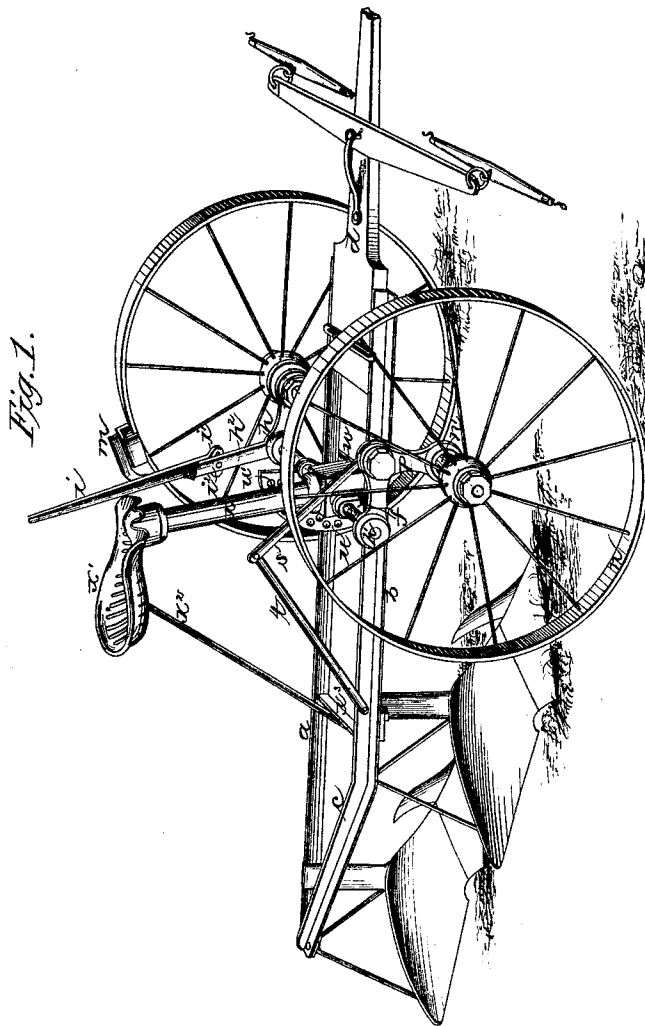


2 Sheets—Sheet 1.

L. CHAPMAN.
GANG-PLOW.

No. 185,493.

Patented Dec. 19, 1876.



Witnesses
John Pollitt
John Henry Brocklesby

Inventor
Luke Chapman
by W. E. Simonds
Atty.

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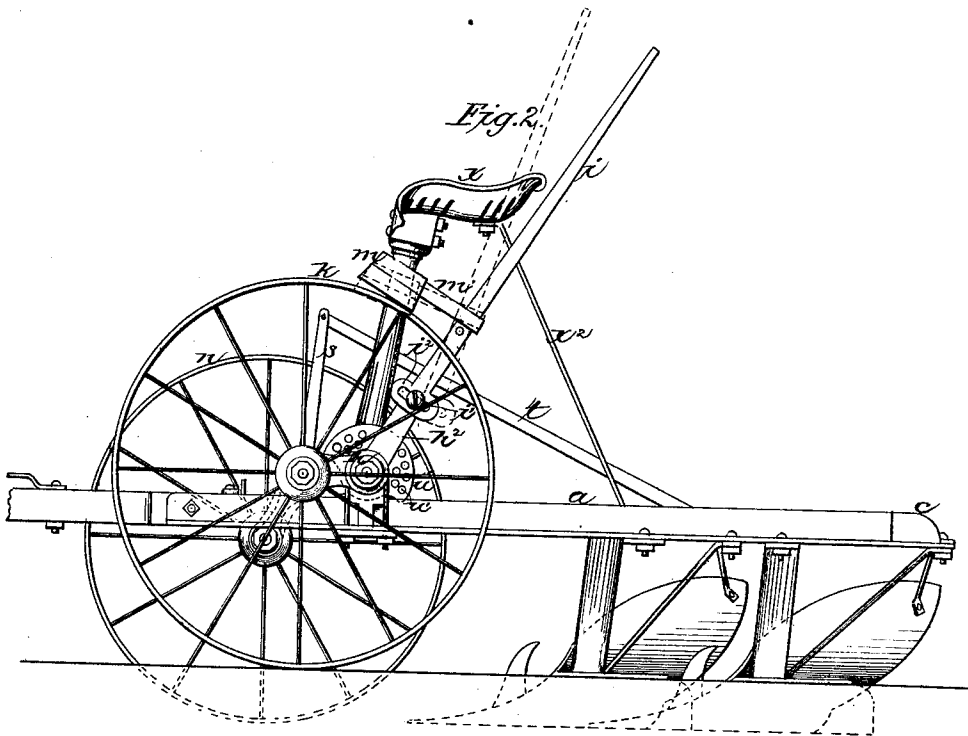
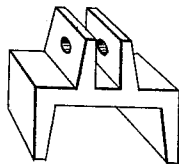


Fig. 3.



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UNITED STATES PATENT OFFICE.

LUKE CHAPMAN, OF COLLINSVILLE, CONNECTICUT, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO THE COLLINS COMPANY, OF SAME PLACE.

IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. **185,493**, dated December 19, 1876; application filed April 14, 1875.

To all whom it may concern:

Be it known that I, LUKE CHAPMAN, of Collinsville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements pertaining to Gang-Plows, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a perspective view of a gang-plow embodying my said improvements. Fig. 2 is a side elevation of the same machine from the land-side. Fig. 3 is a detail view of the clamp overhanging the land-wheel.

The main features of this gang-plow have been secured to me by other and prior Letters Patent; but experience has shown me that for some purposes it is desirable to modify or change some of the features of the machine as originally constructed, and these changes form the subject-matter of these present Letters Patent.

The various features of this present invention will be particularly pointed out and specified in the claims at the end of this specification.

The letters *a* and *b* denote the sides of the frame, of angle-iron, and *c* a bar of angle-iron which joins the two side bars *a b* at the rear, being bolted thereto. The broadened rear end of the pole *d* is pivoted or hung between the front ends of the two side bars *a b*.

By using angle-iron for the frame of my gang-plow I get a frame of great strength and cheapness and of little weight.

The main shaft *e* is hung in the journal-boxes *f f*, which are held to the angle-iron frame by the U-bolts *g*, bearing nuts on their ends. The central part of this shaft is of larger diameter than the ends, thereby forming shoulders which abut against the inner sides of the journal-boxes. Upon the two ends of the main shaft are the two similar rigid arms *h* and *h*¹. To the arm *h* the land-wheel *k* is hung upon the spur-arm *o*. The arm *h* extends above the main shaft forming the arm *h*², to the upper end of which is pivoted the hand-lever *i*, its lower end broadened and bearing therein the slot or mortise *i*¹, which has a limited play on the pin *i*², which projects from the outer side of the arm *h*².

By throwing the lever *i*, and consequently the arm *h*², backward, as represented in the drawings, the main shaft is lowered, relatively to the two wheels, and by bringing this hand-lever forward the main shaft, the frame, and, consequently the plows, are raised. The play which the lever *i* has upon the arm *h*² is for the purpose of operating the clamp *m*, which is hung on the arm *m*¹, which projects from the hand-lever. This clamp overhangs the face of the land-wheel, and when the operator commences to bring the lever *i* forward the play of the lever *i* upon the arm *h*² permits it to throw the clamp down upon the wheel, and its two sides being wedge-shaped it takes hold of the edges of the rim of the wheel with such tenacity as to bring the lever *i* and arm *h*² forward, and thus raise the plows with great ease to the operator, the land-wheel, in its forward rotation, doing almost the whole of the work.

The furrow-wheel *n* is not hung directly to the end of the arm *h*¹, but to the spur-arm *n*¹ upon the end of the secondary arm *p*, which is jointed to the end of the primary arm *h*¹ in such fashion as to permit the arm *p* to make about a quarter rotation on the joint, the position of the arm *p* in the drawings representing the limit of this rotation in one, and that a backward, direction. From this position the arm *p* can make about a quarter rotation toward the front of the machine. The lever *s* is rigid upon and with the arm *p*, and is jointed at the top to the connecting-rod *t*, the rear end of which is jointed to the frame of the machine. This arrangement of the parts holds the furrow-wheel *n* lower than the land-wheel *k* by about the length of the secondary arm *p*, which is about the depth of the furrow. When the hand-lever *i* is in the position of adjustment represented in the drawings the plows are in adjustment for actual plowing. By throwing the hand-lever forward the plows are raised out of the earth. When thus raised out of the earth the seat of the machine does not stand up entirely perpendicular, but does not depart enough therefrom to inconvenience the rider for short distances about the farm. If, however, the machine is to be drawn for any considerable distance the lever *s* can be

disconnected from the connecting-rod *t*, and the arm *p* allowed to rotate its quarter of a turn backward, thus bringing the two wheels on the same level, and making the seat to stand perpendicular.

This connection of the arm *s* to the frame of the machine by means of the rod *t* forms a feature of my present invention.

On the shaft *e* is rigidly attached the part-disk *u*, having various index-holes, *u'*, into which fit pins *v*, which can be set into different holes, so as to define and limit the rotary play of the main shaft *e*, these pins striking against the side bar *a* of the frame.

This perforated disk, with the pins *v*, in combination with the side bar *a*, forms a feature of my present invention.

From side bar *a* to side bar *b* runs the cross-piece *w*. Against and on the top of this cross-piece bears the seat-standard *x*, through the foot of which runs and rotates the shaft *e*, and to the top of which is fixed the seat *x'*, being further held in position by the brace *x''* running to the cross-piece *x'*.

This arrangement for supporting the seat forms another feature of my invention.

I claim as my improvements and as my invention—

1. The main shaft *e*, centrally enlarged and shouldered, as described, combined with the plow-frame through the medium of the journal-boxes *f f* and the U-bolts *g*, substantially in the manner and for the purpose set forth.

2. The wedging brake or clamp *m*, in combination with the jointed lever *i*, the arms or levers *h h'*, axle *e*, and wheel *k*, substantially as and for the purpose described.

3. The combination of the arms *p* and *h'*, the lever *s*, the rod *t*, and the frame of the machine, substantially in the manner and for the purpose set forth.

4. The combination of the arm *h*, the shaft *e*, the perforated disk *u*, pins *v*, and side bar *a*, substantially in the manner and for the purpose set forth.

5. The seat-standard *x*, in combination with the cross-piece *w*, side pieces *a b*, axle *e*, and brace *x''*, arranged as shown, whereby the said standard and axle are mutually supporting, substantially as specified.

LUKE CHAPMAN.

Witnesses:

OLIVER F. PERRY,
ALBERT L. THAYER.