J. J. Alrod,

Making Hoops.

No. 64,270. Patented Apr. 30, 1867.

Fig. 1.

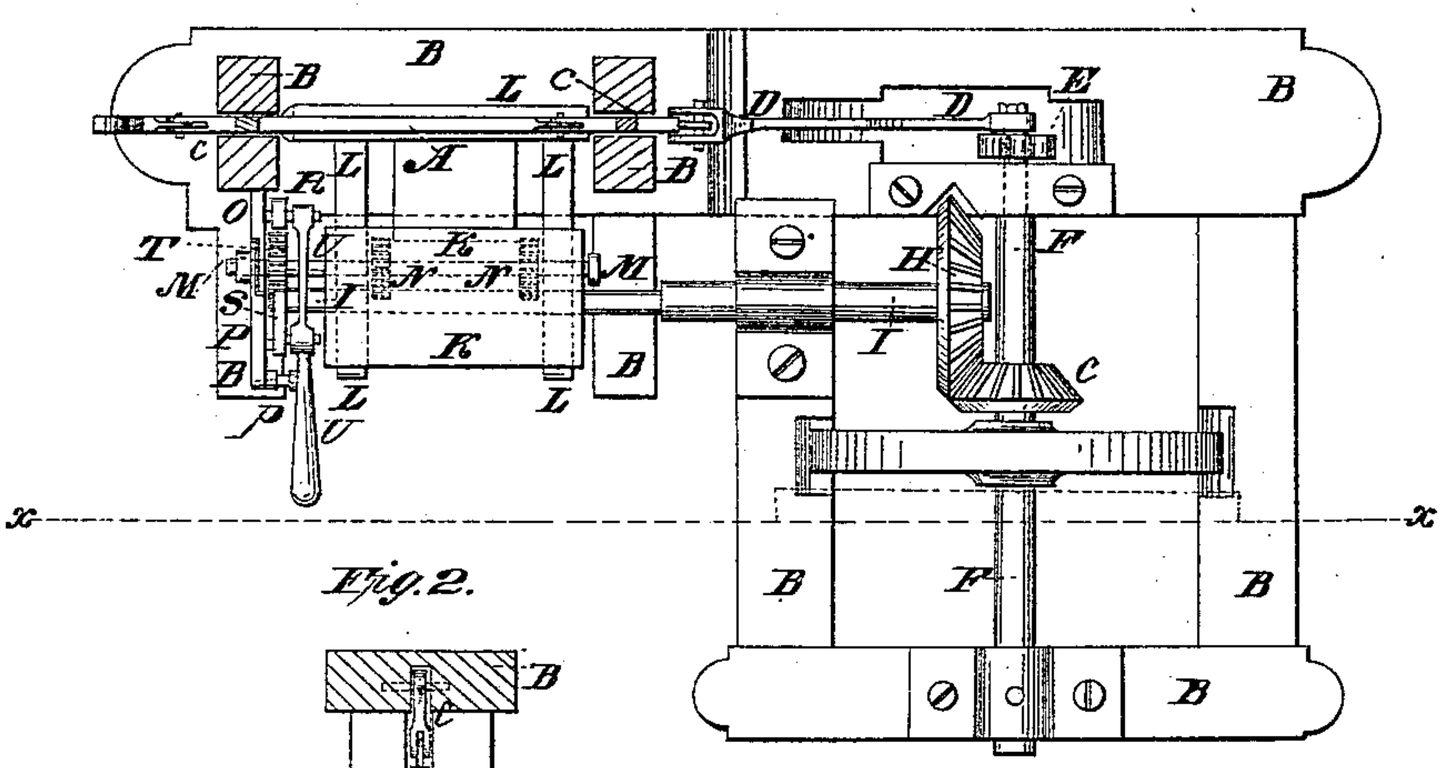


Fig. 2.

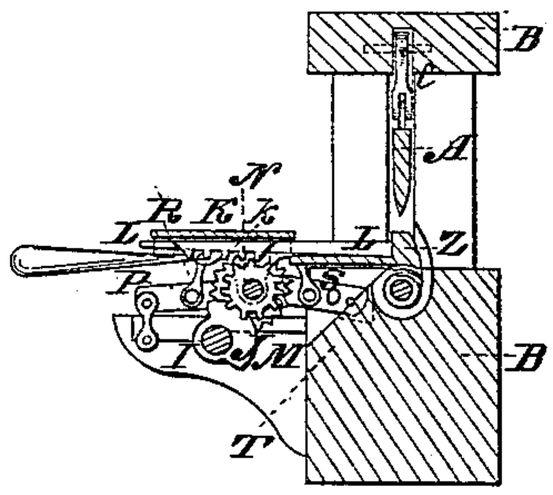


Fig. 4.

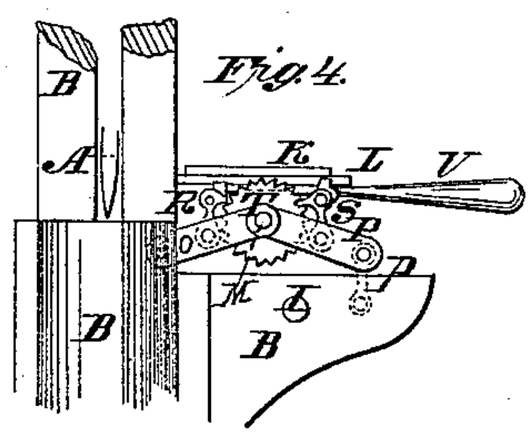
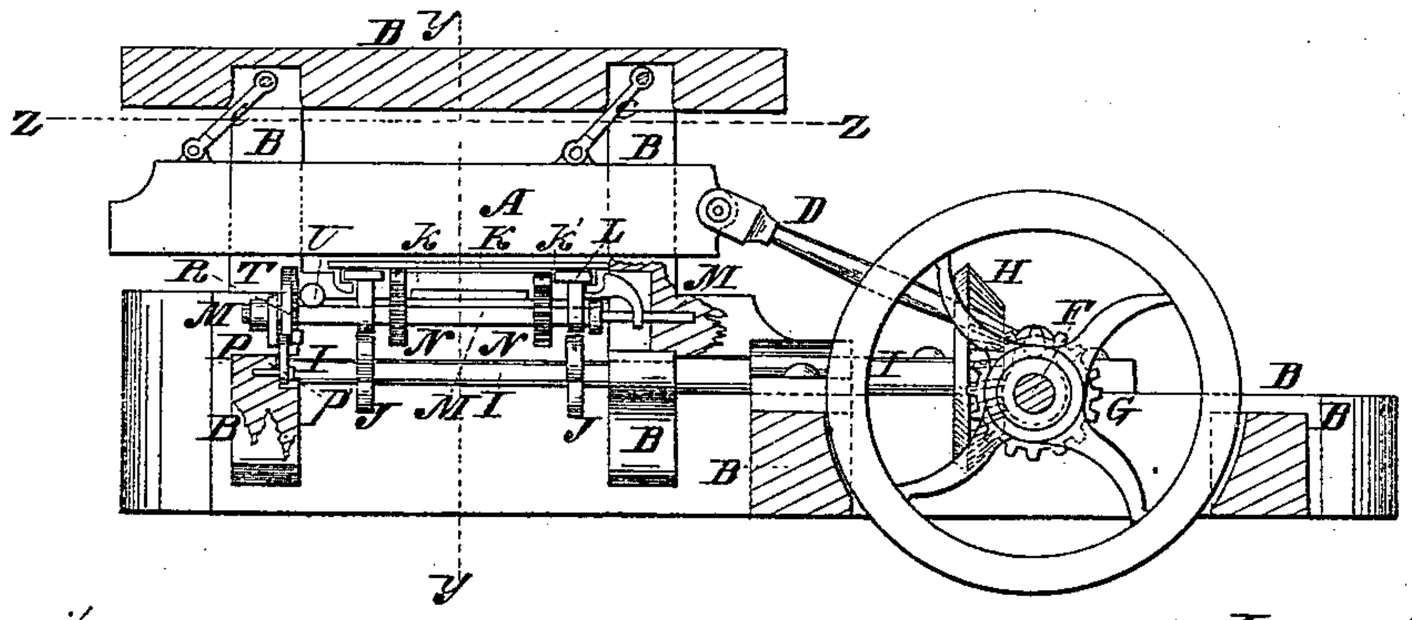


Fig. 3.



Witnesses:

Thos Tusche.

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United States Patent Office.

JOHN J. ALVORD, OF TECUMSEH, MICHIGAN, ASSIGNOR TO HIMSELF AND SAMUEL C. BLINN, OF THE SAME PLACE.

Letters Patent No. 64,270, *dated April* 30, 1867.

IMPROVEMENT IN HOOP MACHINES.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN J. ALVORD, of Tecumseh, in the county of Lenawee, and State of Michigan, have invented a new and useful Improvement in Hoop Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top view of my improved machine partly in section, through the line *z z*, fig. 3.

Figure 2 is a vertical cross-section of the same, taken through the line *y y*, fig. 3.

Figure 3 is a side view of the same partly in section, through the line *x x*, fig. 1.

Figure 4 is a detail end view of the same.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved machine, by means of which the hoop may be cut at one stroke of the knife, and the table tipped automatically to give the proper bevel to the hoop; and it consists in hanging the knife from the frame of the machine, and operating it by a pitman connected with the crank-wheel of the driving-shaft, so as to cut the hoop at a single drawing stroke; in the combination of the cams attached to the driving-shaft, with the pivoted frame upon which the table slides back and forth; and in the combination of the pivoted arms, pawls, ratchet-wheel, feed-shaft, and table with each other, for the purpose of feeding the timber forward to the knife, the whole being constructed and arranged as hereinafter more fully described.

A is the knife, which is suspended from the frame B of the machine, by the arms C, in such a way that the stroke may end when the said arms C have moved down into a vertical position. To the end of the knife A is pivoted the end of the pitman D, the other end of which is pivoted to the crank-wheel E, attached to the end of the shaft F. The shaft F revolves in bearings in the frame B, and has a bevel gear-wheel, G, attached to it, into which mesh the teeth of the bevel gear-wheel H, attached to the end of the shaft I. The shaft I revolves in bearings in the frame B of the machine, and has cams, J, attached to it, which, by coming in contact with the frame L, upon which the table K rests and slides, raise and lower the said frame and table. To enable this to be done in such a way as to give the desired bevel to the hoops, the frame L is pivoted at its forward edge to the frame B. M is a shaft, which revolves in bearings attached to the lower side of the frame L. To the shaft M are attached gear-wheels N, the teeth of which mesh into the teeth of the racks *k'*, attached to the table K, so that by the revolution of said shaft the said table may be fed forward to the knife A. O and P are arms, the inner ends of which have holes formed through them, through which the shaft M passes. The outer end of the arm O is pivoted to the frame B of the machine, and the outer end of the arm P is connected to the frame B by a short connection-bar, *p'*. To the arms O and P are pivoted the pawls R and S, which are so formed as to take hold of the teeth of the ratchet-wheel T, attached to the shaft M, and revolve it, as the table and frame are raised and lowered, so as to feed the said table forward each time the thickness of a hoop. U is a lever or bar, to which the pawls R and S are pivoted, so that the said pawls may be operated by hand when desired.

In using the machine, the timber is sawn into a proper length and thickness to form the hoops. It is then steamed and placed upon the table K, and the machine started. As the frame and table are raised by the cams J, the table is fed forward by the ratchet-wheel T, and the knife A, at a single drawing stroke, cuts a hoop having the requisite bevel. As the cams lower the said frame and table, the table is again fed forward, and the knife cuts another hoop.

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

The arrangement of the arms O P, pivoted together upon the shaft M, and having the pawls R S secured thereto, ratchet-wheel T, vibrating frame L, bearing the said shaft M, the sliding table K, to which is secured the rack K', meshing into the gear-wheels N, and cams J, upon the shaft I, substantially as herein set forth for the purpose specified.

JOHN J. ALVORD.

Witnesses:

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