(No Model.)

J. K. WAGNER.

Machine for Bending Spring Harrow Teeth.

No. 240,288. Patented April 19, 1881.

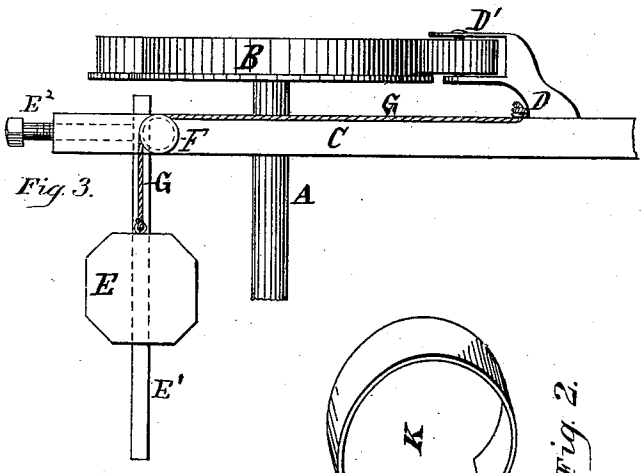


Fig. 3.

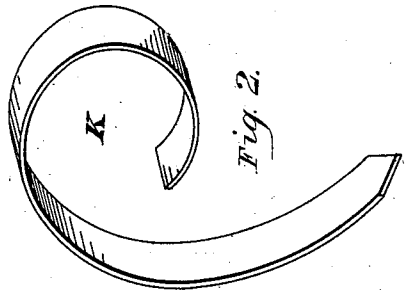


Fig. 2.

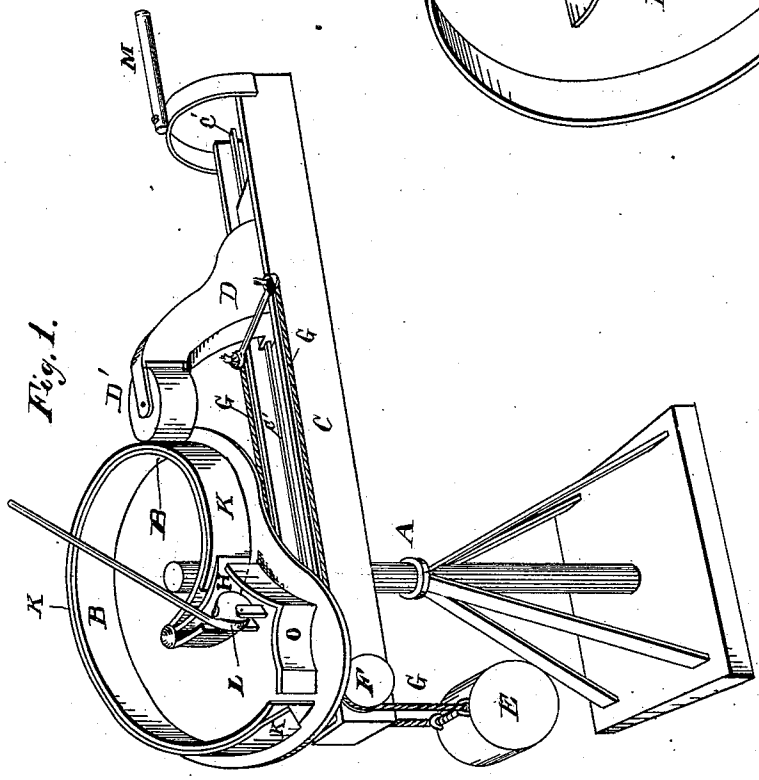


Fig. 1.

WITNESSES

F. M. Fabst.

A. H. Howe

INVENTOR

J. K. Wagner.

By Leggett & Leggett.

ATTORNEY

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JACOB K. WAGNER, OF KALAMAZOO, MICHIGAN.

MACHINE FOR BENDING SPRING HARROW-TEETH.

SPECIFICATION forming part of Letters Patent No. 240,288, dated April 19, 1881.

Application filed October 29, 1880. (No model.)

To all whom it may concern:

Be it known that I, JACOB K. WAGNER, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Machines for Making Spring Harrow-Teeth; and I do hereby declare the following to be a full, clear, and exact description of the invention, 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 part of this specification.

My invention relates to a machine for making spring harrow-teeth; and it consists in the mechanism substantially as hereinafter specified and claimed.

In the drawings, Figure 1 is a perspective view of a device constructed according to my invention. Fig. 2 is a detached view, showing the product of my machine, which is a curved spring harrow-tooth.

In the said drawings, A is a standard, of any suitable construction and material, upon the upper part of which is fixed the stationary former B. This former is shaped to conform to the tooth desired to be produced, and it is upon the outer face of the former B that the hot metal from which the harrow-tooth is to be formed is bent.

C is a frame jointed, pivoted, or journaled in any suitable manner to the upright or standard A. This frame C is provided with suitable guides, C′, between which moves in a direction longitudinal with the said frame the carrier D of the presser-roller D′. This presser-roller is always pushed forward either by a weight, E, connected over the pulleys F by a cord, G, or by any suitable spring-pressure device that shall perform the same function as the weight E.

It will be seen that as the frame C is swung around to the right the presser-roller D′ will be brought into forced impingement against the outside of the former B, and that the weight, pulley, and cord arrangement E F G, or equivalent spring contrivance, will always act to keep the presser-roller D′ in close contact with the former B, and the degree of pressure exerted by the roller D′ can be determined by the gravity of the weight E or the force of its equivalent spring, both of which can be made adjustable, if desired.

H is a clamp for holding the butt-end of the spring K, and this clamp is operated and controlled by a cam-lever, L, suitably formed and attached to the bed of the stationary former B.

M is a handle for turning the frame C, and O is a notch or suitable stop for arresting and holding the presser-roller D′ when it is not in operation. This rest O is placed upon the stationary bed which supports the former B.

The operation of my device is as follows: While hot one or more metallic blanks, K, are clamped at one end by the device H, substantially in the manner indicated in Fig. 1 of the drawings. The frame C is then swung around to the right, and the impingement of the roller D′ against the heated blanks will bend said blanks to the shape determined by the former B. This shape, as already specified, must be that which is desired to be imparted to the finished tooth. (Shown in Fig. 2 of the drawings.)

In Fig. 3 of the drawings is shown a preferred form of my device as concerns the weight E and its associated parts. The principal object of this construction is to prevent the weight E from swinging during the operation of the machine. This preferred construction consists in the provision of a stem, E′, which is fixed by a set-screw, E^2, within the frame C. The stem E′ passes through an opening in the weight E, thus affording a guide for the said weight as it is drawn up and down by the cord G. This permits of a free up-and-down movement of the weight E, thus allowing it to perform its function, while at the same time any swinging of said weight is effectually prevented.

Owing to the fact that the presser-roller is forced against the tooth by the adjustable weight, as described, the roller is caused to bear on all parts of the tooth to be formed, whether the tooth has an unequal or an even surface, and this feature is important and essential in this type of machines when employed in forming harrow-teeth.

What I claim is—

1. The combination, with the stationary former B and rotary frame C, provided with the sliding block D and presser-roller D′, of the clamping-plate H and lever L, having a cam formed on its lower end, substantially as set forth.

2. The combination, with the stationary

former B, rotary frame C, provided with the sliding block D, and presser-roller D′, of the weight E and cord and pulleys and curved rest O, substantially as set forth.

3. The combination, with a supporting-standard, A, having a stationary former, B, secured thereto, of a rotary frame, C, journaled on said standard A, a sliding block, D, carrying presser-roller D′, and weight E, pulleys F, and cord G, connecting the weight and sliding frame, substantially as set forth.

4. In combination with the weight E and frame C, the guide-stem E′ and the lifting-cord G, substantially as and for the purposes shown.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACOB K. WAGNER.

Witnesses:
JAS. S. ANDREWS,
J. H. EVEREST.