

L. M. JOHNSON.

Improvement in Straw-Cutters.

No. 128,046.

Patented June 18, 1872.

Fig. 1.

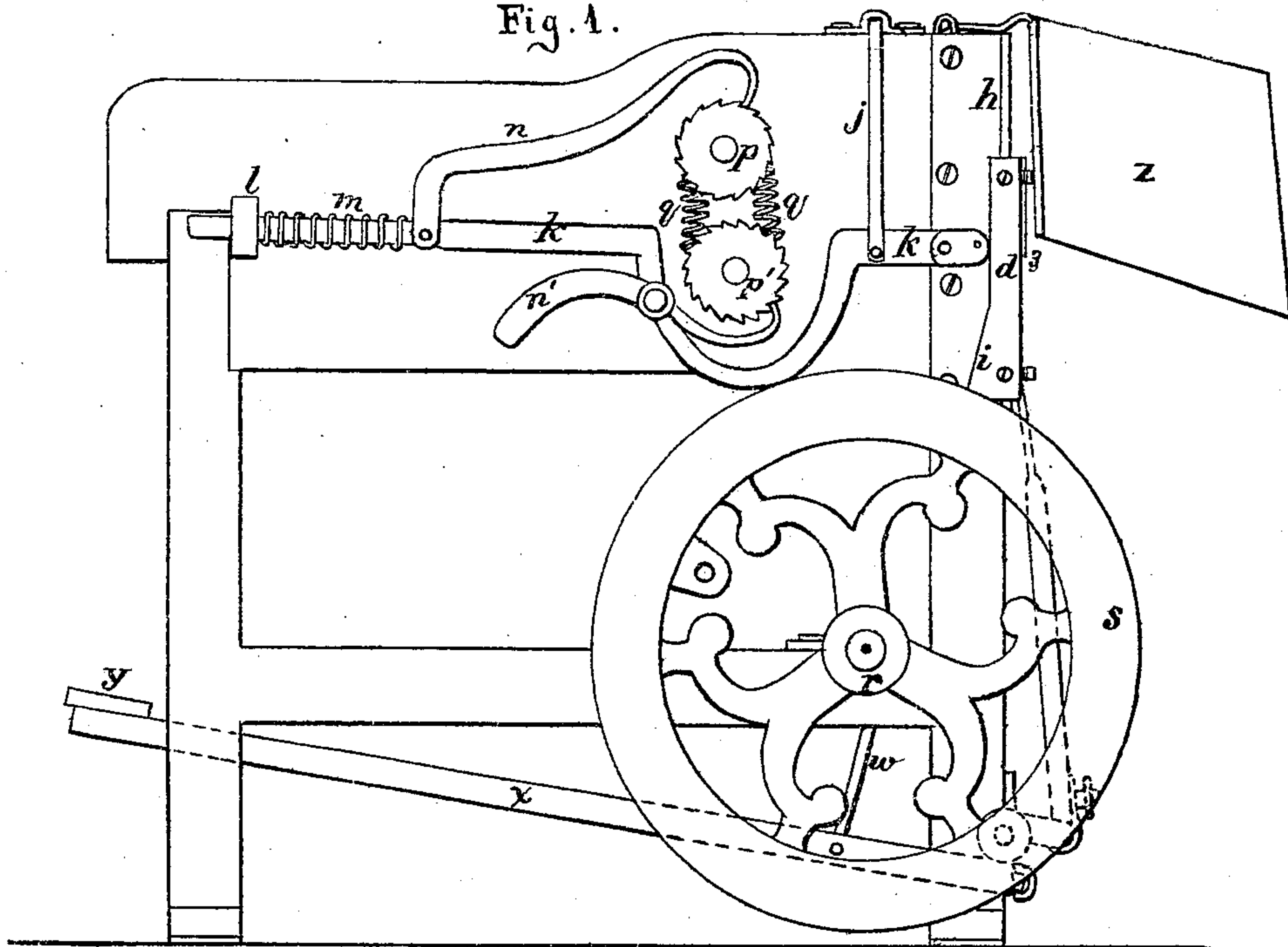
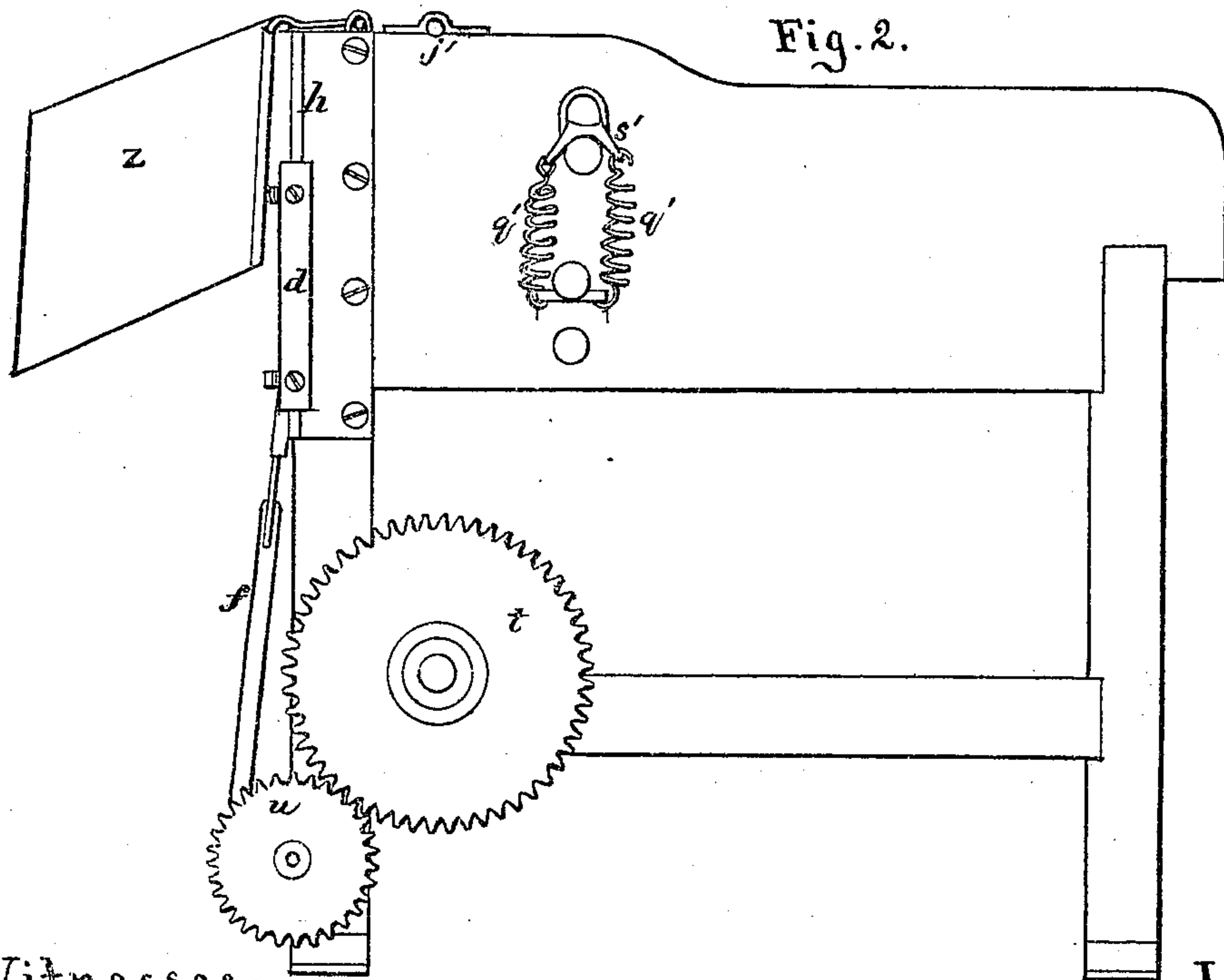


Fig. 2.



Witnesses:

C. S. Whitman

H. A. Daniels

Inventor.

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UNITED STATES PATENT OFFICE.

LEVI M. JOHNSON, OF HILLSBOROUGH, OHIO.

IMPROVEMENT IN STRAW-CUTTERS.

Specification forming part of Letters Patent No. 128,046, dated June 18, 1872.

To all whom it may concern:

Be it known that I, LEVI M. JOHNSON, of Hillsborough, in the county of Highland and State of Ohio, have invented sundry new and useful Improvements in Straw-Cutters; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawing, which form a portion of this specification—

Figures 1 and 2 being views of opposite sides of my improved straw-cutter.

Similar letters indicate the same parts in the drawing.

The frame and cutter-box of my improved straw-cutter are of the usual shape and proportions, and may be constructed of any suitable materials and in any suitable manner.

The feeding-rollers *a a'* are placed at a considerably-greater distance than usual from the front end of the cutter-box, as shown in the drawing. A vibrating pressure-plate, *b*, which is pivoted to the sides of the cutter-box, and whose front end extends nearly to the front end of the same, receives the straw or hay from the feeding-rollers, and guides it nearly to the edge of the stationary cutter *c*, where it compressingly holds the same in close proximity to the action thereupon of the reciprocating cutter *e*. The reciprocating cutter *e* is secured in an inclined position within the gate *d d¹ d² d³*, which is combined with and works upon the ways *h h*, which are bolted to the front ends of the sides of the cutter-box. The cutter-gate *d d¹ d² d³* is connected to the crank in the central portion of the shaft *v* by means of the pitman *f*. The crank-shaft *v* is geared to the main driving-shaft *r* by means of the pinion *u* on the former and the toothed wheel *t* on the latter shaft, as shown in Figs. 2 and 3. Motion may be imparted to the main shaft *r* by means of the treadle-lever *x* and the pitman *w*, Fig. 1, which connects said treadle-lever with a central crank, *r'*, in said main shaft. The balance-wheel *s* is secured to one end of the shaft *r*.

Motion is communicated from the cutter-gate *d d¹ d² d³* to the feeding-rollers *a a'* in the following manner—viz.: A curved bar, *k*, of the shape shown in Fig. 1, is suspended to

the right-hand side of my improved straw-cutter, in the position shown in said drawing, the after end of said bar being received into the eye of the eye-bolt *l*, and the forward end of said bar being suspended by the freely-vibrating pendent-support *j*, as also shown in Fig. 1. The pawl *n*, whose curved outer end takes into the teeth of the ratchet-wheel *p* on the shaft of the upper feeding-roller *a*, is jointed to the after portion of the bar *k*, while the overbalanced or weighted pawl *n'*, whose teeth take into the teeth of the ratchet-wheel *p'*, on the shaft of the lower roller *a'*, is jointed to the curved portion of the sliding bar *k*. The spring *m*, which incloses the portion of bar *k* between eye *l* and the jointed connection therewith of the pawl *n*, imparts an elastic forward pressure to the said bar, and, consequently, a roller in the front end of that bar is pressed continuously against the rear surface of the side *d³* of the cutter-gate by the action of said spring. As the cutter-gate is moved upward the inclined offset *i*, projecting rearward from the lower portion of the side *d³* of said gate, imparts a sufficient rearward movement to the bar *k* to cause the pawls *p p'*, which are jointed thereto, to impart the requisite degree of movement to the feeding-rollers *a a'*, or such a degree of movement as will cause the reaction imparted to said bar by the spring *m* to carry the actuating ends of said pawls over the ratchet-teeth of the wheels *p p'* into the proper position for the next action thereupon by the next upward movement of the cutter-gate.

The springs *q q' q' q'* on opposite sides of the straw-cutter, acting in conjunction with the bearings, *s'*, Fig. 2, enable the upper feeding-roller *a* to adapt itself to any variation in the feeding of the straw or hay to the cutters of the machine.

I claim as my invention—

1. The combination of the reciprocating bar *k* with the eyebolt *l*, the pendulous supporter *j*, the spring *m*, and the actuating side *d³* of the cutter-gate, substantially as and for the purpose herein set forth.

2. The combination of the feeding-rollers *a a* with the springs *q q' q' q'*, the ratchet-wheels

p p', the pawls *n n'*, the pendulously-supported and reciprocating bar *k*, the spring *m*, and the actuating side *d*³ of the cutter-gate, substantially as and for the purpose herein set forth.

In testimony that the foregoing is a full and exact description of my improvement in

straw-cutters, I hereunto subscribe my name this 26th day of February, 1872.

LEVI M. JOHNSON.

Witnesses:

WM. H. WOODROW,

C. T. POPE.