

*Making Hoops.*

*Patented Sep. 23, 1856.*



# UNITED STATES PATENT OFFICE.

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## HOOP-MACHINE.

Specification of Letters Patent No. 15,780, dated September 23, 1856.

*To all whom it may concern:*

Be it known that we, JOSEPH SAWYER and SYLVESTER SAWYER, of Fitchburg, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Machines for Splitting Hoops, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making  
10 part of the same, in which—

Figure 1 is a plan. Fig. 2 a vertical section upon the line A, A, of Fig. 1. Fig. 3 a vertical section upon the line B B of Fig. 1. Fig. 4 a modification of our improvement  
15 which will be referred to hereafter.

Our invention consists in so hanging the splitting knife and connecting it with the feeding rolls that it shall always be half way between the rolls and at all times parallel with the direction of the hoop. The shafts of the rolls C, and D, run in stationary bearings in the framework. The other rolls E and F are allowed to move to and from the former, and are brought up to  
25 their work by the spiral or other springs G.

H, is a rack bar (seen dotted in Fig. 1) through one end of which the shaft of the roll F passes and which moves with this roll as it is pressed out by the hoop pole. The rack-bar engages with a gear *f* which is connected with a smaller gear *c* (seen dotted in Fig. 3) the latter wheel engages with a rack *i* upon the carriage K to which is secured the knife *m*. This carriage is hung  
35 upon two parallel rods or ways *n*, *o*, so as to permit it to slide a short distance to one side and the other, and then the knife is kept parallel to the direction of the hoop pole.

The size of the wheels *f* and *c* with respect to each other is such that the motion of the knife carriage shall be one half that of the rack bar H and thus the knife will be at all times midway between the rolls, whatever may be the distance of the latter apart. 45

In Fig. 4 is seen a modification of our improvement in which the knife *p* is attached to a block M which slides upon ways R and is prevented from turning by the grooves *q* seen dotted in the figure. The block M 50 is pivoted at its center to the bar S which is attached to the frame of the machine by the pin *r* on which it vibrates. To the other end of the bar is attached a short arm T, pivoted at *s* which also has a slight play 55 vertically at the joint *t*. This arm T has at its outer end a hole through which the shaft of the roll F passes; and thus as the block M and the knife *p* are attached to the middle of the length of the bar S, the knife will be 60 moved just half the distance to which the roll F is spread by the hoop pole, and the knife will always be in the center of the pole.

What we claim as our invention and desire 65 to secure by Letters Patent are—

The methods herein described of hanging the knife, and connecting it with the feeding rolls; for the purpose of retaining it midway between the rolls and parallel 70 with the direction of the hoop pole.

JOSEPH SAWYER.  
SYLVESTER SAWYER.

Witnesses:

NATH'L WOOD,  
ABEL THURSTON.