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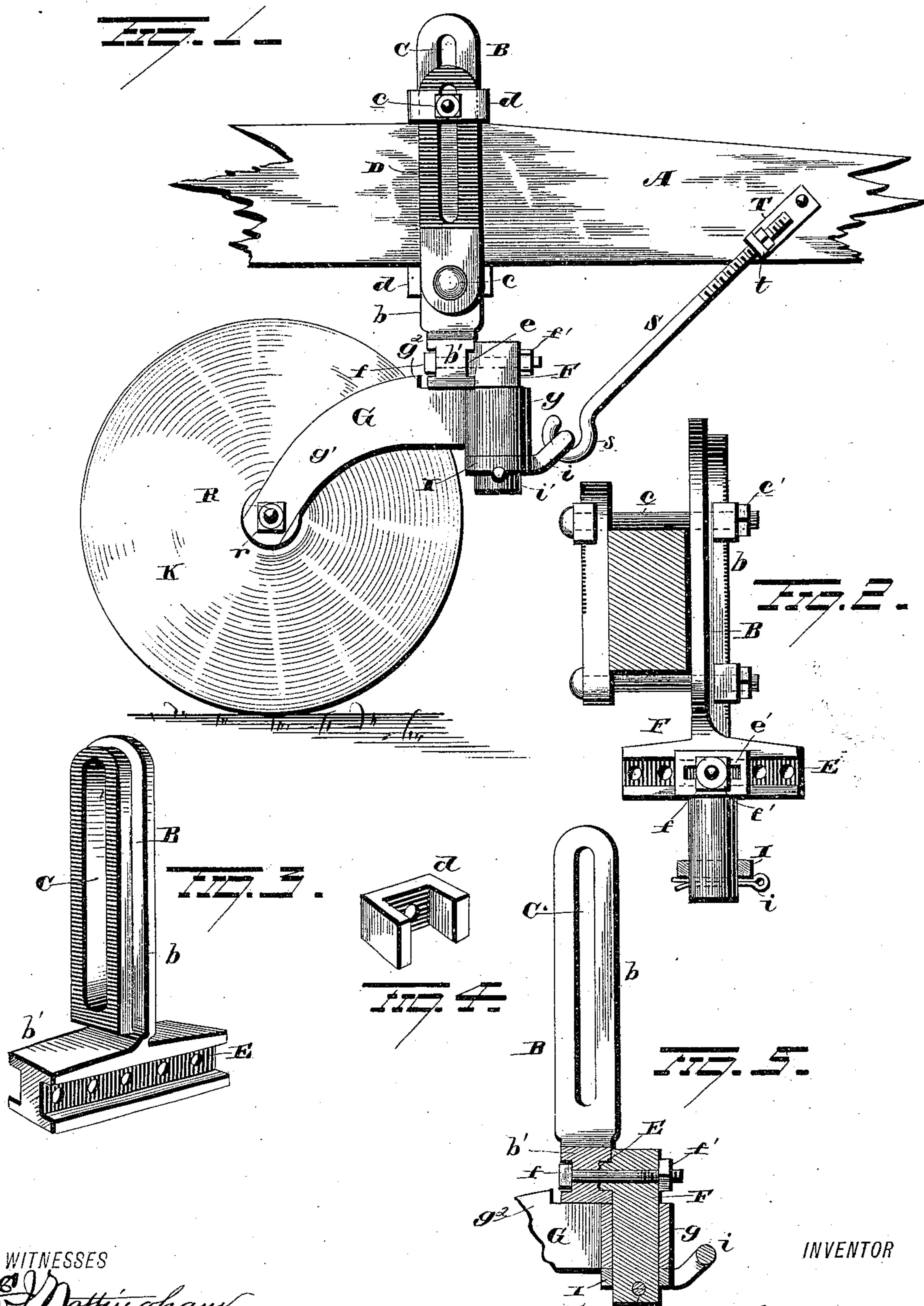
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C. R. HARTMAN.

ROLLING COLTER.

No. 300,775.

Patented June 24, 1884.



WITNESSES

W. Nottingham,
William H. Ruff

INVENTOR

Charles R. Hartman,
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(No Model.)

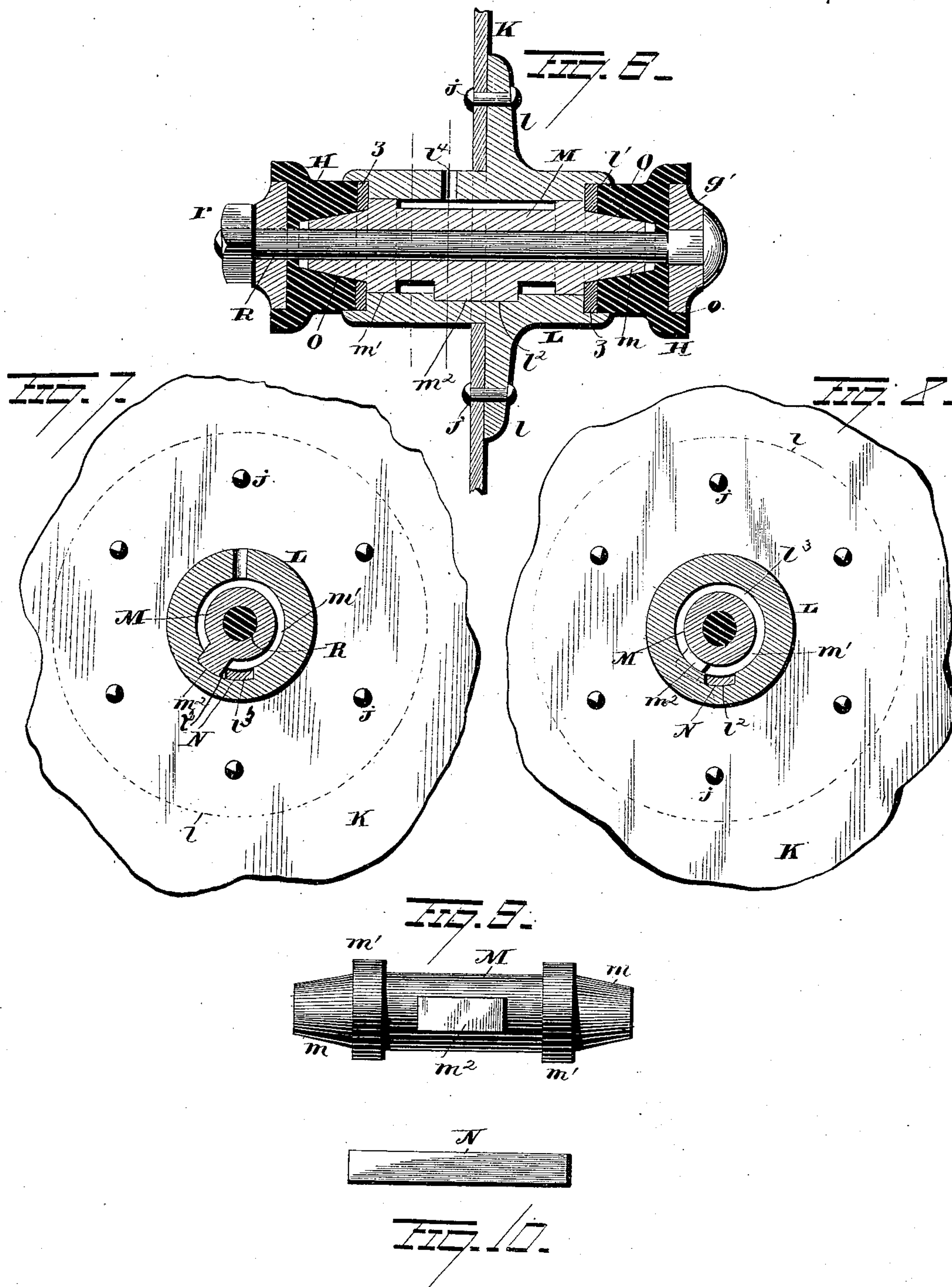
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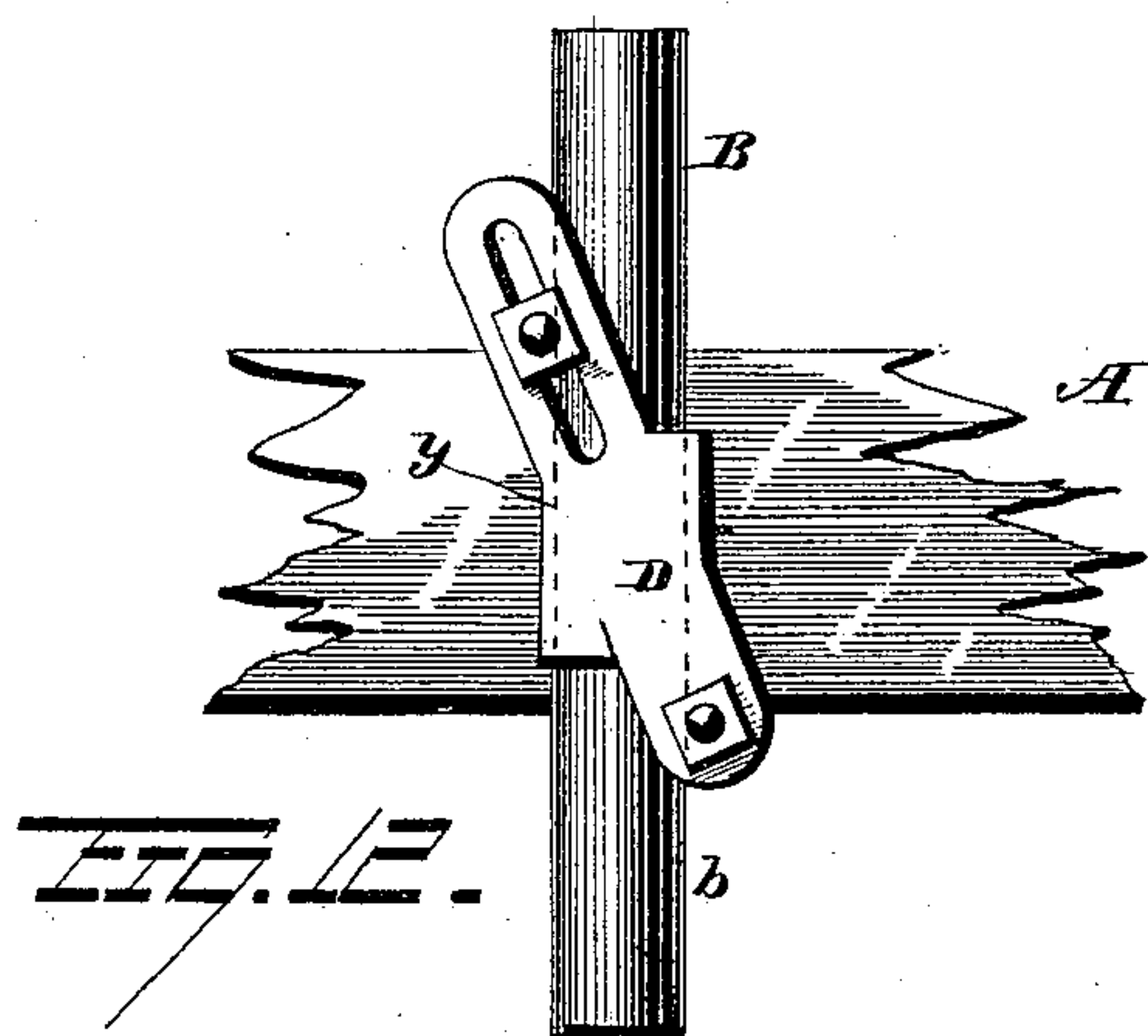
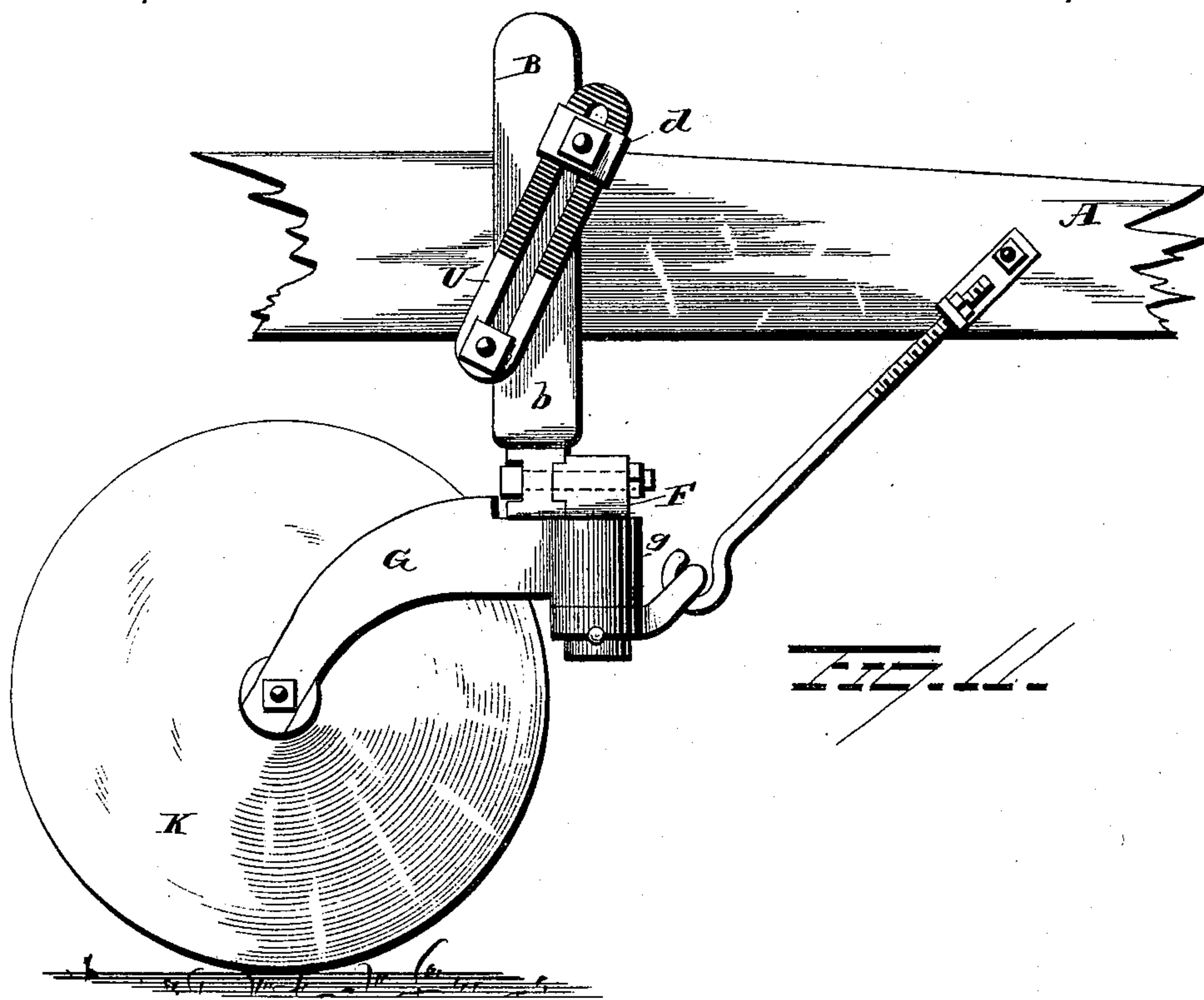
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UNITED STATES PATENT OFFICE.

CHARLES R. HARTMAN, OF VINCENNES, INDIANA.

ROLLING COLTER.

SPECIFICATION forming part of Letters Patent No. 300,775, dated June 24, 1884.

Application filed November 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, C. R. HARTMAN, of Vincennes, in the county of Knox and State of Indiana, have invented certain new and useful Improvements in Rolling Colters; 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 appertains to make and use the same.

My invention relates to an improvement in rolling colters, the object of the same being to provide mechanism for attaching a colter to the plow-beam which will admit of the nicest adjustment, both vertically and horizontally, will be adapted to all ordinary makes of plows, iron or wooden beams, side or center draft, two or three horse, right or left hand, and which will combine simplicity, cheapness, and convenience with strength and durability.

With these ends in view my invention consists in certain features of construction and combinations of parts, as will be fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of the colter attached to the beam. Fig. 2 is a view in front elevation; Fig. 3, a detached view of the colter-standard; Fig. 4, one of the adjusting-clamps; Fig. 5, a longitudinal sectional view of swivel-posts and attachments; Fig. 6, a longitudinal sectional view of hub and attachments; Fig. 7, a transverse sectional view of the same near the plane of the wheel; Fig. 8, a transverse sectional view of the same near the end; Fig. 9, a view of the sleeve, and Fig. 10 a view of the key. Fig. 11 is a view in side elevation of a modification. Fig. 12 is a second modification.

A represents the beam.

B is the colter-standard, and consists of the vertical arm *b* and the horizontal arm *b'*. The vertical arm *b* is provided with a longitudinal slot, C. Around the edge of this slot is an outwardly-projecting rim serrated on its outside surface.

D represents a clamping-cheek, and is constructed in a similar manner to the arm *b*, just described, and is adapted to be on the opposite side of the beam from the arm *b* and parallel with it. The bolts *c*, provided with the nuts *c'*, are adapted to pass through the slots in *b* and D, and also through the clamping-

plates *d*. These clamping-plates *d* are serrated on their faces to register with the serrated faces of the arm *b* and cheek D. Thus it will be seen that by bringing the bolts snugly to the beam a very nice vertical adjustment can be obtained for the standard B, and all liability of slipping removed without any unusual strain on the thread of the bolts. The clamping-plates *d* have lips overlapping the sides of the slotted cheek-clamps D and *b*, to prevent spreading of the slots. The horizontal arm or head-piece *b'* of the standard B is provided with longitudinal grooves E, one on each side, in which the projection *e* of the swivel-post F is adapted to slide. The groove E on the side toward the swivel-post F is serrated to register with the serrated face of the projection *e*. The swivel-post head is further provided with a horizontal slot, *e'*, through the projection *e*, and the horizontal arm *b'* is provided with holes at intervals along the groove E, to receive the bolt *f*, provided with the nut *f'*. It will be noticed here that a complete horizontal adjustment is obtained by means of the horizontal slot *e'* and the holes, together with the serrated surfaces of groove E and projection *e*, while the strength of the horizontal arm *b'* is much greater than when provided with a continuous slot.

G is the colter-fork, which consists of the head *g*, provided with a sleeve adapted to fit the swivel-post F, and the two rearwardly-depending diverging branches *g'* *g'*, terminating in bearings for the axle of the colter-wheel. These branches *g'* are further provided with the upwardly-extending shoulders *g''* *g''*, adapted to abut against the horizontal arm *b'* when the fork G is in its position on the swivel-post, preventing too much swing of the colter-fork.

I represents a collar adapted to fit the swivel-post F, and provided with an upwardly-inclined eye, *i*. The position of this collar on the swivel-post is immediately under the sleeve *g*. The sleeve and collar are held on the swivel-post by the pin *i'* half of its thickness resting in notches of the collar, to prevent it from turning with the colter-fork.

The hub of the colter-wheel K consists of the hollow cylinder L, provided with the broad vertical flange *l*, to one side of which the wheel K is secured by the bolts or rivets *j* *j*. The cylinder L is further provided with the annu-

lar receding shoulders l' at each end, and with the internal longitudinal groove, l^2 , and chamber l^3 , adjoining said groove, and with the oil-hole l^4 . Within the hub C' is the sleeve or box M , provided at each end with a conical journal, m , and with the annular fixed collars m' , adapted to fit the hole of the cylinder L , forming bearings for the cylinder L on the sleeve M , thus securing the sleeve against any rocking motion in the cylinder. This sleeve M is further provided with the lug m^2 , adapted to be received in the chamber l^3 .

N represents a key, adapted to fit the longitudinal groove l^2 . The sleeve is placed in the hub by allowing the lug m^2 to slide in the groove l^2 until it comes opposite the chamber l^3 , when the sleeve is made to rotate sufficiently to place the lug m^2 in the chamber l^3 . The key N is now placed in position in the groove l^2 , and the sleeve is securely locked in position. The conical journals m are to be of ample size to allow a reasonable amount of wear without the end bearings coming in contact with the shoulders of the hub.

It will be noticed here that the fixed collars m' , which form the bearings of the sleeve against the inside of the cylinder, inclose a cylindrical chamber, which forms an oil-chamber, from which the oil oozes slowly but sufficiently fast through the leather washers z in the spaces between the shoulders of the cylinder and the end bearings, H , onto the journals m .

The bearings H at the ends of the branches g' consist of the cups O , adapted to form bearings for the journals m , and provided with annular receding shoulders o , adapted to receive the branches g' of the fork G . The axle-bolt R , provided with a suitable head, and threaded at the foot to receive the nut r , passes through the branches g' and the sleeve or box M , and is held against rotation by being squared where it passes through one of the branches g' near its head. On this bolt the hub rotates. When the nut r is turned up snugly, the cup-bearings O and the ends of the branches g' of the fork G are held securely in their positions. It is a matter of preference whether the lug m^2 be part of the sleeve or of the cylinder, also whether the sunken surface forming the oil-chamber be part of the sleeve, cylinder, or both, and the entrance for the lug m^2 in the one part may form a seat for a round key with an opposite groove in the other part.

S represents a stay-rod provided with a hook, s , at one end, adapted to engage the eye i , and preferably provided with a thread and nut at the other, by means of which it is adjustably secured in the perforated projection t of the plate T , rigidly secured to the beam.

This method of securing the rod S allows the hook to be turned upward on both right and left hand plows, and thus forms a smooth inclined surface for leading trash down to the colter-blade. It also allows the rod to be readily taken up or let out as the colter is adjusted in different positions. This stay may

or may not be used. It is valuable, however, in rough ground, where the colter is liable to receive a sudden shock, and therefore the eye i should always form a part of the collar to facilitate the use of a stay when needed.

The modification represented in Fig. 11 consists in making the vertical arm b of the colter-standard solid, and securing it to the beam by means of two slotted cheeks, U , made in the same manner as the cheek D , before described, and occupying positions on opposite sides of the beam and parallel to each other, as seen in the figure. The second modification, Fig. 12, represents the arm b of the colter-standard as round, and the clamping-cheek D , provided with a groove, y , diagonally across its face, adapted to receive a portion of the standard b , and thus afford additional security for the standard.

It is evident that slight changes may be made in the construction of some of the parts without departing from the spirit and scope of my invention. For instance, the cheek-clamps D may be slotted nearly their entire length or just far enough to admit of adjustment. The clamping-plates d may have projecting lips just long enough to embrace the sides of the clamping-cheek; or these lips may extend still farther along the beam, and thus help to hold the standard upright. Furthermore, the standard may be of any desired angular shape in cross-section, and the clamping-cheek be provided with a groove to correspond, and the face of the groove E may or may not be serrated. Hence I do not wish to confine myself to the exact construction of parts herein described.

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

1. In a rolling colter, the combination, with the standard provided at its lower end with a horizontal arm, which latter is grooved, serrated, and perforated, as described, of a swivel-post constructed with a serrated-faced projection, which enters the groove in said horizontal arm, and a bolt for securing the swivel-post to the arm in any desired lateral adjustment, substantially as set forth.

2. In a rolling colter, the combination, with the standard provided with a transverse bearing-arm at its lower end, said arm being grooved, serrated, and perforated, of a swivel-post constructed with a serrated-faced projection, which enters the groove in said standard-arm, said projection provided with an elongated slot, and a bolt for securing the swivel-post in any desired lateral adjustment, substantially as set forth.

3. In a rolling colter, the combination, with the laterally-adjustable swivel-post, of the combined collar and inclined eye, connected to the lower end of the swivel-post, and an adjustable stay-rod, one end of which is provided with a hook which engages said eye, while the opposite end is screw-threaded for

its adjustable attachment to a bracket secured to the beam, substantially as set forth.

4. In a rolling colter, the combination, with the plow-beam, a post, and a colter swiveled to the post, of the combined collar and inclined eye secured to the lower end of the post, and a stay-rod one end of which is secured to the eye, while the opposite end thereof is attached to the plow-beam, substantially as set forth.

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

CHARLES R. HARTMAN.

Witnesses:

LOUIS SCHMIDT,
PIERRE COMPANIOTT.