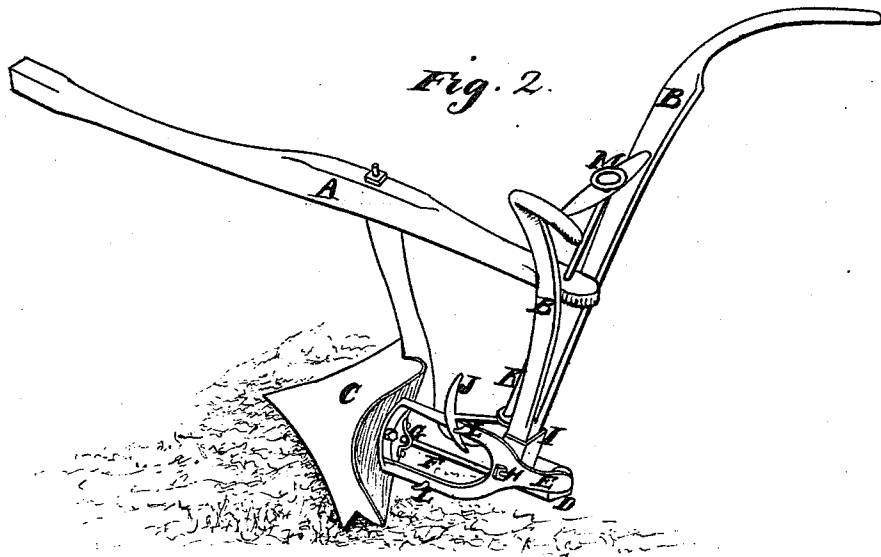
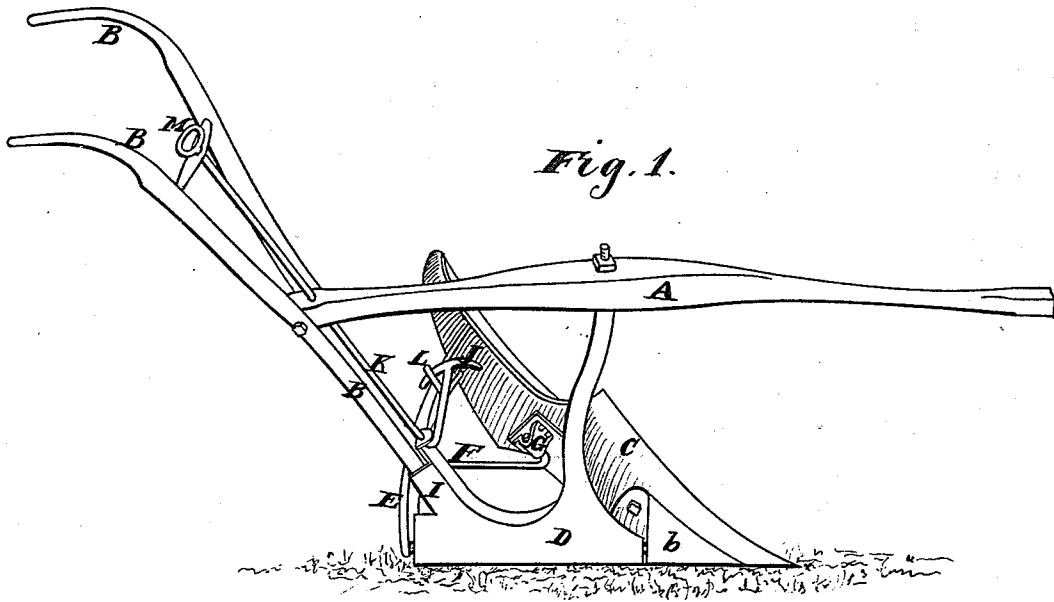


R. I. KNAPP.
Side-Hill Plow.

No. 167,402.

Patented Sept. 7, 1875.



Witnesses
Jno. L. Boone
C. M. Richardson

Inventor
Robert Israel Knapp
by Sewey & Co
his attys

UNITED STATES PATENT OFFICE.

ROBERT I. KNAPP, OF HALF-MOON BAY, CALIFORNIA.

IMPROVEMENT IN SIDE-HILL PLOWS.

Specification forming part of Letters Patent No. **167,402**, dated September 7, 1875; application filed August 13, 1874.

To all whom it may concern:

Be it known that I, ROBERT I. KNAPP, of Half-Moon Bay, San Mateo county, State of California, have invented an Improvement in Side-Hill Plows; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention consists in the mechanical arrangement by which I am enabled to turn the plow below its axis, in combination with the device for holding it steadily in position, as hereinafter described and claimed.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view of my plow. Fig. 2 is a perspective view taken partly from behind.

A is the beam, B B are the handles, and C is the mold-board, of the plow. The mold-board is secured to the land-side D by means of a stout pin, which projects from the front of the land-side and enters the part *b*, which is secured to the front end of the mold-board. At the rear end of the land-side a pin from the brace E enters it, and these two pins serve as a horizontal axis about which the plowshare turns, so as to stand upon either side of the beam. The brace E extends to the upper and outer end of the mold-board, and is secured to it by a bolt. In order to hold the pin from its lower end in place, a brace or rod, F, extends from near the center of the brace E, parallel with the land-side, until it meets the inner face of the mold-board. Instead of securing this rod rigidly to the mold-board I bend the end into a sort of hook, which enters a socket, G, which is fastened to the mold-board, as shown. The nut H on the outer end of the rod being then drawn tight against the brace E, the latter will be held close against the rear end of the land-side,

and the pin prevented from coming out. When it is necessary to sharpen the plowshare it can easily be removed by simply loosening the nut H, when the pivots can both be withdrawn.

The handles of my plow are secured in the following manner: A socket, I, is formed on the rear end of the land-side D, so that it stands at the same angle with the handles B. These latter are carried down upon each side of the beam, to which they are secured by a bolt. The lower ends enter the socket I, and the whole is made rigid and firm.

In order to secure the plow in its position upon either side of the beam, I employ a double hook or anchor, J, which projects at right angles from the lower end of the rod K. This rod passes up through the beam and upper cross-brace between the handles, and terminates in a ring or handle, M, by which it can be easily turned. Upon each branch of the brace E is a small lug, L, over which one or the other of the arms of the anchor J passes.

The operation is as follows: When the end of the furrow is reached, and the plow is to be turned around, the handle M is turned, thus releasing the lug L from the anchor J. The plow will then be rotated about and below or under its axis, and be shifted to the opposite side of the beam, when the other arm of the anchor can be hooked over the lug L upon that side of the brace.

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

In a side-hill plow, constructed as described, the anchor J, provided with the rod K and handle M, all arranged to operate substantially as and for the purpose set forth.

In witness whereof I hereunto set my hand and seal.

ROBERT I. KNAPP. [L. s.]

Witnesses:

GEO. H. STRONG,
C. M. RICHARDSON.