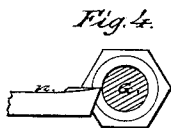
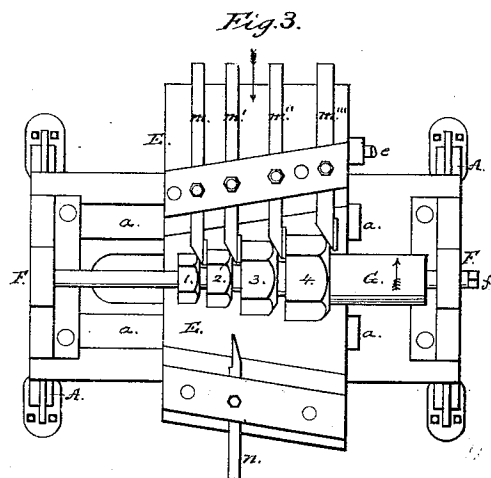
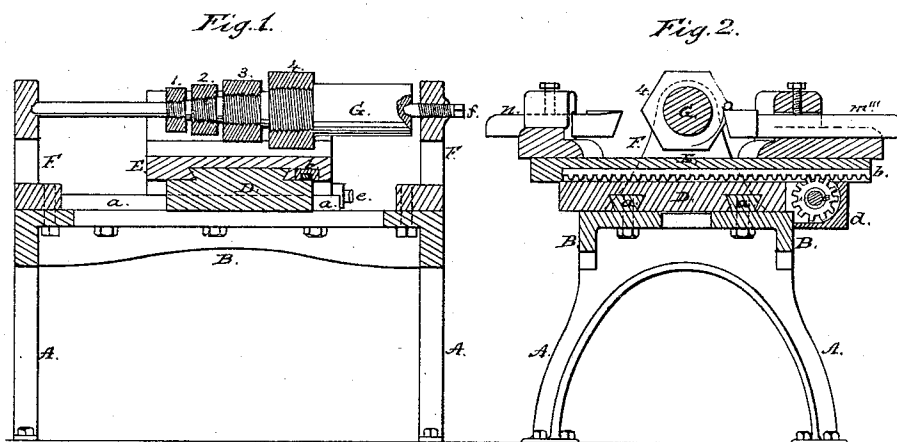


J. T. Campbell.

Dressing Metal Nuts.

N^o 84,410.

Patented Nov. 24, 1868.



Witnesses:
Wm. Steel
John Parker

Inventor:
J. T. Campbell
By his Attys
H. Howden



JOHN T. CAMPBELL, OF ALTOONA, PENNSYLVANIA.

Letters Patent No. 84,410, dated November 24, 1868.

IMPROVEMENT IN NUT-PLANERS

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

To all whom it may concern:

Be it known that I, JOHN T. CAMPBELL, of Altoona, State of Pennsylvania, have invented a Nut-Facing and Turning-Machine; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists of certain mechanism, fully described hereafter, by which a number of nuts can be simultaneously faced and bevelled.

In order to enable others familiar with machinery of this class to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a vertical section of my nut-facing and turning-machine.

Figure 2, a transverse vertical section,

Figure 3, a plan view, and

Figure 4, a detached view of part of the machine.

Similar letters refer to similar parts throughout the several views.

A and A are the two end frames of the machine, and are connected together by a bed-plate, B, on the upper face of which are two longitudinal dovetailed ribs, *a a*, adapted to similarly-shaped grooves in the slide B, to which is fitted a transverse slide, E, after the plan adopted in constructing ordinary slide-rests for lathes, the last-named slide having a rack, *b*, into which gears a pinion, *d*, on a spindle, *e*, turning in bearings on the slide.

The slide D may be operated by hand, or by any appropriate appliances.

On each end of the bed-plate is a standard, F, and in one standard turns the small end of the spindle G, the large end of the latter having a central recess for receiving the pointed end of a set-screw, *f*, in the other standard.

In the present instance the spindle is arranged for the reception of four nuts, 1, 2, 3, 4, of different sizes, each nut being screwed into the spindle, and against a shoulder on the same, as seen in fig. 1.

To the slide E are screwed four tools, *m, m', m'',* and *m'''*, on one side of the spindle; and a single tool, *n*, on the opposite side of the same, the arrangement of these tools being best observed on reference to fig. 3.

Each of the tools *m m' m'' m'''* has two cutting-edges, one straight and the other bevelled, so that on moving

the slide E towards the spindle, in the direction of the arrows, fig. 3, while the spindle and its nuts are revolving in a contrary direction, the inclined cutting-edge of the tool *m* will bevel the top of the smallest nut, while the straight cutting-edge will face the base of the adjacent nut next in size, and so on throughout the series of nuts.

A fifth tool, not shown in the drawing, may be used for facing the base of the smallest nut.

After this simultaneous facing and bevelling of the whole of the nuts, the latter must have a flat surface formed on their tops. This is accomplished by the tool *n*, which, by a proper manipulation of the slides, can be brought to bear upon each nut in succession, so as to form the desired flat surface on the tops of the nuts, round the edges of the holes in the same.

It would be needless to describe minutely the advantages of the above-described machine, as they will be apparent to all who are familiar with machine-shops, in which large quantities of nuts are used, and in which their rapid completion, ready for use, is an important desideratum.

It will be understood that a number of nuts of the same size may be operated on simultaneously, and that the nuts, instead of being screwed on to the spindle, may be fitted loosely to the same, with appropriate distance-pieces between them, the series of nuts being confined between a shoulder, near one end of the spindle, and a nut on the other.

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

1. The combination of one or more tools, *m m'*, and a revolving mandrel, G, all constructed, arranged, and operating together, substantially as and for the purpose set forth.

2. The combination and arrangement of the revolving mandrel G, sliding tool-rest E, edge-planing tool *n*, and the double-edged tools *m m'*, all constructed and operating substantially in the manner described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOHN T. CAMPBELL.

Witnesses:

JAMES DUNN,

JOHN SHOEMAKER.