(No Model.)

T. C. LONG.

RATCHET ATTACHMENT FOR BIT STOCKS.

No. 426,827. Patented Apr. 29, 1890.

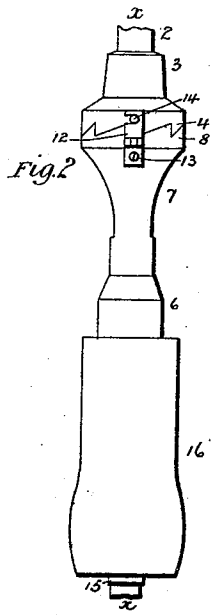


Fig. 2

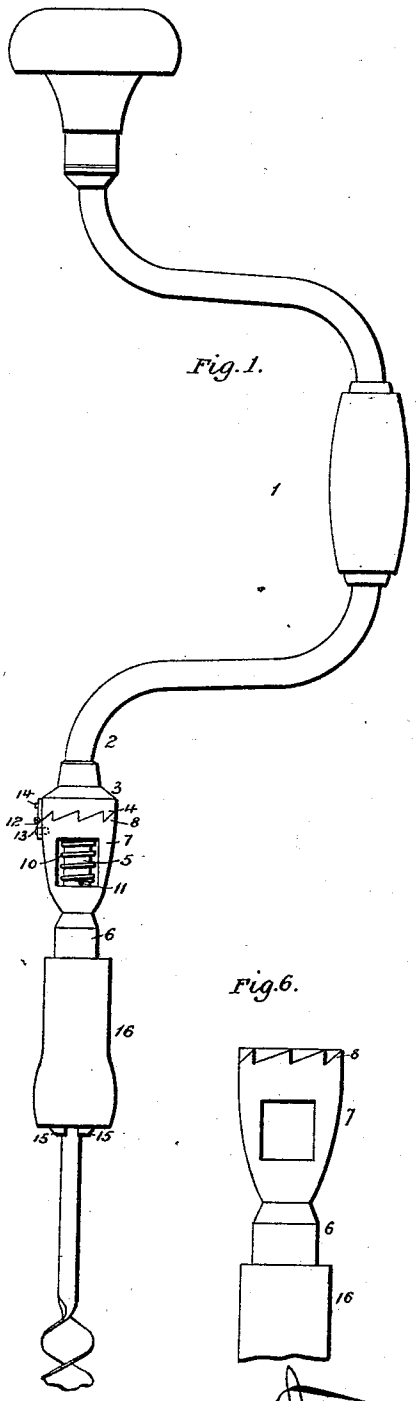


Fig. 1.

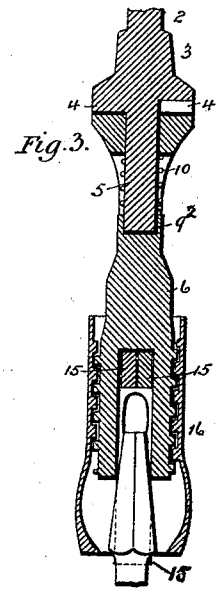


Fig. 3.

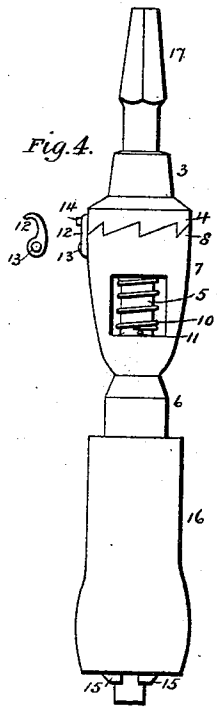


Fig. 4.

Fig. 6.

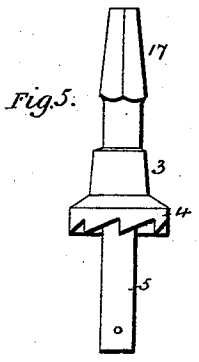


Fig. 5.

WITNESSES:

Will. T. Norton

Howell Battle.

INVENTOR

Thomas Caterby Long

BY

Johnson & Johnson

his ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THOMAS CATESBY LONG, OF WEST CHESTER, PENNSYLVANIA.

RATCHET ATTACHMENT FOR BIT-STOCKS.

SPECIFICATION forming part of Letters Patent No. 426,827, dated April 29, 1890.

Application filed November 29, 1889. Serial No. 331,930. (No model.)

To all whom it may concern:

Be it known that I, THOMAS CATESBY LONG, a citizen of the United States, residing at West Chester, in the county of Chester and State of Pennsylvania, have invented new and useful Improvements in Ratchet Attachments for Bit-Stocks, of which the following is a specification.

My improvement is directed to a novel construction of a ratchet attachment for bit-braces whereby such attachment may be used with the ordinary bit-stock socket or formed with a bit-stock having a bit-clamp, so that the stock or brace may be operated by partial rotations where a complete rotation of the brace cannot be made; and the particular matters of my improvement will be specifically pointed out in the claims concluding this specification.

Referring to the accompanying drawings, Figure 1 represents a bit brace or stock embracing my ratchet attachment. Fig. 2 shows the ratchet attachment and bit-clamp in elevation. Fig. 3 shows in longitudinal section the ratchet attachment and bit-clamp. Fig. 4 shows in elevation the ratchet attachment adapted for the ordinary brace-stock. Fig. 5 shows the separate stock-connected shank-ratchet part, and Fig. 6 the separate bit-clamp ratchet part.

The bit brace or stock is of the usual crank form, and it may have integral with its bit-connected end 2 a head or collar 3, the face of which is formed with radial ratchet-teeth 4, and from which face a cylindrical stem 5 extends centrally, and is practically a continuation of the crank end 2. This cylindrical stem is shown in Figs. 3 and 5, and is about an inch and a half long, and its function will be presently stated.

In the drawings I have shown and prefer to use the well-known bit-clamp, which consists of a longitudinally-slotted shank part 6, formed with a circumferential screw-thread to receive an interiorly-screw-threaded sleeve or thimble-nut 16, which is adapted to act upon and to clamp the gripping ends of two movable jaws 15, confined in the slot of the shank part, as in said old bit-clamp. The shank part of this old bit-clamp I construct with an open ratchet-head 7 as an extension of the slotted shank 6, and form its face end with ratchet-teeth 8, corresponding with the ratchet-teeth of the brace-crank end. The ratchet-head 7 has a central opening 9 in its ratchet end and a registering socket or bore 9^2 in its shank part, which forms the bearings for and confine the stem 5 of the ratchet-head 3, so as to form the connection for the ratchet parts. To retain the two ratchet parts in connected relation and permit of their easy and convenient separation, I provide an open space in the head 7 as a simple means whereby a coiled spring 10 is placed upon the stem 5 between the bearings of the latter, so that the spring will bear upon the said head part and upon a pin 11, inserted into the stem near its end, which has its bearing in the socket or bore 9^2, so that the force of the spring will be exerted to pull the stem inward to retain the ratchet parts in contact and allow the brace to be turned by partial rotations. This construction permits the cranked brace part and the bit to be turned independently, and when the crank is rocked or oscillated its ratchet-connected part 3 will turn the bit-connected ratchet part with it in one direction, and will slide or slip over it when turned in the opposite direction by reason of the action of the spring, which constantly tends to engage the ratchet parts.

In using the brace where it may be revolved as if it had no ratchet attachment, I provide for locking the ratchet parts together by means of a suitable hook or latch 12, connected to one part, so that it may be engaged with or hooked over a pin or stud 14 on the other part, so that the brace and bit may be revolved in either direction without moving the ratchets. Such locking-hook may be either pivoted or hinged, and is preferably on the outside of the ratchet parts.

The provision of the open space in the ratchet-head of the bit-clamp permits of the convenient separation of the ratchet parts and of the replacing of the spring by a new one when desired by removing the pin from the stem which unites the ratchet parts, and the provision of the stem which effects such union forms a long journal-bearing and gives a firm connection and easy swiveling movement of the connected parts.

In Figs. 4 and 5 I have shown the ratchet-connected parts as being separate from the

crank-brace part, and when so constructed the ratchet head or collar part 3 terminates in an angular shank 17, for insertion in the holding-socket of the crank end, as in ordinary brace-bits. While I prefer to form the swiveling stem 5 upon the ratchet-head part 4, it is obvious that it may be formed upon the bit-socket part and the bearings for the stem formed in the head part 4.

As my improvement I claim—

1. A ratchet attachment for a bit-stock, consisting of the ratchet head or collar part 3, having the angular end shank 17 and a ratchet-head, and the bit-clamping part 7, having a ratchet-face, one of said parts having the cylindrical stem 5 and the other of said parts having a central opening and a registering socket or bore for receiving said stem, and a spring upon said stem for engaging the said ratchets, substantially as described, for the purpose specified.

2. In a bit-brace, the combination of a bit stock or brace having a ratchet part 4 and a round stem part 5 projecting from the face of said ratchet part, with a bit-socket part 6, having a ratchet-head part 7, provided with a side opening and with the central opening 9 and registering-socket 9^2, the spring upon said stem, and a hook or latch-lock for fastening the ratchet parts together, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

THOMAS CATESBY LONG.

Witnesses:

A. E. H. JOHNSON,

JNO. W. CULMER.