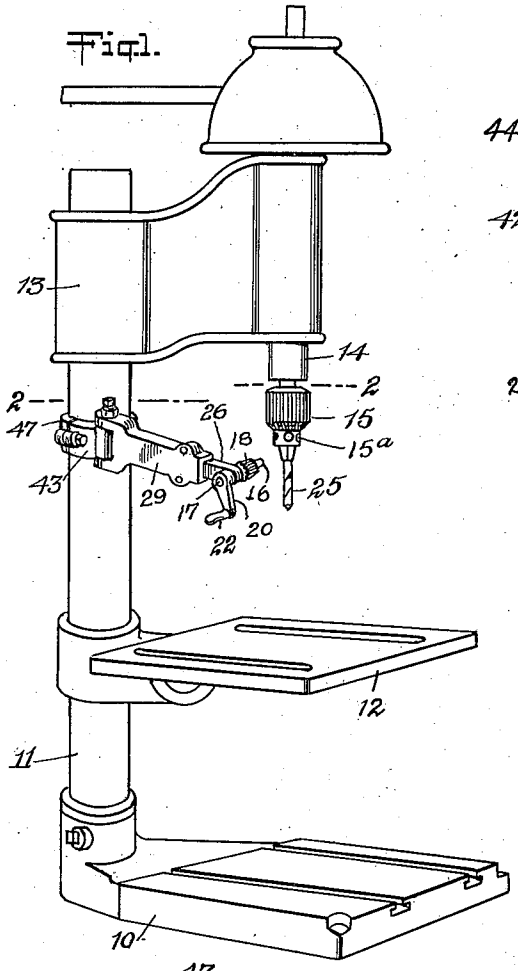
March 19, 1946. R. P. MAGNENAT 2,396,922

KEY HOLDER FOR JACOB'S CHUCK ATTACHMENT

Filed June 19, 1944

Fig.1.



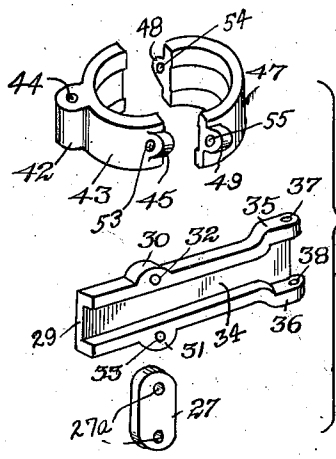


Fig.5.

Fig.4.

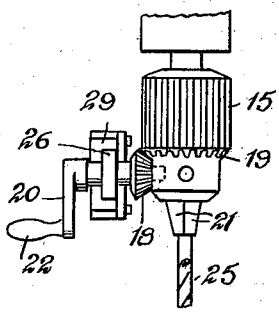


Fig.2.

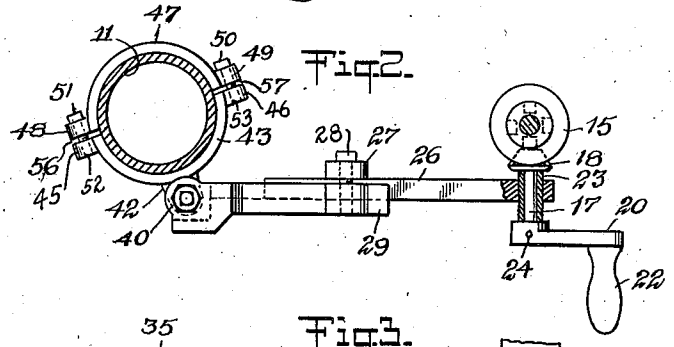
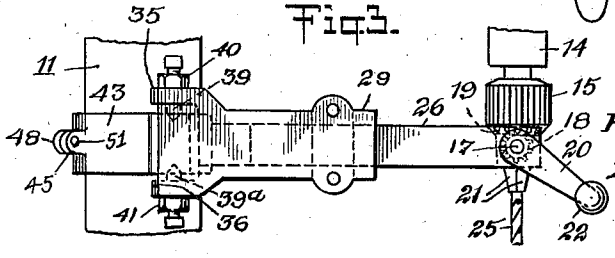


Fig.3.



INVENTOR.
Rene P. Magnenat
BY
H. G. Manning
Attorneys

Patented Mar. 19, 1946 2,396,922

UNITED STATES PATENT OFFICE

2,396,922

KEY HOLDER FOR JACOB'S CHUCK ATTACHMENT

René P. Magnenat, Waterbury, Conn., assignor to Waterbury Companies, Incorporated, Waterbury, Conn., a corporation of Connecticut

Application June 19, 1944, Serial No. 541,097

10 Claims. (Cl. 77—55)

This invention relates to chuck key holders, and more particularly to a device for holding the operating key of a geared chuck which is used to rotate the chuck sleeve for fastening a drill or other tool firmly in the chuck.

One object of the invention is to provide a key holding attachment of the above nature having means for pivotally mounting it upon a drill press column so that it may be swung out of the way when not in use and will be prevented from becoming lost.

A further object is to provide a key holding attachment of the above nature having a pinion pilot pin which will always remain at the same level as the sockets in the chuck when the latter is in its uppermost position.

A further object is to provide an attachment of the above nature having a crank handle which may be turned very rapidly to enable drills to be changed without waste of time.

A further object is to provide a device of the above nature which will be simple in construction, inexpensive to manufacture, easy to install and manipulate, compact, ornamental in appearance, and very efficient and durable in use.

With these and other objects in view, there has been illustrated on the accompanying drawing, one form in which the invention may conveniently be embodied in practice.

In the drawing:

Fig. 1 represents a perspective view of a drill press on which the present invention has been installed.

Fig. 2 is a sectional view of the same, looking downwardly, the section being taken along the line 2—2 of Fig. 1, and showing how the attachment is secured to the column of the drill press.

Fig. 3 is a side view of the same.

Fig. 4 is a front view of the attachment taken at right angles to the view shown in Fig. 3.

Fig. 5 is an exploded perspective view of the two-part bracket for holding the attachment on the column of the drill press, together with the swinging arm, and the attaching legs therefor.

Referring now to the drawing in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates the base of a drill press, having a column 11 upstanding therefrom, upon which is slidably mounted a table 12. The head of the press is indicated by the numeral 13, and depending from said head is a spindle 14 having a drill 25 secured thereto, as by a Jacob's chuck 15.

The Jacob's chuck 15 is provided with three radial sockets 15*a* which are adapted to be selectively engaged by a key pilot pin 16 formed on the end of a crankshaft 17, and said pin 16 has associated therewith a pinion 18 which is adapted to engage with the beveled toothed section 19 of the Jacob's chuck 15.

The numeral 20 indicates a crank arm connected with the crank shaft 17 and having a swiveled handle 22. The jaws of the chuck 15 are indicated by the numerals 21. The crankshaft 17 is surrounded by a tubular bearing 23 and the crank arm 20 is secured to the shaft 17 by means of a cross pin 24.

The crank shaft bearing 23 is carried on the end of an elongated slidable rod 26 which is held adjustably in a channel bracket 29 by means of a flat strap 27 having two apertures 27*a*, 27*a* to receive a pair of lock screws 28, 28 which are threaded into the sides of the channel bracket 29 adjacent the groove 34 thereof.

A pair of ears 30, 31 are formed on the bracket 29, and are provided with tapped holes 32, 33 to receive the lock screws 28, 28. The rear end of the bracket 29 is provided with a pair of spaced arms 35, 36 which have aligned tapped holes 37, 38 to receive a pair of cone-pointed set screws 39, 39*a*, said screws being held in adjusted position by means of a pair of lock nuts 40, 41.

Provision is also made of a pair of half collars 43, 47, the former having a boss 42 provided with conical sockets 44, 44 on its opposite flat faces for receiving the points of the set screws 39, 39*a*.

The half collar 43 is also provided with a pair of outwardly extending ears 45, 46 which are in alignment with similar ears 48, 49 ono the half collar 47.

The half collars 43 and 47 are adapted to be secured together by a pair of lock screws 50, 51 passed loosely through holes 54, 55 in the ears 48, 49, and screwed into tapped holes 52, 53 in the ears 45, 46, leaving open spaces 56, 57 between the ears 45 and 48, and 46 and 49 to permit clamping adjustment.

Operation

By means of the above construction, it will be seen that in operation, the bracket 29 may be swung about its pivot bearing on the column 11 toward the center of the drill spindle 14, it being understood that the chuck 15 will first be raised to its uppermost position. The body of the chuck will then be twisted manually to bring one of the three sockets 15*a* of the Jacob's chuck into alignment with the pilot pin 16 at the end of the crankshaft 17 of the key.

The teeth of the beveled gear 18 will then be forced into mesh with the teeth 19 at the lower end of the chuck sleeve 15. By turning the crank handle 22 rapidly, the chuck jaws may then be opened or closed to loosen or tighten the chuck, as desired.

It will be understood that the collars 43 and 47 may be adjusted up and down and angularly around the column 11, while the rod 26 is adjustable in and out with the respect to the channel bracket 29, so as to cause the axis of the

pilot pin 16 to intersect the axis of the spindle 14.

While there has been disclosed in this specification one form in which the invention may be embodied, it is to be understood that this form is shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosures, but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent is:

1. In a device for rapidly loosening or tightening a Jacob's chuck with respect to a drill contained therein, and in which said chuck is provided with a plurality of radial sockets and a toothed sleeve adjacent thereto, a swinging arm pivoted upon a fixed support spaced from said chuck and drill, and a crank-operated horizontal pilot pin journaled in the end of said arm and adapted to be selectively inserted into one of said sockets, said pilot pin carrying a pinion adjacent thereto which is shaped to mesh with the teeth on the chuck sleeve.

2. In a device for rapidly operating a chuck mounted in a drill press having a vertical supporting column, and in which said chuck is provided with a toothed gear section and a plurality of radial sockets, a two-part collar mounted for vertical and angular adjustment on said column, an adjustable elongated arm pivoted in said collar, and a manually-operated horizontal pilot pin journaled in the end of said arm, said pilot pin being adapted to selectively fit into any one of said sockets when the latter is brought into alignment therewith, said pilot pin having a pinion secured rigidly thereto which is shaped to mesh with the teeth of said gear section, said pilot pin being located on the same level as the uppermost position of the sockets of said chuck sleeve.

3. In a device for rapidly loosening or tightening a Jacob's chuck with respect to a drill contained therein, and in which said chuck is provided with a plurality of radial sockets and a toothed sleeve, a swinging arm pivoted upon a fixed support spaced from said chuck and drill, and a crank-operated pilot pin journaled in the end of said arm, said piiot pin carrying a pinion coaxial therewith which is shaped to mesh with the teeth on said chuck sleeve when said pilot pin is inserted into one of said sockets.

4. In a device for rapidly loosening or tightening a Jacob's chuck with respect to a drill contained therein, and in which said chuck is provided with a plurality of radial sockets and a toothed bottom sleeve, a swinging arm pivoted upon a vertical fixed support spaced from said chuck and drill, and a crank-operated pilot pin journaled in the end of said arm, said pilot pin carrying a coaxial pinion which is shaped to mesh with the teeth on said chuck sleeve, said arm being connected to said pivoted support by means of a pair of conical bearings.

5. In a device for rapidly operating a chuck mounted in a drill press having a vertical supporting column, and in which said chuck is provided with a toothed gear section and a plurality of radial sockets, a two-part adjustable collar mounted for vertical and angular adjustment on said column, an adjustable elongated arm pivoted in said collar, and a manually-operated horizontal pilot pin journaled in the end of said arm, said pilot pin being adapted to selectively fit into any one of said sockets when the latter is brought into alignment therewith, said pilot pin having a pinion secured rigidly thereto which is shaped to mesh with the teeth of said gear section, said pilot pin being located on the same level as the uppermost position of the sockets of said chuck sleeve.

6. In a device for rapidly operating a chuck mounted in a drill press having a vertical supporting column, and in which said chuck is provided with a toothed gear section and a plurality of radial sockets, a two-part collar mounted for vertical and angular adjustment on said column, an adjustable elongated arm pivoted in said collar, and a manually-operated horizontal pilot pin journaled in the end of said arm, said pilot pin being adapted to selectively fit into any one of said sockets when the latter is brought into alignment therewith, said pilot pin having a pinion secured rigidly thereto which is shaped to mesh with the teeth of said gear section, said pilot pin being located on the same level as the uppermost position of the sockets of said chuck sleeve, said pilot pin being surrounded by a journal bearing sleeve rigidly mounted in the outer end of said elongated arm.

7. In a device for rapidly loosening or tightening a chuck with respect to a drill contained therein, and in which said chuck is provided with a plurality of radial sockets and a toothed sleeve, an extensible swinging arm pivoted upon a fixed support spaced from said chuck and drill, and a crank-operated pilot pin journaled in the end of said arm, said pilot pin carrying a pinion coaxial therewith which is shaped to mesh with the teeth on said chuck sleeve when said pilot pin is inserted into one of said sockets.

8. In a device for rapidly loosening or tightening a chuck with respect to a drill contained therein, and in which said chuck is provided with a plurality of radial sockets and a toothed sleeve, a telescopically mounted extensible swinging arm pivoted upon a fixed support spaced from said chuck and drill, and a crank-operated pilot pin journaled in the end of said arm, said pilot pin carrying a pinion coaxial therewith which is shaped to mesh with the teeth on said chuck sleeve when said pilot pin is inserted into one of said sockets.

9. In a device for rapidly loosening or tightening a geared chuck with respect to a drill contained therein, and in which said chuck is provided with a plurality of radial sockets and a toothed sleeve adjacent thereto, a swinging arm pivoted upon a fixed support spaced from said chuck and drill, and a crank-operated horizontal pilot pin journaled in the end of said arm and adapted to be selectively inserted into one of said sockets, said pilot pin carrying a pinion adjacent thereto which is shaped to mesh with the teeth on the chuck sleeve.

10. In a device for rapidly loosening or tightening a geared chuck with respect to a drill contained therein, and in which said chuck is provided with a plurality of radial sockets and a toothed bottom sleeve, a swinging arm pivoted upon a vertical fixed support spaced from said chuck and drill, and a crank-operated pilot pin journaled in the end of said arm, said pilot pin carrying a coaxial pinion which is shaped to mesh with the teeth on said chuck sleeve, said arm being connected to said pivoted support by means of a pair of conical bearings.

RENÉ P. MAGNENAT.