(No Model.)

W. H. DAYTON.

WIRE SWAGING MACHINE.

No. 492,573. Patented Feb. 28, 1893.

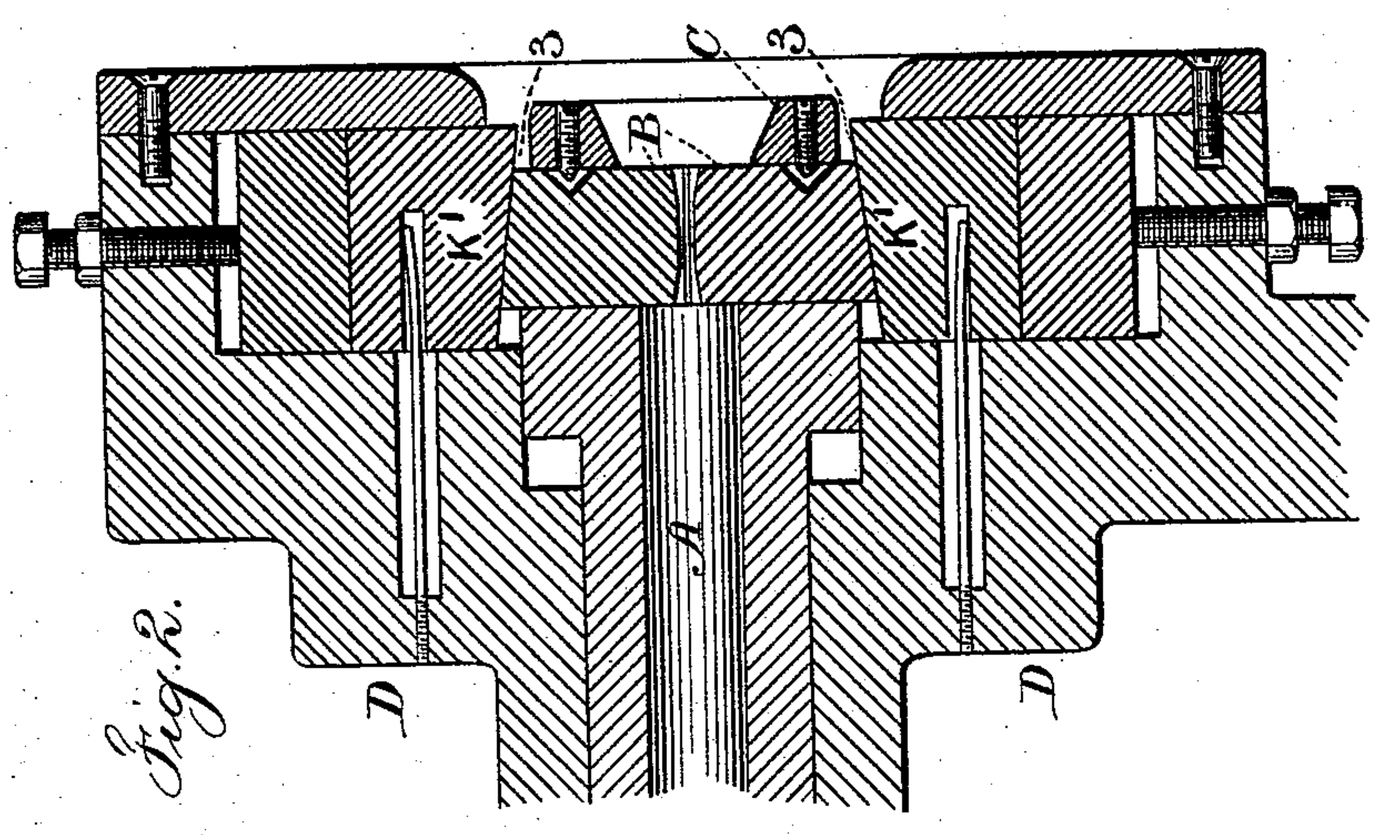

Fig. 2.

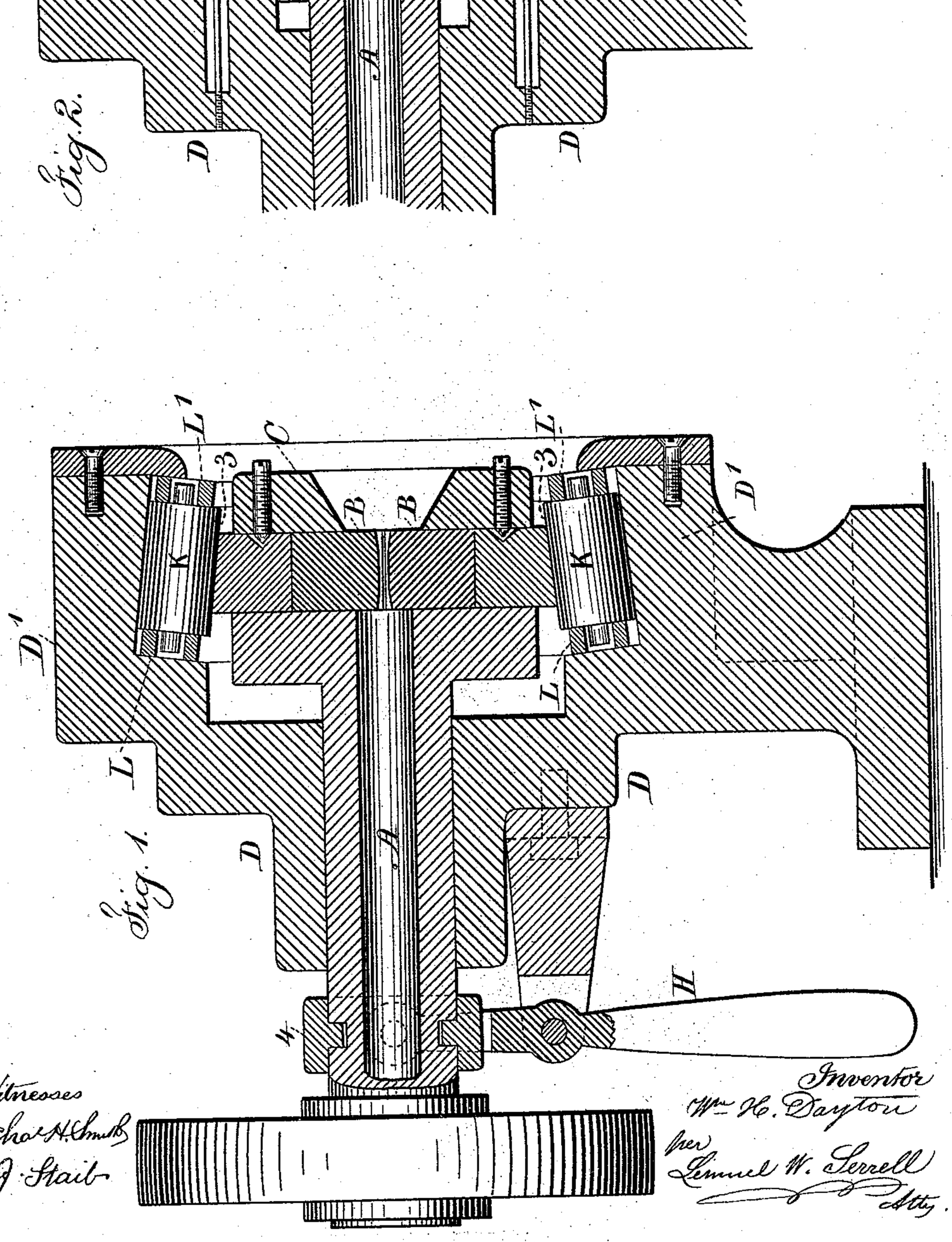

Fig. 1.

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UNITED STATES PATENT OFFICE.

WILLIAM H. DAYTON, OF TORRINGTON, CONNECTICUT, ASSIGNOR TO THE EXCELSIOR NEEDLE COMPANY, OF SAME PLACE.

WIRE-SWAGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 492,573, dated February 28, 1893.

Application filed May 23, 1892. Serial No. 433,966. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DAYTON, a citizen of the United States, residing at Torrington, in the county of Litchfield and State of Connecticut, have invented an Improvement in Swaging-Machines, of which the following is a specification.

In Letters Patent No. 474,548, granted to me May 10, 1892, a revolving shaft with swaging dies is represented and there are wedges for varying the positions of the dies and regulating the opening and closing of such dies during the swaging operation so as to vary the size of the round article that is being swaged in different portions thereof. In this instance the wedges employed receive an endwise movement by a lever or other similar device.

The present invention is a modification of the aforesaid device, and I give to the revolving shaft that carries the swaging device an endwise movement in relation to inclined surfaces acting upon the swaging dies, so that by moving the shaft in one direction the dies are brought closer together and by moving in the other direction they are allowed to open or be farther apart.

In the drawings Figure 1 is a vertical section of the apparatus representing rollers within the head, and Fig. 2 is a similar section representing toggle blocks to act upon the swaging dies.

A represents a shaft revolved by competent power and carrying in a transverse mortise the dies B B which are held in position by a suitable cap plate C, and D is the head which surrounds the revolving shaft and supports the same, and I have represented wedge acting surfaces 3 at the ends of the swaging dies B, so that when the shaft A is moved in one direction in relation to the head D the dies are brought closer together by the inclined or wedge acting surfaces 3, and when the parts are moved in the opposite direction the dies B are allowed to open farther, and it is to be understood that either the head D can be moved in relation to the shaft A, or the shaft A be moved in relation to the head D.

I have represented a collar 4 passing into a groove in the shaft A, and a lever H by which the collar can be moved so as to give motion endwise to the shaft A.

The inclined or wedge acting surfaces 3 may be of any desired character. I have represented a group of rollers within a shell or flanged head in my patents Nos. 408,294 and 460,566, and I have represented a range of toggle blocks in my patent No. 341,558.

In Fig. 1 of the drawings I have represented a group of rollers K around within the shell D′ or flange of the head D, such group of rollers being held in position in any suitable manner, such as by the rings L L′, and in this case the rolls K are advantageously cylindrical, but they might be slightly tapering, but such rolls stand in such a position that the surfaces 3 which act upon the outer ends of the swaging dies B are at an inclination to each other.

In Fig. 2 the toggle blocks K′ and their springs are represented as similar to those in Patent No. 341,558 except that their inner surfaces are inclined te each other, as shown at 3 Fig. 2, and in consequence of the inclination of the surfaces that act upon the outer ends of the swaging dies, such swaging dies can be made to reduce the article acted upon to a greater or less extent, so that one portion of such article may be of greater diameter than another.

These improvements are especially available in swaging the wires or spokes for bicycle wheels so as to reduce such wires, strengthen and consolidate the same and form the end portions of the spokes of larger diameter than the central portions, in order that there may be sufficient metal to properly cut the screw threads in such spokes, but the present improvements may be availed of in manufacturing any other articles to which they are adapted.

In my patent No. 376,144 there are followers or die blocks intervening between the dies and the rollers that act to close the dies inwardly, and in my patent No. 460,566, there are also die blocks or followers between the dies and the rollers acting upon the same. It is to be understood that these die blocks or followers are usually provided and intervene between the rollers that act to close the dies and the dies themselves.

I claim as my invention—

1. The combination with the revolving shaft and the dies carried by the same, of a head

and mechanism contained within the head having inclined surfaces to act upon the outer ends of the swaging dies, and mechanism for moving the revolving shaft endwise in relation to the head, so as to vary the position of the swaging dies in relation to the inclined surfaces acting upon such dies during the swaging operation, substantially as set forth.

2. A head having a projecting flange or shell and a group of rolls around within the shell, the inner surfaces of which are inclined to each other, in combination with a revolving shaft passing through the head, swaging dies carried by the shaft and acted upon by the inclined surfaces of the rolls within the shell, and mechanism for moving the revolving shaft and dies endwise to vary the position of the swaging dies in relation to the surfaces acting upon the same, substantially as set forth.

Signed by me this 18th day of May, 1892.

WILLIAM H. DAYTON.

Witnesses:
ALBERT SPERRY,
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