W. J. BRITTAIN.
Stalk-Cutter.

No. 217,856. Patented July 29, 1879.

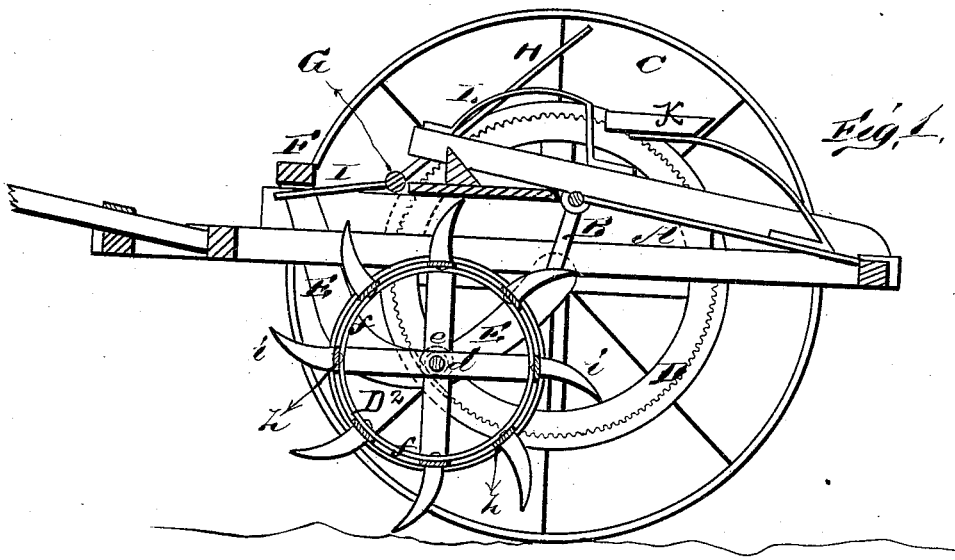

Fig. 1.

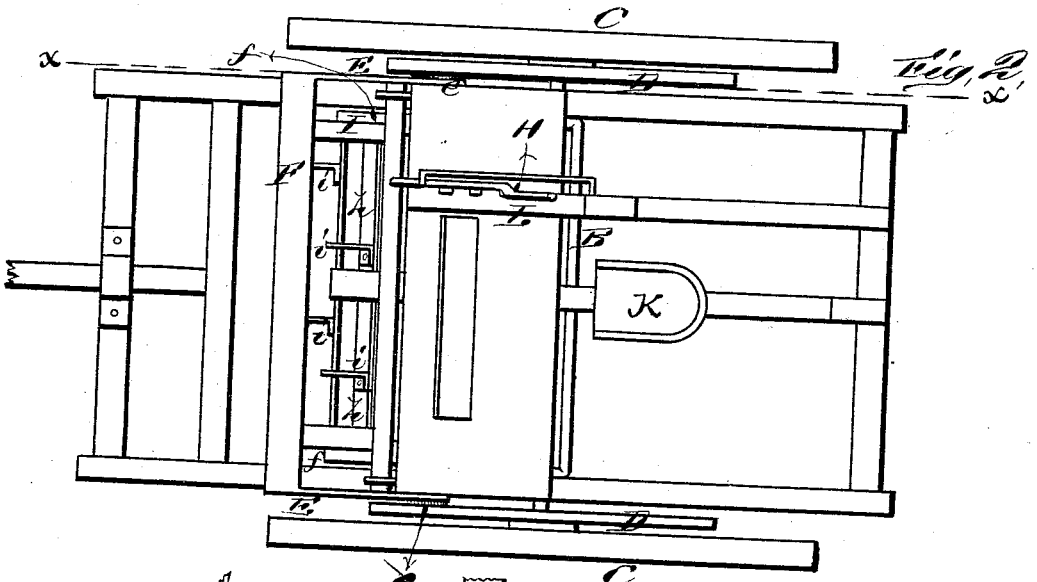

Fig. 2.

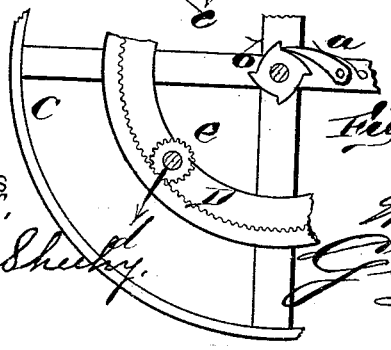

Fig. 3.

WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM J. BRITTAIN, OF HALF ROCK, MISSOURI.

IMPROVEMENT IN STALK-CUTTERS.

Specification forming part of Letters Patent No. **217,856**, dated July 29, 1879; application filed April 27, 1878.

To all whom it may concern:

Be it known that I, WILLIAM J. BRITTAIN, of Half Rock, in the county of Mercer and State of Missouri, have invented a new and valuable Improvement in Stalk-Cutters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a part-sectional side view of my stalk and sod cutter. Fig. 2 is a plan view, and Fig. 3 is a detail view taken through the line *x x* of Fig. 2.

This invention relates to a machine for cutting corn-stalks and like substances; and the novelty consists in a suspended revolving cylinder carrying a series of cutters, having their cutting-edges on the lower curved surface, in combination with mechanism for communicating a rapid motion to the cylinder; also, in novel means for supporting the revolving cylinder provided with a series of cutters, having their cutting-edges on the lower curved surfaces, in combination with operative mechanism, as will be hereinafter more fully set forth and claimed.

In the accompanying drawings, A represents the main frame or tongue and seat-frame, composed of the side, front, and rear bars, secured upon the arched axle B, which has on each end a driving-wheel, C. Each driving-wheel C has mounted upon it a cog or gear wheel, D, and forms the connection by means of the ratchet-wheel *b* on the axle, arranged between the said driving-wheel and cog, and engaging pawl *a*, attached to the driving-wheel. (See Fig. 3.) The letter D^2 represents a revolving cylinder, composed of a number of horizontal bars or slats, *h h*, and end bars, *f*, crossing each other at the center to form journal-bearings for a shaft, hereinafter described. This revolving cylinder is provided with a series of curved cutters or knives, *i*, attached to the horizontal bars by means of bolts and nuts. These cutters are arranged on the cylinder in zigzag order—that is to say, in alternating order—so that a space between any two of the cutters will be followed by an intervening cutter. A shaft, *d*, is centrally passed through the cylinder D^2, and has its end bearings journaled in two curved arms, E E, which are hung upon the axle B, inside of the gear-wheels D. These curved arms pass downward, forward, and then upward, and their upper ends are connected by a cross-bar, F, above the frame.

Upon each end of the cylinder-shaft *d* are secured pinions *e*, which engage with the gear-wheels D, mounted on the main driving-wheels.

It will be observed that the revolving cylinder carrying the cutters is arranged at the forward part of the frame—that is to say, in front of the main axle B and the driver's seat K—so that the driver can see and have full control of the operation of the cutters.

The curved arms E E and cross-bar F, constituting a frame for the revolving cylinder carrying the cutters, have a vibratory movement, caused by mechanical means about to be described.

The letter G indicates an oscillating shaft, having its bearings in the frame A, and provided with a lever, H, to engage with an arched ratchet-bar, L, as shown. This shaft is also provided with arms I I, which extend forward under the bar F, so that by operating the lever H, within reach, the driver can raise or lower the frame carrying the revolving cutters as occasion may demand, for passing obstructions or cutting the corn-stalks or like substances.

The knives or cutters *i*, attached to the revolving cylinder, are secured in such a manner that the curved portions of the cutters shall be down, as shown in Fig. 1.

Operation: As the machine moves forward a rapid motion is communicated to the revolving cylinder carrying the cutters, owing to the difference in diameter between the gear-wheels D and pinions *c*. The stalks of corn submitted to the action of the machine lie flat on the ground, or are sufficiently inclined in the direction of the knives to be brought within the reach of the knives in their forward revolution, and are thus cast upon the ground forward of the axle of the revolving cylinder, so that the ground acts as a resisting base, while they are cut with a shear sweep or stroke of the knives. The point of contact being as de-

scribed prevents the stalks from being passed over by the machine without severance, or from being thrown back of the machine uncut.

This machine is equally applicable to cutting sods, weeds, &c., in the field.

What I claim as my invention is—

1. The combination, in a machine for cutting corn-stalks and like substances, of a revolving cylinder carrying a series of cutters, having their cutting-edges on the lower curved surface, and mechanism for communicating a rapid motion to the cylinder, whereby the corn-stalks are severed while upon the ground by a shear sweep of the cutters, as described.

2. The combination, in a machine for cutting corn-stalks and like substances, of a revolving cylinder carrying a series of cutters, having their cutting-edges on the lower curved surfaces, and suspended in front of the main axle of the machine in a vibratory frame, mechanism for communicating a rapid motion to the cylinder, and mechanical means arranged in front of the driver's seat for raising or lowering the vibratory frame, all operating in the manner as described, and for the purposes set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

W. J. BRITTAIN.

Witnesses:
F. M. STEWART,
WILLIAM M. COOP.