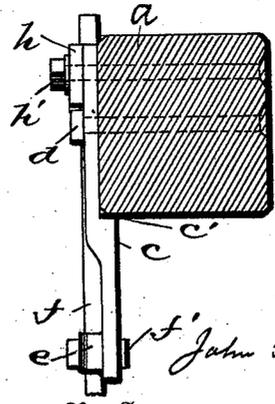
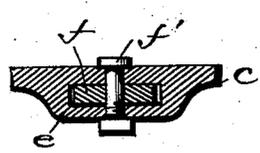
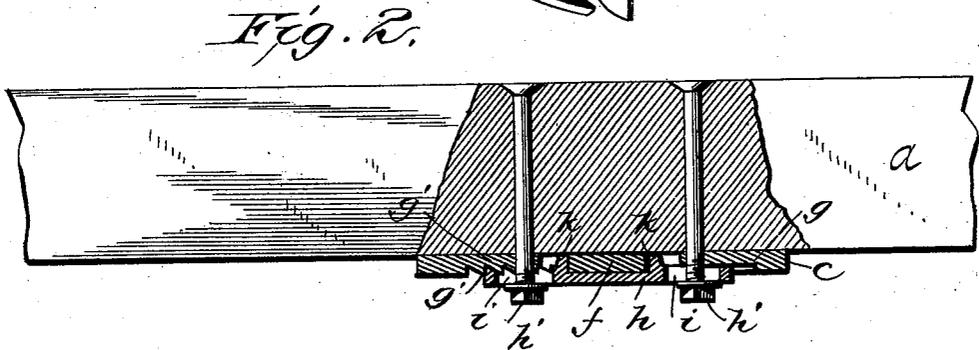
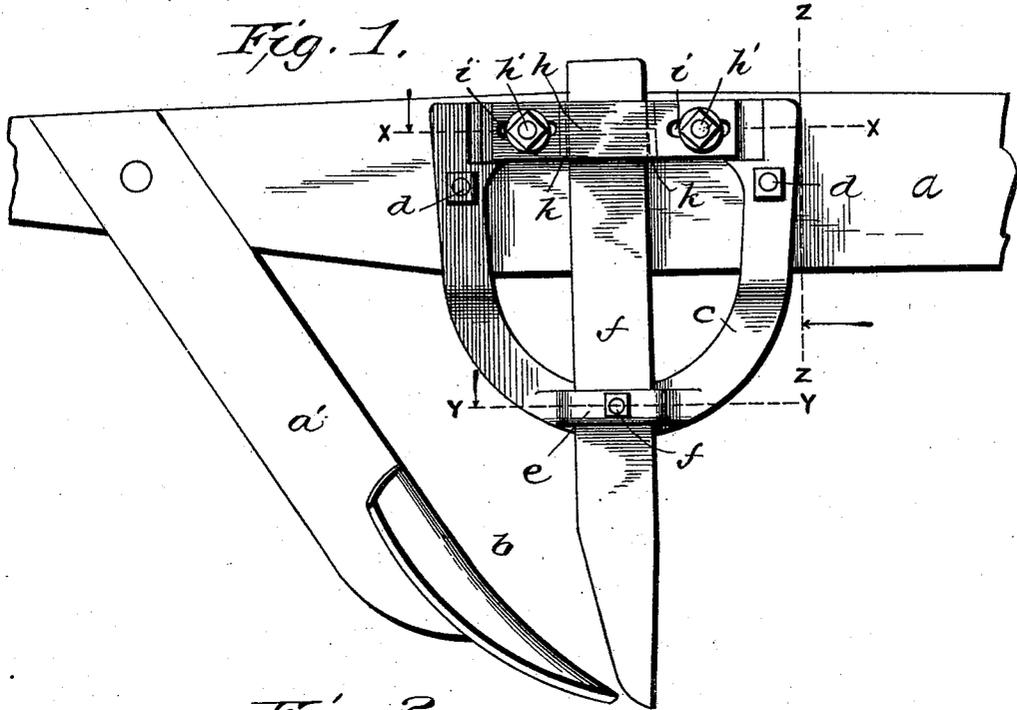


(No Model.)

J. H. DE BRUCE.
COLTER.

No. 534,204.

Patented Feb. 12, 1895.



Witnesses
Wm. Spindler
Geo. R. Hamlin

Inventor
J. H. De Bruce
 By Attorneys
Wm. Spindler

UNITED STATES PATENT OFFICE.

JOHN H. DE BRUCE, OF BIG SANDY, TENNESSEE.

COLTER.

SPECIFICATION forming part of Letters Patent No. 534,204, dated February 12, 1895.

Application filed January 31, 1894. Serial No. 498,587. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. DE BRUCE, a citizen of the United States, residing at Big Sandy, in the county of Benton and State of Tennessee, have invented certain new and useful Improvements in Colters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to that particular class of colters which are adapted for use in connection with shovel or spade plows; and my object is to provide means whereby the inclination of the blade or knife can be more conveniently and effectively adjusted.

To this end my invention consists of a blade-holder provided with improved means for adjusting and locking the blade at any desired inclination, all of which will be more fully described hereinafter and pointed out in the claims.

In the accompanying drawings this construction is illustrated in detail, in which—

Figure 1, represents a side elevation of a plow equipped with my improvements; Fig. 2, a section taken on the line X—X of Fig. 1; Fig. 3, a similar view on the line Y—Y of same figure; Fig. 4, a third sectional view on the line Z—Z of Fig. 1.

The reference letter *a* indicates the plow-beam which is preferably rectangular in cross-section and has attached to its rear end the mold-board supporting beam *a'*.

b indicates the mold-board which is, as before explained, of the shovel or spade type. Secured to the beam *a* directly forward of the mold-board is the colter frame *c*. This consists of a U-shaped casting provided on one side with the shoulders *c'* which are adapted to bear against the under side of the beam *a*, and which serve to assist in rigidly securing the frame in place. From these shoulders the arms of the frame extend upwardly to the upper edge of the beam *a*, and lie flush with its sides, bolts *d* being provided whereby the device is rigidly secured to the beam *a*. Formed at the lower extremity of the frame

c is a longitudinally elongated eye *e*, in which is arranged the colter blade *f*. This blade is pivoted in the eye by means of the pin *f'*, and the eye is of sufficient longitudinal extent to admit the blade to swing a limited distance on its pivot. The blade *f*, extends downwardly from the eye *e* to the level of the lower end of the mold-board *b*, and upwardly from the eye to the upper edge of the beam *a*.

The arms of the frame *c* are provided at their upper ends with the inwardly extending lugs or projections *g* and *g'* which extend toward each other and parallel with the beam *a* for a distance equal to about one-fifth of the distance between the two arms. The outer face of the lug *g'* is formed with serrations or corrugations thereon, and for a purpose that will be seen hereinafter.

Extending across the upper ends of the frame arms, and lying flush with the outer faces of the lugs *g* and *g'* is the laterally movable block *h*, which is provided on its inner left hand end with a series of corrugations adapted to mesh with those of the lug *g'* and by these means the two parts may be positively connected. Arranged in the inner ends of each of the lugs *g* and *g'* are the bolts *h'*, which project outwardly from the lugs and are adapted to pass through the horizontally elongated slots *i* formed in each end of the block *h*, and by means of these bolts the block *h* may be made to lie flush with the lugs *g* and *g'*, and owing to the corresponding serrations on the top parts the block is held incapable of displacement.

If it is found necessary both of the lugs and the corresponding ends of the block *h* may be corrugated, but I do not anticipate the absolute necessity for this. Formed on the inner face of the block *h*, and projecting outwardly therefrom until the beam *a* is reached are the ribs *k* and these ribs extend vertically and parallel with each other, thus making a space or inclosure between the block *h* and the beam *a* in which the upper end of the knife *f* is adapted to be seated. The space formed by the ribs *k* is of necessity a little larger than the usual size of the knife, since the knife requires a certain degree of play within the space when being adjusted. All of this will appear more fully hereinafter.

To adjust the longitudinal disposition of

the colter-knife *f*, all that will be necessary is to loosen the bolts *h'* so as to disengage the serrations on the lug *g'* and block *h*. This latter device, the block *h*, is then free to move 5 laterally until either of the ribs *k* engage the inner ends of the lugs *g* and *g'* as the case may be. This engagement will, of course, prevent any further movement of the block *h*.

The lateral movement of the block *h* will be 10 necessitated by a swinging of the knife on its pivot *f'* and by a consequent change in the longitudinal disposition of the knife. By this means the proper slant of the knife may be quickly attained, and by tightening the bolts 15 *h'* this position may be retained as long as desired. It will be understood that as the knife *f* swings on its pivot *f'*, its upper end will describe an arc, and since the line of movement of the block *h* is truly horizontal 20 it will be necessary to so enlarge the space formed by the ribs *k* as to allow the said upper ends some degree of play therein. This enlargement will, however, be barely perceptible, since the small movement which it will 25 be necessary to give to the knife will be attended only by a very small arc.

No further description of the principle and function of the invention is here necessary since the use and purpose of such devices are 30 well understood. Therefore, it will only be necessary to add that I have stated the invention to be especially applicable to spade or shovel plows and for this class of plows it was primarily designed. However, it will be 35 readily seen that it is applicable, and may be used on any other style of plow.

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

40 1. The combination with an open frame adapted to be bolted to the side of the plow beam, and extending below the latter, and

having an eye in its lower portion, a knife passing through the eye and secured therein 45 by a transverse bolt which serves as a pivot when adjusting the inclination of the knife, a sliding block provided with a recess through which the knife passes, said block having oblong recesses, bolts passing through the recesses, and set-nuts on the bolts whereby the 50 block can be adjusted and locked for the purpose set forth.

2. In a colter, the combination with an open frame adapted to be attached to the side of a plow beam, and projecting below the latter, 55 the lower portion being provided with an eye, a straight knife passing through the eye, a bolt extending through the knife and eye and forming a pivot for the knife, a block, provided with oblong slots and embracing the 60 upper end of the knife and engaging the outer face of the frame and bolts passing through the block and frame and provided with set nuts, as and for the purpose specified.

3. In a colter, the combination with an open 65 U-shaped frame adapted to be attached to the side of a plow beam, and provided with an eye in its lower portion, a straight knife passing through the eye, and secured therein by a bolt which serves as a pivot in the ad- 70 justing operation, a movable block embracing the upper end of the knife, and engaging the frame, said block being provided with oblong slots, bolts passing through the slots, and set nuts upon the bolts, all arranged and adapted 75 to operate in the manner and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. DE BRUCE.

Witnesses:

J. M. DOTY,
H. E. LONG.