2 Sheets—Sheet 1.

I. BURKE.
Sulky-Plow.

No. 223,881. **Patented Jan. 27, 1880.**

FIG. 1.

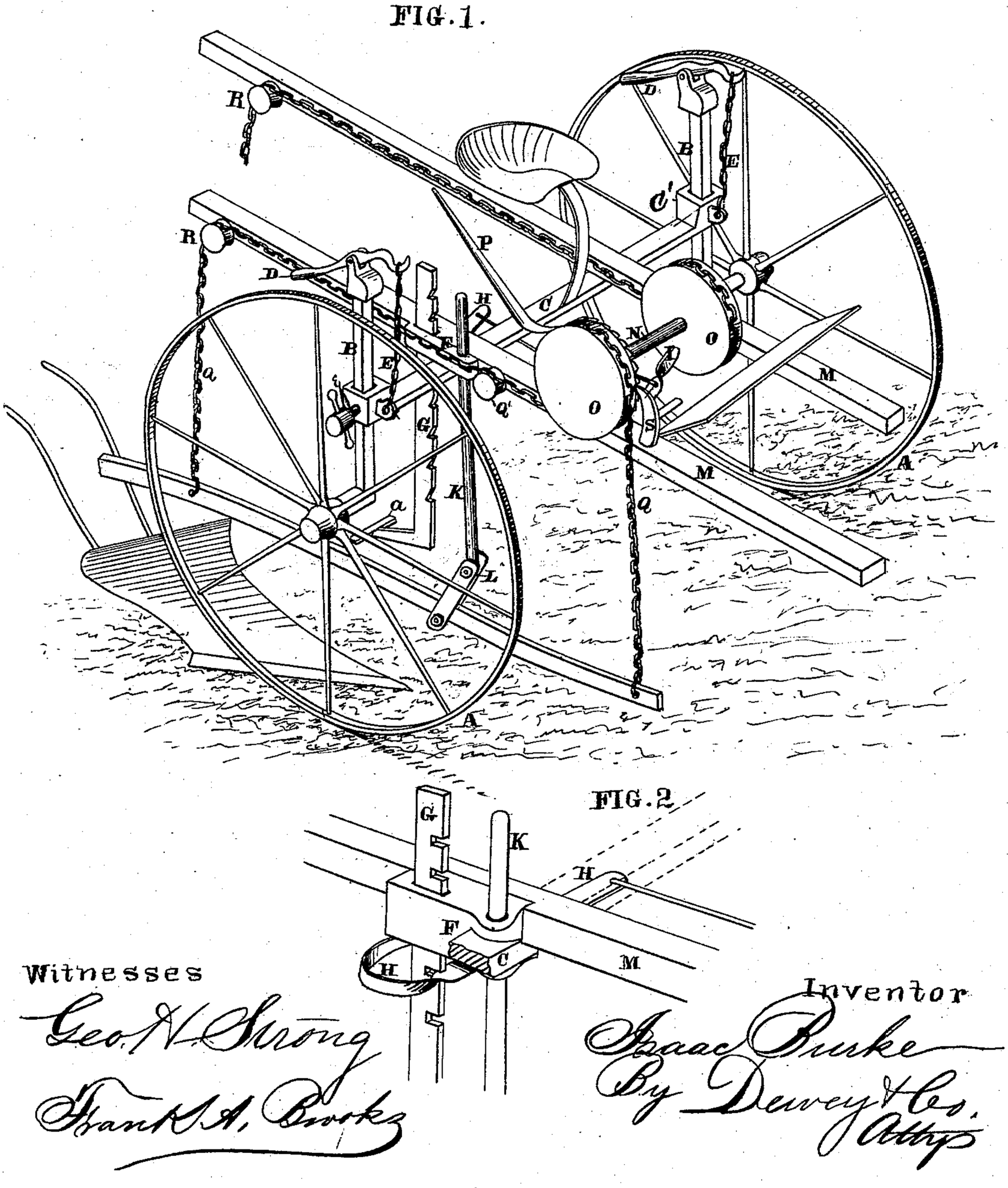

FIG. 2.

Witnesses

Geo. N. Strong

Frank A. Brooks

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2 Sheets—Sheet 2.

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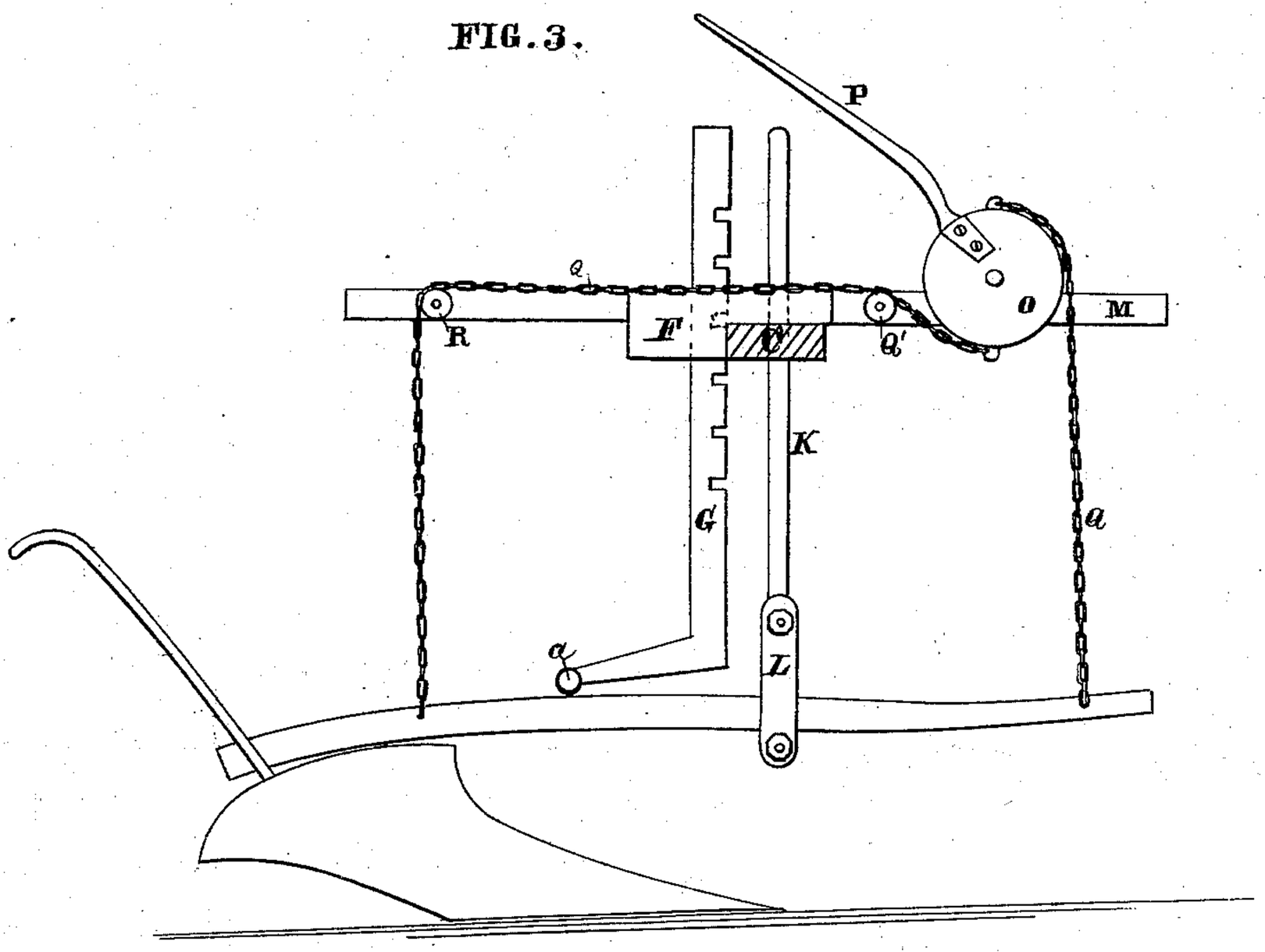
FIG. 3.



Witnesses
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Inventor
Isaac Burke
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UNITED STATES PATENT OFFICE.

ISAAC BURKE, OF SACRAMENTO, CALIFORNIA.

SULKY-PLOW.

SPECIFICATION forming part of Letters Patent No. 223,881, dated January 27, 1880.

Application filed January 31, 1879.

To all whom it may concern:

Be it known that I, ISAAC BURKE, of the city and county of Sacramento, and State of California, have invented Improvements in Sulky-Plows; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to certain improvements in plows, and it is especially applicable to that class known as "sulky-plows," in which a frame-work mounted upon wheels is so constructed that any ordinary hand-plow, or a series of such plows, may be attached to the said frame and adjusted from it while connected with it. This principle is well illustrated in the Patent No. 176,945, issued to John Fay, May 2, 1876.

My improvements consist in a novel construction of the axle beam or tree, which has a box or guide formed with it, so that the vertical L-shaped standard which serves to hold the plows in the ground is acted upon directly by the weight of the machine and driver, and, as it is centrally situated, it is not affected by the vertical motion of the pole.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a view of my apparatus. Fig. 2 is an enlarged view of the box F. Fig. 3 is a side view of my device.

A A are the bearing-wheels, the axles of which are connected with or form a part of the vertical standards B. These standards pass through openings in the ends of the axle-tree C, fitting so that the axle-tree and the frame which it supports may be elevated and depressed at will. In order to effect this without the necessity of dismounting or lifting the frame bodily, I have employed the levers D, which have their fulcrums upon the upper ends of the standards B. These levers are situated at a convenient distance from the seat, so as to be within reach of the driver. To the short arms of the levers are attached the chains E, the other ends of which are secured on suitable lugs on the axle-tree C, close to the openings through which the standards pass. By pressing on the long arms of the levers D the standards are forced down, and the frame thus elevated above the axis of the wheels.

To keep the axle at the proper position in the standards, I employ a screw, E, having a suitable handle, said screw passing through the end of the axle longitudinally, and its end bearing on the standard, so as to prevent the axle slipping down the standard. When the axle and frame are suitably elevated these screws hold them in position on the standards.

To lower the axles, by releasing the screw the weight of axle and frame will cause the axle to slide down the standards until in proper place, when it is again secured by the screw.

On the axle beam or tree is formed a box or guide, F, through which passes an L-shaped standard, G, said standard being vertically placed and having at its lower rear end the spreader *a*, for the purpose hereinafter described. This standard G has notches formed in one edge, and a spring-catch, H, is secured to the guide F, which engages with the notches and holds the standard at any desired position. A foot-lever, I, is connected by a rod with this spring-catch, so that the catch may be operated by the driver in a convenient manner and caused to catch in any notch in the vertical standard desired. The purpose of this standard is to keep the plows in the ground by the direct weight of the machine and driver acting through said standard on the beam to which the plows are attached. As this standard is centrally situated the vertical motion of the pole does not affect it.

The spreader *a* on the lower after end of the standard is placed in that position so that, as the plow-beam swings to either side of its swiveling standard, it will not swing clear of the standard G and allow the plow to come out of the ground.

Passing down through the axle C and guide F is the vertical swiveling standard K, having at its lower end a loose clamp, L, by means of which the plow-beam is secured to the swiveling standard, as shown. The peculiar position of this swiveling standard is such that when the plow-beam is attached to its lower end the plows are relieved of any effect from the motion which the sulky or pole may have in any direction. Moreover, the turning of the sulky is greatly facilitated by reason of

the plow-beam being secured in the manner shown to the swiveling standard.

On top of the axle are two bars, M, placed at right angles to the axle, and forming the frame of the sulky. Between the forward part of these bars is a shaft, N, having at each end a grooved chain-pulley, O, and to the right-hand pulley is attached a bar, P, which is convenient to the driver on the seat. Around these pulleys pass two chains, Q, one of each leading forward and one back. The chains leading forward are attached to the forward ends of the plow-beams, and the chains leading back come from the under part of the pulleys back over rollers Q′, thence along the bars M to the rollers R, and lead thence to the plow-beam, immediately over the plow.

Now, to raise the plow out of the ground the driver has only to pull back on the lever P and turn the pulley O. thus taking up the chains leading both ways, and lifting the plow-beam by both ends, the swiveling standard attached to said plow-beam coming up to a proportionate extent.

Pawls S engage with the pulleys O, and thus keep them at any point, so as to hold the plow-beam and plow at any desired position. The holding-standard G is also adjusted vertically at the same time, so as to press properly on the plow-beam, as described.

All this adjustment is easily made by the driver without moving from his seat. Two plows may be equally adjusted by the same levers and at one motion, both being connected as described.

The advantage gained by my method of mounting the plow-beams upon the standard K, which slides through the box upon the axle, instead of having this standard secured at some point at a distance forward or back of the axle, is that in my construction the center upon which the sulky turns and that of the plow-support correspond, and when it is to be turned around they will both turn upon the same center, and the plows will not have to be lifted out of the ground or dragged sidewise when the turn is made.

In my invention the improvement gained by the L-shaped standard is that the standard passes up through the box upon the axle, so that, while its projecting arm allows me to apply the required pressure upon the plow-beam at the exact point desired, this pressure is applied directly through the axle by means of the weight of the driver and the machine.

The chain-pulleys O, secured to the single horizontal axle, and each controlling the front and rear of one plow by means of single chains, are a great improvement, as I am thus enabled to avoid the use of double or forked chains, which have a tendency to become foul and work badly, while a more complicated mechanism is needed to work them.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the axle C, constructed as described, the guide-standard K, gage-standard G, and frame M, substantially as and for the purposes set forth.

2. The axle tree or bar C, having the sockets C′ and the boxes F formed with or upon it, to receive the standards G and K, so that the plows are guided and the pressure is applied to them directly through the line of the axle, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

ISAAC BURKE.

Witnesses:
FRANK A. BROOKS,
GEO. H. STRONG.