W. SCULLY.

Screw Tapping.

No. 106,215. Patented Aug. 9, 1870.

Fig. 1.

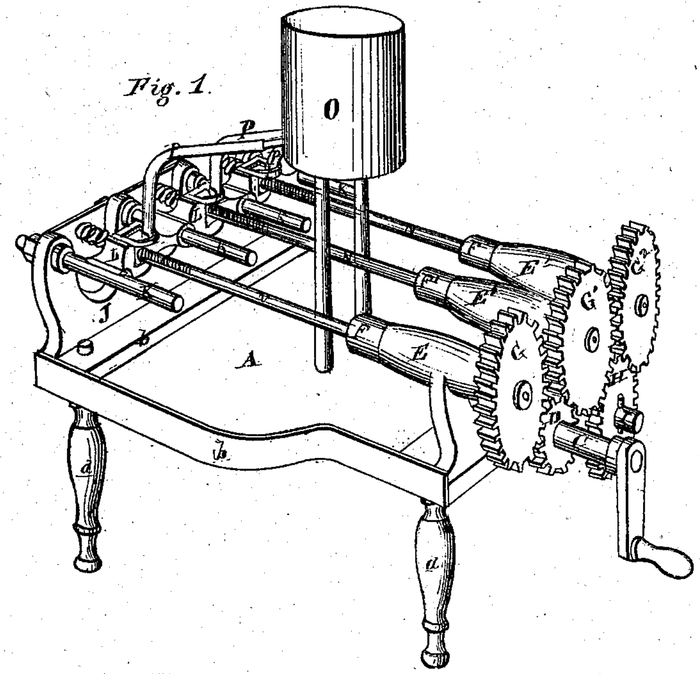


Fig. 3.

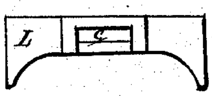
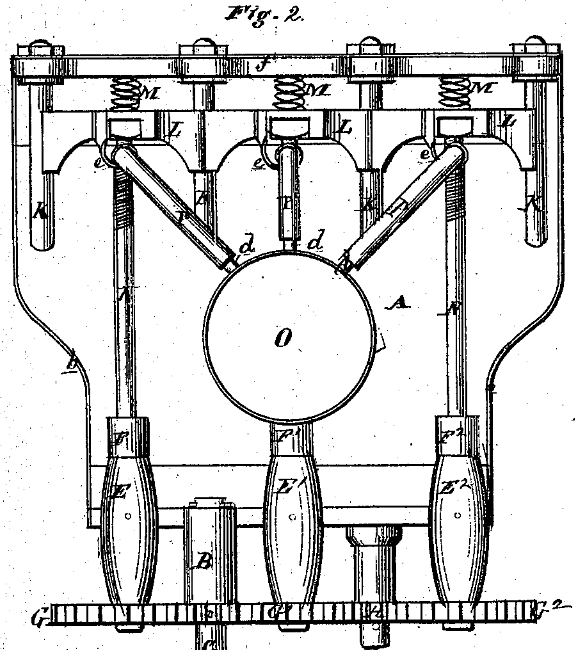


Fig. 2.



Attest.

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WILLIAM SCULLY, OF DETROIT, MICHIGAN, ASSIGNOR TO "THE MICHIGAN BOLT AND NUT COMPANY," OF SAME PLACE.

Letters Patent No. 106,215, *dated August* 9, 1870.

IMPROVED NUT-TAPPING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same

To whom it may concern:

Be it known that I, WILLIAM SCULLY, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Gang Nut-Tapping Machines; and I do declare that the following is a full and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a perspective view of my device;

Figure 2 is a plan of the same; and

Figure 3 is a plan of one of the nut-holders.

Like letters indicate like parts in each figure.

The nature of this invention relates to the construction of a machine for tapping the threads in screw-nuts.

It consists in the peculiar construction and arrangement of a series of rotating spindles, carrying each a conical tap having a long shank, all having a continuous rotation in the same direction, and in a novel construction and method of operating a corresponding series of nut-holders, by means of which a series of nuts may be operated upon simultaneously, the attendant placing the blanks consecutively in the nut-holders, when the process of threading them is immediately commenced, and carried on with great speed.

Also, in a peculiar arrangement of a lubricating device, whereby a steady supply of oil is delivered on the taps just in advance of the nuts being threaded.

In the drawing

A represents a suitable metallic table, supported by legs or standards, *d*, and provided with a surrounding ledge, *b*, for saving the oil which drips from the taps.

B is a box projecting from the rear part of the table, in which is journaled a driving-shaft, C, rotated from any convenient source of power, and carrying a toothed gear-wheel, D.

E, E^1, and E^2 are boxes in the upper part of three standards rising from the back part of the table.

In these boxes are journaled socket-spindles, F, F^1, and F^2, having pinions, G, G^1, and G^2, rigidly secured to their rear ends.

Motion is communicated to the gears G and G^1 in the same direction by the gear-wheel D, which meshes with each, and motion is in like manner given the pinion G^2 from G^1 by an intermediate gear, H, rotating on a stud, I, as shown.

J is a standard extending across the front edge of the table.

From this standard four horizontal guide-bars, K, extend toward the spindles, and on the same plane with them.

Between each pair of guide-bars slides a nut-holder, L, provided with a recess of the proper size to receive the nut-blank.

Extending across the bottom of the recess is an opening, *c*, down through the holder, through which the chips of metal fall at the insertion of each fresh blank.

M are coiled springs secured to a bar extending across the face of the machine, and are of such length as to press the nut-holders, against which they bear, up to and on the taps N.

O is a reservoir for containing oil or other lubricant, from the lower part of which issue three pipes, *d*, which may be provided with suitable cocks to regulate the out-flow of the oil.

From these pipes flexible tubes, P, are led to each nut-holder, and so secured thereto by a clamp, *e*, as to deliver a small but continual supply of oil to the tap in front of each nut.

The operation of the device is simple. As soon as a blank is tapped and run off the thread of the tap onto the shank, the holder is drawn back and a fresh blank dropped into the recess, the spring forces the holder forward to the tap, which, being tapered, enters the hole in the blank and at once commences cutting the thread. The blanks are supplied to the holders in rotation, and as soon as the entire shank of a tap is filled or covered with finished nuts, the tap is withdrawn from its socket, the nuts dropped off, and then replaced.

The machine requires no skilled artisan to attend, only a boy to place the blanks in the holders and remove them from the taps.

The springs may be dispensed with, in which case a small lever is required to push forward each holder when a fresh blank is placed in it, until the tap engages with the blank and commences cutting the thread.

I do not intend to limit the number of taps in a machine to three, as shown, as four or more, in threading large nuts, may be used, the limit of the number used being only the capacity of the attendant to place the blanks and remove the finished nuts from the machine.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The nut-holders L, constructed and arranged as described and shown, and as and for the purposes set forth.

2. The arrangement of the standard J, guide-bars K, nut-holders L, and springs M, when the several parts are constructed and arranged as described and shown, and as and for the purposes set forth.

3. The construction and arrangement of a series of nut-holders L, moving independently of each other between the guide-bars K, reservoir O, and flexible tubes P, in connection with a corresponding series of taps N, continuously rotated in the same direction by any suitable train of gearing, in the manner and for the purpose set forth.

WILLIAM SCULLY.

Witnesses:

SAML. J. SPRAY,

FREDERICK EBERTS.