

No. 710,395.

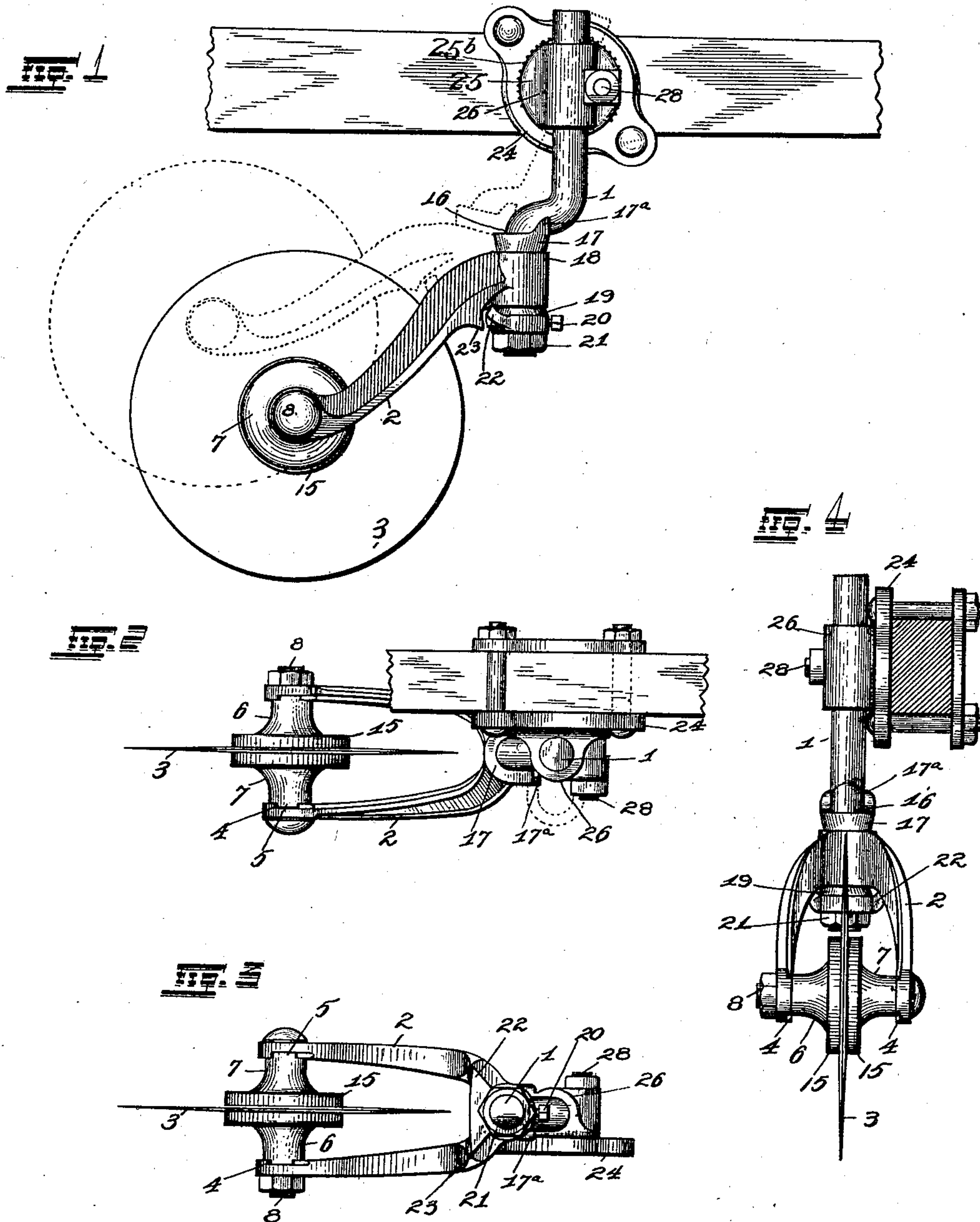
Patented Sept. 30, 1902.

S. A. INGERSOLL.
COLTER.

(Application filed June 28, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.

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J. D. Rippey

Inventor.

Stephen A. Ingersoll.
By Higdon & Longan, Attys.

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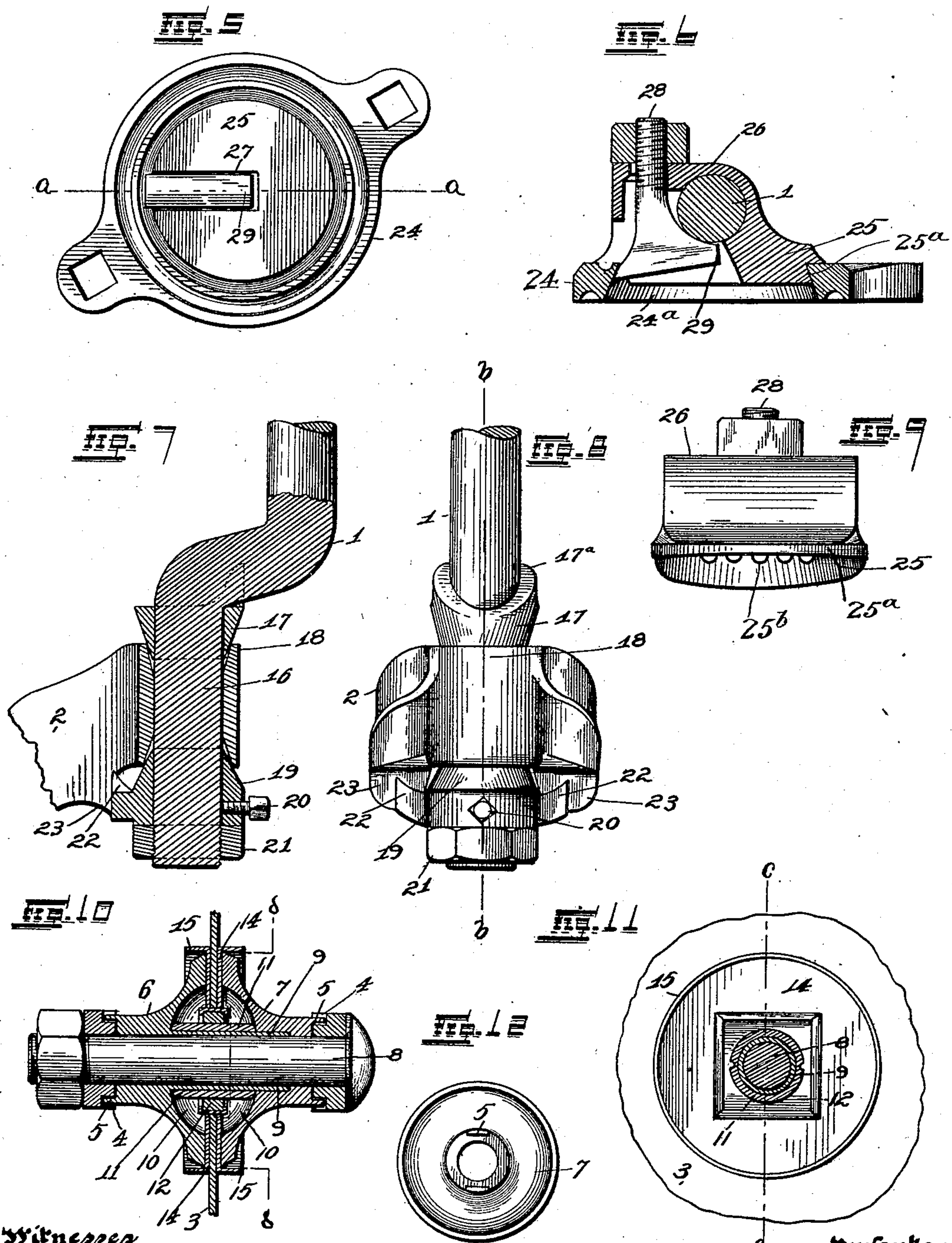
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S. A. INGERSOLL.
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(Application filed June 26, 1901.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

STEPHEN A. INGERSOLL, OF SANDOVAL, ILLINOIS.

COLTER.

SPECIFICATION forming part of Letters Patent No. 710,395, dated September 30, 1902.

Application filed June 26, 1901. Serial No. 66,176. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN A. INGERSOLL, of the city of Sandoval, Marion county, State of Illinois, have invented certain new and useful Improvements in Colters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to colters; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a side elevation showing my improved colter attached to a plow-beam. Fig. 2 is a top view of the same. Fig. 3 is a view from below. Fig. 4 is a front view. Fig. 5 is a rear view of the clamp. Fig. 6 is a cross-sectional view of the same, taken approximately on the line *a a* of Fig. 5. Fig. 7 is a sectional view of the fork-joint, taken on the line *b b* of Fig. 8. Fig. 8 is a rear view of the fork-joint. Fig. 9 is a view of a part of the clamp which I make use of in carrying out my invention. Fig. 10 is a detail sectional view of the bearing supported by the lower ends of the forks and taken on the line *c c* of Fig. 11. Fig. 11 is a sectional view taken on the line *d d* of Fig. 10. Fig. 12 is a view in detail of one of the bearing-disks used in connection with the colter-disk.

In the construction of this invention I provide a colter-standard 1, suitably bent at its lower end and having a vertical joint upon which is carried the fork 2, between the lower ends of which is carried the colter-disk 3. The lower ends of the forks are apertured and are provided on their forward and rear sides with suitable flat notches 4, in which are held the ears or lugs 5, the same being integral with the bearing-disks 6 and 7. The bearing-disks by this means are held rigidly in position when the colter is in use and are prevented from turning on the axial bolt 8, the said bolt being supported by the forks 2. Integral with the bearing-disk 6 is a sleeve 9, the same fitting closely around the axial bolt 8 and projecting a suitable distance into the disk 7, and upon the said sleeve, within the cavity 10 between the said disks, is rotatably carried a tubular bushing 11, of wood or other

suitable material. Rigidly secured upon the said bushing is a square nut 12, the said nut fitting within a square aperture in the center of the cutter-disk 3, and by this means the nut 12 and the bushing 11 are rotated upon the sleeve 9 when the device is in use. Upon each side of the colter-disk between the said disk and the bearing-plates 6 and 7 is secured a disk 14, each of which is provided with a projecting annular flange 15, which flanges encircle that part of the bearing-plates adjacent the colter and prevent any soil or other foreign substance from reaching the cavity 10 and the inner side of the bearings. The flanged disk 14 has a square hole in its center and fits onto the square nut 12 and is rotated along with the nut and bushing and colter-disk to prevent the grit and sand from wearing the colter-disk, and the flange keeps the grit out from between the bearing-disks (or hubs) and the flanged disks. The advantages of these features are readily apparent, and by such arrangement the colter is allowed to rotate freely and easily, and no foreign substance whatever can reach the interior of the bearings.

I provide an improved joint by which the fork is secured to the standard and which has been found to possess superior advantages. Around the upper part of the vertical joint is mounted a swivel 17, integral with each side of which is an upwardly-projecting ear 17^a, one of said ears being on each side of the horizontal part of the standard, by which means the said swivel is prevented from turning thereon. The said swivel appears as an inverted cone, and around the lower portion thereof is the conical bearing 18, the same being provided on the upper end of the fork 2. The lower portion of the bearing is also conical and encircles the upper portion of a cone-collar 19, the same being held on the vertical joint by means of a set-screw 20 and below which is a nut 21, the same being threaded on the said joint. Integral with the forward side of the cone-collar 19 is a pair of ears or lugs 22, the same fitting against the shoulders 23, integral with the forks 2. By this means the forks can be adjusted at any desired angle in the standard and can be rigidly held in any

desired adjustment in which it may be placed. The only operation necessary to regulate the adjustment is to operate the set-screw, which can be easily and quickly done by any well-known means.

The ring 24 has a flaring opening 24^a, and the base 25 has lips 25^a, between which the beveled inner edge of the ring 24 operates. The teeth 25^b extend downwardly from the upper lip 25^a and gnash with similar teeth upon the upper face of the ring 24, said teeth providing means of locking the base 25 to the ring 24 at any desired angle of rotation. The said base portion is also provided with an aperture 27 at right angles with the first-mentioned aperture, and through the said aperture is passed a key-bolt 28, the head of which is elongated, one end 29 thereof fitting closely against the standard 1 and the other end fitting against the ring 24, thereby holding the base portion rigidly in the desired adjustment within the said ring, Fig. 6. By this means the standard 1 can be clamped and rigidly held in any desired adjustment, and to release the same it is only necessary to remove the nut on the threaded portion of the key-bolt 28.

A colter constructed in accordance with the above principles possesses superior advantages and can be easily and quickly secured to the plow-beam and adjusted in any desired

position thereon and when so arranged will be retained in the desired adjustment.

I claim—

1. In a colter, a standard; a fork extending downwardly from the standard; and a bolt mounted in the lower ends of said fork, a bearing-disk mounted on each end of the bolt; a sleeve integral with one of said disks; a tubular bushing mounted on said sleeve; a nut secured upon the said bushing, which nut fits into an aperture in the colter-disk; and a flanged disk mounted upon the square nut on each side of the colter-disk, substantially as specified.

2. In a colter, a standard; a fork extending downwardly from the standard; a cutting-disk carried by said fork; a clamp comprising an apertured ring; a beveled base portion fitting in said ring, an apertured clamping-jaw for receiving the standard; integral with said base portion; a key for locking the said standard in position and for holding the base portion rigidly in the ring, substantially as specified.

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

STEPHEN A. INGERSOLL.

Witnesses:

EDWARD E. LONGAN,
ALFRED A. EICKS.