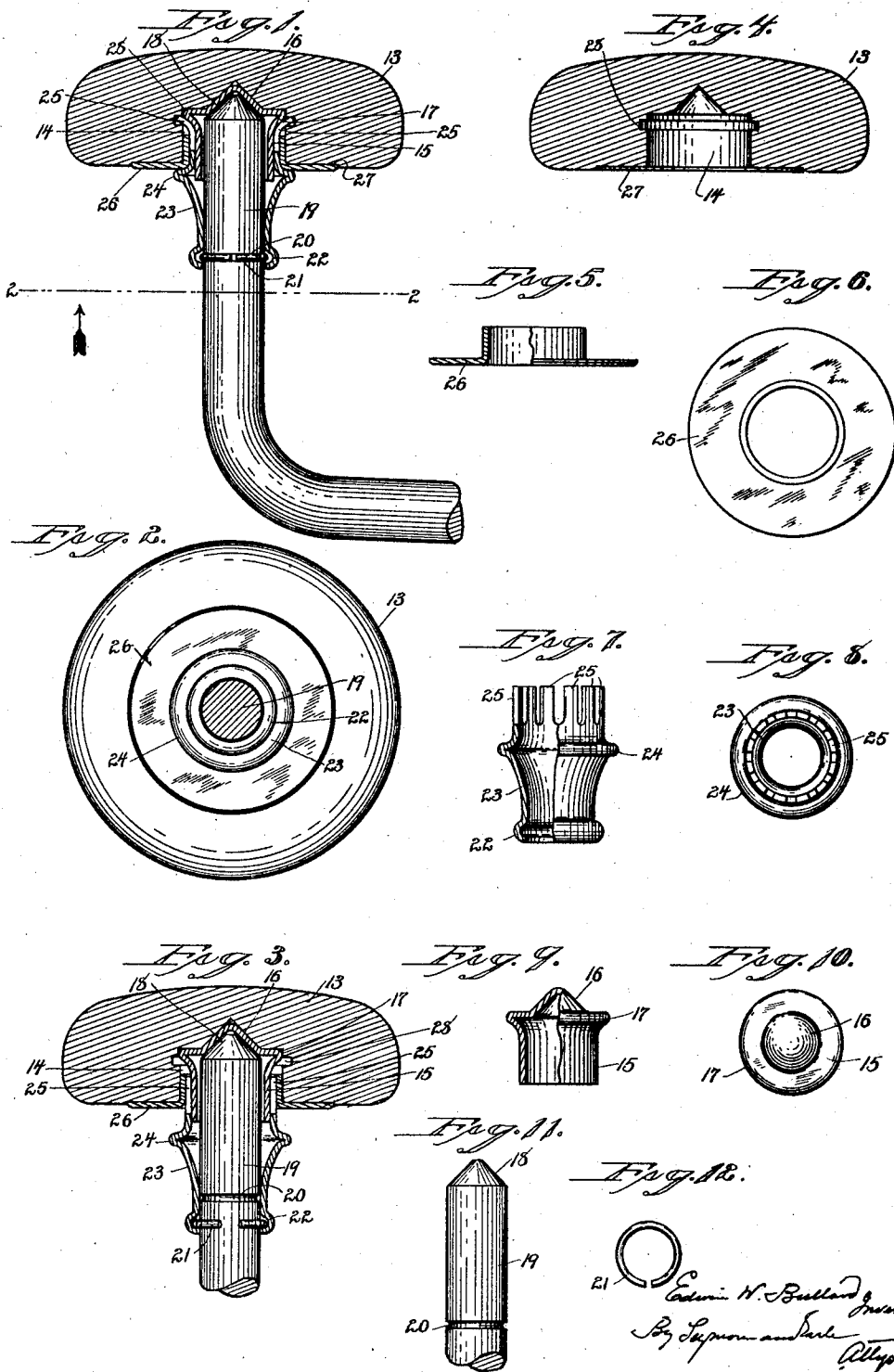


E. W. BULLARD.
BRACE HEAD.
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1,388,922.

Patented Aug. 30, 1921.



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UNITED STATES PATENT OFFICE.

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BRACE-HEAD.

1,388,922.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWIN W. BULLARD, a citizen of the United States, residing at Whitneyville, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Brace-Heads; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Figure 1, a view in vertical central section of a brace head embodying my invention, and shown as applied to the upper end of a brace crank shown in elevation and broken away.

Fig. 2, a reverse plan view of the brace head with the crank in transverse section on the line 2—2 of Fig. 1.

Fig. 3, a view, partly in elevation and partly in section, showing the head after the parts are assembled but before they are locked together.

Fig. 4, a detached sectional view of the body of the head, showing its interior chamber.

Fig. 5, a detached view, partly in elevation and partly in section, of the flanged bushing of the head.

Fig. 6, a plan view thereof.

Fig. 7, a detached view, partly in elevation and partly in vertical section, of the coupling-sleeve prior to being upset.

Fig. 8, a plan view thereof.

Fig. 9, a view, partly in elevation and partly in section, of the bearing cup.

Fig. 10, a plan view thereof.

Fig. 11, a broken view in elevation of the upper end of the brace crank showing the bearing cone and the retaining-ring groove thereof.

Fig. 12, a detached plan view of the split retaining-ring.

My invention relates to an improved head for bit braces, drill braces and the like, the object being to produce a simple, cheap, easily-assembled and durable device.

With these ends in view, my invention consists in a brace head having certain de-

tails of construction and combination of parts, as will be hereafter described and pointed out in the claim.

In carrying out my invention as herein shown, I form the wooden body 13 of the head with a centrally-arranged circular chamber 14 receiving a bearing-cup 15 having a conical end 16 and an upsetting flange 17, the lower face of which is concaved. This cup receives an integral bearing-cone 18 formed upon the upper end of the brace-crank 19 which has near its upper end a circumferential groove 20 for the partial reception of a resilient split retaining ring 21, also partially entering a bead 22 formed at the lower end of a shaped coupling-sleeve 23 furnished above its median line with a circumferential flange 24 and with a series of retaining-fingers 25, the said flange 24 forming a seat for the corner of a flanged bushing 26 fitted within the chamber 14 of the body 13 and also entering a shallow recess 27 in the inner face thereof, and the said bushing receiving the upper end of the said sleeve.

In assembling the several parts of my improved device, they are brought together as shown in Fig. 3, after which the sleeve 23 is forced upward, whereby its fingers 25 engage with the concaved lower face of the flange 17 of the cup 15 and are diverted or curled outwardly thereby as shown in Fig. 1, into an annular locking-groove 28 leading out of the bottom of the chamber 14 in the body 13. When the sleeve 23 reaches its home position the split ring 21 sufficiently contracts to partly enter the groove 20 in the brace crank 19, whereby the sleeve is held against longitudinal displacement with respect to the crank 19 but remains free to rotate thereupon with the body 13 and the several parts carried thereby.

I claim:

A brace head having a chambered body, a bearing-cup located in the chamber thereof and formed with a cone-bearing and a flaring assembling flange, a crank having a cone-shaped upper end which enters the said cone-bearing, a bushing located within the open end of the chamber in the body, an assembling-sleeve encircling the crank, en-

tering the said bushing and formed at its upper end with a series of locking-fingers turned outwardly upon the flange of the cone-bearing for locking the parts together, and means for coupling the said sleeve with the crank with freedom for rotation there-upon.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

EDWIN W. BULLARD.

Witnesses:

ERIK S. PALMER,
A. E. HODGSON.