

J. N. NEFF.  
Straw Cutter.

No. 30,750.

Patented Nov. 27, 1860.

Fig. 1

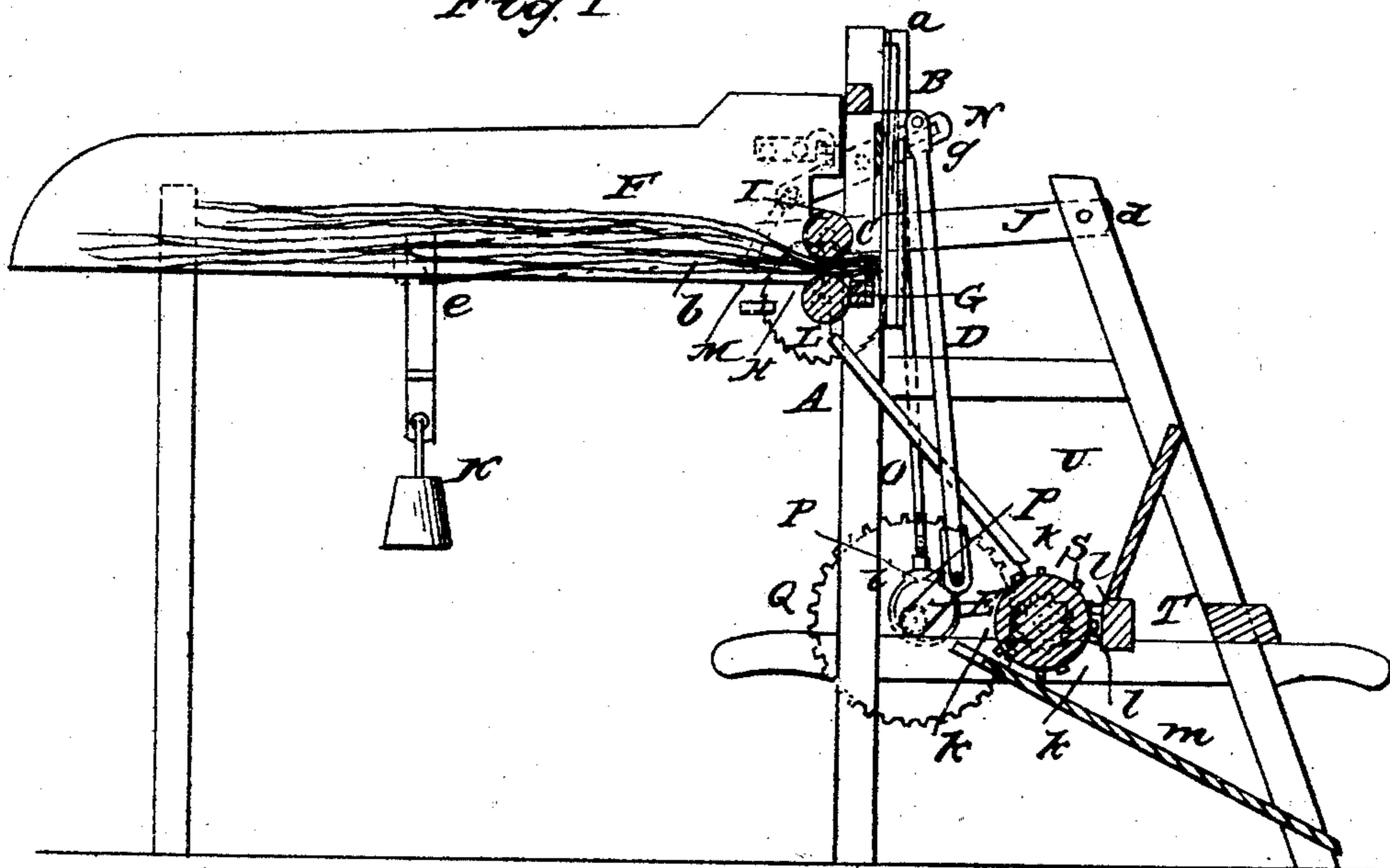
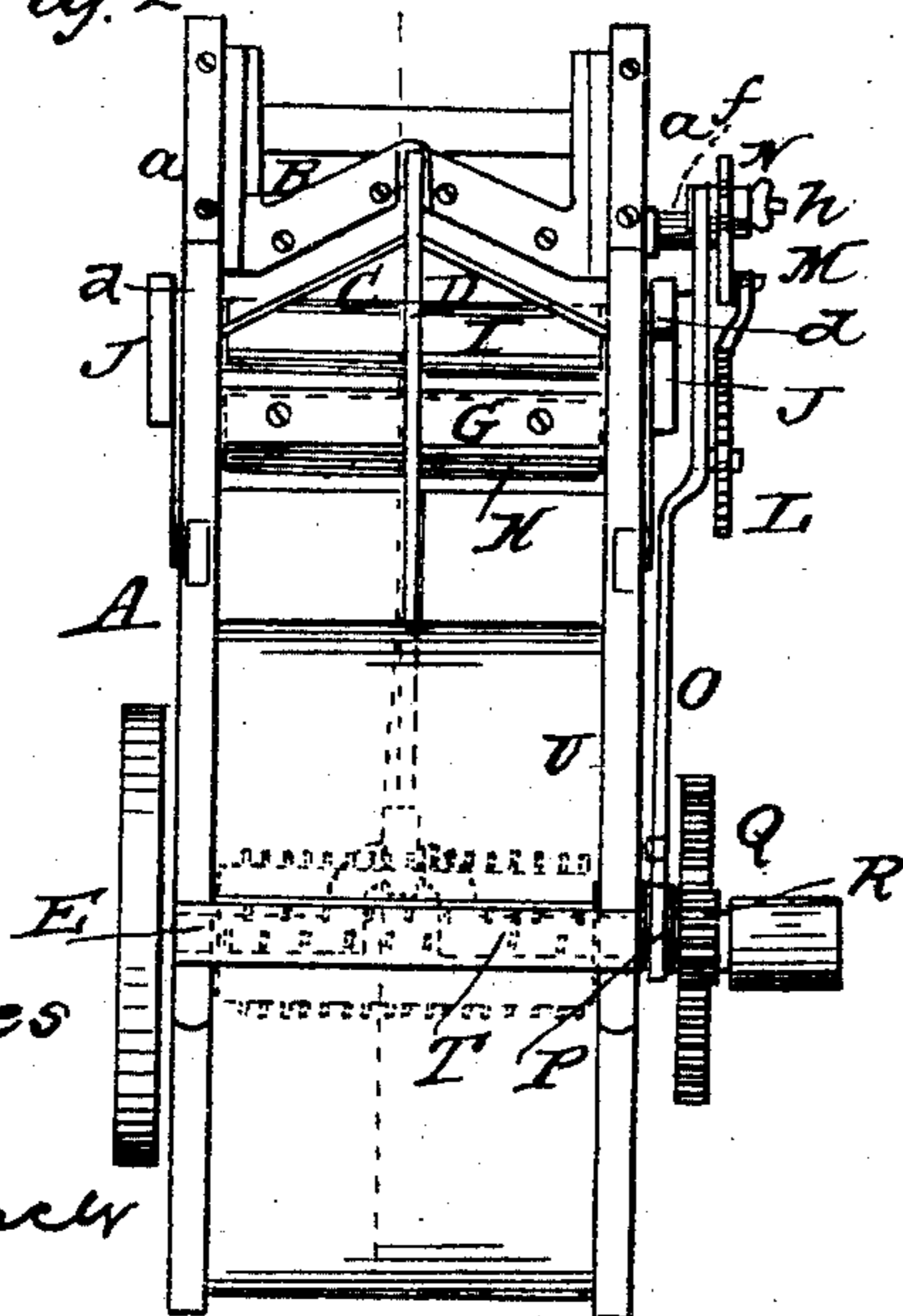


Fig. 2



Witnesses  
J. W. Coombs  
R. S. Spencer

Inventor  
J. N. Neff  
per Mumf. & Co. attorneys.

# UNITED STATES PATENT OFFICE.

J. N. NEFF, OF STRASBURG, PENNSYLVANIA.

## HAY AND STRAW CUTTER.

Specification of Letters Patent No. 30,750, dated November 27, 1860.

*To all whom it may concern:*

Be it known that I, J. N. NEFF, of Strasburg, in the county of Lancaster and State of Pennsylvania, have invented a new and Improved Machine for Cutting Hay, Straw, and other substances for Fodder; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side sectional view of my invention, taken in the line *x x*, Fig. 2. Fig. 2, a front view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

This invention consists in a novel and improved arrangement of a reciprocating knife and feed mechanism.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a framing which may be constructed in any proper way to support the working parts of the machine, and B, is a gate or sash which is fitted between guides *a, a*, at the front part of the framing. The lower part of this gate or sash is of V-form and it has a V-shaped knife C, attached to it as shown clearly in Fig. 2. The gate or sash B, is allowed to work freely up and down between the guides *a, a*, and it is operated by a pitman D, from a crank shaft E, the latter being fitted in the lower part of the framing.

F, is a feed box which is of the usual form and placed on the framing A, directly back of the gate or sash B. The front end of the feed box has a leger blade G, attached to it, over which the knife C, works.

H, is a feed roller which is placed at the front part of the box F, in its bottom *b*, as shown clearly in Fig. 1, and directly over the roller H, there is a roller I, the journals *c*, of which are fitted in bars J, J. The front ends of the bars J, J, are pivoted to the framing A, as shown at *d, d*, and the back ends of said bars are connected by a cross bar *e*, which passes underneath the feed box F, and has a weight K, attached. This weight serves to keep the upper roller

I, down on the straw, or other substance to be cut in the box F, as shown in red Fig. 1.

To one end of the lower roller H, there is attached a ratchet L, with which a pawl M, engages. This pawl is at the back end of a lever N, which is placed at one side of the framing A, on an arm *f*. The front end of the lever N, is slotted longitudinally as shown at *g*, and to the front end of this lever the upper end of a rod O, is attached by a screw bolt *h*, which is secured in the slot *g*. The lower end of rod O, terminates in a strap *i*, which encompasses an eccentric P, on the shaft E.

On one end of shaft E, there is placed a toothed wheel Q, into which a pinion R, on the shaft *j*, of a cylinder S, gears. The cylinder S, is provided at its periphery with radial teeth *k*, which as said cylinder rotates pass between teeth *l*, on a crossbar T, the cylinder and crossbar both being within a box V, which has an inclined bottom *m*.

The operation is as follows: The shaft E, or *j*, is rotated by any convenient power, and a reciprocating motion is given the gate or sash B, and knife C, by the pitman D, and crank of shaft E, and the lever N, is vibrated by the rod O, and eccentric P. The substance is cut as the knife C, descends, and the rollers H, I, feed the substance to the knife, the lower roller H, being actuated intermittingly by the pawl M, which is attached to lever N. The upper roller I, is kept to its work by the weight K, said roller being allowed to yield or give to irregularities in the thickness of the substance to be cut. The cut substance falls into the box U, and is reduced by the action of the rotary toothed cylinder S, and the stationary toothed bar T.

The feed movement may be regulated so that the straw or other substance may be cut into pieces of greater or less length, by regulating the point of attachment of the upper end of rod O, to lever N, the slot *g*, admitting of rod O, being attached nearer to or farther from the front end of lever N. The whole device is extremely simple and efficient.

I do not claim separately any of the parts described, but

I do claim as new and desire to secure by Letters Patent—

The reciprocating V-shaped knife C, in connection with the feed rollers H, I, arranged to operate conjointly as shown, to wit, the roller I, being fitted in loaded bars J, J, and the roller H, actuated through the

medium of the pawl M, lever N, rod O, and eccentric P, as and for the purpose set forth.

J. N. NEFF.

Witnesses:

JOHN SIDES,

HENRY N. BRENNEMAN.