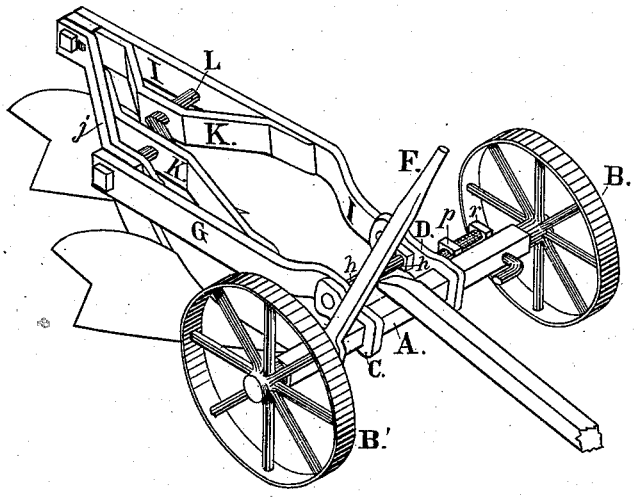
J. BELDUKE.
Gang-Plow.

No. 219,565. Patented Sept. 16, 1879.



Witnesses:
W. Floyd Duckett
W. F. Clark

Inventor:
Joseph Belduke
By J. L. Boone
Atty.

UNITED STATES PATENT OFFICE.

JOSEPH BELDUKE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. **219,565**, dated September 16, 1879; application filed February 18, 1879.

To all whom it may concern:

Be it known that I, JOSEPH BELDUKE, (in French, BOLDUC,) of the city and county of San Francisco, and State of California, have invented certain new and useful Improvements in Gang-Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing.

My invention has reference to that class of gang-plows in which the forward ends of the plow-beams are loosely attached to rearward-projecting arms on the axle of the truck or wheel portion, so that the plows are dragged behind the truck.

The accompanying drawing represents a pespective of the plow.

Referring to the drawing, A represents the axle of the truck, and B B′ the bearing-wheels. The axle A is straight, and the furrow-wheel B′ is larger in diameter than the land-wheel, so that when it is moving in the furrow the axle will be horizontal; but when the truck is moving on level land the axle will be slightly inclined, but not sufficient to be particularly noticeable. The wheels will therefore require no special adjustment to adapt them for plowing or moving on level land.

C D are two rearward-projecting arms, which are arranged to slide upon the axle, and be adjusted by the means hereinafter described.

It will be noticed that the lug or arm D on the side next to the land is longer than the arm C on the furrow side. This is an important feature, as will soon be seen.

Where two or more plows are used in a gang the beam of the plow next to the furrow-wheel is shortest, and the plow is nearest to the axle, and the other plows are set successively farther back, so that each will turn the soil into the furrow of the plow in advance of it. This necessitates the employment of a longer beam for each succeeding plow. Heretofore the beams of all the plows were rigidly connected together, and the forward ends of all the beams were attached to a single rod or bar, which connected the arms C D in one line. When this was the case the forward ends of all the beams were lifted correspondingly when the axle was rotated by means of the lever F, and as the plows were at unequal distances from the axle the points of the plows farthest from the axle would not be raised as high as the points of those nearer the lifting-point.

The object of my improvement is to equalize the lifting of the points of all the plows, so that when it is desired to run the plow out of the ground a single motion throws all the points up at once to a uniform angle, and the plows run out of the ground without applying power to lift them bodily. To do this I make the beam of each plow separate from the others, and then connect them together by means of two crank-shafts, or by means of one crank-shaft near the middle of the beams, and a pin and slot at their rear ends. I also attach the forward end of the short beam to the short arm C, and the forward end of the long beam to the long arm D, so that the greater distance of the plow with the long beam from the lifting-point is compensated for by a long lift.

In the drawing, G is the short beam of the furrow-plow. The forward end of this beam is attached loosely to a rod or bolt, *h*, which extends from the arm C to the arm D.

I is the long beam of the rear plow, and its forward end is loosely attached to a bolt at the end of the long arm D. An angular brace-bar, *j*, extends from the rear end of the short plow-beam G back to the rear end of the long beam I, and is attached to it by a pin-and-slot connection, so that the two beams will have a limited motion independent of each other. Each beam has a bridge-shaped brace, K, on the inside, nearly opposite the middle of the long beam. A crank-rod, L, connects the two beams, being supported in the beams and braces, as shown. This crank-rod might be dispensed with, and a single loose fastening used for connecting the rear ends of the beams.

Now, when the axle is rotated by means of the lever F, so as to raise the arms C D, the forward end of the long beam will be raised the fastest, because it is attached to the long arm D, while the crank-rod L rotates correspondingly, and preserves the position of the beams, thus raising the points of the plows to the same height, if the difference in the lengths of the arms is correctly proportioned.

To adjust the plows to or from the land I have a lug, *p*, on the axle, outside of the slid-

ing arms. A set-screw, *r*, screws through this lug, and has its end loosely fastened in the arm next to it. By means of this screw I can set the arms, and through them move the beams and plows to or from the land, as described.

I thus provide an equal movement of the plows, so that they can be run out of the ground by the forward movement, lifting the plows and the load of earth on the mold-boards.

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

1. The plow-beams G I of a gang-plow, connected by the rear angular brace, *j*, with its slot-and-pin fastening, and having the bridge-shaped braces K, said beams and braces being connected by a crank-rod, L, and the forward ends of the beams being connected with arms C D, of unequal length, substantially as and for the purpose described.

2. The axle A, with its arms C D of unequal length, in combination with the plow-beams G I, which are loosely connected at the rear ends, substantially as and for the purpose described.

In witness whereof I hereunto set my hand and seal.

JOSEPH BELDUKE. [L. S.]

Witnesses:

W. FRANK CLARK,

W. FLOYD DUCKETT.