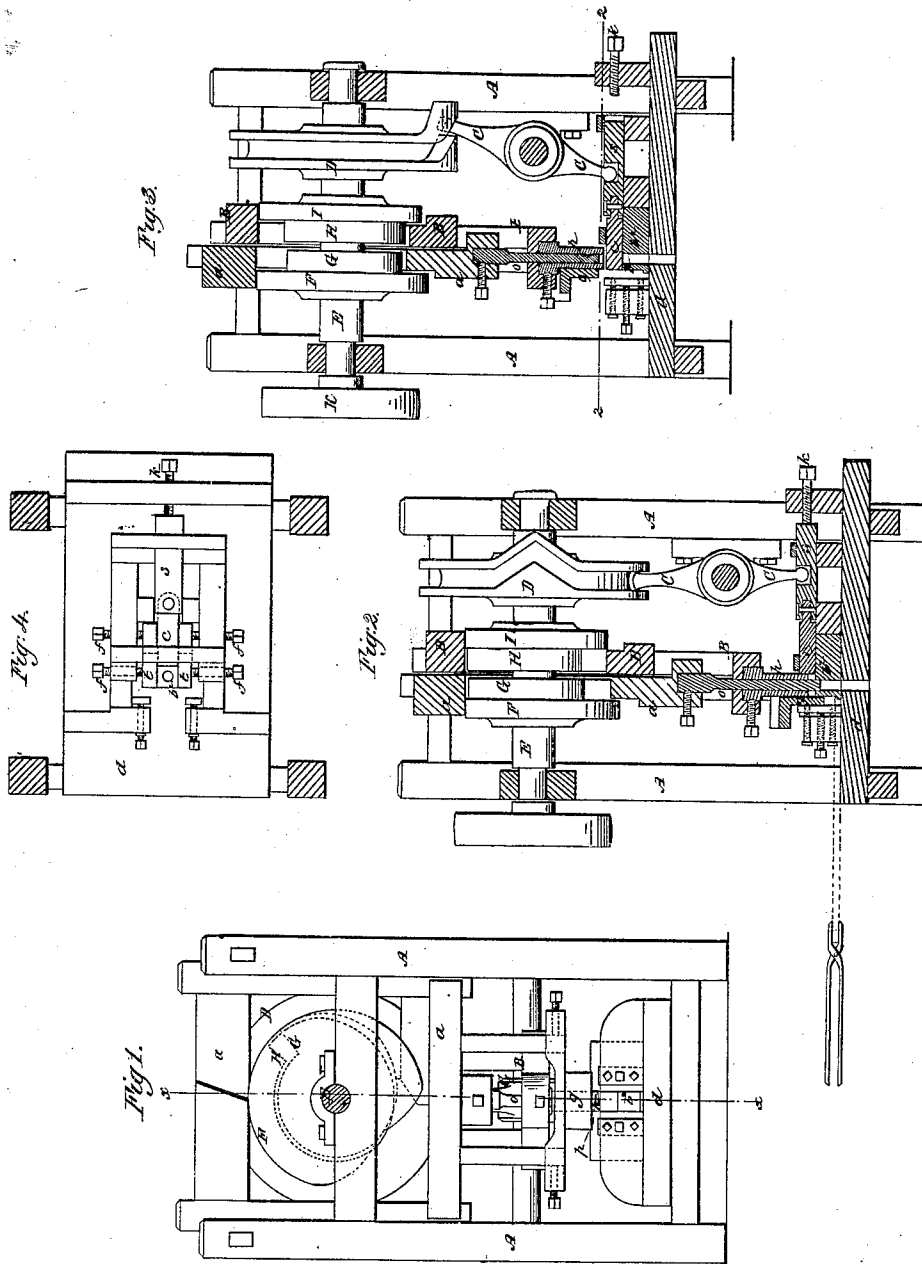


H. CARTER & J. REES
NUT MACHINE.

No. 10,249.

Patented Nov. 22, 1853.



UNITED STATES PATENT OFFICE.

HENRY CARTER AND JAMES REES, OF PITTSBURGH, PENNSYLVANIA.

NUT-MACHINE.

Specification of Letters Patent No. 10,249, dated November 22, 1853; Antedated June 3, 1853.

To all whom it may concern:

Be it known that we, HENRY CARTER and JAMES REES, of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have
5 invented certain new and useful Improvements in Machines for Making Nuts, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which makes part
10 of this specification, and in which—

Figure 1 represents a front elevation; Fig. 2 a vertical section through the line $x x$ of Fig. 1 the parts being in the position they respectively occupy at the moment the nut
15 is finished and ready to be discharged from the die-box; Fig. 3 represents a similar view with the parts in the position they occupy at the moment the finished nut has been discharged; and Fig. 4 represents a horizontal
20 section at the line 2, 2, of Fig. 3.

Our improvements refer to the die-box, and are illustrated in the accompanying drawing of a nut machine in which—

A is the frame by which the several parts
25 of the mechanism are kept in the proper relative positions.

E is the shaft which carries a series of cams by means of which the proper motion
30 is given to the several acting members of the machine.

The die is composed of six separate blocks of tempered steel or other suitable metal, corresponding to the six sides of a square
35 nut, for the production of which it is adapted. The upper (p) and under (b^2) die blocks are perforated with central apertures for the eye-punch (o) to work through in the usual manner. The under block (b^2)
40 is stationary and fixed to the bed-plate (d), but the upper block is connected by suitable yoke frame (B), with a cam H and I, by means of which it is raised to admit the
45 nut blank beneath it, and then depressed to a given point to reduce the end of the rod to the thickness required preparatory to cutting the piece off and to shape the blank by compression.

The two side blocks (t, t) of the die-box are held in position by means of set screws
50 (f), which admit of their removal for repairs or replacement by others. The back die-block (c) fits between the side blocks (t) and has a sliding movement given to it at intervals for the purpose of discharging
55 the finished nut from the die-box, and then

moving back into position to receive another blank. This alternating movement is given to the back die-block by means of a lever (C) actuated by a cam (D) and engaging in a sliding block (s) which is joint-
60 ed to the die. The backward movement of the sliding block is arrested by means of a set screw (k) which can be moved in or out at will. This die-block is shown in its forward position in Fig. 3, and in its back position
65 in Fig. 2.

The front die (g) rises and falls alternately with the movements just described of the back die. The front die carries a knife at its lower edge by means of which
70 the blank is severed from the rod, after it has been reduced to the proper thickness, and gripped by the descent of the top-die. This die is raised and depressed by means
75 of cams (F and G) to which it is connected by means of a yoke (a). At the time the front die-block is raised, the end of a properly heated, rod is pushed into the die-box until it strikes the back die (c), the top die
80 now descends and compresses the end of the rod to the proper thickness, when the front die descends, and the knife severs the bar, forcing it down, and leaving the blank in the box as seen in Fig. 2.

It has heretofore been customary to cut
85 nut rods into pieces of uniform length to form the blanks, and as such rods are always of irregular thickness, the blanks contain unequal quantities of metal, and often
90 contain too much, the dies and cams are injuriously strained, to avoid which rods rather under the proper size are often used, but this is objectionable, because regular and symmetrical nuts can not be formed if the
95 material is deficient.

By our method of reducing the rod to the required thickness by the top die, before the die-box is closed and the blank severed by the descent of the front-die, a rod somewhat over the thickness of the required nut
100 can be used, and thereby insure the filling of the die with the exact quantity of material required, without straining the machinery, in the way nuts of uniform size are insured and the principal cause of breakage
105 in this class of machines obviated by our improvement.

What we claim as our invention, and desire to secure by Letters Patent is—

The arrangement of the devices substan- 110

tially as herein described for reducing the
end of the blank bar to a given thickness
preparatory to severing the blank, whereby
nuts of uniform thickness are produced
5 from bars of irregular thickness, and the
machine is protected against injurious
strains.

In testimony whereof, we have hereunto
subscribed our names.

HENRY CARTER.
JAMES REES.

Witnesses:

THOS. STEEL,
ANDREW BAIRD.