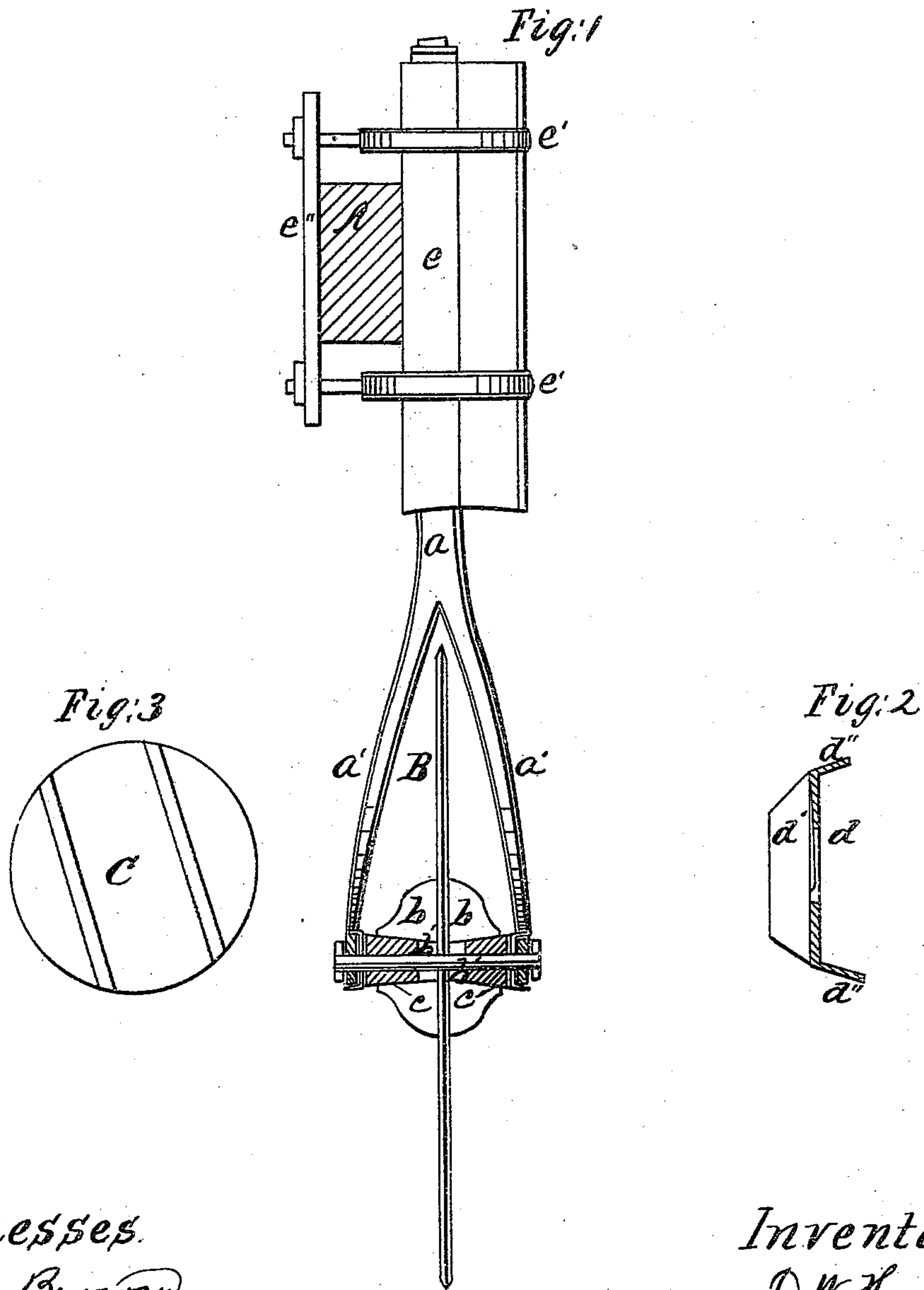


*D. W. Hughes.*  
*Attch'g Plow-Coulter's.*  
*N<sup>o</sup> 93,888.      Patented Aug. 17, 1869.*



*Witnesses.*  
*C. O. Brown*  
*J. B. Phillips,*

*Inventor*  
*D. W. Hughes*  
*by Geo E. Brown Attorney*

# UNITED STATES PATENT OFFICE.

DAVID W. HUGHES, OF PALMYRA, MISSOURI.

## IMPROVEMENT IN ATTACHING PLOW-COLTERS.

Specification forming part of Letters Patent No. 93,888, dated August 17, 1869.

*To all whom it may concern:*

Be it known that I, DAVID W. HUGHES, of Palmyra, in the State of Missouri, have invented a new and useful Improvement in Attaching Colters and Gage-Wheels to 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 drawings, and letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is an elevation of the sleeve, with a longitudinal vertical section of the hub. Fig. 2 is a central section of the clamping-plate, and Fig. 3 is a plan view of the larger end of the tapering journal.

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

Similar letters in the drawings refer to like parts.

This invention consists in making in the hubs of a circular revolving plow-colter or gage-wheel conical apertures, and in providing conical journals, which may be kept always closely fitted in the apertures, so as to prevent wobbling of the colter or wheel; also, in an improved form of lock for attaching said journals to the colter or wheel yoke, so that they may not turn with the colter or wheel; also, in a sleeve for connecting the colter-yoke with the plow-beam, that is at once hexagonal, so as to present a flat side to the beam whichever way it may be turned, and eccentric, so as to fix the yoke and colter at a greater or less distance from the side of the beam, as may be desired.

In the drawings, A is the plow-beam, and B the plow-colter. The latter is mounted in a yoke, consisting of a cylindrical rod, *a*, bifurcated at its lower end, the colter being placed between the forks, and running upon an axle connecting their ends.

On each side of the colter, and at the center thereof, is a boss, *b*, which serves as a hub, through which is made an orifice tapering inward.

Within said tapering orifices are placed conical journals *c*, made of wood, rawhide, or metal, as desired, with central orifices for the axle of the colter to pass through.

Across the larger ends of the journals *c* are made grooves for the reception of the flanges *d'*, turned down along the sides of the plates

*d*, which plates have other flanges, *d''*, turned down in the opposite direction across the ends; and between the flanges *d''* are placed the ends of the forks *a'* of the colter-yoke. The flanges *d''* prevent the plates *d* from turning with the hubs, and the flanges *d'* prevent the journals *c* from turning.

Nuts are placed on the ends of the axle, outside the forks *a'*, and by means of these, when the journals become too loose in their conical bearings, they may be tightened.

The cylindrical rod *a* enters an aperture made for its reception longitudinally of the sleeve *e*, and at one side of the center thereof, so as to make the said sleeve eccentric with respect to the rod; therefore, by turning the sleeve *e* more or less, the yoke *a* and colter may be brought nearer to or farther from the side of the plow-beam, as may be desired, in order to vary the width of the cut made by the plow.

The sleeve *e* is fastened to the plow-beam by means of a pair of metallic loops, *e' e'*, through which the sleeve passes, placed one above and the other below the plow-beam, and having their bodies or handles inserted in the slotted plate *e''* on the other side of the plow-beam, and having nuts on the ends of said bodies or handles, by means of which the sleeve is secured to the plow-beam.

The sleeve is hexagonal or otherwise many-sided, so as to always present a flat side to the plow-beam, and be the more readily held in place by the loops and nuts.

The yoke *a* is held in place in the sleeve *e* by means of a nut on its upper end, where the same protrudes above the top of the sleeve, and by this means the yoke may be clamped fast to the sleeve, or may be loosened therein and allowed to adjust itself to the line of draft.

What I claim as new, and desire to secure by Letters Patent, is—

1. Providing the hubs of the colter or wheel B with conical journals *c* and bearings *b*, as and for the purpose described.

2. In combination with the conical journal *c*, the lock-plate *d*, constructed and operating substantially as described.

3. The hexagonal sleeve *e*, as and for the purpose set forth.

DAVID W. HUGHES.

Witnesses:

JOHN C. B. THOMAS,  
WM. A. DOOLEY.