

A. B. SCHUCKER.
CARPENTER'S BRACE.
APPLICATION FILED MAY 20, 1910.

978,066.

Patented Dec. 6, 1910.

Fig. 1.

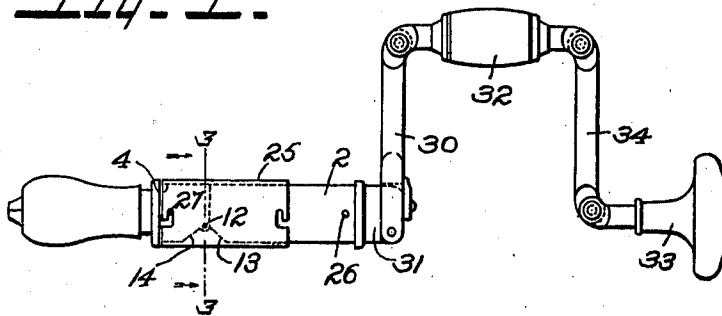


Fig. 2.

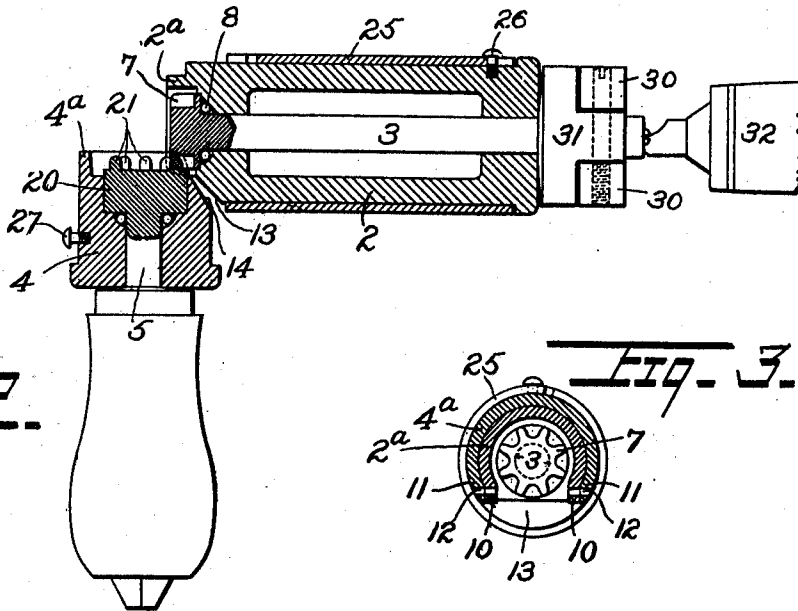
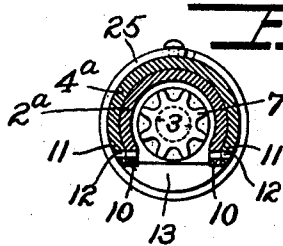


Fig. 3.



Alvin B. Schucker,

Inventor.

Witnesses
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[Signature]

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UNITED STATES PATENT OFFICE.

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CARPENTER'S BRACE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALVIN B. SCHUCKER, a citizen of the United States, and a resident of the city of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Carpenters' Braces, of which the following is a specification.

My invention relates particularly to braces for boring tools, and my object is to provide an improved construction adapted to satisfactorily operate the bit at any convenient angle to the driving shaft.

The invention is fully described in connection with the accompanying drawings and is specifically pointed out in the claims.

Figure 1 is a side elevation of a complete brace embodying my invention, the pivoted bit stock being shown in fixed alinement with the main stock. Fig. 2 is an enlarged longitudinal section of the main portion of the brace, the bit-stock being represented as set at right angles to the main stock. Fig. 3 is a cross-sectional view of the stock on the line 3—3 of Fig. 1.

The stock of my improved brace comprises a main portion 2 in which the driving shaft 3 is rotatably mounted, and a pivotally connected extension portion 4 in which the bit shaft 5 is mounted; suitable bit-chucking means being provided in connection with the latter. The outer end of the main stock 2 is recessed for a fixed gear wheel 7 on the end of the driving shaft 3, and an adjacent anti-friction bearing 8 is provided for the latter as shown. The recessed end of the stock 2 which surrounds said gear wheel 7, is of less diameter exteriorly than the body of the stock, and has a section cut away so as to form a segmental ring 2^a, the spaced-apart ends 10, 10 of which are adapted to serve as pivot ears for pivotally attaching the bit stock 4; and the latter is similarly formed with an abutting segmental-ring portion 4^a, adapted to inclose the ring 2^a, and spaced-apart ends 11, 11 of which are connected by pivot pins 12, 12 to the ears 10, 10 of the inner ring. The abutted ends of the pivotally connected stock portions 2 and 4 are cut away below the pivot point 12, as indicated at 13 and 14, so as to permit the extension stock 4 to be swung to a maximum angle exceeding ninety degrees, with the main stock 2; and the bit stock 5, mounted

in said extension stock 4, is provided with a face-gear 20, the teeth 21 of which are adapted to mesh with those of the driving shaft gear wheel 7, at any angle to which the stock 4 is set, the pivot point 12 of the stocks being located in the plane of the gear wheel 7 so as to properly maintain the rotary engagement of the shafts 3 and 5.

To provide for locking the extension bit-stock 4 in alinement with the main stock 2, as required for ordinary use, a sleeve 25 is fitted upon the main stock so as to be slidable lengthwise thereon over the abutted stock 4, which latter is of the same size as the main stock, thus tightly covering the joint between the two and giving rigidity to the connection. The sleeve is secured by pins 26 and 27 in normal or projected positions as desired.

The driving shaft 3 is preferably provided with an operating handle comprising a crank arm 30 pivotally connected to the head 31 of the driving shaft, a handle piece 32 similarly pivoted to said crank arm, and a breast piece 33 and connecting arm 34 pivoted together and to said handle piece, as shown, so as to permit of adjusting said parts for convenience of operation or storage; but any ordinary handle may be employed to operate the driving shaft.

What I claim is:—

1. In a carpenter's brace, a driving shaft provided at one end with a gear wheel, a main stock having a reduced segmental-ring end portion around said gear wheel the spaced-apart ends of which are provided with pivot holes in the plane of the gear teeth, an extension bit-stock having a segmental-ring portion adapted to normally inclose the segmental-ring portion of the main stock and the spaced-apart ends of which are pivotally connected to the latter, and a bit shaft mounted in said bit-stock and provided with a face-gear wheel which is adapted to mesh with said driving shaft gear wheel in varying pivotal positions of the bit-stock, substantially as set forth.

2. In a carpenter's brace, a driving shaft provided at one end with a gear wheel, a main stock having a reduced segmental-ring end portion around said gear wheel the spaced-apart ends of which are provided with pivot holes in the plane of the gear teeth, an extension bit-stock having a seg-

mental-ring portion adapted to normally inclose the segmental-ring portion of the main stock and the spaced-apart ends of which are pivotally connected to the latter, 5 a bit shaft mounted in said bit-stock and provided with a face-gear wheel which is adapted to mesh with said driving shaft gear wheel in varying pivotal positions of the bit-stock, and a locking sleeve slidably

fitted upon said main stock and the alined 10 bit-stock, substantially as set forth.

In testimony whereof, I affix my signature, in the presence of two witnesses.

ALVIN B. SCHUCKER.

Witnesses:

D. M. STEWART,
W. G. STEWART.