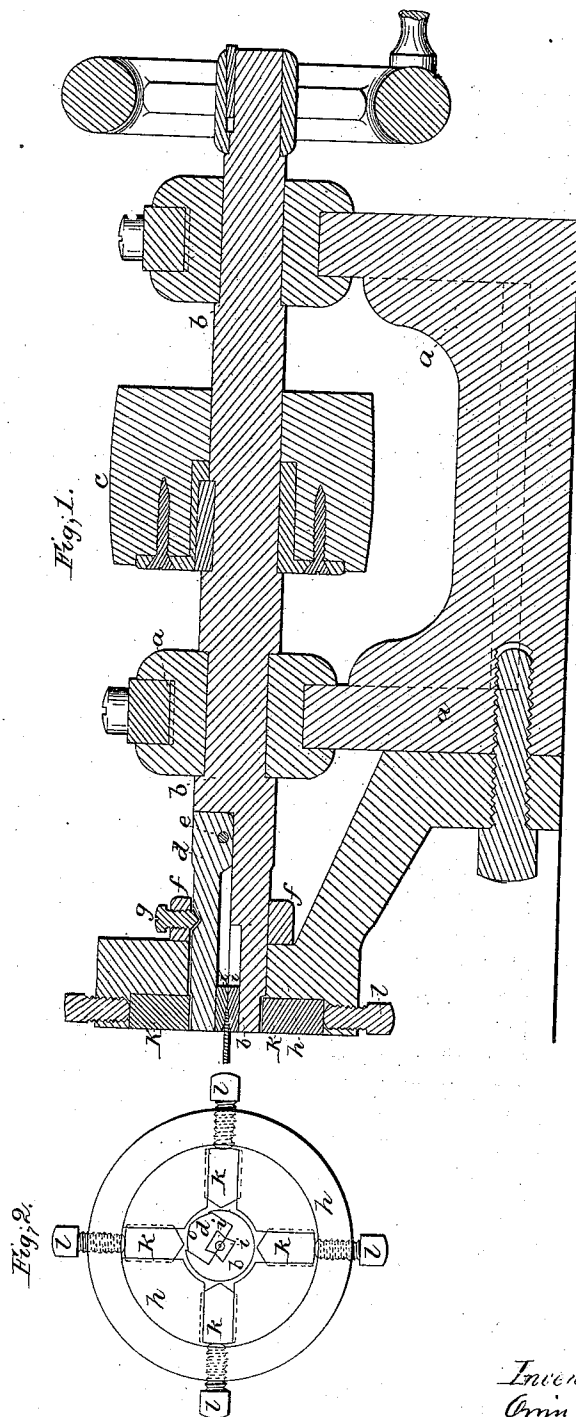


O. L. HOPSON & H. P. BROOKS.
POINTING WIRE FOR PINS.

No. 43,772.

Patented Aug. 9, 1864.



Witnesses,
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UNITED STATES PATENT OFFICE.

ORIN L. HOPSON AND HEMAN P. BROOKS, OF WATERBURY, CONNECTICUT.

IMPROVEMENT IN POINTING WIRE FOR PINS.

Specification forming part of Letters Patent No. 43,772, dated August 9, 1864.

To all whom it may concern:

Be it known that we, ORIN L. HOPSON and HEMAN P. BROOKS, of Waterbury, in the county of New Haven and State of Connecticut, have invented, made, and applied to use a certain new and useful means for pointing wire or rods for pins, &c.; and we do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawings making part of this specification, wherein—

Figure 1 is a longitudinal section of our improved means for pointing wire, and Fig. 2 is an end view representing the cams for actuating the pointing-dies.

Similar marks of reference denote the same parts.

The nature of our said invention consists in pointing wires or rods by a revolving divided die—that is pressed together two or more times during each revolution, said die being of the shape required for the point, and hence the wire forming the point is gradually compressed and extended to the form and shape required at said point without producing any burr, (as is usual in the compressing and pointing dies heretofore employed,) and the point is consolidated and rendered much harder than when reduced to shape by filing or grinding.

In the drawings, *a* is the mandrel head or frame carrying the mandrel or shaft *b*, that is driven by competent power applied at the pulley or wheel *c*. Near the end of this shaft *b* is a longitudinal groove or recess receiving the jaw *d*, that is held in place by the cross-pin *e*, or other suitable means, so that said jaw *d* can receive a slight swinging or opening movement to receive the wire between the parts on the line of the center or axis of the said shaft *b*.

f is a ring around *b* and *d*, with a screw, *g*, passing through the same and entering a cavity in *d*. This screw graduates the amount the jaw *d* can move or open for the admission of the end of the wire to be pointed.

i i are dies formed with an opening of the shape of the point required, and the respective parts of the die are attached to *b* and *d*, so that the cavity in said dies is on the axial

line of the shaft *b*. Around the end of this shaft *b* is a stationary ring; *h*, with radial slots receiving the cams *k*, that are adjusted by the screws *l* or other suitable means.

The mode of operating this machine is as follows: The end of the piece of wire to be pointed or otherwise shaped is entered between the dies *i i* and pressed into them, which slightly opens said dies. The revolution of the shaft *c* brings the projection *o* of the jaw *d* into contact with the end of one of the cams, *k*, which cam is adjusted so that it will close the dies *i i*, and in so doing compress the wire or rod, and these operations are repeated, the end of the wire being pressed in a little farther each time the jaw is relieved and allowed to slightly open, until the point is perfectly formed, which point is of the shape of the die-opening, and is compressed and extended without forming any burr or projection on the same, and the point is rendered much harder by this compressing action than would be the case if the metal was filed or ground away to form the point.

It will be evident that if only two cams *k* were employed they would require to be at right angles to each other, so as to operate on both sides of the wire, and where a large number of radial cams are used the operation of forming the point will be effected equally fast with a slower rotation of the shaft *b* than in case where but few of these radiating cams are employed. This mode of pointing has the effect of smoothing the surface acted upon by the rotary movement of the dies.

The mechanism herein set forth may be employed for shaping in a circular form any other article besides a point to which it may be adapted.

It will be evident that there is no waste of material, as the point is compressed and elongated, thus effecting a saving of stock over the methods heretofore pursued, and making a much better article.

What we claim, and desire to secure by Letters Patent, is—

1. Pointing wires or rods by a revolving divided die that is pressed together substantially as and for the purposes specified.

2. The arrangement of the adjustable radial cams *k*, revolving shaft *h*, jaw *d*, and dies *i*, substantially as specified.

3. The ring *f* and screw *g*, in combination with the jaw *d* and dies *i*, for regulating the amount said dies shall be allowed to open, as set forth.

In witness whereof we have hereunto set

our signatures this 28th day of May, A. D. 1864.

ORIN L. HOPSON.
HEMAN P. BROOKS.

Witnesses:

EDWARD T. ROAT,
THEODORE S. BUD.