

UNITED STATES PATENT OFFICE.

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

SWAGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 474,548, dated May 10, 1892.

Application filed October 12, 1891. Serial No. 408,439. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DAYTON, of Torrington, in the State of Connecticut, have invented an Improvement in Swaging-Machines, of which the following is a specification.

In my patent, No. 376,144, granted January 10, 1888, there are dies that can be moved in contact with inclined surfaces, so as to cause these dies to approach nearer together or the reverse. I find, however, that in many swaging operations the dies as they revolve around the article to be swaged should remain in one position. Swaging-machines have also been made with wedges adjusted by screws for varying the action of the dies; but these wedges could only be moved when the machine was at rest.

The object of the present invention is to give a movement to the inclined devices in a direction parallel, or nearly so, to the axis of rotation of the dies and during their rotation, in order that the inclined surfaces may cause the dies to come closer together or the reverse and thereby with the same dies forge or swage articles of different diameters without stopping the machine or forge a round article that varies in its diameter in different parts of its length.

Figure 1 is an elevation of the swaging-head with the cap removed, and Fig. 2 is a longitudinal section of the same.

The dies A B are adapted to slide radially in the revolving head C of the shaft D, and their adjacent faces are recessed semicircularly and more or less tapering, so as to be adapted to swaging the intended article, and around the head C is a stationary shell E, and within this shell are the rolls F or equivalent devices for pressing the dies toward each other as the shaft D and head C are revolved. I provide an inclined surface that is movable endwise in relation to the dies, so that the die-actuating devices may act more or less upon the dies—that is to say, to bring them nearer together or allow them to be farther apart—and the end motion is given to

the inclined surfaces in any suitable manner during the operation of the machine, the dies themselves revolving in a fixed position relatively to the movable inclined surfaces. Several devices for effecting these objects have been devised by me and will be the subject of separate applications; but in the drawings I have represented convenient devices for use and which illustrate the features of this invention.

The dies A B are represented as within a cross-groove in the revolving head C and held therein by the removable cap-plate G, and there are die-blocks H H in line with the dies A B and against which the rolls F act, and these are held in position by the cap-plates K. The wedges I I intervene between the dies and die-blocks and they are movable endwise, so that when the thicker portions of the inclined surfaces of the wedges are between the die-blocks and dies the dies will be brought closer together than they will be when the thinner parts of such wedges are in operative positions. The cross pin or key M passes into holes in the wedges and the pin is within a slot in the shaft D, which slot is elongated in the direction of the length of the shaft, and the key M is connected to or formed with the adjusting-tube S—that is, within the shaft D—and such tube S is provided with a grooved head that is acted upon by a forked lever or other convenient device, so as to move such tube S endwise of the shaft and regulate the position and action of the wedges.

I claim as my invention—

1. The combination, with the swaging-dies and means for closing the same, of inclined surfaces and mechanism for moving the inclines during the action of the dies for causing the dies to perform the swaging operation when either nearer together or farther apart, substantially as set forth.

2. The combination, with the swaging-dies and the revolving shaft and head carrying the same, of wedges, means for moving the wedges endwise during the swaging operation, and die-actuating mechanism controlled

in its action on the dies by the wedges, substantially as set forth.

3. The combination, with the revolving shaft and its head, of dies and die-blocks and
5 mechanism for closing the dies, and wedges intervening between the dies and die-blocks for varying the action of the dies, and the adjusting-tube within the revolving shaft, and

the connections to the wedges for moving the same, substantially as set forth.

Signed by me this 6th day of October, 1891. 1

WILLIAM H. DAYTON.

Witnesses:

GEO. T. PINCKNEY,

WILLIAM G. MOTT.