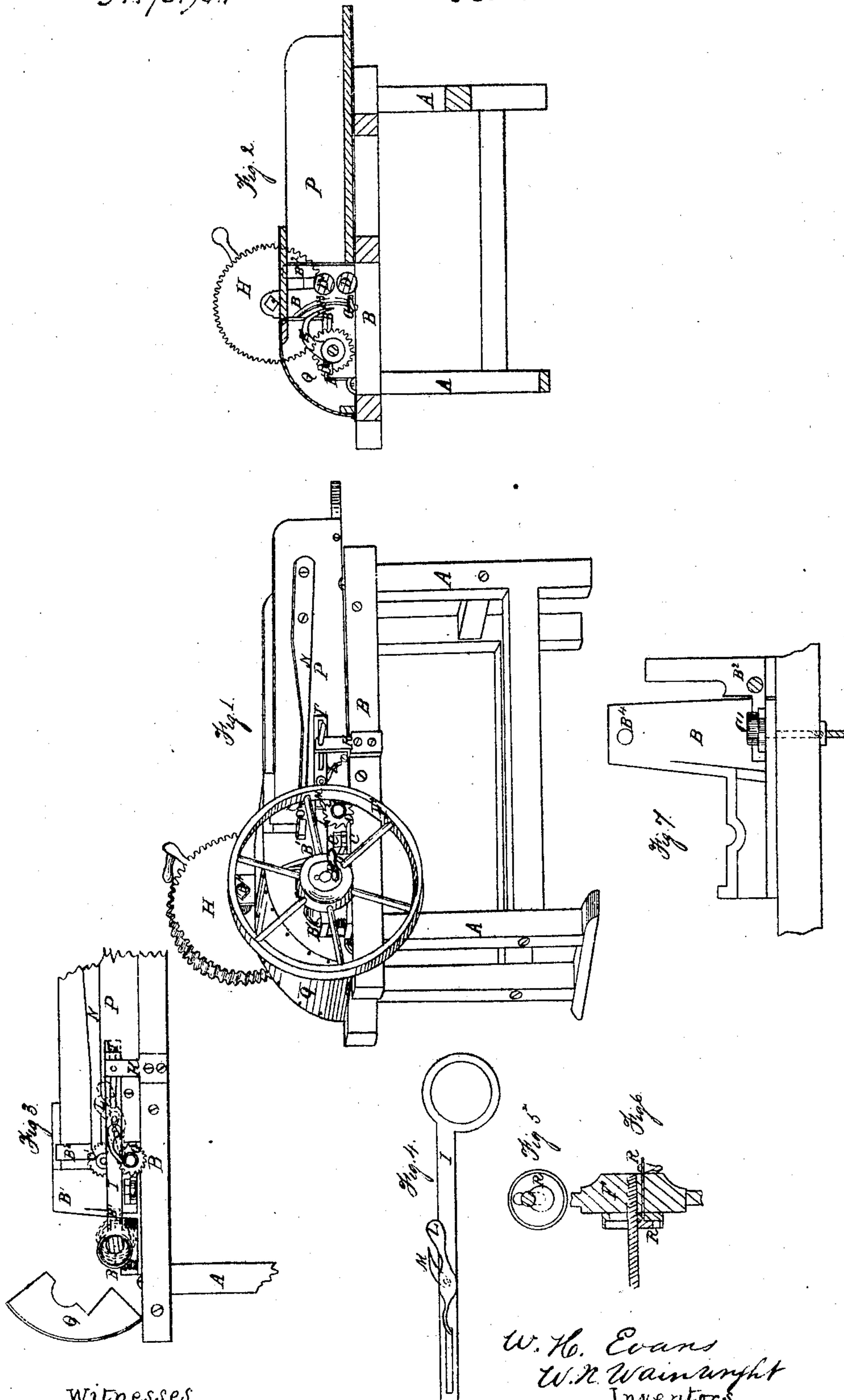


W. H. Evans and W. H. Wainwright,
Straw-Cutter.

No 73,961.

Patented Feb. 4. 1868.



Witnesses
L. Murphy
R. Mason

W. H. Evans
W. H. Wainwright
 Inventors.

by
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 their attys -

United States Patent Office.

WILLIAM H. EVANS AND WILLIAM H. WAINWRIGHT, OF INDIANAPOLIS,
INDIANA.

Letters Patent No. 73,961, dated February 4, 1868.

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, W. H. EVANS and W. H. WAINWRIGHT, of Indianapolis, in the county of Marion, 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 same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a perspective view.

Figure 2 is a vertical longitudinal section.

Figure 3 is a side elevation, with the fly-wheel removed.

Figure 4, an elevation of the eccentric-shaft.

Figure 5 shows the mode of adjusting the eccentric.

Figure 6 is a longitudinal section of the eccentric, and

Figure 7 is a side elevation of the combination-boxes.

The same letters are employed in all the figures when indicating the same parts.

A is the frame of the machine, to which are bolted the combination-boxes B B¹, cast with suitable bearings for the different parts of the mechanism; C is a square-edged cutting-bar, on which the straw rests, and its edge forms, with the revolving spiral knife E, shears by which the straw is cut as it is fed forward to meet the knife. This bar is extended through slots in the combination-boxes B B¹, and has a slot in each end, through which passes the eccentric adjusting-screw C'. This screw has a neck, fitting into the slot in the end of the bar C. This neck is eccentrically attached to the screw, so that as the head is turned, the neck acts as an eccentric to move the end of the bar C nearer to or further from the knife. The lower end of the screw is extended through the frame, and is attached by a nut, which draws the head down upon the bar C, and secures it in place. The combination-boxes embody the following peculiarities of construction: Curved guards, raised upon the inner faces, shown at B³, to direct the straw properly to the knife; bearings for the knife-shaft; slots for the bar C, and holes in the bottom flange for the eccentric-bolt, and bolts for attaching them to the frame; also a straight margin on the back edge, where they serve as one side of the bearing for the adjustable feed-roller; also a hub, B⁴, to which the spur-wheel H is attached. The two boxes are alike, except that only one has the hub for supporting the fly-wheel. The knife is a spirally-arranged blade, attached by curved arms to the shaft by set-screws passing through the eyes. It is driven by a spur-wheel, H, working into a pinion, G, on the end of the knife-shaft. The feeding-rollers, D and D¹, feed the straw to the knife. The lower one revolves in fixed bearings in the metallic plate B². This plate is bolted to the frame immediately behind the combination-boxes B B¹. It is cut away on the upper part of the edge next the boxes B B¹ to form a slot in which the shaft of the adjustable roller D' revolves. This roller is pressed against the top of the straw, fed into the box F by springs N, placed on each side of the box, bearing upon the journals of the roller. The fly-wheel F is attached to the knife-shaft. On the said shaft, inside of the hub of the fly-wheel, is the eccentric, R, which is constructed with a radial slot, extending from the centre, through which the knife-shaft passes. The bolt R' passes through the hub of the fly-wheel and the eccentric. The head of the bolt pressing against the eccentric, draws it against the hub of the fly-wheel, and holds it in place, the degree of eccentricity depending on the position of the shaft in the slot, so that the length of the reciprocating motion of the eccentric-rod I, attached by straps to the eccentric in the ordinary manner, may be regulated at will. The eccentric-shaft has a slot, at I', through which passes a pin, serving as a guide, said pin being sustained by a standard, K, attached to the frame. To the eccentric-rod I are attached pawls, L and M, working against the teeth of the ratchet-wheels O and O', on the ends of the shafts of the feed-rollers D and D'. The pawl L is pivoted in the middle, and so weighted on the outer end that its point shall be made to bear upwards against the ratchet-wheel O', while the pawl M bears from above against the ratchet-wheel O. By this arrangement the rollers are made to revolve in opposite directions, so as to unite in feeding the straw forward. The rollers are cylinders of wood, covered by metallic plates, punched from the inner side to form projections on the outer surface to catch the straw. Q is a hinged cover to enclose the cutting-knife, and prevent accidents.

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

1. The combination of the eccentric-shaft I, pawls L and M, ratchet-wheels O and O', rollers D and D', and the adjustable eccentric R, constructed and arranged substantially as set forth.
2. The combination of the boxes B and B¹, and plates B², constructed as described.
3. In combination with the boxes B B¹ and knife E, we claim the cutting-bar C, adjustably attached by eccentric-bolts, substantially as described.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

WM. H. EVANS,
WM. H. WAINWRIGHT.

Witnesses:

RICHARD S. DRULEY,
A. B. YOUNG.