W. S. WHITING.

Machine for Reducing and Pointing Wire.

No. 202,614. Patented April 16, 1878.

Fig. 1.

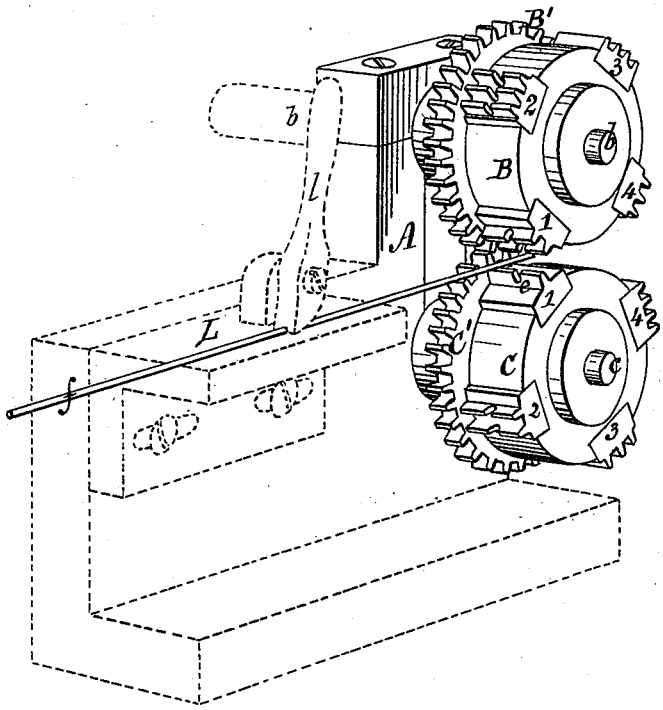
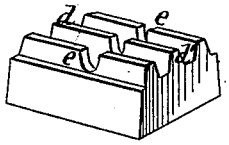


Fig. 2.



Witnesses:

I. J. Masson

D. P. Lowe

Inventor

Wm. S. Whiting

by E. E. Masson

atty

UNITED STATES PATENT OFFICE.

WILLIAM S. WHITING, OF OXFORD, ASSIGNOR TO CARLOS FRENCH, OF SEYMOUR, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR REDUCING AND POINTING WIRE.

Specification forming part of Letters Patent No. **202,614**, dated April 16, 1878; application filed September 20, 1877.

To all whom it may concern:

Be it known that I, WILLIAM S. WHITING, of Oxford, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Dies for Reducing Metal; and that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a portion of a machine carrying a series of the dies used. Fig. 2 represents one of the dies detached.

My invention relates to machines for reducing metal, pointing wire, &c., to be used in connection with wire-drawing machinery, to dispense with filing or swaging the wire before it is introduced through the draw-plate and grasped on the opposite side. It can also be used for pointing needles and other articles.

My invention consists in dies attached to rollers geared together, said dies being formed with longitudinal grooves and projections to mesh with similar projections and grooves upon other dies, and with one or more transverse grooves to receive and reduce in size, in connection with the edges of the longitudinal projections, a wire or other article upon which they may operate.

In the drawings, A represents the portion of a frame of a machine, carrying in suitable bearings the shafts *b* and *c*, upon which are mounted, respectively, the two rollers B and C and gear-wheels B′ and C′. These two gear-wheels mesh together, and while rotating revolve the rollers B and C in opposite directions. The periphery of one roller does not come in contact with that of the other; but said rollers are provided with a series of dies, 1 2 3 4, dovetailed in and projecting from their surfaces. The face of each of these dies is formed with longitudinal projections *d* and grooves *d′*, that can mesh together in pairs, as the cogs of gear-wheels. The projections or cogs *d* are grooved, as at *e*, to receive and reduce in size or point a wire, *f*, that may be introduced between the dies while the machine is in operation, the edge of each groove *e* acting as the edge of a draw-plate hole.

The form of the groove or series of grooves *e* can vary, according to the size of wire that they are intended to reduce or point.

If it is intended to simply reduce the size of a wire at or near the end, to introduce it in a hole of the draw-plate of a wire-drawing machine, a pair of dies with only one or two cogs or projections, as at 1, may be used; or, if the dies have many cogs, the grooves *e*, cut out of each cog of a pair of dies, are very nearly of the same size; but if it is intended to point wire, as in the manufacture of needles, it is preferred to have a number of cogs on the dies, and the grooves *e* farthest from the operator should be the smallest.

To operate with this machine in reducing wire for the draw-plate, if the rollers A and B are slowly and continuously rotating, the end of the wire is introduced in the groove *e* of the dies 1 before they come in contact, and successively acted on by the dies 2, 3, and 4, that slightly indent, reduce in size, and elongate the wire while it is held firmly between a support, L, and a clamping-lever, *l*, or any other suitable clamping device. If the rollers are rotating intermittingly, the wire is placed in the groove *e* before the dies of a pair come in contact, and the wheels turned until the dies pinch the wire, and then, when in that position, and while the wheels remain stationary, the wire is pulled back. This forms a uniform reduction of the wire. If a wire is to be pointed, the operation is nearly similar, only the grooves *e* in the dies are diminishing in size, as shown in Fig. 2, and they can operate on the wire by the series of dies in succession, either while it is held stationary and the wheels rotate continuously, or when the wheels rotate intermittingly and the wire is pulled back.

Having thus fully described my invention, I claim—

A series of dies formed with longitudinal grooves and projections, and one or more transverse grooves, to receive and reduce in size a wire or other article, said dies being arranged in pairs upon two rollers geared together, substantially as and for the purpose described.

WILLIAM S. WHITING.

Witnesses:
S. C. TUCKER,
H. N. EGGLESTON.