

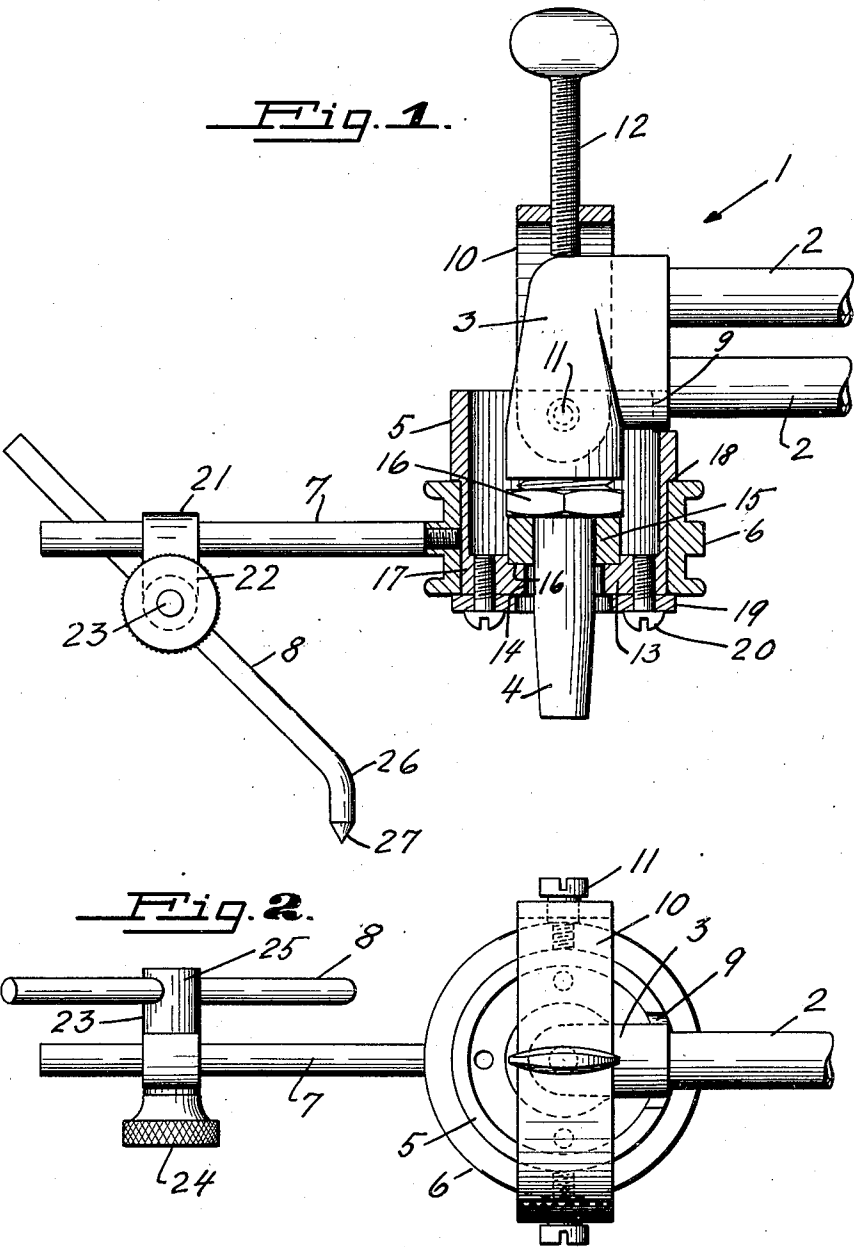
Sept. 22, 1942.

T. R. NICOLAI

2,296,480

ATTACHMENT FOR HAND CUTTING TORCHES

Filed April 15, 1941



INVENTOR,
THEODORE R. NICOLAI.
BY *A. Schnapp*
ATTORNEY

UNITED STATES PATENT OFFICE

2,296,480

ATTACHMENT FOR HAND CUTTING
TORCHES

Theodore R. Nicolai, Vallejo, Calif.

Application April 15, 1941, Serial No. 388,605

6 Claims. (Cl. 266—23)

The present invention relates to improvements in an attachment for a hand cutting torch, and has particular reference to an attachment facilitating the cutting of circular holes in metal plates by means of a conventional hand-operated cutting torch.

Cutting torches of this type usually consist of an elongated handle having two conduits or pipes projecting therefrom longitudinally and terminating in a head or elbow carrying the torch tip, which is arranged at a right angle to the handle and the pipes.

It is proposed in the present invention to provide a guide structure that may be readily attached to the head or elbow for guiding the tip along a circular path.

It is a further object of my invention to provide a guide attachment of the character described that may be quickly attached and detached, that may be conveniently carried by the operator in his pocket, when not in use, and that will not prevent other cutting operations, even when left in position.

It is further proposed to provide an attachment of the character described that is relatively simple in construction, economic in cost, and that, when applied to an ordinary free-hand cutting torch, will allow the latter to perform precision operation for which, at the present time, only much more expensive tools are available.

Further objects and advantages of my invention will appear as the specification proceeds, and the novel features of the same will be fully set forth in the claims hereto appended.

The preferred form of my invention is illustrated in the accompanying drawing, forming part of this application, in which:

Figure 1 shows a vertical section through my guide attachment as applied to the head or elbow of a hand-operated cutting torch; and

Figure 2, a top plan view of the same.

While I have shown only the preferred form of my invention, I wish to have it understood that various changes or modifications may be made within the scope of the claims hereto attached, without departing from the spirit of the invention.

Referring to the drawing in detail, the extreme end of a conventional cutting torch is indicated at 1 as comprising two pipes 2 projecting, at their rear ends, from a handle, not shown, and as terminating, at their front ends, in a head or elbow 3 carrying the tip 4 in rectangular relation to the pipes 2.

My attachment comprises in its principal fea-

tures, a sleeve 5 having means for fastening the same upon the head in concentric relation to the tip 4, a bushing 6 revolvable on the sleeve, and having a radius rod 7 projecting therefrom, and a centering member 8 adjustably fastened upon the radius rod.

The sleeve 5 is made of a diameter considerably in excess of that of the elbow and may be guided from below over the tip and the vertical section on the elbow to come to rest against the horizontal section of the latter, a small cut-out being provided, as at 9, to fit underneath the horizontal section of the elbow and to keep the sleeve free from the torch tube.

A yoke strap 10 is pivoted to opposite sides of the sleeve 5, as at 11, and may be swung over the back of the head or elbow 3 and secured in position by means of a set screw 12.

The sleeve 5 is provided, at its bottom end, with an internal flange or shoulder 13 leaving a central hole 14 of a diameter in excess of that of the largest outside diameter tip adapted to be used in connection with standard torches.

To make the attachment adaptable for different sizes of tips, I use a special adapter ring 15 seated in an annular recess 16 in the flange 13, the ring being dimensioned internally to have a sliding fit with the tip 4. For different diameters of tips, different adapter rings may be used interchangeably, all rings having the same outside diameter.

The yoke strap 10 is dimensioned so that the adapter ring 15 may be drawn tightly upon the nut 16 forming part of the head assembly, by operation of the set screw 12, thus truing, squaring and making concentric the rotating mechanism.

The bushing 6 is revolvably mounted upon a recessed section 17 of the sleeve, and is held against upward movement by a shoulder 18 of the sleeve, and against downward movement by a ring 19 secured upon the bottom face of the flange 13 by means of screws 20, the ring projecting outwardly sufficiently far to form a bottom bearing for the bushing 6.

The radius rod or arm 7 projects from the bushing 6 in radial direction, and carries a clamp 21 having depending lips 22 adapted to be tightened upon one another by means of a bolt 23 and a knurled nut 24 for holding the clamp in position on the rod.

The head 25 of the bolt carries the centering pin 8, which extends transversely therethrough. Any suitable friction means, not shown in the drawing, may be used for holding the centering

