(No Model.)

J. W. MILLER.

BIT CHUCK.

No. 423,386. Patented Mar. 11, 1890.

Fig. 1.

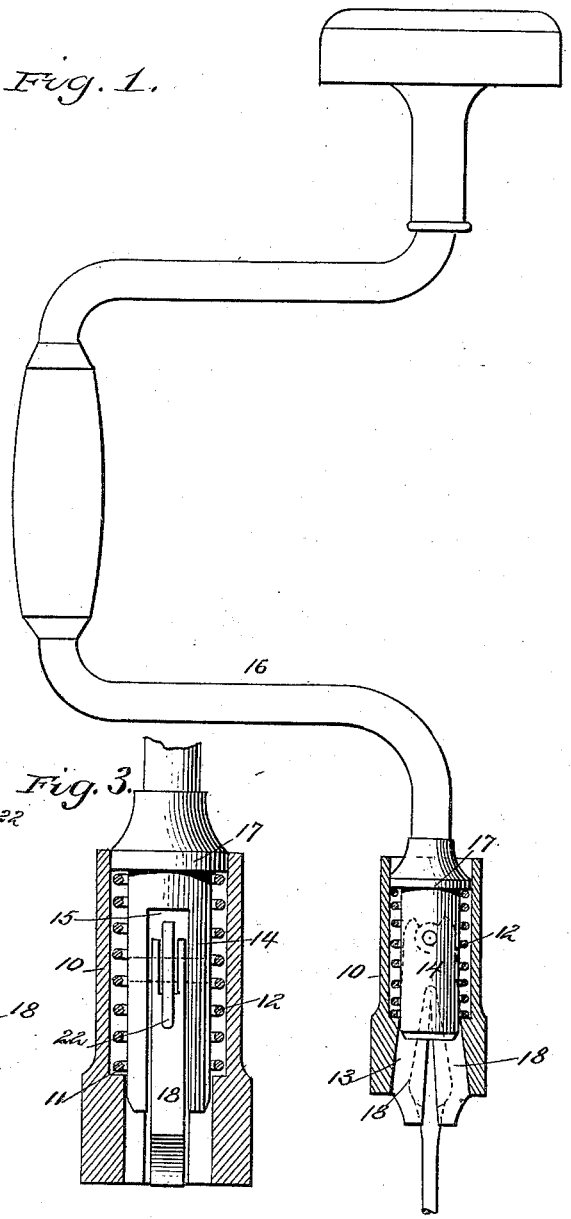

Fig. 2.

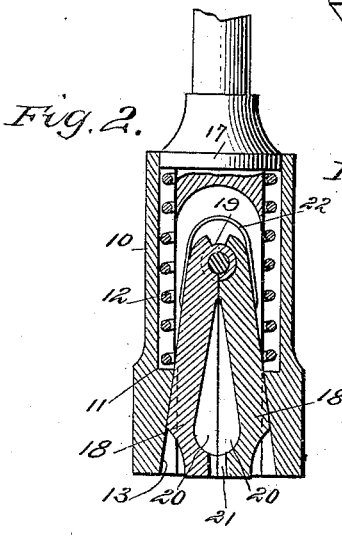

Fig. 3.

WITNESSES:

N. R. Davis.

C. Sedgwick

INVENTOR:

J. W. Miller

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN W. MILLER, OF MOUNT STERLING, KENTUCKY, ASSIGNOR TO GEO. E. MILLER, OF SAME PLACE.

BIT-CHUCK.

SPECIFICATION forming part of Letters Patent No. 423,386, dated March 11, 1890.

Application filed May 22, 1889. Serial No. 311,708. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. MILLER, of Mount Sterling, in the county of Montgomery and State of Kentucky, have invented a new and useful Improvement in Bit-Chucks, of which the following is a full, clear, and exact description.

My invention relates to an improvement in bit-chucks, and has for its object to provide a chuck capable of instantly and securely fastening and adjusting itself to any sized bit; and a further object of the invention is to improve upon the screw device now in common use, and to provide a chuck more simple in construction, capable of expeditious manipulation, and also durable in construction.

The invention consists of the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a brace, illustrating the chuck as applied thereto, the outer casing of the chuck and spring being in vertical section. Fig. 2 is a vertical section through the entire chuck; and Fig. 3 is a similar section taken upon a line at a right angle to the section in Fig. 2, showing the jaws in side elevation.

The chuck consists of a hollow sleeve 10 bored in two diameters, the lesser forming a shoulder 11, against which rests a spiral spring 12. From the shoulder to the outer lower end the bore of the sleeve is made tapering, as illustrated at 13 in Figs. 1 and 2.

Within the sleeve 10 the body 14 of the chuck is held to slide, consisting of a round piece of metal of sufficient diameter to just pass through the spiral spring 12, and provided with a slot 15, extending from the bottom within a short distance of the upper end.

The body 14 of the chuck is adapted to be attached to a brace 16 or spindle of the lathe, if used with such, in any suitable or approved manner.

The body 14 is provided with an attached ring 17, which, when the body is in its normal position, is essentially flush with the upper end of the sleeve 10. This ring 17 provides an upper bearing for the spiral spring 12, the lower portion of the spring, as heretofore stated, being made to rest upon the sleeve-shoulder 11.

Within the slot 15 of the body the clamping-jaws 18 are pivoted, which jaws at their upper or pivotal points are preferably shouldered, as shown at 19 in Fig. 2, and the said jaws, upon their inner or acting faces, are provided with an angular recess 20, adapted to fit around the tapered stock of the bit. This recess, as illustrated in Fig. 2, does not extend entirely through the outer edge of the jaws, the said outer edges being provided with an annular or circular recess 21, adapted to clamp and conform to the contour of the circular portion of the bit below the stock. The jaws are forced apart when the sleeve 10 is manipulated, as hereinafter stated, by a bow or U spring 22, which is riveted, soldered, or otherwise attached to the outer sides of the jaws near the top, and the body of the bow-spring extends over the pivotal point of the jaws This spring is ordinarily constructed of a flat strip of metal, as best shown in Fig. 2.

To operate the chuck the brace is held firmly in the hand, and the movable sleeve 10 is grasped with the other hand and slid upward against the tension of the spring 12, whereupon, as the outer face of each jaw is tapered to conform to the taper 13 of the sleeve, when the said sleeve is thus carried upward the spring 22, acting, forces the jaws apart to receive the bit-stock. After the bit-stock has been inserted in the recess formed in the jaws the sleeve is released and the spiral spring 12 forces the same downward to its normal position. The tapering face 13 of the sleeve-bore, operating upon the outer face of the jaws, effectually forces them inward to a firm contact with the bit-stock. By tapering the jaws and sleeve they will be kept in contact at the forward end at all times, so as to hold the bit firmly in the jaws. This construction also serves as a means for holding the sleeve in place upon the body of the chuck.

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

An improved bit-chuck consisting of a longitudinally-slotted body, jaws pivoted in the slot of the body and having tapering outer faces, a spring for normally holding the jaws apart, a spring surrounding the body and jaws, and a sleeve fitting over the said body and jaws, the said sleeve being bored in two diameters and having the walls of its smaller bore tapered, substantially as herein shown and described.

JOHN W. MILLER.

Witnesses:
CHAS. D. GRUBBS,
ROY G. KERN.