

Mauzy & Hughes.
Straw-Cutter.

N^o 72062

Patented Dec. 10, 1867.

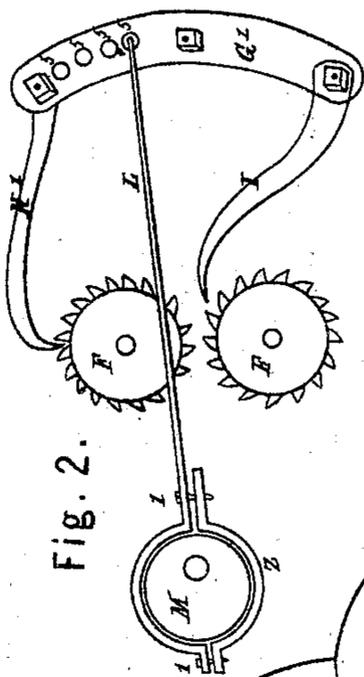


Fig. 2.

Fig. 3.

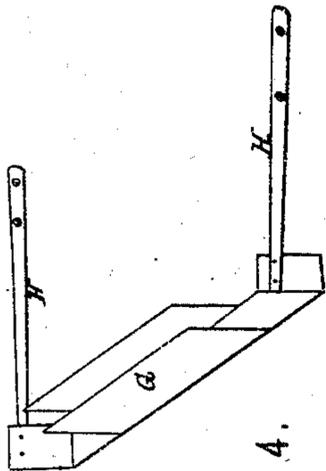


Fig. 5.

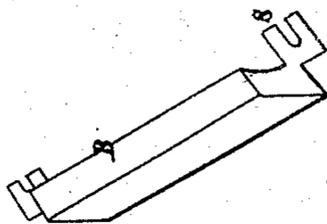


Fig. 4.

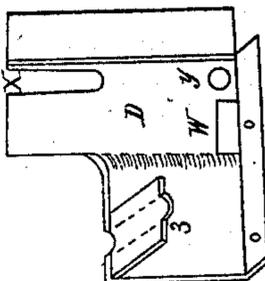
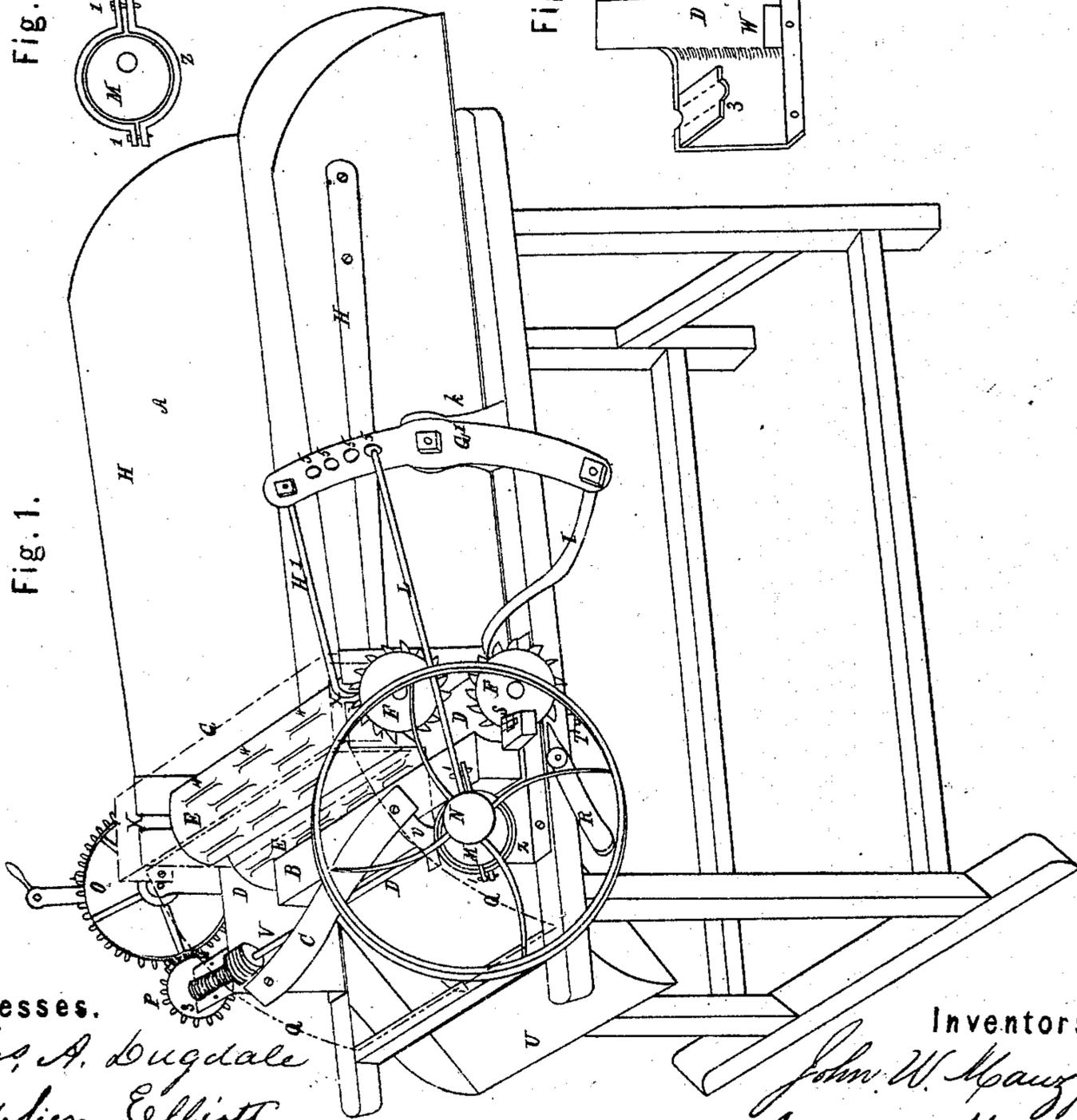


Fig. 1.



Witnesses.

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Letters Patent No. 72,062, dated December 10, 1867.

IMPROVEMENT IN STRAW-CUTTERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JOHN W. MAUZY, of the city of Richmond, county of Wayne, and State of Indiana, and JAMES HUGHES, of Cambridge city, county of Wayne, and State of Indiana, have invented new and useful Improvements in Straw-Cutters; 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 part of this specification, in which—

Figure 1 is a perspective view.

Figure 2 represents the feeding arrangement.

Figure 3 represents the cap and spring for holding down the straw and top roller.

Figure 4 represents one of the side pieces, on which is one of the bearings for the shaft on which the cutting-knife is secured, and slot in which the top roller revolves, and hole for journal of bottom roller to revolve in, and also slot in which the cutting-bar is secured.

Figure 5 represents the cutting-bar.

A, in fig. 1, is a cutting-box and frame. B is the adjustable cutting-bar, seen through the side piece D, also seen at fig. 5, which may be made straight if desired, in place of the shape represented. C is the cutting-knife; D D, the two side pieces or supports for the bearings in which the shaft or journals revolve, one of which is more plainly shown at fig. 4. E E are the two feed-rollers; F F, the two ratchet-wheels on the ends of the shafts of the feeding-rollers, also seen at fig. 2. G is a cap, represented by red lines, and held down by means of the wooden springs H H, one of which is not seen. H H are springs for supporting and holding down the cap G. One of said springs is not seen in fig. 1, both are fully shown at H H in fig. 3. I is one of the pawls, also shown at fig. 2. k is an upright piece. L is a cam-rod, shown also at fig. 2. M is a cam, also seen at fig. 2. N is a fly-wheel. O is a cog-wheel. P is a pinion; Q, a cap, represented by red dotted lines, made of sheet iron, to protect against accident. R is a pawl for holding the ratchet of the lower roller; S, a slot cross-wise at the end of the bar B, also seen at fig. 5; T, one of the bolts which secures the bar B to the frame in the slot W in the side piece D. Said side piece is more plainly seen at fig. 4. U is a spout for the cut straw to run down from the knife to the floor; V V, the hubs with arms, to which the knife C is attached. W, in fig. 4, is a slot in the side piece D, to receive the end of the bar B, where it is firmly bolted, and in which it may be moved at pleasure by loosening the screw-bolt T, as seen in fig. 1. X X, in fig. 1, are slots, in which the top roller revolves, and is permitted to rise and fall while the machine is in motion. One of said slots is more plainly shown at x in fig. 4. Y, in fig. 4, is a round hole, not seen in either side piece D, in fig. 1, but with which each is provided, and in which the journals of the lower feed-roller revolve. Z, in fig. 1, is a clamp which forms a circle with the rod L, enclosing the cam M, more plainly seen at Z in fig. 2. G¹, in fig. 1, is a vibrating lever, also seen at G¹ in fig. 2. H¹ is a pawl, also seen at H¹ in fig. 2. 1 1, in fig. 1, are bolts by which the clamp Z and rod L are fastened together, also shown at fig. 2. 2, in fig. 1, is the shaft on which the knife C, pinion P, cam M, and fly-wheel N are secured. 3, in fig. 4, shows one of the bearings in which the fly-wheel shaft revolves, seen also at 3 in fig. 1, one of said bearings in fig. 1 not being fully visible. 4 4 4, in fig. 1, are oblong perforated slots punched from the inside, and in rows, breaking joints with each other, the edges projecting outward, for the purpose of holding the straw more firmly. 5 5 5 5, in fig. 1, are holes in the vibrating lever G¹, seen also in fig. 2.

The cutting-box and frame A should be made from ten to fifteen inches wide, and four feet long. The frame should be about two feet two inches high. The rollers E E should be made of good sheet iron. The oblong slots 4 4 4 should be punched before the sheet iron is formed in a roller. The shafts of the rollers should be made of three-quarter or one-inch round iron. The heads may be made of wood or iron, and secured to the shaft. The sheet iron is secured to the heads. The ratchets F F, pawls H¹ and I, connecting-rod L, and clamp Z, and vibrating lever G¹, should all be made of cast iron. The bar B should be made of cast iron. It is not necessary that the slot S should be set back of the bar, as the bar may be straight, and the slot S may be on a line with the back of the bar if desired. The cap G may be made of wood or thick sheet iron. The springs H H should be made of good hickory, ash, or oak timber. Said cap and springs are intended to press

down the top roller, and the front of the cap to press down the straw in front of the roller. The knife C should be made of good cast steel, and well secured to the arms V V, which are cast with hubs and secured on the shaft 2. Said shaft 2 should be made of one and a quarter inch round iron. The pieces D D should be cast with the slots and hole, as seen at fig. 4. The fly-wheel should be cast iron, as also the cam M, which may be cast fast to the fly-wheel, or secured from turning on the shaft, by means of a pin or screws, or may be keyed on the shaft.

Operation.

It will be seen that by placing straw in the box A, and inserting it between the rollers E E, by applying power to the wheel O, the pinion P, shaft 2, and cam M, are caused to revolve, operating the vibrating lever G¹, by means of the rod L. The pawls H¹ and I operating on the ratchets F F, the rollers E E are turned, and the straw drawn toward the knife, and being supported by the bar B, and held down by the front side of the cap G, is cut by the knife C at each revolution of the fly-wheel N. The length of the cut may be varied. By placing the cam-rod L in the holes 5 5 5 5, further from the centre of lever G¹, a shorter cut is obtained.

We do not claim a movable or adjustable bar, neither do we claim a-revolving spiral knife, nor the feed-rollers, as we are aware that they have all been used in different forms by other persons; but,

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

1. The combination of the side pieces D D, constructed as described, containing the bearings for the cutting-mechanism, the shearing-bar B, with square faces, and the spirally bladed knife C, arranged substantially as described.
2. The combination of the perforated rollers E, ratchet-wheels F, pawls H¹, I, and R, adjustable oscillating arm G¹, eccentric-rod L, and eccentric M, respectively constructed and arranged substantially as set forth.
3. The arrangement of the cap G, rollers E E, covers Q, side pieces D D, knife C, and the driving and the feed-mechanism, constructed and combined substantially as set forth.
4. The feed-rollers E, when constructed from sheet metal, and punched from the inside, forming projections as shown, for feeding the straw to the knife.
5. The metallic side pieces D D, constructed as described, in combination with the bar B, knife C, feed-rollers E E, arranged substantially as set forth.
6. The combination of the eccentric M on the knife-shaft, eccentric-rod L, and oscillating arm G¹, when the latter are so arranged as to regulate the cut by adjusting the point of attachment, substantially in the manner set forth.

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Witnesses:

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