

(No Model.)

2 Sheets—Sheet 1.

J. C. TAFT.
ROTARY SWAGING MACHINE.

No. 515,376.

Patented Feb. 27, 1894.

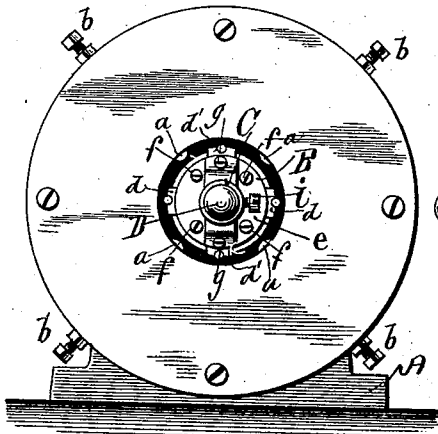


Fig. 1.



Fig. 5.

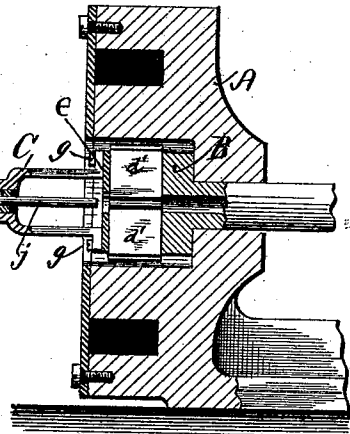


Fig. 2.

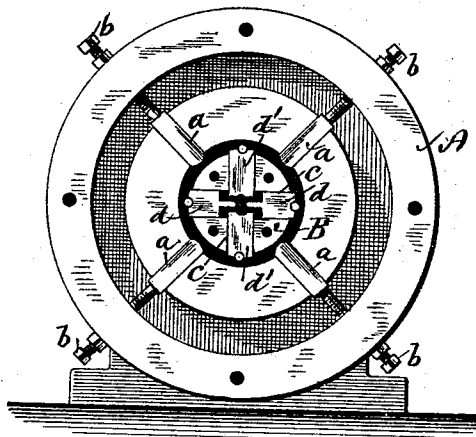


Fig. 3.



Fig. 4.

Witnesses
Ehas. F. Schmelz.
Edward R. Dawley

Inventor
Jerome C. Taft,

By his Attorney

S. Scholfield

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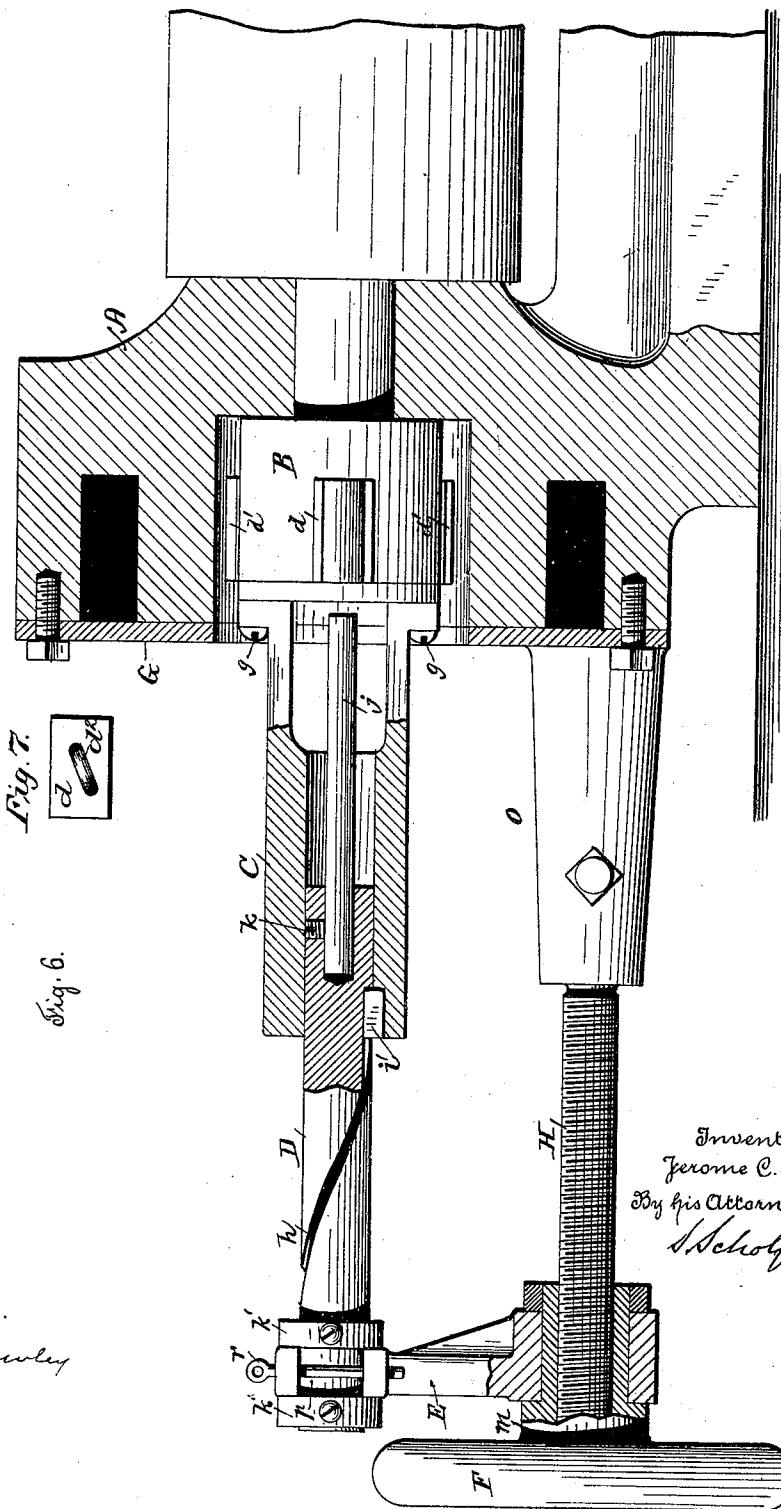


Fig. 7.



Fig. 6.

Witnesses
Chas. F. Schmeltz.
Edw. R. Dawley

Inventor:
Jerome C. Taft,
By his Attorney
S. Scholfield

UNITED STATES PATENT OFFICE.

JEROME C. TAFT, OF PROVIDENCE, RHODE ISLAND.

ROTARY SWAGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 515,376, dated February 27, 1894.

Application filed March 24, 1892. Serial No. 426,302. (No model.)

To all whom it may concern:

Be it known that I, JEROME C. TAFT, a citizen of the United States, residing at Providence, in the State of Rhode Island, have invented a new and useful Improvement in Rotary Swaging-Machines, of which the following is a specification.

My invention consists in an axial guide, adapted to rotate with the die-holding head, and cause the wire or bar which is held in the blank-holder, to rotate with the dies, the said guide and holder being adapted for use in the manufacture of either straight or spirally grooved drills, and for other purposes.

Figure 1, represents a front elevation of a rotary swaging machine to which my improvement is applied. Fig. 2, represents a vertical section of the same. Fig. 3, represents a rotary swaging-machine with the covering plates removed to show the beaters and the dies. Fig. 4, represents a straight-grooved drill as formed by the action of the swaging dies of the revolving head, shown in Fig. 3. Fig. 5, represents a side view of the blank-holder provided with a spiral-guiding-groove. Fig. 6, represents a vertical section of a swaging-machine provided with a hand operated screw, for operating the spirally grooved blank-holder. Fig. 7, represents the face view of a die adapted to form a spiral groove in the blank.

In the accompanying drawings, A represents the frame of the machine, which is provided with the opposite beaters *a a*, made adjustable by means of the screws *b*, as shown in Fig. 3.

The rotary die-holding head B, is provided with the radial grooves *c, c*, crossing each other at right angles, and in the said grooves are placed the sliding dies *d d, d' d'*, which are held in position by means of the covering plate *e*, fastened to the head B by means of the screws *f f*. To the rotary head B, is secured the axial-guide C by means of the screws *g, g*, the said guide being bored out to receive the sliding blank-holder D, which is provided with a longitudinal guiding groove *h*, adapted to receive the point of the screw *i*, by means of which the holder will be caused to revolve with the dies, and be adapted for movement in an axial line, within the guide.

The inner end of the blank-holder is bored out to receive a drill-blank or other bar, *j*, and may be secured to the holder by means of a set screw *k*, while the outer end of the holder is provided with a knob or handle *m*, by means of which the holder may be pushed forward, so as to subject the drill-blank to the action of the dies *d d, d' d'*, the dies *d d*, being adapted to swage the longitudinal grooves *n*, while the dies *d' d'*, operate upon the rounded edges *o, o*, of the drill. The guiding groove *h*, is made to extend to the extreme forward end of the holder D, so that when the inserted drill-blank *j* has been properly swaged to form the longitudinal grooves *n*, the holder can be withdrawn, the grooved drill removed therefrom, and a new blank secured therein, preparatory to the re-insertion of the holder into the guide, and the continued operation of the dies. The guiding groove *h* may also be made in spiral form, as shown in Fig. 5, by means of which opposite spiral grooves can be swaged in the drill blank *j*, by the employment of dies *d* having an inclined face *d'*, as shown in Fig. 7, and an arrangement for operating the holder D endwise in the axial guide C, by means of a screw, is shown in Fig. 6, in which the blank-holder D, is provided with collars *k', k'*, arranged at each side of the bearing-arm E, which is held loosely upon the hub *m* of the hand wheel F; the said bearing-arm being retained upon the holder D, between the collars *k', k'*, by means of the removable pin *r*, which crosses the open bearing slot *p*. To the hub O projecting from the plate G, is fastened the stationary screw H, which is adapted to fit the screw thread in the cavity of the hub *m* of the hand-wheel, so that when the hand-wheel is being turned, a powerful forward or backward movement will be imparted to the blank-holder D, in the axial guide C, and a spiral movement will be imparted to the holder, by means of the spiral groove *h*, and the guiding spline *i* of the guide C. In removing the blank-holder D from the axial-guide, the pin *r* is to be withdrawn and the bearing-arm turned to one side upon the hub *m*, thus releasing the holder D from the screw, so that the holder, and the grooved blank can be then removed directly from the guide, preparatory to the

insertion of another blank in the holder, and the reinsertion of the holder into the guide.

I have represented my invention as applied to a swaging machine in which two opposite sets of dies are employed at right angles to each other, but my invention is applicable to machines in which a single set of oppositely acting dies is employed.

I claim as my invention—

10 1. The combination with a rotary-head carrying opposite swaging-dies, of the axial-guide adapted to revolve with the head and the blank-holder adapted to revolve with the guide and have an axial movement, substan-
15 tially as described.

2. The combination with the rotary-head carrying opposite swaging-dies, of the axial-guide adapted to revolve with the head, and the blank-holder adapted to revolve with the

guide and have a spiral axial-movement, sub- 20
stantially as described.

3. The combination with the rotary-head carrying opposite swaging-dies, the axial-guide adapted to revolve with the head, and the blank-holder, of the operating screw 25
adapted to impart an axial movement to the blank-holder, substantially as described.

4. The combination with the rotary-head carrying opposite swaging-dies, the axial-guide adapted to revolve with the head, and 30
the blank-holder adapted to revolve with the guide, of the operating screw, and the pivoted bearing-arm, adapted for engagement and disengagement, substantially as described.

JEROME C. TAFT.

Witnesses:

S. SCHOLFIELD,
JOHN S. LYNCH.