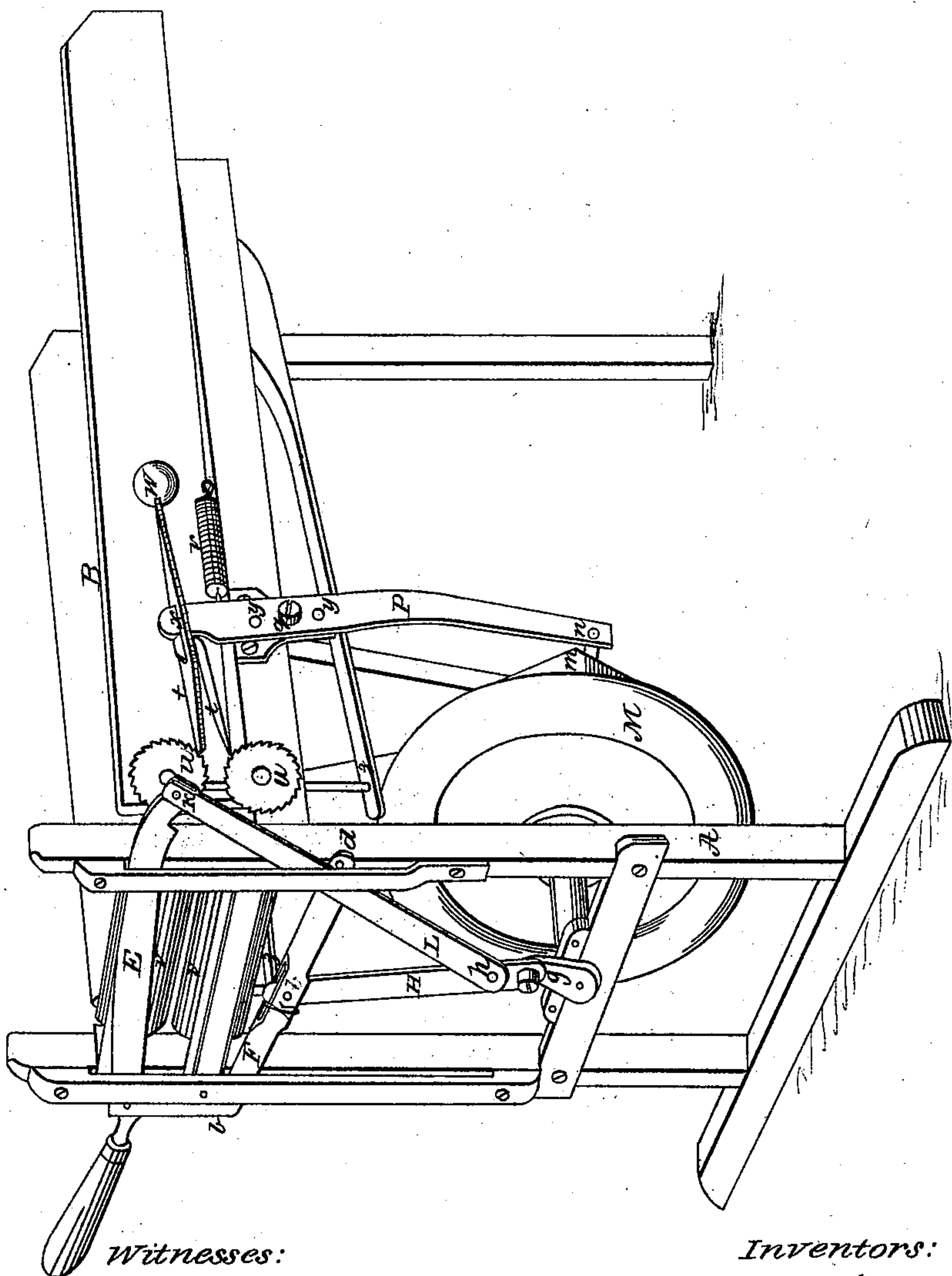


*Bartle & Vaughan.*

*Straw Cutter.*

*N<sup>o</sup> 15,320.*

*Patented Jul. 15, 1856.*



*Witnesses:*

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*Inventors:*

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# UNITED STATES PATENT OFFICE.

WARREN S. BARTLE AND EBENEZER VAUGHAN, OF NEWARK, NEW YORK.

## STRAW-CUTTER.

Specification of Letters Patent No. 15,320, dated July 15, 1856.

*To all whom it may concern:*

Be it known that we, WARREN S. BARTLE and EBENEZER VAUGHAN, of Newark, in the county of Wayne and State of New York, have invented a new and useful Improvement on Machines for Cutting Straw and other Provender; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, which drawing is a perspective view of the whole machine.

A is the frame by which the other parts of the machine are sustained; B is the supply box—both of which may be made in any of the usual modes.

E is the knife slightly curved at the end opposite the handle, for the purpose of bringing the edge nearly parallel with the bottom of the box and thus more effectually cutting the small quantity remaining unsevered near the close of the stroke.

F is a lever having an elbow or turn at *b* and is fixed to the frame by a bolt joint at *d*. At *f* by a bolt joint the said lever is fixed to the main pitman H which is applied at its lower end to the crank *g*. At *h* near the crank wrist a brace or secondary pitman L is connected by a bolt joint to the main pitman H and at the other end by a like joint to the knife as shown at *k*. The lever F to which the knife is fixed instead of being attached at *d* may be shortened and fastened at some point nearer *f* and the connection of the secondary pitman may be by application to the crank wrist instead of to the principal pitman at *k*—without essentially varying the peculiar action of the machine.

At M is shown a fly wheel for regulating the motion of the machine, constructed in any of the usual modes.

By the above described combination of the knife the lever F, the main pitman H and the secondary pitman L when the fly wheel is made to revolve in a direction opposite the operator, the knife performs a downward drawing stroke variable in obliquity and draft, being most oblique and of greatest rapidity of draft at the points in the stroke where the resistance of the straw is greatest—which stroke is the most effective that can be obtained for cutting straw, hay, and other kinds of provender.

At *m* on the periphery of the fly wheel is a cam which acts by means of the pin *n* on the lever P the fulcrum of which is at the bolt joint *q*. This lever is kept in position to be acted upon by the cam by means of the spiral spring *r*.

*t t* are pawls which act on the ratchet *u u* attached to the feed rollers *v v* which rollers are made in any of the usual modes. The pawls are kept to the ratchets, the upper one by means of the counter weight *w* and the lower one by its own gravity—there being a joint at *x* common to the lever P and the two pawls.

Instead of the counter weight *w* to keep the pawls to the ratchets a spiral spring may be inserted between them near the joint *x*.

The joint *x* is without pin or bolt and is made by inserting the upper end of the lever P and the secured end of the lower pawl in a mortise made in the upper pawl, notches being made in the lever and the secured part of the lower pawl to adopt the width of the two to the width of the mortise. The dis-jointing legs being effected by raising both pawls and bringing them in line with the lever P. The upper feed roller is held closely down upon the material to be cut by the springs 33, made in the usual manner. The fulcrum of the lever P may be changed by inserting the joint bolt in the holes *y y* and the feeding be thus increased or diminished in quantity.

The revolution of the fly wheel causes the cam to act on the lever P which protrudes the pawls against the ratchets on the feed rollers and consequently at the proper time when the knife is raised to its highest point moves the rollers which carry forward the materials to be cut.

What we claim as our invention and desire to secure by Letters Patent is—

The mode of operating the knife by means of the lever F and secondary pitman L in combination with the knife and main pitman H by which a variable downward drawing stroke is effected.

WARREN S. BARTLE.  
EBENEZER VAUGHAN.

Witnesses:

STEPHEN CULVER,  
THEODORE DICKINSON.