

W. C. REYNOLDS.
PRIMING ATTACHMENT FOR SPARK PLUGS.
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966,767.

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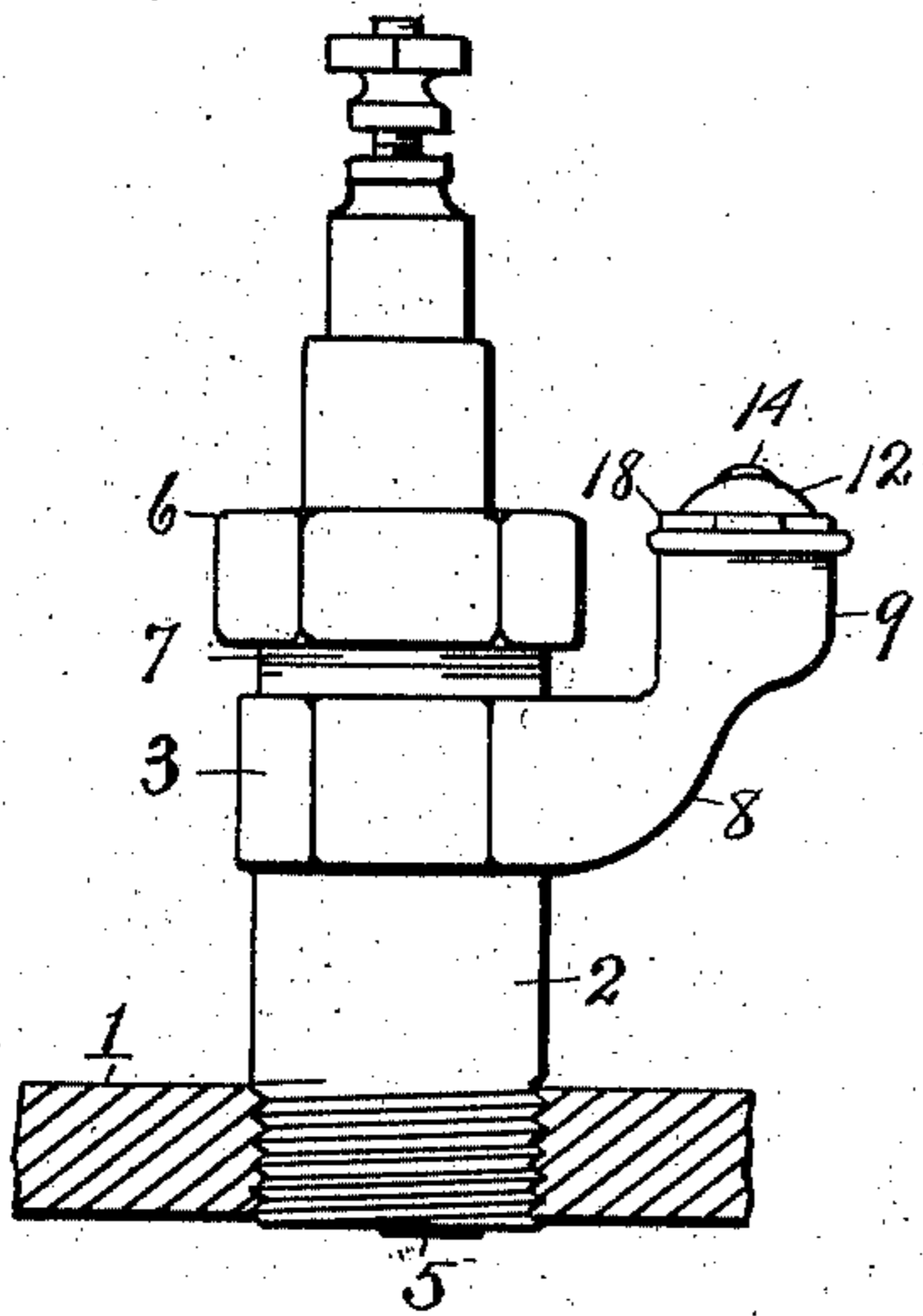


Fig. 1.

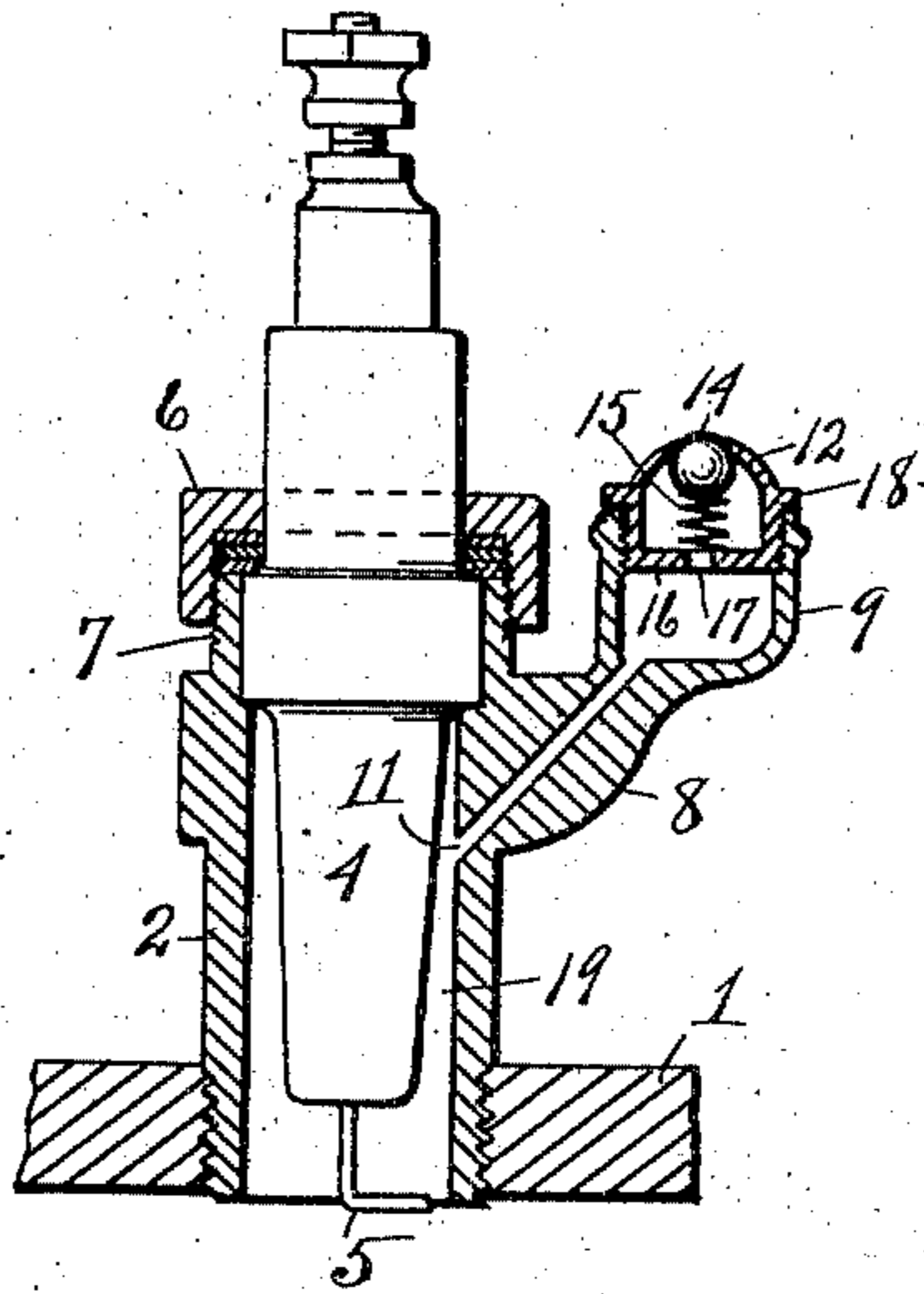


Fig. 2.

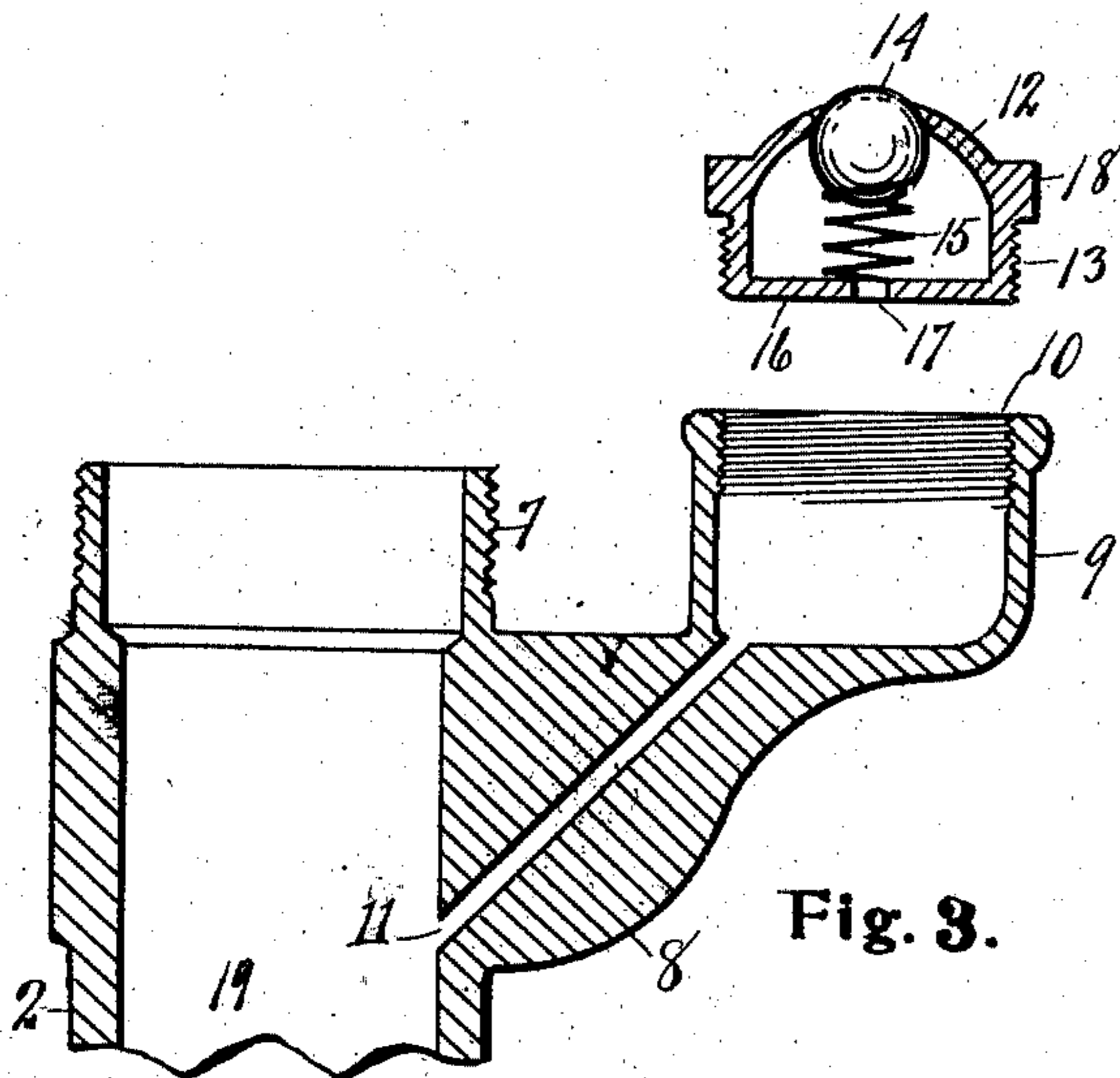


Fig. 3.

Witnesses
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WILLIAM C. REYNOLDS, OF ALPENA, MICHIGAN.

PRIMING ATTACHMENT FOR SPARK-PLUGS.

966,767.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed December 17, 1908. Serial No. 467,955.

To all whom it may concern:

Be it known that I, WILLIAM C. REYNOLDS, a citizen of the United States, residing at Alpena, in the county of Alpena, State of Michigan, have invented certain new and useful Improvements in Priming Attachments for Spark-Plugs; 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.

This invention relates to a priming attachment for spark plugs of the type commonly employed in internal combustion engines, and consists in the construction and arrangement of parts hereinafter more fully set forth and pointed out particularly in the claim.

The primary object of the invention is to provide simple and efficient means for introducing a priming charge into the explosion chamber or cylinder of an engine, the arrangement being such as to automatically prevent the escape through the priming device of any of the gases under pressure created by the explosion within the cylinder.

A further object is to so connect the priming attachment with the sleeve of the spark plug as to afford a direct passage for the gasoline or other explosive fluid, obviating the liability of the passage becoming choked or clogged.

A further object is to so form said passage as to enable it to be readily cleaned.

The above objects are attained by the structure illustrated in the accompanying drawings, in which:—

Figure 1 is an elevation of a spark plug having my improved priming attachment, showing said plug screwed into the wall of the cylinder or combustion chamber of an engine. Fig. 2 is a similar view showing the sleeve of the plug and the priming attachment in section. Fig. 3 is an enlarged view in section, showing the sleeve and priming attachment with the ball check valve removed from the priming cup, and a portion of the sleeve broken away.

Referring to the characters of reference, 1 designates a section of the wall of a cylinder or combustion chamber which is bored and tapped for the reception of the screw-

threaded sleeve 2 of the spark plug, the outer end of said sleeve being formed for the application of a wrench, as shown at 3. Within the sleeve 2 is the ordinary porcelain core 4 commonly employed in spark plugs through which passes one of the electrodes 5, the wall of the sleeve 2 serving as the other electrode, as will be well understood. To confine the porcelain core within the sleeve of the plug, a gland 6 is employed which screws onto the upper threaded end 7 of said sleeve, all of which construction is common in the art.

Projecting from the upper end of the sleeve and preferably formed integral therewith is a bracket 8 carrying at its upper end a cup 9 which is internally threaded at its upper end, as shown at 10. Formed through the bracket 8 and connecting the bottom of the cup 9 with the interior of the sleeve is a straight passage 11 for the flow of gasoline, or other explosive fluid. The position of the passage 11 is such as to enable it to be drilled through the cup 9, thereby obviating the necessity of coring and affording a passage without an angle or bend therein, thereby reducing the liability of clogging to the minimum. Should the passage 11 become clogged in any manner, or from any cause, it may be readily cleaned by passing a small instrument through said passage from the bottom of the cup 9.

To provide for closing the upper end of the cup 9 a valve case 12 is employed which is internally threaded, as at 13, to screw into the top of said cup. The top of the valve case is conical and is provided with a central opening which is closed by a ball valve 14 seated therein and held upon its seat by a coiled spring 15 which supports said ball. The lower end of the spring 15 rests upon the bottom 16 of the case through which is a central aperture 17 for the passage of the combustible fluid into the cup 9. The case 12 is provided with a flange 18 formed to enable a wrench to be applied thereto for the purpose of screwing said case into the cup.

By pressing downwardly upon the ball 14 with the spout of a can, said ball will be unseated sufficiently to enable the introduction of said spout into the case 12 and the discharge thereinto of a priming charge of combustible fluid. Upon the withdrawal of said spout, the spring 15 will return the valve to its seat owing to the concaved under face of said cup. From the valve case

12 the fluid flows into the cup and thence
through the passage 11 into the cylinder or
combustion chamber of the engine through
the space 19 between the core and the inner
5 wall of the sleeve. The gases created by
the explosion of a charge in the cylinder of
the engine cannot escape through the pas-
sage 11 and the cup, owing to the fact that
any pressure within said passage or cup
10 only serves to force the ball more firmly
onto its seat.

By the use of this device a very simple
and efficient means is provided for introduc-
ing a priming charge into the cylinder of
15 an engine without removing the spark plug
or detaching any part connected therewith.

Having thus fully set forth my invention,
what I claim as new and desire to secure by
Letters Patent, is:—

20 A spark plug sleeve having a projecting

member thereon provided with a straight
passage way therethrough communicating
with the interior of said sleeve, a cup upon
said member with which the outer end of
said passage way communicates, a screw cap 25
for closing the open end of said cup, the top
of said cap being concavo-convex and hav-
ing a central aperture therethrough, the bot-
tom of said cap being closed and provided
with an opening communicating with said 30
cup, a ball valve within said cap for closing
the aperture in the top thereof, and a spring
resting on the bottom of said cap and en-
gaging said ball.

In testimony whereof, I sign this specifi- 35
cation in the presence of two witnesses.

WILLIAM C. REYNOLDS.

Witnesses:

I. G. HOWLETT,

O. B. BAENZIGER.