

No. 698,306.

Patented Apr. 22, 1902.

P. F. V. MÖHRER, & J. P. & J. HOPP.

ACETYLENE GAS GENERATOR.

(Application filed July 27, 1901.)

(No Model.)

Fig. 1.

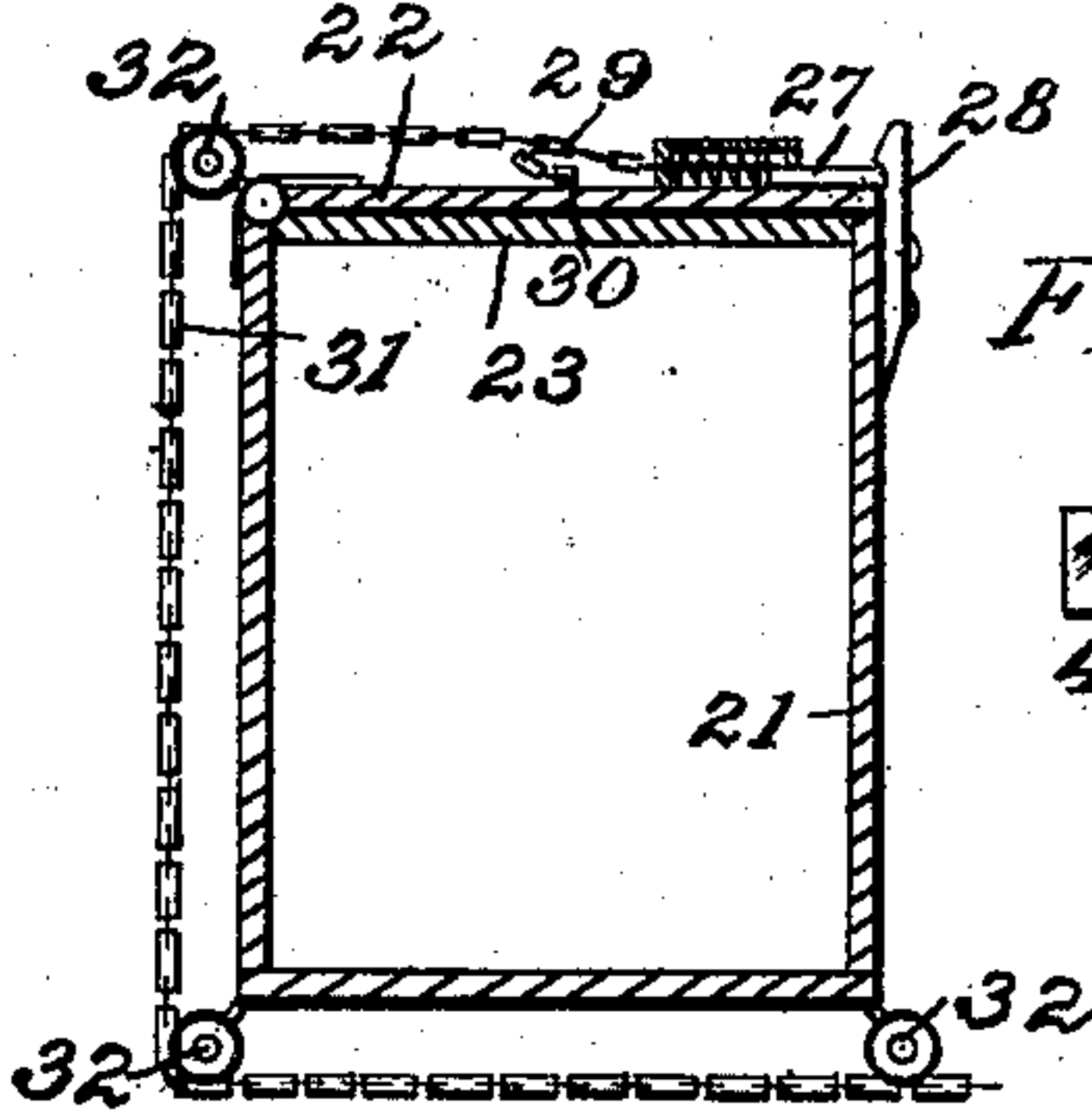
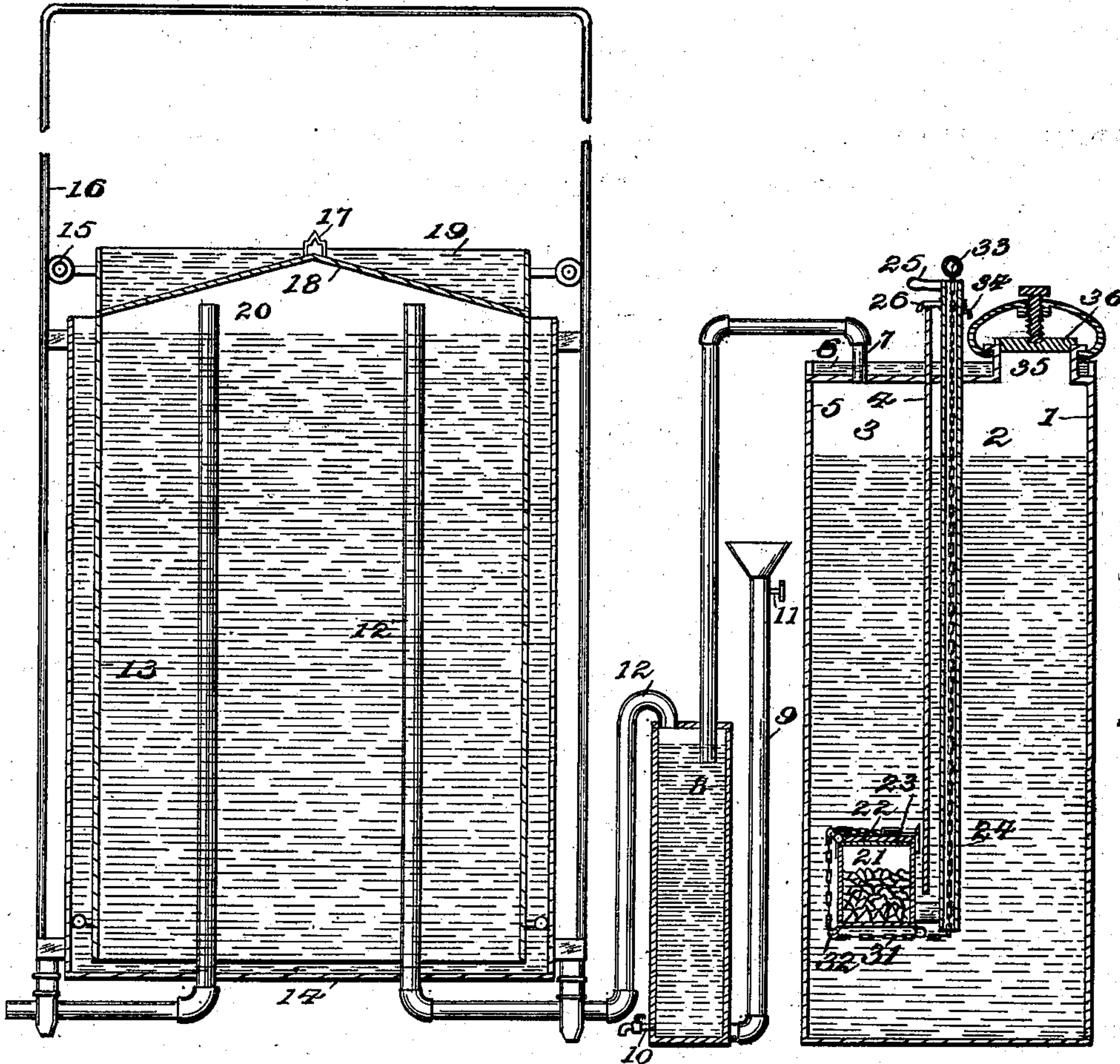


Fig. 2.

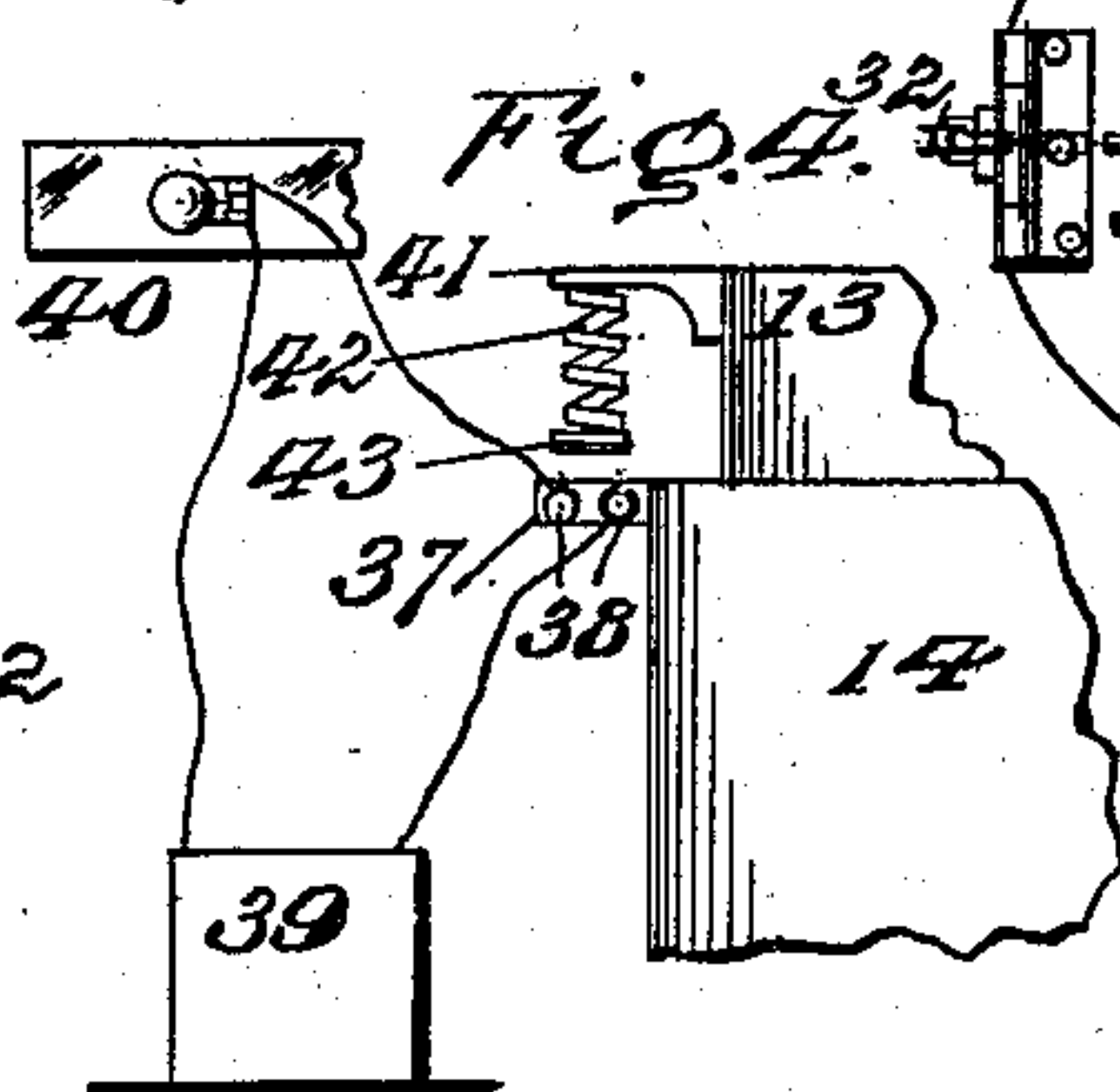
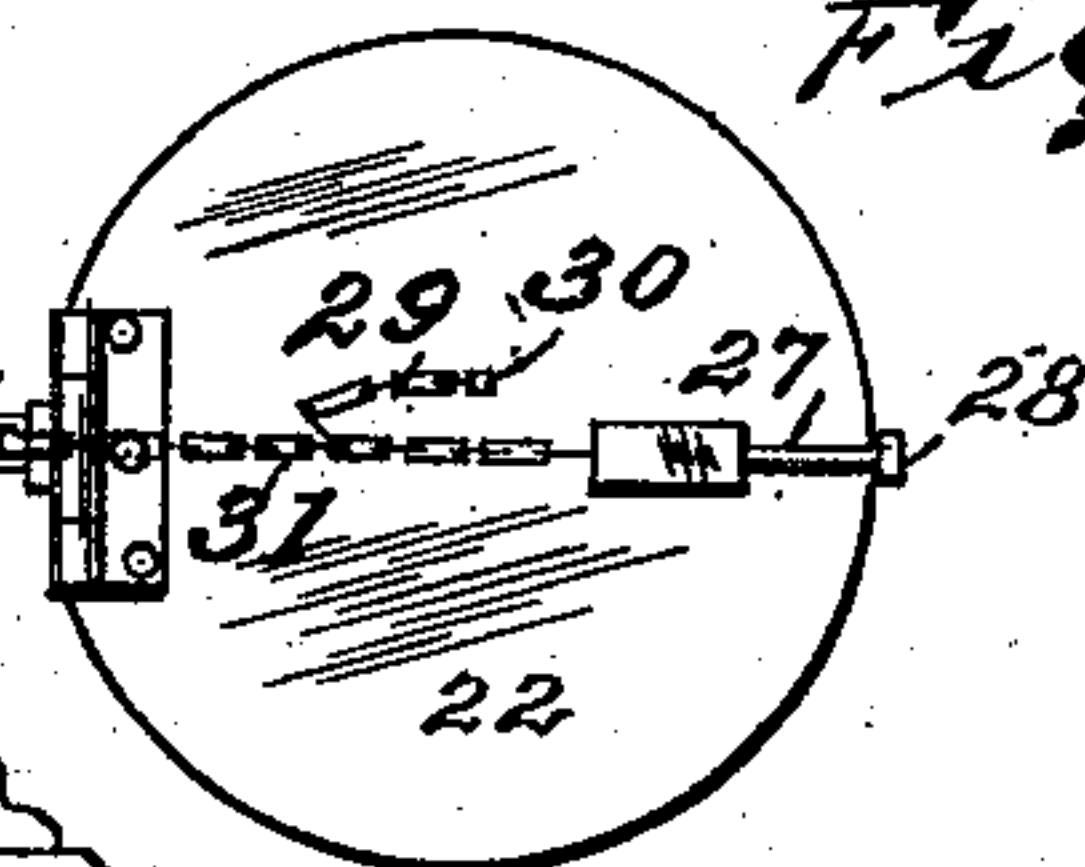


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 698,306, dated April 22, 1902.

Application filed July 27, 1901. Serial No. 69,927. (No model.)

To all whom it may concern:

Be it known that we, PAUL F. V. MÖHRER and JOHN PHILIP HOPP, subjects of the Emperor of Germany, and JOHN HOPP, a citizen of the United States, residing in the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Acetylene-Gas Apparatus, of which the following is a specification.

Our invention relates to an improvement in acetylene-gas apparatus.

The main object of the invention is comprised in the production of a simple and effective generator, wherein the carbid is delivered and held at the point of generation entirely unaffected by the surrounding water except at the will of the operator.

Other objects of the invention will be apparent from the following description, taken in connection with the accompanying drawings, and then pointed out in the claims.

In the drawings, Figure 1 is a vertical sectional view, partly in elevation, of our improved acetylene-gas apparatus. Fig. 2 is a vertical sectional view of the carbid-holder. Fig. 3 is a plan of the same. Fig. 4 is a detail in elevation, illustrating means whereby an alarm is sounded electrically when the quantity of gas in the gasometer is reduced beyond a serviceable limit.

Referring to the drawings, 1 represents the generator, comprising a liquid-holding receptacle divided into two chambers—a charging-chamber 2 and a generating-chamber 3—by a vertical partition 4, as shown. The outer wall 5 of the generator and also the upper end of the partition extend above the top of the generator, forming a tank 6 to receive water to serve as a seal. The lower end of the partition extends to near the bottom of the generator, leaving a space sufficient to permit the carbid-holder to be passed beneath the partition, as hereinafter described. A pipe 7, leading from the generator, serves to convey the gas into a cleanser 8, comprising a vessel having a suitable water-inlet 9, through which water is poured into the cleanser until its level is above the exit end of pipe 7, whereby all gas is caused to pass through the water in the cleanser before delivery to the gasometer. A tap 10 serves to permit draining

of the cleanser when desired, a stop-cock 11 in the water-inlet 9 preventing escape of gas through said inlet. A pipe 12, leading from the cleanser, conveys the gas to a bell 13 of the gasometer, which rises and falls in the usual water-containing vessel 14, being guided in operation by rollers 15, the upper ones of which bear against the rods of frame 16, while the lower ones bear against the inner wall of vessel 14. The top of bell 13 is preferably cone-shaped and is centrally provided with a relief-valve 17. The outer wall of the bell 13 projects beyond the cone-shaped top 18 to provide a tank 19 to receive water to form a seal against leakage and at the same time provide a convenient way of counterweighting the bell. A suitable exit-pipe 20 conveys gas from the gasometer for use.

The carbid-holder 21 comprises a metal receptacle having a hinged top 22, which is adapted to snugly fit the holder, being preferably provided with a rubber disk 23 to insure an air-tight joint. The holder is secured to the lower end of a hollow rod 24, having a handle 25 at the upper end arranged in the same vertical plane as the holder. The rod passes through an opening in the top of the generator and is provided with a swiveled supporting-bar 26, which when the carbid-holder is in operative position rests upon the top of the partition and supports the holder. The top of the carbid-holder is locked in closed position by a spring-pressed bolt 27, engaging a suitable keeper 28. A short chain 29 is connected to the bolt and to a stud 30, fixed in the top of the holder, and a second chain 31 is connected at one end to chain 29, passed around the holder over rollers 32 and up through the hollow rod 24, a ring 33 being secured to its upper end and adapted for engagement with a hook 34 on the rod for a purpose hereinafter described. An inlet-opening 35, having a gas-tight cover 36, is provided in the top of the generator above the charging-chamber 2, it being of such size and so positioned as to permit the ready cleansing and filling of the carbid-holder when the latter has been drawn in the proper position.

Assuming the carbid-holder to have been drawn up to the inlet-opening, carbid is

placed in the holder, its top is closed, preventing the entrance of water, and the holder lowered beneath the surface of the water and turned beneath the partition and raised into the generating-chamber 3, the bar 26 being turned over the upper edge of partition 4 to support the holder. This manipulation of the holder is readily accomplished through operation of rod 24 by means of handle 25, which handle indicates at all times the position of the holder with relation to the rod 24. When it is desired to generate gas, the chain 31 is drawn upward by means of ring 33 and the latter placed over hook 34. This movement of chain 31 will, through chain 29, withdraw the bolt 27 from its keeper and raise the top 22 of the holder, admitting water to the carbid in the holder to generate gas. The connections between chains 29 and 31 is such that a slight movement of chain 31 will withdraw the bolt, while a further movement will cause the power to be exerted against stud 30, relieving the bolt of the lifting strain of the chain.

From the above description it will be seen that we have provided a generator in which the carbid, while entirely surrounded by water, is not affected thereby except at the will of the operator and also wherein the exhausted material may be conveniently and quickly removed and a fresh charge readily placed in the holder.

Our invention contemplates a plurality of carbid-holders contained in the same or separate generators, as several such holders may be charged and placed in position and the carbid remain neutral until gas is needed, or one holder may be withdrawn from operative position and charged while another holder is in use producing gas, and this may be readily accomplished in the same generator, as the water in the charging-chamber will prevent leakage of the gas generated.

Referring to Fig. 4, wherein is shown the means for sounding an alarm when the quantity of gas in the gasometer is reduced beyond a serviceable limit, 37 denotes a strip of insulating material projecting from the gasometer-tank 14 and carrying two binding-posts 38, which are electrically connected with a battery 39 and a bell 40, as shown, the wire leading from the battery to one post and from the second post to the bell, the other wire of the circuit leading directly from the battery to the bell. 41 represents a strip projecting laterally from the gasometer-bell 13. From the free end of this strip depends a coil-spring 42, carrying at its lower end a metal strip 43 of sufficient width to contact with both binding-posts 38. In the reduction of gas the bell will descend until the strip 43 contacts with

the binding-posts 38, when the circuit will be completed and the bell will be sounded. By the use of spring 41 the further descent of the gasometer-bell is not interfered with after the alarm is initially sounded, and the alarm will continue ringing until sufficient gas has entered the gasometer and operated the gasometer-bell to separate the strip 43 and the binding-posts. In order to cause a regular descent of the bell after contact of the strip 43 with the binding-posts, we prefer to duplicate this device, without the electrical features, on the diametrically opposite side of gasometer.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an acetylene-gas apparatus, a generator adapted to contain water, said generator comprising a charging-chamber and a generating-chamber, a carbid-holder having a hinged lid normally locked to prevent the admission of water to the holder, a hollow rod connected with the holder and projecting through the top of the generator, said rod serving to move the holder into the charging-chamber for charging and into operative position in the generating-chamber, and means operative through said rod for unlocking and raising the lid of the holder.

2. In an acetylene-gas apparatus, a generator adapted to contain water and comprising a charging-chamber and a generating-chamber, a carbid-holder having a hinged lid normally locked to prevent the admission of water to the holder, a hollow rod connected with the holder and projecting through the top of the generator, said rod serving to move the holder into the charging-chamber for charging and into operative position in the generating-chamber, and a chain operative through said rod for unlocking and raising the lid of the holder.

3. In an acetylene-gas apparatus, a generator adapted to contain water, a vertical partition dividing said chamber into a charging-chamber and a generating-chamber, a carbid-holder having a lid normally closed to prevent the admission of water, a hollow rod connected with the holder and projecting through the top of the generator, and means operative through said rod for raising the lid of the holder.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

PAUL F. V. MÖHRER.
JOHN PHILIP HOPP.
JOHN HOPP.

Witnesses:

WM. F. MAUER,
SIMON W. SNYDER.