

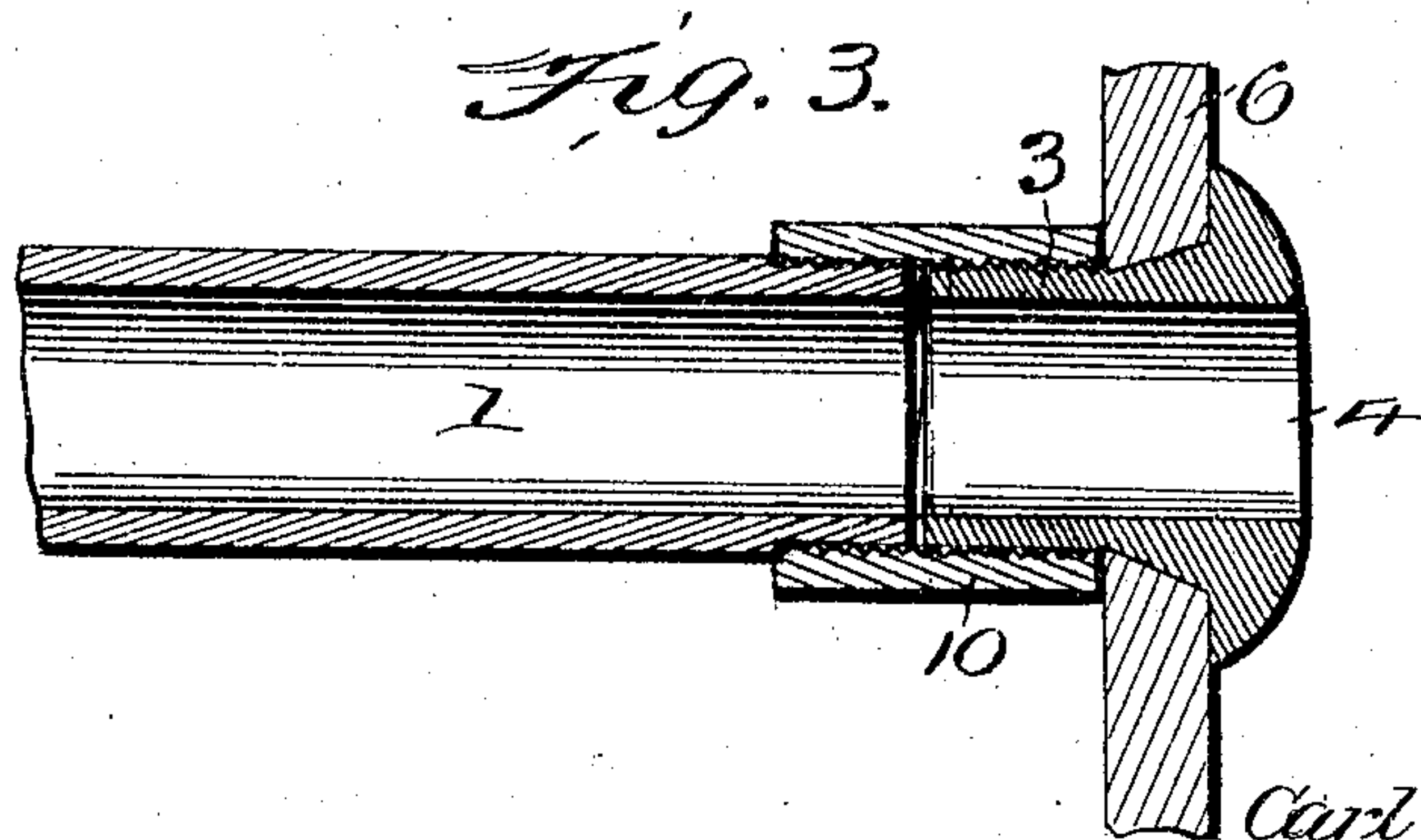
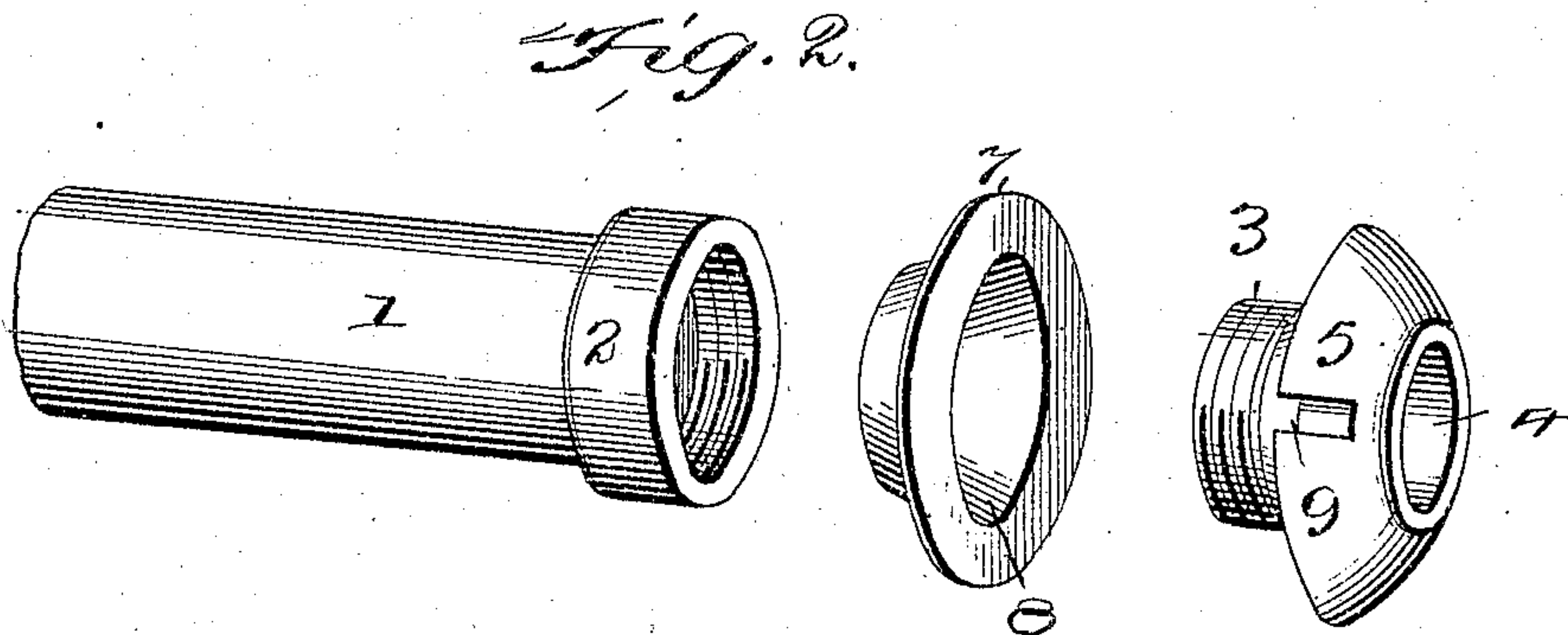
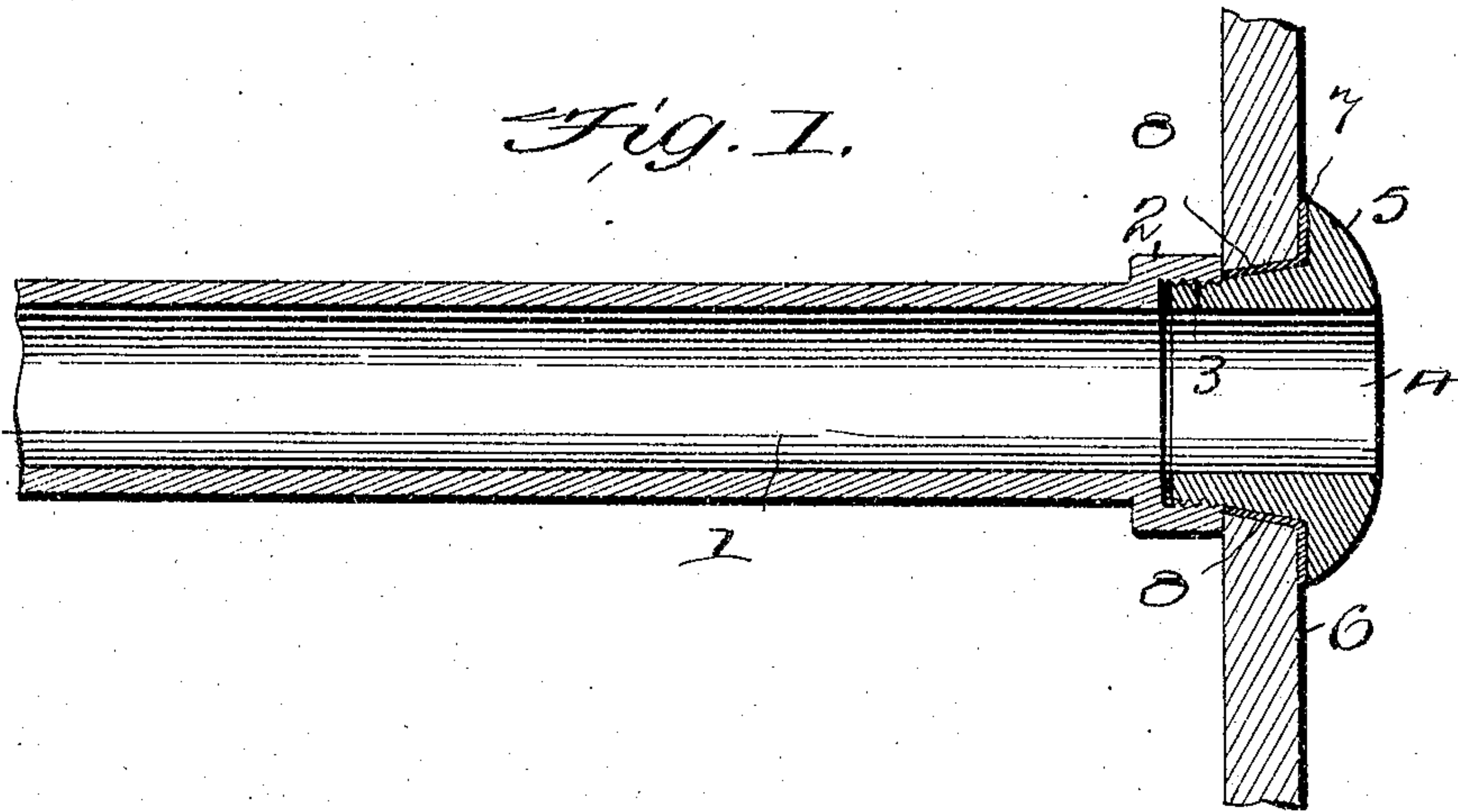
No. 780,797.

PATENTED JAN. 24, 1905.

C. M. HOEREGOTT & H. C. EBY.

FLUE.

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Witnesses

*H. Barry.*  
*Armistead Purcell*

Inventors

*Carl M. Hoeregott*  
*Henry C. Eby*

By *W. J. Fitzgerald*

Attorney



# UNITED STATES PATENT OFFICE.

CARL M. HOEREGOTT AND HENRY C. EBY, OF JOLLEY, IOWA.

## FLUE.

SPECIFICATION forming part of Letters Patent No. 780,797, dated January 24, 1905.

Application filed July 13, 1904. Serial No. 216,385.

*To all whom it may concern:*

Be it known that we, CARL M. HOEREGOTT and HENRY C. EBY, citizens of the United States, residing at Jolley, in the county of Calhoun and State of Iowa, have invented certain new and useful Improvements in Flues; and we do hereby declare the following to be 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.

Our invention relates to flue construction for boilers, and more particularly to means for detachably securing the flues in position in the boiler; and our invention consists of certain novel features of combination and construction of parts, the preferred form whereof will be disclosed in the following specification and accompanying drawings, and pointed out in the claims.

The main object or purpose of our invention is to provide a plurality of flues for a boiler in the usual manner, having means to make it possible to remove any one or all of said flues for any purpose whatever, as for cleansing the same or replacing any defective flue.

A further object of our invention is to provide a proper surface, especially for the interior of the flue, as of porcelain, whereby disintegration of the surface and the accumulation thereon of foreign substance, as scales, water-sediment, or the like, will be obviated.

Other objects will appear from the following specification, considered in connection with the accompanying drawings, which are made a part of this application, and in which—

Figure 1 shows a sectional view of our improved flue and anchoring means therefor, and also showing a sectional view of a contiguous part of the flue-sheet or wall of the boiler. Fig. 2 is a perspective view of our improved flue, the said parts being separated from each other ready to be assembled in engagement with the flue-sheet. Fig. 3 shows a slightly different form of construction from that presented in Fig. 1.

In carrying out our invention we form the end of the flue proper, 1, with a slight enlargement or flange-like terminal 2, which is in-

ternally threaded to cooperate with the threaded stem 3 of the tubular anchoring member 4, said anchoring member having upon its outer end the radial flange or lip 5, said flange being designed to rest directly against the outer side of the flue-sheet 6 or against the flange 7 of the gasket 8, which latter is preferably formed of copper or other suitable material deemed desirable for the purpose, the said gasket being designed to be seated in a slightly-conical aperture or flue-opening provided in the flue-sheet 6, as clearly shown in Fig. 1.

Suitable recesses 9 are formed in the flange 5, preferably at diametrical points thereof, to receive a proper tool whereby the anchoring member 4 may be screwed home in engagement with the flange extension 2 upon the flue proper.

It will be understood that the length of the anchoring member 4 between the threads 3 and the flange 5 will be substantially coincident with the thickness of the flue-sheet, whereby when the anchoring member is turned home within the threaded end of the flue the edge of the flange 2 will be drawn tightly against a contiguous part of the flue-sheet immediately surrounding the opening provided therein for the anchoring member 4. It is therefore obvious that the relatively softer metal, as copper or the like, employed in forming the gasket 8 will reliably close the passage-way for the escape of steam between the anchoring member 4 and the flue-sheet, thereby providing a most reliable and efficient closure, the great advantages arising therefrom being due to the fact that said anchoring member may be readily removed, whereby the flue 1 will be left free to be moved bodily downward and withdrawn from the hand-hole.

In Fig. 3 we have shown a slightly-modified construction wherein it will be observed that the flue proper, 1, is exteriorly threaded at its outer end to cooperate with the thimble 10, which latter is designed to receive the threaded terminal 3 of the anchoring member 4.

In Fig. 3 we have omitted a showing of the gasket 8, it being understood, however, that said gasket may be employed or omitted, as may be deemed necessary.



Our invention may be readily applied to use upon flues as now constructed, and the construction presented in Fig. 3 is designed to illustrate how an old flue may be cut off at its outer end and threaded to receive the thimble 10, thus adapting our invention for ready and efficient application upon boilers and flues as now constructed, it being only necessary to ream out the hole in the flue-sheet, whereby a slightly-conical seat will be provided for the reception of the middle section of the anchoring member 4. The flue proper, 1, may be entirely dipped in a suitable preparation which will give it a porcelain or granite like coating either interiorly or exteriorly, as may be desired, inasmuch as such a covering will protect the exposed parts of the flue from disintegration, and thereby increase the wearing capacity or life thereof.

It will be understood that any desired character of material for forming the gasket 8 may be employed, and believing that the advantages and manner of applying our invention to use have thus been made clearly apparent further description is deemed unnecessary.

While we have described the preferred combination and construction of parts, we desire to comprehend in this application all substitutes and equivalents as may be considered as falling fairly within the scope of our invention.

What we claim as new, and desire to secure by Letters Patent, is—

1. The herein-described flue and means to anchor the same in its operative position, comprising the flue proper having its outer end enlarged to form a seat, in combination with an anchoring member 4 fitting a seat in the flue-sheet and coöperating with the enlarged end of the flue proper and a suitable gasket interposed between the anchoring

member and the flue-sheet designed to insure a perfect closure, all combined substantially as specified and for the purpose set forth.

2. A flue having a slightly-enlarged terminal or flange 2 interiorly threaded, in combination with a flue-sheet having a tapered aperture, an anchoring member having a portion of its outer surface tapered, fitting said aperture in the flue-sheet, the extreme inner end of said member being exteriorly threaded to coöperate with said interiorly-threaded flange, said flue and anchoring member being so constructed that, when they are assembled, the bores thereof will be continuous, said anchoring member having a flange upon its outer end to fit against a contiguous part of the outer surface of the flue-sheet, substantially as set forth.

3. A flue having an enlarged terminal interiorly threaded, in combination with a flue-sheet having a tapered aperture, an anchoring member having a portion of its outer surface tapered to fit said aperture, the inner end of said member being exteriorly threaded to coöperate with the threads in said terminal, the opposite end of said anchoring member being provided with a flange, and a gasket so formed that, when placed in position, a portion thereof will be disposed between the tapered portion of the anchoring member and the aperture in the flue-sheet and the remaining portion between the outer surface of the flue-sheet and the flange upon the anchoring member, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CARL M. HOEREGOTT.  
HENRY C. EBY.

Witnesses:

DAVID PAGE,  
W. M. LEONARD.