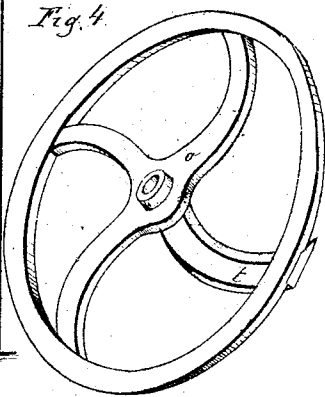
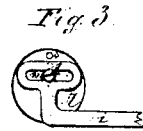
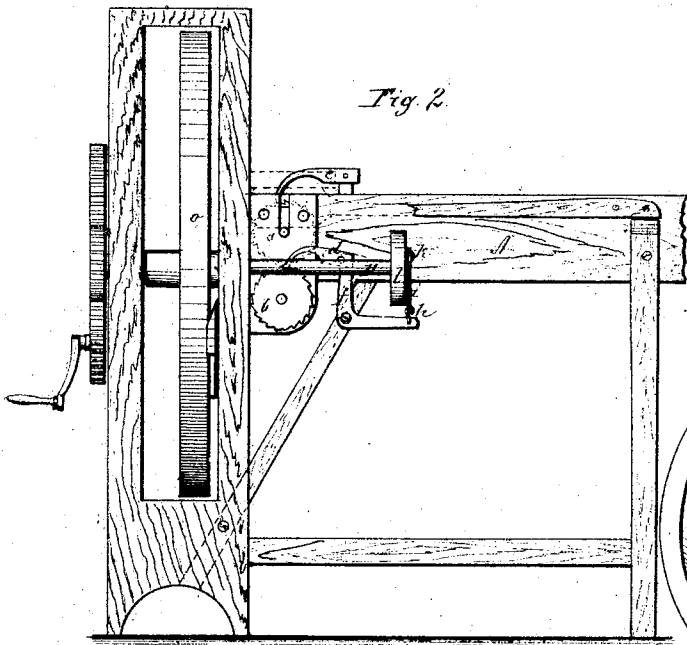
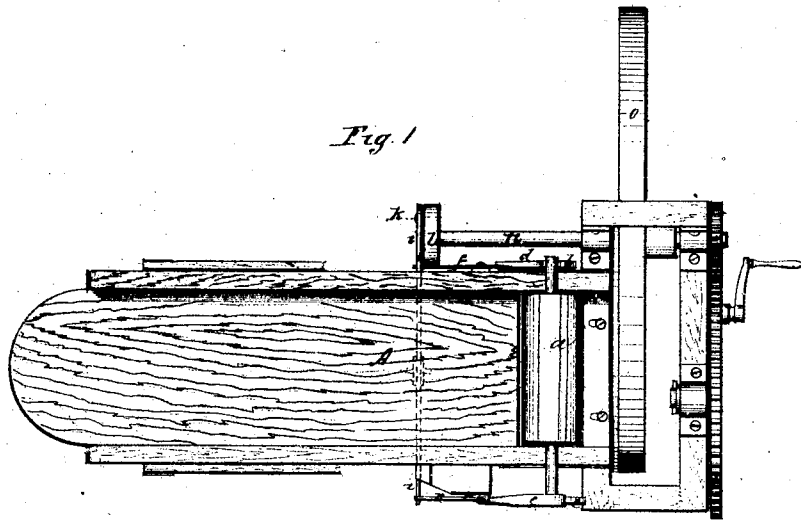


*J. H. Bradley,*

*Teed Cutter.*

*No. 111,035.*

*Patented Jan. 17, 1871.*



*Witnesses*  
*L. A. Pettit*  
*L. Curand*

*Jos. H. Bradley, Inventor.*

*Wm. T. C.*  
*His Attorneys*

# United States Patent Office.

JOSEPH H. BRADLEY, OF HILLSBOROUGH, OHIO, ASSIGNOR TO HIMSELF  
AND CHARLES S. BELL, OF SAME PLACE.

Letters Patent No. 111,035, dated January 17, 1871.

## IMPROVEMENT IN FEED-CUTTERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOSEPH H. BRADLEY, of Hillsborough, in the county of Highland and State of Ohio, have invented a new and improved Feed-Cutter; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a plan view;

Figure 2, a side elevation;

Figure 3, a detached elevation of the disk *l*, with its adjustable crank-pin and the slotted oscillating bar *i*; and

Figure 4 is a perspective view of the fly-wheel, having the cutter for one of its spokes.

This invention consists in a rocking lever whose fulcrum is beneath the straw-box, and which is connected at one end with, and receives motion therefrom, a slotted disk fixed upon the same shaft that bears the cutter-wheel, and which is combined with two different mechanisms, which convert the single motion of the cutter-wheel shaft into two contrary motions in the feed-rollers.

In the drawing—

*A* is the box wherein the hay to be cut is placed, there being at the inner end of the box two transverse feed rollers, whereof the upper (*a*) is shown in fig. 1, the other being immediately beneath the upper and at a sufficient interval from it to allow the feed to pass between the two, these two rollers receiving intermittent rotary motion in opposite directions, a mode of operation which I am aware is not new by itself, by means of ratchets *b c* mounted on the roller-shafts at opposite sides of the box *A*, and pawls *d e* engaging with the ratchets, the former of which pushes while the latter pulls, the pawl *d* being jointed to the upper extremity of the bell-crank *f*, fig. 2, the lower extremity of which is connected by a link, *h*, with a lever, *i*, which is pivoted between lugs extending downward from the under side of the box *A*, and which derives a vertical oscillatory motion from a pin, *k*, fixed in one side of a disk, *l*, at a point in the same not central, and which passes through a slot, *m*, in the head of the lever *i*, which slot gives the pin room for lateral motion as it revolves with the disk *l*, which is fixed on the shaft *n* of the cutter-wheel *o*, while the rising and falling of the pin imparts the necessary

vibratory movement to the bell-crank *f*, the pawl *e* being likewise jointed to the upper extremity of a bell-crank, *r*, on the opposite side of the box *A* from the bell-crank *f*; the lower end of said bell-crank being connected with the opposite extremity of the same lever *i* that operates the other bell-crank, and deriving, from the vertical vibration of the same, the motion necessary to be communicated to the pulling pawl *e*.

The pin *k* may be set nearer the periphery of the disk *l* than is shown in fig. 3, there being a straight series of holes, *s*, in the disk, any one of which is fitted to receive the pin.

The nearer the pin is to the periphery of the disk the longer will be each intermitted movement of the feed-rollers, and, consequently, the longer will be the pieces into which the hay is cut. I, therefore, have a means of regulating the degree of fineness to which I cut my feed.

The blade *t* forms one of the spokes of the fly and cutter-wheel *o*. The curvature of the blade *t* is such that its outer end strikes the hay first, and a drawing cut is made toward the center of the wheel, during which cut the speed of the wheel operates always as the complement of its power, as the latter increases from the circumference toward its center, while the speed diminishes in the same direction, the speed being greatest where the power is least and the power greatest where the speed is least.

The cutter-wheel is rotated by a familiar arrangement of spur-gearing, shown in figs. 1 and 2.

The blade *t* is attached to the cutter-wheel by screws, and may be removed at any time for sharpening.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The lever *i*, provided at one end with the slot *m*, and connected at that end with the disk *l*, which is furnished with a pin, *k*, that passes through the slot *m*, the lever *i* being connected at different points with the two bell-cranks *f r*, and combined thereby with the separate pawls *d e* and ratchets *b c*, all these parts being arranged to operate substantially as described  
JOSEPH H. BRADLEY.

Witnesses:

SOLON C. KEMON,  
JAMES H. GRIDLEY.