

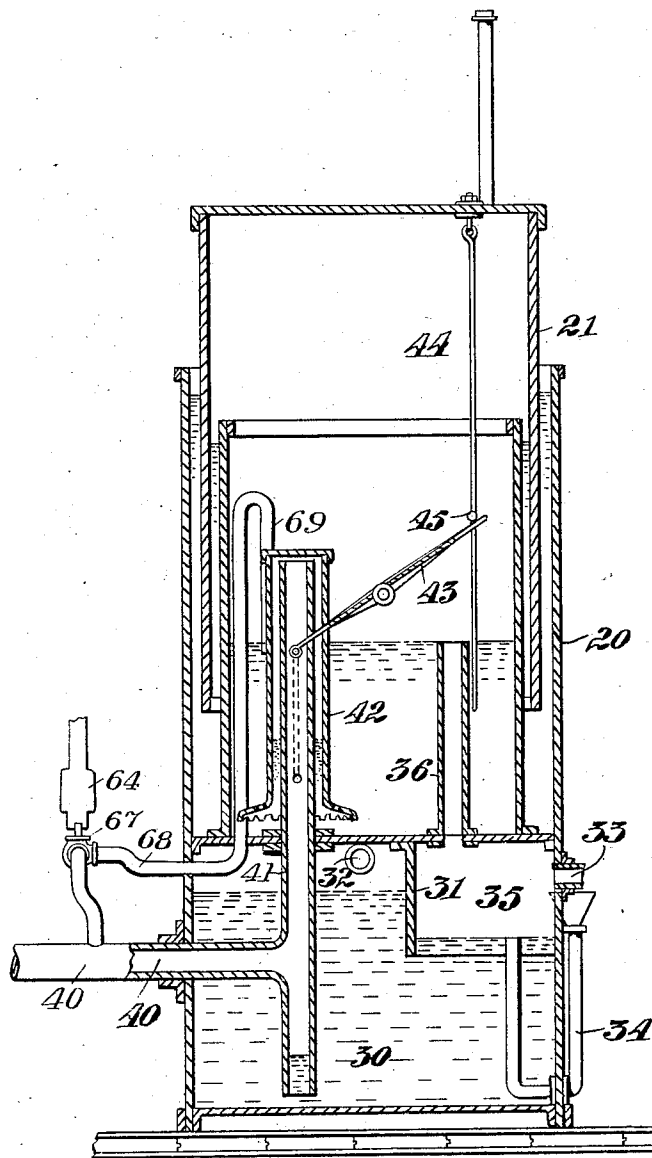
No. 759,366.

PATENTED MAY 10, 1904.

N. GOODYEAR.
GASOMETER.

APPLICATION FILED SEPT. 4, 1903.

NO MODEL.



Witnesses
Comitell
A. L. O'Brien

Nelson Goodyear
Inventor
By *Dickson, Brown*
Rogers & Kenney
Attys

UNITED STATES PATENT OFFICE.

NELSON GOODYEAR, OF FLUSHING, NEW YORK, ASSIGNOR TO THE J. B. COLT COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

GASOMETER.

SPECIFICATION forming part of Letters Patent No. 759,366, dated May 10, 1904.

Original application filed October 3, 1901, Serial No. 77,348. Divided and this application filed September 4, 1903. Serial No. 171,908. (No model.)

To all whom it may concern:

Be it known that I, NELSON GOODYEAR, a citizen of the United States, and a resident of Flushing, Long Island, State of New York, have invented certain new and useful Improvements in Gasometers, of which the following is a specification, accompanied by a drawing.

In my copending applications, filed June 24, 1901, and serially numbered 65,811, 65,812, 65,813, and 65,814, I have described and claimed certain improvements in acetylene-generators, some of the features of which are related to the present application.

This application is a division of my copending application, Serial No. 77,348, filed October 3, 1901.

This invention relates more particularly to improved gasometers for acetylene-generators, and contemplates improvements in means for controlling the admittance of gas to the gasometer, rendering the apparatus economical and safe.

Further objects of the invention will hereinafter appear; and to these ends the invention consists of apparatus for carrying out the above objects embodying the features of construction, combinations of elements, and arrangement of parts having the general mode of operation substantially as hereinafter fully described and claimed in this specification and shown in the accompanying drawing, which is a vertical sectional view of a gasometer embodying the invention.

Referring to the drawing, the gasometer may consist of an outer vessel 20, within which rises and falls the water-sealed gasometer-bell 21. Preferably beneath the gasometer and contained in the same shell or casing is an automatic gas-trap and overflow device, the chamber of which, 30, is divided into compartments by a depending partition 31. One compartment is in free communication with the blow-off to the atmosphere 32, while the other may lead to the service-pipe 33. A U-shaped overflow 34 may be provided. The last-mentioned compartment 35 communicates by the pipe 36 with the gasometer-chamber, the pipe 36 serving to carry the gas into the compart-

ment 35 and also to drain the gasometer-chamber. The gas generated passes through the pipe 40 and up the pipe 41 into the gasometer. The pipe 41 is continued down into the trap 30 and water-sealed therein, as shown, so that it drains itself and the pipe 40. In the construction shown the water-sealed bell of the gas-generator rises and falls to partially accommodate the gas generated; but no attempt is made to keep the gas generated at an accurately constant pressure within the generating-chamber. The gasometer, however, coacts with the rise and fall of the generator-bell in a manner to vary the depth of the water seal through which the gas has to pass in going from the pipe 41 into the bell of the gasometer. This automatic seal or trap preferably consists of a telescoping sleeve or cap 42, having a flaring lower end with a serrated edge and also preferably having holes through the flaring portion, so that the gas on leaving the pipe 41 has to pass down with the cap 42 and escape through the holes or beneath the serrated edge of the cap and overcome the depth of the water seal formed by the body of water in the gasometer-chamber, in which the cap 42 is partially immersed. The cap 42 is linked, as shown, to a lever 43, which turns on a stationary pivot or fulcrum in the gasometer-chamber. When the gasometer-bell 21 is high, the cap 42 should descend to a depth of submergence sufficient to give whatever seal is desired. We can assume six inches, for example, and suppose that pressure in the gasometer is to be kept at about three inches, while that in the generating-chamber may vary from about nine inches down to atmospheric pressure. Suppose the pressure in the gas-generating chamber and pipe 40 is nine inches and that in the gasometer three inches. The gasometer-bell will fall as gas is drawn off through the service-pipe 33. A rod 44, pivoted to the gasometer-bell 21 and provided with a pin 45, extends through an opening in the lever 43, as shown. As the gas is drawn out of the gasometer-bell 21 the bell falls until the pin 45 engages the lever 43 and causes the gradual rising of the cap 42. A slight ris-

ing of the cap 42 of course diminishes the depth of seal between the generator and the gasometer and allows gas to flow from the generating-chamber to the gasometer. This operation may continue until the generator-bell reaches or nearly reaches its lowest point, whereupon the further descent of the generator-bell will operate the carbide-feeding mechanism by a suitable instrumentality.

It will be observed that by means of the apparatus described the capacity and the vertical movement of the gasometer-bell 21 may be very slight, and the gas within it will be kept at a very constant pressure by the weight of the bell, whereas the pressure and volume will vary considerably in the generating-chamber. The rising and falling cap 42 constitutes also a trap for back-trapping the gas when the pressure in the generating-chamber is relieved, for the gas cannot pass in the wrong direction unless water be forced up within the cap 42 to the top of the pipe 41. It is obvious that the downward pressure of the bell determines the pressure of the gas delivered, and the downward pressure of the bell may of course be varied in any desired manner.

A suitable rod 64 is connected to actuate a valve 67 in a by-pass connection 68, which extends from the gas-pipe 40 into the gasometer and has a downturned end 69, which dips slightly beneath and is water-sealed in the water in the gasometer-chamber. By opening the by-pass valve 67 the gas in the generating-chamber of a suitable generator is practically free to pass into the gasometer, the sealing of the end of the pipe 69 being

very slight and only serving to prevent the gas passing in the reverse direction or out of the gasometer.

Obviously this invention may be embodied in widely-varying forms, and therefore,

Without limiting myself to the construction shown and described nor enumerating equivalents, I claim, and desire to obtain by Letters Patent, the following:

1. In a gas system, the combination with a gasometer, of a gas passage-way for conducting the gas generated to the gasometer, a movable regulating water-sealed cap for controlling the passage of the gas, a by-pass connection for admitting the gas to the gasometer without its passing the regulator, and means for opening and closing the by-pass, for substantially the purposes set forth.

2. In a gas system, the combination with a gasometer, of a gas passage-way for conducting the gas generated to the gasometer, a water-sealed trap telescoping over the end of the passage-way for regulating the admittance of gas, means for raising and lowering the same to vary the depth of immersion as the gasometer expands and contracts, a by-pass connection for admitting the gas to the gasometer without its passing the regulator, and means for opening and closing the by-pass, for substantially the purposes set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

NELSON GOODYEAR.

Witnesses:

E. VAN ZANDT,
A. L. O'BRIEN.