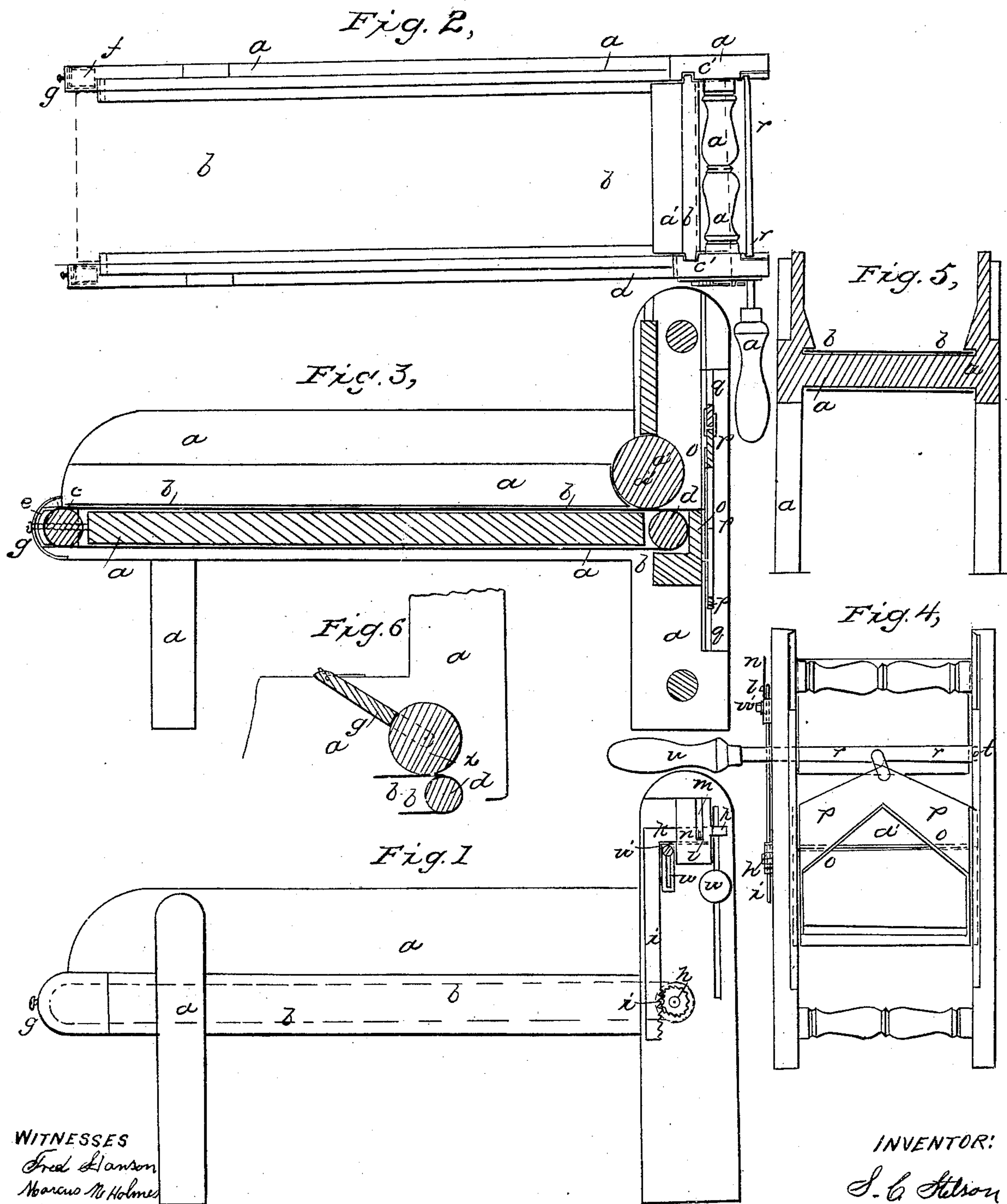


S. C. STETSON.

Straw Cutter.

No. 34,076.

Patented Jan. 7, 1862.



WITNESSES

Fred Hanson  
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# UNITED STATES PATENT OFFICE.

S. C. STETSON, OF NORTH BRIDGEWATER, MASSACHUSETTS.

## IMPROVEMENT IN STRAW AND HAY CUTTERS.

Specification forming part of Letters Patent No. 34,076, dated January 7, 1862.

*To all whom it may concern:*

Be it known that I, S. C. STETSON, of North Bridgewater, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Machines for Cutting Hay, Straw, &c.; and I do hereby declare that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The figures of the accompanying plate of drawings represent my improvements.

Figure 1 is a side elevation. Fig. 2 is a plan or top view. Fig. 3 is a central longitudinal vertical section. Fig. 4 is an end view. Fig. 5 is a transverse vertical section. Fig. 6 is a detail view.

The design of my invention is to so construct a machine for cutting straw, hay, &c., as to render it self-feeding—that is, so that the operator's duty will be simply to perform the cutting movement. In my improved machine the material to be cut is fed along to the knife or knives by means of a traveling apron, which is actuated by the same movement that operates the cutting devices. The means employed for effecting the cutting and feeding operations are so arranged with regard to each other that the material to be cut is held stationary while the knife is performing its work. I have also made other improvements, that will be hereinafter fully explained.

*aaa* in the drawings represent the supporting frame-work of the machine.

*bb* is an endless apron passing around two rollers *c d*, one placed at each end of the machine. To tighten the apron *bb* when it becomes stretched and loose, the roller *c* has its bearings in movable boxes or journals *e* and *f*, Figs. 2 and 3, actuated so as to be moved back and forth at pleasure by set-screws *g g*.

The endless apron is fed along as follows: Upon the end of the journal of the roller *d* is a ratchet-wheel *h*, Fig. 1, with which engages the teeth of a right-angular bar *ik*. In the

short arm *k* of the bar *ik* is a stud or pin *l*, which travels in a slot *m* in a fixed plate *n*, the stud *l* serving to guide the bar *ik* in its up and down motions that it receives, as follows: The cutting devices are composed of two knives *oo*, placed at any suitable angle with regard to each other, as shown in Fig. 4, and secured in a frame *pp*, that moves in guiding-ways *q q*. *rr* is an arm attached to the apex of the knife-frame by a pivot-joint *s*, and turning upon a center at *t*. The arm *rr* terminates in a handle *u* and moves in a way *vv*, formed in the frame-work of the machine. Thus it will be seen that when the handle *u* is raised the arm *rr* will abut against the end of the arm *k*, and thus through the teeth on the lower end of the arm *ik* and the ratchet-wheel *h* give an intermittent rotary motion to the roller *d*, and consequently impart a feeding motion to the endless apron *bb*.

The cutting operation is performed simply by the downward movement of the handle *u*, the material to be cut resting upon a bed *vv* and acted upon by the knives *oo*, and the apron *bb* remaining stationary from the fact that the teeth upon the bar *ik* will, by the dropping of the said bar in consequence of the downward movement of the handle, slip freely over the teeth of the ratchet-wheel *h*.

The length of the feeding movement imparted to the apron *bb* can be varied at pleasure, so that the substances to be operated upon can be cut in greater or less lengths by means of a grooved bar *w*, which can be raised or lowered, as desired, and then fastened by means of a set-screw *w'*, the short arm *k* of the bar *ik* resting upon the top of the grooved bar *w*, so that the stroke of the bar *ik*, and consequently the extent of rotation of the ratchet-wheel *h*, will be regulated by the position of the bar *w*.

*xx*, Fig. 6, is a pressure-roller, hung in suitable bearings on a frame or bar *yy*, which frame or bar is hung at any suitable point upon the frame-work *aaa* so as to swing freely thereon. By this arrangement the material that is being fed along upon the apron *bb* will pass under and be held down thereon by the roller *xx*, which from the peculiar way in which it is hung will exert a yielding pressure upon the straw, hay, &c., and keep it firmly

held while the knives are cutting. Moreover, the bar or frame *y y*, from its inclined position, will act as a guide to keep the straw or hay from riding up, and will guide it downward to the roller *x x*.

In lieu of the roller *x x* and its swinging bar or frame *y y*, a roller *a'*, Fig. 3, may be used, hung in a vertically-placed plate *b'*, that may travel in vertical ways *c' c'*, so as to be free to move up and down and exert a yielding pressure upon the material to be cut. The downward pressure of the rollers *x x* or *a'*

may, if desirable, be increased by suitable springs acting upon their bearings.

Having thus described my improvements, I shall state my claim, as follows:

The arrangement of the right-angular bar *i k*, ratchet-wheel *h*, and bar *w*, operating together as described.

S. C. STETSON.

Witnesses:

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