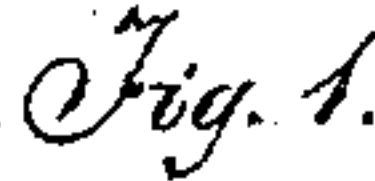


Threading Screws.

No. 106,551.

Patented Aug. 23. 1870.



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Letters Patent No. 106,551, dated August 23, 1870.

IMPROVED CHUCK FOR HOLDING PIPES AND TUBES WHILE BEING SCREW-THREADED.

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, WILLIAM T. COLE, of the city, county, and State of New York, have invented a new and useful Improvement in Chucks for Holding Pipes and Tubes while being Screw-Threaded; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to chucks, and more particularly to those which are employed to hold a rod or tube while a thread is being cut thereon.

The objects contemplated by this improvement are—

First, to enable the rod or pipe to be at once removed after being threaded, without injuring the thread.

Second, to do it without reversing the chuck.

Third, to do it instantaneously at the will of the operator.

The invention consists in certain instrumentalities which will be hereinafter specified.

In the accompanying drawing—

Figure 1 represents a face view of the chuck, partly in section, showing the general arrangement of the parts.

Figure 2 is a cross-section of fig. 1, on the line *xx*.

Similar letters of reference indicate corresponding parts.

A represents the disk, which is fastened to the end of a tubular spindle, and revolved by means of gearing, or in any suitable manner.

B represents a double-flanged circular slotted plate, which is attached to the disk A by the screws C.

These screws pass through slot-holes D in the plate, and enter studs on the disk, as indicated by dotted lines in fig. 1.

The plate is held in place by the heads of the screws, but the slot being curved, or on a circle described from the center of the chuck, the plate is allowed to move around the center sufficiently to operate one or more pawls for fastening the pipe in the disk.

In this example of my invention, I show but one fastening-lever pawl E, and that partly in dotted lines, but any required number may be used.

The pipe is shown at F, with the toe of the pawl in contact therewith.

The pawl is pivoted to the disk, as seen at G.

Its arm extends to near the rim of the disk, where it is confined in a V-socket, *h h*, on the inner side of the circular slotted plate B, so that the movement of the pawl is governed by the movement of the plate,

and the pipe to be cut is fastened and loosened by one or the other of these movements.

Around the periphery or double flange I of the circular slotted plate B, I arrange an adjustable friction-band or binder, J, within which the plate B is allowed to revolve with a constant motion while the screw is being cut.

K is a projecting hook on this band.

This band is made adjustable, and the friction is increased or diminished by means of the screw L and the nuts N N.

O is a bar or bent lever, which is pivoted to a stationary bed-piece, P, (across the frame of the machine or lathe,) at the point *q*.

R is a dog, which is pivoted to the disk A, which projects outward from the periphery of the disk, as seen in the drawing.

The disk revolves in the direction of the arrow, carrying with it the plate B, the friction-band being held stationary when the machine is in operation by means of the pin S on the bar, and the hook K, the end of the bar being elevated by the attendant for this purpose.

The chuck is represented in the drawing as in operation, or as holding and revolving the pipe F for the cutting of the screw upon its end.

The friction produced by the band overcomes the resistance caused by the dies in cutting the thread, and holds the plate B, and consequently the fastening pawl, in the position seen.

The cutting-dies used with this machine should be attached to jaws, which open and close, and which may be instantly released from the tube when the thread is cut. It is consequently unnecessary to reverse the motion of the machine to release the pipe.

The pipe is removed as soon as the dies are withdrawn, and it is released from the fastening-pawl.

This release is accomplished by depressing the bar O, and allowing the friction-band to move with the disk until the dog R comes in contact with a hook, T, on the bent lever or bar O.

This contact changes the position of the dog R, and forces the plate B to make a sudden movement forward, (which is allowed by the slots D,) and this movement throws the fastening-pawl from the pipe.

K is a block attached to the side of plate B, against which one end of pivoted lever R presses when the other is caught by the hook T.

This has the effect of throwing the plate forward to the end of its arc slot, by which time the end of lever R becomes disengaged from the hook T, and the rod or pipe is unclamped.

The pipe is now removed without in any manner bruising or marring the thread, and another pipe is

introduced. The disk during this time does not stop or alter its motion, but the friction-band revolves with it until the pipe is in place.

When thus placed, the end of the bar O is raised by the operator, so that the hook K catches on the pin S, as seen in the drawing.

The friction thus produced causes another movement of the plate B, which brings the fastening-pawl to its work again against the pipe, as seen in the drawing.

By this arrangement the power that drives the machine conjointly with the friction-band when held stationary is made to hold the pipe while the thread is being cut, and without stopping or retarding the motion of the chuck.

Having thus described my invention,
I claim as new and desire to secure by Letters Patent—

1. The slotted circular-plate B, having socket *h h* thereon, disk A, and lever E, all combined, arranged, and relatively constructed as and for the purpose described.

2. The disk A, plate B, band J K, and lever O, having pin S thereon, all combined, arranged, and relatively constructed as and for the purpose described.

3. The hook T, dog or lever R, block K, plate B, and disk A, all combined, arranged, and relatively constructed as and for the purpose described.

4. The hook-lever O S T, band I K, slotted socket-plate B, dog R, block K, lever E, and disk A, all combined, arranged, and relatively constructed to form a chuck, as set forth.

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