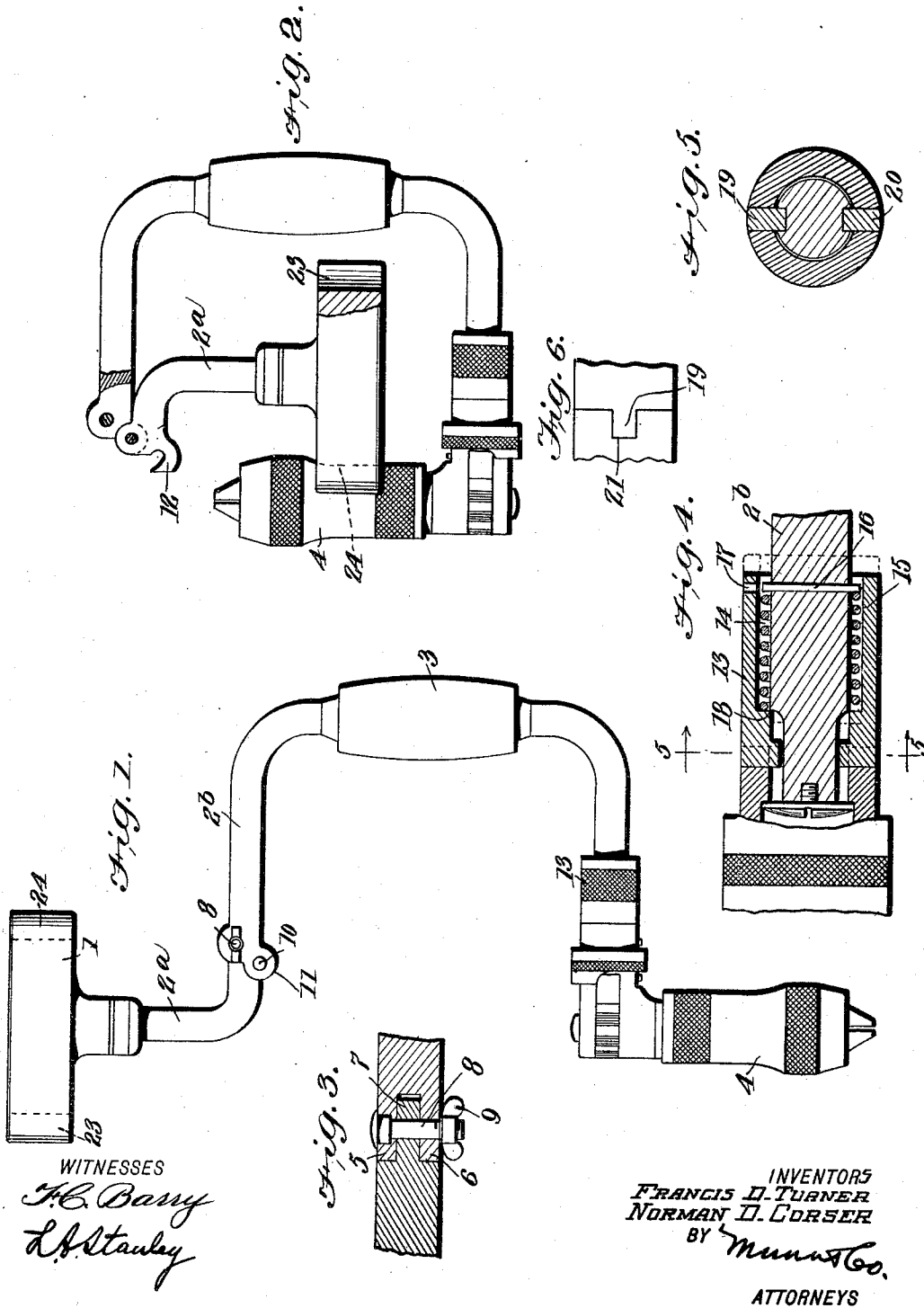


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FOLDING BRACE.

APPLICATION FILED SEPT. 28, 1908.

1,006,316.

Patented Oct. 17, 1911.



UNITED STATES PATENT OFFICE.

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FOLDING BRACE.

1,006,316.

Specification of Letters Patent.

Patented Oct. 17, 1911.

Application filed September 28, 1908. Serial No. 455,138.

To all whom it may concern:

Be it known that we, FRANCIS D. TURNER and NORMAN D. CORSER, citizens of the United States, and residents of Salt Lake City, in the county of Salt Lake and State of Utah, have made certain new and useful Improvements in Folding Braces, of which the following is a specification.

Our invention relates to improvements in folding braces and it consists of the combinations, constructions and arrangements hereinafter described and claimed.

It is a well known fact that one of the most inconvenient tools to pack away is the ordinary carpenter's brace. This is on account of the peculiar shape of the tool, the bend necessitating the provision of more room for the tool than other tools of similar weight would occupy.

An object of our invention is to provide a device which is capable of being folded up into compact form so as to occupy little room in a tool chest or carrier, and which at the same time can be easily adjusted to the proper working position.

Our invention is illustrated in the accompanying drawings, in which—

Figure 1 shows the brace in its working position. Fig. 2 is a view of the brace folded together. Fig. 3 is a detail sectional view through the upper joint. Fig. 4 is a sectional view of the sleeve for holding the chuck in position. Fig. 5 is a sectional view along the line 5—5 of Fig. 4, and Fig. 6 is a plan view of the sleeve joint connection.

Referring now to Fig. 1, we have shown therein a brace of the ordinary shape comprising a hand rest 1 secured to the upper end of a bar 2^a. The latter is pivotally connected in the manner explained later to the U-shaped bar 2^b. This bar has upon it the handle 3 and the brace is provided with the usual chuck 4. The ratchet mechanism for operating the brace may be of any suitable type, but forms no part of the present invention. As stated above the upper rod 2^a is connected with the U-shaped bar 2^b by a joint. The manner in which this joint is formed is shown in full in Fig. 3. The end of the bar 2^b is slotted as shown in the figure to provide the forks 5 and 6. The lower part of the upper portion 2^a is cut away at the sides to provide the tongue 7, which is arranged to enter the slot between the forks 5 and 6 in the manner clearly shown in the figure. The forks 5 and 6 are provided with

registering perforations arranged to receive the shank of a bolt 8, which is secured by means of a thumb nut 9. The tongue 7 is pivoted at 10 in an extension 11 of the rod 2^b. One part of the tongue 7 is formed in the shape of a hook 12 arranged to take over the bolt 8 when the hand rest is swung up into its operative position, as shown in Fig. 1. In this position the tongue 7 enters between the forks 5 and 6 and may be securely retained in position by means of the thumb nut, which forces the forks 5 and 6 into frictional engagement with the tongue and holds the hand rest securely in position.

In Fig. 4 we have shown the means by which the chuck 4 may be swung inwardly to its folded position shown in Fig. 2. To this end we have provided a movable sleeve 13, which is arranged to be adjusted longitudinally of the lower horizontal portion of the bar 2^b. The sleeve 13 has on its inner side an annular slot 14, which is designed for the reception of a spiral spring 15, the latter bearing at one end against a pin 16, which may be inserted through the horizontal portion of the bar 2^b by means of the opening 17, and at the other end against a shoulder 18. The forward part of the sleeve is provided with opposite tongues 19 and 20, arranged to enter slots in the chuck casing 21, to prevent the latter from rotating about the U-shaped bar 2^b, when the brace is being used. It will be seen that the sleeve 13 is held in engagement with the chuck casing 21 by means of the spring. If now, pressure is exerted on the sleeve, against the spring tending to slide the sleeve longitudinally of the horizontal portion of the bar 2^b, the tongues 19 and 20 will be withdrawn from their respective slots in the casing 21 and the chuck 4, together with its operating mechanism, will be permitted to rotate into the position shown in Fig. 2. In this position the sleeve 13, which is under tension of the spring 14, springs forwardly, since the tongues 19 and 20 now come into registration with the oppositely disposed slots in the chuck frame, thereby holding the chuck securely in its shifted position.

The operation of our improved device will be fully understood from the foregoing explanation of the various parts.

As before stated, Fig. 1 shows the brace in its operative position. In this position the upper part, bearing the hand rest 1, is securely fastened in the manner already de-

scribed, while the lower portion, bearing the chuck, is rigidly held in position. In packing the tool away for transportation or for storage in a bag or chest, the hand rest 1 is folded downwardly into the position indicated in Fig. 2, by loosening the thumb nut 9, thereby relieving the tongue 7 of its lateral frictional pressure and permitting the part 2^a, together with the hand rest, to be rotated downwardly on its pivot. The sleeve 13 can then be held back and the chuck turned up as before stated. In order to lock the hand rest we have provided the latter with oppositely disposed grooves 23 and 24 in the periphery thereof, which may be turned to register with the barrel of the chuck 4. The pivoted joint connection is so arranged that there is a slight spring to the part 2^a in its folded position, thereby holding the hand rest securely in engagement with the barrel of the chuck.

It is obvious that other forms of folding braces based upon the same general idea, might be made, but we regard as our own, and desire to claim, all such modifications as fairly fall within the spirit and scope of the invention.

We claim—

1. A folding brace comprising a U-shaped bar, a rod hinged to said bar and provided with a hand rest, and a chuck rotatably carried by said U-shaped bar, the rod bearing the hand rest being arranged to swing between the ends of the U-shaped bar and against one of said ends and the chuck being arranged to swing into engagement with the hand rest, and means for locking said chuck against said hand rest.

2. A folding brace comprising a U-shaped bar, a hand rest pivotally connected with one arm of said bar, means for locking said hand rest in its operable position, a chuck having a slotted casing rotatably attached to the

lower arm of said U-shaped bar, and a spring actuated sleeve having clutch members arranged to coöperate with slots in the casing of said chuck for locking the latter.

3. A folding brace comprising a U-shaped bar having a forked end, a rod provided with a tongue arranged to enter between said forked end and to be pivotally connected thereto, a hand rest carried by said rod, a bolt and thumb nut for clamping said tongue between the forked ends of said U-shaped bar, a rotatable chuck having a slotted casing, a spring-actuated sleeve mounted on one arm of said U-shaped bar and provided with oppositely disposed lugs arranged to enter the slots in said casing thereby locking the chuck in position.

4. A folding brace comprising a U-shaped bar, a rod pivotally connected to said bar and provided with a hand rest, means for locking said hand rest in its operable position, a chuck rotatably attached to one arm of said U-shaped bar, said chuck having a casing provided with a pair of slots disposed in opposite sides in the periphery thereof, and a sleeve mounted on one arm of said bar and provided with oppositely disposed lugs arranged to enter the slots in said casing, a spiral spring disposed within said sleeve and arranged to hold the lugs in said slots, whereby the chuck may be locked in its operable position, or rotated 180° from its operable position and locked by the engagement of the lugs with the slots in the casing.

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