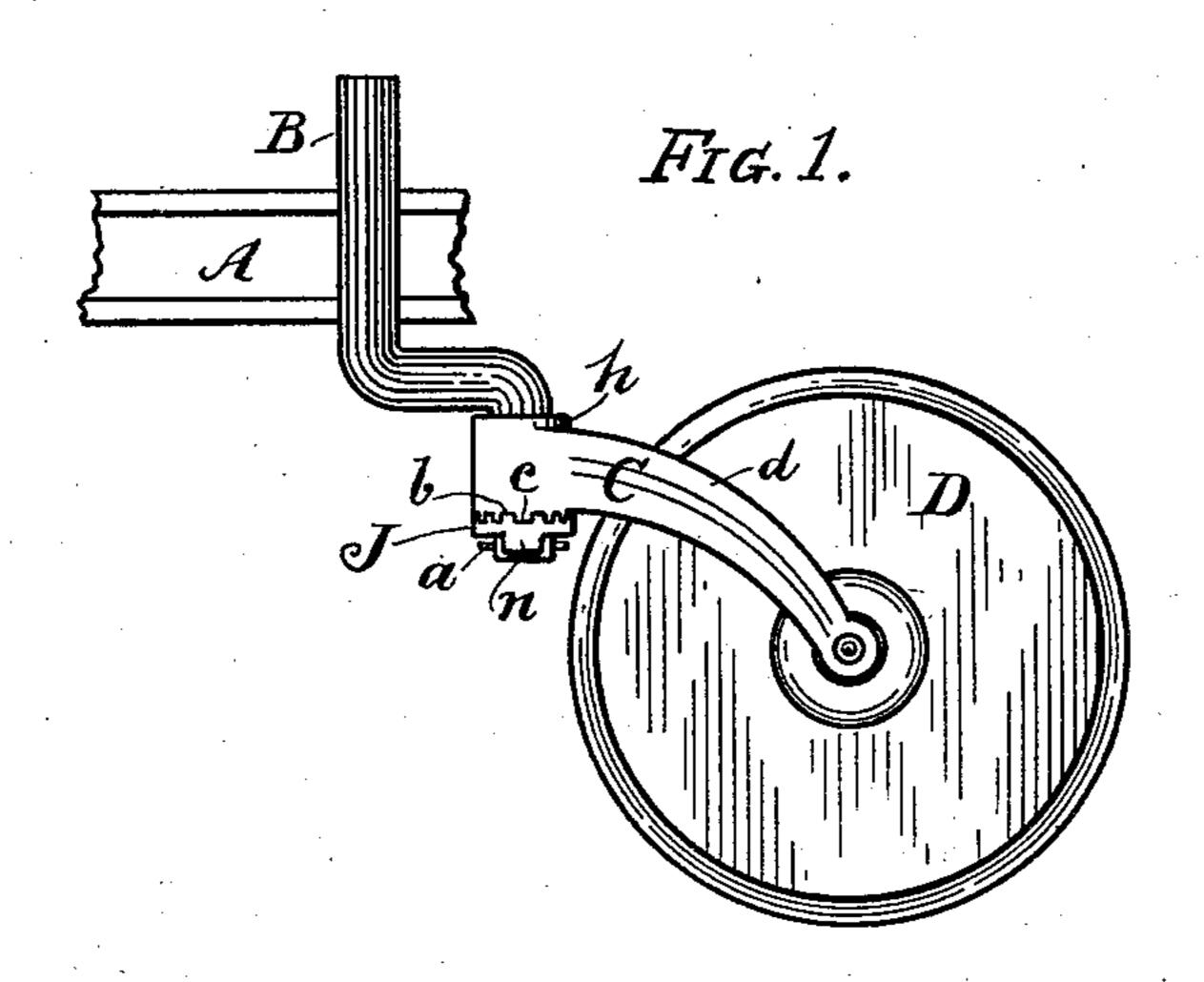
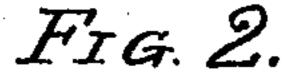
## W. S. PATES.

CASTER COLTER.

No. 324,482.

Patented Aug. 18, 1885.





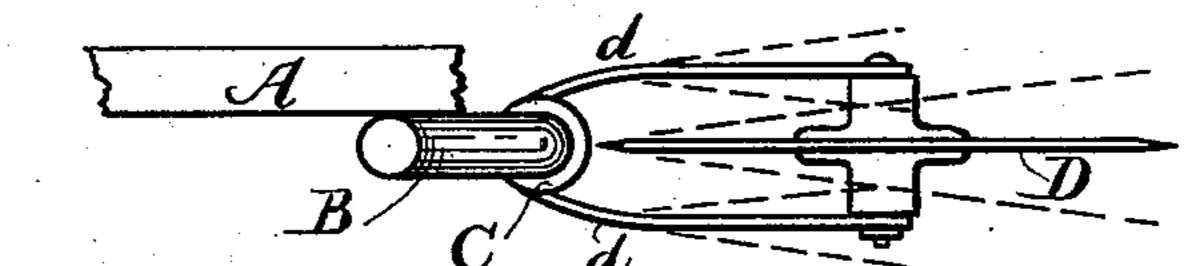


FIG. 3.

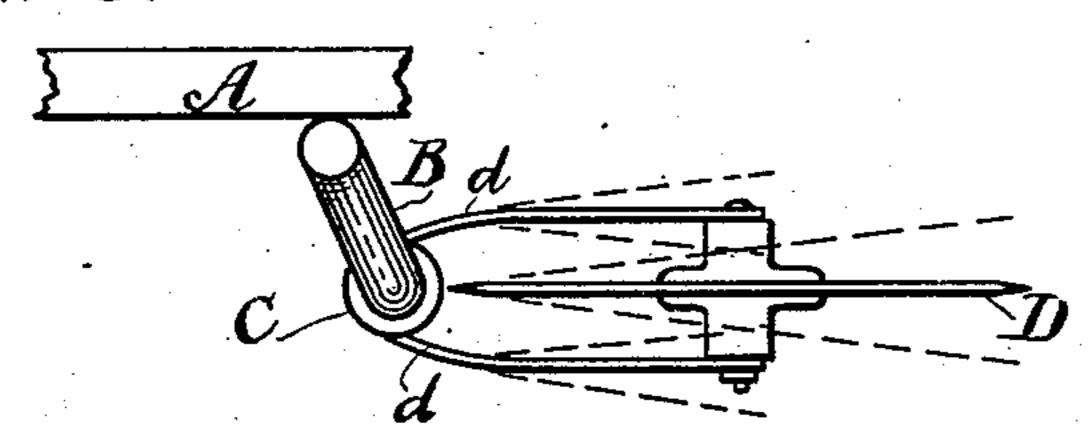
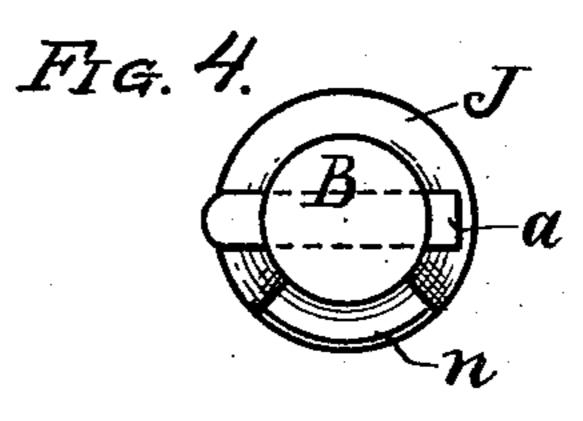
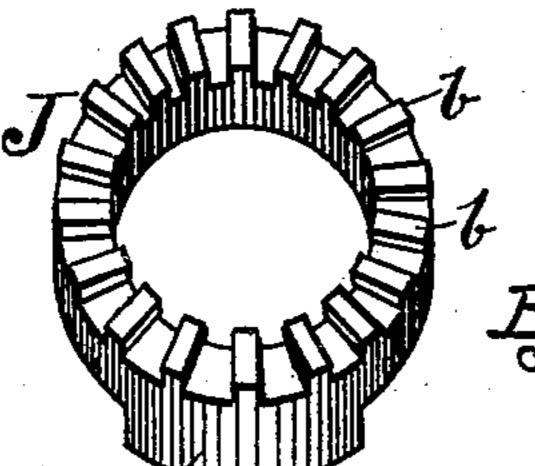


Fig. 6. Cocc c

Witnesses: T.B. Halpenny. F. F. Manner.





F1G. 5.

Inventor:
William S. Pates
By John Lane
Atty.

## United States Patent Office.

WILLIAM S. PATES, OF ALTON, ILLINOIS, ASSIGNOR TO THE HAPGOOD PLOW COMPANY, OF SAME PLACE.

## CASTER-COLTER.

SPECIFICATION forming part of Letters Patent No. 324,482, dated August 18, 1885.

Application filed March 21, 1885. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. PATES, a citizen of the United States, residing at Alton, in the county of Madison and State of Illinois, bave invented a new and useful Improvement in Caster-Colters, of which the following is a specification.

My invention relates to caster colters in which the yoke is limited in its play; and it consists in certain improvements of construction, which will first be described in the specification, and afterward pointed out in the claim.

Referring to the drawings, like letters refer to like parts in all the figures, in which—

Figure 1 is a side elevation view of my improved caster-colter, showing a section of the plow-beam A, and the colter-standard B, to which the yoke C is attached. Fig. 2 is a top 20 view of same, showing the colter-blade D in a line parallel with the beam, with dotted lines showing the limited play of the blade. Fig. 3 is a view same as Fig. 2, with the crank-standard Bturned, moving the blade Doutward from the 25 beam A. Fig. 4 is a sectional view, enlarged, showing the bottom end of the standard B, the spring key or pin a, and clutch-washer J. Fig. 5 is a perspective view, enlarged, of the clutchwasher J, showing its top end provided with 30 a series of clutch-teeth, b, and its bottom end provided with a stop, n. Fig. 6 is a bottom end view, enlarged, of the hub end h of the

yoke C, showing a like series of clutch-teeth, c, same as in the clutch-washer J.

The colter is provided with the usual blade, D, yoke C, and crank-standard B, all of usual construction, except as modified to be used

In my improvements the bottom end of the 40 hub h of the yoke C is provided with a series of clutch-teeth, c, to clutch with like teeth in the washer J.

J represents the clutch-washer, having its top end provided with the series of clutch-

teeth b, to clutch with the teeth c upon the 45 yoke C, and with the stop n, to strike against the pin a, to limit the play of the yoke and blade, as will be understood by the drawings.

In operation it will be observed that the washer J may be moved into as many positions as it has clutch-teeth, by which the stop n may be moved into any desired position relative to the yoke and blade. The standard B is inserted through the hub of the yoke and the washer, and the pin a, inserted through a perforation in the end of the standard, secures the yoke and washer to the standard in any desired position, all of which will be understood by the drawings.

The blade may be limited in its play or vi- 60 bration to an equal distance each side of the center line, as shown in Fig. 2, and in a changed position of the crank of the standard shown in Fig. 3. The washer may also be changed in its position, so that the relative 65 position and play of the yoke and blade remain unchanged as to parallel line of draft, as will be understood by the drawings.

I am aware that it is not new to move and adjust the yoke upon the standard; also not 70 new to limit the vibration-play of the colter. Such I do not broadly claim.

Having thus set forth my invention, I claim— In a caster-colter having the cranked standard constructed with an offset, as shown, the 75 yoke C, having the perforated hub h, provided with a series of clutch-teeth, the washer J, provided with clutch-teeth adapted to engage with the clutch-teeth upon the said hub, and the said hub and washer pivotally attached to the 80 bottom end of the said standard in a manner permitting a limited lateral vibration-play of the colter-blade, all substantially as and for the purpose set forth.

WILLIAM S. PATES.

Witnesses:

CHAS. S. PHILIPS, WM. R. PINCKARD.