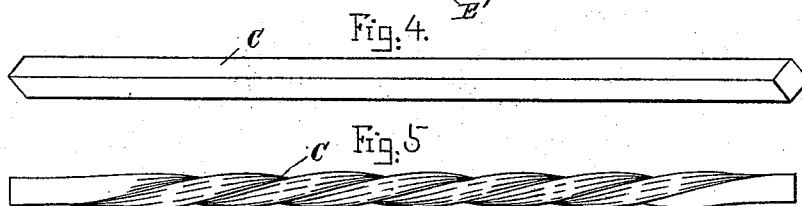
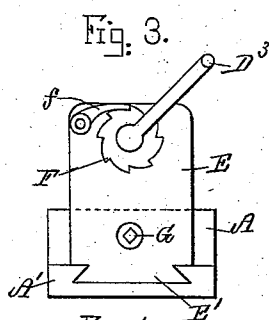
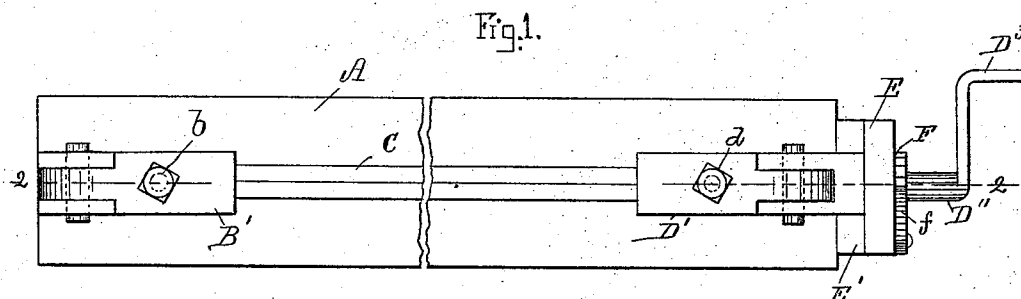
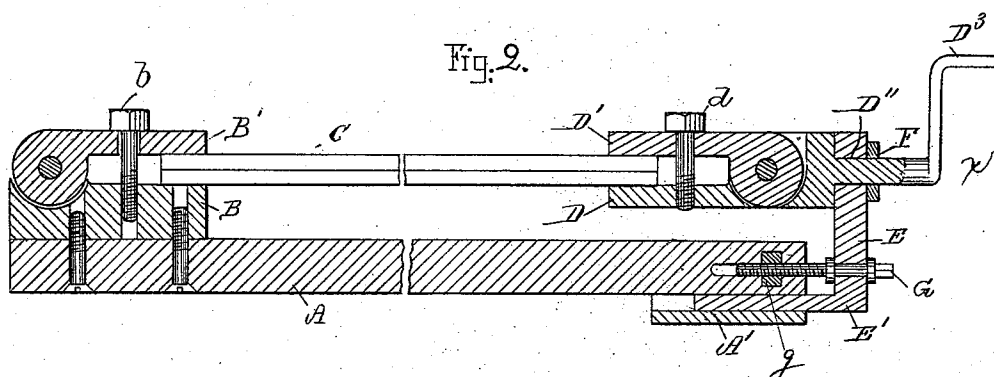


(No Model.)

A. H. ORDWAY.
SHAPING WOOD.

No. 538,928.

Patented May 7, 1895.



Witnesses.

Laurens W. Moller
John M. Hanson

Inventor.

Albert H. Ordway
by *Edgar Andreu*
his atty

UNITED STATES PATENT OFFICE.

ALBERT H. ORDWAY, OF SOUTH FRAMINGHAM, MASSACHUSETTS.

SHAPING WOOD.

SPECIFICATION forming part of Letters Patent No. 538,928, dated May 7, 1895.

Application filed February 9, 1894. Serial No. 499,631. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. ORDWAY, a citizen of the United States, and a resident of South Framingham, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Shaping Wood, of which the following, taken in connection with the accompanying drawings, is a specification.

10 This invention relates to improvements in shaping wood and it consists in spirally twisting wooden rods or bars while in a green or steamed condition and allowing them to dry while being held in such twisted position under longitudinal tension so as to cause them
15 to permanently retain their twisted form after drying. The articles so produced are adapted for a variety of purposes among which may be mentioned various parts of furniture, banister rods, pillars, &c. Heretofore rods of this description have been turned in specially constructed lathes or machinery which rendered the articles costly besides causing a
20 waste of material by the turning or cutting away of a portion of the stock. Such spirally turned rods are of a brittle nature on account of the fibers of the wood not coinciding with the spiral outlines of the curvature. This is entirely obviated with my invention in which
25 the grain or wood fibres of the twisted rod are arranged spirally relative to the axis of the latter thus materially increasing the strength of such spirally twisted articles.

30 The invention is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a top plan view of a suitable apparatus used for spirally twisting the wooden rods. Fig. 2 represents a central
35 longitudinal section on the line 2-2 shown in Fig. 1. Fig. 3 represents an end view seen from X in Fig. 2. Fig. 4 represents a perspective view of a wooden rod before being spirally twisted, and Fig. 5 represents a similar
40 view of the rod after being twisted and dried.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

50 In the drawings, Figs. 1, 2, and 3, A represents a suitable frame or base which may be made of wood or metal, to one end of which is

secured a clamping jaw B having pivoted to it the movable clamping jaw B' between which jaws one end of the green or steamed
55 wooden rod C is firmly clamped preferably by means of a clamping screw b or equivalent clamping device.

The other end of the rod C is clamped between the pivoted jaws D and D' preferably
60 by means of a clamping screw d as shown in Figs. 1 and 2.

The clamping jaw D has a shank D'' which is journaled in a bearing E as shown.

Outside of the bearing E is secured to the
65 shank D'' a ratchet F with which a pawl f is adapted to engage so as to hold the rod that is being spirally twisted in such twisted position during the operation.

In practice I prefer to provide the outer end
70 of the shank D'' with a crank D³ by means of which the operator may apply force in twisting the rod more or less as may be desired.

In the twisting operation it is desirable to produce a longitudinal tension on the wooden
75 rod or bar so as to cause it to remain perfectly straight and for this purpose I provide the bearing E and its connections with means for adjusting it in a longitudinal direction relative to the axis of the rod that is being
80 twisted and I have for this purpose shown said bearing E as provided with a horizontal plate E' adapted to be longitudinally adjusted in a suitable guide A' secured to or forming a
85 part of the base or frame A as shown in Figs. 1, 2, and 3.

The bearing E may be adjusted by means of a regulating screw G journaled in the bearing E and moving with the latter, its inner
90 end working in a nut g secured to or forming a part of the base A as shown in Fig. 2.

By adjusting the bearing E any desired longitudinal tension may be imparted to the rod C while being twisted and this tension is maintained during the drying process so as to prevent
95 it from being warped or crooked.

In shaping the wooden rods or bars I proceed as follows: I take a wooden rod or bar of any desired section either green or steamed and secure it between the clamping jaws B
100 B' and D D' as shown in Figs. 1 and 2. I then twist the rod more or less by turning the crank D³ until the desired twist is obtained in which position the twisted rod is held by

the ratchet F and its pawl f. During the twisting operation I apply proper tension on the wooden rod by longitudinally adjusting the bracket or bearing E for the purpose
5 stated. After the rod has been twisted and secured in position between its clamps I allow it to dry either in a suitable drying chamber or in the atmosphere, and when dry I release it from its clamps when it will permanently
10 remain in the twisted form imparted to it.

In the drawings I have shown one clamp stationary and the opposite one rotary, but this is not essential as both clamps may be made rotary in opposite directions if so de-
15 sired without departing from the essence of my invention.

What I wish to secure by Letters Patent and claim is—

The herein described method of shaping wooden bars having a polygonal shape in 20 cross-section, which consists in twisting said bars spirally while in an unseasoned state, imparting a longitudinal tension to said bars during the twisting operation, and finally, rigidly maintaining the bars in such twisted 25 and longitudinally strained position until dry, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 8th day of 30 February, A. D. 1894.

ALBERT H. ORDWAY.

Witnesses:

ALBAN ANDRÉN,
SYDNEY HARRIS.