear elevation, showing the plow inclined oppositely to the position shown at Fig. 3. Fig. 7 is a vertical sectional view in the line *x x* in Fig. 2.

My invention relates to sulky-plows; and consists, first, in certain improvements in the construction of the devices by means of which the plow is leveled or inclined laterally, as occasion requires; second, in certain improvements in the construction of the devices aforesaid and their connection with the levers, by means of which the plow is oscillated laterally; third, in a new combination of cranks or devices operating in connection with the plow, so that while one is oscillated to incline the plow the other aids in retaining it in position; fourth, in a new combination of devices, consisting of a yoke having bent or curved ends, operating, in connection with the frame of the plow, to facilitate the attachment and removal of the latter, all as hereinafter fully set forth and claimed.

Referring to the drawings by letters, A represents the axle or main sulky-frame, constructed, and having wheels B B secured thereto, as shown and described in Letters Patent No. 174,686, granted to me March 14, 1876, for improvement in cultivators.

C is a tongue or guide-pole, and C′ a bar secured upon the frame A, as shown in the drawings. The bar C′ supports a driver's seat, *c*, and foot-rests *c′*.

D is the plow, and D′ its beam. E is a yoke. The yoke E is formed with a central crank portion, E′, to which the plow-beam is attached, as hereinafter described, and with one end, *e*, straight, and its other end, *e′*, curved or bent back upon itself, so that the ends *e e′* may be inserted from the same direction between the parallel portions of the axle A below the journals of the wheels B, and secured therein by keepers *e″*.

When the keepers *e″* are removed, the yoke E may be removed from the axle by moving it toward the right-hand side of the frame A.

F is a saddle journaled on the yoke E, so that it may oscillate in a vertical plane transversely with said yoke, and is secured by keepers *f f*, which permit of adjusting it in different positions on said yoke.

G is a rock-shaft, placed transversely to the yoke E and journaled in lugs *g*, which project upward from the saddle F, and has fixed upon each of its ends a head, H H′.

The plow-beam D′ rests upon and is secured to the rear head H by means of bolts *h*, which bolts also secure a bar having arms I I′ projecting laterally from the plow-beam, so that when the bar I I′ is oscillated in a vertical plane transversely to the machine they will oscillate the plow on the rock-shaft G as an axis.

The head H′ is secured to the beam by bolts *h′*, which also pass through a plate, *h″*. The plate *h″* has a series of holes for the reception of the bolts *h′*, and the bar I I′ has also a series of holes, *i*, by means of which the plow-beam may be adjusted on the heads H H′ at different angles, in the evident manner. H″ is a brace from the plow-beam to the arm I.

J is a rock-shaft, with a crank, *j*, on one end, and is journaled in the bars C C′, and may be adjusted and secured in different positions longitudinally by keepers *j′*. The outer end of the crank or arm *j* is connected by a rod, *j″*, with the outer end of the arm I.

K is a quadrant-shaped plate, loosely journaled on the shaft J, and having one limb projecting to form a hand-lever, *k*, and another projecting to form an arm or lever, *k′*,

and the arc connecting them formed into a rack-bar, k'', so that movement of the hand-lever k will simultaneously move the arm k' and rack-bar k''. The outer end of the arm k' is connected by a link, L, to the outer end of the arm I′.

L′ is a rack-bar resting upon the forward part of the frame A, and upon the shaft J, so as to permit of the rotation of said shaft; or it may be secured to the guide-pole C, and is provided with notches, which receive a spring-pawl, l, attached to the lever k.

M is a hand-lever, secured to the rock-shaft J by a set-screw, m, so that it may be used to oscillate the shaft J and hold it in different positions by engaging the spring-pawl m', which is fixed upon said hand-lever with the rack-bar k''.

For ordinary plowing the left-hand wheel may be preferably, but not necessarily, adjusted higher upon the frame A than the other wheel, as shown in Figs. 1, 2, and 3. With the hand-lever M engaged with the rack-bar k'', the rock-shaft J becomes locked to the hand-lever k, and causes the cranks or arms k' and j to move simultaneously when the hand-lever k is oscillated, and thus permits the driver, by means of said hand-lever k, to raise the bar I I′ in the same horizontal plane, and raise and lower the plow and fix it at different elevations by engaging the pawl l with the rack-bar L′, for governing the depth of plowing, and when desired to raise the plow above and out of the ground, as shown by dotted lines at Fig. 7.

The depth being adjusted, the driver may release the pawl of the lever M, and by oscillating said lever incline the plow to the right or left hand, as shown at Figs. 3 and 6, until it is as desired, and then lock it in position by said pawl. It will be evident, also, that with the foregoing facility for adjusting the angle of the plow-sole laterally to the surface of the ground the plow-sole may be "leveled" or brought into horizontal position when the wheels are running on the same horizontal plane, as in making backing-up furrows, or the right-hand wheel the lowest, as in ordinary plowing, regardless of whether the wheels are adjusted in the same or different horizontal planes on the frame A, thus enabling the operator to adjust and level the plow easily and quickly for making a backing-up furrow, or for ordinary plowing, or when depth of plowing is changed, without moving from his seat, and as the plow passes along, and without adjusting the wheels B on the frame A.

What I claim as new, and desire to secure by Letters Patent, is—

1. The bar I I′, arranged to operate with the rock-shaft J, independent cranks j k', connecting-rods j'' L, and sulky A B, substantially as and for the purpose specified.

2. The levers k and M and their respective cranks or arms k' j, and links j'' L, combined with the plow D, hinged to the sulky-frame, so as to have lateral oscillation, substantially as and for the purpose specified.

3. The combination of the laterally-hinged plow with two cranks or arms, j k', to which the plow is connected, so that the one crank, j, may be oscillated to incline the plow, while the other, k', aids in retaining it in position, substantially as and for the purpose specified.

4. In combination with the frame A, the yoke E, having ends e e', bent or curved, as described, to facilitate placing and removal in the frame A, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES C. LEIDY.

Witnesses:
L. STEVENS,
M. W. GAY.