S. D. RICE.

Corn-Stalk Cutter.

No. 219,524. Patented Sept. 9, 1879.

Fig: 1.

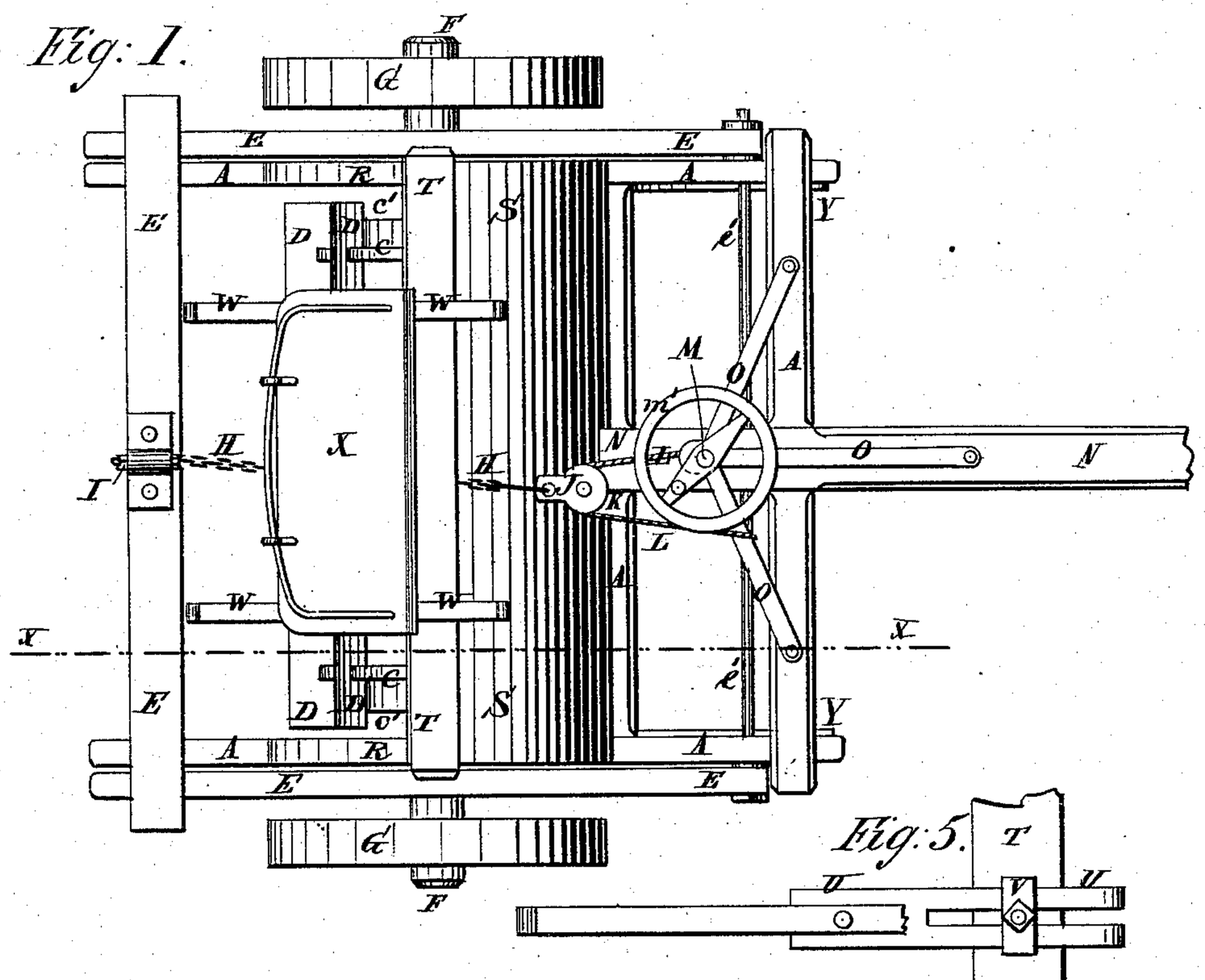


Fig: 5.

Fig: 2.

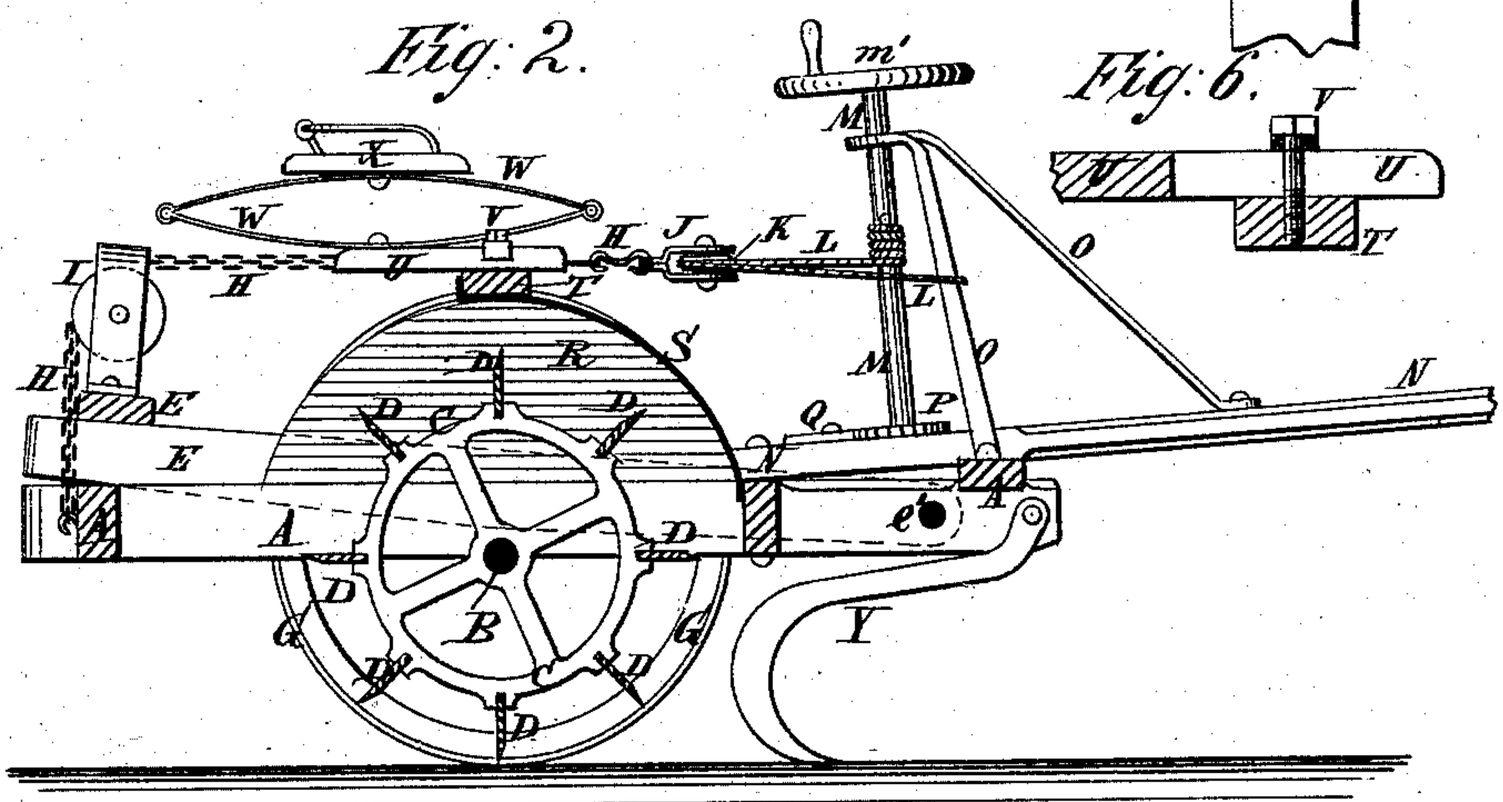


Fig: 6.

Fig: 3.

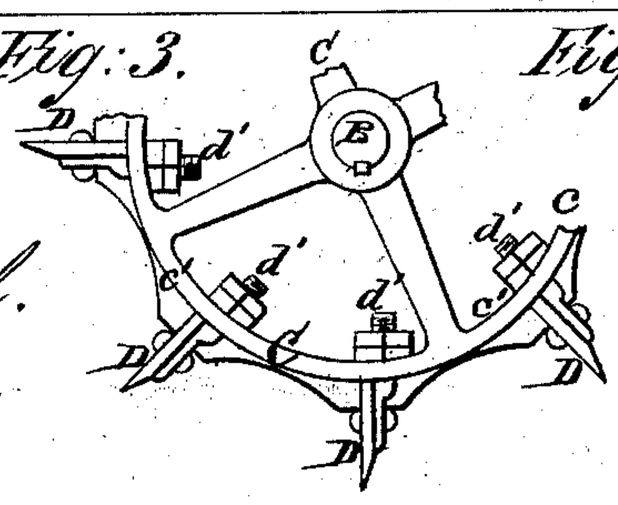
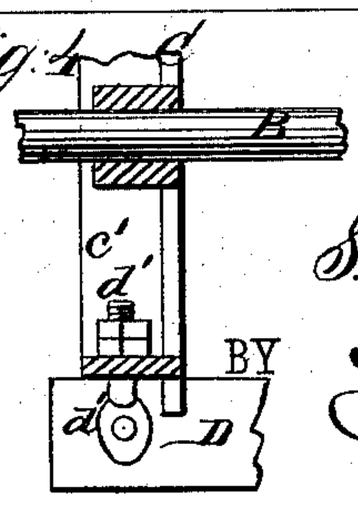


Fig: 4.



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SOLON D. RICE, OF GRANT, KENTUCKY.

IMPROVEMENT IN CORN-STALK CUTTERS.

Specification forming part of Letters Patent No. **219,524,** dated September 9, 1879; application filed June 7, 1879.

To all whom it may concern:

Be it known that I, SOLON DENISON RICE, of Grant, in the county of Boone and State of Kentucky, have invented a new and useful Improvement in Corn-Stalk Cutters, of which the following is a specification.

Figure 1 is a top view of my improved machine. Fig. 2 is a vertical longitudinal section of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a detail end view of a part of the cutter-cylinder. Fig. 4 is a detail section of the same. Fig. 5 is a detail top view of the adjustable seat-support. Fig. 6 is a detail section of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved machine for cutting corn-stalks into pieces in the field, which shall be simple in construction, effective in operation, and convenient in use, being easily adjusted and readily taken from place to place.

The invention consists in the disks or wheels having radial slots formed in their rims to receive the knives and provided with ring-flanges to receive the bolts attached to the said knives; in the combination of the pivoted frame provided with the wheels and axles and the frame provided with the cutter-cylinder; in the combination of the chain, the pulley, the pulley-block and pulley, the rope or chain, and the shaft provided with the crank-wheel and the ratchet and pawl with the three-armed standard, the tongue, the pivoted frame, and the cutter-frame; and in the combination of the arched bars, the bent plate, the cross-bar, the slotted bars, and the bolts with the cutter-frame and the driver's seat and springs, as hereinafter fully described.

A represents a rectangular frame, in bearings attached to the middle part of the side bars of which revolve the journals of a shaft, B. To the shaft B, at the inner sides of the side bars of the frame A, are attached disks or wheels C, the rims of which are slotted radially to receive the knives D. The knives D are secured in place detachably by bolts *d'* attached to their ends, and which pass through ring-flanges *c'* formed upon the outer sides of the wheels C.

The rims of the wheels C are concaved or cut out between the knives D, so that they will not interfere with the operation of the said knives.

Eight (more or less) knives are used, as it may be desired, to cut the stalks into shorter or longer pieces. The knives D are made thin and sharp, so that they may cut the stalks more easily.

To the outer sides of the forward parts of the side bars of the frame A are pivoted the forward ends of the side bars of the frame E by a long bolt or rod, *e'*, crossing the forward part of the said frame A. The frame E is formed of two side bars, connected at their rear ends by a cross-bar, and to the middle parts of the said side bars are attached short axles F, upon the journals of which revolve the wheels G.

To the center of the rear cross-bar of the frame A is attached the end of a chain, H, which passes over a pulley, I, pivoted to a support attached to the upper side of the center of the cross-bar of the frame E. The forward end of the chain H is attached to the block J, with the pulley K, around which pulley passes a rope or chain, L. One end of the rope or chain L is attached to the vertical shaft M, the lower end of which revolves in bearings in the tongue N, and its upper end revolves in bearings in the upper end of the three-armed standard or brace O. The lower ends of the standard or brace O are attached to the front cross-bar of the frame A and to the tongue N.

To the upper end of the shaft M is attached a crank, crank-wheel, or hand-wheel, *m'*, for convenience in operating it. The other end of the rope or chain L is attached to one of the arms of the standard or brace O. The tongue N is attached to the center of the forward part of the frame A.

To the lower part of the shaft M is attached a ratchet-wheel, P, with the teeth of which engages the end of the lever-pawl Q, pivoted to the tongue N at a little distance from the said shaft M.

With this construction the frame A, and with it the cutters or knives D, may be raised and lowered, as may be desired, and securely held in any position into which they may be adjusted.

To the middle parts of the side bars of the frame A are attached arched or semicircular

bars or plates R, to the forward halves of which are attached the ends of the plate S, bent into the form of a quarter of a hollow cylinder to serve as a guard to prevent dirt and pieces of stalks from being thrown against the legs of the driver, and to prevent his legs or clothing from coming in contact with the knives D.

To the tops of the arched bars R are attached the ends of a cross-bar, T, to which are secured the forward parts of the short bars U by bolts V. The forward parts of the bars U are slotted longitudinally to receive the bolts V, so that the said bars U may be moved forward and back, as may be required, to cause the driver's weight to properly balance the machine and prevent too much weight from coming upon the horses' necks. To the rear parts of the bars U are secured the lower parts of the springs W, to the upper parts of which is secured the driver's seat X.

To the forward ends of the side bars of the frame A are pivoted the shanks of two hooks, Y, which, when the machine is in use, drag along the ground and straighten the stalks, so that they will be struck and cut by the knives D.

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

1. An improved cutter for corn-stalk cutters, consisting of the disks C, secured on opposite ends of the shaft B, and provided with slotted rims on one edge of their peripheries or ring-flanges *c'*, which are perforated opposite the slots of the said rims, and the knives D, provided with the bolts *d'* and adapted to be detachably secured in the slots and to the flanges by the said bolts, substantially as and for the purpose set forth.

2. The combination of the cutter-frame A, pivoted at its forward end within the frame E and provided with the tongue N, the frame O, and the vertical shaft M, having a crank-wheel, *m'*, on its upper end and a ratchet, P, on its lower end adapted to be engaged by the pawl Q secured to the tongue, the rope L, the pulley-block J K, and the chain H with the frame E, substantially as and for the purpose set forth.

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Witnesses:
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