

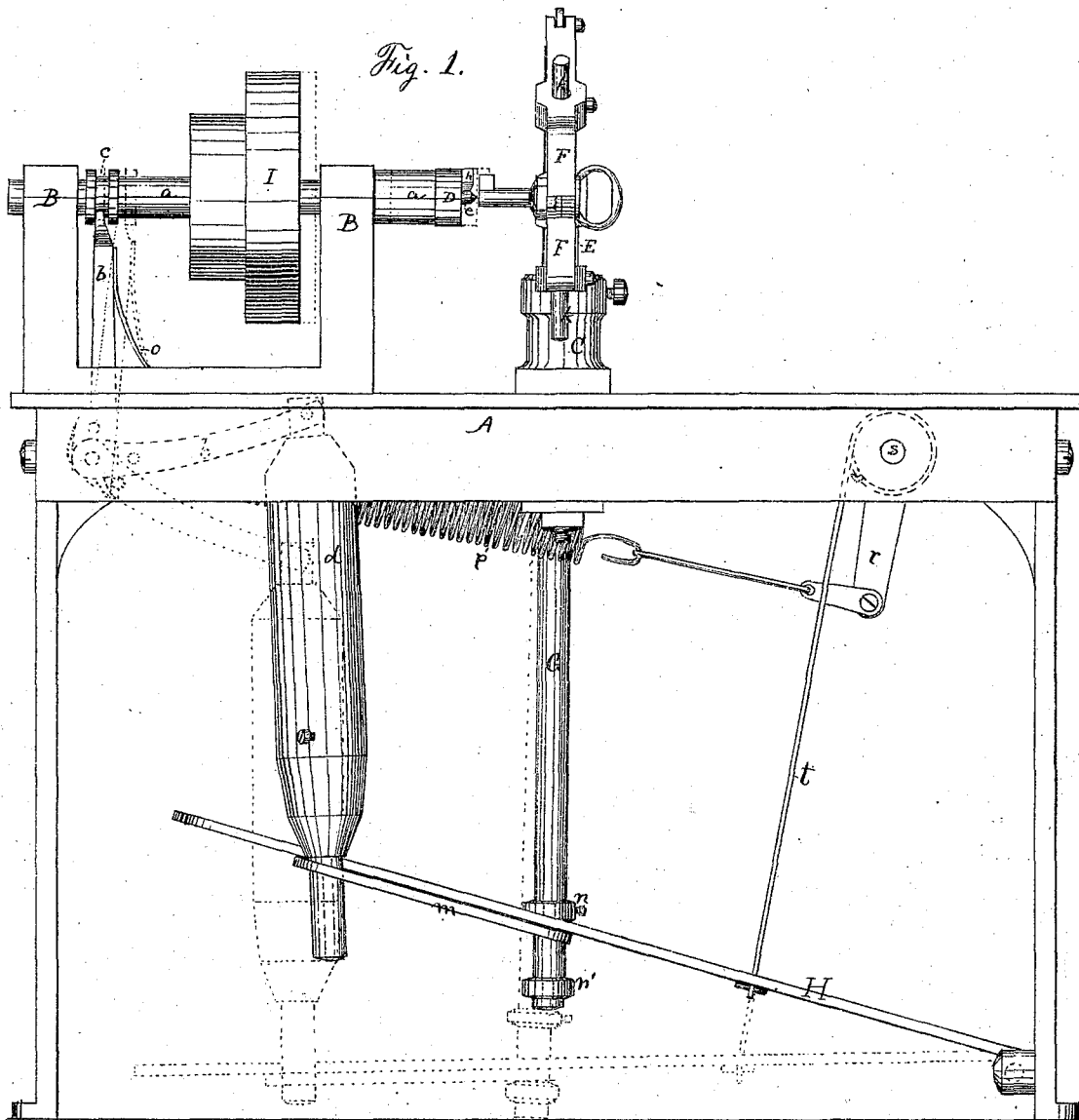
Sheet. 1.

James Terry, Jr. & Swift M^{rs}G. Hunter
ASIGNORS TO THE
Eagle Lock Co.

Machine for Turning Keys.

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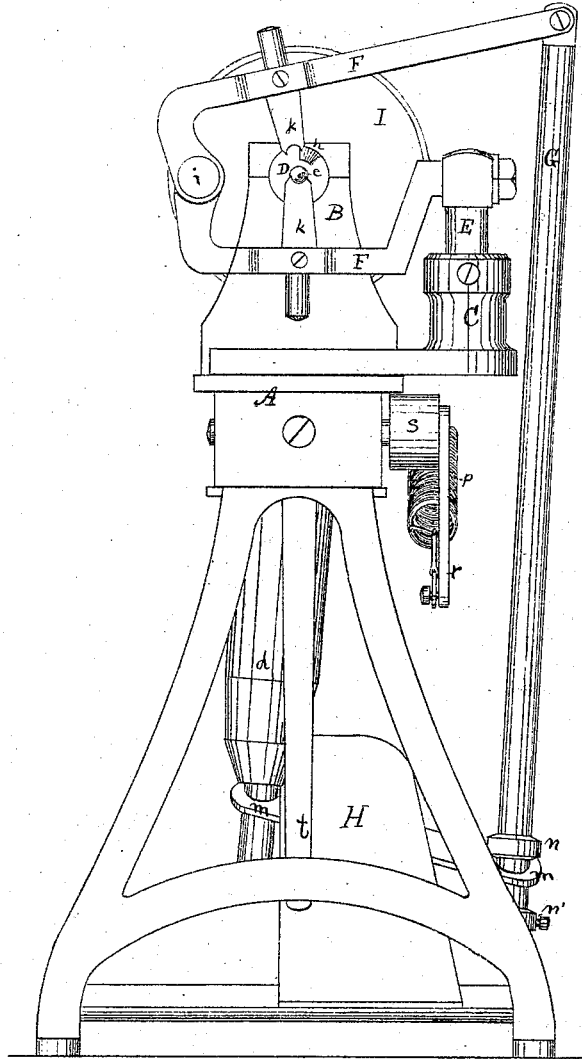
PATENTED JUL 25 1871



Machine for Turning Keys.

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Fig. 2.



Witnesses,

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Inventors,

James Terry, Jr.
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UNITED STATES PATENT OFFICE.

JAMES TERRY, JR., AND SWIFT MCG. HUNTER, OF TERRYVILLE, CONNECTICUT,
ASSIGNORS TO EAGLE LOCK COMPANY, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR TURNING KEYS.

Specification forming part of Letters Patent No. 117,348, dated July 25, 1871.

To all whom it may concern:

Be it known that we, JAMES TERRY, JR., and SWIFT MCG. HUNTER, of Terryville, in the county of Litchfield, State of Connecticut, have invented certain new and useful Improvements in a Machine for Turning Keys, of which the following is a specification:

Our invention consists in the combination and arrangement of the parts as hereinafter specified.

In the accompanying drawing, Figure 1 is a front elevation of a machine embodying our invention, and Fig. 2 is a side elevation of the same.

A designates the bed, on which are secured the head B and socket C, similar to those of an ordinary hand-turning lathe. The mandrel *a* is provided with an ordinary driving-pulley, I, and has a longitudinal play in its bearing, said longitudinal movement being accomplished by means of the bifurcated lever *b*, the end of which rests in the groove *c*. To the lower end of the lever *b*, inside of the bed A, another lever or arm of the same lever is attached by means of a stop-joint, the two arms forming an angle or knee-lever, as indicated by the broken lines in Fig. 1. The lower arm of the lever *b* is secured to the weight *d*. On the end of the mandrel *a* is a chuck, D, provided with an arm, *h*, and center or point, *e*. A post, E, is secured in the socket C, in which post is a frame, F, made in two parts and connected by a joint, *i*. In each part of the frame F is secured a bit or chisel, *k*, which may be of any desired form, so as to turn the whole or any portion of a key-shaft between the bit and the ring into any desired form. By adjusting the post E in the socket C, and the latter upon the bed A, the chisels *k k* can be brought so that the key clasped by them will be central, or on a line with the mandrel *a*. To the upper arm of the frame F is secured a rod, G, the lower end of which rod passes through an arm or cross-piece, *m*, of the lever or treadle H, and is provided with two collars, *n n'*, secured to the rod by means of set-screws. The lower end of the weight *d*, or the end of a rod to which said weight is attached, also passes through the cross-piece *m*. Springs *o* and *p* have a tendency to hold the parts in the position shown in the drawing, the spring *p* being attached to the treadle by means of crank *r*, shaft *s*, and strap *t*, in a well-known manner, whereby the effect of the unequal tension of the spring is removed from the treadle.

The operation is as follows, viz.: A key is placed with the portion to be turned between the chisels *k k*, as shown in Fig. 1. The lever or treadle is then depressed, when the weight *d* and rod G will fall with said treadle until the upper chisel *k* meets the key and holds the same in place. The movement of the rod is then stopped until the treadle H has moved so far as to bring the cross-piece *m* in contact with the lower collar *n'*. During the movement of the treadle H and cross-piece *m* from collar to collar *n n'* the falling of the weight *d* takes up all the "slack" in the stop-joint of the knee-lever *b*, and throws the upper end of said lever (and, consequently, the mandrel *a* and chuck D) forward, when the center *e* enters the usual hole in the end of the key and holds it central, while the arm *h* strikes the bit of the key and revolves the same. Continued downward movement and pressure of the treadle H causes the chisels *k k* to cut, and the portion of the key between them is turned. The pressure is then removed from the treadle H, when the springs *o* and *p* cause the parts to resume their former position and the key falls from the machine, when another key can be inserted and the operation repeated without stopping the machine. The fine broken or dotted lines in Fig. 1 indicate the position of the several parts with the treadle depressed. If desired to turn solid keys, or those in which the end of the round shaft projects beyond the bit, the center *e* would be removed from the chuck D, thus leaving a cavity therein to receive the end of the key-shaft, when the key can be turned as before described. It is desirable to have the chisels *k k* strike the key and hold it in place previous to the key engaging with the chuck D, and also that the chuck shall engage with and revolve the key just previous to the cutting action of the chisels *k k*, which action is caused by the cross-piece *m* striking the collar *n'* and forcing down the rod G and upper arm of the frame F. By the adjustment of the collars *n n'* on the rod G the several operations can easily be made to take place in the order specified.

By our invention a large amount of labor is saved over the former modes of doing the same work.

We claim as our invention—

1. The combination of the bed A, head B, sliding mandrel *a*, chuck D, lever *b*, weight *d*,

socket C, frame F, chisels *k k*, rod G, collars *n n'*, treadle H, and springs *o p*, whereby a single movement of the treadle H causes the key to be first held by the chisels *k k*, next made to revolve by engaging with the chuck D, after which a further movement of the treadle causes the chisels to cut and turn the key, as set forth.

2. The combination of the bed A, adjustable post E, socket C, jointed frame F, chisels *k k*, with the head B and sliding mandrel and chuck *a D*, substantially as described and for the purposes set forth.

3. The pointed center *e* and arm *h* of the chuck D, arranged on the end of the sliding and revolving mandrel *a*, in combination with the dies or chisels *k k* and their connecting mechanism, substantially as and for the purpose described.

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Witnesses:

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