J. GREENWOOD.

Machine for Making Staves.

No. 199,057. Patented Jan. 8, 1878.

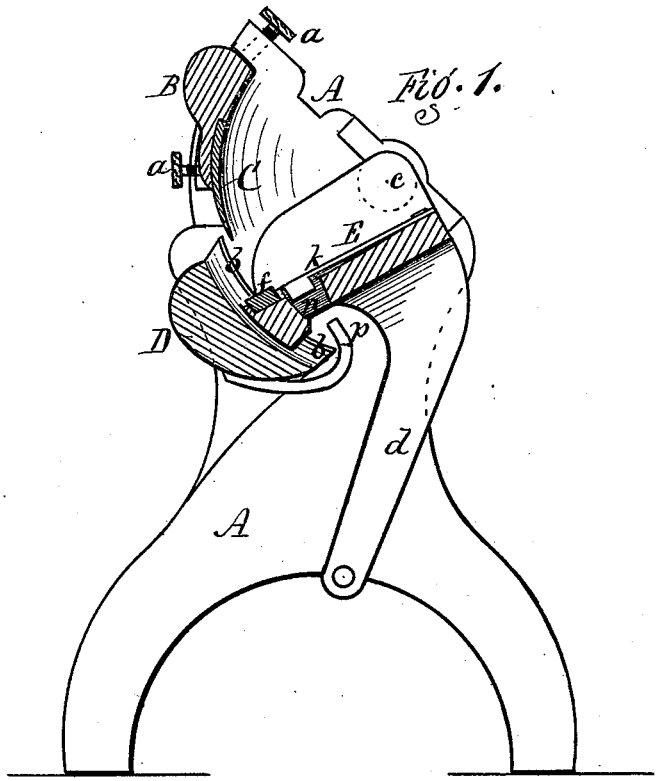


Fig. 1.

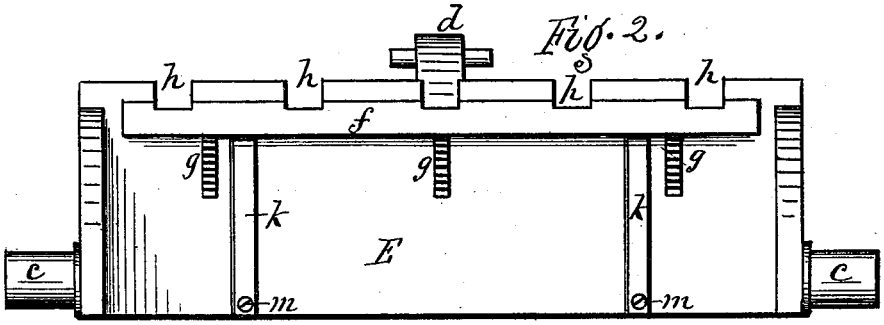
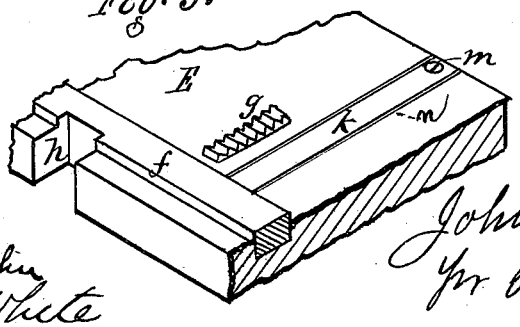


Fig. 2.

Fig. 3.



Attest.
Jacob Spahn
R. E. White

Inventor:
John Greenwood
per R. F. Osgood,
Atty.

UNITED STATES PATENT OFFICE.

JOHN GREENWOOD, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN MACHINES FOR MAKING STAVES.

Specification forming part of Letters Patent No. **199,057**, dated January 8, 1878; application filed October 12, 1877.

To all whom it may concern:

Be it known that I, JOHN GREENWOOD, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Machines for Making Staves; and I 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 accompanying drawings, in which—

Figure 1 is a vertical cross-section of the machine. Fig. 2 is a plan of the swinging bed, detached. Fig. 3 is a fragment of the same in perspective.

My improvement relates to those machines in which a swinging bed carries the bolt to a curved knife, which cuts off a slice at each stroke to form the stave.

The invention consists in combining, with the said parts, springs, sunken into the bed and operating in connection with the dogs upon the bed, so as to raise the bolt free from the dogs at the back stroke, to enable it to slide down in position for a new cut, all as hereinafter described.

Referring to the drawings, A represents the main frame, in the upper portion of which is mounted a cutter-head, B, carrying the curved knife C, said parts being adjustable by means of screws *a a* or other means.

D is a corresponding base-block, having on its inner concave surface a series of metal-capped ribs, *b b*.

E is the swinging bed, turning upon pivots *c c* in the main frame, and operated by a crank-arm, *d*, or other means.

f is a wood lining, sunken into the metal at the inner edge of the bed, to receive the cut of the knife.

g g g are dogs upon the face of the bed, made in ratchet form, for the purpose of holding the bolt from slipping back as it is cut.

h h h are notches in the inner edge of the bed, which slide over the ribs *b b b*.

The bolt or block from which the staves or hoops are to be cut is placed upon the inner edge of the bed, and the reciprocations of the latter carry said bolt up to the knife, cutting a slice at each stroke. In the back strokes of the bed the bolt slides down against the ribs *b b*, and is held by the dogs *g g g*.

Thus far the machine is of ordinary construction, and well known for cutting staves. In practice it is found that the bolt will not always slide forward or down over the dogs in the back stroke, especially when the bolt is thin and light; and the difficulty is increased by the wearing off of the front edge of the knife by the dragging of the bolt over it in the down movement, producing a rounded surface at the edge, which acts as a wedge to throw the bolt back as it moves up. As a consequence, there is much lost motion to the machine, as well as a waste of stuff by cutting it of improper thickness.

To obviate this difficulty I employ the following arrangement: *k k* are springs, set crosswise into the face of the bed in suitable depressions or cavities. They are attached at the outer ends by screws *m m* or other means, but are free at their inner ends to move up and down. *n n* are openings in the bed beneath the free ends of the springs; and *p p* are fixed stops, attached to the frame in any suitable manner, resting in coincidence with the openings, and in such position that at the end of the back stroke of the bed the stops will strike the springs and raise them above the level of the dogs *g g*, thereby freeing the bolt from contact with the dogs, and allowing the bolt to slide down over the smooth surface of the springs to its lowest position for a new cut.

By this means great accuracy of work is produced, as the bolt will almost invariably fall to position, even if very light. It enables hoops as well as staves to be cut on the same machine, and obviates the difficulties that would otherwise be experienced in cutting such thin and light stuff as hoops.

Having thus described my invention, I claim—

The combination, with the dogs *g g*, of the springs *k k*, set into the face of the swinging bed E, and the stops *p p*, for operating upon and raising the springs above the level of the dogs in the back stroke of the bed, as herein shown and described.

In testimony whereof I have hereunto set my hand this 8th day of October, 1877.

JOHN GREENWOOD.

Witnesses:
R. F. OSGOOD,
JACOB SPAHN.