(No Model.) 2 Sheets—Sheet 1.

H. WIARD & J. L. JUDD.

SIDE HILL PLOW.

No. 420,218. Patented Jan. 28, 1890.

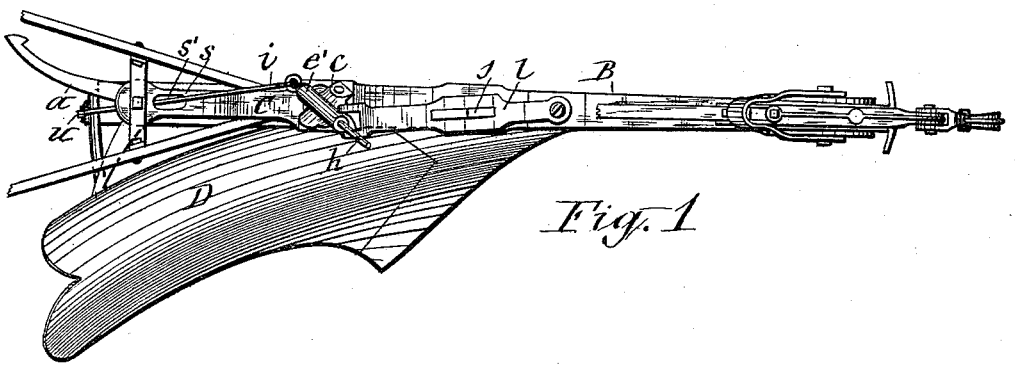

Fig. 1

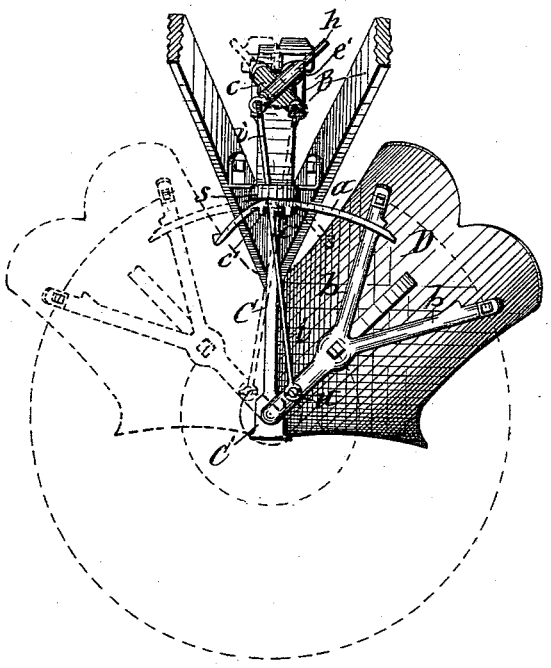

Fig. 2

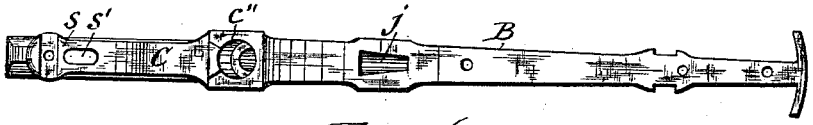

Fig. 6

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(No Model.) 2 Sheets—Sheet 2.

H. WIARD & J. L. JUDD.

SIDE HILL PLOW.

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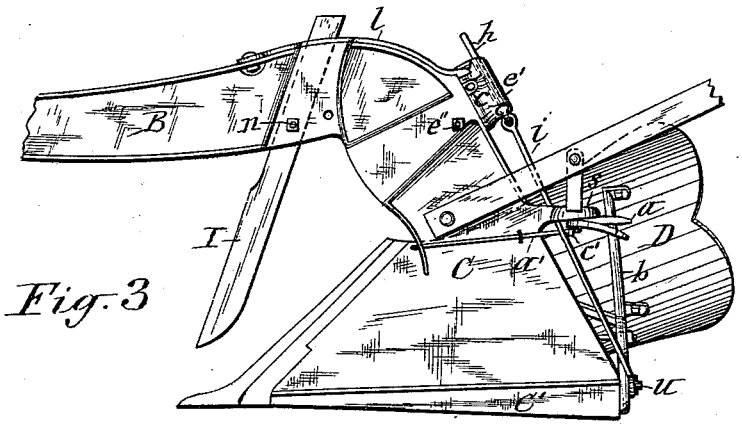

Fig. 3

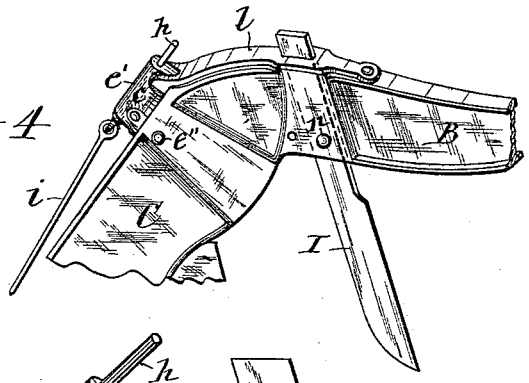

Fig. 4

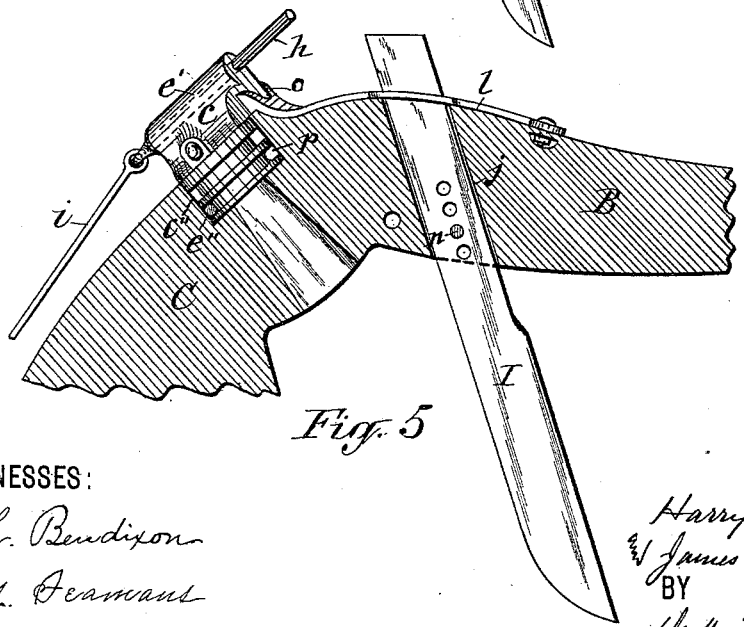

Fig. 5

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UNITED STATES PATENT OFFICE.

HARRY WIARD AND JAMES L. JUDD, OF SYRACUSE, NEW YORK.

SIDE-HILL PLOW.

SPECIFICATION forming part of Letters Patent No. 420,218, dated January 28, 1890.

Application filed November 1, 1889. Serial No. 328,941. (No model.)

To all whom it may concern:

Be it known that we, HARRY WIARD and JAMES L. JUDD, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Side-Hill Plows, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of plows which have the mold-board reversible, so as to be adapted to be placed on either side of the standard; and our present invention has special reference to the adjustment of the colter to conform to the position of the mold-board.

The object of the invention is to adjust the colter automatically with the reversing of the mold-board; and to that end the invention consists, essentially, in the employment, in connection with the oscillatory colter secured to the beam, of a lever pivoted to the beam and coupled to the colter-shank, and a shifting-rod connected at one end to the pivoted rear support of the mold-board at a point eccentric to the pivot thereof, and swinging by its opposite end the aforesaid lever on its pivot, and thereby adjusting the colter to the line of the landside, all as hereinafter more fully described, and specifically set forth in the claims.

In the annexed drawings, Figure 1 is a top plan view of a plow embodying our invention. Fig. 2 is a rear end view of the same with the handles broken away. Fig. 3 is a view of the landside of the plow. Fig. 4 is a perspective side view of the portion of the plow-beam to which the colter is attached. Fig. 5 is an enlarged vertical longitudinal section of said portion of the plow-beam, illustrating the means for adjustably sustaining the colter; and Fig. 6 is a top plan view of the bare beam.

Similar letters of reference indicate corresponding parts.

Our improved device for automatically adjusting the colter is shown and described in our prior application for patent, Serial No. 307,819, filed April 19, 1889, and is therein reserved for the present application.

Referring specifically to the annexed drawings, B represents the plow-beam, and C the standard.

C′ denotes the landside of the plow, and D the mold-board, which is hinged or pivoted to the landside in the usual manner, the rear portion of the mold-board being connected to the rear end of the landside by a pivoted support *b*, which is usually of the form of a three-armed brace, having two of its arms rigidly attached to the back of the mold-board and the third arm pivoted to the heel or rear end of the landside.

From the standard extends rearward an arm *s*, on which is pivoted the usual duplex catch-arm *a*, which is adapted to interlock alternately with the two fixed arms of the brace *b* when the mold-board is shifted from one side to the opposite side of the standard. A spring-bail *a′*, attached at one end to the standard C and embracing with its opposite end the pivot-bolt of the arm *a*, lies intermediately of its length between lugs *c′ c′*, formed on the arm *a*, and thereby holds said arm in its engagement with the brace *b*.

I represents the colter, the attaching-shank of which is inserted in a slot *j*, extending from the top of the beam through the bottom thereof with a forward inclination. The slot *j* is flared rearwardly, and the shank of the colter is rectangular in cross-section and secured in the slot by a pin *n*, passing transversely through the lower portion of the beam and through the colter-shank, in which latter the pin is fitted loosely to allow the colter to turn laterally thereon. The colter is provided with a plurality of holes at different points of its length for the reception of the pin *n*, and is thus capable of being adjusted to project different distances from the plow-beam. The aforesaid flare of the slot *j* allows the colter to be turned so as to come in proper position in relation to the landside of the plow according to the position of the mold-board. In order to effect this adjustment of the colter automatically with the shifting of the mold-board, we employ a lever *l*, pivoted at one end to the top of the beam some distance in front of the slot *j*, and suitably connected with the colter-shank and actuated at the opposite end by a suitable shifting-rod *i*, which is connected to the three-armed brace or pivoted rear support *b* of the mold-board eccentric to the pivot of the latter.

We preferably employ between the lever *l*

and shifting-rod *i* a block *c*, pivoted to the top of the beam B, and preferably seated in a cylindrical socket *c''* in the beam, as shown in Fig. 5 of the drawings, and retained in the socket by means of a pin *e''*, passing transversely through the beam and tangentially through a circumferential groove *p* in the block. The top of said block is formed with a sleeve *e'*, in which slides a pin *h*, to the rear end of which is connected the shifting-rod *i*, which is extended rearward and downward and has its rear extremity connected to the three-armed brace or pivoted rear support *b* of the mold-board at a point eccentric to the pivot of said support, as shown at *u*.

The arm *s*, hereinbefore referred to, is formed with a vertical aperture or slot *s'*, through which the rod *i* passes, and is thus fulcrumed on the arm *s*.

The effect of the aforesaid combination and arrangement of parts is as follows: In reversing the mold-board the three-armed brace *b* is swung from one side to the opposite side of the landside. Said brace, carrying with it the lower end of the rod *i*, causes the upper end of said rod to be swung in the opposite direction by the intermediate fulcrum of the rod on the arm *s*, and this shifting of said rod turns the block *c* in its socket. The front of the block *c* is formed with a nose-piece *o*, and the rear end of the lever *l* is bifurcated and embraces thereby the aforesaid nose-piece. The result is that the before-described turning of the block *c* throws the rear end of the lever *l* to one side from the center of the beam, and this movement of the said lever adjusts the colter in its requisite position simultaneously with the shifting of the mold-board.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a plow having a reversible mold-board, the colter adapted to turn laterally on the beam, a lever pivoted to the beam and coupled to the colter-shank, and a shifting-rod connected at one end to the pivoted rear support of the mold-board at a point eccentric to the pivot thereof and swinging by its opposite end the aforesaid lever on its pivot to adjust the colter to the line of the landside automatically with the reversing of the mold-board, as set forth.

2. In a plow having a reversible mold-board, the combination of the colter adapted to turn laterally on the beam, a lever pivoted to the beam and connected with the colter-shank, a block pivoted to the beam and engaging the free end of said lever, and a rod connected to the pivoted rear support of the mold-board at a point eccentric to the pivot of the latter and adapted to turn the aforesaid pivoted block automatically, as described and shown.

3. In a plow having a reversible mold-board, the combination of the colter adapted to turn laterally on the beam, the block *c*, pivoted to the top of the beam at the rear of the colter and provided with the sleeve *e'* and with the nose *o*, the lever *l*, pivoted at one end to the top of the beam in front of the colter and having its opposite end bifurcated and embracing the aforesaid nose, and the intermediate portion of said lever connected with the colter-shank, the pin *h*, sliding in the sleeve *e'*, the arm *s*, extending from the rear end of the standard and provided with the slot *s'*, and the rod *i*, passing through said slot and fulcrumed thereat on the arm and having one end connected to the pivoted rear support of the mold-board at a point eccentric to the pivot of the latter and the opposite end connected to the pin *h*, all combined to operate substantially as set forth.

In testimony whereof we have hereunto signed our names this 24th day of October, 1889.

HARRY WIARD. [L. S.]
JAMES L. JUDD. [L. S.]

Witnesses:
A. W. JUDD,
SILAS HILLMAN.