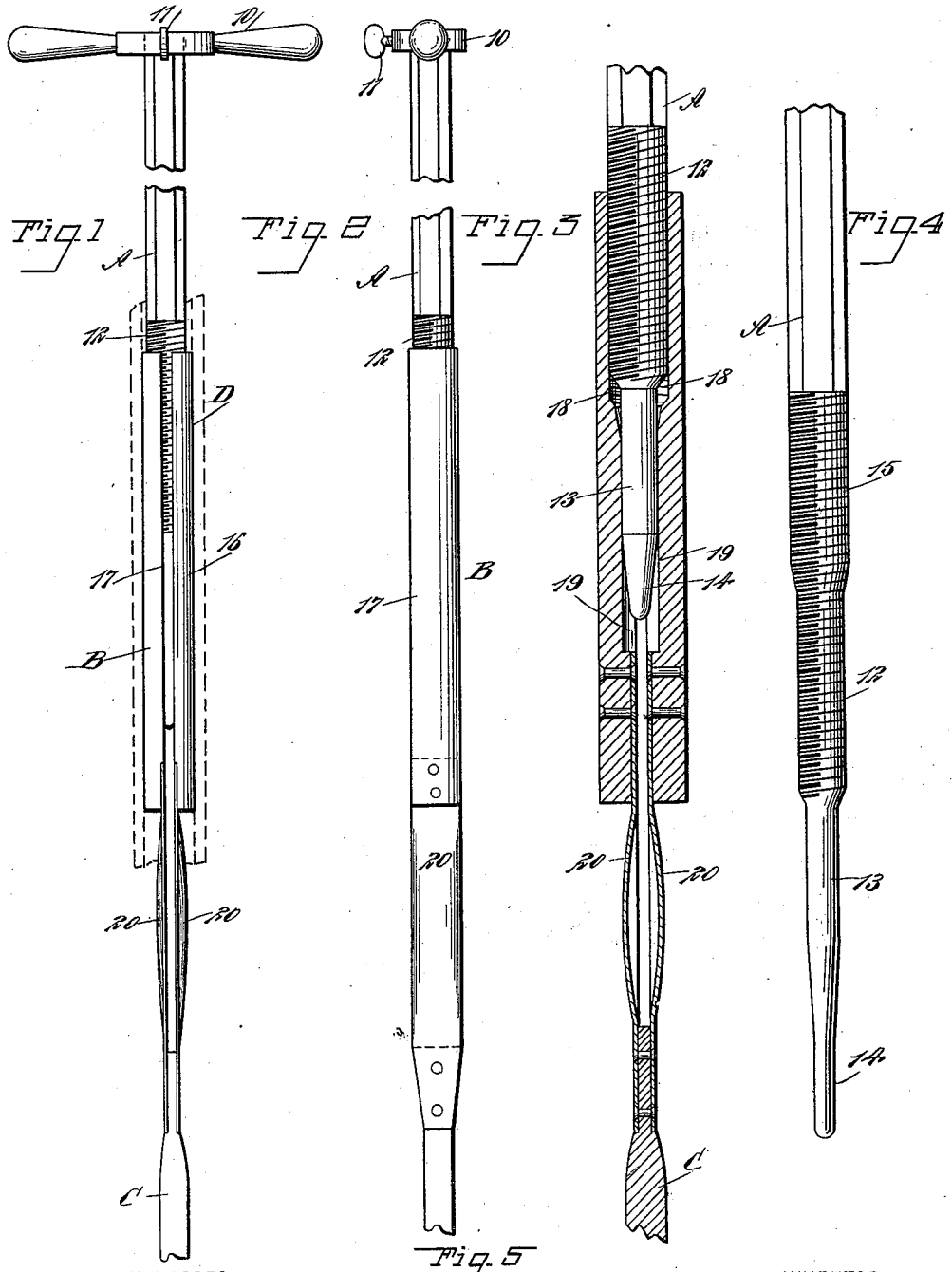
No. 621,675. Patented Mar. 21, 1899.

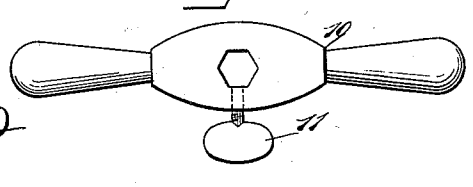
H. H. HOTZ.

DEVICE FOR REMOVING DENTS FROM GUN BARRELS.

(Application filed Aug. 13, 1898.)

(No Model.)




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# UNITED STATES PATENT OFFICE.

HENRY H. HOTZ, OF CUERO, TEXAS, ASSIGNOR OF TWO-THIRDS TO HOWELL M. FINCH, OF AUSTIN, TEXAS, AND WALTER S. NEGUS, OF ST. LOUIS, MISSOURI.

## DEVICE FOR REMOVING DENTS FROM GUN-BARRELS.

SPECIFICATION forming part of Letters Patent No. 621,675, dated March 21, 1899.

Application filed August 13, 1898. Serial No. 688,484. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY H. HOTZ, of Cuero, in the county of Dewitt and State of Texas, have invented a new and Improved Device for Removing Dents from Gun-Barrels and other Tubes or Tubing, of which the following is a full, clear, and exact description.

The object of my invention is to provide a very simple device adapted especially for removing dents or depressions from the barrels of shotguns, but also adapted for removing dents from organ-tubes, tubes of other musical instruments, and from other like tubes or tubing, and, furthermore, to provide a device of this character that may be simply, durably, and economically constructed, the device being capable of expeditious and convenient application to the barrel, and also capable of convenient manipulation by persons of ordinary intelligence.

A further object of the invention is to so construct the device that it may be applied to barrels of different bores.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the major portion of the device, particularly the expanding portion, a portion of the barrel being shown in dotted lines. Fig. 2 is a side view of the device, taken at a point at right angles to the view shown in Fig. 1. Fig. 3 is a longitudinal section through the device, the said view being on an enlarged scale. Fig. 4 is a side elevation of the expanding-rod adapted for use in connection with barrels having different bores, and Fig. 5 is a plan view of the handle that is adapted for attachment to the upper end of the expanding-rod.

The device consists, primarily, of an expander-rod A, an expanding-tube B, into which the rod is adapted to enter, and a handle C for the expanding-tube. The expander-rod A, while shown as polygonal in cross-section, may be of any desired shape and is provided at its outer or upper end with a handle 10, detachably attached to the rod by means of a set-screw 11 or its equivalent. Near the lower end of the expander-rod A an exteriorly-threaded surface 12 is formed, and below the exteriorly-threaded surface 12 a reduced plain surface 13 is constructed, preferably circular in cross-section, terminating in a conical tip 14.

The expanding-tube B is made in two semi-cylindrical sections 16 and 17, and the two sections are provided at their upper ends with a bore 18, having an interior thread adapted to receive the threaded surface 12 of the expanding-rod, and below the threaded bore 18 a reduced smooth bore 19 is formed, the top portion of which, or that portion of the smooth bore which communicates with the threaded bore, being more or less tapering to facilitate the entrance of the smooth portion of the expanding-rod into the said bore 19, as shown in Fig. 3. The sections of the tubular expander B are connected with the handle C by means of spring extensions 20 from the said handles, one of said springs being secured to the inner face of each section of the tubular expander, as is also best shown in Fig. 3.

In Figs. 1, 2, and 3 I have shown an expander-rod having only one exteriorly-threaded surface 12; but in Fig. 4 I have illustrated an expander-rod having two exteriorly-threaded surfaces, namely—a surface 12, adapted for use in connection with the expanding-tube for a certain size of bore, and a second threaded surface 15 of greater diameter and adapted for use in connection with an expanding-tube to be applied to a barrel having a larger bore.

In operation the expanding-tube or tubular expander B is entered into the barrel D of the gun at one end and is brought to a position within the said barrel opposite the indentations that may occur in the barrel. The expander-rod is then entered at the opposite end of the barrel, and the tip 14 of said rod is introduced into the expanding-tube B until the threaded surface of the said tube engages with the interior thread of the ex-

panding-tube, and the turning of the expander-rod is then continued until the smooth reduced surface 13 of the expander-rod has fully entered the smooth bore 19 in the expanding-tube, whereby the expander-rod may be powerfully entered into the expanding-tube, and the smooth section 13 of the expanding-tube will cause the sections of the tube to be forced outward in opposite directions in parallel lines to such an extent as to remove any dents that may be in the barrel. When the threaded section of the expander-rod has been entered sufficiently into the expanding-tube, the said tube will have been made to fit closely to the interior diameter of the barrel, and the section of the two sections of the tube will be longitudinally uniform.

When the double-threaded surfaces are provided for the expander-rod, if the bore of the barrel to be treated is quite large the reduced threaded surface 12 will pass readily between the sections of the expanding-tube, permitting the larger threaded surface to have threaded engagement with the tube and direct the smooth expanding-surface 13.

While I have shown and described my invention as applied especially to the removal of dents from gun-barrels, it is equally well adapted for the removal of dents from all kinds of tubing, from organ-tubes, and from the tubes of other musical instruments. Hence I do not limit myself to the particular application of the invention as herein shown and described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a device for removing dents from gun-barrels and other tubes and tubing, an expanding-tube constructed in sections, a handle, a spring connection between the handle and the sections of the tube at one end, and an expander-rod having a section adapted to enter the said expanding-tube and produce an expansive action, for the purpose set forth.

2. A device for restoring gun-barrels, consisting of an expanding-tube constructed in sections, a handle, and a spring connection between the handle and the sections of the expanding-tube, and an expander-rod having a plain peripheral surface, adapted to enter between the sections of the expanding-tube, and a threaded section adapted to be screwed into the sections of the said expanding-tube, for the purpose specified.

3. In a device for restoring gun-barrels, the combination, with an expanding-tube constructed in longitudinal sections, the said tube being provided with a threaded bore and a reduced plain bore connected with the threaded bore, a handle, and a spring connection between the handle and the sections of the expanding-tube, of an expander-rod provided with a handle, a plain surface provided with a tapering extremity, and a threaded surface of greater diameter than the plain surface above the latter, as and for the purpose specified.

4. In a device for restoring gun-barrels and other tubes or tubing, the combination with an expanding-tube constructed in semicylindrical sections, the said sections being provided with a threaded bore and a reduced smooth bore connected with the threaded bore, and a spring connection between the sections of the expanding-tube, of an expander-rod having a plain surface and a threaded surface of greater diameter than the plain surface, as and for the purpose set forth.

5. In a device for restoring gun-barrels and other tubes or tubing, the combination with the expanding-tube constructed in sections, a spring secured to the inner face of each section of the tubular expander at one end thereof, and a handle connected with the said springs, of an expander-rod having a section adapted to enter the said expander-tube and produce an expansive action, as and for the purpose specified.

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