

UNITED STATES PATENT OFFICE.

THOMAS L. COTTEN, OF MADISON COUNTY, MISSISSIPPI, ASSIGNOR TO
MARTHA J. COTTEN, OF SAME PLACE.

IMPROVEMENT IN SUBSOIL-PLOWS.

Specification forming part of Letters Patent No. 105,551, dated July 19, 1870.

To all whom it may concern:

Be it known that I, THOMAS L. COTTEN, of the county of Madison and State of Mississippi, have invented certain new and useful Improvements in Subsoil-Plows; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a top-plan view. Fig. 2 is a longitudinal sectional view. Fig. 3 is a top-plan view of the arrow-head or diamond-shaped point. Fig. 4 is a top-plan view of the rear of the beam detached. Fig. 5 is a rear view of the upper section of the back brace-bar, the helve, and rung.

The nature of my invention consists in providing the colter with a diamond-shaped or arrow-head point instead of the flat shoe-piece generally used.

My invention also consists in providing the shank of the colter, as well as that of the brace-bar with which it is connected, with a series of holes or openings, whereby the plow-point can readily be adjusted to any desired angle or pitch. The colter passes through a vertical slot in the beam, and its brace-bar through an opening in a metallic stirrup or cap at the rear of the same. The colter and bar are retained at any desired point in their bearings by means of pins or bolts, the brace being further strengthened by a short arm or helve, which connects it with the rung of the handles.

The advantages of my improvement will readily suggest themselves to all familiar with the subsoil-plow and its practical working. The diamond-shaped point or arrow-head foot enters the earth or sod and breaks or bursts it with more certainty and ease to the team than any other form, acting, as it does, on the well-known principle of the wedge.

Owing to the complete system of adjustment of the colter and brace-bar, as well as of the handles, the shoe can readily be held at any point or angle the plowman may desire.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

A is the beam, and B B the handles, which are all constructed in the usual manner. *b b* are staples, by means of which the handles are secured to the beam. These staples are of such size as to allow of a slight play of the handles, so as to regulate the beam. The handles are further braced, in the usual manner, by the rung B'. C is the colter, and, as its name implies, is provided with a sharp cutting-edge. This colter C terminates in a diamond-shaped or arrow-head point or shoe, as clearly shown in Fig. 3.

The great advantage of this form over the ordinary flat shoe-plate now used is, that it more readily and thoroughly breaks the ground, owing to its wedge-shaped form, and, besides, it enables the plow to do its work with less draft upon the team. The shank of this colter is provided with a series of holes, *c c*, and passes through a vertical opening, *c'*, in the beam. It is retained at the desired point by a pin, *a*. The portion of the beam through which the opening is cut may be strengthened by metallic plates A' A'. D is a curved brace-bar, and is formed in one piece with the colter C. The degree of the curve of this bar D, of course, may be varied. It may be as shown in the drawing, or, if the manufacturer should desire, a much more positive and acute sweep may be given it.

The shank of the brace-bar passes through an opening, *d'*, in the stirrup or U-shaped metallic cap F, and, being provided with a series of openings, *d d*, is retained at any desired point by means of a suitable bolt or pin. The upper section, D', of the brace-bar D is bent, which enables it to enter a slot in the helve or arm E, where it is firmly secured by bolts *e e*. The rung B' passes through an opening in the upper end of the helve or arm E, and by which means the latter is firmly held or braced. F is a stirrup or U-shaped metallic cap, and is secured to the rear end of the beam by means of bolts *f f*, and is so attached as to leave sufficient space between its head and the rear end of the beam for the free movement of the shank of the bar D, as clearly shown in Fig. 4.

It will be observed that, from the complete system of adjustment afforded to the colter

and its brace-bar, the point or shoe C' can readily be brought to any desired angle the plowman may wish.

The different features of my plow are constructed of such materials as practical experience has long since shown were best adapted for the purposes designed.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent of the United States, is—

The colter C, having a diamond-shaped or arrow-head point or shoe, C', brace-bar D,

when said bar and the colter are permanently connected, arm E, and stirrup F, when the same are so constructed as to render the colter and its brace adjustable, as shown, the whole being combined and arranged substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS L. COTTEN.

Witnesses:

W. J. SMITH,
G. F. TEMPLE.