

3 Sheets--Sheet 1.

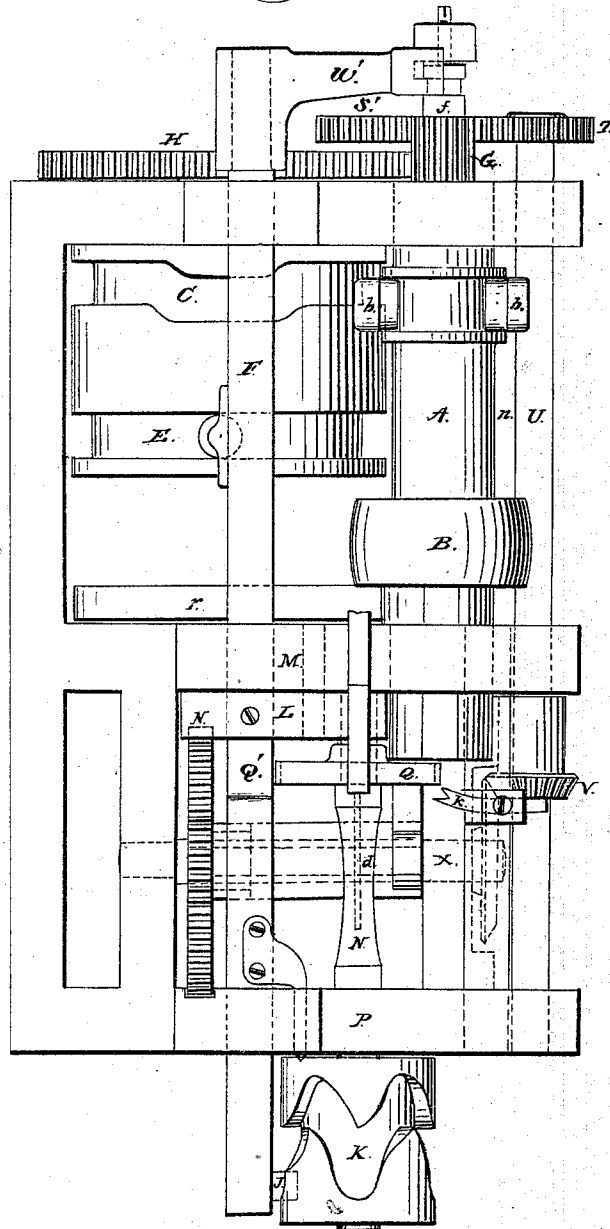
E. NUGENT & J. FANNING.

Machines for Nicking and Shaving Screw-Blanks.

No. 144,693.

Patented Nov. 18, 1873.

Fig. 1.



WITNESSES:

A. Moore
H. S. Miller

INVENTORS:

Eduard Nugent
John Fanning

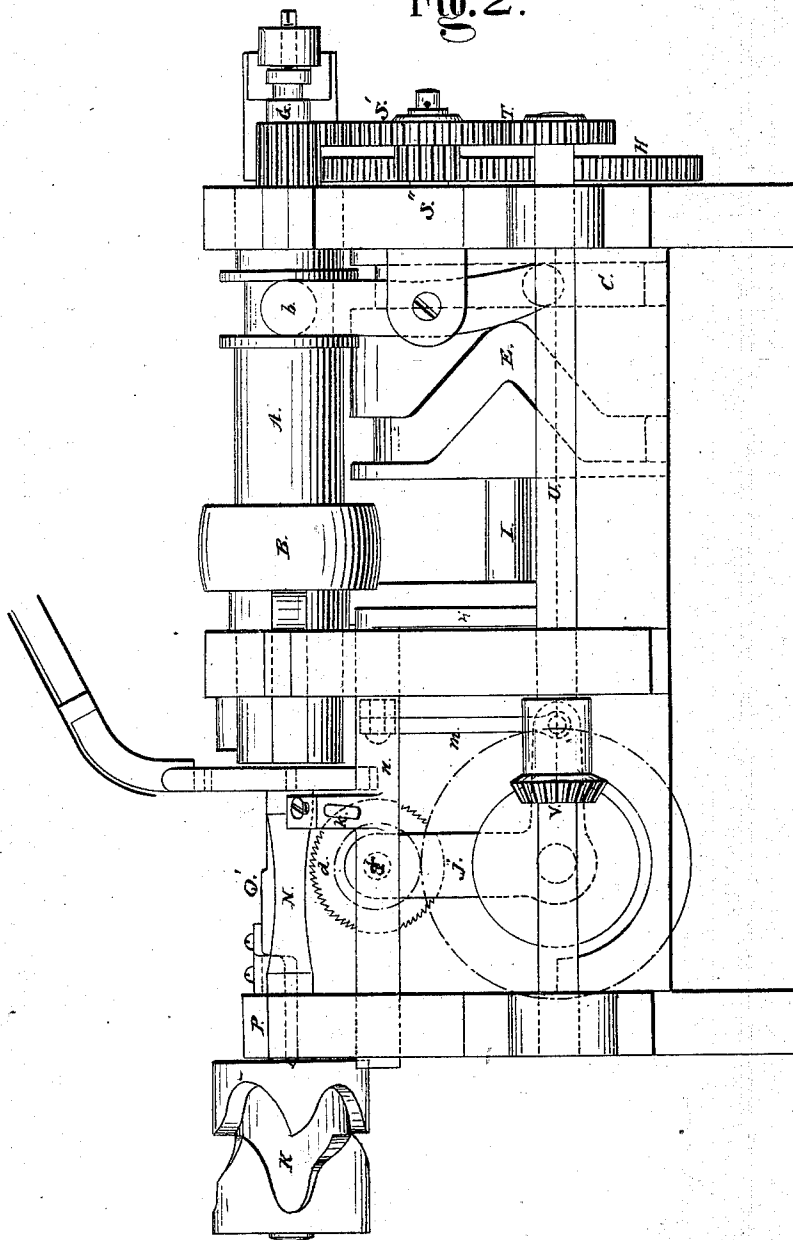
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Fig. 2.



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Fig. 3.

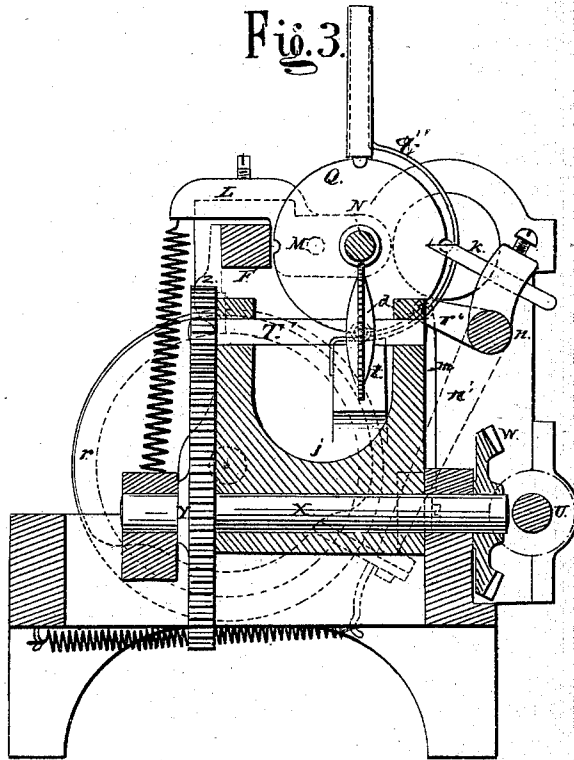
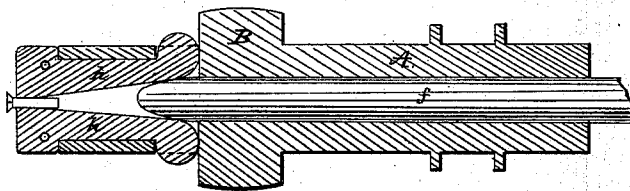


Fig. 4.



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INVENTORS:

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UNITED STATES PATENT OFFICE.

EDWARD NUGENT AND JOHN FANNING, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MACHINES FOR NICKING AND SHAVING SCREW-BLANKS.

Specification forming part of Letters Patent No. **144,693**, dated November 18, 1873; application filed October 29, 1873.

To all whom it may concern:

Be it known that we, EDWARD NUGENT and JOHN FANNING, both of Brooklyn, in Kings county and State of New York, have invented a Machine for Nicking and Shaving Screw-Blanks, of which the following is a specification:

The object of our invention is to make a machine that will shave and nick a screw-blank, the action being automatic, and that shall do the work more rapidly and be more simple than machines hitherto made.

Our invention will be readily understood by reference to the accompanying drawings, which form a part of this specification.

Figure 1 is a plan or top view of our machine. Fig. 2 is a side view, Fig. 3 is a cross-section, and Fig. 4 is a longitudinal section, of the main shaft.

A is the driving or main shaft. B is the belt-pulley. C is a cam, which operates a forked lever, *b*, to give longitudinal motion to the shaft A. A cam, E, gives longitudinal motion to the bar F. A pinion, G, on the main shaft, meshing into a spur-wheel, *s'*, on a shaft to which is attached a pinion, *s''*, meshing into a gear-wheel, H, on the shaft I, communicates rotary motion to the cams E and C. A projection, J, on the sliding bar F gives intermittent rotary motion to the double-acting cam K. The bar F has a cam, Q', on its top, which gives an intermittent rocking motion to the block L, supported on the stud M between the cutter and sliding bar. A shaft, N, has one of its bearings in the end of the block L, the other end being supported in the main frame at P. The bearings are so constructed that one end of the shaft can oscillate. The cam K is fast on the end of the shaft N. Q is a disk on the shaft N, having slots across its periphery, into which the blanks are fed from a hopper. (Not shown in the drawings.) The gear-wheel G on the main shaft gives motion to an intermittent gear-wheel, *s'*, which, in turn, gives motion to a gear-wheel, T, on a shaft, U. A beveled gear-wheel, V, on the shaft U meshes into a bevel-gear, W, giving motion to a counter-shaft, X, carrying a gear-wheel, Y, that meshes into a gear-wheel, Z, thus communicating motion to the shaft T', on

which the saw *d* is fast. A spindle, *f*, passing through the main shaft A, is connected with the sliding bar F by means of an arm, U', and takes longitudinal motion from said bar for the purpose of operating the jaws *h h*, pivoted in the end of the shaft A, for the purpose of grasping the blank at the proper time, and revolving it against the shaving tool or cutter *k*. The saw-shaft has its bearings in a tilting frame, *j*; and an arm, *m*, connects the frame *j* with a projection, *r'*, on the shaft *n*. A cam, *r*, acts against the lever *n'*, projecting from the shaft *n*, communicating a rocking motion to the cutter *k*.

As the disk Q revolves, it carries the blank forward opposite the jaws *h h*, (a stationary rest, *q'*, preventing the blanks from dropping out,) when the shaft A is moved longitudinally, and the jaws operated to grasp the blank and revolve it against the action of the cutter or shaving-tool *k*, which is moved forward and shaves the blank. The motion of the disk Q carries the blank forward after it has been shaved, and the jaws opened. The shaft A is withdrawn to the proper position, to allow the blank to be moved forward for nicking. When the blank has passed forward to the position for nicking, the cam Q' on the side of the sliding bar F comes in contact with the block L, and presses the end of the shaft N down, carrying with it the disk Q, which clasps the blank firmly upon the rest *t* holding it, while the same motion that throws the cutter forward to do the shaving of a blank tilts the frame *j* forward, and presses the saw against the head of the blank, and cuts the nick, after which operation the disk rises and releases the blank. The forward motion of the disk carries the blank beyond the guard, and it falls into a receptacle below, when other blanks are passed forward, and the same operations are repeated, as before.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the oscillating frame L, sliding bar F, shaft N, carrier-disk Q, guide *q'*, and stationary rest *t*, operating substantially as described.

2. The intermittent rotary oscillating disk

Q and guide q' , in combination with the rotary shaft A, carrying the jaws $h h$, operated by the sliding spindle f , and the cutter k , operating to shave the head of the blank, substantially as and for the purpose set forth.

3. The combination of the oscillating frame L, sliding bar F, shaft N, disk Q, guide q' , stationary rest t with a nicking-saw, substantially as and for the purpose set forth.

4. The intermittently rotary oscillating disk Q and guide q' , in combination with the nicking-saw d , shaving-cutter k , and a chuck for

revolving the blank, substantially as and for the purpose set forth.

5. The frame j , carrying the saw-shaft T', and oscillated on the revolving shaft X by means of the connecting-rod m' , arm r' on the shaft n , arm n' , and cam r , substantially as and for the purpose set forth.

EDWARD NUGENT.
JOHN FANNING.

Witnesses:

A. MOORE,
H. S. MILLER.