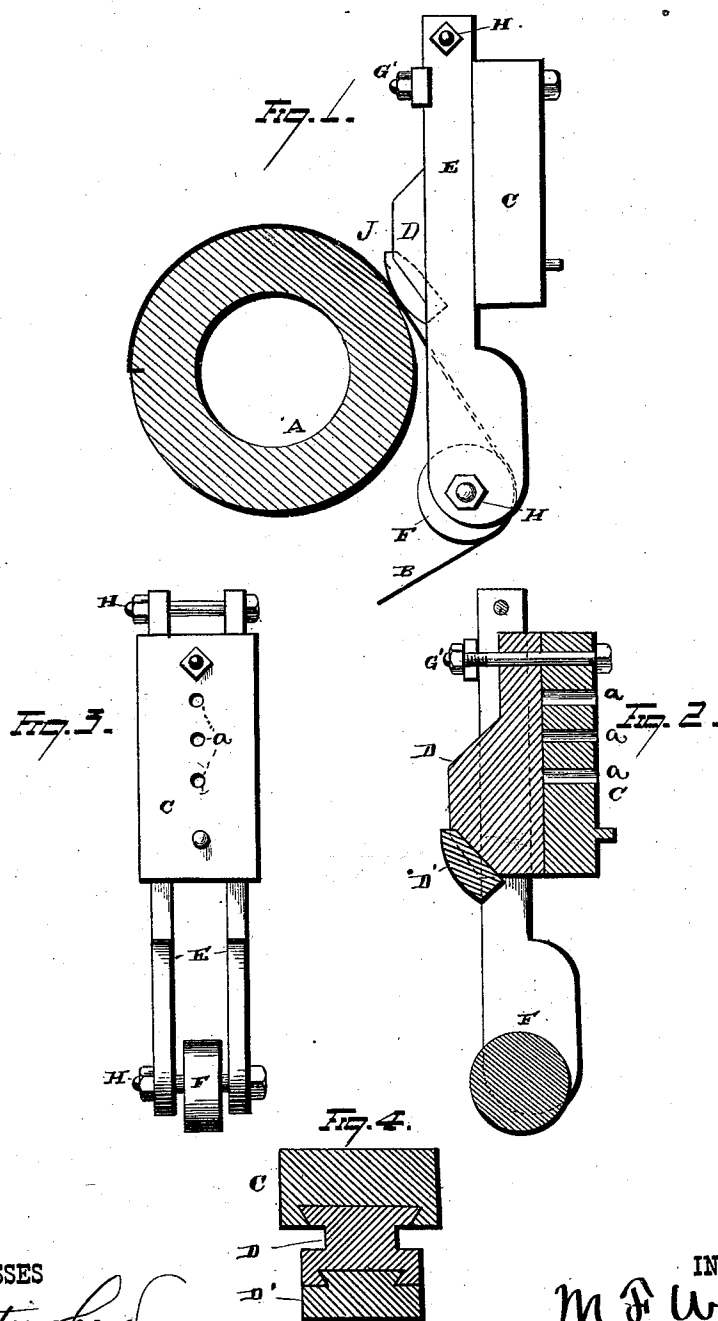


M. F. WILCOX.
Mechanism for Banding Wooden Pipes.

No. 236,286.

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WITNESSES
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MERRILL F. WILCOX, OF BAY CITY, MICHIGAN, ASSIGNOR OF TWO-THIRDS
TO GEORGE P. SMITH AND HENRY B. SMITH, OF SAME PLACE.

MECHANISM FOR BANDING WOODEN PIPES.

SPECIFICATION forming part of Letters Patent No. 236,286, dated January 4, 1881.

Application filed February 11, 1880.

To all whom it may concern:

Be it known that I, MERRILL F. WILCOX, of Bay City, county of Bay, State of Michigan, have invented a new and useful Improvement in Mechanism for Applying Metal Bands to Wood Tubes; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in mechanism for applying metal bands or straps upon wooden tubes or other similar articles.

Heretofore a machine for making spiral springs has employed the combination, with a bearing-shoe which applies the spring-wire to a mandrel, of a roller which kinks the wire in its passage to the bearing-shoe, said roller being adapted to be adjusted in line with the mandrel, so as to deliver the wire, by means of the bearing-shoe, at a varying angle or lead.

My invention consists of the parts and combinations of parts hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of one of my improved tension devices, showing its relation to the tube or other article upon which the metallic strap or band is being wound. Fig. 2 is a sectional view of the same. Fig. 3 is an end view looking against the side of the wooden tube.

A represents a wood tube; B, the strap or band of metal that is to be wound upon it.

The tension device is constructed as follows: C is a bed-piece, to which is attached or upon which is formed a bearing-shoe, D. E is an adjustable yoke, between the ends of which a kinking-roller, F, is located. The bed-plate is provided with a longitudinal series of transverse holes, *a*, by means of which, in connection with clip G and a bolt and nut, G', the shoe may be adjustably connected to the bed-plate. Said bolt passes through a hole in the shoe, and said clip has lateral bearing against the sides of the yoke. Hence the single bolt serves to simultaneously connect the bed-plate and shoe together, and to maintain the yoke in desired longitudinal adjustment on the shoe.

The yoke embraces the shoe, and the corresponding extremities of its two sides are respectively connected together by bolts H. It is apparent that if desired the latter bolts may aid clip G and bolt and nut G' in maintaining the yoke in position. Upon the shoe D is a removable wearing-plate, D'. This wearing-plate D' is connected with the bearing-shoe D by a dovetailed tongue-and-groove connection, or in any other suitable manner. The strap B takes the course indicated in the drawings, passing from its reel first over the kinking-roller F, then between the wearing-plate D' and the wood tube A.

The operation of the device will now be understood. The free end of the strap is secured in any suitable manner to the wood tube—as, for instance, by bending the end of the strap and driving it into the wood. The wood tube is then caused to revolve in the direction indicated by the arrow, and as it revolves it draws the strap B upon itself. The strap B is caused to lie snugly upon the surface of the tube by the wearing-plate D', while the kinking-roller F, by kinking the strap at this point, gives the required tension. It is apparent that the tension is increased by adjusting the roller F nearer to the wearing-plate D'; so, also, it is decreased by increasing the distance between the roller F and the wearing-plate. Again, the tension will vary with the size of the roller F, a greater tension being afforded by a smaller roller, which would create a shorter kink in the strap.

The wearing-plate D' is not absolutely essential, and I have employed the device both with and without this wearing-plate. The wear, however, at this point is very rapid, and I prefer to employ the plate D', because when it becomes worn all that it is necessary to renew is the plate itself by slipping another wearing-plate into its place.

The shoe D may also be made adjustable upon the bed-plate B, so that the tension may be varied by adjusting the wheel F toward the shoe, by adjusting the shoe toward the wheel, or by adjusting each toward the other. This adjustment of the shoe also facilitates the employment of the device upon logs or tubes of different diameters. I would have it under-

stood, however, that the machinery may be constructed with the bed-plate C and the shoe D made in a single piece and accomplish very good results; but I prefer to make the shoe adjustable upon the bed-plate, in order to procure a better adjustment of the parts with respect to different sizes of tubes.

The yoke E serves another important function. The band, after passing over the roller F, passes thence between the sides of the yoke E, and the yoke serves to guide the band accurately beneath the wearing-plate D'. This insures that the band will be laid just at the desired point, while, if it were not for the yoke, there would sometimes be a greater and sometimes a less distance between the convolutions of the band, owing to the spreading of the band. Moreover, the yoke serving to guide the band, enables me to use a narrow wearing-plate which shall exert pressure simply upon the band being laid, and not upon the other coils already laid, nor upon the adjacent wood. Instead of the yoke serving as the guide, a separate guide might be employed with a like effect.

What I claim is—

1. In a machine for binding metallic straps upon wood tubes and like articles, the combination, with shoe D, which applies the strap to the curved wood surface, of yoke E, which embraces said shoe longitudinally, and kinking-roller F, mounted in the extremities of the yoke, substantially as set forth.

2. In a machine for binding metallic straps upon wood tubes and like articles, the combination, with yoke E and kinking-roller F, mounted at one extremity thereof, of shoe D, embraced longitudinally by said yoke, bed-plate C, and connecting device G', substantially as set forth.

3. In a machine for binding metallic straps upon wood tubes and like articles, the combination, with a bearing-shoe and a yoke which embraces it lengthwise, of a kinking-roller mounted in the extremities of the yoke, the two cross-pieces of said yoke being formed as bolts which permit the side pieces of the yoke to be adjusted longitudinally upon and also clamp said pieces to the shoe, substantially as set forth.

4. In a machine for binding metallic straps upon wood tubes and like articles, the combination, with a yoke carrying a kinking-roller, and a bearing-shoe embraced lengthwise by the yoke, of a bed-plate provided with a longitudinal series of holes, a transverse clip having lateral bearing against the yoke, and a bolt which fits respectively in said bed-plate holes to adjust the shoe upon the bed-plate, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

MERRILL F. WILCOX.

Witnesses:

C. L. COLLINS,
JOHN L. STODDARD.