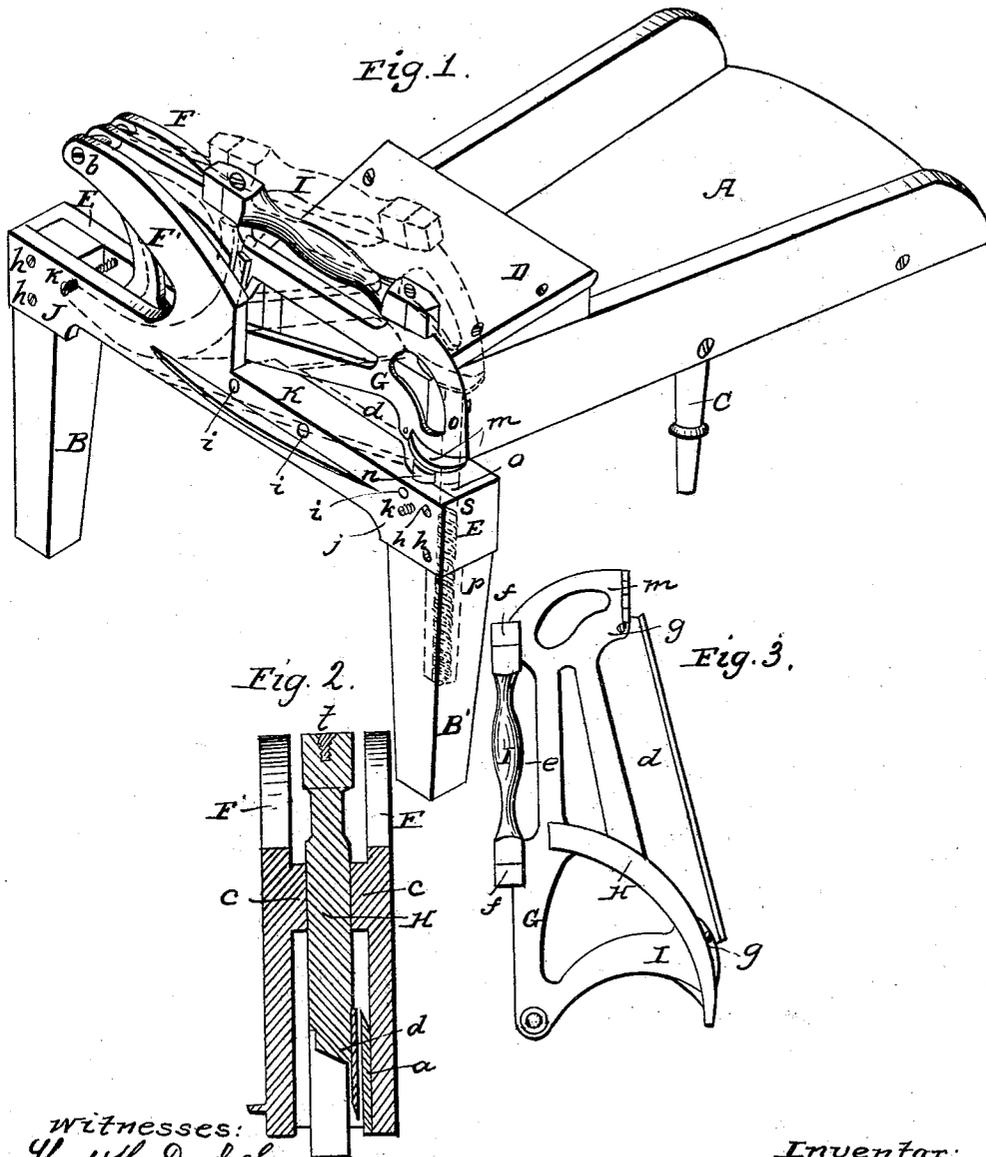


W. HENSHAW.  
Hay and Straw Cutter.

No. 53,614.

Patented April 3, 1866.



witnesses:  
Thos. H. Dodge  
H. L. Fuller

Inventor:  
William Henshaw

# UNITED STATES PATENT OFFICE.

WILLIAM HENSHAW, OF SPENCER, MASSACHUSETTS.

## IMPROVEMENT IN HAY AND STRAW CUTTERS.

Specification forming part of Letters Patent No. 53,614, dated April 3, 1866.

To all whom it may concern:

Be it known that I, WILLIAM HENSHAW, of Spencer, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Hay-Cutters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a perspective view of my improved hay-cutter, the knife and its frame being shown down in black lines and raised in red lines. Fig. 2 represents a section through the cutter-frame, cutters, and the standards to which the cutter-frame is hinged; and Fig. 3 represents a front-side view of the cutter-frame and its cutter detached from the machine and turned up endwise.

In the drawings, A represents the hay-box, which is supported by legs, B, B', and C. The front part of the hay-box is covered, as seen at D. The front end of the hay-box A fits into and is fastened in between flanges cast upon the back side of the iron frame E, to the front of which is fastened the stationary cutter *a*. Frame E is also cast so as encompass the outer sides of the upper ends of legs B B'. There is also cast with it arm F, which, in connection with the arm F', forms the supports between which the knife-frame G is hinged, as seen at *b*. Knife-frame G is made of cast-iron, and has a thick curved rib, H, which works between the flanges *c c* upon the inside of arms F F'. Upon the lower inside of knife-frame G is fastened the knife or cutter *d*, which works in connection with knife *a*. The top of knife-frame G is cored or hollowed out, as seen at *e*, while a wooden-handle, I, is fastened to the elevated parts *f f* of frame G, as indicated in the drawings. Two screws, *g g*, pass through the lower part of frame G, so that their points will press against the knife or cutter *d*, whereby the cutting-face of cutter *d* can be adjusted to work in contact with cutter *a* with great precision.

J is the front cast-iron part of the frame, which is attached to the top of legs B B'. Arm F' is cast with the part J as well as the horizontal plate or table K. The frame part, J, is fastened, by screws or bolts *h h*, to the legs B B', and there are holes *i i i* in it through

which to reach and turn the screws by which the stationary knife *a* is fastened to frame E. Frame J is also provided with two adjusting-screws, *k k*, the points of which strike against the frame E, and by which the center of frame J can be sprung back together with arm F'. In this way, as the machine is used, and the flanges *c c* and rib H wear, screws *k k* can be loosened, thereby causing frame G and its knife *d* to work close up to knife or cutter *a* the same as when first put into operation. The point of the cutter-frame G is provided with a lip *m*, which strikes when down upon the rubber spring *n*, which rests upon the top of frame J.

A rod *o* is fitted to work up and down in leg B', its lower end being turned down so as to pass through coiled or spiral spring *p*, while its shoulder *s* rests upon the top of spring *p*, as indicated in black and red full and dotted lines, Fig. 1.

The operation is as follows: The operator fills box A with hay, straw, or whatever is to be cut, and then takes his position back of arm F, where he can move the material to be cut along with his left hand, while he operates the cutter-frame G and its cutter *d* with his right hand. When the cutter-frame G is down it strikes and rests upon the rubber *n*, whereby sudden jars are prevented. Again, when frame G is forced down it forces down rod *o*, thereby compressing the coiled or spiral spring *p*, which in turn expands and throws up rod *o*, and that in turn elevates cutter-frame G and its knife *d*, so that but little effort is required on the part of the operator to raise the cutter-frame G.

This class of hay-cutters is often preferred by reason of its simplicity and ease of operation. By my improvements many of the previous objections are obviated and the machine rendered more durable. It is also more easily adjusted.

Table K supports the material in a horizontal position while it is being acted upon by the cutters *a* and *d*, thus rendering the cut more certain and perfect.

Frame G is so formed that it combines great strength with a comparatively small amount of metal. Brace L supports the lower end of the rib H.

Having described my improved hay-cutter,

what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The cast-iron knife-frame G, made in the peculiar manner described, and shown in the drawings.

2. The combination of the arms F F', with their ribs or flanges c c, with the knife-frame G, as shown and described.

3. The combination, with the frame J, of the adjusting-screws k k, as and for the purposes stated.

4. The combination, with the front end of

frame G, of the lip m, rubber n, rod o, and spring p, as and for the purposes stated.

5. The combination, with frame-piece J, of the arm F' and table K, when cast together, as shown and described.

6. The combination of the adjusting-screws g g with frame G and knife d, as and for the purposes set forth.

WILLIAM HENSHAW.

Witnesses:

THOS. H. DODGE,  
H. L. FULLER.