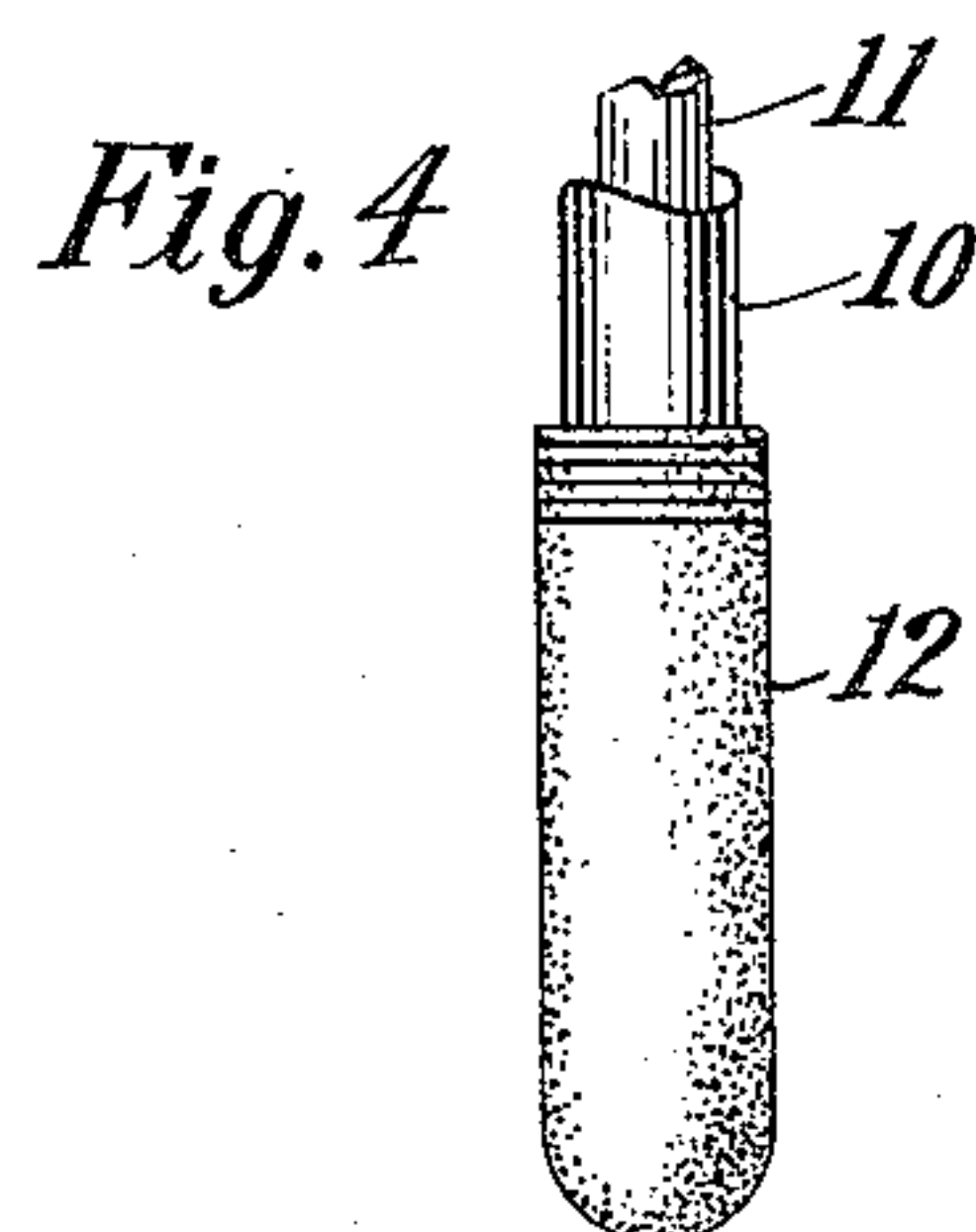
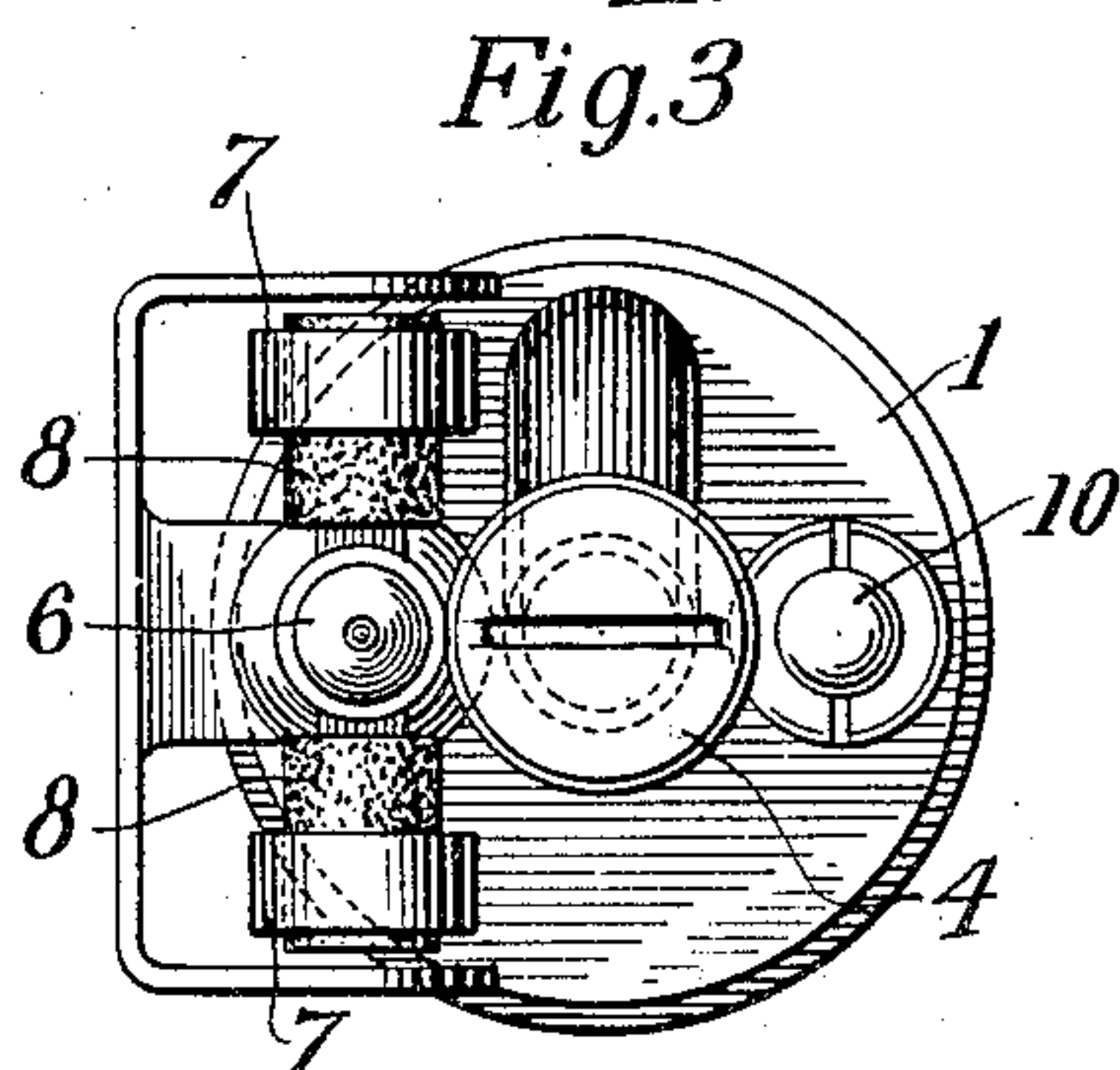
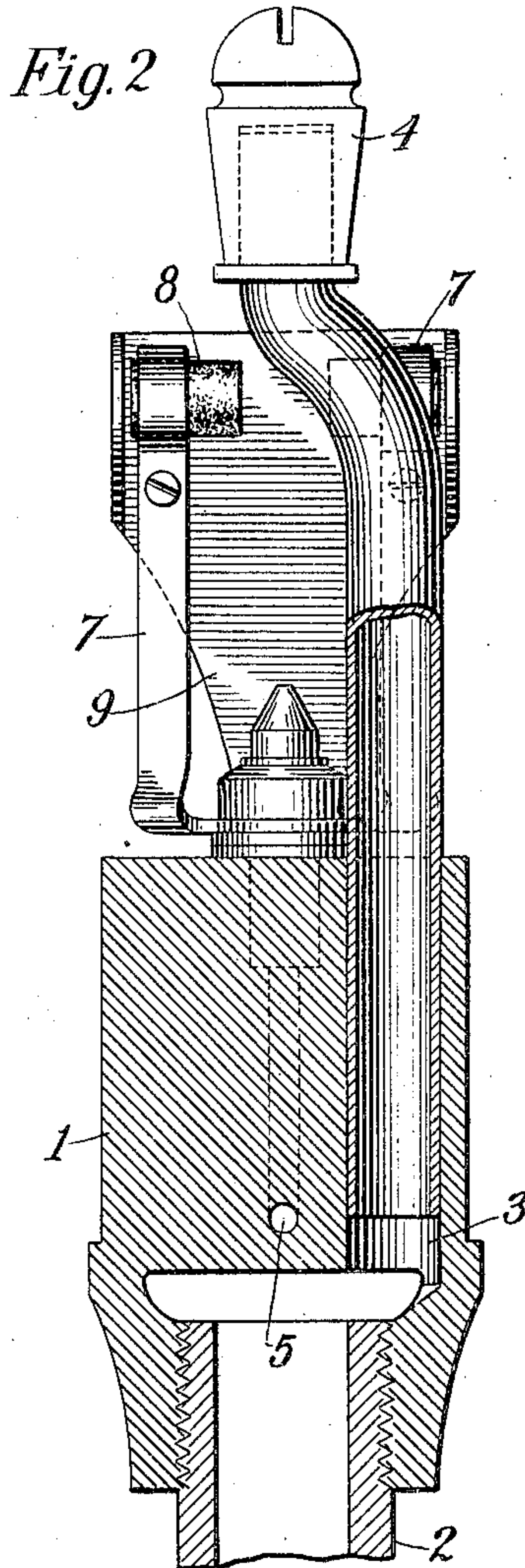
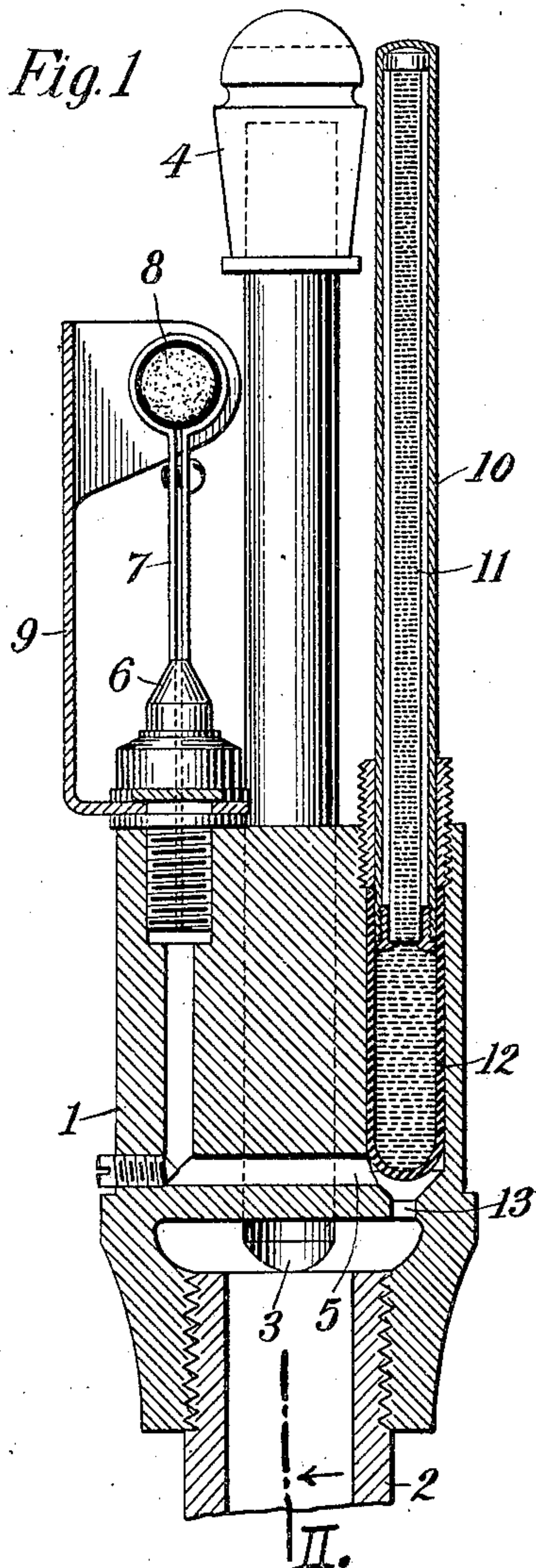


No. 770,267.

PATENTED SEPT. 20, 1904.

F. M. D'ARSI.
AUTOMATIC GAS LIGHTER.
APPLICATION FILED APR. 4, 1904.

NO MODEL.



Witnesses:
Raphael Vetter
L. L. Dunham

Fortunato Marciano D'Arسي, Inventor

by Kerr, Page & Cooper Attys.

UNITED STATES PATENT OFFICE.

FORTUNATO MARCIANO D'ARSI, OF NEW YORK, N. Y.

AUTOMATIC GAS-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 770,267, dated September 20, 1904.

Application filed April 4, 1904. Serial No. 201,473. (No model.)

To all whom it may concern:

Be it known that I, FORTUNATO MARCIANO D'ARSI, a subject of the King of Italy, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Automatic Gas-Lighters, of which the following is a specification, reference being had to the drawings accompanying and forming part of the same.

My invention relates in general to that type of "self-lighting" burners in which a pilot-flame ignites the gas issuing from the main burner, but more particularly to means for extinguishing the pilot-flame after the main burner has been lighted. A common way of effecting this is by means of a specially-constructed valve which admits gas to the main burner and upon further movement cuts off the pilot supply. In my burner the pilot is lighted prior to the main burner by a catalytic suitably arranged in the path of the gas issuing from the pilot-burner. The means which I provide for extinguishing the pilot-flame consists of a thermostatic device arranged adjacent to the main burner, so as to be heated therefrom. The consequent expansion of the thermostat operates to close the passage leading from the gas-supply pipe to the pilot-burner, thereby cutting off the gas from the latter.

The invention itself, which consists of the novel features, combinations of elements, and arrangements of parts hereinafter described, and more particularly set forth in the claims, is typically embodied in the structure illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view showing the arrangement of the operative elements. Fig. 2 is a section at right angles to Fig. 1 on the line II, looking in the direction of the arrow. Fig. 3 is a plan view of the device, and Fig. 4 a detail of the device employed for closing the pilot-passage.

The parts are mounted on a suitable base 1, which may be connected with a gas-supply pipe 2. A passage 3 communicates with any suitable main burner, as the bat-wing type 4. A pilot-passage 5 communicates with a pilot-burner 6, so that if the pilot be lighted its

flame will ignite the gas issuing from the main burner. In the present embodiment as means for igniting the pilot I provide a carrier having a pair of arms 7, each supporting a mass of catalytic material, as 8, sufficiently in the path of the gas from the pilot-burner to ignite the same in the well-known way. A shield 9 may be provided to protect the catalytic masses, if desired.

At a convenient position on the base, preferably on the side opposite the pilot, is a tube 10, closed at its top and containing another tube 11, the former serving to protect the latter from oxidation. At its lower end the inner tube communicates with a bag or pouch 12, of flexible material, as soft rubber, arranged in an opening in the base adjacent to and in communication with the pilot-passage 5. The two contain an expansible fluid, such as mercury.

From the foregoing the operation of the device will be easily understood. Upon admitting gas to the pipe 2 it will issue from the pilot-burner and be ignited by the catalytic masses 8 8. The pilot-flame reaches up to the main burner and ignites the gas issuing therefrom. The latter immediately heats the tubes 10 and 11, expanding the fluid in the latter, thereby causing the flexible bag 12 to be expanded into the pilot-passage 5, closing the inlet 13 thereof. The gas being thus cut off from the pilot-burner the pilot-flame is extinguished, but leaving the main burner in operation. So long as the main flame is burning the extinguishing-tubes 10 11 will be kept heated and the pilot-passage closed; but upon cutting off the gas from the main burner the tubes will cool, causing the expanded fluid to contract, thereby opening the pilot-passage and restoring the device to its first condition.

The embodiment described above I consider the most convenient, but the same may be varied without departing from the proper scope of my invention.

What I claim is—

1. The combination with a base; a main burner; a gas-supply pipe in communication with the main burner; and a pilot-burner, said base having a passage connecting the gas-

supply pipe with the pilot-burner; of a tube mounted on the base and extending into proximity to the main burner; a flexible bag on one end of the tube, arranged in an opening
5 in the base communicating with the passage to the pilot-burner; and an expansible fluid in the tube and bag, whereby the heat of the main burner will cause the bag to expand and cut off the supply of gas to the pilot-burner,
10 as set forth.

2. The combination with a base; a main burner; a gas-supply pipe in communication with the main burner; and a pilot-burner, said base having a passage connecting the gas-
15 supply pipe with the pilot-burner; of a tube mounted on the base and extending into proximity to the main burner; a protecting-tube inclosing the first-mentioned tube; a flexible bag communicating with the inner tube, ar-
20 ranged in an opening in the base communicating with the passage to the pilot-burner; and an expansible fluid in the tube and bag, whereby the heat of the main burner will

cause the bag to expand and cut off the supply of gas to the pilot-burner, as set forth. 25

3. The combination with a base; a main burner; a gas-supply pipe in communication with the main burner; a pilot-burner, said base having a passage connecting the gas-supply pipe with the pilot-burner; and a mass of
30 catalytic material arranged in the path of the gas issuing from the pilot-burner; of a tube mounted on the base and extending into proximity to the main burner; a flexible bag on one end of the tube, arranged in an opening
35 in the base communicating with the passage to the pilot-burner; and an expansible fluid in the tube and bag, whereby the heat of the main burner will cause the bag to expand and cut off the supply of gas to the pilot-burner, 40
as set forth.

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Witnesses:

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S. S. DUNHAM.