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SPARK PLUG HOLDER.

APPLICATION FILED DEC. 21, 1909.

960,091.

Patented May 31, 1910.

Fig. 1.

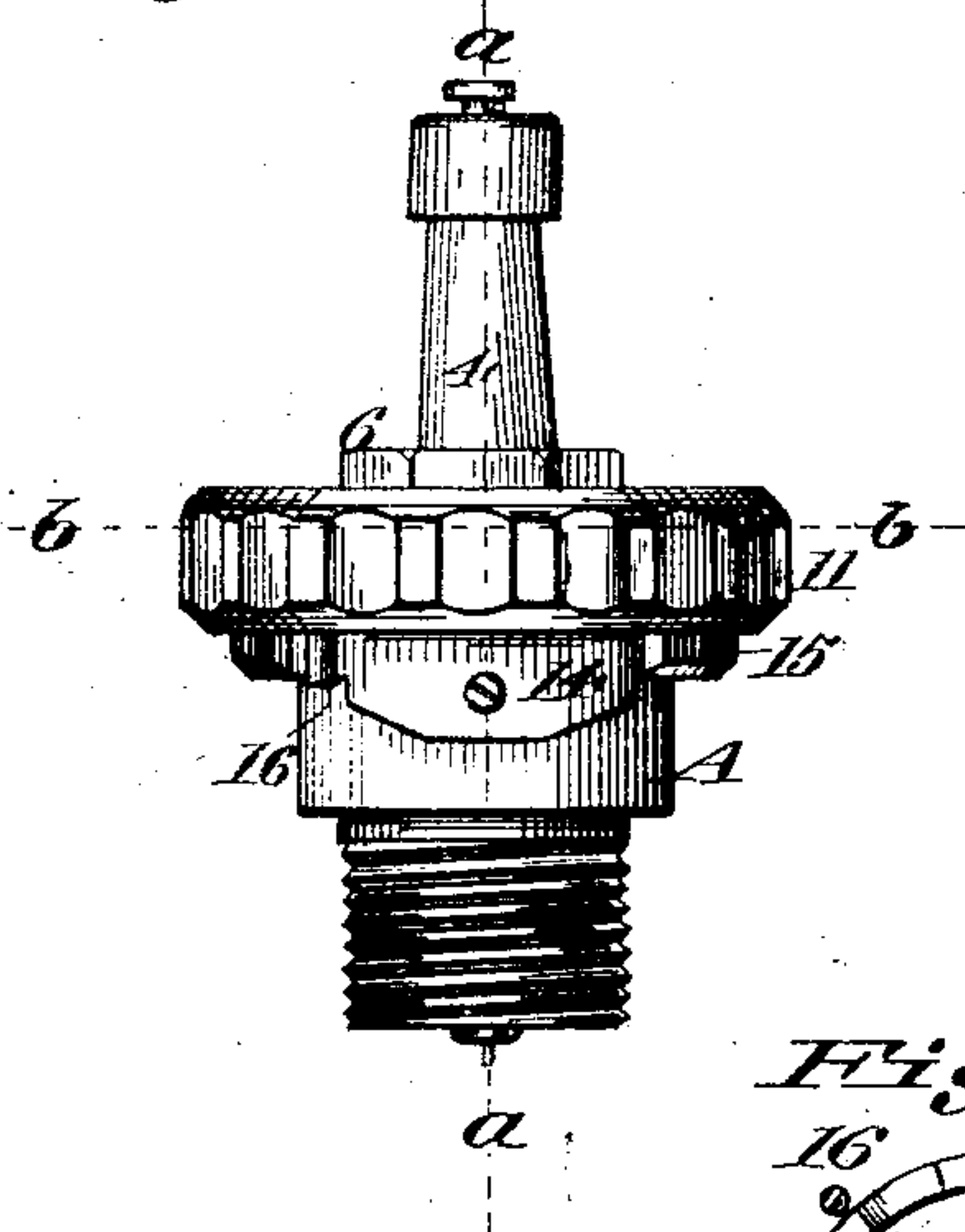


Fig. 2.

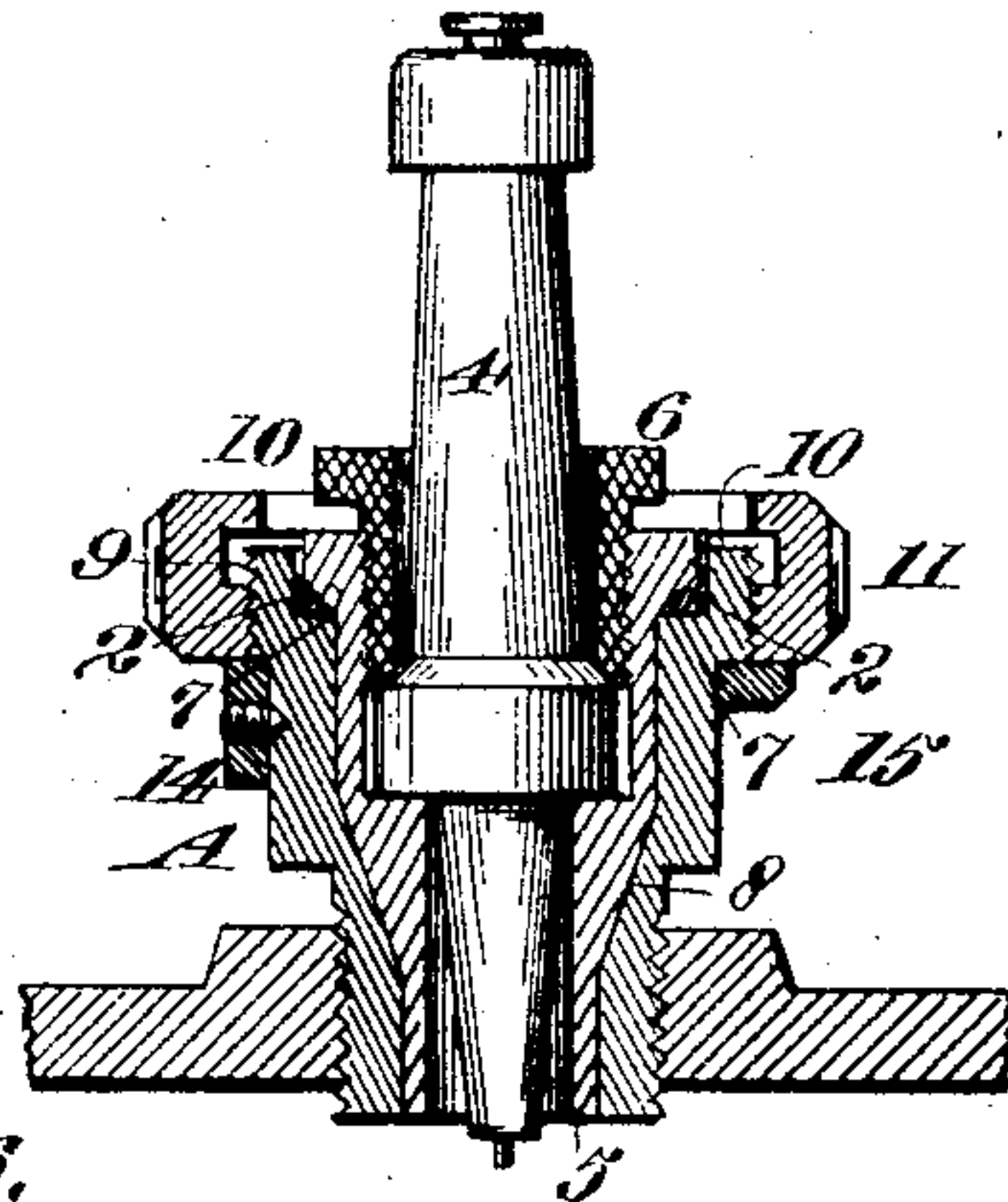


Fig. 6.

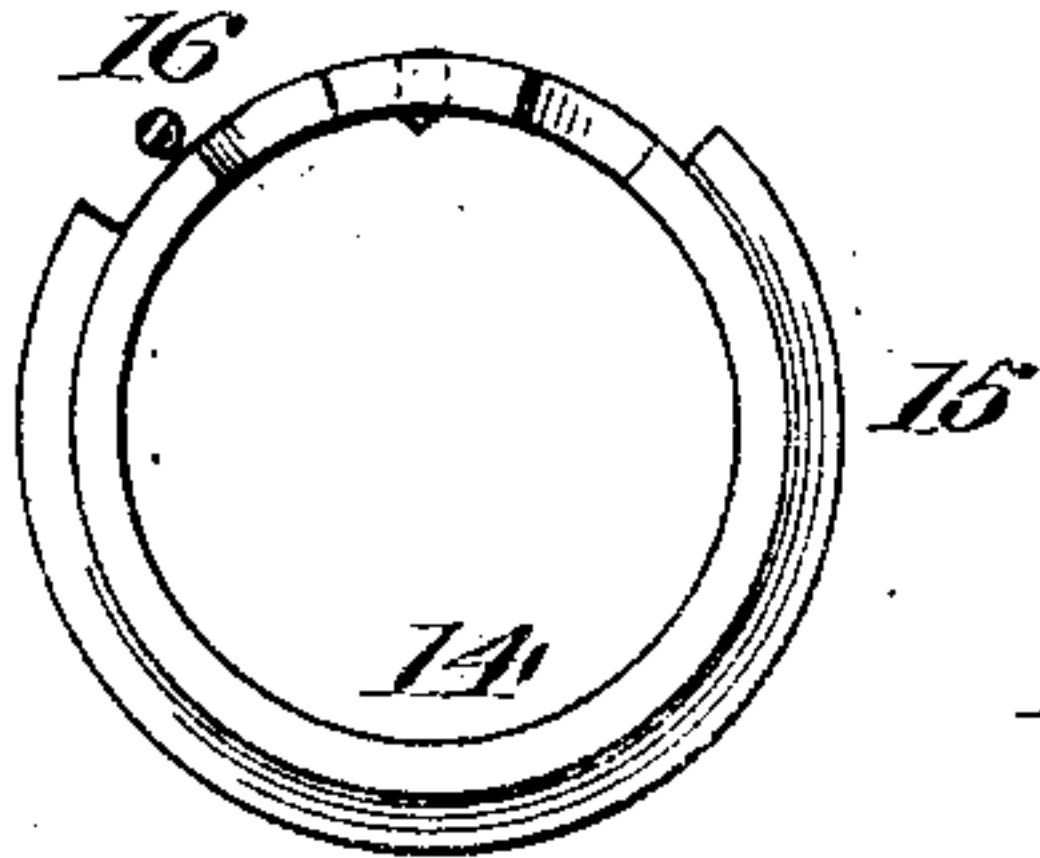


Fig. 3.

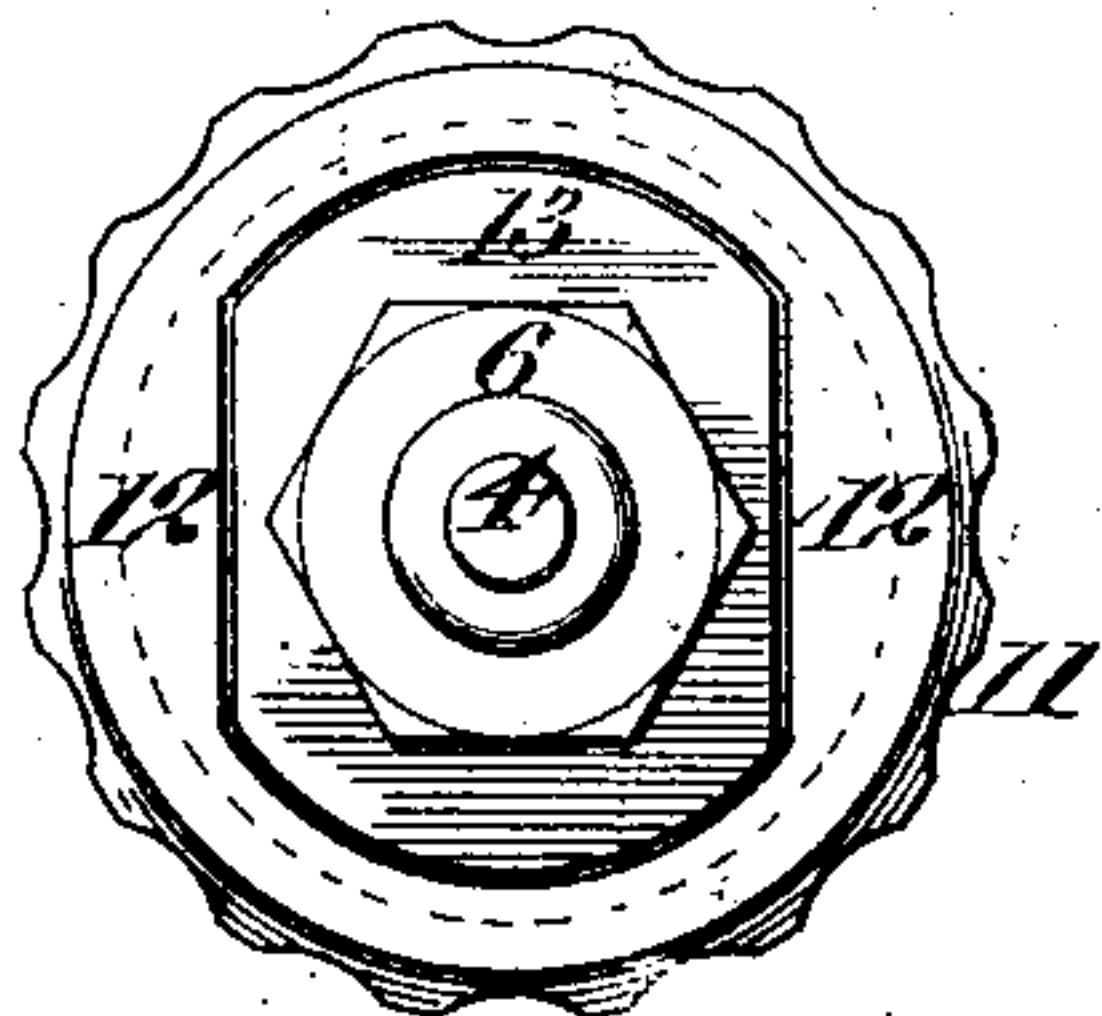


Fig. 4.

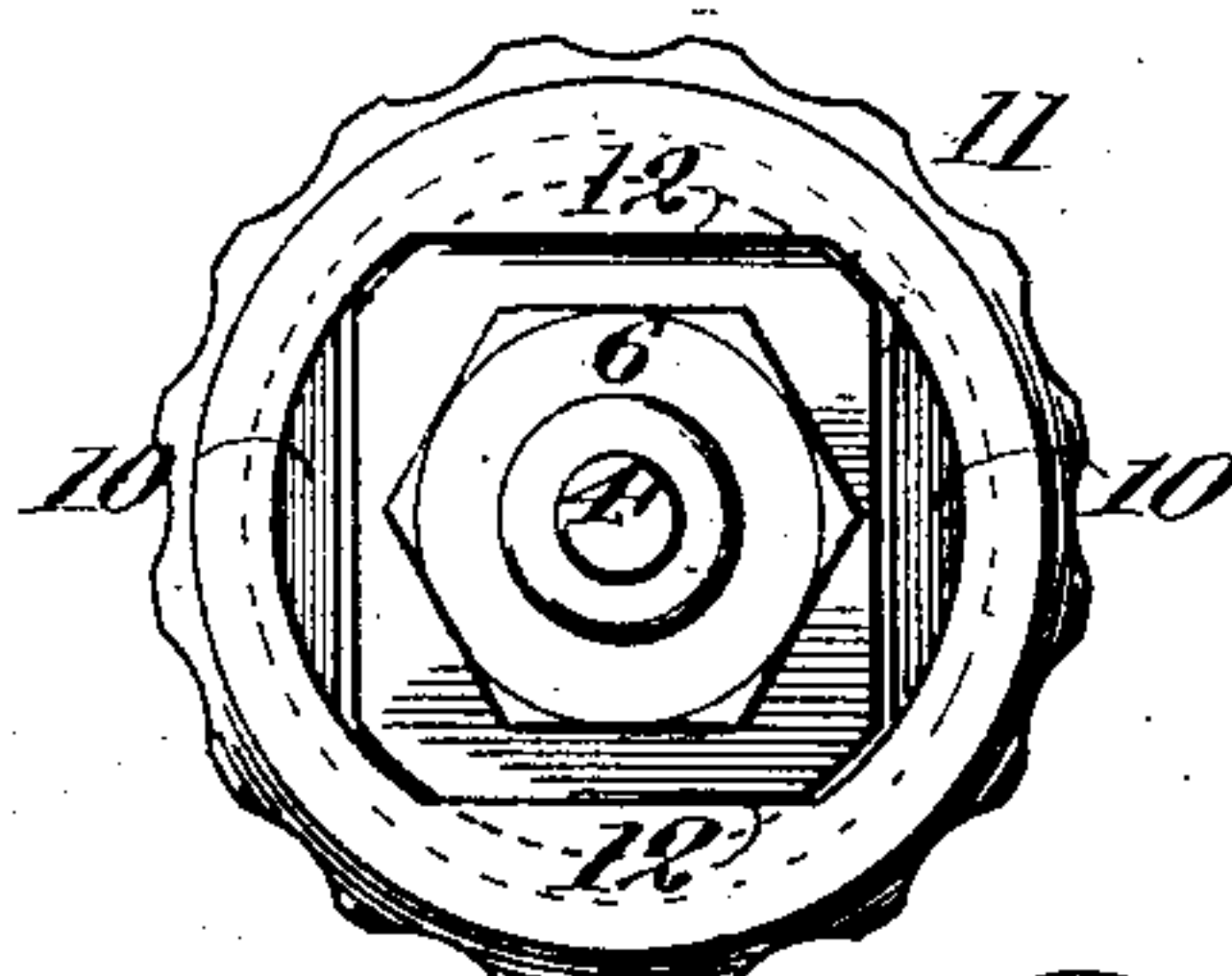


Fig. 7.

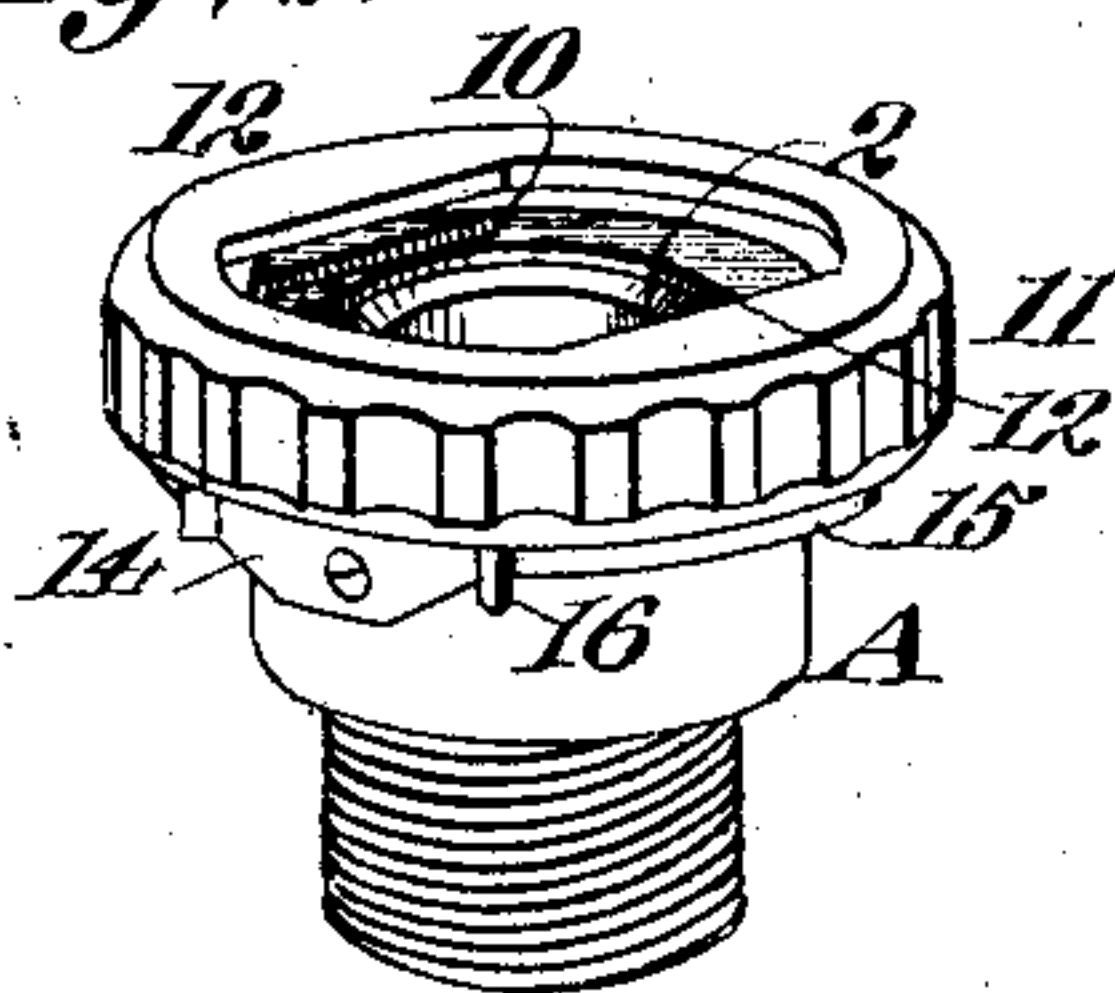


Fig. 8.

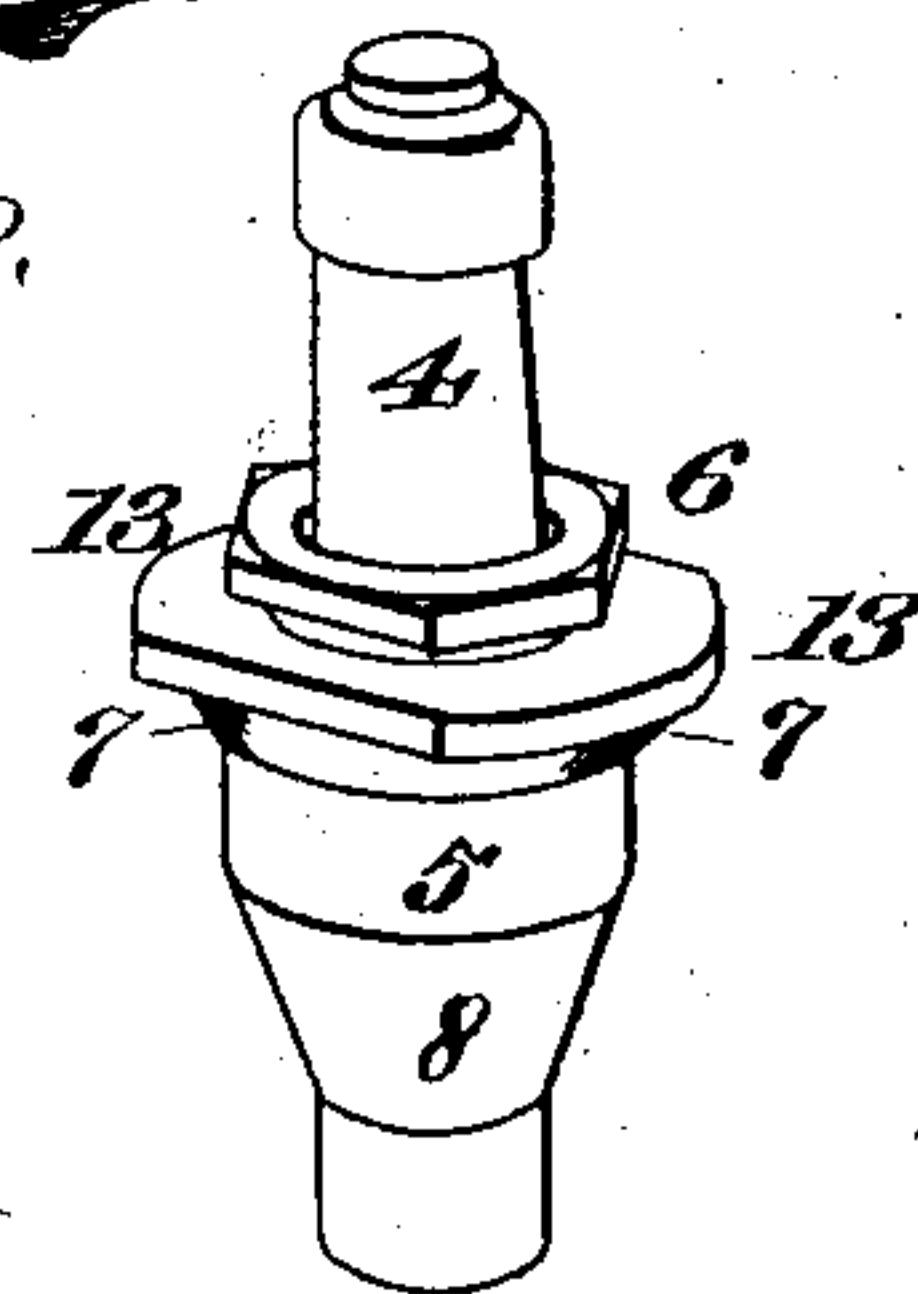
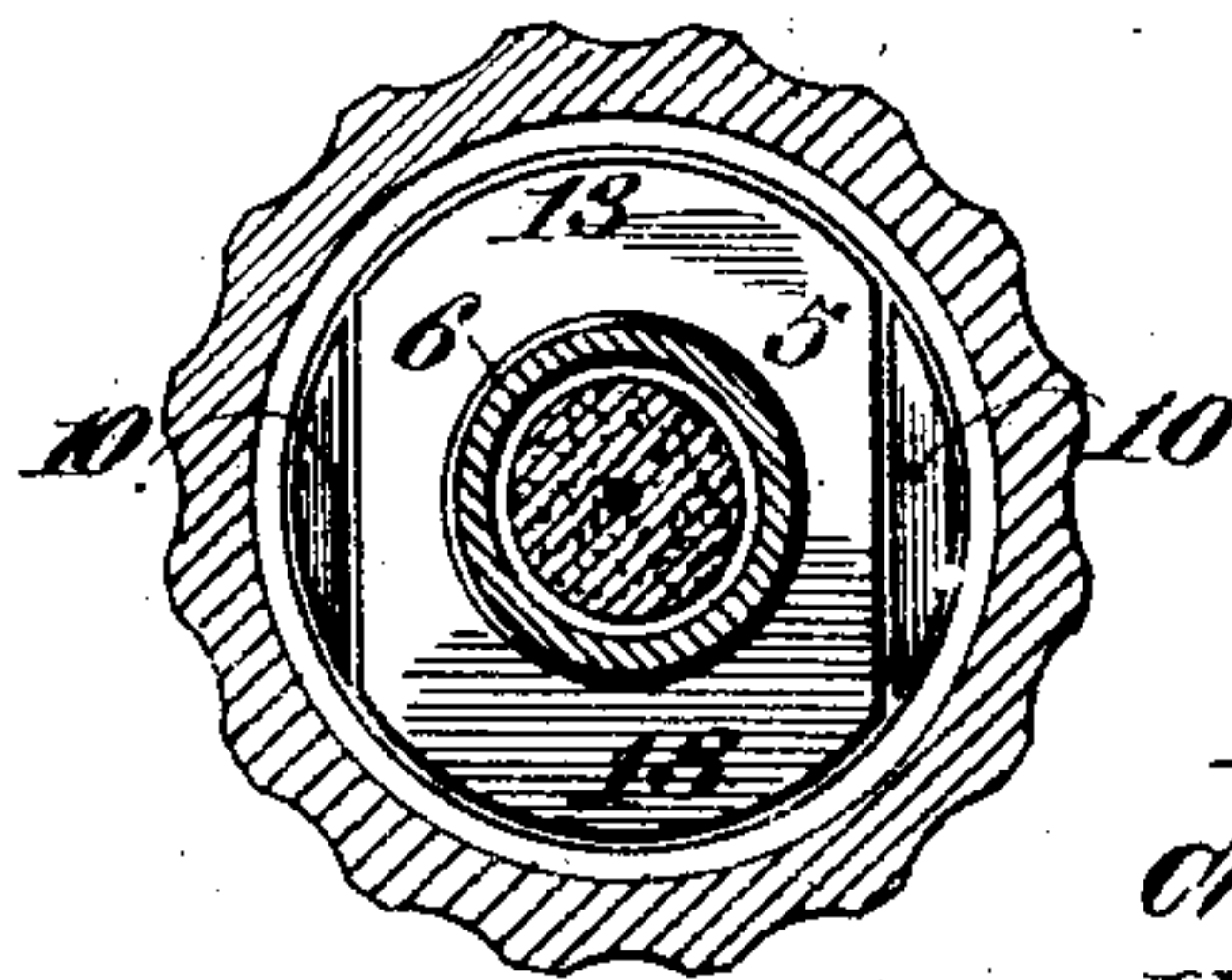


Fig. 5.



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UNITED STATES PATENT OFFICE.

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SPARK-PLUG HOLDER.

960,091.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed December 21, 1909. Serial No. 534,360.

To all whom it may concern:

Be it known that we, CHARLES MORTON HOLDEN and HENRY GLOWACKI HENDERSHOT, citizens of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Spark-Plug Holders, of which the following is a specification.

Our invention relates to a device for detachably holding spark plugs with relation to the chamber in which ignition is to take place.

It consists in the combination of parts and in details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a vertical transverse section on line *a—*a** of Fig. 1. Fig. 3 is a plan view unlocked. Fig. 4 is a plan view locked. Fig. 5 is a horizontal section on line *b—*b** Fig. 1. Fig. 6 is a bottom view of limiting collar. Fig. 7 is a detail perspective view of clamp nut and socket-piece. Fig. 8 is a perspective view of socket-piece.

The object of our invention is to provide a means for quickly and hermetically securing spark plugs in position so that they may be readily removed and replaced without loss of time.

As shown in the drawing, A is a tubular socket-piece having in the interior, seats 2 and 3.

The spark plug consists substantially of a porcelain non-conductor 4 fitted into a socket-piece 5, and locked in place by a hollow nut 6. The socket-piece 5 has two conical shoulders 7 and 8, the shoulder 8 fitting into the conical interior of the part A, and the shoulder 7 fitting into a seat formed by the cone 2, into which the cone 7 is ground so as to form a gas-tight joint, and the two serve to guide and hold the plug in the proper straight position.

The part A has its inner end screw-threaded to fit the corresponding screw-threaded opening in the gas chamber where the ignition is to take place. Upon the opposite end of the part A is an enlarged screw-threaded flange 9 having opposed upwardly projecting lugs 10 upon opposite sides.

11 is a collar screw-threaded to fit the

threads of the flange 9 and is adapted to screw down over the outside of this flange. This collar has two opposite sides of the interior opening made circular and concentric with the center of the device, and these two segments are connected by straight chords 12. These chords 12 are so formed as to register and stand in line with the lugs 10 formed on the top of the flange 9.

The upper part of the member 5, in which the plug 4 is secured, has a flange 13, two opposite sides of which are curved to coincide with and fit into the segmental arcs of the part 11, while the intermediate sides are flattened so as to fit between the flattened chords 12 which unite the segmental arcs of the part 11. When it is desired to introduce the spark plug, the chords or straight portions 12 are brought into position to register with the corresponding lugs 10 on the flange 9 of the part A, and the plug carrier or holder 5 may then be introduced by bringing the straight sides of its flange into alinement with the straight sides previously named. In this position, the curved projecting parts of the flange 13 will be below the level of the straight portions 12 of the collar 11, and when the latter is turned, these straight portions will pass across the curved portions 13 of the holder 5, and as the part 11 has been screw-threaded it will move downwardly upon the corresponding threaded flange of the part A, and will thus clamp the portion 12 upon the curved segmental portions 13 of the holder 5, and will thus lock it and the plug carried by it, firmly to the part A.

14 is a collar fitting upon the outside of the part A beneath the part 11, and this collar has a flange 15, the edge of which is cut away for a certain distance having shoulders at each end of this cut-away portion which are adapted to be engaged by a pin 16 which limits the distance to which the collar 11 can be turned; one of these shoulders causing the chords 10 and 12 to register when the device is opened for the admission of the plug, and the other forming a stop to limit the amount of turning to lock the parts together. The device is thus rendered easy of application or removal, and insures a gas-tight joint when in use.

Having thus described our invention,

what we claim and desire to secure by Letters Patent is—

1. A spark plug holder consisting of a tubular socket screw-threaded to be fixed in the ignition chamber and having a screw-threaded flange at the top, with upwardly projecting lugs, an interiorly screw-threaded collar turnable upon said flange, the interior of which is in the form of opposed segments, and straight sides uniting said segments and capable of registering with the lugs of the flange, and a spark plug fitting between the lugs of the socket flange, and lockable by turning the collar.

2. A tubular socket piece adapted to be fixed in the ignition chamber, a screw threaded collar on the socket piece, having a top opening with flattened opposite walls, and a spark plug fashioned to conform substantially to the interior of the socket piece and having a flange at the top with flattened opposite edges adapted to register with the like walls of the opening in the collar, said plug being locked in place by screwing

down the collar to bring the flattened walls thereof crosswise of the like walls of the plug.

3. The combination in a spark plug holder, of a tubular socket adapted to be secured in a combustion chamber, and having interior seats, a plug having surfaces to fit and form a joint with said seats, and a flange around the top with flattened opposite edges, a screw-threaded flange upon the socket, with upwardly projecting segmental lugs upon opposite sides, a screw-threaded collar turnable upon the socket flange, and adapted to engage and lock the plug.

In testimony whereof we have hereto set our hands in the presence of two subscribing witnesses.

CHARLES MORTON HOLDEN.

HENRY GLOWACKI REEDERSHOT.

Witnesses:

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J. H. BALTHIS.