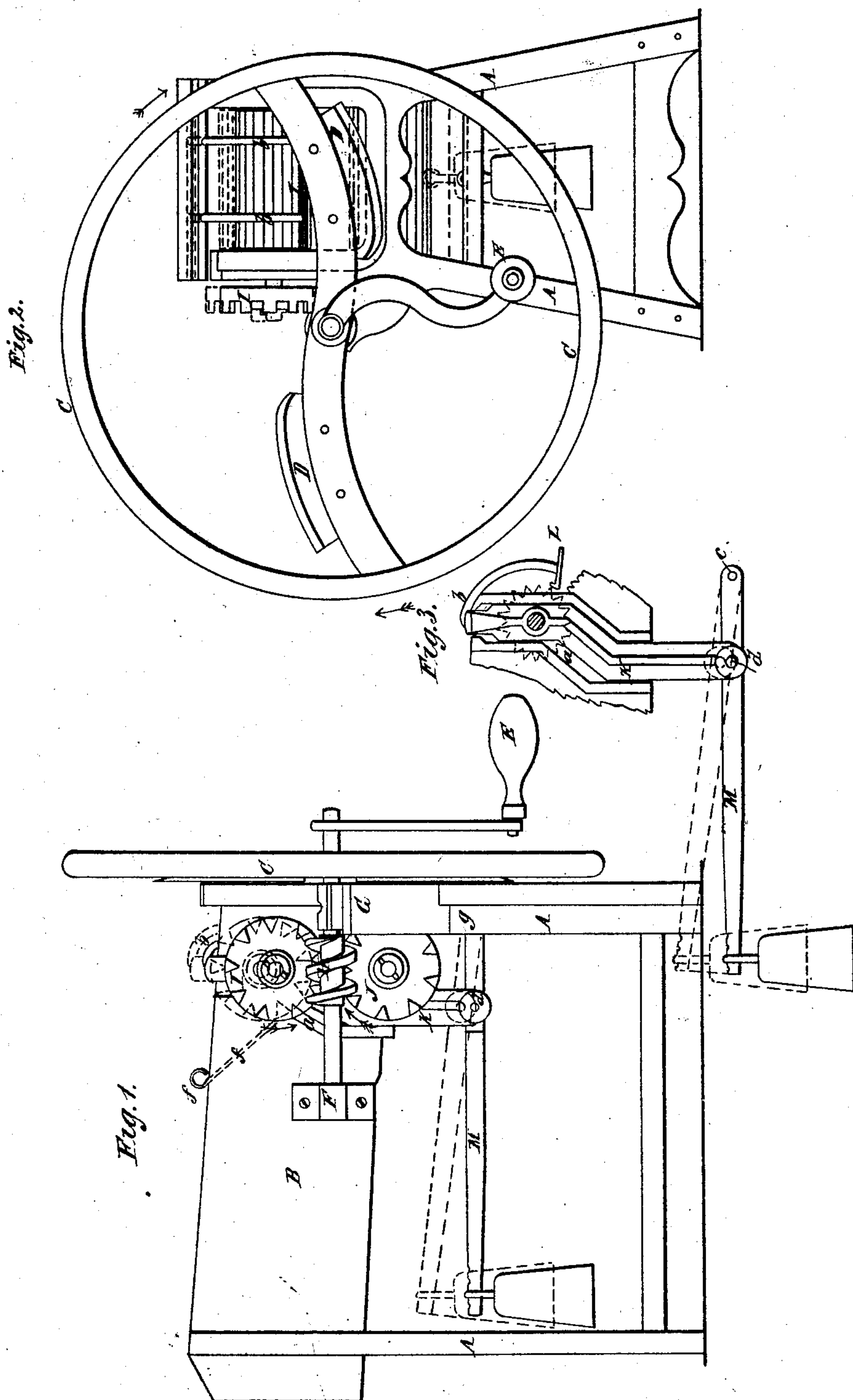


P. VANDE SANDE.
STRAW CUTTER.

No. 22,207.

PATENTED NOV. 30, 1858.



UNITED STATES PATENT OFFICE.

PETER VANDE SANDE, OF ROCHESTER, NEW YORK, ASSIGNOR TO HIMSELF AND MARTIN VANDERWERP, OF SAME PLACE.

STRAW-CUTTER.

Specification of Letters Patent No. 22,207, dated November 30, 1858.

To all whom it may concern:

Be it known that I, PETER VANDE SANDE, of Rochester, in the county of Monroe and State of New York, have invented a new and Improved Method of Constructing Straw-Cutters; and I 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 accompanying drawings, making part of this specification, and to the letters of reference marked thereon.

Figure 1, is a side elevation of my machine. Fig. 2, is a front or end elevation of the same, Fig. 3, is a detached view of the self-regulating feeding apparatus.

The same letters refer to like parts in all of the figures.

A, A, represents the frame of the machine; B, the cutting box; C, the cutter wheels; D D, the knives and E, the crank. The cutting box is analogous in construction to those ordinarily used in this class of implements. To one side a box or bearing, F, is attached and another on a projecting portion of the frame G. On these rest the shaft of the cutter wheel, which revolves at right angles to the mouth of the cutter box. The knives, D, are attached to the cross arms of the wheel and consist of blades with curved or convex cutting edges. Their curvature is such that the cutting edge begins to operate on the straw at the heel of the knife, or that point nearest the axis of the wheel, and extends across the end of the box acting with a gradually increasing and drawing stroke.

A worm, H, is provided on the shaft of the cutter wheel which gears with two spur wheels or pinions, I, J, on the feed roller shafts. The feed rollers are fluted on the surface, the lower one, J, being hung underneath the box B, with its periphery just above the surface of the box bottom. The upper one is hung in a gate, K, which slides vertically in ways on the sides of the box B. The oblique part of these ways *a* is wider than the vertical portions, which admits of the rising and falling of the gate a certain distance but no farther. From a transverse piece across the top of this gate two curved arms, *b, b*, drop in front of the roller I, where a horizontal pressure-plate L, is attached to them, the office of which is to compress the straw after it has passed the

feed rollers, so that it is more readily acted on by the cutters. A lever M, having its fulcrum in the frame at *c*, and pivoted to the gate at *d*, is hung with the weight, O, on its long arm, the effect of which is to produce a downward pressure constantly on the upper feed roller. This causes it to act on the straw with sufficient force, and yet to rise from any inequality or greater thickness in the mass, and to readily adjust itself to the amount that is being cut, whether it be much or little. This obviates the choking of the straw between the feed rollers, a difficulty of common occurrence, as the gate rises to accommodate itself to the quantity drawn through the rollers. Greater or less feed-pressure may be exerted by the upper roller by varying the position of the weight on the lever M, for which purpose notches are provided. The thread of the worm, or screw, H, is deeply cut, and the spur teeth on the wheel I, are prominent, so that the variation in the position of I, as the gate rises does not throw it out of gear. The motion given by the worm to the spring of the feeding cylinders is steady and uniform, and by this method very little power is taken from the main wheel or cutter to drive the feed. A partition, *f*, placed obliquely in the box A, guides the material to be cut between the feed rollers. Its construction is simple, durable and economical, and its operation easy.

I do not claim a rotating cutter wheel, with knives or cutters attached, so arranged that the cutters work against the mouth of the feed box, as this is an old device; but

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

Operating the feed rollers I and J, by means of the worm H, on the shaft of the cutter wheel, when combined with the adjustable feed gate, K, pressure plate, L, and weighted lever, M, for regulating the pressure of the feed, and preventing the choking of the rollers, and keeping the straw uniformly compressed at the point of cutting during the progress of the knife substantially as herein set forth and described.

PETER VANDE SANDE.

Witnesses:

S. J. ALLIS,
MARTIN VANDERWERP.