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ACETYLENE-GAS GENERATOR.

999,148.

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To all whom it may concern:

Be it known that I, LARS E. BOSTROM, a citizen of the United States, and a resident of Ormond, county of Volusia, and State of Florida, have invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is a specification.

My invention is an improvement in acetylene gas generators, and consists in certain novel constructions, and combinations of parts, hereinafter described and claimed.

The object of the invention is to provide a simple and efficient feeding device for generators of the character specified, by means of which the carbid will be fed in small amounts to the generator whenever the pressure in the generator falls below a predetermined level.

Referring to the drawing forming a part hereof, Figure 1 is a partial side view showing the upper end of the generator. Fig. 2 is a vertical section of the hopper. Fig. 3 is a similar view at right angles to Fig. 2, showing the receptacle in one position. Fig. 4 is a side view of the hopper with the receptacle in normal position. Fig. 5 is a side view of the trip arms and their supports, and Fig. 6 is an edge view of the same.

In the present embodiment of the invention, the movable portion or bell 1 of the gasometer 2, is provided on its top at one side with a bracket 3, from which extends a lateral finger 4. A second bracket 5 is secured to the upper edge of the fixed portion or body of the gasometer. The bracket 5 is provided with a laterally offset portion 6, extending beyond the gasometer, and a shaft 7 is journaled in the offset portion and in a reduced portion 8 of the generator 9. The shaft is provided with a cross arm 10, on the inner side of the offset portion toward the gasometer, and the said arm is secured to the shaft by a collar 11, held on the shaft by a set screw 12.

A pair of parallel arms 13 are secured to the offset portion of the bracket, one on each side thereof, and the upper end of the said offset portion is given a quarter turn or twist, as shown at 14 in Fig. 5, and the portion 15 of the offset portion above the quarter turn is notched on each side at 16 to receive the arms. The outer faces of the arms are flush with the outer edge of the portion 15, and the arms are spaced apart

from each other to form a guide-way on each side of the said portion.

A pair of trip arms 17 and 17^a are pivoted to the cross arm, one at each end, and the upper end of each trip arm extends upwardly through the adjacent guideway, and is provided with a lateral outwardly extending projection or lug 18. Each projection or lug is beveled on its upper and lower edges, and each arm is also provided with an upwardly extending lug or stop 19, on the inner side of the lug 18. The upper beveled edge 20 of each trip arm is adapted for engagement by the finger 4 on the bell 1, to depress the said rod to swing the arm 10, and cause the shaft 7 to oscillate. The cross arm 10 is provided at each end with a recess or notch 20, in which is received the end of the trip rod, and a pin 21 passes through the sides of the recess and rod to pivotally connect the rod and arm.

An arm 22 is provided at one end with a weight 23, and at the other with a collar 24, which encircles the shaft inside of the generator, and is held in place by a set screw 25. A collar 26^a encircles the shaft outside of the generator, and prevents lateral movement of the said shaft away from the bell.

The shaft passes through the chute 26 of a hopper 27, supported in the reduced portion of the generator, the said hopper being adapted to hold the carbid and feed it to the generator at intervals by the following mechanism, which is operated by the finger and trip arms.

A receptacle 28 is arranged below the chute, and is secured to the shaft 7 and is swung, when the shaft is oscillated, into the position shown in Fig. 3, and into the opposite position. The said receptacle is rectangular in cross section, and the ends 29 of the said receptacle incline inwardly toward their tops. The receptacle is of slightly greater width than the chute, so that the side walls of the chute fit between the side walls of the receptacle, and the open top 30 of the receptacle is of sufficient width to permit the said receptacle to swing into the position shown in Fig. 3, and into the position the direct reverse of that shown. The receptacle is provided with an opening 31 at the center of its bottom, and a longitudinally curved deflector 32 is arranged transversely of the receptacle directly below the opening 33 of the chute when the receptacle is in a horizontal position. The deflector is also

directly above the opening 31 of the receptacle, so that when the receptacle is in the neutral position shown in Fig. 4, the carbid is held in the chute and is not permitted to pass into the receptacle.

In operation, when the gas which has been generated falls below a predetermined quantity, and the bell 1 begins to descend, the finger 4 will engage the lug 18 of one or the other of the trip rods 17 or 17^a. As the bell continues to descend, the finger depresses the rod gradually until the weight 23 is overbalanced. The said weight is directly above the shaft when the receptacle is in the neutral position shown in Fig. 4, and when it is overbalanced, the shaft is quickly oscillated to swing the receptacle into the position shown in Fig. 3 or in a position the direct reverse. When the receptacle is in either of the said positions, one end of the receptacle empties through the opening 31, while the other fills. In the position shown in Fig. 3, the left or highest end empties, the carbid slipping down the sloping bottom to the opening 31, while the right or lowest end receives the carbid from the chute, the deflector 32 deflecting the carbid into the said end. The carbid falls into the water in the generator, and the gas generated raises the bell. The weight 23 holds the receptacle in inclined position until the bell again descends and the finger engages the other trip rod which is now elevated. The position of the receptacle is then reversed, and the right end empties, while the left fills from the chute. When one trip rod descends, the other is lifted, and the said rods are inclined inwardly, so that each lug 18 is directly above the portion 15 of the bracket 5, when the rod is in elevated position. The lug 19 prevents outward movement of the upper end of the trip rod, when the rod is pushed downward, by engaging the inner side of the finger. The bevel of the upper edge of the lug 18 is such that when the rod is elevated the said edge is practically horizontal.

The receptacle is in fact composed of two scoops or pockets, each end representing a scoop or pocket, and being independent of the other end, in so far as the actual function of holding and emptying carbid is concerned. The said pockets might be independent and separate and rigidly connected together. Practically, the said device is a plurality of holders rigidly connected.

I claim:

1. In combination with the generator and the gasometer, of a finger extending laterally from the bell of the gasometer, a hopper supported in the generator for containing carbid and provided with a delivery chute, a bracket on the gasometer, a shaft journaled in the bracket and hopper and extending transversely of the chute, a receptacle secured to the shaft below the hop-

per, the chute extending into the receptacle, said receptacle being mounted for swinging movement with the shaft, the upper edges of the ends of the receptacle limiting the swinging movement thereof, said receptacle having an opening in its bottom at the center thereof, a deflector arranged transversely of the receptacle below the opening of the chute and above the opening of the receptacle for deflecting the carbid from the chute to either end of the receptacle, a cross arm secured to the shaft adjacent to the gasometer, a trip rod pivoted to each end of the cross arm and inclining inwardly toward the top of the bracket, and a guide for each rod, each rod having a lateral lug for engagement by the finger to move the shaft, and a weight connected with the shaft for completing the movement of the receptacle.

2. In combination with the generator and the gasometer, of a finger extending laterally from the bell of the gasometer, a hopper supported in the generator for containing carbid and provided with a delivery chute, a bracket on the gasometer, a shaft journaled in the bracket and hopper and extending transversely of the chute, a receptacle secured to the shaft below the hopper, the chute extending into the receptacle, said receptacle being mounted for swinging movement with the shaft, the upper edges of the ends of the receptacle limiting the swinging movement thereof, said receptacle having an opening in its bottom at the center thereof, a deflector arranged transversely of the receptacle below the opening of the chute and above the opening of the receptacle for deflecting the carbid from the chute to either end of the receptacle, and means on the shaft for engagement by the finger for alternately oscillating the shaft in opposite directions.

3. In combination with the generator and the gasometer, of a feeding hopper in the generator for holding the carbid, a receptacle below the outlet of the hopper, said receptacle having a delivery opening in its bottom intermediate its ends, and directly below the outlet when the receptacle is in normal position, a deflector in the receptacle between the opening and the outlet of the hopper, for deflecting the carbid from the hopper to the ends of the receptacle, a shaft to which the receptacle is secured journaled transversely of the hopper and extending outside of the generator, a plurality of trip rods connected with the shaft for oscillating the said shaft, and a finger on the bell of the gasometer for engaging the rods in alternation when the bell descends.

4. In combination with a generator and the gasometer, of a hopper for feeding the carbid to the generator, a receptacle mounted for swinging movement on a transverse axis below the hopper, and having a feed

opening in its bottom intermediate the ends
of the receptacle, a deflector above the said
feed opening for deflecting the carbid to
the ends of the receptacle, means for swing-
5 ing the receptacle to raise the ends alter-
nately above the feed opening, and means
on the bell of the gasometer for operating
said swinging means when the gas in the
gasometer falls below a predetermined
10 amount.

5. In combination with the gasometer and
the generator, of a receptacle mounted for
swinging movement on a transverse axis and
having a feed opening in its bottom inter-
15 mediate its ends, means for continuously
feeding carbid to the receptacle, a deflector
above the feed opening for deflecting the
carbid to the ends of the receptacle and

means operated by the bell of the gasometer
for swinging the receptacle. 20

6. In combination with the gasometer and
the generator, of a receptacle for feeding
carbid mounted for swinging movement on
a transverse axis and provided with a feed
opening in its bottom at the center of the 25
receptacle, means for supplying carbid to
the receptacle, means for deflecting the car-
bid from the supplying means to the ends of
the receptacle, and means operated by the 30
bell of the gasometer for swinging the re-
ceptacle.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents
Washington, D. C."