

UNITED STATES PATENT OFFICE.

CHARLES C. FIELDS, OF WALLACE'S SWITCH, VIRGINIA, ASSIGNOR OF ONE-HALF TO ABRAM D. REYNOLDS, OF BRISTOL, TENNESSEE.

PLOW.

SPECIFICATION forming part of Letters Patent No. 471,111, dated March 22, 1892.

Application filed November 6, 1891. Serial No. 411,057. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. FIELDS, a citizen of the United States, residing at Wallace's Switch, in the county of Washington and State of Virginia, have invented a new and useful Plow, of which the following is a specification.

This invention relates to improvements in plows, the objects in view being to provide a plow adapted to serve the separate functions usually ascribed to several separate plows—namely, to be adapted to serve as an ordinary right-hand plow, a left-hand plow, a double plow, or a hillside-plow, and to be converted from one to the other with rapidity and ease and without the necessity of employing tools or losing time in so doing.

Various other but minor objects of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a plow constructed in accordance with my invention, both shovels or standards being lowered in position for use. Fig. 2 is a rear elevation of the same. Fig. 3 is a side elevation of Fig. 1. Fig. 4 is a detail in perspective of one of the plow-standards, the mold-board removed. Fig. 5 is a similar view, showing the opposite side of the standard. Fig. 6 is a detail of the standard bearing-bolt.

Like letters of reference indicate like parts in all the figures of the drawings.

A designates the plow-beam, formed either of wood or metal and of any desired shape. The front end of the beam is provided with any ordinary style of clevis and the rear end has bolted thereto and diverging therefrom the usual handles *a*.

Pivoted upon a bolt K, passing transversely through the beam A near its front end, are the front ends of two curved bars J, the opposite ends of which are provided with a series of adjusting-holes, through any one pair of which and a hole in the beam a removable pin L may be passed, so that the lower sides of the curved bars may be raised and lowered to or from the surface of the ground. Bearings *m*, formed at the centers of the bars, revolvably receive a colter-wheel M, which, by the

before-described manipulations of the curved bars J, may be raised and lowered into and out of contact with the ground, and so as to give the proper depth of cut to the sod.

B designates the plow-standards, of which there are two, and the same are curved forwardly toward their lower ends and have formed at one side the landside-extension N, while at the opposite side above the extension rearwardly and outwardly disposed perforated flanges *n* are formed, and above these at the front edge of the standard a forward perforated extension P. Near its upper end a bolt-hole P' is formed, and at its extreme upper end a recess P² is also formed.

Through a square opening formed in the beam A a bolt A' is passed, said bolt having the square body portion, which extends throughout the width and slightly beyond the opposite faces of the beam and terminates in reduced bearing ends A², threaded at their extremities. Upon each of these reduced portions A² is mounted a standard B, said reduced portion passing through the perforations P' of the standards, which latter are held in position by means of nuts B', applied to the extremities of the reduced portions A², said nuts being sufficient to prevent an undesired looseness of the standards and yet permitting of a desired pivotal movement or swinging of said standards, for a purpose hereinafter made apparent.

In each of the recesses P² of the standards B there is bolted an elbow hand-lever *d* by means of a bolt *d'*. To each of these levers *d* there is pivoted at R an elbow or bell-cranked lever E, the lower end of which is loosely connected by a link F to the upper end of a segmental locking-bar *e*, the lower end of which is pivoted to the extension P of the standard B below. Each of the segmental bars *e* is provided with an upper notch *e'* and a lower notch *e''*. A coiled spring *f* is connected to the outer end of each of the bolts *d'* of the levers *d*, while the front end of each spring is connected to the pivoting-bolt between the front end of the link F and the segmental locking-bar *e*.

G represents a transverse plate mounted upon the beam between the bars *e* and the standards B, and said plate beyond the sides

of the beam terminates in pawl-like teeth G' , a tooth being located opposite the inner edge of each of the bars e .

b designate the mold-boards, which are bolted to the flanges n of their respective standards B , and D represents the chilled plow-points, likewise bolted to the lower portions of the flanges and fitting in the cut-away or recessed portions of the plates or extensions N of said standards, to which they are also bolted.

In operation, by throwing both the levers d to the front, so that the notches e' of the segmental bars e engage with the pawl-like teeth G' , it will be seen that the springs F , maintaining such engagement, will prevent the segmental bars from unlocking with the pawl-teeth, and hence maintain the standards B in a lowered position, and the plows adapted for operation. Now by drawing either of the levers E inwardly or toward its hand-lever d the links F will force the upper end of that locking-bar E , connected therewith, to the front, against the tension of the coiled spring f , and thus permit of a disengagement of the upper notch e' with the pawl-like tooth G' . Such unlocking will permit of the rearward movement of the lever d , and it being rigid with the standard B will cause the latter at its lower end to swing to an upper position, (shown in Fig. 3,) merely leaving the remaining plow to operate. As it swings up, the inner edge of the segmental locking-bar rides over the tooth-pawl until the lower notch e^2 of the latter comes into engagement with said tooth-pawl, whereby the standard and plow thus operated upon will be maintained in the elevated inoperative position. It will thus be seen that, either of the plows being thus adapted for elevation, the plow as a whole may be instantly and easily converted from a left-hand plow to a right-hand plow, or vice versa, or both plows may be thrown into operative position and a double plow will result, as shown in Figs. 1 and 2. To return either of the plows to their former or operative position, substantially the same operation again ensues, the lever E being employed to disengage the locking-bar from the tooth-pawl, after which and the lowering of the plow said locking-bar will re-engage with said pawl, so that the plow may be locked in either of its positions. If desired, intermediate notches may be arranged in the locking-bars, and the plows thus adapted to assume any of the intermediate positions for increasing the angle of the plow or decreasing the same, whereby it is adapted to run at different depths.

If desired, the specific form of standard may be omitted, as the elevating mechanism may be employed upon various styles of plows. The tooth-pawls G' may be secured in position by any suitable means; but in this instance I merely pass through the plate G a bolt H , which descends through the plow-beam.

Various alterations regarding the minor de-

tails of the invention may be made without deviating materially from the construction herein described and shown, and I therefore desire this specification to comprehend such immaterial or unimportant changes as will readily suggest themselves to persons conversant with and skilled in the manufacture of that class of agricultural implements to which my invention relates.

Having described my invention, what I claim is—

1. The combination, with a plow-beam, of a standard pivoted at the side of the same, a tooth located upon the beam in front of the standard, a curved locking-bar having notches pivoted at its lower end to the standard and adapted to engage the teeth, a lever secured to the upper end of the standard, a spring connecting the upper end of the standard with the locking-bar, and a second lever bell-cranked and pivoted to the first lever, and a link loosely connected to the lower end of said bell-cranked lever and to the upper end of the locking-bar, substantially as specified.

2. The combination, with the plow-beam and the standard pivoted to the same, of the tooth located in front of the standard, the notched curved locking-bar, a spring for pressing the same toward the tooth, a hand-lever pivoted to the standard, and means for disengaging the locking-bar from the tooth against the tension of the spring, substantially as specified.

3. The combination, with the beam, the pivoted standard having the extension at its front end and its upper end recessed, of the tooth located upon the beam in front of the standard, the locking-bar curved and having its lower end pivoted to the extension of the standard and its inner end notched, the hand-lever bolted in the recess at the upper end of the standard, the bell-cranked lever pivoted to the hand-lever, the link loosely connecting the lower end of the bell-crank lever with the upper end of the locking-bar, and a coiled spring connected with the lower end of the lever and said locking-bar, substantially as specified.

4. The combination, with the plow-beam, of opposite independently-pivoted standards terminating at their upper ends in levers, teeth located in front of each standard, notched and curved locking-bars pivoted at their lower ends to the standards, springs for maintaining the locking-bars in engagement with the teeth, and levers for disengaging the locking-bars against the tension of the springs, substantially as specified.

5. The combination, with the beam, the square bolt passed therethrough and terminating beyond the sides of the beam in reduced cylindrical ends, the opposite standards pivotally mounted on said ends, the transverse plate G , bolted to the beam in front of the standards and provided at its extremities with the pawl-teeth G' , of the segmental locking-bars e , having notches at their inner edges and at their lower ends pivoted

to the standards, the springs *f*, connecting
the upper ends of the standards with the up-
per ends of the locking-bars, the hand-levers
d, bolted to the upper ends of the standards,
5 the bell-crank levers *E*, pivoted to the levers
d, and the links *F*, loosely connecting the
bell-crank levers at their lower ends with the
locking-bars, substantially as specified.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in 10
the presence of two witnesses.

CHARLES C. FIELDS.

Witnesses:

M. D. ANDES,
GEO. F. CRUSH.