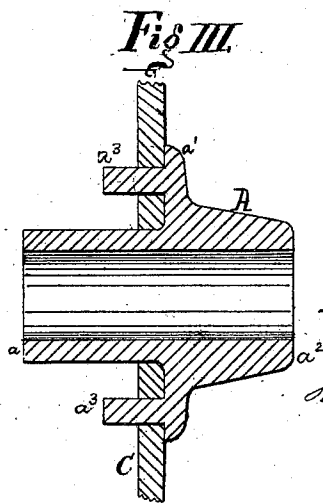
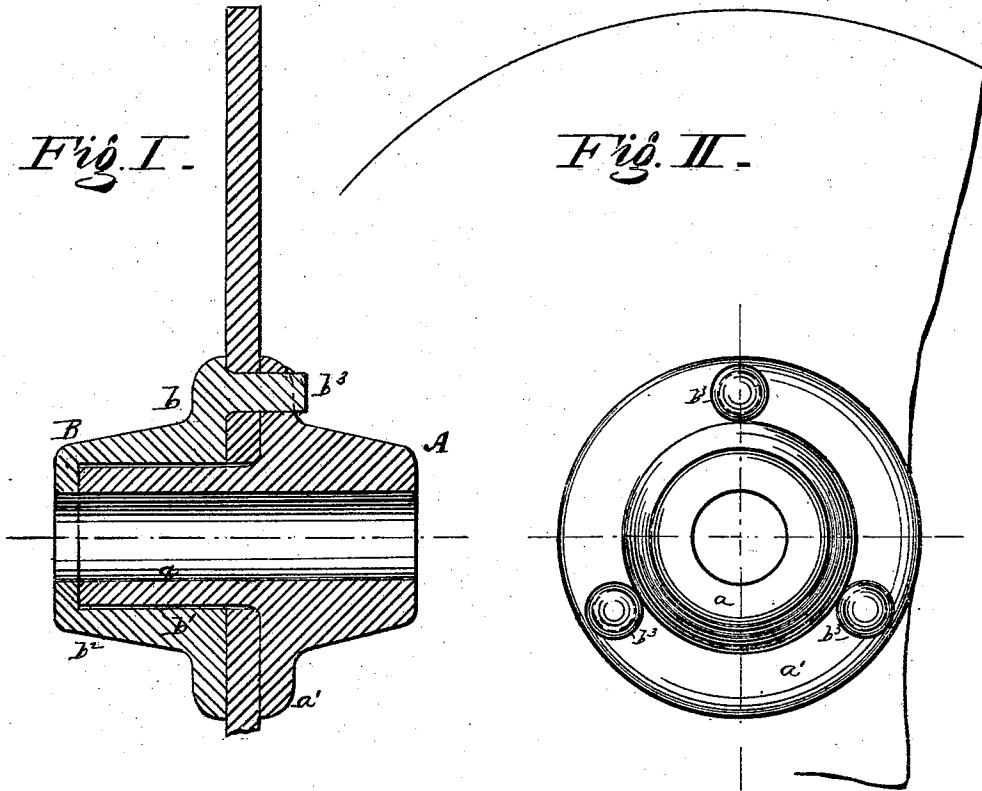


H. M. SKINNER.  
Improvement in Plows.

No. 131,309.

Patented Sep. 10, 1872.



WITNESSES:

Geo. H. Howard, att.  
S. J. Hayes.

INVENTOR:

H. M. Skinner by  
H. W. Beards, atty.

# UNITED STATES PATENT OFFICE.

HENRY M. SKINNER, OF ROCKFORD, ILLINOIS.

## IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. 131,309, dated September 10, 1872.

*To all whom it may concern:*

Be it known that I, HENRY M. SKINNER, of Rockford, county of Winnebago, State of Illinois, have invented certain new and useful Improvements in Revolving Colters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a sectional view taken transversely of the flanges. Fig. 2 is an end view. Fig. 3 is a sectional view of my invention in its simplest form.

Similar letters of reference denote corresponding parts in all the figures.

Various attempts have been made to construct a hub for mounting the disk or blade of the colter with, as yet, but indifferent success. The least objectionable of those now in use are those having flanges supported upon concentric sleeves, which are provided with engaging screw-threads by means of which the flanges are forced against the opposite sides of the blade; but these hubs are defective and practically inoperative for various reasons, among which are the following: As they are made of cast-iron, the screw-thread must be made very coarse, and as we have to allow for the uneven shrinking of the various parts, it is impossible to make the male and female threads fit with any degree of accuracy; hence the two parts of the hub soon become loosened, and as the flanges and sleeves work away from each other the ends of the sleeves are forced against the yoke or other support in which the colter is mounted, when the increased friction checks the rotation of the hub, causing the blade to revolve upon the sleeve. It is also found, in practice, that the faces of the flanges cannot be made to fit the blade as accurately as is desired, on account of the warping to which the parts are subject in cooling. This increases the danger of breaking the thread and the flanges when screwing the hub tightly to place.

In order to obviate the objections above set forth, I have made this invention, which consists, primarily, in providing the flange of the hub with a sleeve projecting from both sides, and adapted to keep the flange in a central position in the yoke, and with a series of pins or spurs projecting from the face of the flange,

said spurs engaging with a corresponding series of perforations in the blade, by means of which the disk may be secured to the hub, and all rotation of the one independently of the other effectually prevented.

In the drawing, A, Fig. 3, represents the first form of my improved hub, which consists of the circular flange  $a^1$ , mounted about centrally of a sleeve or tubular bearing,  $a^2$ , of suitable diameter to fit upon the shaft of the yoke or other support, and of such length as to fill closely the space between the two arms or sides of said yoke, in such manner that the hub shall have little or no lateral motion on the shaft or axle.  $a^3$  are spurs or pins (two or more) projecting from the vertical face of the flange  $a^1$ , and at right angles thereto. By preference I arrange these pins on a circle, which is concentric with the sleeve  $a^2$ . The blade or disk C is fitted closely to the sleeve, and is provided with a series of perforations corresponding in number and positions to pin  $a^3$ . After the blade has been placed upon the hub, as in Fig. 3, the pins are riveted down, thus securing the disk firmly to the flange.

When preferred, a second flange may be added, as at B, Fig. 1, having a sleeve large enough to go over sleeve  $a^2$ , and a series of perforations corresponding to pins  $a^3$ . This second flange may be secured to the one first described by riveting the ends of the spurs or by confining the sleeves between the arms or their equivalent, which support the ends of the axle. Riveting is believed to be the better method; but some of the advantages of my construction may be derived without, as the colter cannot revolve without the hub.

When both flanges are employed it may be found desirable to make the spurs on the part B, as a matter of convenience in casting; but such change does not involve any change in the nature of my invention. The sleeve of part B may project beyond the end of sleeve  $a^2$ , and have an independent support upon the axle, as at  $b^2$ , Fig. 1.

It is evident that the hub may be mounted in or upon any form of hanging in common use—that is, on a removable axle which is supported at each end by the arms of a yoke—or on a rigid axle projecting from a single pendant or hanger, in which latter case the hub is confined between the vertical arm and a nut,

washer, or equivalent, on the outer end of the axle.

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

The herein-described revolving colter, consisting of the part A having the flange  $a^1$  mounted centrally of the sleeve  $a^2$ , the part B, and the blade C, these members being secured to each other by means of pins or rivets, as de-

scribed, and adapted to rotate upon a stationary axle, substantially as and for the purpose set forth.

This specification signed and witnessed this 13th day of July, 1871.

HENRY M. SKINNER.

Witnesses:

G. W. FORD,

J. B. SKINNER.