No. 639,842. Patented Dec. 26, 1899.

M. BARBER & L. F. KRAMER.

BIT STOCK.

(Application filed June 9, 1899.)

(No Model.)

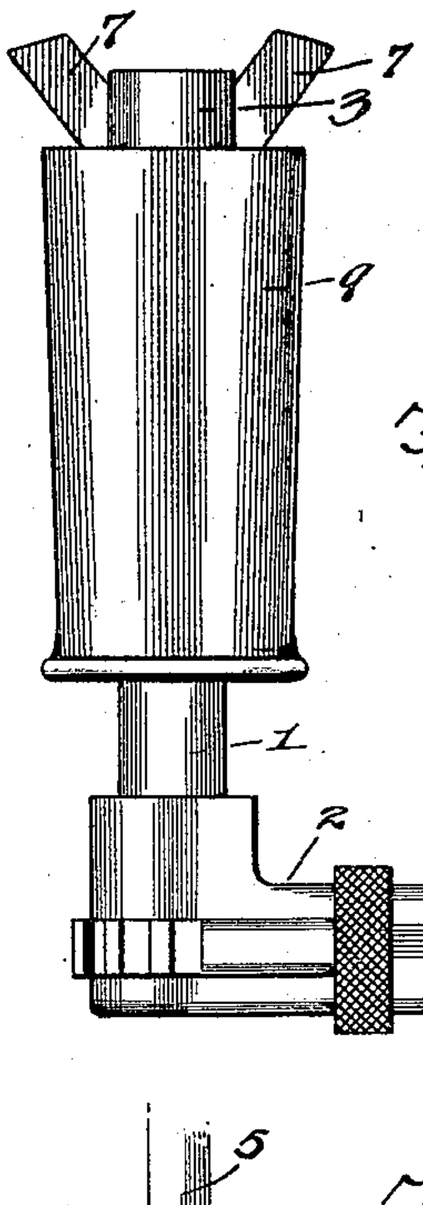
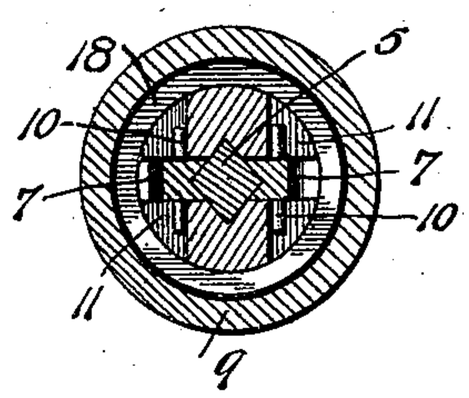


Fig. 1.

Fig. 3.



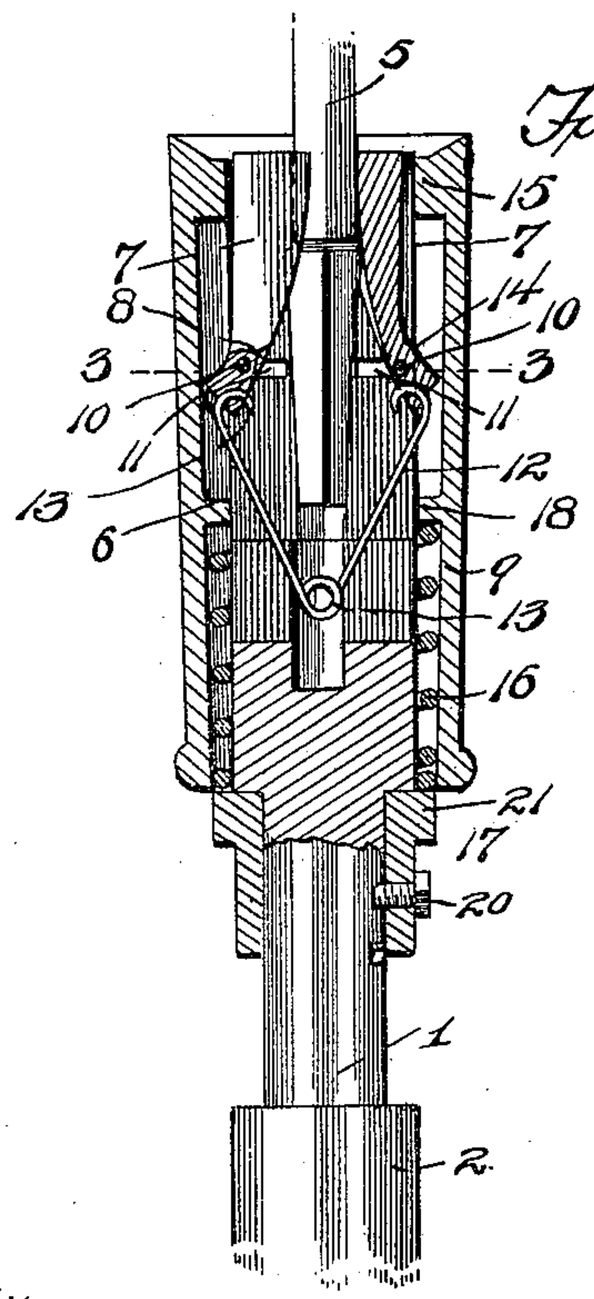


Fig. 2.

Fig. 5.

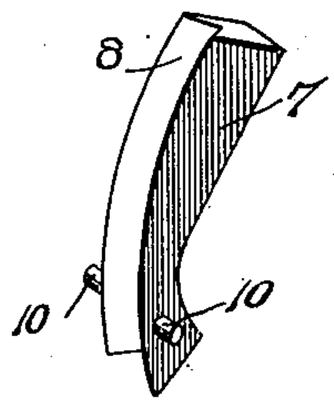
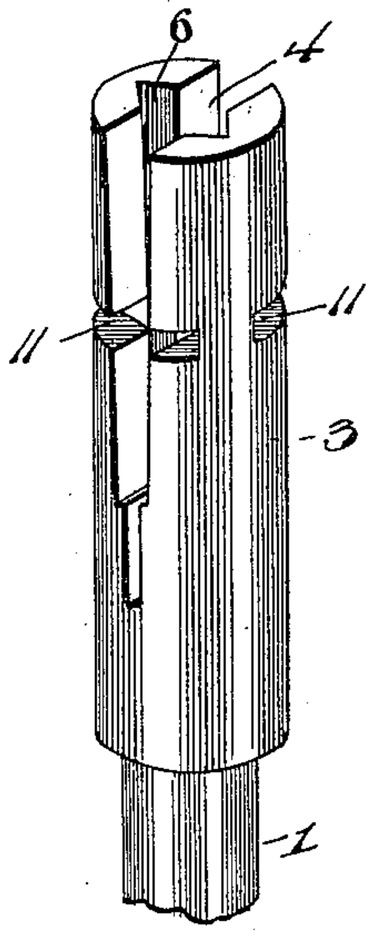


Fig. 4.



Witnesses
Ralph A. Shepard.
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Melvin Barber, Inventors
By their Attorneys,
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UNITED STATES PATENT OFFICE.

MELVIN BARBER AND LOUIS F. KRAMER, OF OKLAHOMA, OKLAHOMA TERRITORY.

BIT-STOCK.

SPECIFICATION forming part of Letters Patent No. 639,842, dated December 26, 1899.

Application filed June 9, 1899. Serial No. 719,942. (No model.)

To all whom it may concern:

Be it known that we, MELVIN BARBER and LOUIS F. KRAMER, citizens of the United States, residing at Oklahoma, in the county of Oklahoma, Oklahoma Territory, have invented a new and useful Bit-Stock, of which the following is a specification.

The invention relates to improvements in bit-stocks.

The object of the present invention is to improve the construction of bit-stocks, more especially that shown and described in Patent No. 603,825, granted to Melvin Barber May 10, 1898, and to enable the sleeve for holding the jaws in engagement with the shank of a bit to serve as a grip or swivel handle and to rotate independently of the shaft and the means for clamping the bit.

A further object of the invention is to improve the construction of the clamping-jaws and to enable them to open automatically, so that the shank of a bit may be readily placed between them without adjusting the sleeve to correspond with the size of the shank.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a side elevation of a bit-stock constructed in accordance with this invention, the sleeve being drawn inward to permit the jaws to expand. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a horizontal sectional view on line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of the head of the shaft. Fig. 5 is a similar view of one of the jaws.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a shaft designed to be connected with a ratchet-brace 2 or an ordinary plain brace and having its outer portion 3 enlarged to form a head and provided with a slot 4 to receive the shank of a bit 5, and the walls of the slot are provided with longitudinal V-shaped recesses 6 to engage the shank, as clearly illustrated in Fig. 2 of the accompanying drawings. The longitudinal V-shaped recesses, which receive opposite corners of a rectangular shank, gradually increase in depth as they extend outward, and the shank of the bit 5 is clamped in the said slot 4 by a pair of jaws 7, which have V-shaped recesses 8 at their engaging portions and which are held in engagement by a spring-actuated sleeve 9. The jaws 7 are provided near their inner ends with oppositely-disposed laterally-extending pivots or trunnions 10, located in recesses 11 extending transversely of the slot 4 and intersecting the same at opposite sides of the shaft to provide open bearings whereby the jaws may be readily mounted on the shaft and removed therefrom. The inner ends of the jaws are arranged at an angle to the outer portions of the same and are engaged by the sides 12 of a substantially V-shaped spring 13, which is provided at its apex with a spring-coil, as clearly illustrated in Fig. 2 of the accompanying drawings. The terminals of the sides of the spring are bent inward at 13 and engage sockets or recesses 14 of the inner ends of the jaws, and when the sleeve 9 is drawn inward the spring operates to throw the jaws outward, whereby the shank of a bit may be readily introduced into and removed from the device. The sleeve 9, which forms a bit or handle, is arranged on the enlarged portion of the shaft and it is adapted to rotate independently of the same, whereby it may be firmly grasped by the operator in operating the device. The sleeve is provided at its outer end with an interiorly-arranged annular enlargement 15 to engage the outer faces of the outwardly-diverging jaws, and this enlargement or flange is held against the jaws by a coiled spring 16, disposed on the shaft and interposed between a removable collar 17 and an interior shoulder 18, formed by an annular flange located at a point between the ends of the sleeve, as clearly shown in Fig. 2 of the accompanying drawings.

The collar 17, which fits against the shoulder formed by the inner end of the head or enlargement 3 of the shaft, is secured to the latter by a clamping-screw 20, and it is provided with an annular boss or flange 21, projecting beyond the head of the shaft to form a bearing for the inner end of the coiled spring and being of the same diameter as the

interior of the inner portion of the sleeve, whereby the latter is adapted to slide over it in moving it inward. When the sleeve is moved inward, the coiled spring is compressed and the V-shaped spring, which engages the outer faces of the inner ends of the jaws, swings the engaging portions of the latter away from each other and opens the bit-stock. The adjustable or removable collar is adapted when the screw is taken out to slide inward on the shaft, and the sleeve may then be moved inward sufficiently to permit the removal of the jaws from the open bearings of the shafts, and by this construction the parts of the bit-stock may be readily separated and assembled.

The invention has the following advantages: The bit-stock, which is simple and comparatively inexpensive in construction, is strong and durable, and the parts may be readily separated and assembled. The sliding sleeve, which holds the jaws in engagement with the shank of a bit, is capable of rotation on the head of the shaft, and it forms a swiveled handle or grip and may be firmly grasped by the operator. The jaws open automatically when the sliding sleeve is moved inward and the latter does not have to be adjusted to suit the size of the shank to be clamped. The jaws are adapted to close inward over the shoulder of a bit, as clearly illustrated in Fig. 2 of the drawings, and it is impossible for the bit to be removed without moving the sleeve inward. When the engaging portions of the jaws swing inward over the shoulder of the bit, the inner ends rock outward into the recess formed between the sleeve and the head of the shaft.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. A device of the class described comprising a slotted head having open recesses extending inward from opposite sides of the head and forming bearings, jaws having pivots arranged in the open bearings, said jaws being provided at their inner ends with openings, a substantially V-shaped spring disposed in the slot and provided at its ends with hooks engaging the openings at the inner ends of the jaws, detachably, and adapted to open the jaws automatically and retaining the pivots of the jaws in the recesses of the head, and a sleeve engaging the jaws, substantially as described.

2. A device of the class described comprising a slotted head having open recesses extending inward from opposite sides of the head and forming bearings, jaws having pivots arranged in the open bearings, a spring disposed in the slot and connected with the inner ends of the jaws and adapted to open the latter automatically and retaining the pivots of the jaws in the recesses of the head, and a sleeve engaging the jaws, substantially as described.

3. A device of the class described comprising a slotted head having open bearings, jaws having pivots arranged in the open bearings, a spring disposed in the slot and connected with the inner ends of the jaws and adapted to open the latter automatically, a sleeve engaging the jaws, forming a handle or grip and provided between its ends with an interior annular flange, the outer portion of the sleeve between the outer end thereof and the flange forming a recess for the inner ends of the jaws, and a coiled spring housed within the inner portion of the sleeve and engaging said annular flange, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

MELVIN BARBER.
LOUIS F. KRAMER.

Witnesses:
HARDY J. TUCKER,
JACOB A. MCCULLOUGH.