

No. 706,707.

Patented Aug. 12, 1902.

C. C. A. E. WIESE.

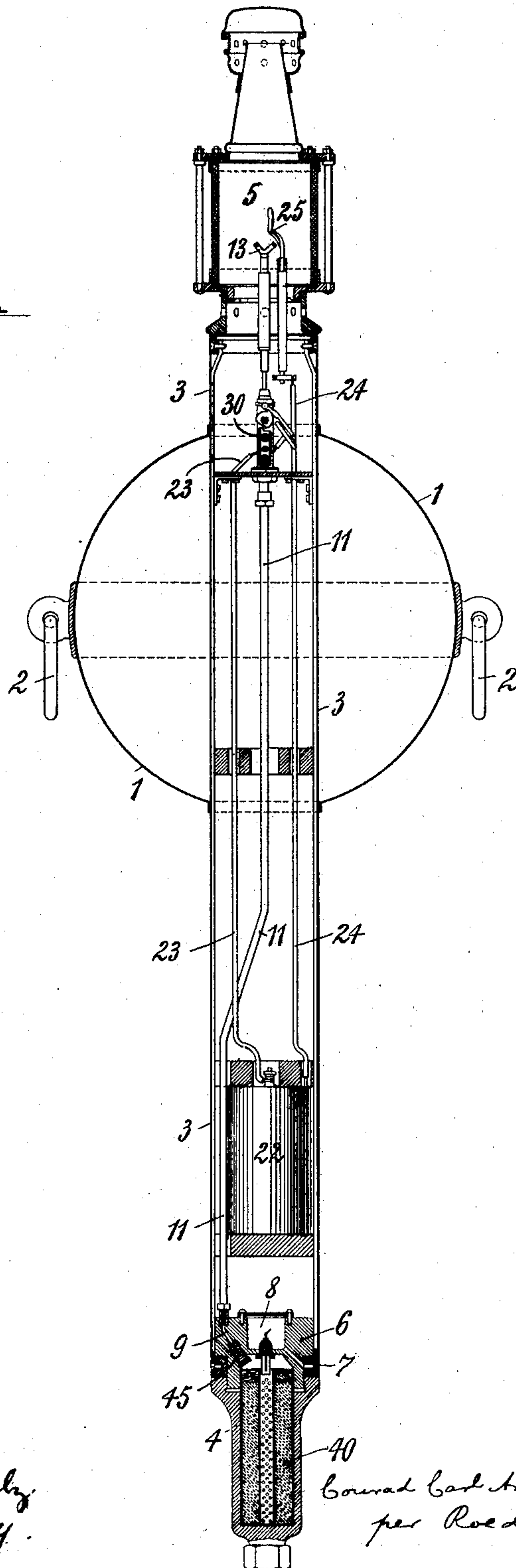
NIGHT LIFE BUOY.

(Application filed Nov. 29, 1901.)

(No Model.)

4 Sheets—Sheet 1.

Fig. 1.



Witnesses:
William Schulz
Edward Ray.

Inventor
Conrad Carl Arthur Eduard Wiese
per Roeder & Buerger
Attorneys

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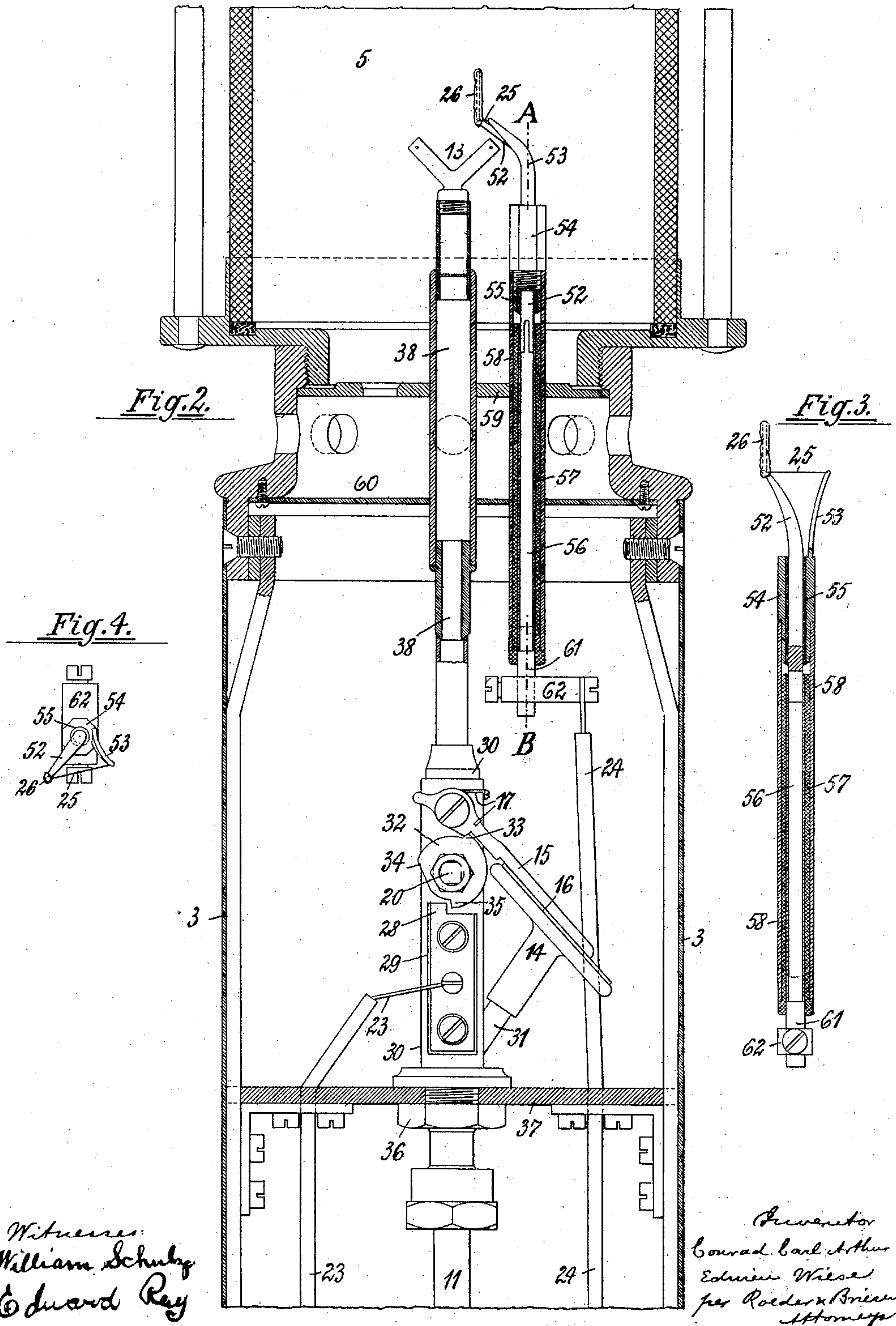
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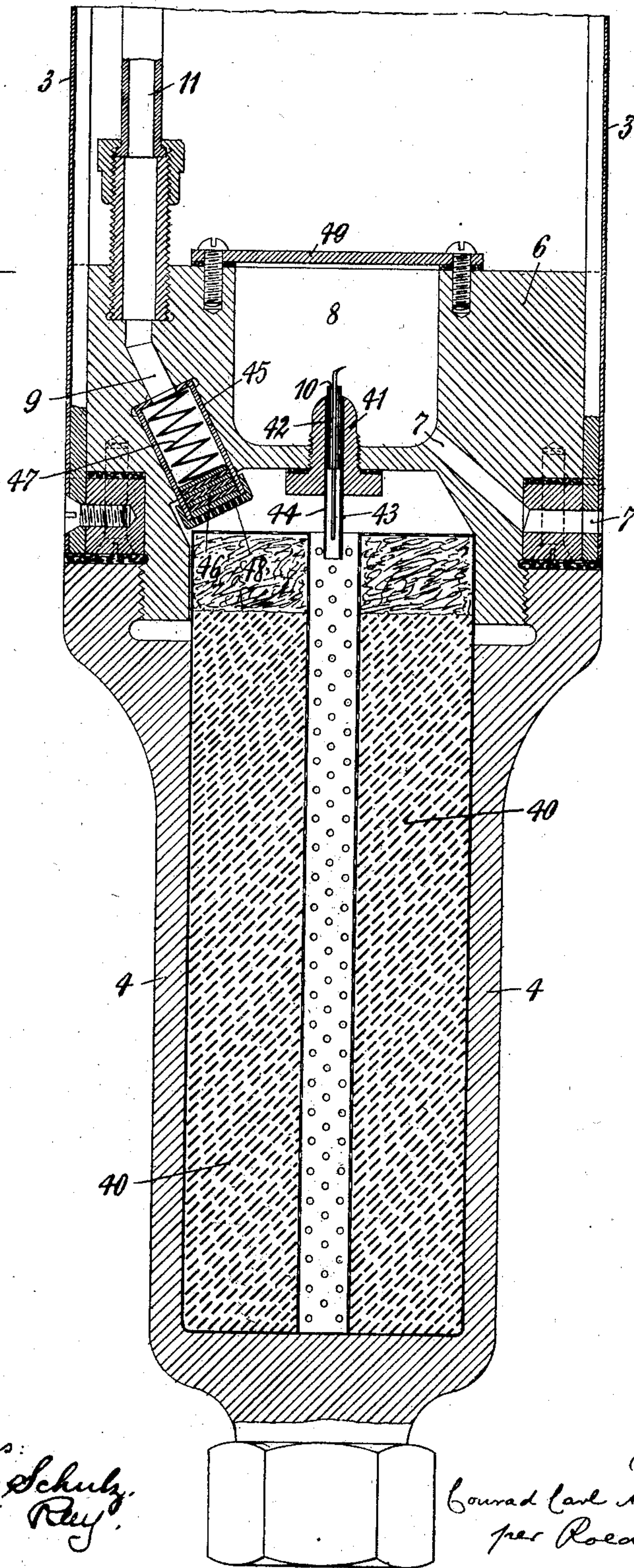
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Fig. 5.



Witnesses:
William Schulz.
Edward Ray.

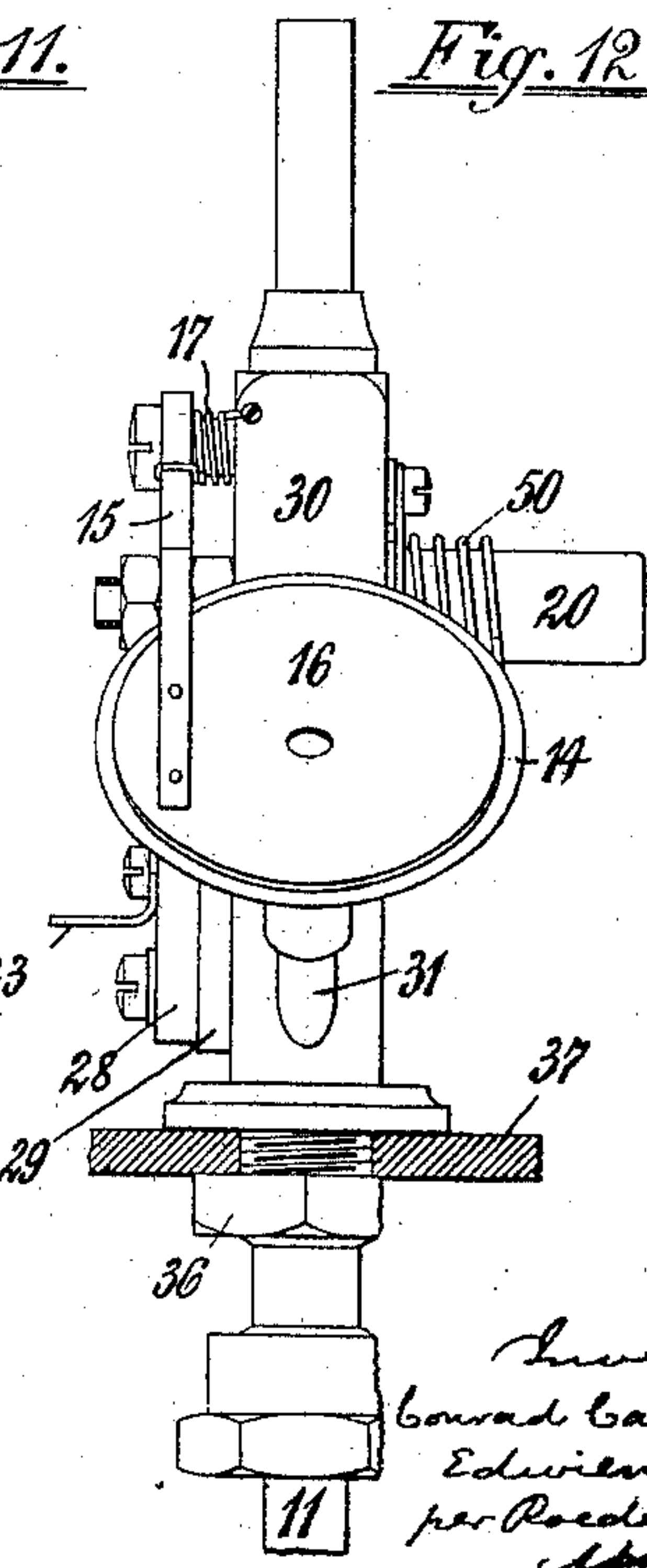
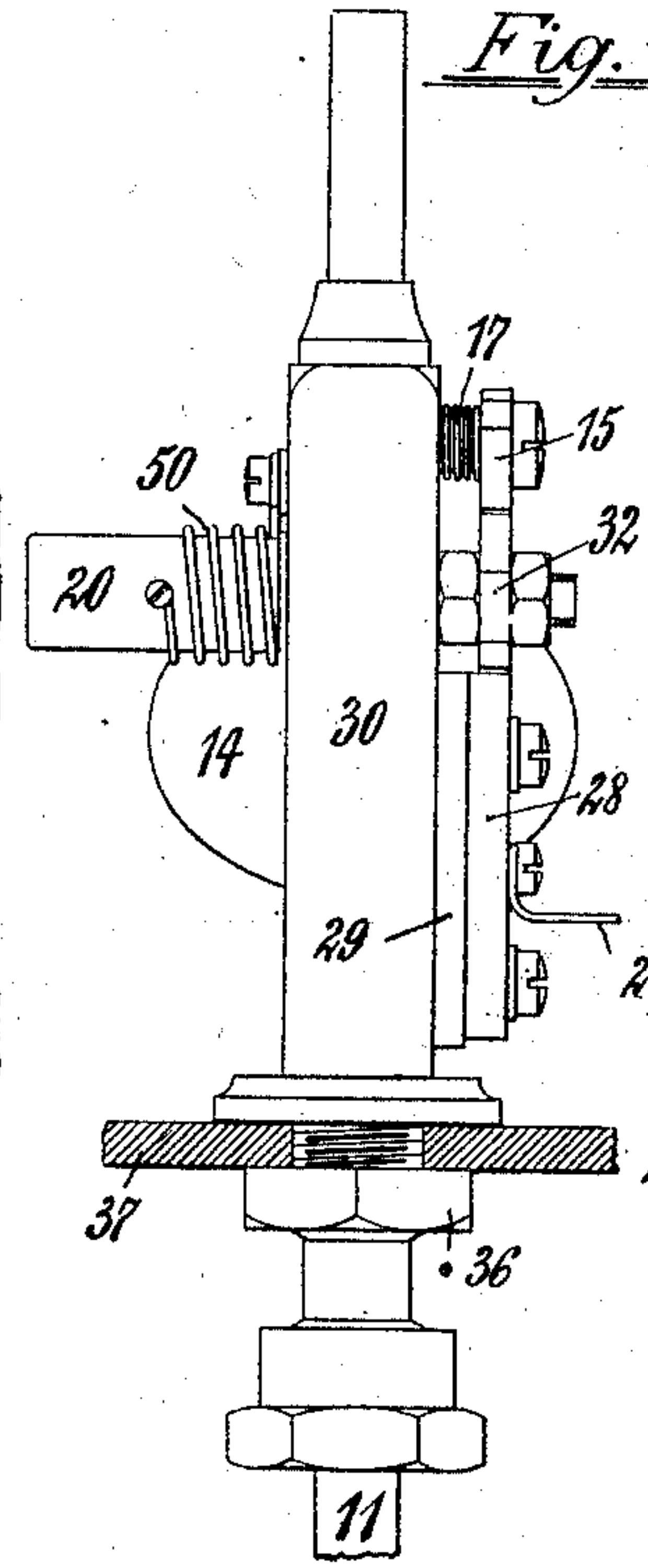
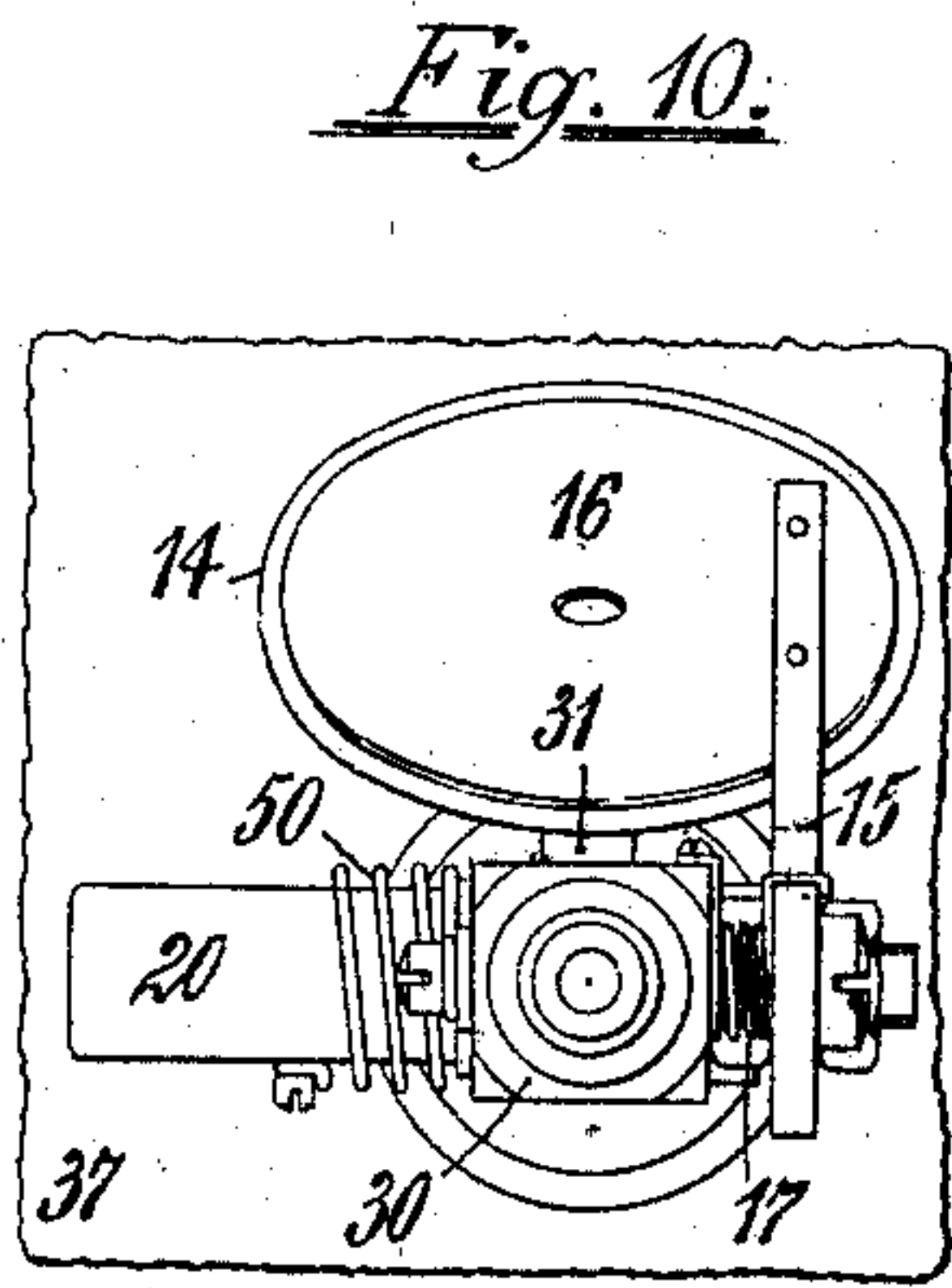
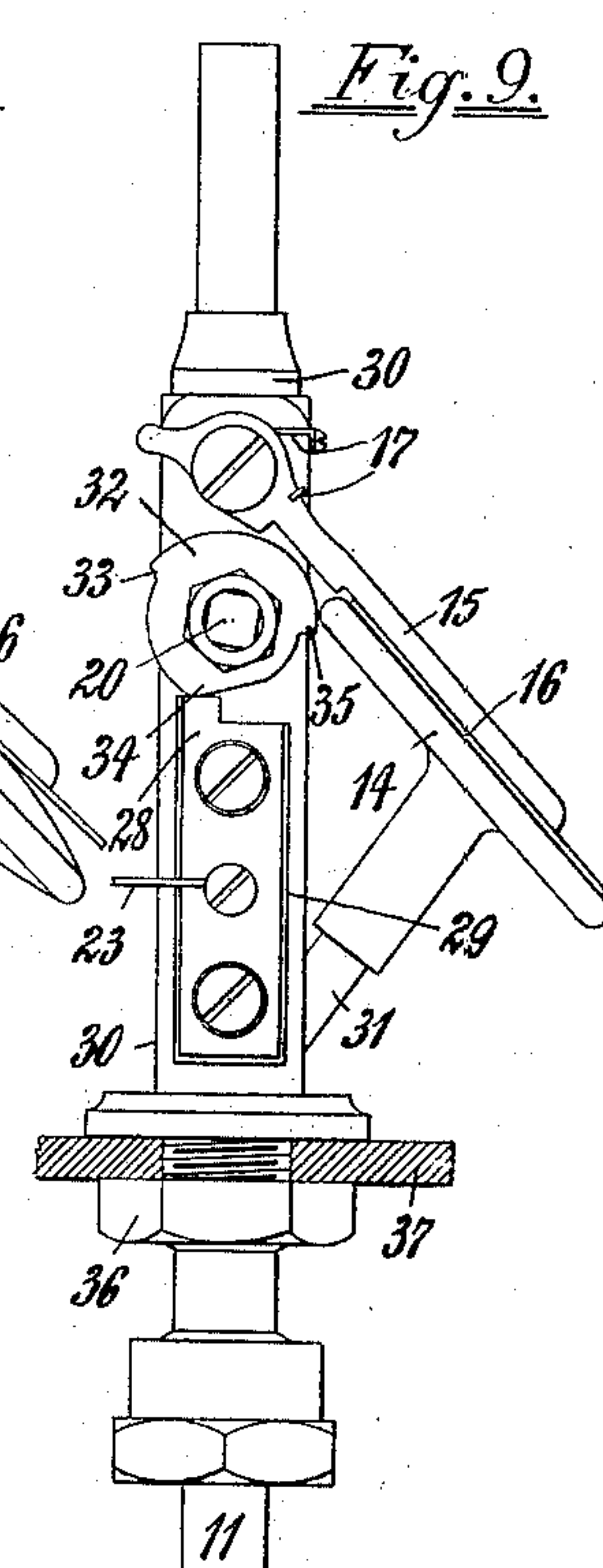
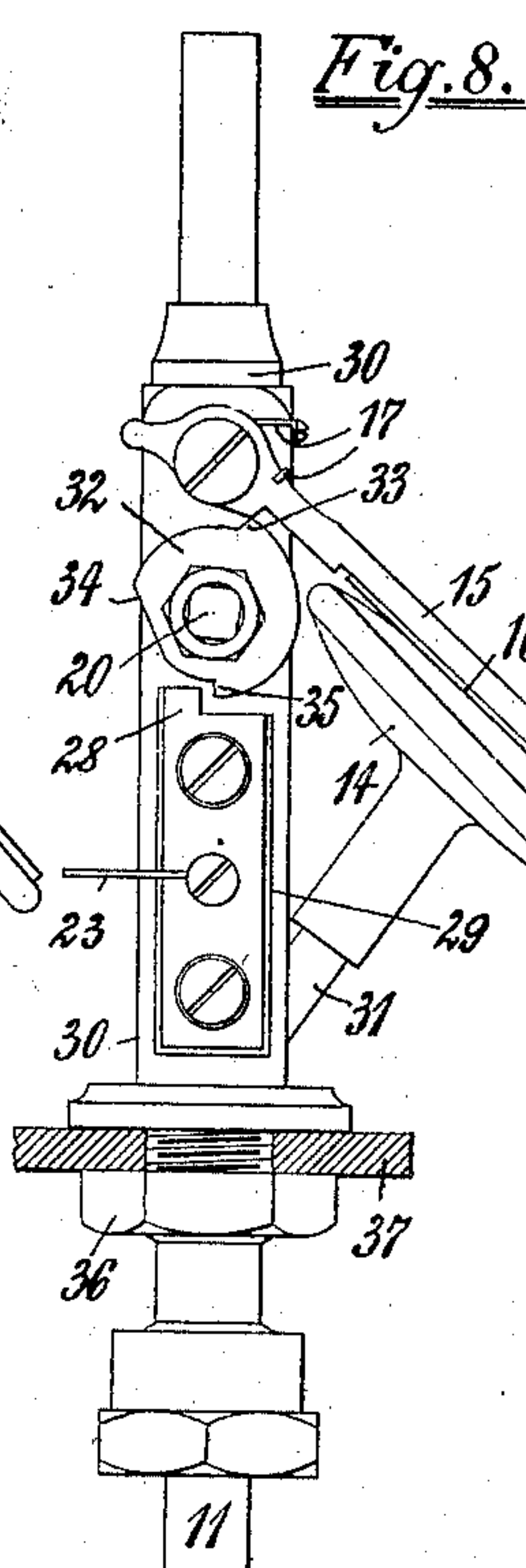
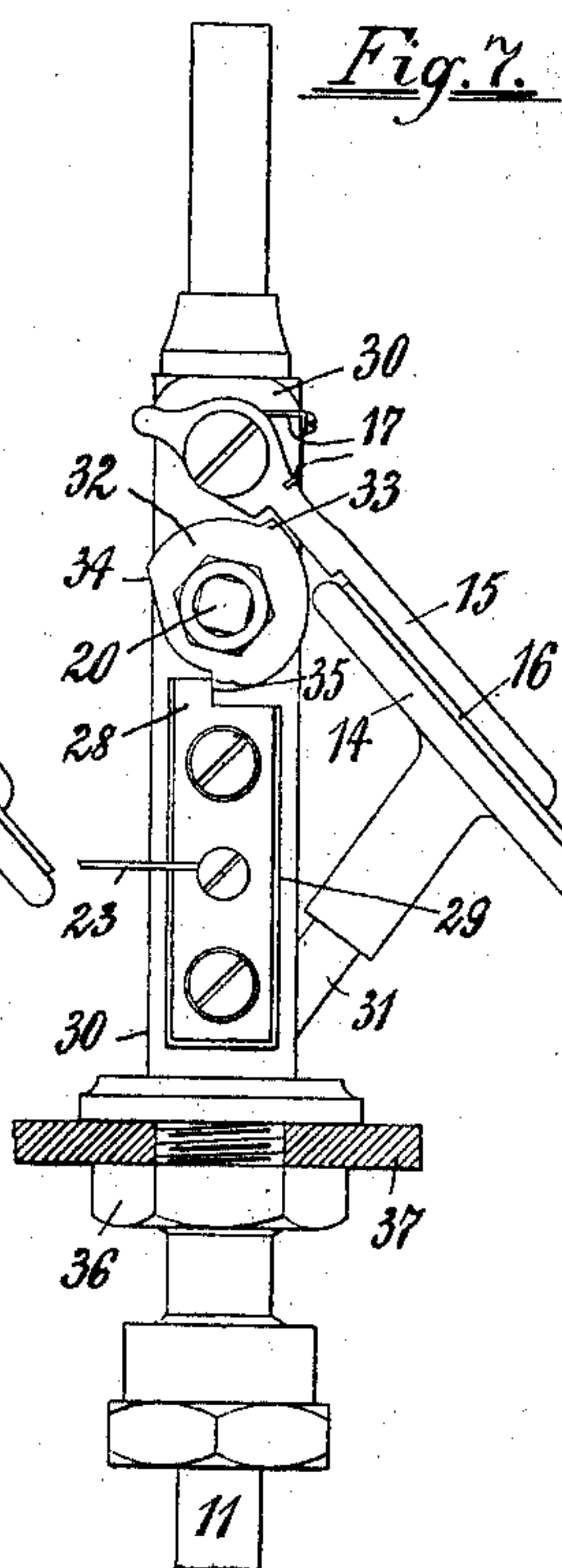
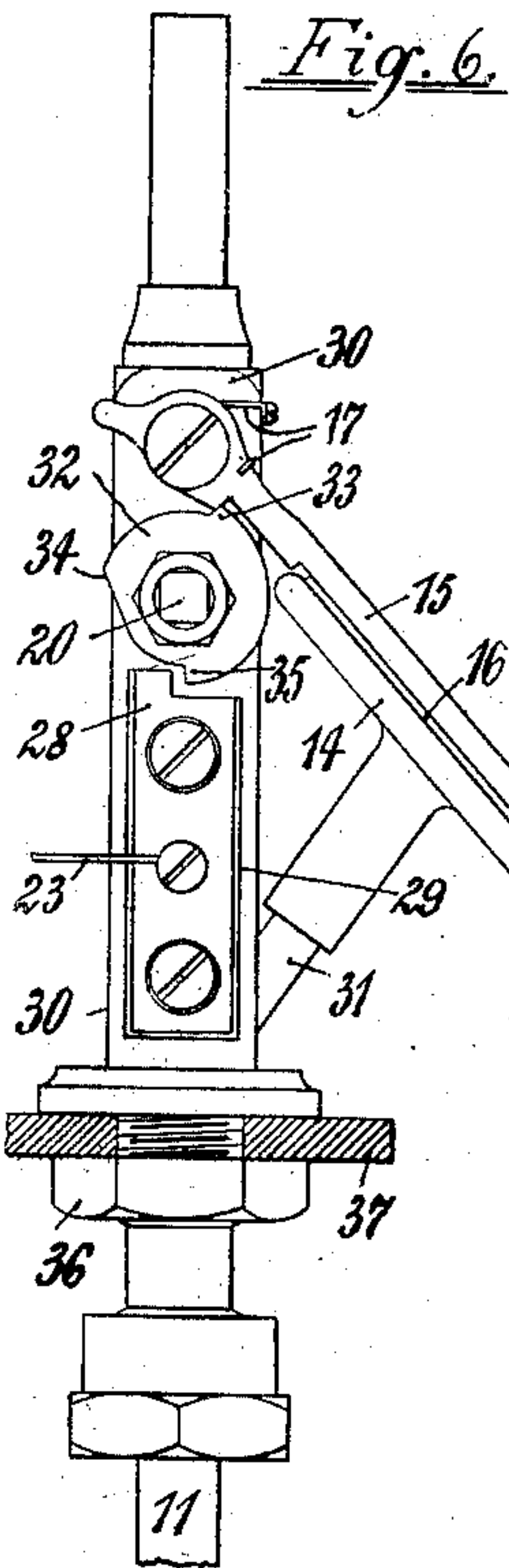
Inventor
Conrad Carl Arthur Eduard Wiese
per Roeder & Ziesen
Attorneys

C. C. A. E. WIESE.
NIGHT LIFE BUOY.

(Application filed Nov. 29, 1901.)

(No Model.)

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Witnesses:
William Schuch,
Edward Ray

Inventor:
Conrad Carl Arthur
Edwin Wiese
per Rodger & Brien
Attorneys

UNITED STATES PATENT OFFICE.

CONRAD CARL ARTHUR EDWIEN WIESE, OF HAMBURG, GERMANY.

NIGHT LIFE-BUOY.

SPECIFICATION forming part of Letters Patent No. 706,707, dated August 12, 1902.

Application filed November 29, 1901. Serial No. 84,017. (No model.)

To all whom it may concern:

Be it known that I, CONRAD CARL ARTHUR EDWIEN WIESE, a citizen of the German Empire, and a resident of Hamburg, Germany, have invented certain new and useful Improvements in Night Life-Buoys, of which the following is a specification.

This invention relates to an improved night life-buoy illuminated by acetylene gas.

In the accompanying drawings, Figure 1 represents in longitudinal section an example of a buoy constructed according to this invention. Fig. 2 is a vertical section through the upper part of the buoy, showing the gas-cock and the device for igniting the acetylene. Fig. 3 is a vertical section on line A B, Fig. 2. Fig. 4 is a plan view of the device shown in Fig. 3. Fig. 5 is a vertical section through the lowest part of the buoy, forming the gas-generator. Figs. 6 to 9 represent in similar views four positions of the gas-cock. Fig. 10 is a plan view of this cock, while Fig. 11 shows the same from the left side, and Fig. 12 the same from the right side.

The buoy comprises a float 1, (shown in the drawings by way of example as a sphere,) which is provided with suitable means, as rings 2, for attaching a larger ring or several small life-belts. Through the float 1 extends a pipe 3, which carries at its lower end a gas-generator 4 and at its upper end a lamp 5. The igniting device comprises (a) a source of electricity, such as a dry element or battery 22, placed in the lower portion of the pipe 3; (b) conducting-wires 23 and 24; (c) an igniter 25, which constitutes at the same time the contact-breaker.

The gas-generator consists of a lower section 4, that may be screwed off, and of an upper section 6, attached to the inner side of pipe 3. It is provided with one or more nozzles 7, a water-chamber 8, and a gas-passage 9. A fine tube 10, with a platinum needle 43 suspended therein, is arranged in the bottom of the water-chamber 8. Along the needle 43 the water is conducted from the chamber 8 through tube 10 to the foraminated pipe of the calcium-carbid case 40. Above the latter the generated acetylene gas is collected and escapes through channel 9 into a pipe 11.

The tube 10 is composed of a screw-nozzle

41, in which a small glass pipe 42 is arranged to prevent oxidation and clogging. The lower downwardly-projecting end of needle 43 is embraced and protected by a small pipe 44.

The passage-9 contains a sleeve 45, adapted to hold several porous disks 46, that are pressed against the perforated bottom of sleeve 45 by a spring 47. These disks are composed of flannel or similar material and serve to dry the acetylene gas. The water-chamber 8 is closed on top by a plate 49.

The calcium carbid is kept on board in closed boxes or cans and is introduced in this condition into the lower section 4 of the gas-generator, which is screwed off for this purpose. After the calcium carbid has been thus introduced the lower section 4 is again screwed to pipe 3, and thus the buoy is ready for use.

The pipe 11, leading to the burner 13, is connected with a tube 30, that is screwed into plate 37 and secured by nut 36. The tube 30 contains a gas-cock 20, which is normally held open by a spring 50. The cock 20 carries a small disk 32, having a nose 33 and contacts 34 and 35. The nose 33 is engaged by a projection of a lever 15, influenced by spring 17 and having a flattened section 16, that bears against an expansible rubber bulb 14. This bulb is connected by a pipe 31 with the tube 30 and will be expanded by the pressure of the gas when the cock 20 is closed. The expansion of the bulb will tilt the lever 15 to release nose 33 of disk 32, so that the cock 20 may be opened by spring 50. The contact 34 will at the same time connect with contact 28 to close the circuit of the electric igniter.

The igniting device comprises the dry element 22, conducting-wires 23 and 24, contact 28, and incandescent platinum wire 25. Contact 28 is attached to tube 30 by means of the insulating-plate 29. The platinum wire 25 is arranged between two arms 52 and 53. The arm 52 is connected to a nut 54, insulated from it by pipe 55. The lower end of arm 52 is attached to a metallic pipe 56, that is surrounded by an insulating-pipe 57. The latter is connected to a metallic pipe 58, having a metallic plate 59, which also carries the pipe 38. An insulating-plate 60 is arranged below plate 59. The arm 53 is attached to the nut 54, that is screwed into the metallic pipe 58,

while arm 52 is in metallic connection with pipe 56. The latter carries a bolt to which the clasp 62 is attached, which in turn is connected with wire 24. The arm 52 has a projection 26, that extends above the platinum wire 25. This projection, as well as the platinum wire, is covered with sulfur, which will be lighted by the electric current passing through the platinum wire and will burn until the air in pipe 11 is removed by the generated gas.

The operation is as follows: After the buoy has been thrown into the water the chamber 8 will fill with water, entering through openings 7. This water drops through tube 10 along the needle 43 into the perforated pipe of the calcium-carbid case 40, so that the acetylene gas will be generated. The gas rises through pipe 11, tube 30, pipe 31, and enters the rubber bulb 14, which will become inflated. In this way lever 15 will tilt, thus liberating nose 33 of disk 32, and cock 20 will be opened by spring 50, so that the gas will be conducted to the burner. At the same time nose 34 bears against contact 28 to close the electric circuit and render the wire 25 incandescent, so as to ignite the acetylene gas. The current passes from the dry element 22 through wire 23, contact 28, nose 34, pipe 38, plate 59, pipe 58, nut 54, arm 53, platinum wire 25, arm 52, pipe 56, screw 62, wire 24, back to the dry element. The thin platinum wire will be melted by the heat of the flame, and the circuit will thus be automatically interrupted to prevent the dry element from being destroyed.

In order to prepare the buoy for a new use, the calcium-carbid case is replaced and a new platinum wire is inserted. After having closed the cock 20 the buoy is again ready for use.

In order to test the electric device with a new platinum wire, the cock may be turned back by means of a screw-driver until nose 35 touches contact 28. In this way the circuit is closed and the glowing of the platinum wire is effected.

What I claim is—

1. A life-buoy composed of a float, a carbide-receptacle having a water-inlet, an expansible bulb communicating with the carbide-receptacle, a cock opened by the bulb and adapted to close an electric circuit, a burner, and a platinum igniting-wire in circuit which serves

to break the circuit after igniting the gas, substantially as specified.

2. A life-buoy composed of a float, a vertically-extending tube, a carbide-receptacle, a battery within the lower end of the tube, a circuit and contacts, a burner within the upper end of the tube, an expansible bulb communicating with the carbide-receptacle, a cock opened by the bulb and adapted to close said contacts and circuit, and a platinum igniting-wire in circuit, which is adapted to break the circuit after the ignition of the gas, substantially as specified.

3. A life-buoy composed of a float, a carbide-receptacle, an expansible bulb communicating therewith, a lever operated by the bulb, a cock actuated by the lever, a contact adapted to be engaged by the cock, a circuit closed by the contact, a burner, and a platinum igniting-wire in circuit, which is adapted to break the circuit after the ignition of the gas, substantially as specified.

4. A life-buoy composed of a float, a carbide-receptacle, a burner, a connecting-pipe, a spring-influenced cock in the pipe, a disk on the cock-spindle having a nose and a pair of contacts, a bulb communicating with the gas-receptacle, a lever influenced thereby and adapted to engage the disk, an electric circuit adapted to be closed by the disk contacts, and a platinum igniting-wire in circuit, substantially as specified.

5. In a life-buoy, the combination of a burner and a sulfur-coated platinum igniting-wire, a pair of arms adapted to carry the wire, a sulfur-coated projection on one of said arms, a pair of concentric metallic pipes connected with the arms, an insulating-pipe between the metallic pipes, a battery, two wires connecting the pipes with the battery, and a circuit adapted to glow the platinum wire and ignite the sulfur, substantially as specified.

6. In a life-buoy, the combination of a water-chamber, a tube inserted into the bottom of said chamber, a glass pipe within the said tube, a needle in the glass pipe, and a carbide-receptacle beneath the needle, substantially as specified.

Signed by me at Hamburg, Germany, this 16th day of November, 1901.

CONRAD CARL ARTHUR EDWIEN WIESE.

Witnesses:

F. JOTHS,

E. H. L. MUMMENHOFF.