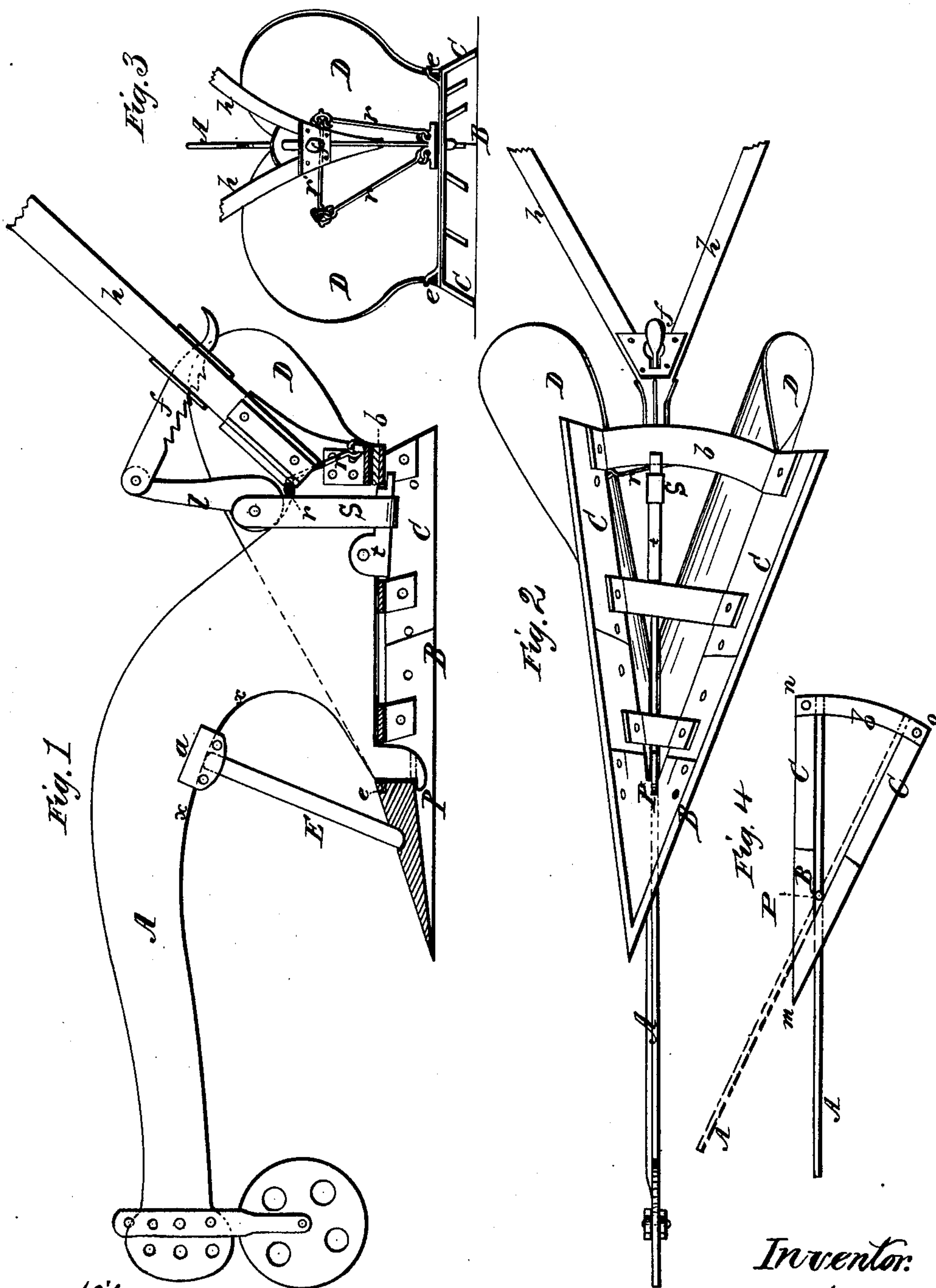


W. A. COWLEY.  
Plow.

No. 197,340.

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Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. 197,340, dated November 20, 1877; application filed January 23, 1877.

### *To all whom it may concern:*

Be it known that I, WILLIAM A. COWLEY, of the village of Stamford, county of Delaware, and State of New York, have invented a new and useful Improvement in Plows; which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, of which—

Figure 1 is a vertical section. Fig. 2 is a plan view of the plow inverted. Fig. 3 is a rear view, and Fig. 4 is a plan, of the bed or frame upon which the point B and the two land-sides C C are attached, and which latter view or plan shows more clearly the extreme position in which the beam may be placed in reference to the point and land-sides.

The object of my invention consists in so constructing a plow that the beam A may, within proper limits, be set to any required angle on the lines M N M O, Fig. 4, the same being the lines of the point B and the two right and left land-sides C C, and thereby, in conjunction with the right and left adjustable mold-boards D D, be capable of turning a furrow either to the right or left, or to both sides at once, at the will of the operator, and it consequently can be used upon a side-hill or upon flat land to equal advantage.

In the drawings, A is intended to represent the beam of the plow, which beam is so constructed as to form its own standard, and to turn or swing laterally upon the hooked pivot P, working in an appropriate seat in the bed of the plow, underneath the front part of the standard, and in such a manner as to be brought in line with either of the sides M N or M O, Fig. 4, or be left in any position between said lines, and the rear and lower end of which beam or standard of the beam slides freely when its position is being changed upon the circular supporting bar and guide b.

D D represent two independent and automatically-adjustable mold-boards, one upon either side of the beam A. These mold-boards are secured in position at their lower edges to the point B and land-sides C C by hinges e e, or other equivalent device, and are intended, by alternately rising and falling, to automatically adjust themselves to any angle in which the beam may be placed with reference to the land-sides; as, for instance, when the line of the beam is made parallel to the right land-

side, the mold-board upon the right is carried upward toward a vertical position, and the one upon the left, by falling, is inclined so as to properly turn a furrow to the left. When the beam is swung to the opposite side, the mold-boards reverse their relative positions.

When the beam and line of draft are in the center the mold-boards stand alike, and are intended to throw furrows to the right and left at the same time. The front edges of these mold-boards are at all times held as closely as may be necessary against the flat sides of the standard of the beam A by means of the rods r r'. These rods are attached by hooks and eyes to the inner sides of the mold-boards and to the lower rear end of the beam, as will more fully appear by reference to Fig. 3.

To secure the beam A in any place required, an eccentric-lever, l, is attached to the beam by means of a strap, S, as shown in Fig. 1. This strap passes from the lever l down both sides of the beam and underneath the clamping-jaw t, which jaw is pivoted to the under edge of the beam. Upon pressing with the foot of the operator upon the serrated step f, or its equivalent, the eccentric-lever l is drawn backward, binding the rod r' closely to the beam of the plow, and also at the same time lifting the strap S, and, by means of the clamping-jaw t, binding the beam A and the guide-bar b rigidly together. The step f is then locked by some one of its teeth to the iron plate upon the handles h h.

To change the plow from right to left or from left to right, the step f is unlocked, thereby loosening the rod r' and the clamping-jaw t. The beam A is swung by the operator or by the team into the angle required, the mold-boards D D at the same time automatically changing position, when the lever l is again brought to bear upon the rod r', and the step f is locked, as before.

E, Fig. 1, is a colter, which, in order that it may be always in proper line with the draft, either in turning a furrow to the right or to the left, is inserted loosely into a socket formed in the point B, while the upper end is attached by the slide a to the beam A. This slide a is secured to the beam of the plow at any required inclination on the arc of the circle x x, Fig. 1, by means of bolts or set-screws. By this method of attachment the colter itself is



free to move at each end whenever the position of the beam is being changed, and its cutting-edge is caused to be always in proper line between the beam and the point.

The formation and construction of this plow are such that it can be made at comparatively small expense, and of wrought, rolled, or cast iron or steel, or other ordinary material.

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

1. In a side-hill reversible plow, the combination of the adjustable beam A, swinging laterally upon a hooked pivot, P, near the point of the plow, and sliding upon the rear guide and brace-bar *b* of the frame and land-sides C C, as shown and described.

2. The laterally-adjustable beam A, in combination with the mold-boards D D, hinged to the frame and land-sides C C, and secured in place by the connecting-rods *r r'*, whereby the swinging of the plow-beam automatically

changes the position of the mold-boards to throw the furrow on either side, substantially as shown and described.

3. The adjustable colter E, with slide *a*, as above described, and for the purpose specified.

4. In the construction of a flat-land or side-hill reversible plow, the combination of a beam, A, swinging laterally upon a hooked pivot, P, in the point and bed of the plow, and secured in place by means of an eccentric-lever, *l*, strap S, clamping-jaw *t*, and rods *r' r r*, or their equivalents, and in connection therewith two automatically-adjusting mold-boards, D D, attached by hinges or other suitable device to the point B and land-sides C C, and an adjustable colter, E, all substantially as herein described, and for the purposes specified.

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Witnesses:

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