G. H. CRANMER.

BIT GAUGE.

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Fig. 1

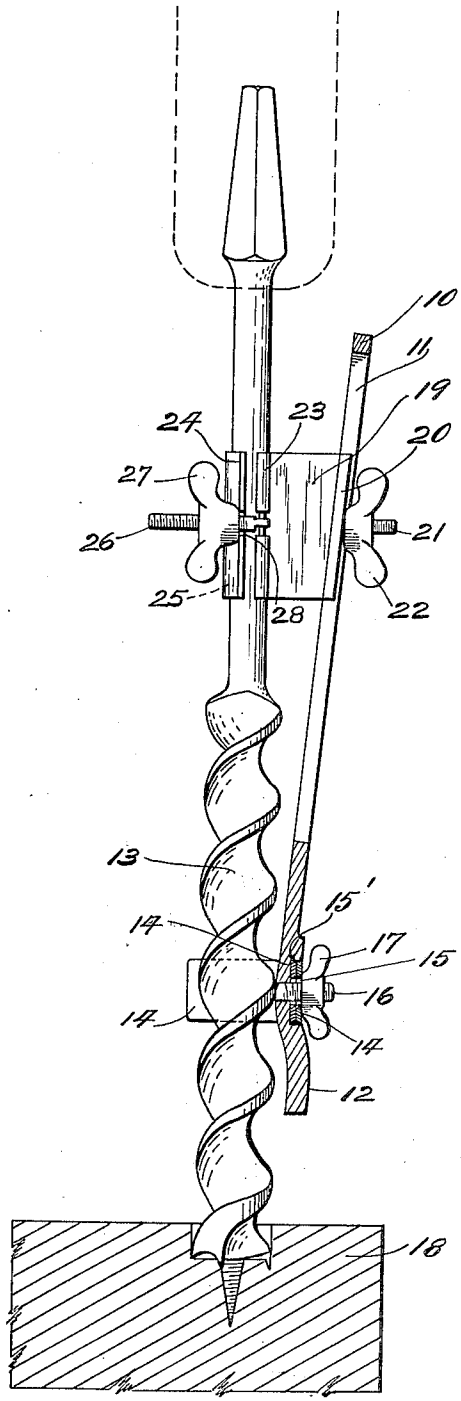
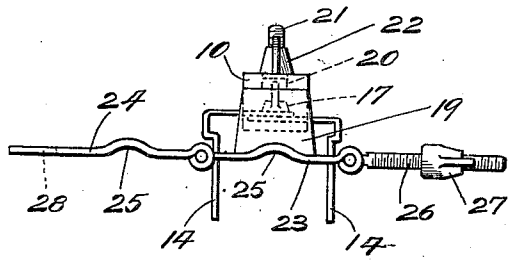


Fig. 3



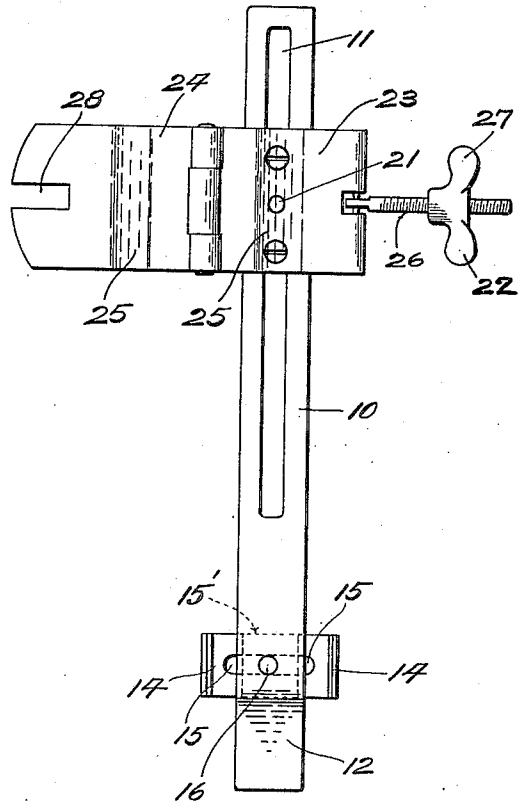


Fig. 2

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UNITED STATES PATENT OFFICE.

GEORGE HORACE CRANMER, OF PHILADELPHIA, PENNSYLVANIA.

BIT GAUGE.

Application filed January 20, 1922. Serial No. 530,556.

To all whom it may concern:

Be it known that I, GEORGE HORACE CRANMER, a citizen of the United States, residing at the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improved Bit Gauge, of which the following is a specification.

This invention relates to a gauge for application to a bit, drill or the like, to limit the depth of hole to be bored. Heretofore devices of this character have not proven commercially satisfactory for the reason that the working-end of the gauge-bar, or equivalent means employed, has always been more or less free to move when contacting with an article being drilled, the disadvantage of which is readily apparent. It is one object of the present invention to overcome this disadvantageous feature and provide a construction in which the gauge-bar may be fixed against movement in any direction, especially at its working-end, that is, immediately adjacent the point of the bit or drill. Other and further objects relate to the provision of general details of construction and arrangement and combination of parts as will hereinafter more fully appear.

The invention consists of the improvements hereinafter described and finally claimed.

The nature, characteristic features and scope of the invention will be more fully understood from the following description, taken in connection with the accompanying drawings forming part hereof, and in which:

Fig. 1, is a view in elevation of a brace-bit having applied thereto a gauge embodying features of the invention.

Fig. 2, is a view in elevation of the gauge detached from the brace-bit and

Fig. 3, is a top or plan view of Fig. 2.

For the purpose of illustrating my invention I have shown in the accompanying drawings one form thereof which is at present preferred by me, since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of the instrumentalities as herein shown and described.

In the drawings, 10 designates a gauge-bar slotted adjacent its outer portion as at 11 and terminating at its opposite portion in a generally flared part 12. Means is present to clamp both of these portions of said gauge-bar to a boring tool which for illustrative purposes is shown as being a brace-bit 13 although obviously a drill or similar tool may be employed. In practice the outer portion of the gauge-bar 10 is disposed at an inclination to the brace-bit for a purpose about to be described. It is essential that the inner or working-end of the gauge-bar 10 be rigidly clamped to the brace-bit and in abutting relation therewith. It is also essential that the outer or slotted end of the gauge-bar be positioned far enough away from the upper end of the brace-bit so that the jaw which holds the same will not interfere with adjustments of said gauge-bar. It is also essential that the outer or flared end 12 of the gauge-bar project an appreciable distance to one side of the brace-bit to provide a positive stop. It is also essential that the gauge-bar may be adjusted vertically of the brace-bit. In order to meet these special requirements best results have been obtained by providing separate clamps, a description of which will now be given. Referring first to the inner clamp, 14 designates opposed, laterally extended angle pieces slotted as at 15 and movable endwise through the grooved face 15′ of the gauge-bar. A threaded stud 16 is fixed to the gauge-bar and projects through the slots of the angle pieces 14, a nut 17 being present upon stud 16 for clamping said angle pieces 14 around the brace-bit 13. In this connection it is to be observed that the inner face of the gauge-bar abuts against the brace-bit 13 and that the angle pieces 14 engage two sides of the brace-bit. Thus clamped to place, the gauge-bar, when contacting with an article as 18, upon completion of a boring period is held against sidewise or tilting movement and is held against vertical movement by means of the clamp about to be described. 19 designates a block having an outer, beveled face which beveled face is provided with a tongue 20 for engaging within slot 11 of gauge-bar 10. Block 19 is provided with a fixed, threaded stud 21 which projects through tongue 20 and slot 11 so that the gauge-bar may be clamped to member 19 by means of nut 22 to pre-

clude vertical movement. Block 19 in turn is clamped to bit 13. It is sometimes desirable to clamp block 19 to the shank of the brace-bit and at other times to the boring portion of the brace-bit. For this reason a hinged element has been provided. Fixed to block 19 is a plate 23 having hinged relation with which is another plate 24. Both of these plates are provided with concaved portions 25 whereby a good purchase may be secured around the curved surface of the brace-bit. Having pivotal relation with plate 23 is a threaded stem 26 provided with a nut 27 which stem is adapted to engage the slotted portion 28 of plate 24 whereby, when the nut 27 is screwed to place block 19 is securely clamped to the brace-bit.

From the above description it will be noted that the gauge-bar may be securely clamped to the brace-bit at various points. For instance the inner end of the gauge-bar may be positioned at any desired height upon the brace-bit 13 by means of the inner clamp and rigidly held in that position. The outer end of the gauge-bar may be clamped with respect to the brace-bit also at any desired height either to the shank of the brace-bit or to the boring portion thereof. By this arrangement and construction of parts pronounced rigidity of the gauge-bar may be secured which is advantageous in a device of this kind.

What I claim is:

In combination, a gauge-bar laterally grooved adjacent its working-end, a pair of opposed angle-pieces movable through said groove and adapted to engage around a drill or bit, means for clamping said angle-pieces in place, a beveled member cooperatively engaging the opposite end of said gauge-bar, means for clamping the gauge-bar to the beveled portion of said member so that the outer end of said gauge-bar is positioned far enough away from the shank of a drill or bit to permit vertical adjustment of said gauge-bar without regard to the means for mounting the drill or bit shank and means carried by said member adapted to be clamped around a drill or bit.

In testimony whereof, I have hereunto signed my name.

GEORGE HORACE CRANMER.