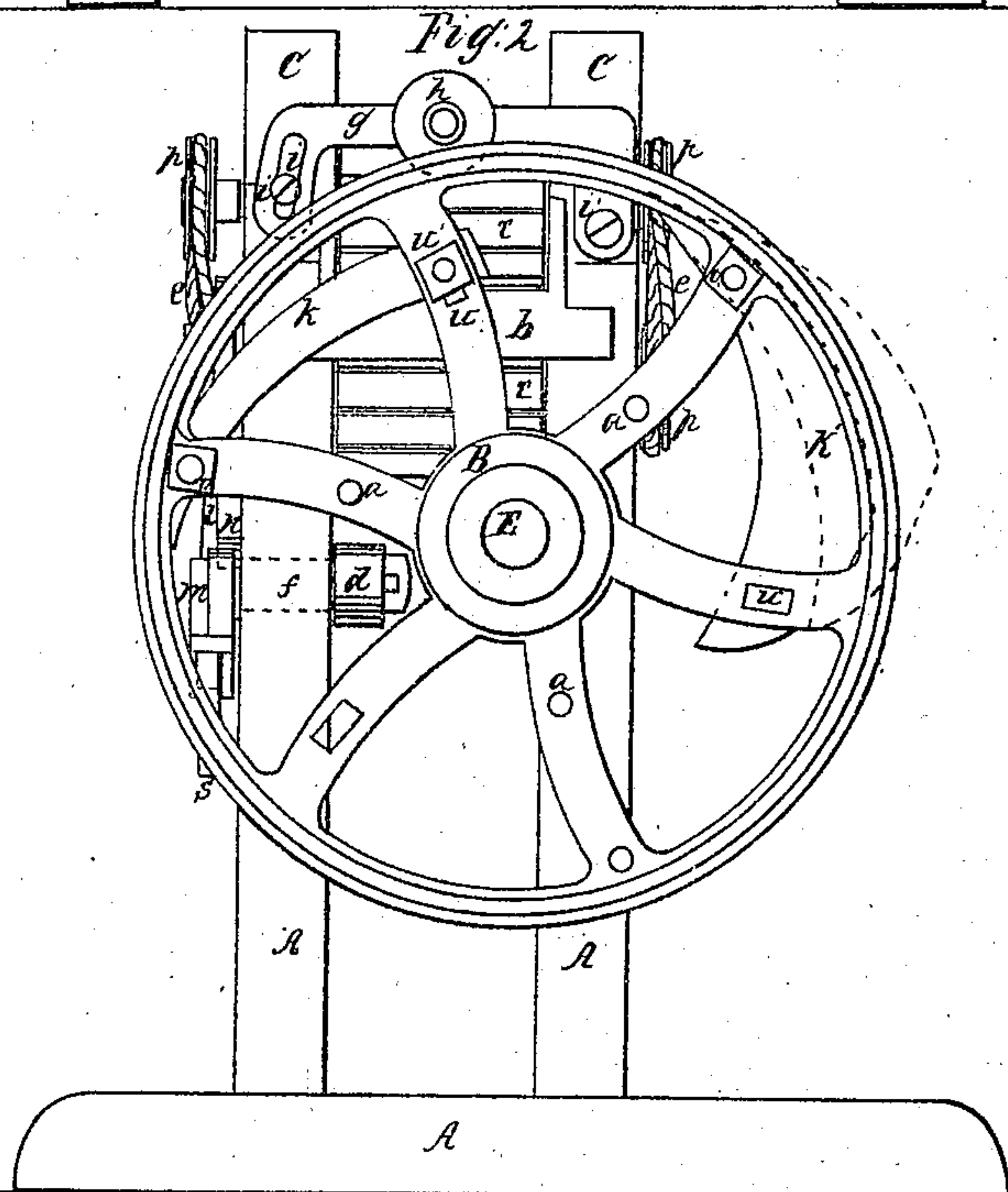
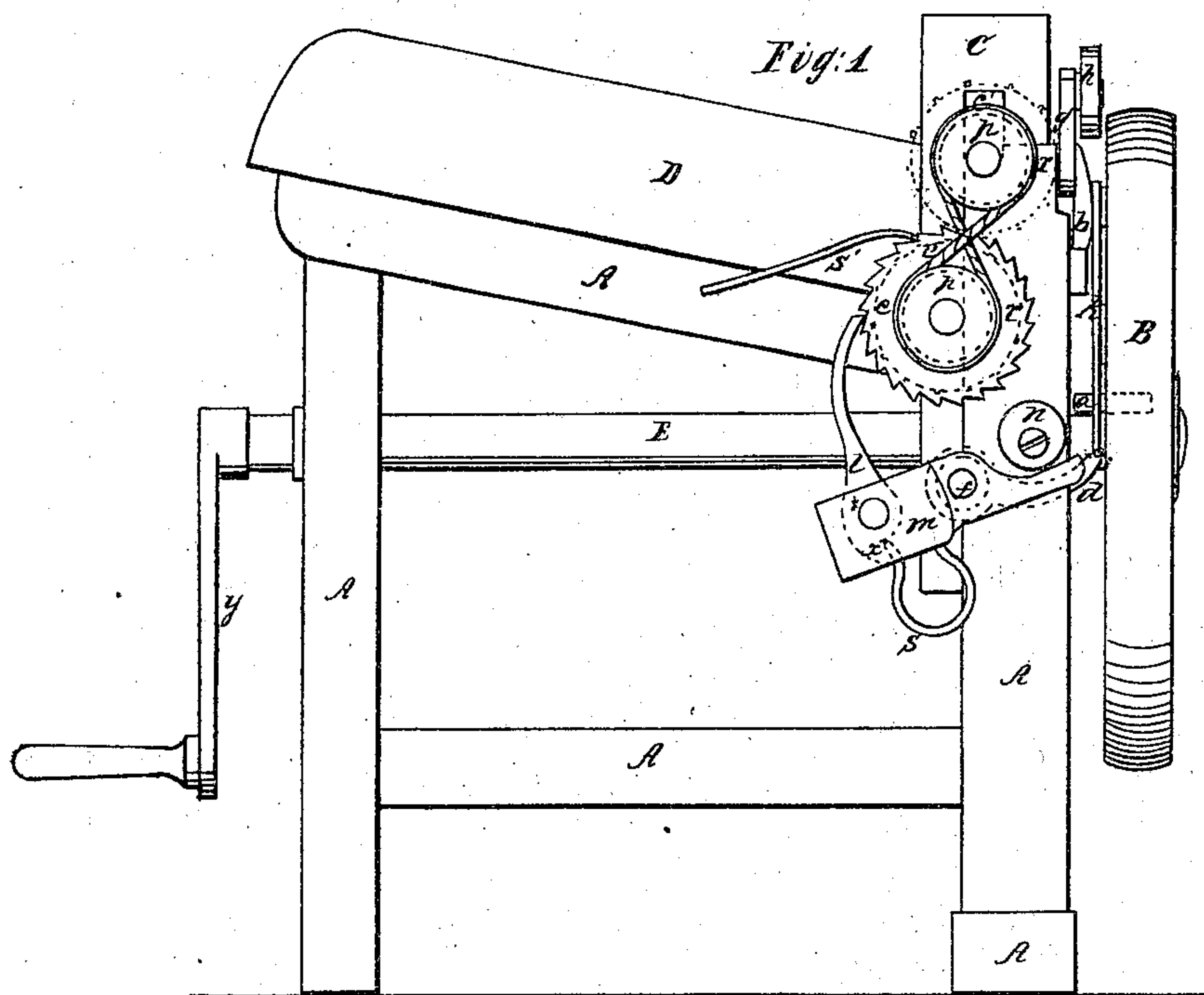


G. W. HATHAWAY.
FEED CUTTER.

No. 30,817.

Patented Dec. 4, 1860.



Witnesses
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UNITED STATES PATENT OFFICE.

GEO. W. HATHAWAY, OF TIOGA, PENNSYLVANIA.

FEED-CUTTER.

Specification of Letters Patent No. 30,817, dated December 4, 1860.

To all whom it may concern:

Be it known that I, G. W. HATHAWAY, of Tioga, in the county of Tioga and State of Pennsylvania, have invented a new and useful Improvement in Feed-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 drawing, making a part of this specification, in which—

Figure 1 is a side elevation of the machine. Fig. 2 is an end view of the same.

Similar letters of reference indicate corresponding parts in both figures.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation, with reference to the drawing.

The several letters A, represent the frame. E, is the driving shaft, y , the crank, and B, the balance wheel, to the arms of which the knives k , and k' , are attached the points being pivoted at o , and the heel being attached to the movable block u' , which slides in the slot u . The knives should be made as shown at k' , the heel being much broader than the point, and as the wheel B, revolves, the back of the knives is drawn (one after another) under the roller h , which causes the heel or broad end to swing down or concentric from the position shown by the red lines in Fig. 2, thereby producing a secondary, or compound, movement to their cutting edge. The said roller h , is hung to the arch g , one end of which is pivoted to the frame at i' , and the other end is made adjustable by means of the set screw i , which passes through the slot v , and into the frame.

The concentric throw of the heel of the knives may be increased by dropping the end of the arch g , at i .

I use the ordinary feed rollers p , the axis of the lower one being fixed, and the upper one is allowed to move vertically in the slots c' , of the caps C, in adjusting itself to the inequalities of the material which is being cut, by means of the elastic driving bands e , at each end, which run in the grooves of the pulleys p , and drive the said upper roller. The ratchet wheel c , of the lower roller r , is operated by the pawl l , which is pivoted in the box of the head m , of the rock shaft

f , on the opposite end of which is placed the arm d , and as the wheel B, revolves, the pins a , press the end of the arm d down which rocks the shaft f , and the pawl l , is moved upward, and turns the rollers r , which are prevented from turning back, by the spring latch s' , which is fixed to the side of the frame A.

The pawl l , is kept in gear with the ratchet wheel c , by the spring s , one end of which is fixed to the head m , and the other presses against the spur shown by the dotted lines at x , in Fig. 1.

It will be seen that by bearing the arm d , down, the spring s , is compressed and its inclination to recover its natural position, together with the extra weight on that side of the rock shaft f , causes the pawl l , to drop down the instant the arm d , is relieved by the passing pin a .

The feed of the rollers r , is regulated by means of the cam n , which when turned up as seen in Fig. 1, gives the longest feed and to decrease the length it should be turned down, which will give the shortest feed, and by turning its eccentric side horizontal with its axis, it gives a medium length to the feed.

The arm d , is so connected with the rock shaft f , as to be turned up without turning the said shaft by means of which the parts would not be broken if the wheel should happen to turn backward. By removing the crank y , and applying a belt to the balance wheel B, the machine may be driven by a steam engine or other motor.

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

1. The combination in the manner specified, of the roller n , and adjustable arch g , with the knives k , arranged and operated as set forth.

2. The combination of the rock shaft f , its arm d , head m , spring s , and pawl l , with the cam n , they all being constructed, arranged and operating in the manner and for the purpose specified.

GEORGE W. HATHAWAY.

Witnesses:

J. SCHIEFFELIN,
I. S. BUSH.