W. J. JONES.

Feed-Cutting Machine.

No. 160,330. Patented March 2, 1875.

Fig 1.

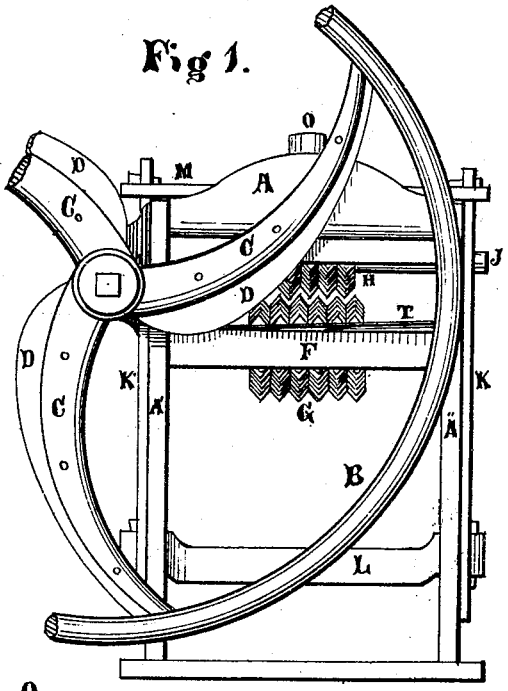


Fig 3.

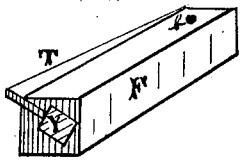


Fig 4.

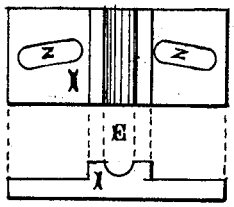
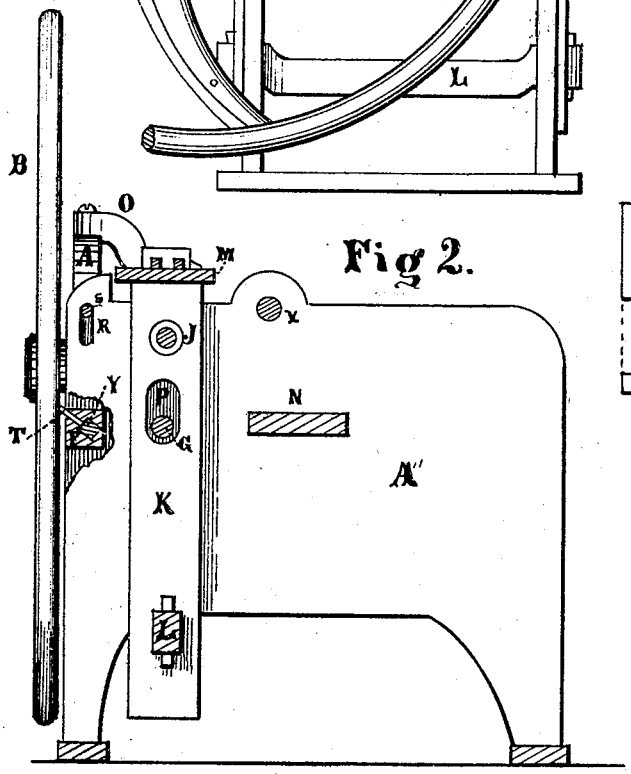


Fig 2.



Witnesses;
John A. Davidson
Alex. F. Brune

Inventor:
William J. Jones
By his attorney
H. R. Peck

UNITED STATES PATENT OFFICE.

WILLIAM J. JONES, OF HAMILTON, OHIO.

IMPROVEMENT IN FEED-CUTTING MACHINES.

Specification forming part of Letters Patent No. **160,330**, dated March 2, 1875; application filed March 5, 1874.

To all whom it may concern:

Be it known that I, WILLIAM J. JONES, of Hamilton, in the county of Butler and State of Ohio, have invented a new and useful Improvement in Machines for Cutting Straw and other kinds of feed for cattle; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Figure 1 represents a front view of my improved machine. Fig. 2 represents a side elevation of the same, and Fig. 3 represents the adjustable cutter-block and its spring-knife. Fig. 4 represents an adjustable boxing, by which the driving-shaft may be adjusted so as to use different sizes of pinions, by which the speed of the feed-rolls can be varied.

My invention relates to the combination of rotating knives with a pivoted spring-cutter-blade, adjustable cutter-block, and a suspended and weighted feed-roller frame, as herein more fully set forth.

A′ A″ denote the sides of my cutting-box. A M K K′ denote the suspended weighted frame, in which the upper feed-roller H is journaled. P indicates the slots in the weighted frame through which the journals of the lower feed-roller G project. Roller G has its journals boxed in the sides of the main frame, and that journal of the lower feed-roller next to the balance-wheel shaft is to be provided with a bevel-gear to work with a corresponding bevel-gear on the balance-wheel shaft. B is the balance-wheel, having curved arms C, to which curved knives D are secured. The cutter-block F is provided with an angular longitudinal slot, in which the knife T is secured by a pivot, *b*, and an india-rubber block or spring, Y, supports its opposite end, so that it may act as a moving shear-blade when the knives D are brought into action in proximity with it in cutting, the feed being fed through the machine by the revolving feed-rollers. The upper feed-roller will adjust itself with its suspended frame, to allow the varying quantity of straw or other feed to be carried in compact condition between the toothed rings upon the two feed-rolls.

In operation the straw to be cut will be fed through the cutter-box horizontally, and the suspended frame, in which feed-roll H is journaled, as seen at J, will have a suitable weight upon its lower tie L, to press down the straw upon the lower roll G; and when the cutting is being done by the knives the mass of straw advancing out of the mouth of the machine will be held in compact condition between the cutter-block F and the front frame-piece A of the weighted frame. The action of the knife D and the spring-knife T will correspond with the ordinary shear-cutting operation. When the knife T is not required for cutting fine and tough material, either of the right-angular corners of the adjustable block F will serve as a fixed shear-blade by turning it in seat or bearings one-quarter of a revolution. The block F may be made of cast-iron, and the mortises in the box may be constructed so as to allow this block to be removed and replaced with either of its edges or corners in position to serve as a fixed shear-blade. The toothed rings secured to and constituting the outer surfaces of the feed-rolls will cover the entire working-faces of the feed-rolls in the complete machine.

The pivoted end of the yielding knife T is at that side of the machine next to the cutter-shaft, and its outer end extends to the opposite side of the machine at the point where the cutting action is completed.

Having described my improvement in feed-cutters, I claim and desire to secure by Letters Patent—

The combination, in a feed-cutting machine, of rotary knives D with the pivoted yielding knife T and grooved adjustable block F, substantially as described.

Witness my hand this 5th day of January, 1874.

WILLIAM J. JONES.

Witnesses:

H. P. K. PECK,

JOHN M. DAVIDSON.