(No Model.)

A. J. LANGELIER.

MACHINE FOR SWAGING AND POINTING.

No. 462,440. Patented Nov. 3, 1891.

Fig. 2.

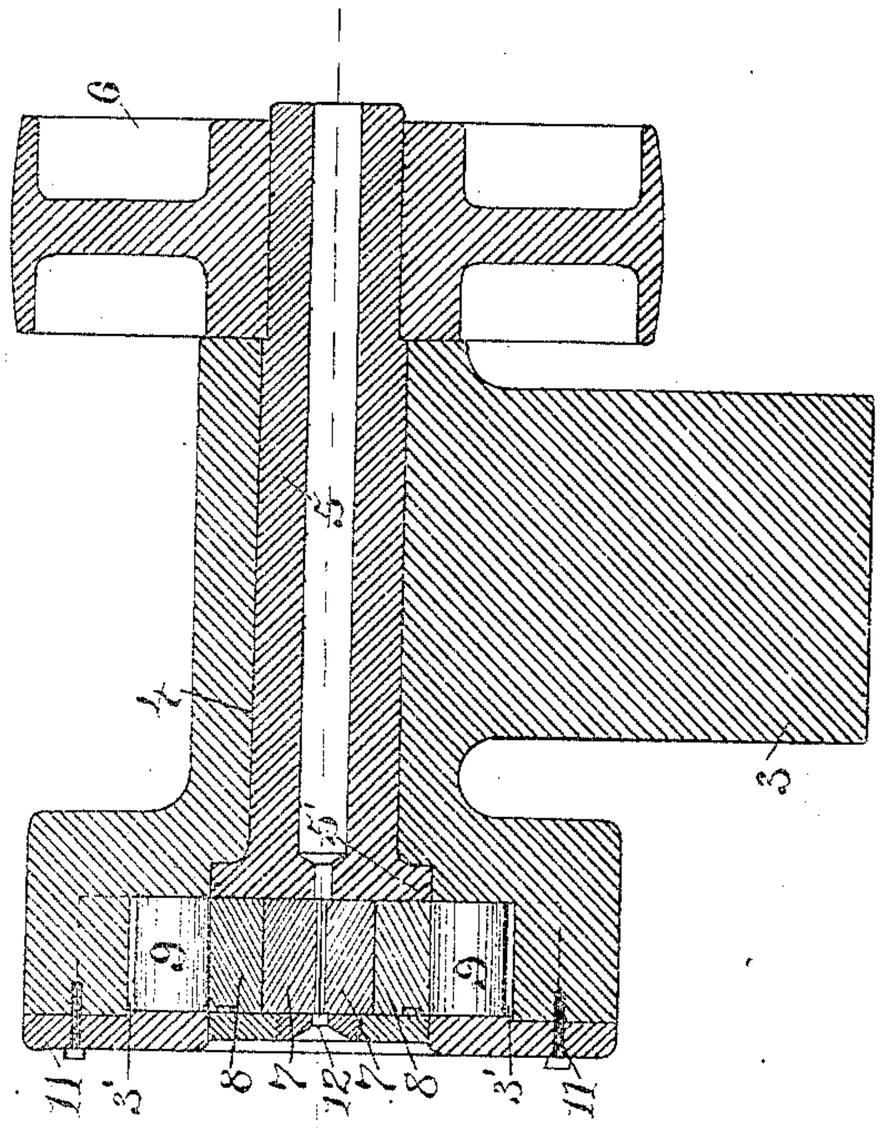
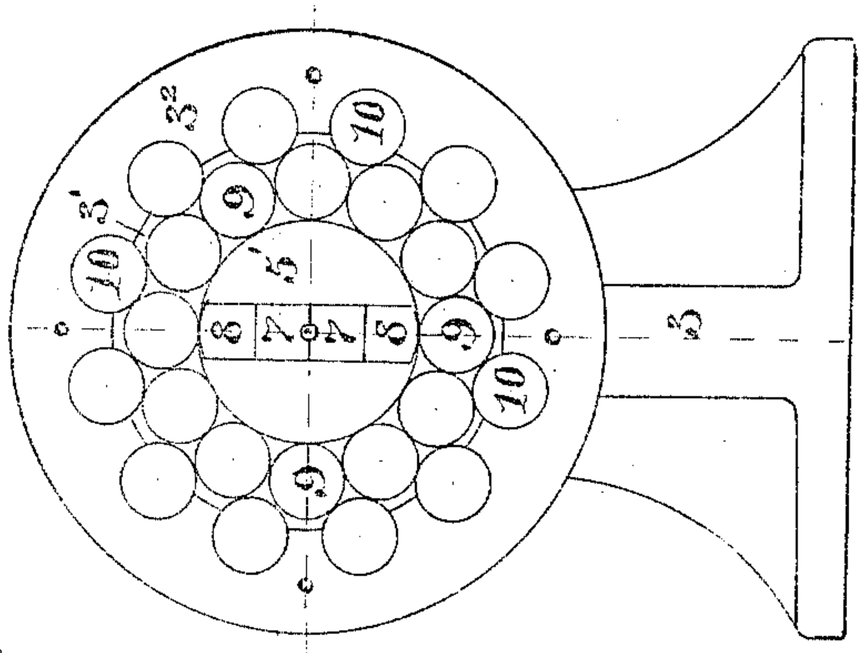


Fig. 1.



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UNITED STATES PATENT OFFICE.

ANTOINE J. LANGELIER, OF PROVIDENCE, RHODE ISLAND.

MACHINE FOR SWAGING AND POINTING.

SPECIFICATION forming part of Letters Patent No. 462,440, dated November 3, 1891.

Application filed May 23, 1891. Serial No. 393,906. (No model.)

To all whom it may concern:

Be it known that I, ANTOINE J. LANGELIER, of the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Swaging and Pointing Machines; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in swaging and pointing machines for reducing the diameter of and pointing wire, rods, &c.

The object of this invention is to produce a swaging and pointing machine which will be more economical in its operation than those heretofore made.

My invention consists in certain novel features of construction and peculiar combination of parts which will be more fully described hereinafter, and pointed out in the claims.

Figure 1 is a front view of the improved machine, the face-plate being removed to show the arrangement of the rolls. Fig. 2 is a longitudinal sectional view of the machine, showing the die-blocks and followers.

Similar numbers of reference designate corresponding parts throughout.

In the drawings, 3 indicates the main frame, which is formed of a heavy casting. Through the upper portion of this casting a longitudinal perforation 4 is formed, and in this perforation the hollow shaft 5 is journaled, being provided at its rear end with the driving-pulley 6, keyed thereto and operated by a belt. The forward end of the shaft 5 has the enlarged portion 5′, which is provided with a transverse slot adapted to receive the die-blocks 7 7 and followers 8 8, and in which slot these die-blocks and followers are movable transversely across the enlargement 5′. The die-blocks 7 7 have their inner surfaces either to taper the end of the wire introduced between them or adapted to reduce the size of its cross-section. The inner ends of the followers 8 8 are adapted to fit against the outer ends of the die-blocks, while the outer ends of these followers are rounded to move over the rounded surfaces of the rolls 9 9, which surround the enlargement 5′ of the shaft 5 and are contained in a circular chamber 3′, provided in the enlarged face 3^2 of the casting 3. Each of the outer rolls 10 10 is journaled in a bearing drilled in the enlarged face 3^2 of the casting 3 and extending the length of the rolls. The circumference of each of these rolls 10 10 is nearly surrounded by the drilled bearing, that portion of the circumference of the rolls 10 10 extending from the bearings forming roller-bearings for the rolls 9 9, the number of rolls in each circle being the same.

The rolls and other interior mechanism of the machine are held in place by the face-plate 11, which is bolted to the enlargement 3^2 of the casting 3, and which is provided with a central perforation 12, through which the rod or wire is inserted between the die-blocks. As the hollow shaft 5 is rapidly revolved the rounded bearing-surfaces of the followers 8 8 ride over the surfaces of the rolls 9 9, forming roller toggle-joints and subjecting the wire or rod inserted between the die-blocks to a rapid hammering or, rather, kneading process, which compresses the wire or rod in its cross-section and increases its length, or by the use of proper dies the end of the wire is elongated to a point. By the use of the rolls 10 10, forming roller-bearings for the rolls 9 9, the friction on these rolls is greatly reduced, a sharper blow is struck, and the life of the machine is increased, owing to the reduced wear coming on the rim in which these rolls are ordinarily inclosed and against which they bear.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a swaging and pointing machine, the combination, with die-blocks and followers for the same, working in a transverse slot provided in the end of a revoluble hollow shaft, of rolls surrounding said shaft and arranged to bear alternately on the followers, and a second set of rolls journaled in bearings in the casing and surrounding and bearing against said first rolls, as described.

2. In a swaging and pointing machine, the

combination, with the die-blocks 7 7 and followers 8 8, movable in the transverse slot of the enlarged end of the shaft 5, of the rolls 9 9, surrounding said enlargement and arranged to bear alternately against the rounded surfaces of the followers as the shaft is revolved, and the rolls 10 10, journaled in the casing surrounding the whole to form roller-bearings for said rolls, as described.

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