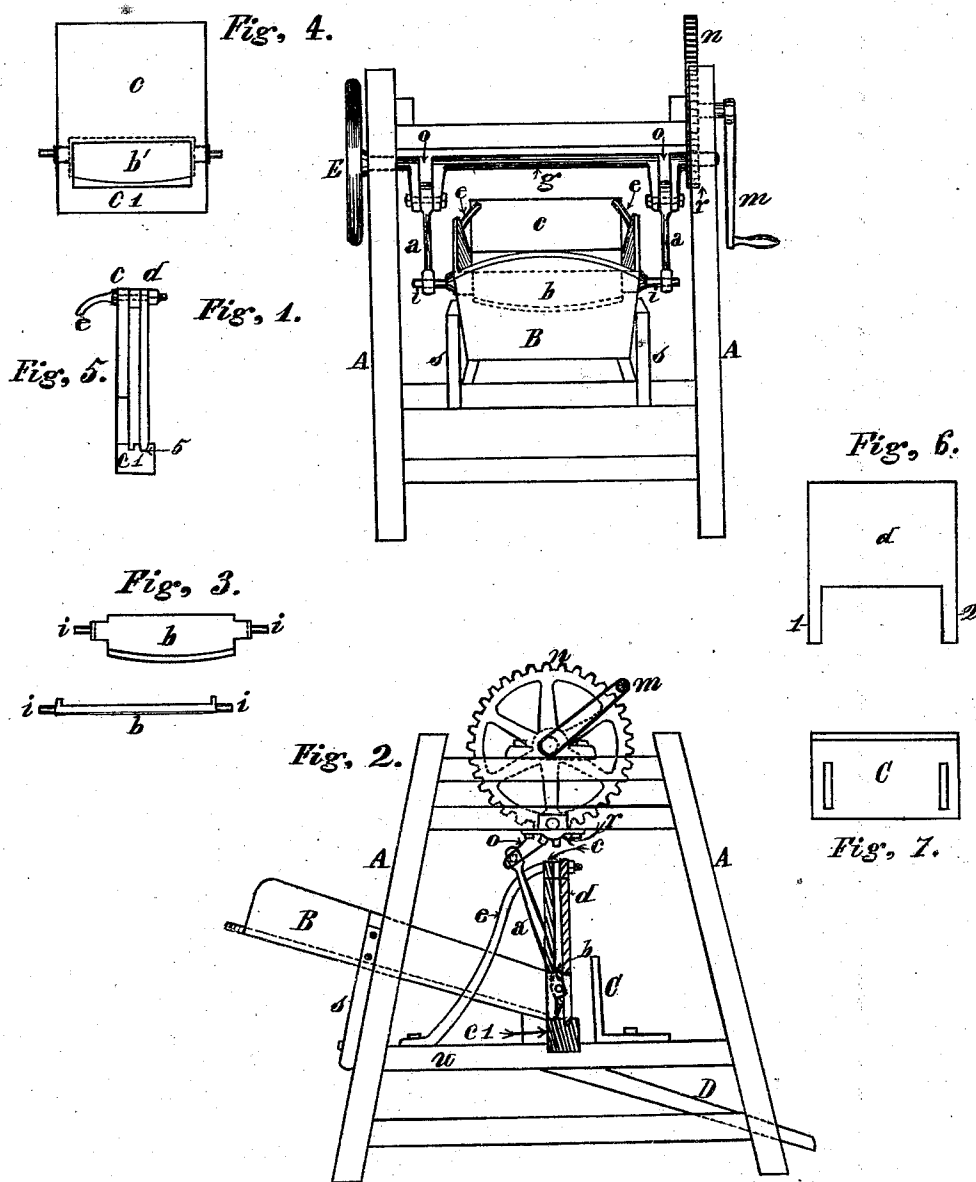


J. B. & J. W. B. NYE.

Feed-Cutter.

No. 163,396.

Patented May 18, 1875.



Witnesses.

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UNITED STATES PATENT OFFICE.

JACOB B. NYE AND JOHN W. B. NYE, OF SWATARA P. O., PENNSYLVANIA.

IMPROVEMENT IN FEED-CUTTERS.

Specification forming part of Letters Patent No. **163,396**, dated May 13, 1875; application filed September 28, 1874.

To all whom it may concern:

Be it known that we, JACOB B. NYE and JOHN W. B. NYE, of Swatara P. O., Dauphin county, Pennsylvania, have invented a new and useful Improved Fodder-Cutter; and we do hereby declare the following to be a full, clear, and exact description of the same and its method of operation, reference being made to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

In the drawings, Figure 1 represents a front-end elevation; Fig. 2, a side elevation. Fig. 3 is a view of the knife, showing its peculiar form. Figs. 4, 5, and 6 are views of the knife-guard.

In the figures, A A represent the frame of the fodder-cutter. It is made of hard wood or metal, as may be preferred. Across the top of the frame A A the shaft *g* is mounted in journal-boxes that support its ends. They rest upon portions of the frame A A, (see Figs. 1 and 2.) The shaft *g* has two double cranks, *o o*, formed upon it. Said double cranks are formed from the same material as the shaft *g*, and are placed a proper distance from each end of said shaft. They lie in the same plane. Their journals also lie in an axial line, the cranks being of equal length from the center of the shaft *g* to the centers of their journals, (see Fig. 1.) Immediately beneath the shaft *g* the guide-plates *c d* are mounted upon side pieces *u u* of the frame A A, (see Fig. 2.) They are also shown in detail in Figs. 4, 5, and 6. The plate *c*, of which Fig. 4 is a face view and Fig. 5 an edge view, is made of metal of rectangular form, and has a rectangular hole of proper size cut in or near its lower end. The part *c l* that is left standing below the hole is intended to act as a cutter-bar. The plate *d* is made of the same width as the plate *c*, and has a portion cut away at its lower end, as is shown in Fig. 6, leaving the portions 1 2 standing. Said projecting ends 1 2 enter a groove, 5, in the plate *c*, (see Fig. 5,) the holes in both plates *c* and *d* coming opposite each other. A proper space is left to intervene between said plates for the reception of the knife *b*, so that it can move freely up and down between them. The knife *b*, a side and edge view of which is given in Fig. 3, is made of plate-steel, of proper thickness and width, and has its lower cut-

ting-edge made convex, as is shown. This form of construction enables it to cut freely, and it has a shear-cut from the center toward each end. It has no tendency to bear off sidewise, but works square. Its ends are made of a thickness to correspond to the width of the slot or space between the plates *c d*, so as to neatly play between them. A rib or projection is turned at a right angle to the face of the knife, at each end, just outside the edges of the plates *c d*. These ribs act as shoulders and keep the knife *b* in position. The extreme ends of the knife are rounded, as is shown in Fig. 3, to form journals. Said journals *i i* are intended for the reception of the parallel rods *a a*, (see Fig. 1.) These rods connect the knife *b* with the crank-shaft *g*, the width between the journals of the double cranks *o o* corresponding to the length of the knife between its end journals, so that the rods *a a* can be connected thereto, and will operate the same, causing a vertical reciprocatory motion upon the rotation of the crank-shaft *g*. This motion is accelerated by gearing a large cog-wheel, *n*, into a pinion of smaller size, said pinion *r* being rigidly fastened to the end of the shaft *g* and the large wheel *n* similarly attached to a short journaled-shaft which rests in boxes secured to the frame A A, immediately above the pinion *r*, a crank, *m*, being attached to the outer end of the shaft to which the wheel *n* is secured. A fly-wheel of suitable weight and size is fastened to the opposite end of the crank-shaft *g* (see Fig. 1) at E.

The guard-plates *c d* are secured together at their upper ends by the braces *e e*. These braces are shouldered down so as to form bolts that pass through holes made for their reception in the plates *c d*, near the side edges and secured by a nut on the opposite side, (see Fig. 5.) The braces *e e* are bent a proper shape to support the plates *c d*, and are secured at their opposite ends to the frame A A, or upon string-pieces *u u* attached to said frame.

The feed-trough B is secured to the frame A A in position opposite the throat or hole in the plates *c d*. Its width at the end that connects to the face of the plates is about the same as the feed-orifice in said plates. The

rear of the feed-trough B is widened out somewhat, and said trough is given a proper degree of inclination to the plates *c d* so as to enable the fodder to lie therein, and be thrust freely forward into the feed-hole *b'* in the plates under the knife *b*. The length of the cranks *o o* and the connecting-rods *a a* should be such as to cause the knife *b* to rise to clear the upper edge of the feed-orifice in the plates *c d*, and cut down a little below the cutter-bar *c l*, formed on plate *c*.

Directly in the rear of the plate *d* the angle-plate C is secured. It consists simply of a plate of metal bent to a right angle. It is made of the same width as the plates *c d*, and rests upon and is secured to the string-pieces *u u*, upon which the plates *c d* are secured. It is slotted through the portion that rests thereon, so as to allow it to be moved toward or away from the plate *d*, and the face that comes opposite the same kept parallel thereto, (see Figs. 2 and 7.)

The object of the plate C is to regulate the length of cut, the fodder or straw being

thrust by the hand of the operator through the orifice in the plates *c d* until the ends strike against the face of plate C. It is evident that varying the position of said plate will alter the length of the cut as may be desired. Beneath the plates *c d*, a proper-sized conveyer-trough, D, is placed. It is intended to carry the cut-feed from beneath the machine.

This fodder-cutter is simple in construction and rapid and powerful in operation, and can be produced at a lower cost than others of the same capacity.

What we claim as new, of our invention, and desire to secure by Letters Patent of the United States, is—

The guide-plates *c d*, the former being provided with the cutting-edge *c'*, in combination with the knife *b*, pitmen *a a*, and crank-shaft *g*, as and for the purpose set forth.

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Witnesses:

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