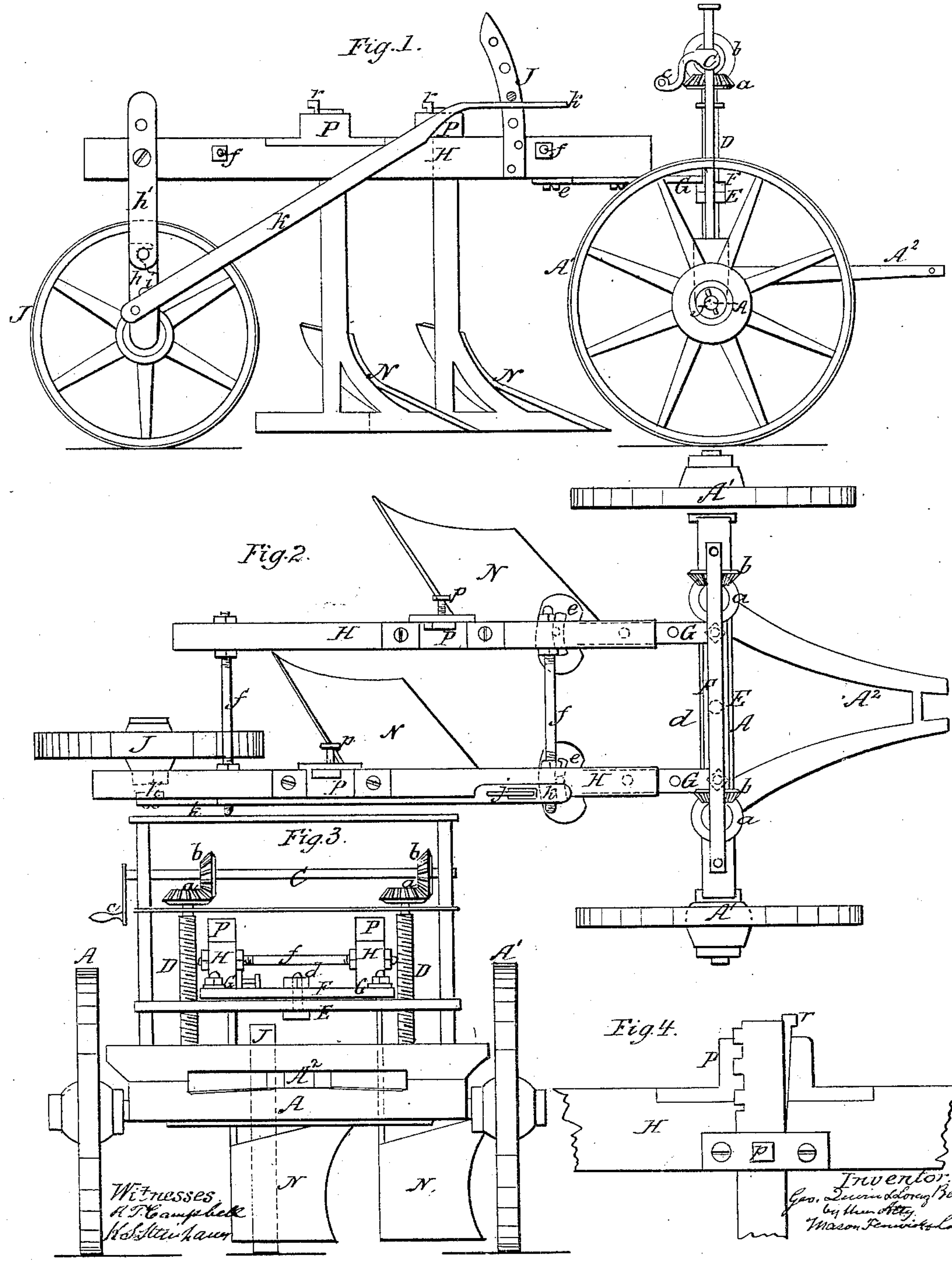
QUIRIN & BERKEL.

Gang Plow.

No. 44,971. Patented Nov. 8 1864.



Witnesses
A. T. Campbell
K. S. Stillman

Inventor:
Geo. Quirin & Lorenz Berckel
by their Atty.
Mason Fenwick & Lawrence

UNITED STATES PATENT OFFICE.

GEORGE QUIRIN AND LORENZ BERKEL, OF SMITHTON, ILLINOIS.

IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. **44,971**, dated November 8, 1864.

To all whom it may concern:

Be it known that we, GEORGE QUIRIN and LORENZ BERKEL, of Smithton, St. Clair county, State of Illinois, have invented a new and Improved Gang-Plow; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of our improved gang-plow. Fig. 2 is a top view of the same. Fig. 3 is a front end elevation, and Fig. 4 shows the mode of securing the plow-standards to the beams.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements in mounting gang-plows in a carriage, so that they can be adjusted vertically or laterally or elevated entirely from the ground, as occasion requires, all as will be hereinafter described.

To enable others skilled in the art to make and use our invention, we will describe its construction and operation.

In the accompanying drawings, A represents the axle-tree of two forward carriage-wheels, A′ A′, and A^2 are the hounds to which the draft-pole is attached. On top of the axle-tree A a strong bolster is rigidly secured, and on this latter an iron frame-work is erected, which serves as a support for a horizontal crank-shaft, C, and an upper support for two screw-shafts, D D. The lower ends of these screw-shafts pass vertically through the bolster and axle-tree and turn loosely therein. The upper ends of the screw-shafts carry bevel spur-wheels *a a*, which engage with and receive a rotary motion from bevel-wheels *b b* on the crank-shaft C. By means of a crank, *c*, on one end of shaft C both the screws D D can be turned simultaneously, and a horizontal bar, E, through which the screws are tapped, can thus be raised or lowered in a plane parallel to the top of the axle-tree A.

To the bar E a shorter bar, F, is pivoted by means of a king-bolt, *d*, passing through the center of both bars E F, as shown in Figs. 2 and 3, and at or near each end of this pivoted bar F a plate, G, is pivoted, having a slotted sector, *e*, on its rear end. At an intermediate point between the sector and forward pivot of each plate G these plates are pivoted to the bottom edges of two longitudinal plow-beams, H H. Now, by means of set-screws passing through the slots of the sectors *e*, rigid connections of the beams can be made with the plates G G, and by loosening said set-screws the forward ends of the beams can be set farther apart or brought closer together and again secured in the desired position. The two beams H are connected together and firmly braced by means of transverse rods *f f*, which receive jam-nuts both outside and inside of each beam, the object of which is to enable a person to adjust these beams farther apart or to set them nearer together, as occasion requires. The rear end of the machine or beams H is supported by a carriage-wheel, J, the short axle of which is rigidly secured to a lever, *h*, that is pivoted at *i* to a vertical standard, *h′*, projecting down from the longest one of the plow-beams H, as shown in Fig. 1. At an intermediate point between the axle of wheel J and the pivot *i* a long rod, *k*, is pivoted to lever *h*. This rod extends forward and upward, and its forward end is slotted to receive a sector, *j*, which projects up from the long beam H, as shown in Figs. 1 and 2. The sector *j* is perforated to receive a pin, which is inserted above the end of the rod *k* to prevent it from rising and allowing the rear end of the machine to drop down. By thus connecting the rear wheel to the beam H the plows N N can be adjusted and set to run at any desired pitch, or by means of this arrangement, together with the forward contrivance for raising or lowering the beams, the plows can be lowered or elevated at pleasure both at the front and rear ends of the beams. The rear wheel, J, is arranged to run behind the rear plow in the furrow which this plow makes.

In Fig. 1 of the drawings the rod *k* is secured to the sector *j* in such position as to lift the plows above the surface of the ground, so that the machine can be transported from one place to another without bringing the plows into operation. By raising the forward end of rod *k* it will draw the lower end of lever *h* forward and allow the rear ends of the plow-beams to drop down, after which the rod *k* can be fixed in the desired position.

The plows N N may be made in any suitable manner; but the upper ends of the stand-

ards of these plows are notched, as shown in Fig. 4, and they fit into notched recesses which are formed in the sides of solid metal blocks P. When the standards are thus fitted into the boxes P they are held in place therein by means of set-screws *p* and wedge-keys *r*. The latter force the ends of the standards up, so that their teeth will interlock with those on the blocks, while the set screws prevent any lateral play of the standards.

If desirable, other beams may be introduced between the two beams H H for sustaining other plows.

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

1. The combination of the vertically-adjustable bar E, pivoted bar F, and laterally-adjustable pivoted connections G *e* with the plow-beams H H, all arranged and operating substantially as described.

2. The combination of the sector-plate supports G G with plow-beams H, which are capable of being expanded or contracted laterally, substantially as described.

3. Securing the axle of the rear supporting-wheel, J, to a lever, *h*, which is connected to a sector, *j*, by means of a rod, *k*, the whole operating substantially as described.

GEORGE QUIRIN.
LORENZ BERKEL.

Witnesses:
WILLIAM FRIEDLAND,
D. THOMPSON.