

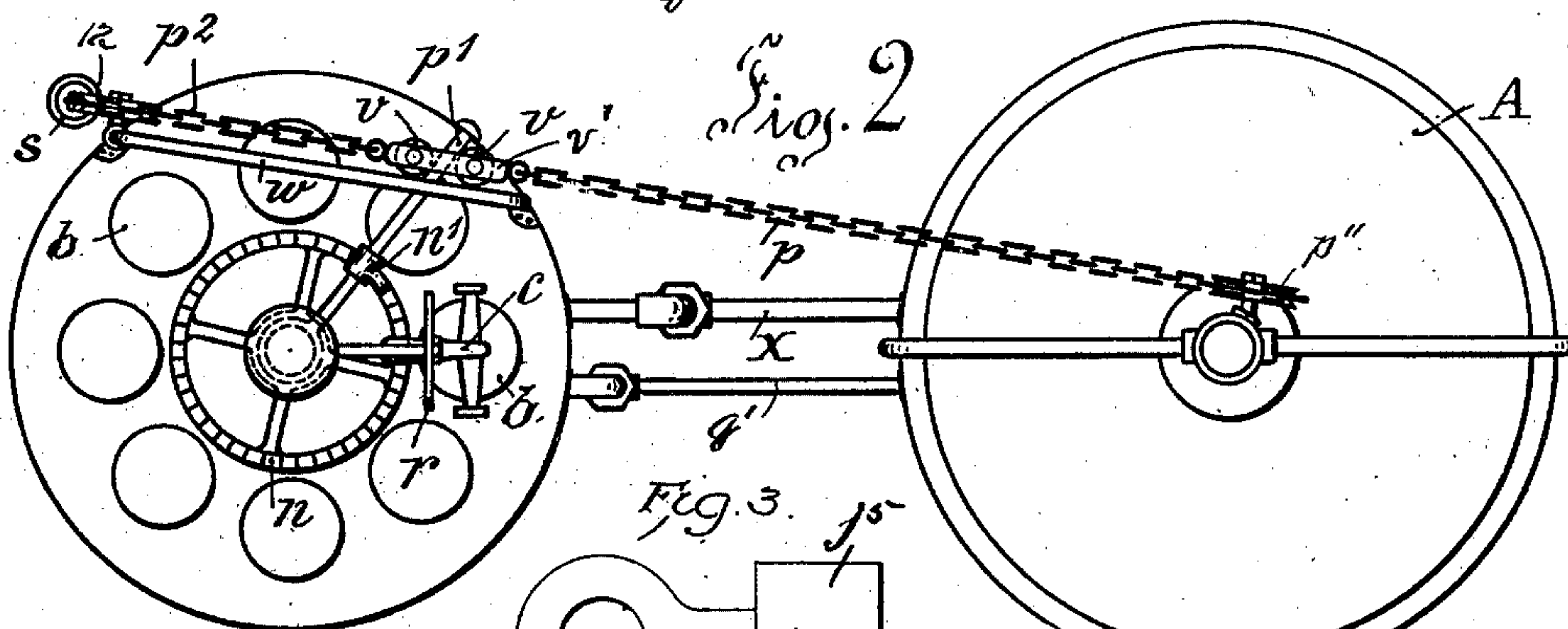
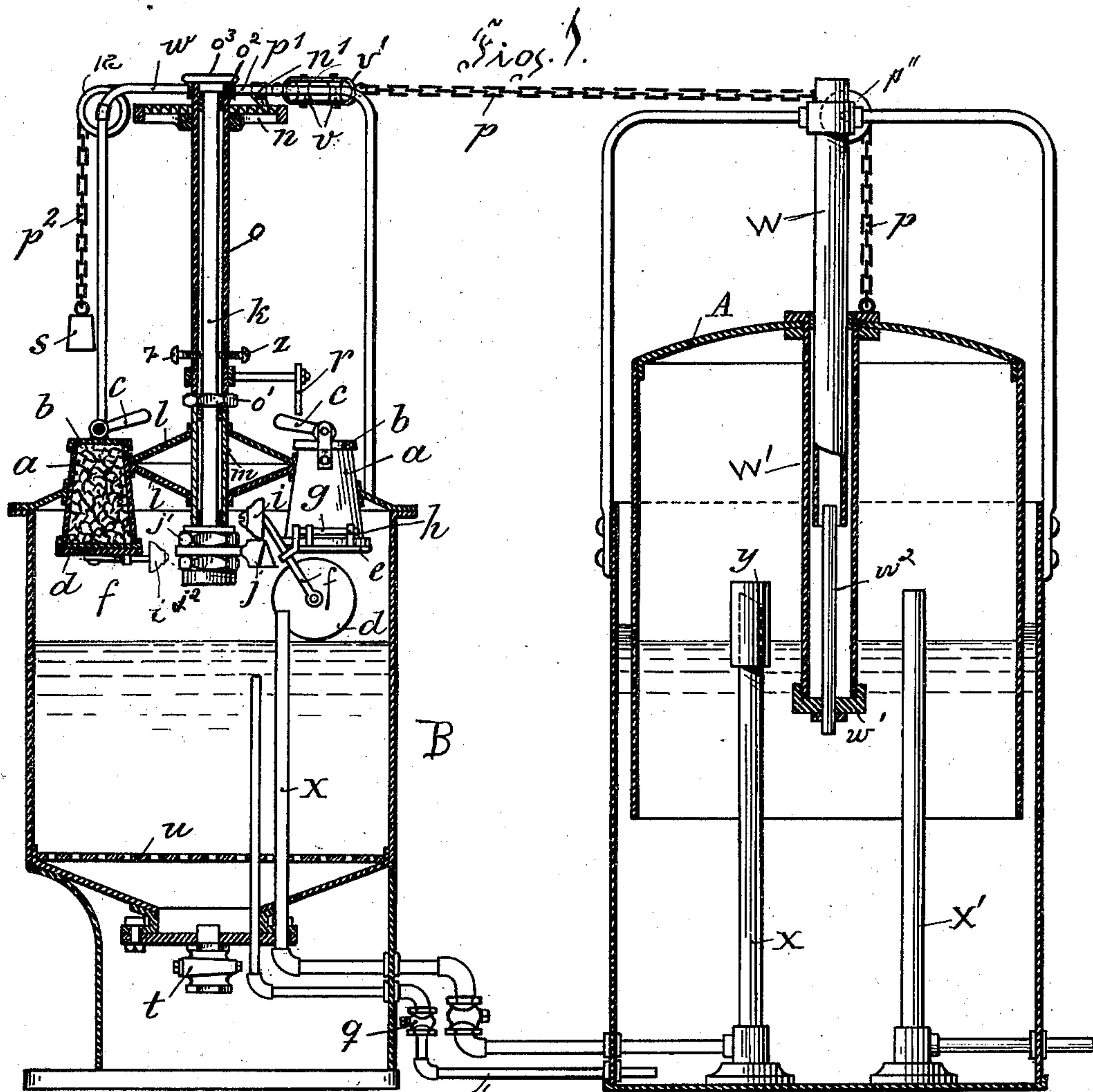
**No. 691,890.**

**Patented Jan. 28, 1902.**

**E. BJÖRNRUD.**  
**ACETYLENE GAS GENERATOR.**

(Application filed Oct. 10, 1899.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 691,890, dated January 28, 1902.

Application filed October 10, 1899. Serial No. 733,217. (No model.)

*To all whom it may concern:*

Be it known that I, EDVARD BJÖRNRUD, a subject of the King of Sweden and Norway, and a resident of Christiania, Norway, have  
5 invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is a specification.

This invention relates to acetylene-gas generators of that class in which charges of carbide are automatically fed to the generator, the feeding being controlled by the gas generated.

The invention is illustrated in the accompanying drawings, in which—

15 Figure 1 is a central vertical section through the generator. Fig. 2 is a plan view, and Fig. 3 a detail view.

In the drawings, A represents a gasometer having a bell A', and B the generator for generating and feeding the acetylene gas thereto and adapted to contain a body of water in its lower part, as shown. At the upper part of the generator are a number of substantially cylindrical holders or chambers a, corresponding in number to the size of the apparatus, which chambers serve for the introduction of the carbide in fixed quantities. These chambers are each closed gas-tight at the upper end by a cover b, held together in position by an eccentric lever c. Each chamber is also provided with a movable bottom or flap d, adapted to shut gas-tight against a ring e, secured to the lower edge of the chamber. These flaps d are carried by arms f, mounted to rock on rock-shafts g, supported in bearings h on the chambers a. Weights i are carried by the arms, which tend to hold the bottoms or flaps closed against the weight of the carbide thereon. In order to open the  
40 bottoms or flaps, I provide an arm j, clamped to the vertical shaft k by nuts j<sup>1</sup> j<sup>2</sup>, which shaft is journaled in the pipe m, carried by the plates l l of the generator. The nut j<sup>2</sup> has a closed lower end or side, so as to prevent any escape of gas. In order to rotate said shaft k, a ratchet device is provided, as hereinafter described, and as the shaft rotates the arm j will successively contact with the weights i and raise them, thus opening  
50 the flaps and allowing the carbide to drop out of the chambers. The arm j is shown more clearly and enlarged in Fig. 3, where j<sup>3</sup> indi-

cates the portion which encircles the shaft k and is clamped between the nuts, while j<sup>4</sup> and j<sup>5</sup> are double inclines over which the weights  
55 i travel.

In order to rotate the shaft k, I preferably provide a tube or sleeve o, which encircles the shaft and has its lower end seated upon the nut o', while its upper end is spaced from  
60 the shaft by a collar o<sup>2</sup> and closed by a cap o<sup>3</sup>. The tube is clamped rigidly to the shaft by set-screws z z. A chain p, secured to the bell of the gasometer, passes upward over a pulley p' and thence across to a frame v',  
65 carrying two rollers v, between which extends an arm p', pivotally carried by the tube o. A pawl n', carried by said arm, engages the teeth of a ratchet-wheel n, rigidly secured to the tube o, and as the bell descends will rotate  
70 said tube and with it shaft k and arm j, operating the bottoms or flaps in the manner before described. In order to draw the arm p' back as the bell rises, a chain p<sup>2</sup>, passing over a pulley l<sup>2</sup>, is provided, having a  
75 weight s on the end thereof.

In order to prevent the opening of a cover of a carbide-chamber at the same time that the flap or bottom is open, I provide an arm r, so located upon the tube o as to rest above the  
80 handle or lever c and prevent raising thereof when the arm j has opened the flap.

A pipe q', having a cock q, serves to convey water from the gasometer to the generator, and a drain-cock t serves for draining  
85 the generator. A pipe X conveys the gas from the generator to the gasometer, said pipe terminating in an inverted-cup-shaped casing y, forming a water seal, and a pipe X' conveys the gas from the gasometer to the point  
90 of consumption. The bell of the gasometer may be guided in its upward-and-downward movement by telescoping tubes W and W', secured, respectively, to the bail w of the gasometer and the bell and suitably packed, the  
95 tube W' being closed at its lower end by a cap w', which may have a rod or extension passing up into the tube W as a further guide.

Having thus described my invention, what I claim is—

1. In an acetylene-gas apparatus, the combination with the generator, of carbide-chambers arranged in the upper part thereof, weighted flaps closing said carbide-chambers,  
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a gasometer having a movable bell, an arm adapted to raise the weights to open the flaps, and means operated by the movement of the bell for operating said arm, substantially as described.

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2. In an acetylene-gas generator, the combination with the generator and gasometer, of a series of carbid-chambers carried by said generator, weighted flaps closing the bottoms  
10 of said chambers, covers for said chambers, a rotary arm operated from the gasometer-bell for operating said weighted flaps, eccen-

tric levers for operating the covers, and a retaining-arm moving in unison with the flap-operating arm and serving to maintain the cover in a closed position when the flap is opened, substantially as described. 15

In witness whereof I have hereunto set my hand in presence of two witnesses.

EDVARD BJÖRNRUD.

Witnesses:

KATHINKA PAULSEN,  
AXEL LAHN.