(No Model.)

J. T. WEST.

CLEANER AND GAGE ATTACHMENT FOR GRAIN DRILLS.

No. 384,105. Patented June 5, 1888.

FIG. 1.

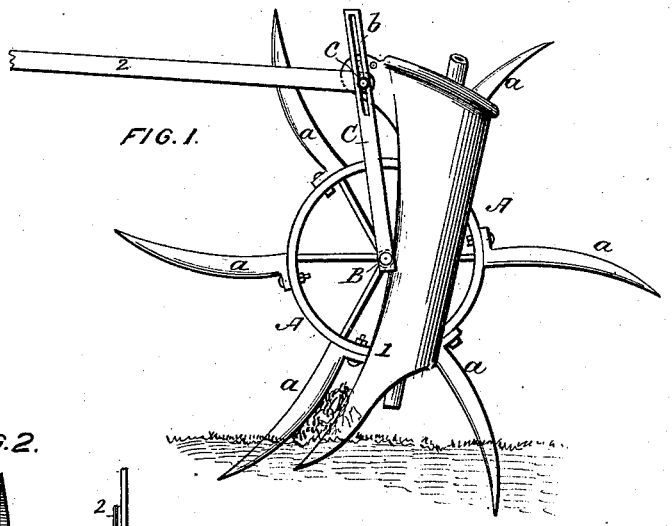


FIG. 2.

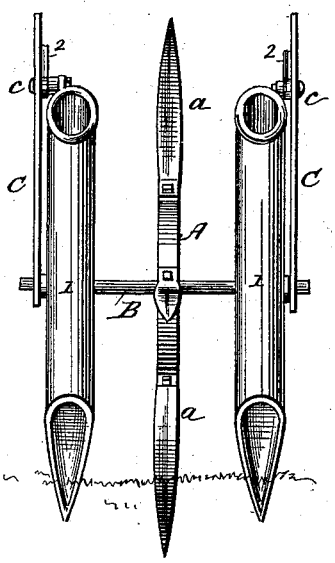


FIG. 3.

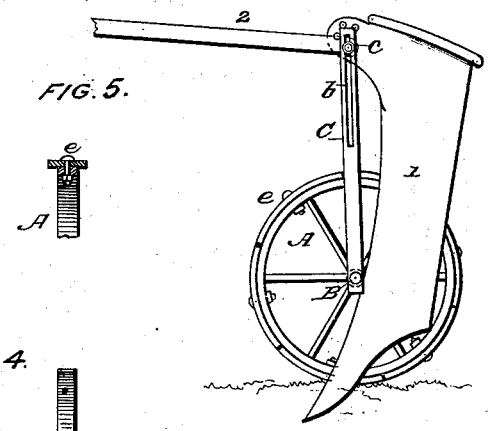
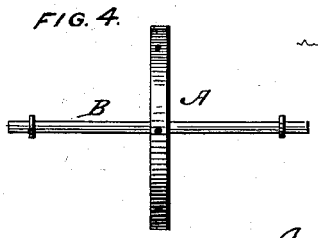


FIG. 5.

FIG. 4.



WITNESSES:
Fred G. Dieterich
Amos W. Hart

INVENTOR:
Jno. Thos. West.
BY Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN THOMAS WEST, OF BOWLING GREEN, KENTUCKY.

CLEANER AND GAGE ATTACHMENT FOR GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 384,105, dated June 5, 1888.

Application filed December 31, 1887. Serial No. 259,508. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMAS WEST, of Bowling Green, in the county of Warren and State of Kentucky, have invented a new and useful Improvement in Fluke-Cleaning and Furrow-Gage Attachments for Grain-Drilling Machines, of which the following is a specification.

The kind and amount of work performed by a grain drilling machine are seriously affected by trash in the form of vines, grass, weeds, leaves, stubble, &c., which prevent the drill teeth or flukes from entering the soil and depositing the seed in the proper manner. It is also always desirable and sometimes necessary to regulate the depth of the furrows made by the teeth or flukes, more especially in soils which are approximately clear of trash.

My invention is a rotary and vertically adjustable attachment for such machines, which is adapted for preventing such accumulation of trash as well as for regulating the depth of the furrows.

The construction and combination of parts forming the attachment are as hereinafter more fully described and as shown in accompanying drawings, in which—

Figure 1 is a side view showing my invention applied to the flukes and drag-bars of a drilling-machine. Fig. 2 is a rear view of the same. Fig. 3 is a side view showing the position of parts when forming a gage attachment. Figs. 4 and 5 are detail views.

The hollow teeth or flukes 1 are attached to drag-bars 2 in the usual way. The trash-clearing attachment is composed of the wheel A, having teeth *a*, the axle B, and suspending-arms C. As shown in Fig. 4, the axle and wheel proper are formed in one piece—that is to say, of one piece of cast or wrought iron—for sake of economy in manufacture. The wheel A is in the center of the axle B, whose length is the same, or nearly so, as the distance between two drag-bars, 2. The points of the wheel-teeth *a* are curved forward, for a purpose hereinafter stated, and their heads are enlarged or constructed with lateral flanges, through which pass bolts that secure them detachably to the periphery of the wheel proper.

In practice the attachment is arranged as shown in Fig. 1—that is to say, the wheel A being placed, preferably, between two flukes 1 of the drilling-machine, and its axle B in front of said flukes and bearing against them when the machine is used. The attachment is suspended in this position by means of the pendent arms C, whose lower ends are provided with bearings to receive the ends of the axle B. Collars are cast on the latter, Fig. 4, to limit the length of the journals. The upper ends of these arms have a lengthwise slot, *b*, and a screw-bolt, *c*, passing through the slot, secures each arm adjustably to the drag-bar 2, and the lug formed on each fluke 1—that is to say, the same screw-bolt *c*—secures together all three parts—an arm C, drag-bar, and lug. The attachment (wheel and axle) may be adjustd vertically to the extent of the slot *b* in arm C by loosening or tightening the clamp formed by the screw-bolt *c*, as will be readily understood.

As the drilling-machine advances, the points of the teeth *a* enter the soil and thereby cause the revolution of the wheel A; but the upward curve of their points enables them (see Fig. 1) to strike in front of the bunches of trash taken along by the flukes 1, and their backward sweep between the latter carries the trash with them.

The resistance encountered by the teeth *a* in entering the soil enables the wheel A to serve as a gage-wheel to a certain extent—in short, as a means for regulating the depth of the furrows made by the flukes 1; but in soils on which there is little or no trash the teeth *a* are not required, and may be removed and the attachment A B lowered, as shown in Fig. 3, so that the wheel rests on the surface and thus serves as a gage-wheel proper.

In soft soils the periphery of the wheels may require to be broadened to prevent sinking too deep, and for this purpose I employ a false or detachable periphery, the same being formed in sections or a series of curved plates, *e*, Figs. 3 and 5, which are secured to the periphery of the wheel proper by means of screw-bolts.

The cleaner may be used with flukes in double rank, in which case only one end of the axle B will bear against a fluke in the front row, and its opposite end will be supported by a forked arm projecting forward

from a band attached to a fluke in rear rank. While one wheel will clean two flukes when arranged between them, as already described, I do not restrict myself to this number, since I may employ one for each fluke or space.

I may in some cases attach the pendent arms C to some other portion of the machine than that shown—say the drag-bars 2 at point in front of the fluke-lugs. The arms would not then be slotted, but a spring would be arranged to press the bars downward; or the arms themselves might be made of steel springs fastened rigidly at front end, so as to press the wheel to the ground.

What I claim is—

1. The combination, with the flukes 1, of the arms C, the axle B, arranged in front of the latter, the wheel A, and teeth *a*, which are slightly curved forward and made of such relative length that when the wheel is in working position the said teeth project a considerable distance below the points of the flukes, and are thus adapted to take a firm hold in the soil and act on clods and trash, in the manner specified.

2. In a grain-drilling machine, the combination of the wheel A and axle B, the pendent arms C, having lengthwise slots, the drag-bars 2, and flukes 1, and bolts for securing said arms in any adjustment, as shown and described.

JOHN THOMAS WEST.

Witnesses:
WILLIAM W. MANSFIELD,
JAMES M. STERRETT.