L. HUNT.

Plow.

No. 91,445. Patented June 15, 1869.

Fig. 1.

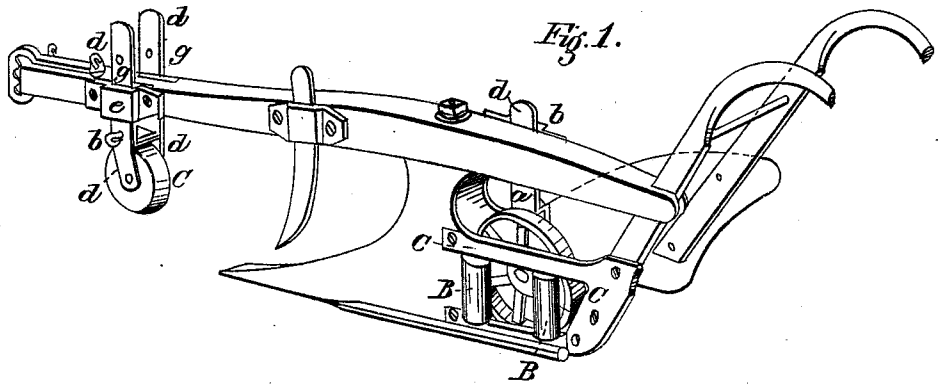


Fig. 2.

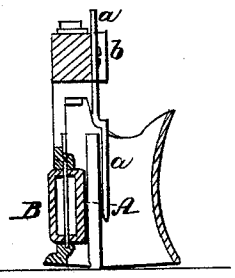
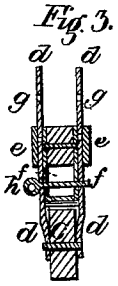


Fig. 3.



WITNESSES:

INVENTOR:
Leavitt Hunt
per
J. Pollok
atty

UNITED STATES PATENT OFFICE.

LEAVITT HUNT, OF WEATHERSFIELD, VERMONT.

IMPROVEMENT IN PLOW.

Specification forming part of Letters Patent No. **91,445**, dated June 15, 1869.

To whom it may concern:

Be it known that I, LEAVITT HUNT, of Weathersfield, in the county of Windsor and State of Vermont, have invented certain new and useful Improvements in Plows; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a plow made in accordance with my invention. Fig. 2 is a transverse vertical section of the same through one of the land-side rollers. Fig. 3 is a like section through the adjustable gage and supporting-wheel on forward part of plow-beam.

My invention relates to means for lessening the friction and draft in plows, and for supporting the forward part of plow and regulating the depth of penetration of the share. Heretofore wheels or rollers have been placed both between the land-side and mold-board and also upon the land-side or mold-board for this purpose. My invention, while contemplating the employment of wheels or rollers in a like connection, is designed to improve and simplify the construction and arrangement of the devices employed, and to render them capable of being adjusted and manipulated with greater facility than has heretofore been practicable.

To this end the invention may be stated to consist, first, in the employment of a vertically-adjustable plow-wheel, placed between the mold-board and land-side, and suspended from the plow-beam or from the handles connected therewith, whereby the same can be readily and easily adjusted; second, in the combination, with the adjustable plow-wheel, located between the mold-board and land-side, of one or more vertical friction-rollers mounted on the land-side, so as to reduce the draft and regulate the penetration of the share, and lessen the friction on the land-side; third, in the employment of a detachable skeleton land-side, such as hereinafter specified, carrying one or more vertical friction-rolls, and capable of being removed from or attached to the plow at pleasure; fourth, in constructing the lands-ide rollers hollow, and mounting them on fixed pins, so as to reduce the weight of the rolls and allow any dirt entering the rollers to work down and out from the lower bearings of the same; fifth, in the construction of the adjustable wheel on the forward part of the plow-beam, and the bearings for supporting and holding the same; sixth, in the combination of the adjustable plow-wheel between the mold-board and land-side, the land-side friction-rollers, and the adjustable gage and supporting-roller forward on the plow-beam, in the manner hereinafter set forth.

The nature of my invention will be fully understood by reference to the accompanying drawings. It will there be seen that the plow-wheel A, which extends a little below the lower level of the share and is arranged between the mold-board and land-side, is supported and revolves on a bearing-pin attached to a supporting bar or frame, *a*, of suitable material, which extends up and is held to the plow-beam by a metal socket-plate, *b*, secured upon the side of the beam by means of nut-bolts. This mode of suspending the wheel from the plow-beam admits of its ready adjustment or removal, all that is needed being to loosen the nut-bolts which hold the socket-plate over the bar *a*. The wheel is at the same time held most securely in position, and as it has no connection, either directly or indirectly, with the share, the latter can be made in the ordinary manner, and opportunity is also given of making the land-side of skeleton form and adjustable or detachable, as hereafter explained. Instead of suspending the wheel directly from the plow-beam I can, in some instances, hang it from a cross-brace between the two handles, this, however, being substantially the equivalent of the mode already described and allowing of the same ready adjustment of the wheel.

The wheel, it will be noticed, is in the same vertical plane as the beam, so that when the handles are pressed down to cause the machine to run on the wheel the plow will not tend to tilt sidewise. In the land-side, and in this instance about opposite the large interior plow-wheel, I mount one or more friction-rollers, B, whose length is about equal to the depth to which the share is adapted to penetrate, in order to reduce the friction upon the land-side as far as possible, and thus lessen the draft. The number of these rollers may

vary, according to the size of the plow and the use for which it is designed.

I prefer to mount these rollers in a skeleton frame, *c*, which is united with the plow, as shown in the drawings, by means of screws, bolts, or other suitable means, in such manner that it may be detached from or secured to the plow at pleasure. Thus, when the nature of the work renders it advantageous to use friction-rollers, the ordinary land-side can be removed, and replaced by the skeleton one with its friction-rolls; and so, when the occasion for its use has passed, the skeleton frame can be detached and the ordinary land-side again employed.

The rolls themselves I prefer to make hollow or tubular, being provided at each of their open ends with a frame or spider-bearings, to receive fixed steel pins or their equivalents, as shown in Fig. 2. By this construction the rolls can be made light and with little expense, and whatever dirt enters their upper ends is free to pass down and work out through their lower bearings without clogging or damaging them.

Forward on the plow-beams is an adjustable wheel, C, which is suspended and revolves on a pin or journal held between the lower ends of two bars, *d d*, arranged one on each side of the plow-beam to slide in vertical plate-sockets *e*, which fit over a socket-frame, *f*, attached to and projecting beneath the plow-beam, as shown in Figs. 1 and 3.

A hole is made through the lower projecting part of the frame *f* from side to side, through which and corresponding holes in the bars *d* a pin or bolt, *h*, passes, so as to hold the bars, and consequently the adjustable wheel C, firmly in position. A series of these holes, *g*, is formed in each bar, so that by sliding the bars up or down in their sockets to bring the proper holes in position the wheel may be raised or lowered to any required position.

When the wheel is lowered to the full extent it will bear up the point of the plow from the ground, so that in going to or retiring from the field the plow can run wholly upon the two wheels A and C. When at work the wheel is raised to the proper distance, so as to regulate the depth of furrow and support the fore part of the plow.

Having now described my invention and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

1. The employment of a vertically-adjustable plow-wheel, located between the mold-board and land-side, when the same is mounted in bearings suspended from or attached to the plow-beam, substantially as and for the purposes described.

2. The combination, with the mold-board and land-side, of an adjustable plow-wheel, located between said parts, and one or more upright friction-rolls mounted on the land-side, in the manner and for the purposes described.

3. The detachable and adjustable skeleton land-side, carrying one or more friction-rolls, and applied to the share, substantially in the manner shown and specified.

4. The adjustable wheel on forward part of plow-beam, in combination with its two upright supporting-bars, vertical plate-sockets, and socket-frame, extending beneath plow-beam and bolt, or equivalent means for fixing said bars in the desired position in their sockets, as shown and described.

5. The combination of the adjustable wheel between the mold-board and land-side and the adjustable wheel forward on the plow-beam, for the purpose of raising the plow when going to or returning from the field and of supporting plow and regulating depth of furrow while the work is in progress.

6. The combination and relative arrangement of the adjustable plow-wheel, the land-side friction-rollers, and the adjustable wheel forward on the plow-beam, substantially as herein shown and set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

LEAVITT HUNT.

Witnesses:

JAS. L. RUTHVEN,

H. A. RAWCLIFFE.