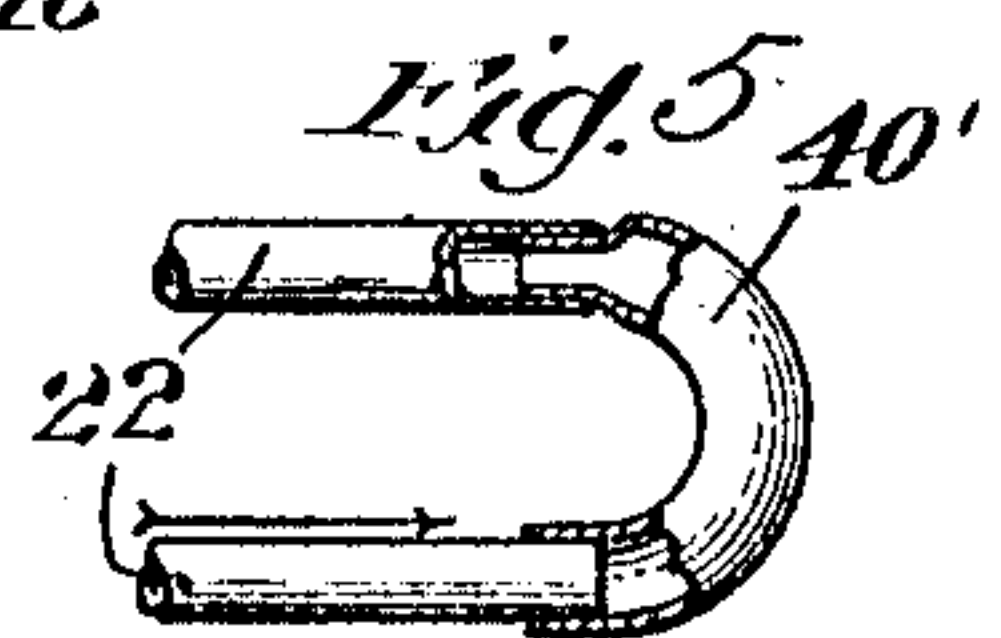
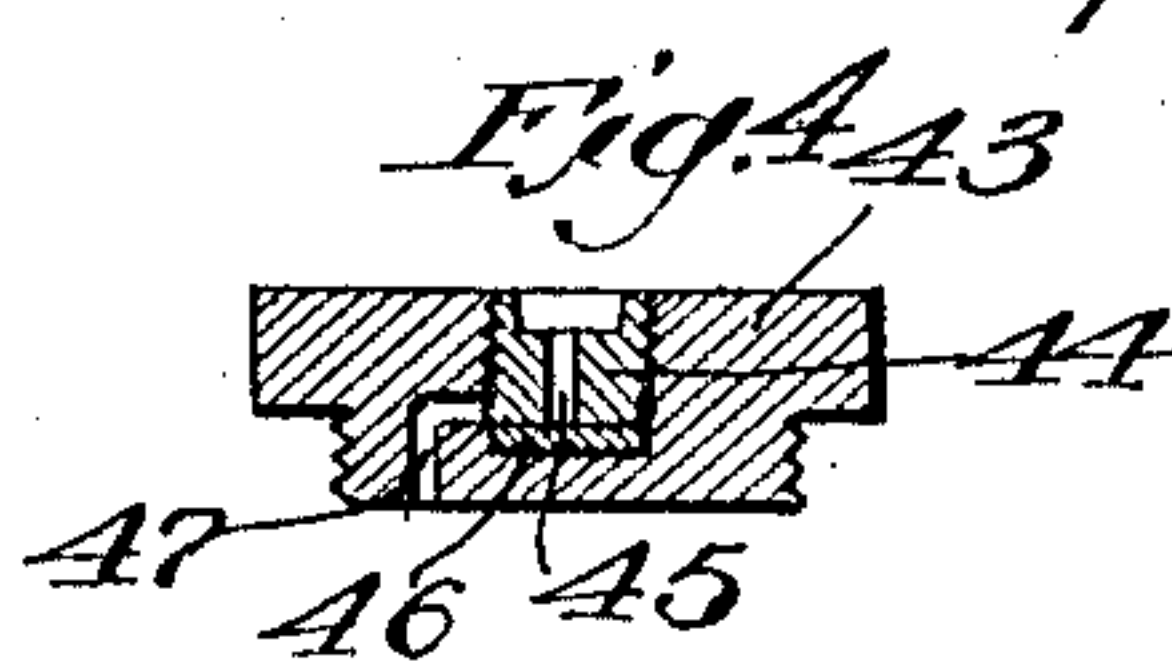
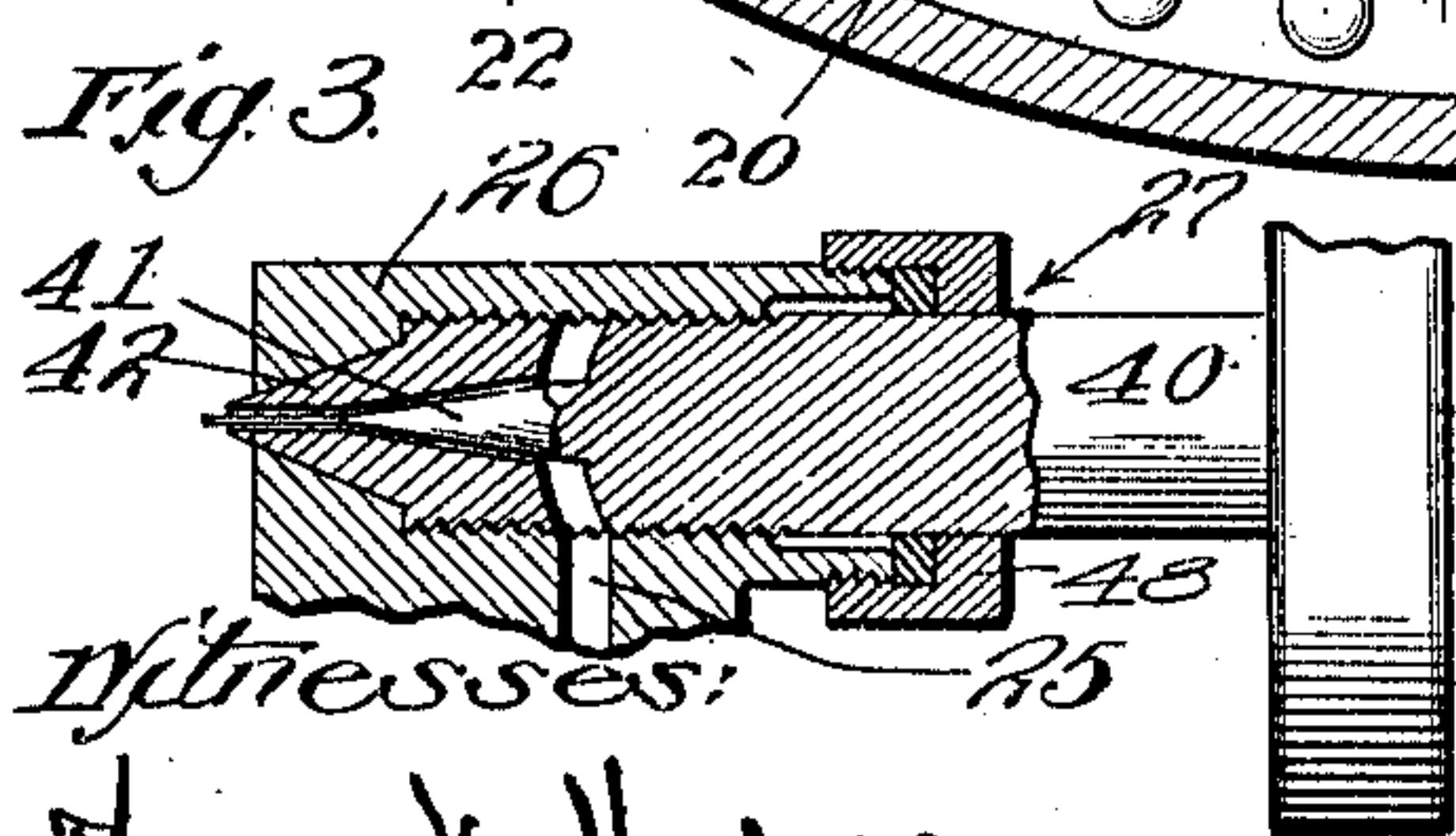
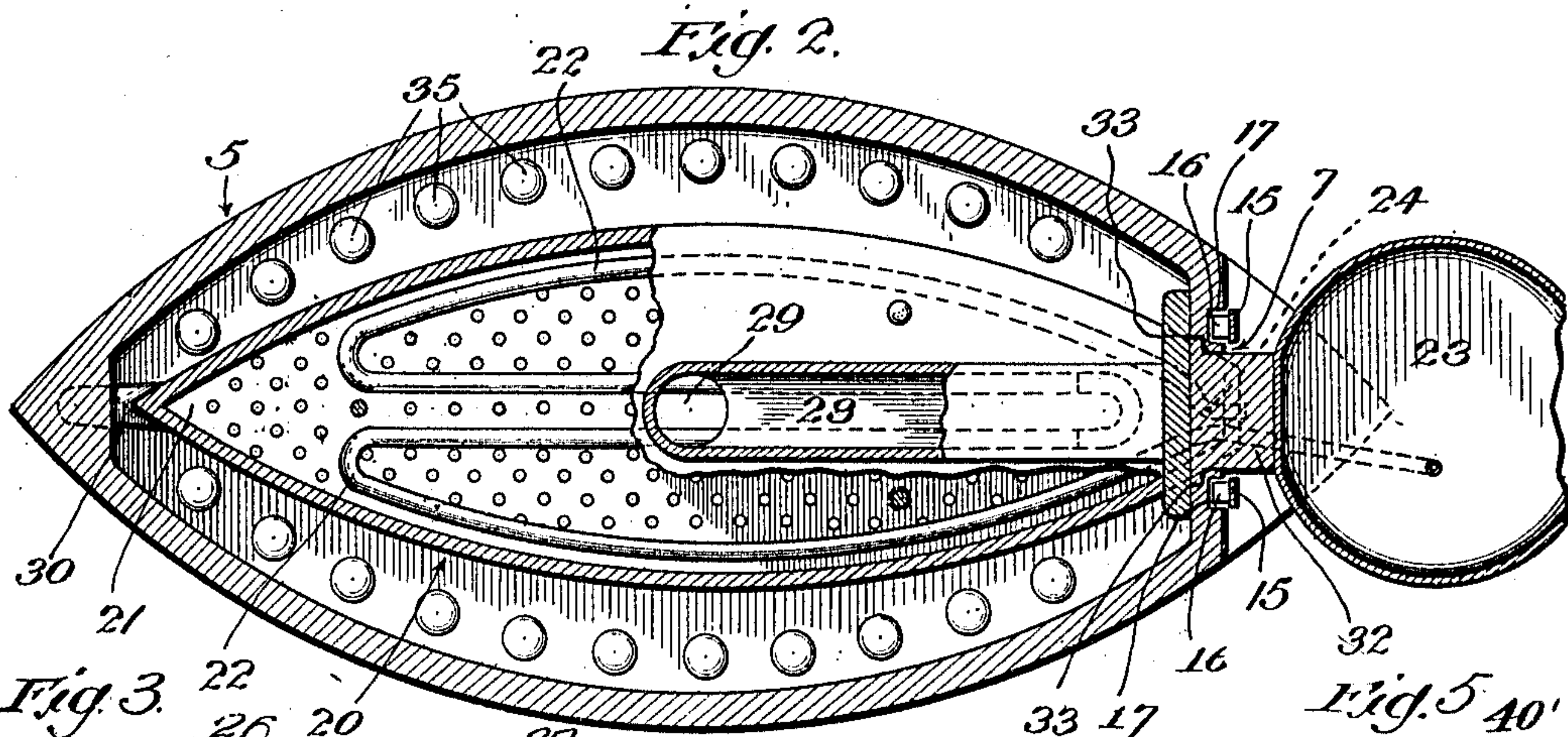
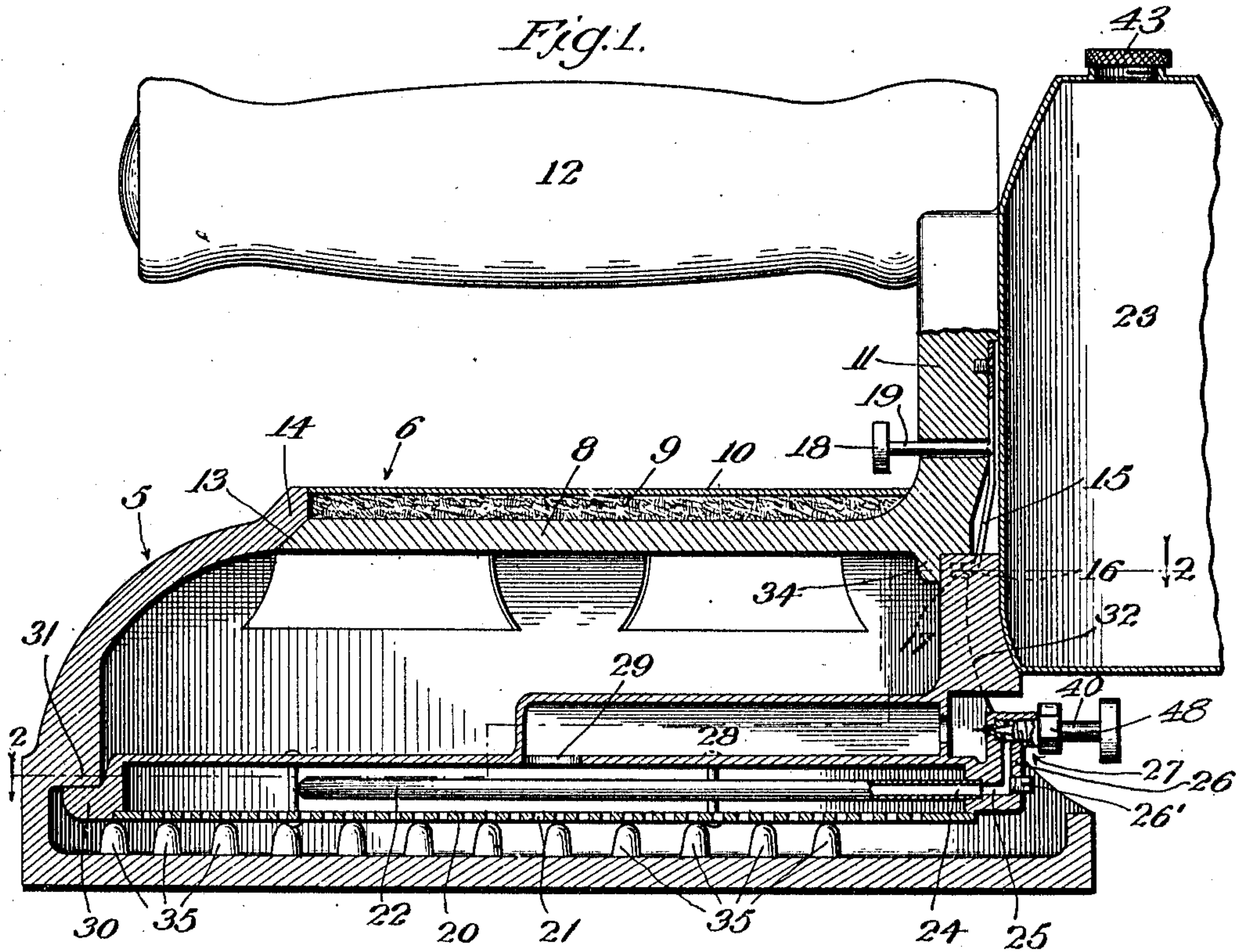


E. R. SMITH.
LAUNDRY IRON.
APPLICATION FILED DEC. 2, 1908.

969,991.

Patented Sept. 13, 1910.



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LAUNDRY-IRON.

969,991.

Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed December 2, 1908. Serial No. 465,639.

To all whom it may concern:

Be it known that I, EARLE R. SMITH, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Laundry-Irons, of which the following is a specification.

The invention relates to a laundry iron which is adapted to the use of liquid fuel carried by the iron itself.

The invention consists mainly in the provision of an efficient form of burner and generator for the liquid fuel, and in the combination of these parts with the main body of the iron. In this regard it has been the object to so construct the parts that they may be easily taken apart and re-assembled to clean or start the iron.

In the construction of the burner proper it has been the object to provide a simple construction which is durable under the most adverse conditions. For this purpose the generating coils have been placed inside the mixing chamber of the burner where they are completely incased. The flame plays upon the under side of the mixing chamber and rises around it, thus keeping it hot for the vaporization of the liquid.

In the accompanying drawings:—Figure 1 is a longitudinal section of the iron. Fig. 2 is a sectional plan view taken on line 2—2 of Fig. 1. Fig. 3 is an enlarged sectional detail of the burner valve. Fig. 4 is an enlarged sectional detail of the reservoir valve. Fig. 5 is an enlarged detail view of the connecting means between the portions of the vaporizing pipe.

In the drawings 5 designates the body of the iron. In general it is boat shaped with an open top over which cover 6 is adapted to fit and has an aperture 7 in its rear end through which the burner projects. Top 6 is composed of a base 8 of metal having a heat insulating layer 9 of asbestos and a metal facing 10. At the rear end of the cover a vertical arm 11 supports a handle 12 composed of some non-conducting material to protect the hand of the user. The front end of the base of the cover is beveled as at 13 and the projection thus formed enters the overhanging part 14 of the upper front part of the body of the iron. At the rear end of the cover a catch 15 is secured to arm 11 and two projections 16 on its lower end are adapted to enter into apertures 17

on the rear end of the body. A button 18 on the stem 19 is placed so as to be operated by the finger or thumb of the operator to release the spring catch from engagement with the body of the iron so that the cover may be easily removed.

Located in the lower part of the interior of the iron body is a removable mixing chamber 20 which is flat and boat shaped similarly to the body. This mixing chamber is formed with a perforated bottom 21, the mixed vapors escaping through this bottom and burning below and around the chamber. This location of the flame keeps the mixing chamber hot at all times and warms the vapors preparatory to their combustion. The bottom of the body of the iron is provided with a number of upwardly projecting pins or lugs 35 through which the flame plays so that a large area is exposed to the flame for absorbing the heat and transmitting it to the iron body. These lugs being on the bottom it is seen that they transmit the heat directly to the lower surface of the iron where it is desired.

Coiled inside the mixing chamber is a vaporizing pipe 22 connected at one end to a liquid tank 23, the pipe and member 32 forming the support for the tank. After traversing the mixing chamber several times to provide ample opportunity for the vaporization of the liquid the pipe end 24 is connected to a duct 25 in member 26, the duct leading to needle valve 27 through which the vapors are discharged into the mixing tube 28. Mixing tube 28 leads over the mixing chamber and discharges into it at 29 in the center of its upper wall. On passing into the mixing chamber the vapors are distributed over the bottom plate and emerge through the perforations therein.

For the cleaning of the vaporizing system pipe 22 is made in two sections joined together by a fitting 40'. This fitting is constructed so that one of the pipe sections may fit into it and the other section over it, so that, with the vapor passing in the direction indicated by the arrow, there is no opportunity for its escape at the joints. At the end of the pipe, where it enters member 26, a plug 26' is provided so that the pipe may be cleaned by the removal of the plug.

The forward end of the mixing chamber is provided with an extension 30 fitting under a shoulder 31 on the body of the iron

and preventing the upward movement of the front end of the mixing chamber. The mixing chamber is prevented from moving rearwardly out of the body by the provision of a stop member 32 having shoulders 33 engaging with the sides of aperture 7. The cover is provided with a lug 34 bearing against the top of member 32 and also against the rear end of the body, the cover being thus prevented from moving rearwardly and disengaging itself from the body.

In Fig. 3 I have illustrated a form of valve which is especially useful in my iron. Valve stem 40 enters member 26 through stuffing box 48. A removable valve seat 42 is screwed into the member and is provided with the usual valve aperture which is closed by pin 41 on stem 40. The stem is in screw threaded engagement with the member so that its rotation operates the valve in the usual manner.

In Fig. 4 is illustrated the reservoir valve used for filling the reservoir with air under pressure above the liquid. Filling plug 43 on the top of the reservoir is provided with a small plug 44 having a bore 45 there-through. The top of the bore is enlarged for engagement by a hollow key of the general character used for the inflation of footballs and the plug is turned by the tight fitting of the key in this bore. Under the plug a washer 46 is provided to prevent leakage and a port 47 leads from the side of the plug bore to the bottom of plug 43 where it connects with the interior of the reservoir. By turning plug 44 up so that the air may pass from bore 45 to port 47 the reservoir may be charged.

Having described my invention, what I claim is:—

1. In a laundry iron, a body portion, a removable liquid fuel burner attached to the body portion, the burner comprising a flat mixing chamber having an opening for combustion on its lower side, a vaporizing coil for the liquid fuel laid flatly within the mixing chamber, and means for injecting the generated vapor with air into the mixing chamber.

2. In a laundry iron, a body portion, a removable liquid fuel burner attached to the body portion, the burner comprising a flat mixing chamber having combustion openings on its lower side, a vaporizing coil for the liquid fuel laid flatly within the mixing chamber, a liquid fuel reservoir connected to one end of the vaporizing coil, and means connected to the other end of the coil to inject the generated vapor into the mixing chamber.

3. A laundry iron, comprising a hollow body having a slotted rear end, an open top, and a recess in its forward end, a removable cover for the body, a removable liquid fuel

burner adapted to project into the body recess and through the slotted rear end, the burner comprising a flat mixing chamber having combustion openings on its lower side, a vaporizing coil for the liquid fuel laid flatly within the mixing chamber, a liquid fuel reservoir connected to one end of the vaporizing coil, and means connected to the other end of the coil to inject the generated vapor into the mixing chamber.

4. A laundry iron, comprising a hollow body having a slotted rear end, an open top, and a recess in the forward end, upwardly extending lugs on the bottom interior of the body, a removable cover for the body, a removable liquid fuel burner adapted to project into the body recess, rest on the lugs, and project through the slotted rear end, the burner comprising a flat mixing chamber having combustion openings on its lower side, a vaporizing coil for the liquid fuel laid flatly within the mixing chamber, a liquid fuel reservoir connected to one end of the vaporizing coil, and means connected to the other end of the coil to inject the generated vapor into the mixing chamber.

5. A laundry iron, comprising a hollow body having a slotted rear end, an open top, and a recess in its forward end, upwardly extending lugs on the bottom interior of the body, a removable liquid fuel burner adapted to project into the body recess, rest on the lugs, and project through the slotted rear end, the burner comprising a flat mixing chamber having combustion openings on its lower side, a vaporizing coil for the liquid fuel laid flatly within the mixing chamber, a liquid fuel reservoir connected to one end of the vaporizing coil, and means connected to the other end of the coil to inject the generated vapor into the mixing chamber, a removable cover for the body, the cover engaging with the burner to prevent its upward movement, and resilient catch means to hold the cover in place on the body.

6. A burner, comprising a flat mixing chamber having combustion openings on its lower side, a vaporizing pipe coil for liquid fuel laid flatly within the mixing chamber, a liquid fuel reservoir connected to one end of the coil, a mixing tube above the mixing chamber and connecting to the top center thereof at one end, and means connected to the other end of the coil to inject the generated vapor into the other end of the mixing tube.

In witness that I claim the foregoing I have hereunto subscribed my name this 25th day of November 1908.

EARLE R. SMITH.

Witnesses:

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MARY M. DILLON.