W. AIKEN.

Machine for Pointing and Threading Screw-Blanks.

No. 162,453. Patented April 27, 1875.

Fig.1.

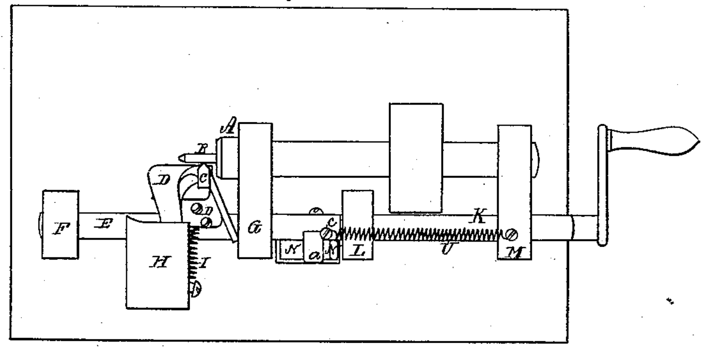


Fig.2.

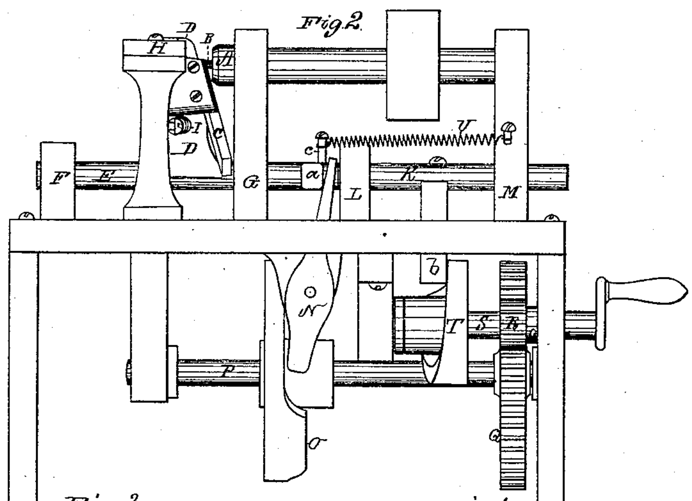


Fig.3.

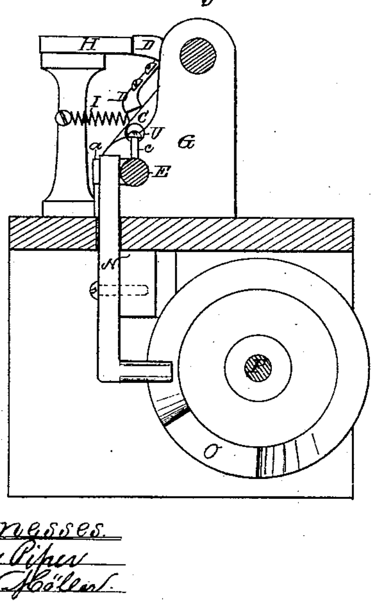
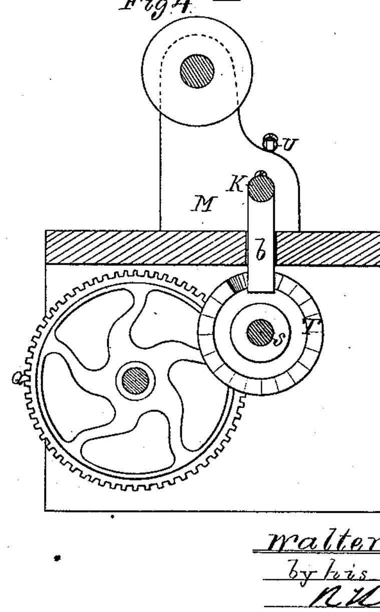


Fig.4.



Witnesses.
S. W. Piper
L. N. Möller

Walter Aiken,
by his attorney.
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UNITED STATES PATENT OFFICE.

WALTER AIKEN, OF FRANKLIN, NEW HAMPSHIRE.

IMPROVEMENT IN MACHINES FOR POINTING AND THREADING SCREW-BLANKS.

Specification forming part of Letters Patent No. **162,453**, dated April 27, 1875; application filed March 15, 1875.

To all whom it may concern:

Be it known that I, WALTER AIKEN, of Franklin, of the county of Merrimack and State of New Hampshire, have invented a new and useful Improvement in Machinery for Pointing and Threading Screw-Blanks; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a top view; Fig. 2, a front elevation; Figs. 3 and 4, transverse sections of a machine embodying my invention, which consists in the arrangement and combination, as hereinafter described, of a separate slide or shaft and its actuating-cam, for threading a screw-blank, with the tool-carrier, its shaft, and its retractive spring, actuating-lever, and blank-pointing cam, the whole being to operate with a former of the ordinary kind, in a manner to first cause a screw-blank to be pointed and next to be threaded by a single cutter or tool.

In such drawings, A denotes the mandrel for holding and revolving the screw-blank B to be pointed and threaded. C is the pointing and threading tool, it being fixed in a vibratory arm, D, extended upward from a rock-shaft, E, arranged in standards F G, and applied thereto, so as not only to be capable of turning transversely, but of being moved longitudinally of it therein. H is the usual former, against which the tool-carrying arm is borne by a spring, I. This former, in practice, as in other screw-threading machines, is to be movable toward and away from the blank and is to have mechanism for advancing it, to cause the tool to make the successive cuts necessary to the formation or production of the screw-thread. The rock-shaft E is separate from and abuts against another such shaft, K, arranged in a right line with the shaft E, and supported in standards L M, so as to be capable of sliding rectilinearly therein. Against a projection, *a*, extended from the shaft E, the upper arm of a lever, N, rests, such lever being arranged in manner as shown, and with its lever-arm bearing against a pointing-cam, O, fixed upon a secondary shaft, P. The latter is provided with a gear, Q, to engage a pinion, R, fixed on another or primary shaft, S, all being as represented. The shaft S carries the threading-cam T, which operates against an arm, *b*, extending down from the shaft K. Furthermore, there is fixed to the shaft E, or a stud, *c*, extending upward therefrom, and also to the standard M, a helical spring, U, whose purpose is to retract the shaft E.

In the operation of this machine, the pointing of the blank takes place before it is threaded, such pointing being accomplished in part by the cam O and lever N, which advance the shaft E, so as to cause the former H to move the tool-carrier forward toward the blank, the compound motion of the tool-carrier causing the tool to point the blank or reduce its end conically while the blank may be in revolution. Just prior to such having been effected, the threading-shaft K will be advanced to meet the shaft E, after which both shafts will be moved endwise simultaneously back and forth by the threading-cam T and the spring U, so as to cause the cutter to make the requisite number of cuts to form the thread both on the shank and conical point of the blank.

I claim—

For effecting the pointing and threading of a screw-blank by a single tool and a former, to co-operate as explained, the combination of the separate slide or shaft K and the rotary threading-cam T, applied as described, with the tool-carrier D in its shaft E, the retractive spring V, the lever N, and the pointing-cam O, all being arranged substantially in manner and to operate as specified.

WALTER AIKEN.

Witnesses:

R. H. EDDY,

J. R. SNOW.