

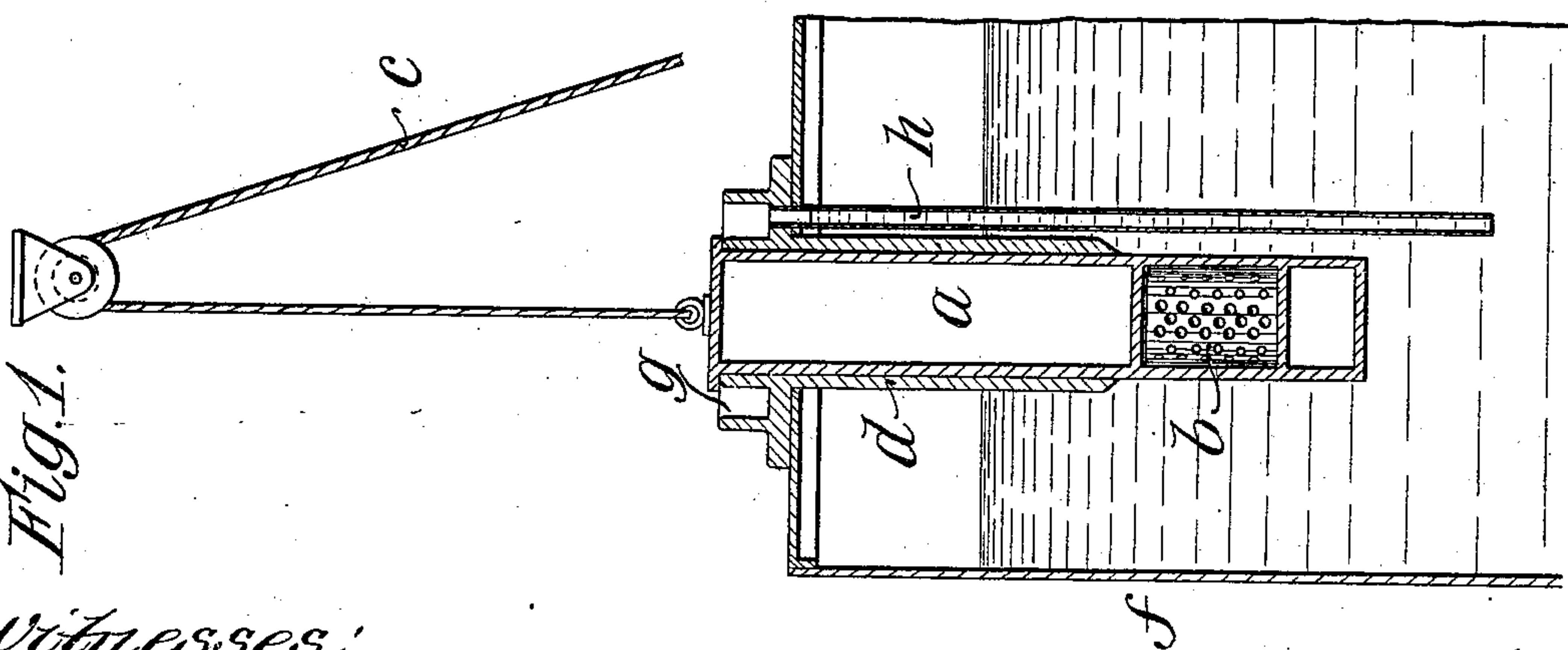
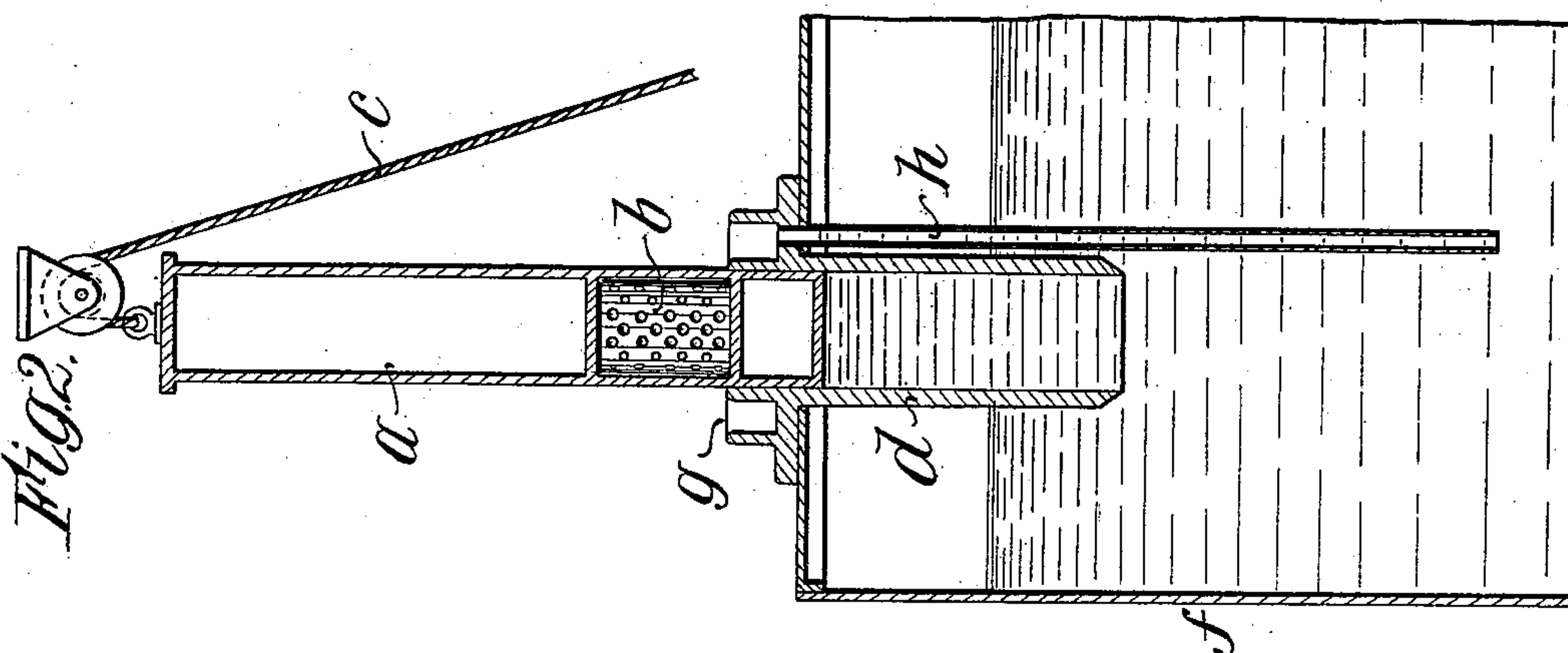
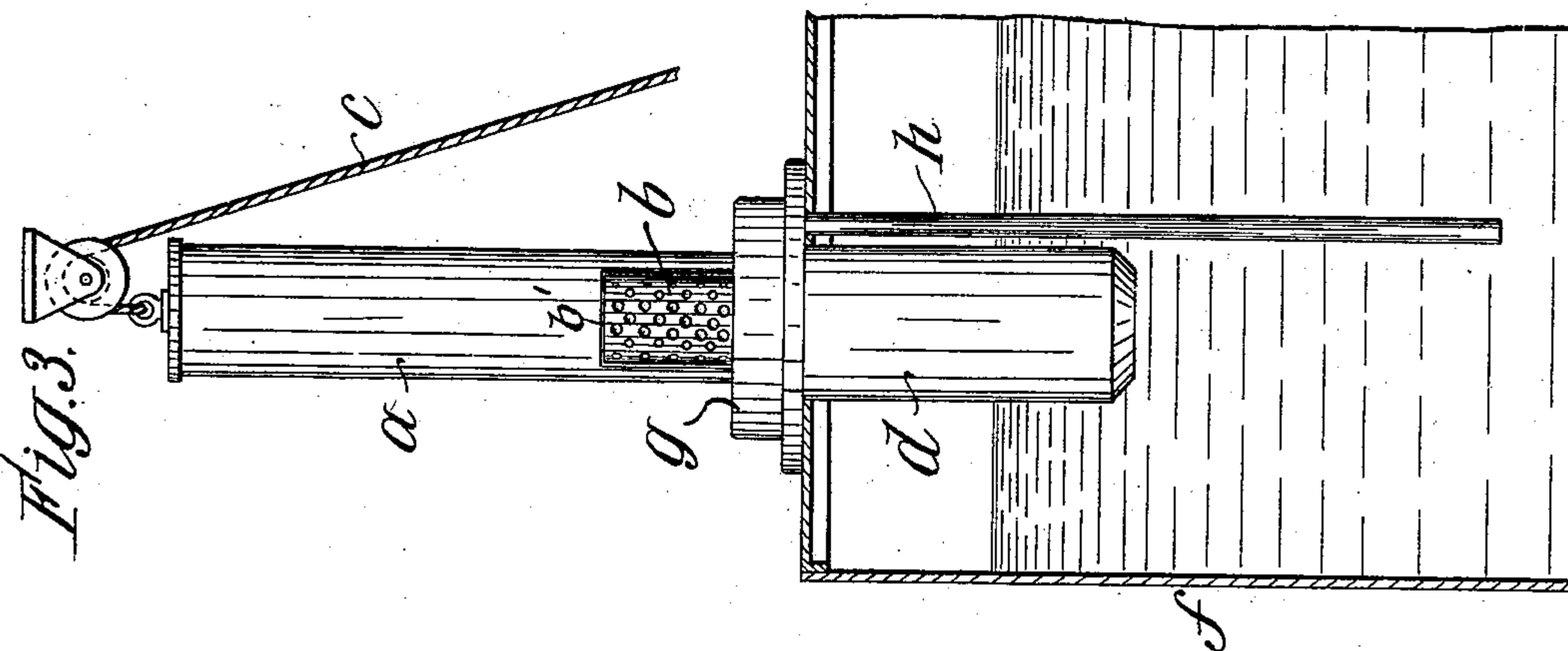
No. 712,940.

Patented Nov. 4, 1902.

R. KLINGER.
ACETYLENE GAS GENERATOR.

(Application filed June 7, 1902.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

RICHARD KLINGER, OF GUMPOLDSKIRCHEN, NEAR VIENNA, AUSTRIA-HUNGARY.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 712,940, dated November 4, 1902.

Application filed June 7, 1902. Serial No. 110,647. (No model.)

To all whom it may concern:

Be it known that I, RICHARD KLINGER, a subject of the Emperor of Austria-Hungary, residing at Gumpoldskirchen, near Vienna, in the Province of Lower Austria, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in Acetylene-Generators; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to carbid-charging apparatus of the type in which carbid is added to water and has the advantage, as compared with the known devices, that when a charge of carbid is introduced it is decomposed slowly, but thoroughly, and no escape of acetylene from the charging device occurs either during the charging operation or during the generation of the gas. The particles of carbid which cannot be converted into gas remain in the charging device and when the charge of carbid is completely decomposed are removed from the generator, together with the charging device, so that it is not necessary to clean the generator until it has been in use for a long time. Such a charging device comprises a plunger which can be inserted in a gas-tight manner into the gas-holder and is provided with a recess with a lateral opening for the reception of the carbid or of a carbid-holder. When the plunger, which is guided in a cylinder, is lowered, it displaces water, and the carbid is acted upon by the water only after it is entirely below the surface of the water, so that the acetylene generated is compelled to pass through water above it, and is thus purified before it can collect in the upper portion of the generator. The carbid is preferably contained in a perforated receiver, so that the generation of the gas is rendered slower, as the water can reach the mass of carbid only slowly. The upper part of the plunger is furnished with suitable means for preventing gas from escaping through the cylinder. When the

carbid is completely decomposed after a period which can be determined only by experience, the plunger is raised until the recess and the carbid are above the cylinder, so that the receiver, with the residue in it, can be removed, while the water raised with the plunger runs off and finds its way back to the generator through a pipe extending into the said generator. In the meantime the lower part of the plunger and the column of water drawn into the cylinder by the raising of the plunger form a seal, which prevents any escape of acetylene gas.

Figures 1 and 2 of the accompanying drawings are vertical sections of one example of apparatus according to this invention, showing the plunger lowered and raised, respectively; and Fig. 3 is a side elevation of the apparatus.

A plunger *a*, which is preferably hollow but closed on all sides, has a recess into which a carbid receiver or compartment *b*, which can be made of perforated sheet metal or wiregauze, is inserted through the opening *b'*, Fig. 3, when the plunger is raised, Fig. 2. The plunger *a* is raised and lowered by means of the rope *c*, passing over a pulley. This rope may be operated by hand, and if it is desired to suspend the plunger in raised position for any length of time said rope may be passed around a suitable cleat or the like (not shown) attached to the top of the generator. When the plunger is lowered into a cylinder *d*, which extends into the gas-generator *f*, the lower part of the plunger first displaces water, and only afterward the carbid-holder contained in the recess in the plunger can come into contact with the water. When the plunger, whose upper part forms a gas-tight joint with the cylinder during the decomposition and prevents the escape of gas through the said cylinder, is raised, it draws water into the cylinder, and its lower end forms, in conjunction with the column of water standing in the cylinder, a seal, which prevents the gas from escaping while the carbid-holder is being removed from the exposed recess and a freshly-charged holder substituted therefor. The water raised by the plunger flows out of the recess into a gutter *g*, surrounding the

upper part of the cylinder *d*, and returns to the gas-generator through a pipe *h*, opening into the said gutter.

In large acetylene-generators any suitable number of such charging devices can be provided and may be arranged in a circle or in any other suitable manner, so that they can be operated at suitable intervals of time.

I claim—

- 10 1. In an acetylene-generator, the combination with a tank, of a cylinder attached to said tank and extending into the liquid contained therein, a plunger of relatively greater length than said cylinder fitted in said cylinder and adapted to move therein, a compartment in the lower portion of said plunger for the reception of the gas-generating material, and means for limiting the downward movement of said plunger.
- 20 2. In an acetylene-generator, the combination with a tank, of a cylinder attached to said tank and extending into the liquid contained therein, a plunger of relatively greater length than said cylinder fitted in said cylinder and adapted to move therein, a perforated compartment for the reception of the gas-generating material in the lower portion of said plunger, means for raising and lowering said plunger, means for returning to said
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tank the liquid withdrawn therefrom by the withdrawal of said plunger, and means on said plunger for limiting its downward movement in said cylinder. 30

3. In an acetylene-generator, the combination with a tank, of a cylinder attached to said tank and extending into the liquid contained therein, a plunger of relatively greater length than said cylinder fitted in said cylinder and adapted to move therein, a compartment in the lower portion of said plunger for the reception of the gas-generating material, a lateral opening in said compartment for the insertion of the gas-generating material, flexible means for raising and lowering said plunger, a channel at the upper part of said cylinder extending around said plunger, a pipe leading from said channel into the liquid contained in said tank, and a peripheral flange on said plunger for limiting its downward movement in said cylinder. 40 45 50

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

RICHARD KLINGER.

Witnesses:

JOSEF RUBRESCH,
ALVESTO S. HOGUE.