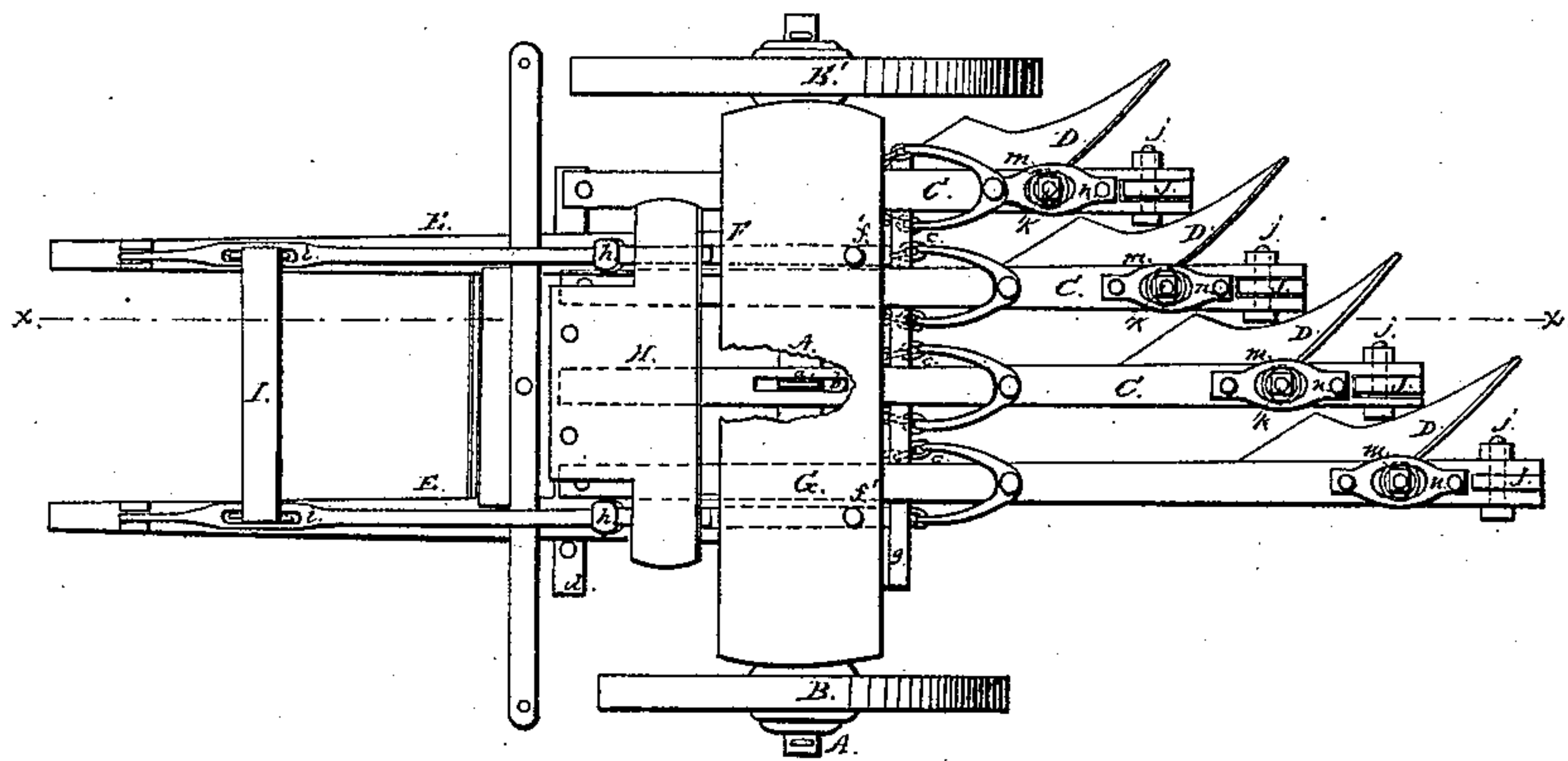


*J. Huege.*

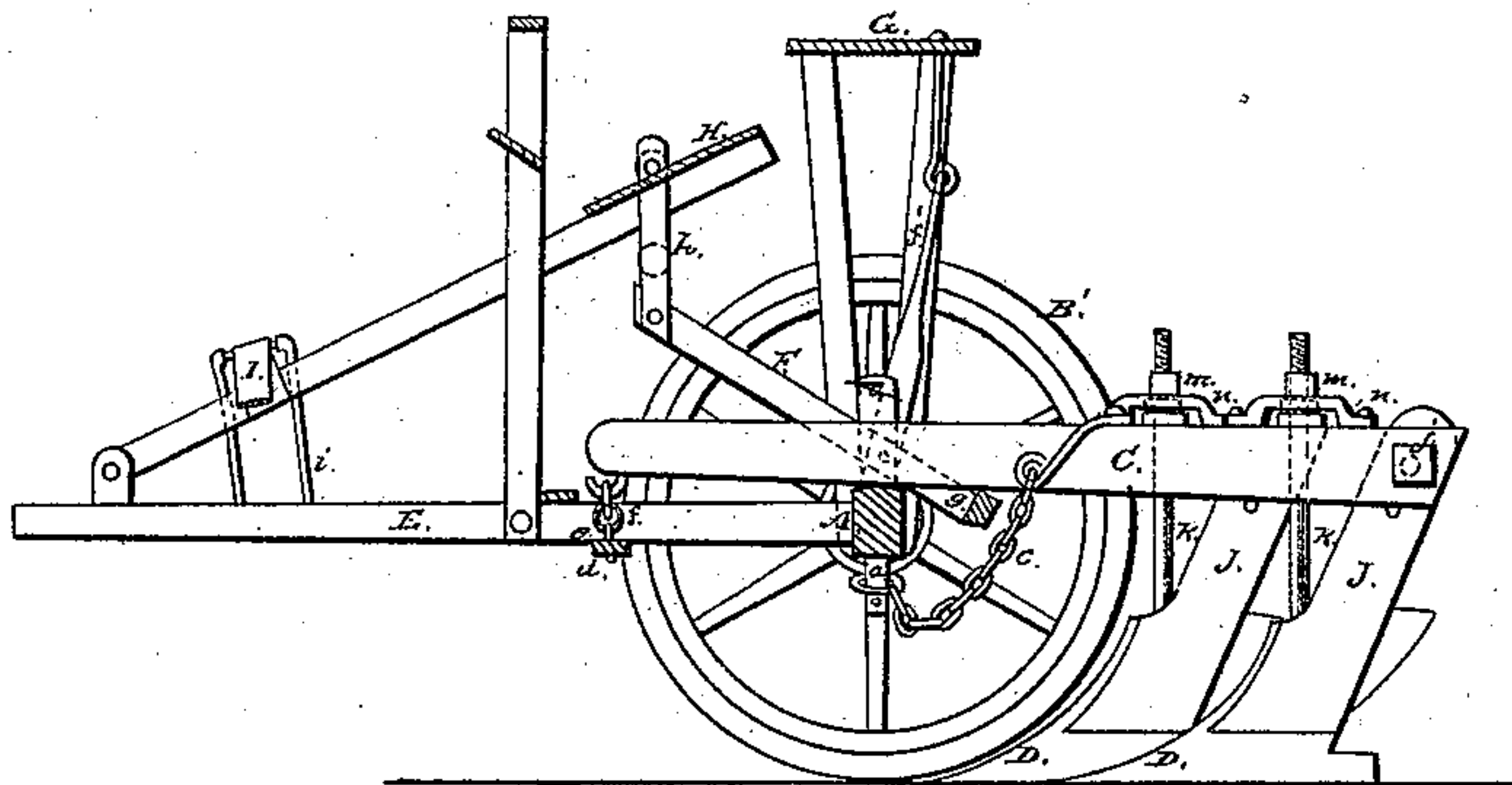
*Wheel Plow.*

*N<sup>o</sup> 30,967.*

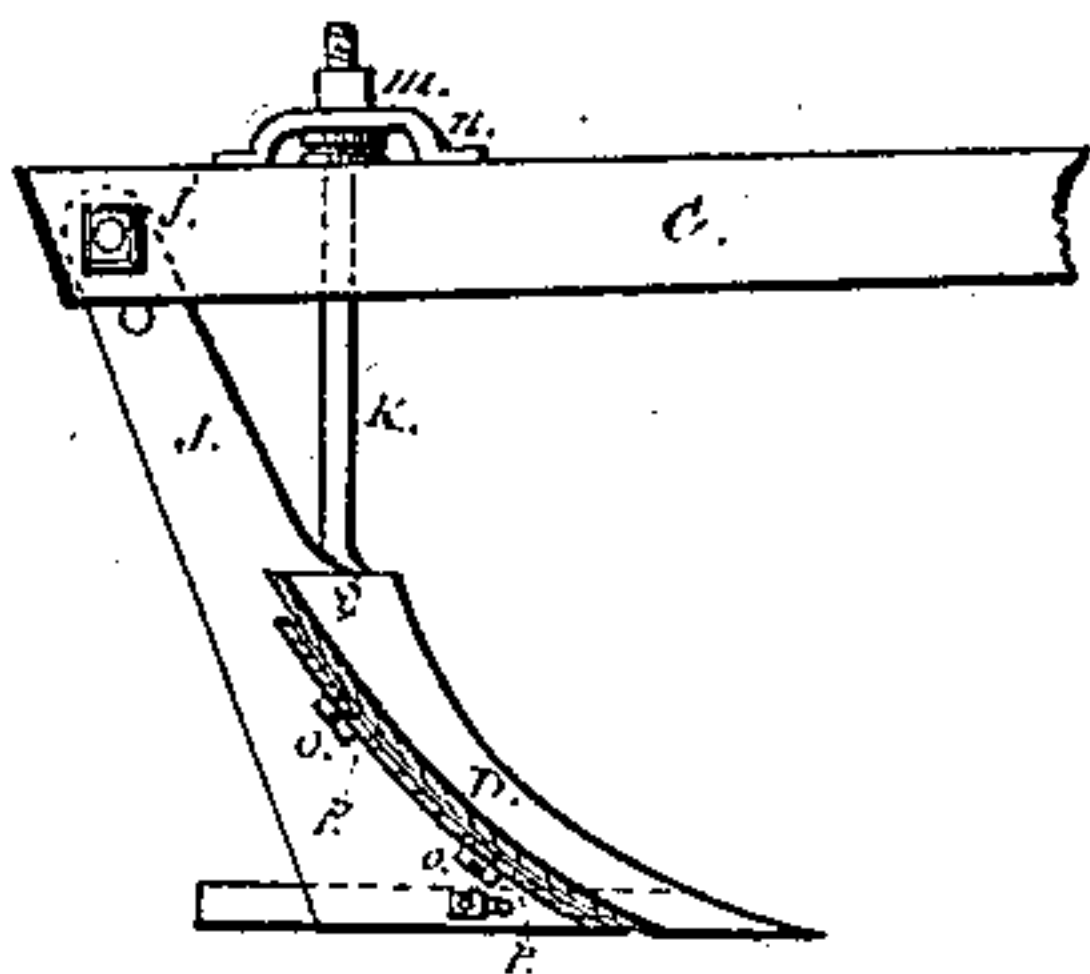
*Fig. 1. Patented Dec. 18, 1860.*



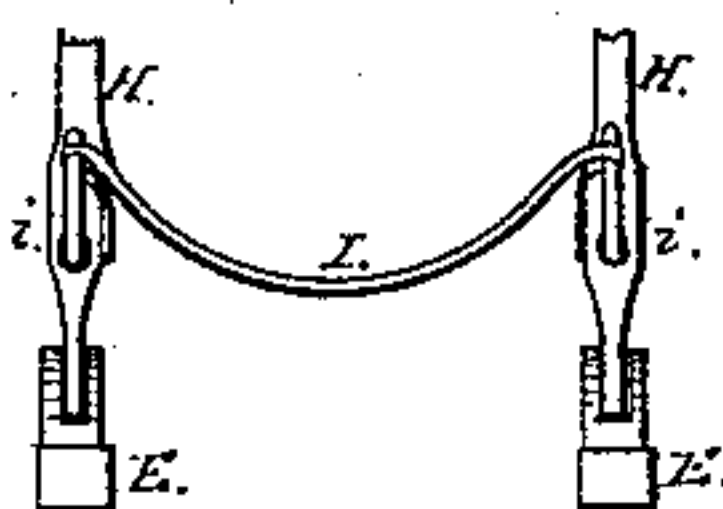
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Witnesses:*  
*Wm. H. Simpson*  
*E. W. Courten*

*Inventor:*  
*Jacob Huege*

# UNITED STATES PATENT OFFICE.

JACOB HAEGE, OF SHILOH, ILLINOIS.

## IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. **30,967**, dated December 18, 1860.

*To all whom it may concern:*

Be it known that I, JACOB HAEGE, of Shiloh, in the county of St. Clair and State of Illinois, have invented a new and Improved Gang-Plow; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a plan or top view of my invention. Fig. 2 is a longitudinal vertical section of the same, the line *x x*, Fig. 1, indicating the plane of section. Fig. 3 is a front elevation of the draft-pole and levers for throwing the plows out of the ground. Fig. 4 is a vertical section of one of the plows.

Similar letters in all the figures refer to corresponding parts.

The object of this invention is to construct a gang-plow which will work easy and with comparatively little power, and which allows of regulating the depth to which the shares cut into the ground, or to throw the plows out of the ground altogether and to keep them there without extra exertion of the driver. To effect this purpose I have secured the beams to the axle of the plow by means of vertical pivots passing through the center of the axle, said beams being slotted, so that the axle can turn in either direction independent of the plows without disconnecting the latter, and that by depressing the front end of the frame the plows are thrown out of the ground. I have also attached the plowshares to hinged standards, the inclination of which toward the horizon can be increased or diminished by set-screws passing through the top of the beams, and the plowshares are made of thin plates of sheet-steel secured to the slotted standards by means of screws in such a manner that by changing the position of the standards the plows can be made to run deeper or shallower, and that the plowshares can be moved down on the standards whenever it is required. Besides this, I have suspended the lever, which serves to throw the plows out of the ground, from a cross-bar or platform elevated above the axle of the plow in such a manner that said lever can follow the position of the plows, and that it operates with equal facility independent of the position of the plows; and I have also connected said lever or levers with the belly-strap of the middle horse in such a

manner that on depressing the levers and raising the plows said belly-strap is tightened, thereby depressing the front end of the frame and raising the plows without exertion of the driver.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation with reference to the drawings.

The axle A of my plow is supported by the wheels B B', one of which is intended to run in the furrow, and for this reason its diameter is larger than that of the other wheel. This axle is perforated with a number of vertical holes to receive the pivots *a*, the upper flat ends of which pass through slots *b* in the beam C, to which the plows D are secured. The lower ends of the pivots *a* extend through the axle, and they connect by means of chains *c* with the beams. If the front ends of the beams are disconnected, the chains *c* sustain the entire strain of pulling the plow through the ground, and by having these chains secured to the pivots *a* the axle can turn in either direction independent of the plows, whereby the motion of the whole plow is greatly facilitated. From the axle extends the draft-pole or the thill E, which serves as a guide for the middle horse, it being intended to use three horses side by side. The arms of the thill are connected by a cross-bar, *d*, which is provided with a number of loops, *e*, to receive chains *f*, connecting with the front ends of the beams C. If the front end of the thill is depressed, therefore, the plows are lifted from the ground.

The lever F, which serves to throw the plows out of the ground, is suspended from rods *f'*, which are attached to the elevated platform G. A cross-bar, *g*, attached to the rear end of the lever F, bears against the under side of the beams C, and since the rods *f'* are perfectly free to swing backward and forward or from side to side, the lever with the cross-bar does not interfere with the motion of the plows, and it accommodates itself to the position of the plows, so that the same can be thrown out of the ground with equal facility in whatever position they may be.

The lever F is operated by a treadle, H, which is pivoted to the front end of the thill, and which connects with said lever by a short link, *h*. Secured to the treadle near to its front end is the belly-strap I of the middle



horse, and this strap passes from the arms of the treadle over standards *i*, which rise from the arms of the thill, so that by depressing the treadle said belly-strap is drawn tight. By these means, if the treadle is depressed so as to throw the plows out of the ground, the belly-strap *I* is drawn tight at the same time, thereby depressing the front end of the thill; and the plows, when once thrown out of the ground by depressing the treadle, are easily kept out without much exertion of the driver by the action of the belly-strap *I*. This improvement is very essential to large plows, the weight of which is such that it would be difficult for the driver to hold them out of the ground for any length of time.

The plows *D* are attached to the beams *C* by means of standards *J*, which are connected to the rear ends of the beams by pivots *j* passing through slots in the top ends of the standards. They can be brought to greater or smaller inclination toward the horizon and raised and lowered by means of screw-rods *k*, which are secured to the standard by pivots *l*, and which are operated by nuts *m*. These nuts are guided by guards *n*, which are firmly screwed down on the surface of the beams, and which prevent the nuts moving in a longitudinal direction, so that by their action the rods *k* are kept firmly in their places. By these screw-rods the points of the plows can be thrown up or down, so as to cause the plows to run deeper or shallower and to accommodate them to the ground in which they are intended to be used.

The plowshares, which are made of thin steel

plates, are secured to the standards by means of screws *o* passing through slots *p* in the standards, and said standards are so shaped that they form a bed for the shares, and that the latter can be pushed down whenever it is desired. The shares can thus be renewed at pleasure and a sharpening of the plow is rendered unnecessary.

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

1. The employment or use of vertical pivots *a*, passing through the center of the axle, in combination with chains *c* and *f*, as and for the purpose described.

2. The arrangement of the hinged slotted standards *J*, in combination with the screw-rods *k*, guards *n*, and nuts *m*, and with the adjustable plowshares *D*, all constructed and operating in the manner and for the purpose set forth.

3. The arrangement of the swinging rods *f'*, in combination with the lever *F* and beams *C*, constructed and operating as and for the purpose specified.

4. The arrangement of the belly-strap *I*, in combination with the lever *F*, treadle *H*, and beams *C*, constructed and operating substantially in the manner and for the purpose described.

JACOB HAEGE.

Witnesses:

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