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A. D. LEBLANC.

HEAD FOR CARPENTERS' BRACES.

APPLICATION FILED JULY 31, 1903. RENEWED OCT. 4, 1905.

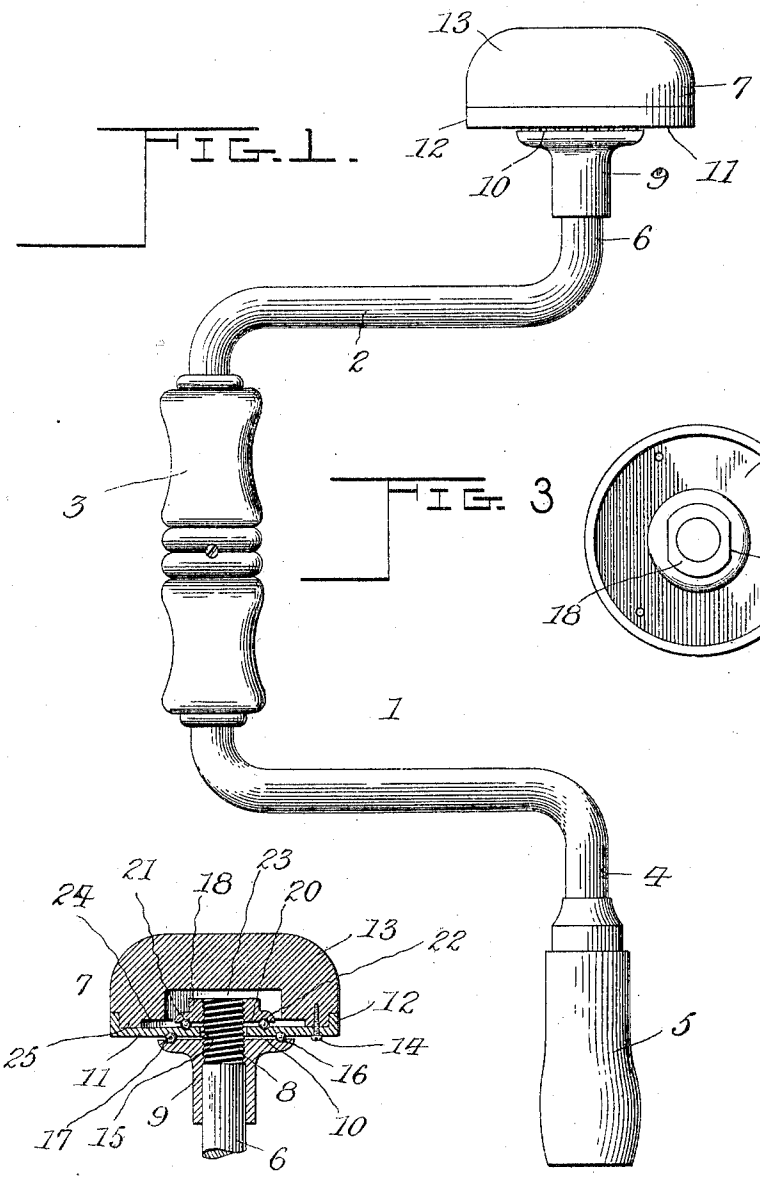


FIG. 1.

FIG. 3

FIG. 2

Witnesses:

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HEAD FOR CARPENTERS' BRACES.

No. 811,305. Specification of Letters Patent. Patented Jan. 30, 1906.

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To all whom it may concern:

Be it known that I, ADOLPHE D. LEBLANC, a subject of the King of Great Britain, residing in the city and district of Montreal, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Heads for Carpenters' Braces; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to braces such as used by mechanics, and principally by carpenters, in boring holes with an auger or for actuating a screw-driver or similar tools. These tools consist, substantially, of a member comprising a crank having an upper and a lower extension, to the latter of which there is attached a chuck adapted to hold a bit or tool. To the former extension a swivel-head is attached, which head is pressed against the workman's body in a well-known manner when the tool is being operated.

The object of the invention is to provide an improved construction for the swivel-head with a view to reducing the friction of the parts at this point and simplifying their construction.

The invention consists in the construction and combination of parts to be more fully described hereinafter, and definitely set forth in the claims.

In the drawings, which fully illustrate my invention, Figure 1 is a side elevation of the brace to which my invention has been applied. Fig. 2 is a vertical central cross-section taken through the head. Fig. 3 is a plan of the swivel-head with the upper portion removed.

Throughout the drawings and specification the same numerals of reference denote like parts.

Referring more particularly to the parts, 1 represents a brace which is of the common form comprising a crank 2, operated by a loosely-mounted handle 3 in a well-known manner. The said crank has an integral downward extension 4, to which there is attached the usual chuck 5, and a corresponding upward extension 6, to which the swivel-head 7 is attached.

Referring more especially to Figs. 2 and 3, the upper extremity of the extension 6 is provided with screw-threads 8, upon which is rigidly secured a collar 9, the same being threaded internally for this purpose. This collar 9 presents an enlarged upper face 10 of circular form, and above the same there is applied a base-plate 11, the same consisting, substantially, of a circular plate having an upwardly-turned edge or flange 12, which flange is rabbeted into the lower portion of the lateral face of a cap 13, these two parts being preferably attached together by means of screws 14 or similar fastening devices. This plate has a central opening 15 of a diameter enlarged with respect to the diameter of the said extension 6, and the face 10 aforesaid, together with the lower face of the said plate 11, are provided with oppositely-disposed annular grooves constituting a raceway 16 for balls 17.

Upon the extremity of the aforesaid extension 6 there is attached, by means of the threads 8 aforesaid, a nut 18, which has a substantially circular body mutilated on opposite sides to form flat faces 19, enabling a wrench to be applied, as will be readily understood. The lower portion of this nut is of enlarged diameter, as shown, so as to form an enlarged lower face 20, and this lower face and the plate 15 are provided with annular grooves similar to the annular grooves aforesaid, constituting a raceway 21 for balls 22, the said balls being similar to the balls 17 aforesaid and preferably of the same diameter. In order to accommodate the said nut 18, the under face of the aforesaid cap 13 is provided with a centrally-disposed circular recess 23, the same having an expanded opening or mouth 24, so that a narrow annular face 25 is provided, through which the screws 14 pass. In the manner described a very simple swivel-head is formed constructed of few parts and well adapted to reduce the friction to a minimum.

While I have shown in the accompanying drawings the preferred form of my invention, it will be readily understood that I do not limit myself to the precise form shown, for many of the details may be changed in form or position without affecting the operativeness or utility of my invention, and I therefore reserve the right to make all such modifications as are included within the scope of the following claims or of mechanical equivalents to the structures set forth.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination, a brace having a verti-

cal threaded upper extension, a collar rigidly attached thereto, a plate having an opening to receive said extension, a nut mounted upon the extremity of said extension beyond said plate, there being annular grooves between said plate, said collar, and said nut, the same constituting ball-raceways, and a cap attached to said plate.

2. In combination, a brace having an upper vertical threaded extension, a threaded collar mounted upon said threaded extension, a circular plate having a marginal upwardly-projecting flange, and having an opening of an enlarged diameter with respect to said extension, the same receiving said extension therethrough, a nut mounted upon the extremity of said extension, there being annular grooves in the faces between said nut, plate, and collar, balls carried therein, and a cap attached to said plate and having a recess therein adapted to receive said nut.

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

ADOLPHE D. LEBLANC.

Witnesses:
F. D. AMMEN,
T. MYNARD.