

(No Model.)

J. T. BURR.
KEY SEATING MACHINE.

No. 319,953.
FIG. 1.

Patented June 16, 1885.

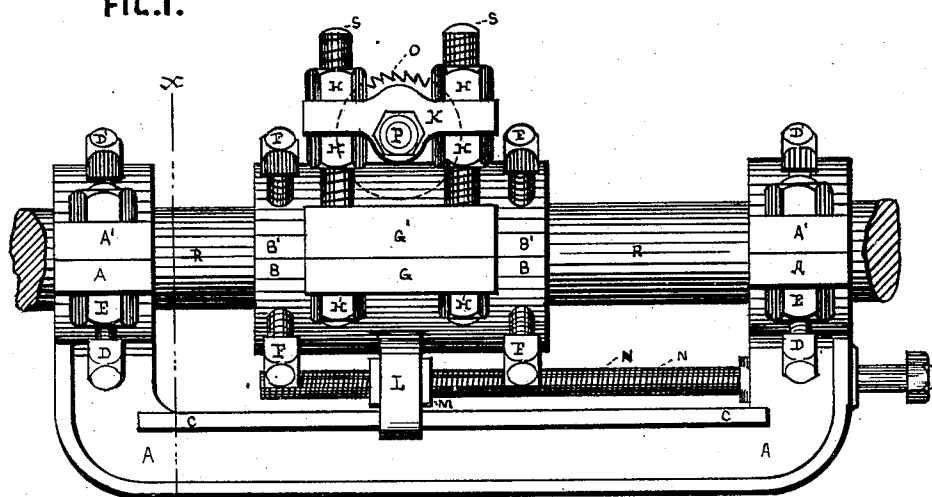


FIG. 2.

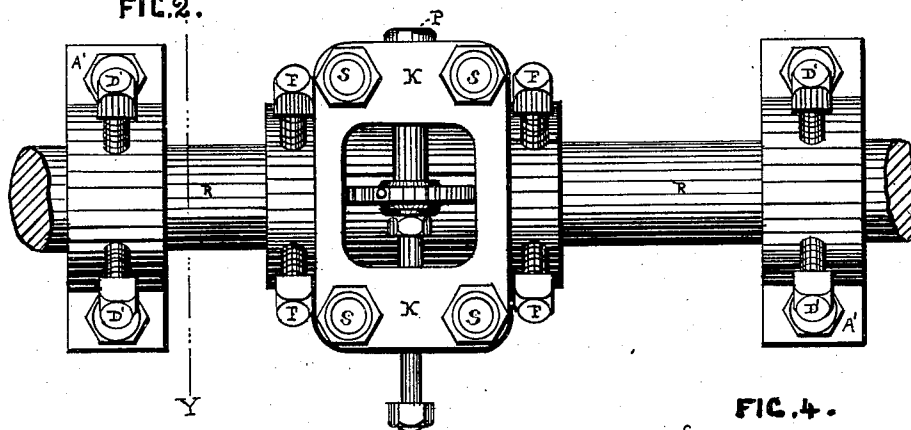


FIG. 3.

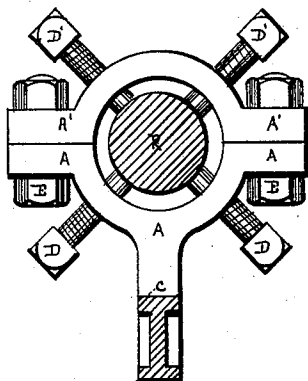
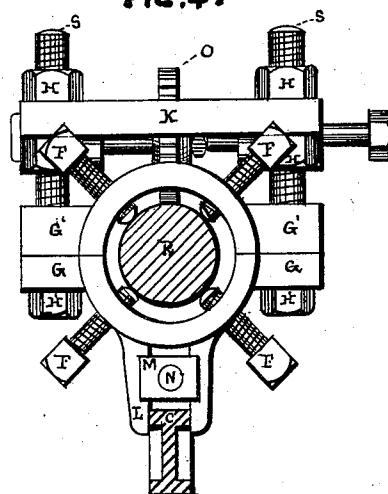


FIG. 4.



WITNESSES,

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UNITED STATES PATENT OFFICE.

JOHN T. BURR, OF STAMFORD, CONNECTICUT.

KEY-SEATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 319,953, dated June 16, 1885.

Application filed November 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. BURR, a citizen of the United States, residing at Stamford, in the county of Fairfield and State of Connecticut, have invented a new and useful Portable Key-Seating Machine, of which the following is a specification.

The object of my invention is the construction of a machine by which key-seats may be cut in shafting without removing the same from its working position. This machine, also, will be found to be exceedingly useful in constructing new work.

In the accompanying drawings, Figure 1 is a side elevation of the entire machine. Fig. 2 is a plan or top view of same. Fig. 3 is a section of part of my machine taken on the line X Y, looking to the left; and Fig. 4 is a section on the same line looking to the right. Similar letters refer to similar parts throughout the several views.

A is a frame of cast-iron, which, with the binders A', forms a device with two eyes—one on each end—rigidly connected. The faces of the frame A, to which the binders A' join, as well as the faces of the binders themselves, are first planed, and then the holes for the bolts E E are drilled and reamed. After the bolts E E, nicely fitted, are screwed up the eyes are carefully bored out, and the sides of the rib C are planed parallel with a line drawn through the centers of the eyes. These eyes are each provided with four cup-pointed set-screws, located quartering, as shown. The parts B and B', when the faces are planed and bolted together by the studs S S and nuts H' H', form a sleeve, which is bored inside to proper size. This sleeve is provided on each end with a set of four adjusting set-screws with rounded points. On the bottom of this sleeve a yoke, L, is cast to carry a flanged nut, M, and the jaw is fitted to easily slide over the rib C of the frame A. The studs S S, in addition to holding the two parts B and B' of the sleeve together, extend some inches above the lug G', and are provided each with two checks-nuts, H H. A frame, K, has four holes drilled corresponding with and to fit over the four studs S S. This frame carries a spindle, P, to which is fastened by a nut the milling-cutter O. The spindle P extends over one end of the frame K, and is fitted to take a crank or pulley to

properly drive the milling-cutter. The sleeve, with frame K and milling-cutter, forms what I call the "cutter-carriage." This cutter-carriage is moved in a right line between the eyes of the frame A by means of a screw, N, which engages the nut M.

Having described the construction of my machine, I will now describe its operation. The shaft R, which is to be operated upon, is supposed to be supported in its hangers. The caps A' A' are removed from the frame A, and the top B' of the sleeve is also removed. The frame A, with the lower part of the cutter-carriage, is now placed on the shaft, and the caps A' A' and the top B' of the sleeve replaced and securely fastened by the nuts. The eyes of the frame A are now brought in line with the shaft, and when the shaft is exactly in the center the set-screws are firmly screwed against the shaft R. The cutter-carriage is next centered to the shaft R by the set-screws F F. These screws are brought to contact only with the shaft, and by their rounded points enable the cutter-carriage to move freely parallel to the shaft. The milling-tool O, in its frame K, is next lowered by nuts H H to the depth required in the keyway while the spindle is being turned to cut its way down. When the proper depth is reached, the cutter-carriage is progressed by the screw N, until the keyway is cut as far as desired, parallelism with the center of the shaft being obtained by the yoke L and guiding-rib C. Granting that the eyes of the frame A and the bore of the cutter-carriage are concentric with the shaft, it is evident that an absolutely perfect keyway must be cut.

It is obvious that to cut keyways on shafts where no obstruction offers to slipping the whole machine over the end of the shaft, the parts A' and B' would not necessarily be removed. In fact, they could for such purpose be made solid, and not parted at all.

What I claim is—

1. In a key-seating machine, the combination of a cutter-carriage inclosing and adapted to travel upon the shaft to be treated, an adjustable cutter or tool carried by said carriage, a guide for said carriage, and the means for propelling the carriage along the said shaft, substantially as set forth.

2. In a key-seating machine, a cutter-car-

riage consisting of the parts B B', forming a sleeve adapted to receive the shaft to be key-seated, an adjustable frame or plate, K, mounted upon said carriage, and a cutter or tool mounted upon the frame, in combination with a guide for the carriage and the means for propelling said carriage along the shaft, substantially as set forth.

3. In a key-seating machine, a cutter-carriage consisting of the parts B B', forming a sleeve and adapted to receive the shaft to be key-seated, an adjustable frame, K, carried upon the carriage, and a tool, O, mounted upon a shaft, P, journaled in the frame K, in combination with a guide for the carriage and the means for propelling the same, substantially as described.

4. The cutter-carriage consisting of the parts B B', forming a sleeve, the screws F, stud-bolts S, adjustable frame or plate K, milling-tool O, and shaft P, substantially as and for the purpose specified.

5. The portable clamping-frame A, having its ends turned upward and supplied with boxes A A', said frame having directly below the horizontal line of center through said boxes A A' a guiding-rib, C, in combination

with a cutter-carriage adapted to inclose and travel upon the shaft to be key-seated, and carrying a cutter which is adjustable with relation to the shaft, a yoke, L, secured to the cutter-carriage, nut M, located within the yoke, and the screw N, arranged centrally over the rib C, substantially as set forth.

6. The portable clamping-frame A, having a guiding-rib C, in combination with the cutter-carriage consisting of the parts B B', forming a sleeve adapted to inclose the shaft to be key-seated, the adjustable frame or plate K, mounted upon the carriage, the cutter O, secured in the frame K, the yoke L, nut M, and screw N, substantially as set forth.

7. In a key-seating machine, the combination of the cutter-carriage forming a sleeve adapted to inclose and travel upon the shaft to be key-seated, an adjustable cutter or tool carried by said carriage, and the means for propelling the carriage along the shaft, substantially as set forth.

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Witnesses:

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