2 Sheets—Sheet 1.

G. DODGE

Colter and Jointer.

No. 215,587. Patented May 20, 1879.

Fig. 1.

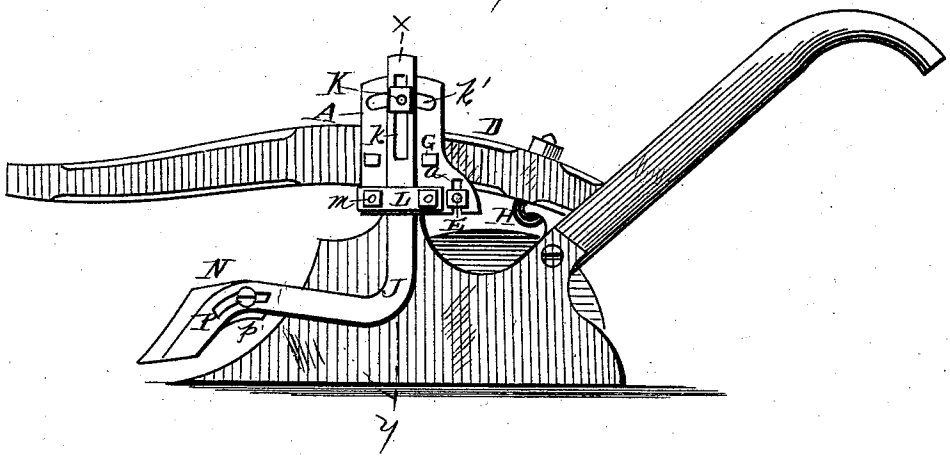
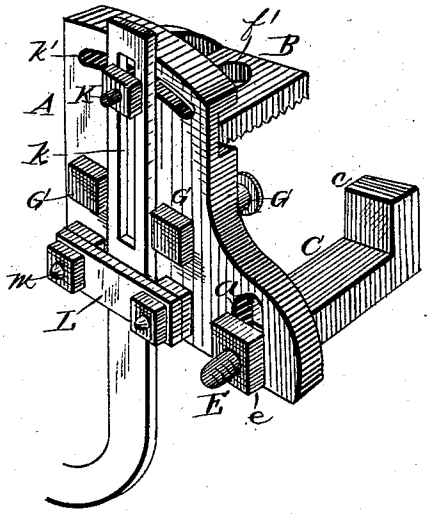


Fig. 2.



WITNESSES

E. J. Nottingham

A. M. Bright

INVENTOR

George Dodge.

By Leggett & Leggett.

ATTORNEYS

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

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Fig. 3.

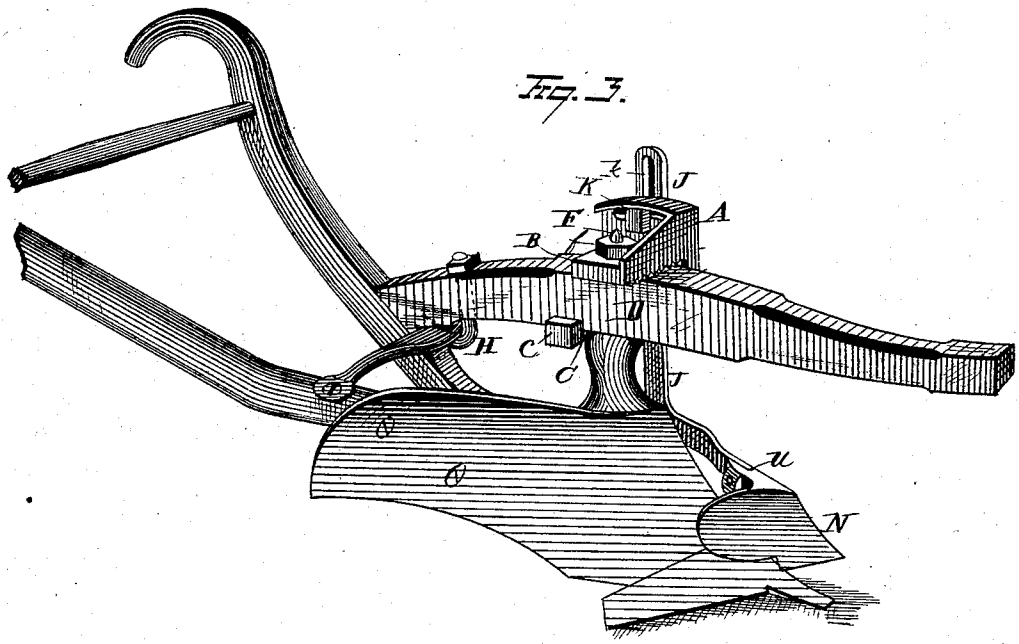
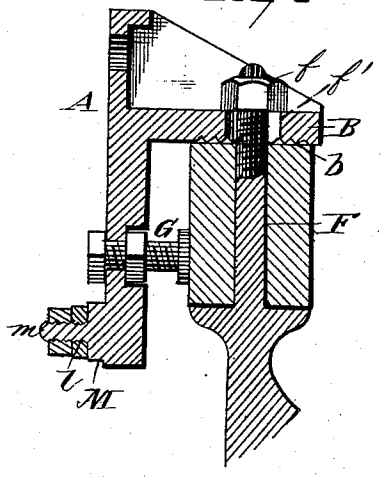


Fig 4



WITNESSES

E. D. Nottingham

A. W. Bright

INVENTOR

George Dodge.

By Leggett and Leggett.

ATTORNEYS

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE DODGE, OF KALAMAZOO, MICHIGAN, ASSIGNOR OF ONE-HALF HIS RIGHT TO ETHAN ALLEN, OF SAME PLACE.

IMPROVEMENT IN COLTER AND JOINTER.

Specification forming part of Letters Patent No. **215,587**, dated May 20, 1879; application filed September 3, 1878.

To all whom it may concern:

Be it known that I, GEORGE DODGE, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Plow Colter and Jointer; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to plow colters and jointer attachments, and is designed, first, to provide improved mechanism whereby more or less pitch may be given to the jointer, and more or less rake be given to the colter; second, to provide improved adjusting mechanism adapted to maintain the jointer and colter in line with the land-side of the plow when the rear end of the plow-beam is changed in position to allow the plow to be worked, respectively, by two or three horses.

The invention consists in the parts and combination of parts hereinafter described and claimed.

Referring to the drawings, Figure 1 is a view, in side elevation, of a plow provided with the invention. Fig. 2 is a view, in detail perspective, of the attachment. Fig. 3 is a view, in perspective, of the mold-board side of the plow. Fig. 4 is a detail vertical sectional view through line *x y* of Fig. 1.

The block A is formed with upper and lower horizontal arms, B and C, which, respectively, embrace the upper and lower sides of a plow-beam, D, which latter may be of any desired character. These arms are adapted to cause the block to be adjusted to beams varying both in thickness and width. The lower arm is in independent piece from the block, and is secured thereto by any suitable mechanism which admits of its being raised and lowered thereon. My preferable way is to form in same piece with the arm a bolt, E, which works in a vertical slot, *a*, made in the lower body of the block, and by means of nut *e* adjustably clamp said arm to the latter. The opposite extremity of the arm is formed with an upturned flange, *c*, which embraces the mold-board side of the plow-beam, and thus secures the arm to the latter. The strain imposed upon the block is hence equalized between both upper and lower horizontal arms. The upper arm is formed with serrations or corrugations *b* on its under surface, which provide strong frictional bearing for its engagement with the plow-beam, as the same is clamped down thereon by means of a nut, *f*, or other suitable clamping device, which is adapted to engage in vertical adjustment with the main bolt F, formed in same piece or rigid with the plow-standard. Said bolt passes up through a horizontal slot, *f'*, formed in the arm B, and, projecting a suitable distance above the plow-beam, fastens said arm thereto. Screws G, one on each longitudinal side of the vertical body of the block, pass, respectively, through suitable holes formed therein, and by end bearing against the side of the plow-beam brace the block, so that the colter and jointer may be maintained in line with the land-side of the plow as the latter is adapted to be worked, respectively, with two or three horses. To thus adapt the beam to this change of draft-power the rear end of the beam is loosened from engagement with a suitable fastening, H, which adjustably secures the same in position.

The fastening device which secures the upper arm of the block to the main bolt is also loosened, together with either the front or rear adjusting-screw, according as the change may be from two to three horses, or from three to two. As the rear end of the plow-beam is moved, the main bolt has partial rotary movement within the slot of the upper arm of the block. The colter or jointer is at once placed in line with the land-side of the plow, the lateral adjusting-screws are properly set, and the upper and lower arms are again clamped to their respective sides of the plow-beam.

It will be observed that the function of the lower arm is not only to brace the block and equalize the strain otherwise imposed alone upon the upper arm, but it also grasps the mold-board side of the plow-beam, and thus causes the block to be well supported in a horizontal direction, in order to hold the same firm, by means of the screws G, as the latter

have end bearing against the opposite or outer side of the plow-beam.

It will further be observed that the sole office and function of said screws G are to brace the block A in resistance to the lateral strain that may be imposed upon it in use, and that they have no active part in adjusting said block so as to bring the colter or jointer in line with the land-side.

The bar J, which serves as the colter-bar, is provided with a perpendicular slot, *k*, formed longitudinally in its upper body, in which a bolt or other suitable fastening device, K, works. This fastening device also passes through a horizontal slot, *k'*, formed transversely in the upper body of the block. By means of these two slots and a common fastening device the colter-bar is raised or lowered relative to the ground, the jointer is given any degree of pitch in working, and the colter any degree of rake.

The advantage of such change in the inclination of the jointer is evident, inasmuch as when it is first used, or when sharp, it will take into the ground much more readily than after it has been used awhile and is dull. In the latter instance its pitch must be greater in order to insure its working with effect; but as this increased degree of pitch imposes a greater draft upon the plow, it is avoided with advantage when the jointer is sharp by adjusting the same accordingly.

The colter-bar is secured to the lower transverse body of the block by a metallic clamping-strap, L, which is fastened to the latter by bolts *m*, passing through holes *l* made, respectively, in its ends. Said bolts have screw-threaded extremities, and are provided with suitable nuts or similar fastenings in securing the strap in suitable binding position.

In order to prevent undue strain from falling upon these bolts, studs M are cast on the block, and project out sufficiently from the latter to accomplish this purpose. The bolts *m* are, respectively, formed in single piece with said studs.

The jointer N is made in independent piece from the colter or colter-bar, so that it and also the colter P are adapted to be used in relative exclusion of the other. The colter fits within a recess, *u*, formed in the side of the jointer, and which provides an upper edge-bearing for its extreme end, and a lower edge-bearing just in rear of the latter. The two are thus connected so that the cutting-edge of the colter fits behind the point of the jointer, and thus is prevented from wear when the latter is in use. An arm, *p*, is formed on the rear body of the jointer, which connects by set-screw and slot engagement with the colter, the same being adapted to permit of the adjustment of the jointer longitudinally on the colter as the point of the latter becomes worn away in use.

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

1. In a plow-colter attachment, the combination, with a jointer having a recessed side, of a colter fitting in the latter and secured thereto, substantially as set forth.

2. In a plow-colter attachment, the combination of an independent colter and jointer, the two being connected together with the back of the jointer-point fitting over the working-edge of the colter, whereby the latter is prevented from wear when the jointer is in use, substantially as set forth.

3. In a plow-colter attachment, the combination, with a jointer formed in independent piece and provided with a slotted rear arm, of a colter to which it is secured in longitudinal adjustment by a fastening device engaging with said slotted arm, substantially as set forth.

4. In a plow attachment, the combination, with the block A, secured to the vertical side of a plow-beam, and formed with the horizontal curved slot *k'*, of a colter-bar, J, formed with a vertical slot, *k*, together with a single bolt, K, provided with a nut, and which works in both said slots, substantially as set forth.

5. In a plow attachment, the combination, with the block A, secured to the vertical side of a plow-beam, and a colter-bar, J, engaging with the upper body of the same in both horizontal and vertical adjustment, of a transverse metallic strap connected to its lower body and adapted to clamp said colter-bar thereto correspondingly to its adjustment at the upper body of the block, substantially as set forth.

6. In a plow attachment, the combination, with a block secured to the plow-beam, and having its vertical body formed with studs cast on the outer face, respectively, of its two longitudinal side portions, of a metallic clamping-strap whose extremities are adapted to have lateral bearing against said studs as the strap binds the colter-bar to the block, substantially as set forth.

7. The colter-block A, having a horizontal curved slot, *k'*, and projecting stud-bolts *m*, cast thereon, and recessed on its inner face to receive the nuts of set-screws G, and provided with the slotted arm B and clamping-arm C, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 17th day of August, 1878.

GEORGE DODGE. [L. S.]

Witnesses:
ETHAN ALLEN,
KIRK KELLOGG.