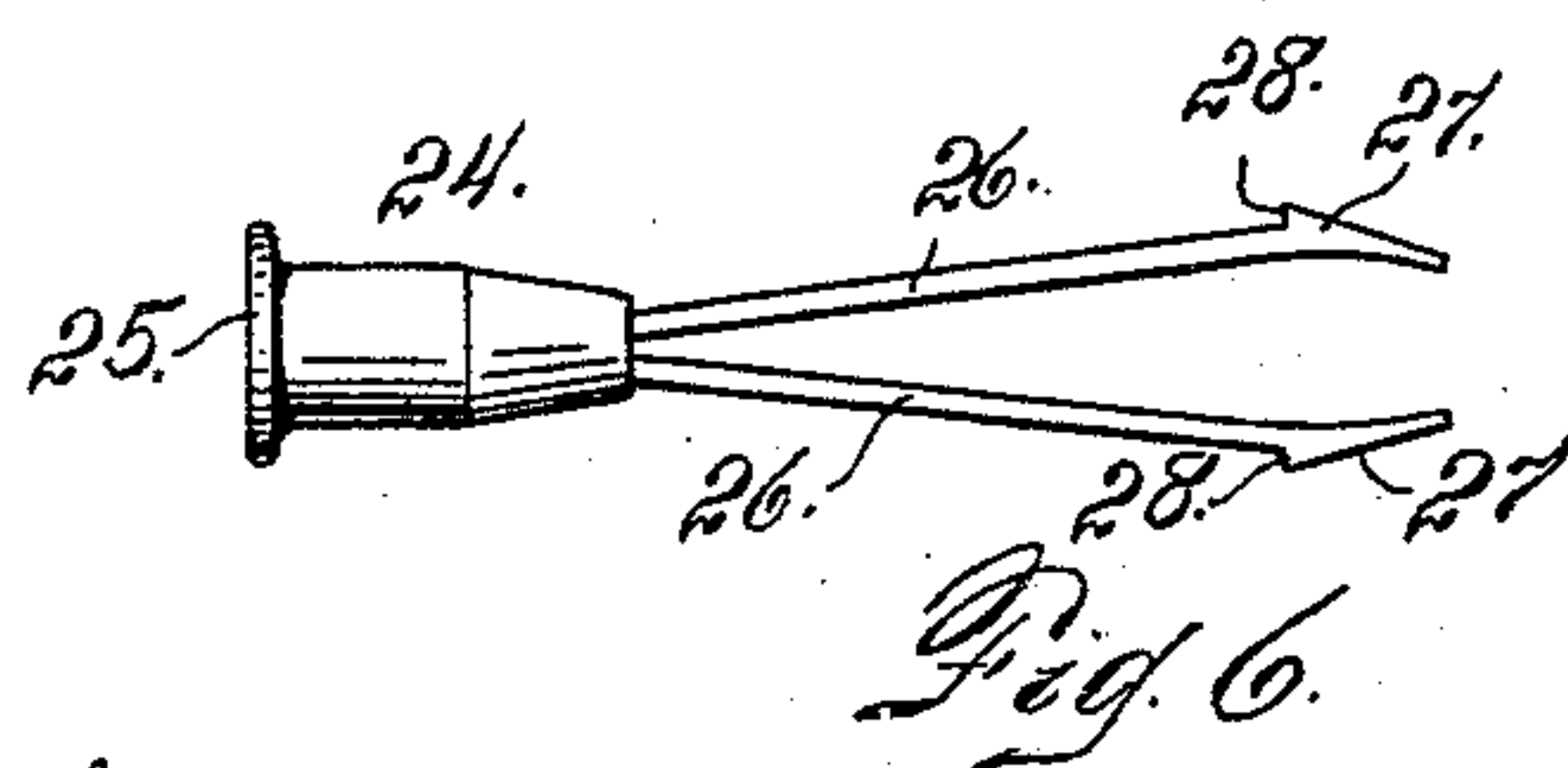
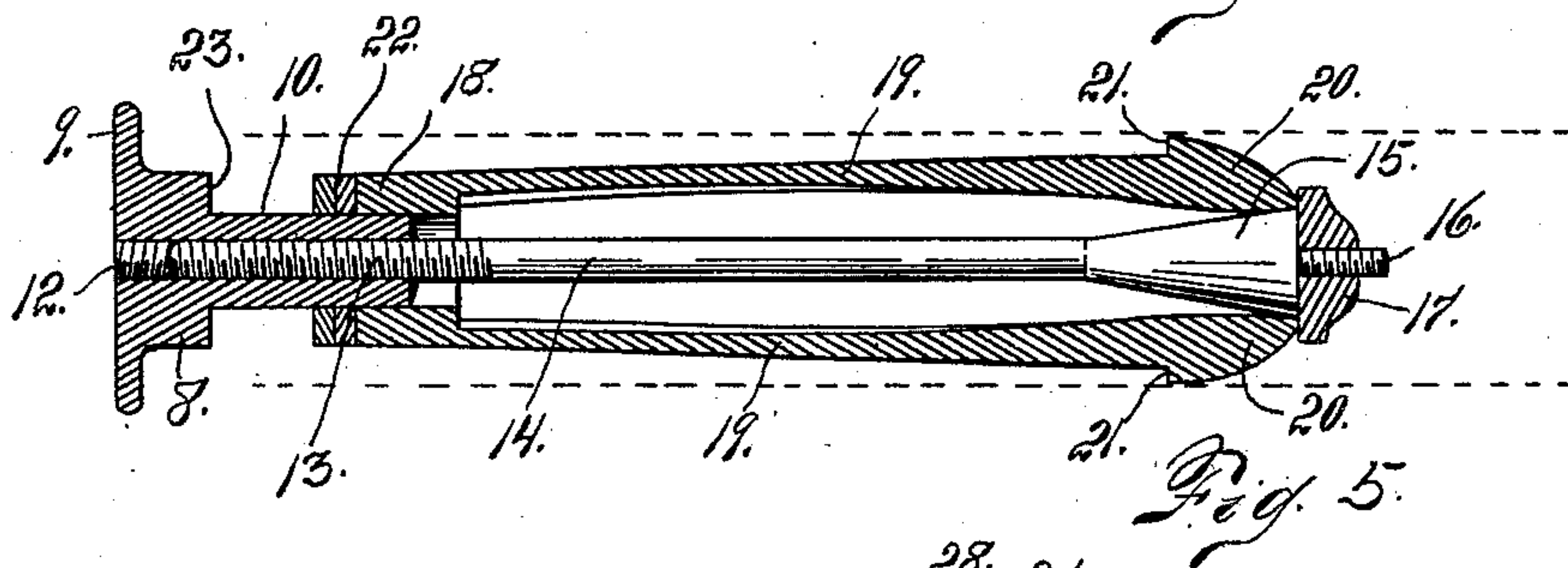
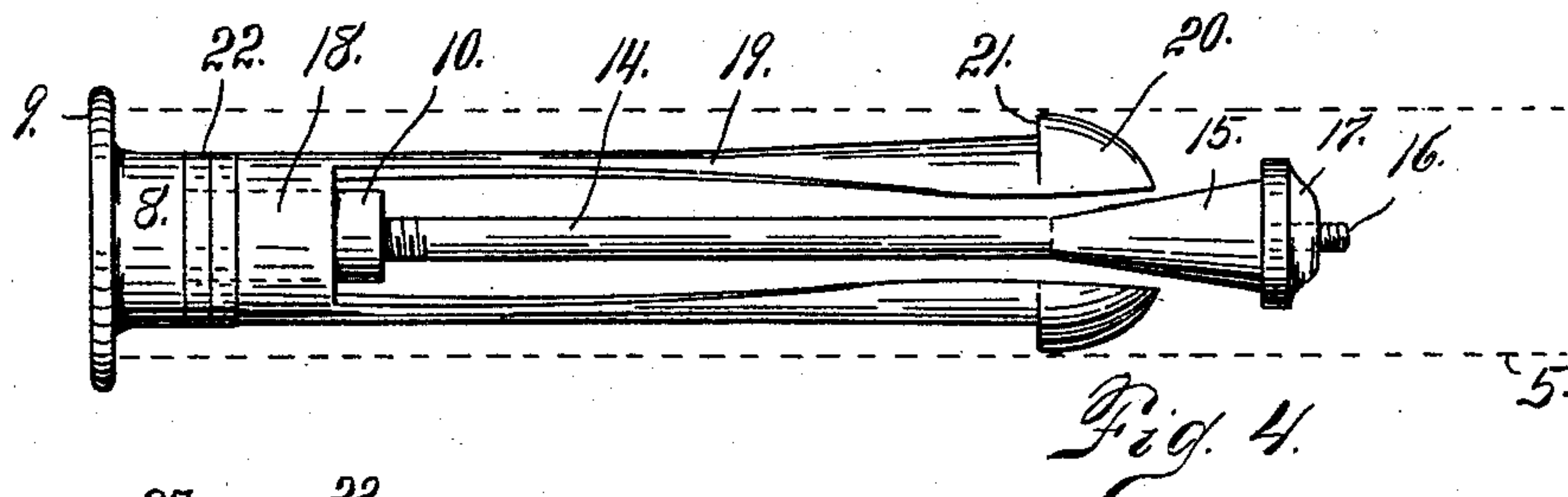
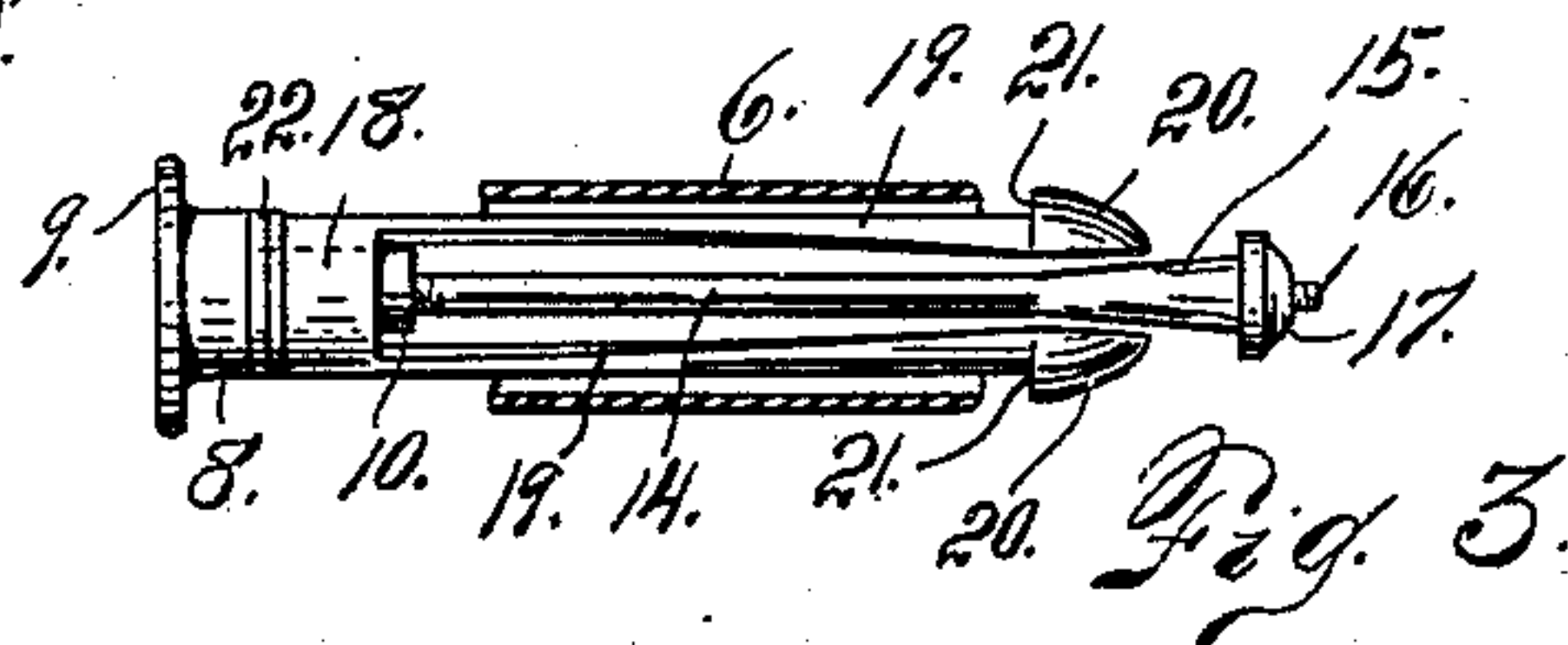
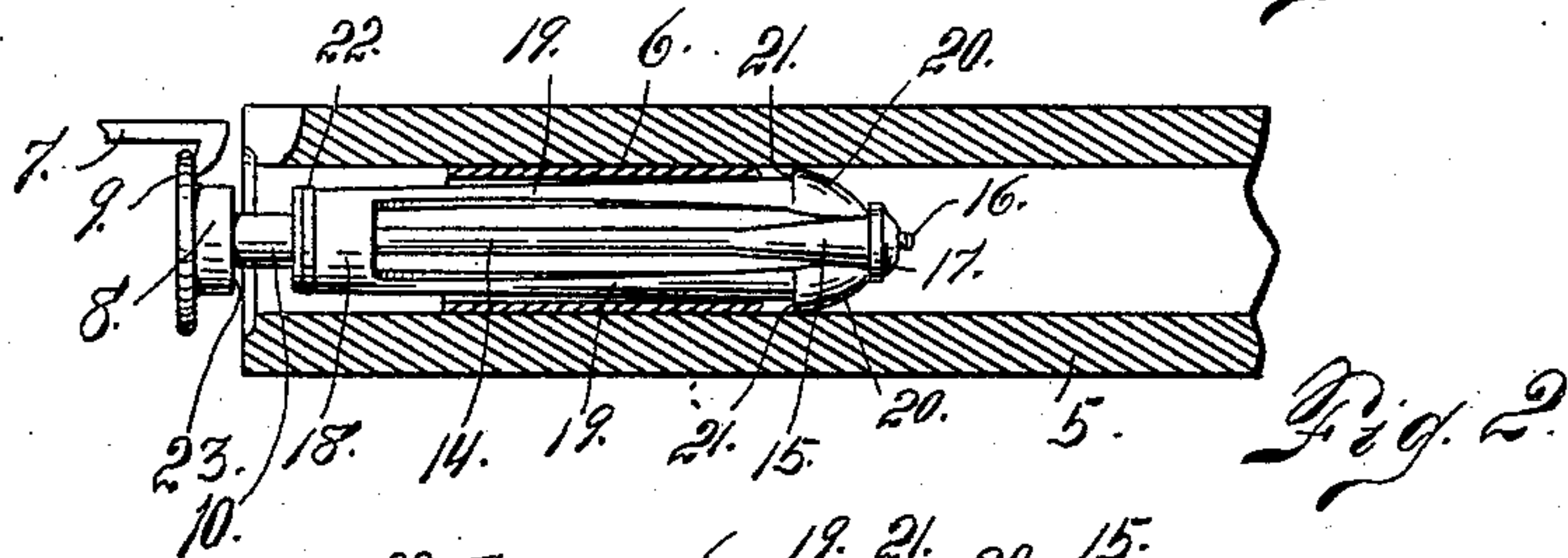
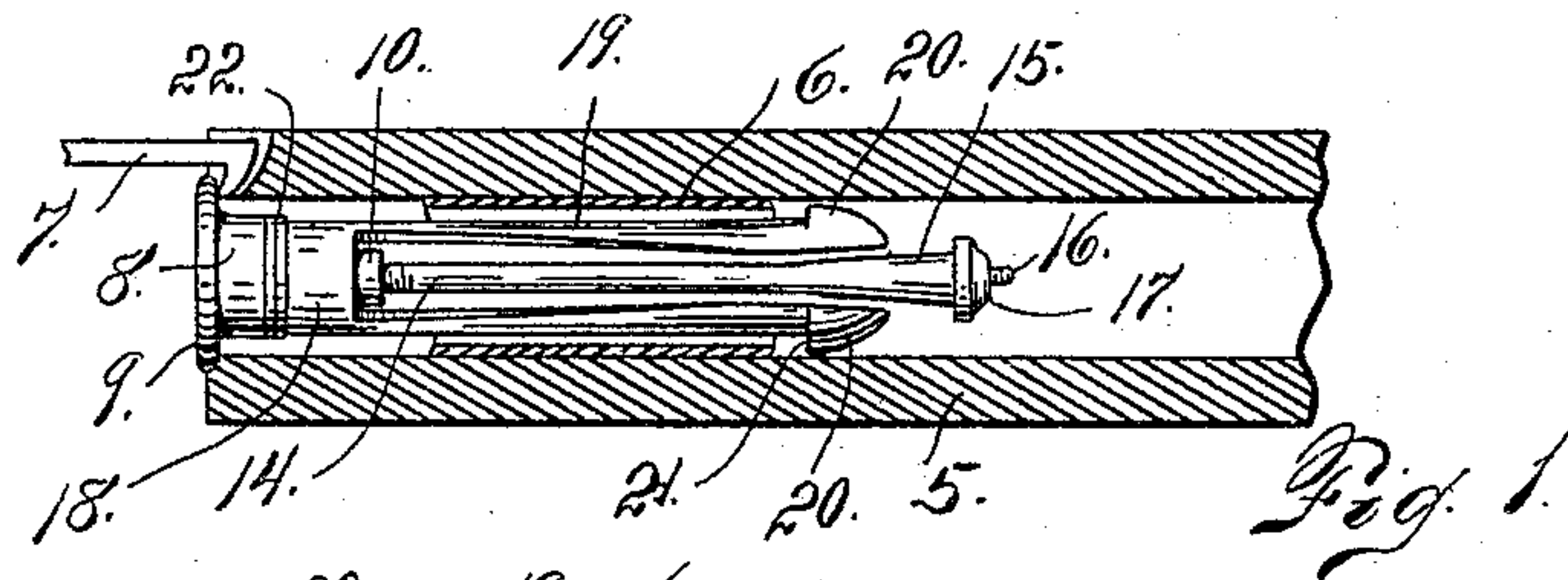


O. H. WHITMAN.
BROKEN SHELL EXTRACTOR.
APPLICATION FILED MAY 19, 1908.

929,526.

Patented July 27, 1909.



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UNITED STATES PATENT OFFICE.

OLIVER H. WHITMAN, OF DENVER, COLORADO.

BROKEN-SHELL EXTRACTOR.

No. 929,526.

Specification of Letters Patent.

Patented July 27, 1909.

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To all whom it may concern:

Be it known that I, OLIVER H. WHITMAN, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Broken-Shell Extractors; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in devices for extracting broken shells from firearms as repeating rifles. It sometimes happens that the shell breaks during the explosion of the cartridge, so that the extractor only removes the rear extremity or rim portion of the shell. Under such circumstances the remaining portion of the shell is left in the barrel of the gun and must be extracted before a new shell can be inserted. The function of my improved device is the removal of this remaining portion of the broken shell.

My improved extractor includes a body part provided with a pair of spring jaws whose forward extremities have exteriorly projecting shoulders, the rear portion of the device being provided with a rim adapted to be engaged by the extractor hook of the gun. These spring jaws are so arranged that as the extractor is inserted in the barrel of the gun, the jaws are forced inwardly as they engage the broken portion of the shell, but spring outwardly as soon as their shoulders have passed the forward extremity of the shell part to be extracted. In this event the shoulders of the spring jaws engage the forward extremity of the shell portion and as the extractor hook is operated the shell part is removed from the barrel. In order to lock the spring jaws in the position they occupy when engaging the forward extremity of the shell, these jaws may be movably mounted upon the body of the extractor which consists of the rear portion having the rim, and a forwardly projecting stem which passes between the spring jaws and protrudes beyond their forward extremities when the jaws are in their rearward position. The forward extremity of this stem is enlarged and equipped with a head or tip

which is engaged by the forward extremities of the jaws when the body part is moved rearwardly by the action of the extractor hook. When this occurs the enlarged or cam extremity of the stem locks the spring jaws in the expanded position or in the position to fill the chamber of the barrel so that as the extractor is moved rearwardly the shell portion will be removed.

Having briefly outlined my improved construction, I will proceed to describe the same in detail reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing, Figure 1 is a section of a gun barrel showing my improved device in place, and in position to remove the broken shell portion of a cartridge. Fig. 2 is a similar view showing the body of the extractor drawn rearwardly so that the forward portion of its stem engages the spring jaws interiorly, securing them in the shell extracting position. Fig. 3 is a detail view of the extractor shown in connection with the broken portion of the shell. Fig. 4 is an enlarged detail view of the extractor. Fig. 5 is a section of the same. Fig. 6 is a detail view of a modified form of construction.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the barrel of a gun; 6 the broken shell portion to be extracted; and 7 the extractor hook of the gun.

The body portion of this device consists of a plug 8 having a rearwardly located rim and a forwardly extending reduced portion 10. This plug is provided with an interiorly threaded opening 12 into which is screwed the threaded portion 13 of a stem 14 whose forward extremity is cone-shaped as shown at 15, terminating in a threaded stud 16 upon which is screwed a tip 17 which is somewhat larger in diameter than the forward extremity of the cone-shaped part 15 thus forming a circumferential shoulder beyond the cone. Slidably mounted upon the reduced part 10 of the plug, is a sleeve 18 having two forwardly-extending jaws 19 whose forward extremities 20 are provided with exteriorly located shoulders 21. The tip 17 is adjustable upon the stud 16 since this stud may be made of any desired length. The plug 10 is adjustable lengthwise upon the threaded portion of the stem 14, whereby the body of the device may have its length increased or

diminished as may be desired. If it is desired to provide a device whose spring jaws shall pass farther into the cartridge-receiving portion of the gun barrel, any desired number of washers 22 may be placed upon the reduced portion of the plug and the shoulder 23. By virtue of this construction, my improved device may be adapted for use with cartridge shells of different length. From the foregoing description the use of this form of my improved extractor will be readily understood. Assuming that a cartridge shell is broken by the explosion, or otherwise, the extractor hook 7 when operated will of course remove only the rear or rim extremity of the shell. In this event the portion 6 of the shell remains in place and can only be removed by the use of a special extractor or tool. When this occurs my improved device is inserted in the barrel of the gun as shown in Fig. 1, and the spring jaws engage the shell portion 6 as the device is shoved inwardly causing them to be compressed toward the stem. However, as soon as these jaws pass beyond the forward extremity of the shell portion, they spring outwardly and occupy a position in front of the shell. The extractor hook 7 is then brought into requisition in the usual way and as the hook is moved rearwardly, the body of the extractor is given a corresponding movement independently of the spring jaws, until the latter engage the circumferential shoulder of the tip 17. Then as the rearward movement of the extractor hook continues, the spring jaws are given a corresponding movement carrying the shell portion 6 with them, whereby the shell portion is removed from the gun barrel.

The form of construction shown in Fig. 6, consists of a body part having a rim 25. This body part is provided with two forwardly extending spring arms 26 terminating in jaws 27 having shoulders 28. The use of this form of the device is substantially the same as that of the other form. In other words the device is inserted in the barrel of the gun until the shoulders 28 of the spring jaws spring outwardly in front of the forward extremity of the shell portion to be removed. The extractor hook 7 is then brought into requisition whereby it moves the extractor rearwardly and displaces the shell portion in a manner that will be readily understood.

Having thus described my invention, what I claim is:

1. A broken shell extractor, comprising a body part composed of two members having a threaded connection whereby they are longitudinally extensible, a sleeve slidably adjustable on the body part, the said sleeve having forwardly extending spring jaws, the forward portion of the body part being fashioned to spread said jaws for shell extracting purposes.

2. A broken shell extractor, comprising a body part composed of two members having a threaded connection whereby it is longitudinally extensible, a pair of spring jaws movably mounted on the body part, the forward extremity of the latter being cone-shaped, whereby, when the said jaws are properly adjusted on the body part, they are locked in the expanding position.

3. An extractor comprising a body part, a spring jaw movably mounted thereon, and means threaded in the body part and adapted when properly adjusted to lock the spring jaw in position to engage the broken shell part within the barrel of the gun, substantially as described.

4. An extractor comprising a body part having a forwardly projecting stem threaded therein and whose forward portion is cone-shaped and provided with a circumferential shoulder, spring jaws movably mounted on the body part, the shoulder at the forward extremity of the stem being in the path of the forward extremities of the spring jaws when the body part is properly adjusted, substantially as described.

5. An extractor, comprising a longitudinally extensible body part composed of two members having a threaded connection, a pair of spring jaws movably mounted thereon, the rearward portion of the body part having a shoulder, and washers interposed between the shoulders of the body part and the rear extremity of the spring jaws for purposes of adjustment, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

OLIVER H. WHITMAN.

Witnesses:

DENA NELSON,
A. J. O'BRIEN.