(No Model.)

F. VIERHUS.

COLTER.

No. 549,172. Patented Nov. 5, 1895.

Fig. 1.

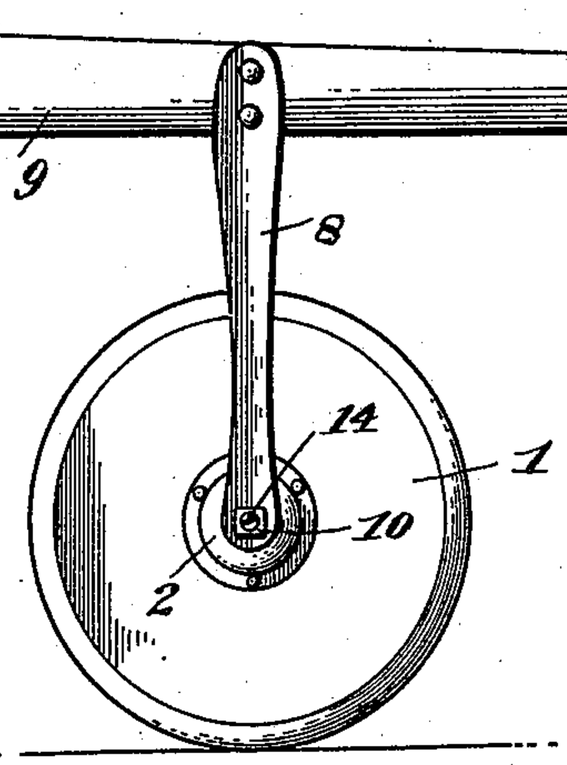


Fig. 2.

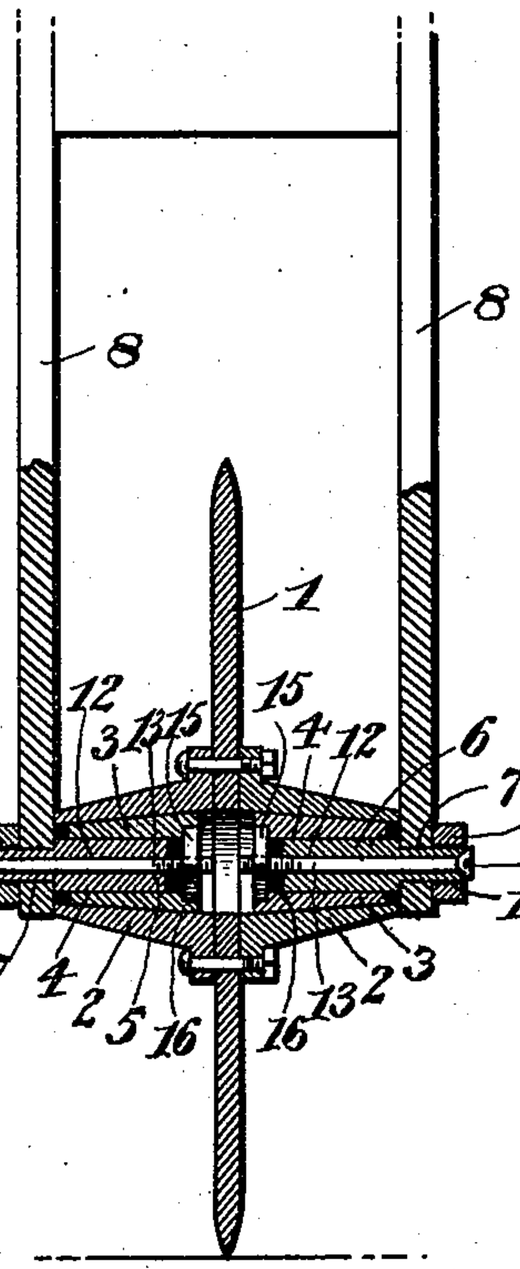
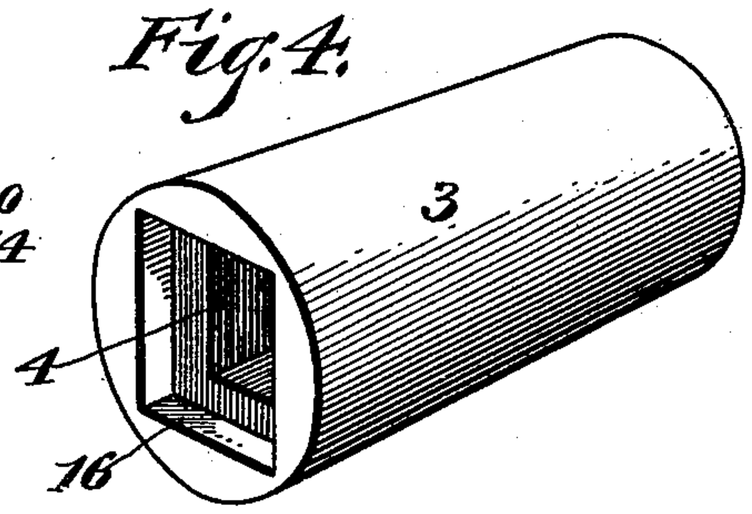


Fig. 3.

Fig. 4.



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Witnesses

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UNITED STATES PATENT OFFICE.

FRANK VIERHUS, OF MICHIGAN CITY, NORTH DAKOTA.

COLTER.

SPECIFICATION forming part of Letters Patent No. 549,172, dated November 5, 1895.

Application filed April 12, 1895. Serial No. 545,487. (No model.)

To all whom it may concern:

Be it known that I, FRANK VIERHUS, a citizen of the United States, residing at Michigan City, in the county of Nelson and State of North Dakota, have invented a new and useful Colter, of which the following is a specification.

My invention relates to colters, and has for its object to provide simple and efficient means for mounting a colter to prevent the entrance of dust and sand to the bearings, and means for adjustment to compensate for wear, whereby lateral vibration of the colter-wheel is prevented.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side view of a colter constructed in accordance with my invention applied in the operative position to a plow-beam. Fig. 2 is a vertical central section of the same. Fig. 3 is a detail view, in perspective, of the colter-bolt detached. Fig. 4 is a similar view of the cone.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a colter wheel or blade provided upon opposite sides with the hubs 2 of similar construction, whereby a description of one, with the means for mounting in connection therewith, will suffice as a disclosure of my invention. The hub is provided with a conical or outwardly-tapered bore, in which is fitted an adjustable cone 3, and this cone is provided with a cross-sectionally-rectangular bore 4, in which is fitted the cross-sectionally-rectangular body portion 5 of the colter-bolt 6. The cone is adjustable upon this body portion of the colter-bolt and is provided beyond the outer extremity of the body portion thereof with a cross-sectionally rectangular extension 7, upon which is fitted an opening in the lower end of the colter-shank 8, by which connection is formed with the plow-beam 9. This opening or eye in the lower end of the shank is held in engagement with the angular extension or colter-bolt by means of a nut 10, which is threaded upon a reduced portion 11 of the extension 7. The colter-bolt is hollow, having an axial bore 12, through which extends a tension-bolt 13, this bolt being provided with a kerfed head 14, arranged at the outer end of the colter-bolt and being threaded at its inner end in a nut 15, which is fitted in a seat 16 in the inner end of the cone. It is obvious that by turning the tension-bolt by means of a screw-driver or similar tool at the outer end of the colter-bolt the cone may be adjusted axially in the bearing in the hub of the colter-wheel to take up lost motion or provide greater play in the bearing.

From the above description it will be seen that the colter-wheel is provided with transversely-aligned bearings, which are arranged upon opposite sides of the plane of the colter-blade, and that by adjusting said bearings to take up lost motion the blade may be caused to rotate without lateral vibration. It will be seen, furthermore, that the adjustment of the bearings of the colter-wheel may be accomplished without removing the wheel and by simply turning the tension-bolt at the outer end of the hub. It will be obvious, furthermore, that dust and sand are excluded from the bearing, the outer end of the hub being positively closed by the contiguous surface of the colter-shank, and that the joint between the colter-shank and the end of the hub may be made of the desired tightness by the adjustment of a nut 10. It is obvious, furthermore, that the colter-bolt does not receive the wear due to the rotation of the colter-wheel, in that the bolt is held stationary by the shanks and the wheel turns upon the cones. The cones may be replaced at a small cost when worn to such an extent as to be useless.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. The combination with a colter-wheel having a hub provided with a conical bearing, of a colter-bolt extending axially through said hub, a cone mounted to slide axially upon the colter-bolt and fitting the conical bearing of the hub, said cone and colter-bolt be-

ing held from independent rotary movement, and a tension-bolt extending axially through the colter-bolt, seated at one end in the enlarged end of the cone and at the other end upon the opposite end of the colter-bolt, substantially as specified.

2. The combination with a colter-wheel having a conical bearing, of a cross-sectionally angular colter-bolt extending axially through the bearing and provided at one end with a reduced cross-sectionally angular portion and a threaded extension, a cone mounted to slide upon the colter-bolt and held from independent rotary movement, said cone fitting in the conical bearing, and a tension-bolt extending axially through the colter-bolt, provided at one end with a nut seated in the enlarged end of the cone and at the other end with a head seated in the opposite extremity of the colter-bolt, said reduced angular portion of the colter-bolt being adapted to fit in a corresponding opening in the colter-shank in which it is held by a nut threaded upon the extension of the colter-bolt, substantially as specified.

3. The combination of a colter wheel having a conical bearing, a cross-sectionally angular colter bolt arranged axially in the bearing, a cone mounted to slide upon the colter bolt and provided in its inner end with an angular seat, means for securing the colter bolt to the colter shank, a nut fitted in said seat in the inner end of the cone, and a tension bolt extending axially through the colter bolt and engaging said nut, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in thepresence of two witnesses.

FRANK VIERHUS.

Witnesses:
R. W. AIKIN,
JOHN NEWMAN.