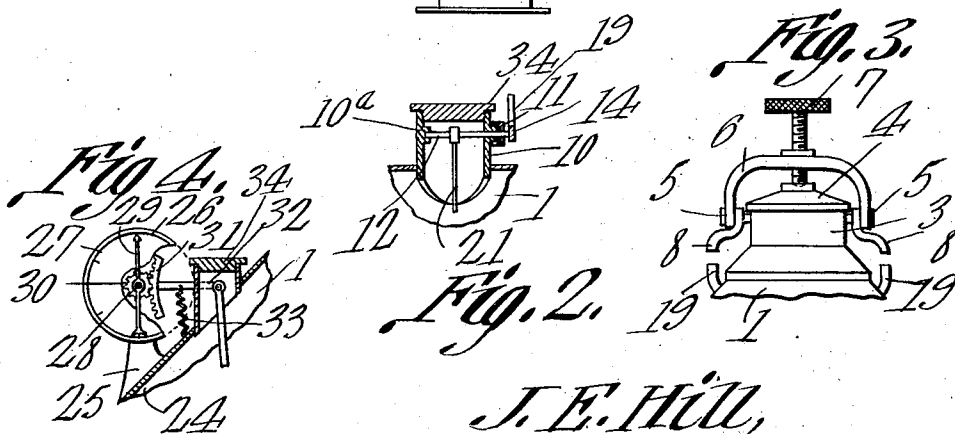


1,024,850.



Witnesses

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UNITED STATES PATENT OFFICE.

JOEL EDGAR HILL, OF NEAR LEXINGTON, NORTH CAROLINA.

INDICATOR FOR ACETYLENE-GAS GENERATORS.

1,024,850.

Specification of Letters Patent.

Patented Apr. 30, 1912.

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To all whom it may concern:

Be it known that I, JOEL E. HILL, a citizen of the United States, residing near Lexington, in the county of Davidson and State of North Carolina, have invented a new and useful Indicator for Acetylene-Gas Generators, of which the following is a specification.

The device forming the subject matter of this application, comprises indicating mechanism, adapted to be assembled with the carbide receptacle of an acetylene gas generator, for the purpose of indicating when the carbide has become depleted. Acetylene generators, as heretofore constructed, are devoid of some device for indicating the proper time to recharge the carbide receptacle. In order to ascertain whether or not the supply of carbide is sufficient, the carbide receptacle must be opened; or the generator must be permitted to operate until the supply of gas ceases; whereupon the receptacle must be recharged, and be recharged at night, the recharging of the receptacle at night, being a matter of difficulty, and an operation forbidden by underwriters' rules.

The present invention aims to provide an indicator which will be operated automatically, by the receding carbide in the generator, thereby indicating that the supply of carbide is becoming depleted; a means being provided for holding the closure upon the receptacle, which means, when operated, to permit a removal of the closure, will automatically reset the indicator, and restore to its original position, that element of the indicating mechanism which is engaged by the carbide.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings,—Figure 1 shows a side elevation partly in section, of one form of the invention; Fig. 2 is a fragmental section upon the line A—B of Fig. 1; Fig. 3 is a fragmental side elevation, the device being viewed at right angles to the showing of Fig. 1; and Fig. 4 is a

vertical section showing a modified form of the invention.

In carrying out the invention there is provided a receptacle 1, of any desired form, but ordinarily of the double conical shape shown.

The discharge end of the receptacle 1 is denoted by the numeral 2, and the intake end of the receptacle is denoted by the numeral 3. For the intake end 3, a removable closure 4 is provided. A tiltable member, preferably taking the form of a bail 6, is pivoted as shown at 5, to the upper portion of the receptacle 1, the bail 6 being adapted to extend across the top of the closure 4. Threaded into the intermediate portion of the bail 6, is a screw 7, adapted to bear upon the closure 4, to hold the same in place. Connected with one end of the bail 6, for movement therewith, is an outstanding finger 8, having a cam edge 9. The finger 8 is adapted to engage with the indicating mechanism, to reset the same, in the manner hereinafter set forth.

The receptacle 1 is equipped with a nipple 10, closed at its upper end by a cap 34, of any desired construction. The nipple 10 is provided with a bearing 10^a and a stuffing box 11, in which is journaled for rotation a rock shaft 12. The rock shaft 12 protrudes, at one end, through the nipple 10 one end of the rock shaft 12 carrying for movement with the rock shaft, an outstanding arm 14 which may be described as an indicator. The arm 14 is adapted to move vertically along an upstanding guide member 15, secured to the receptacle 1. Rigidly mounted upon the outer, free end of the arm 14 is a disk 16, of considerable weight, the disk 16 being preferably colored black. The disk 16 is adapted to be maintained in alinement with another disk 17, ordinarily colored white, and rigidly upheld by an arm 18, secured to the guide member 15.

Rigidly secured to the projecting extremity of the rock shaft 12, and upon the outside of the receptacle 1, is a finger 19, having a cam edge 20, adapted to be engaged by the cam edge 9 of the finger 8. Secured to rock shaft 12, within the nipple 10, and extended downwardly into the receptacle 1, is an arm 21, provided with a foot plate 22, adapted to engage the side wall of the receptacle 1, adjacent the discharge end 2 thereof, the construction being such that when there is a sufficient supply of car-

bid 23 in the receptacle 1, the foot plate 22 will be engaged with the carbid.

In Fig. 4 of the drawings, a slight modification of the invention is shown. Referring to Fig. 4, the receptacle is denoted by the numeral 24, the same being provided with a standard 25, carrying a case 26, provided with a dial 27. Rotatably mounted in the case 26 is a shaft 28, carrying at one end, a hand 29, adapted to move over the dial 27. Secured to the shaft 28 is a pinion 30, adapted to mesh into a segment 31, secured transversely to one end of an arm 32. This arm 32 replaces the arm 14, and may be considered as the indicator portion of the structure. The arm 32 is under the control of a spring 33, uniting the arm 32 with the receptacle 24.

Referring to Fig. 1, the operation of the device is as follows. So long as there is a proper supply of carbid 23 within the receptacle 1, the foot plate 22 will be held against the side wall of the receptacle 1, as shown. Under such circumstances, the disk 16 will be alined with the disk 17, and when these two disks are in alinement, the operator may be assured that the supply of carbid is sufficient. When the supply of carbid has receded within the receptacle 1, so as to free the foot plate 22, the relatively heavy disk 16 will tilt the arm 14, moving the disks 16 and 17 out of alinement. This tilting of the arm 14 will cause a partial rotation of the rock shaft 12, swinging the foot plate 22 inwardly, toward the axis of the receptacle 1, and elevating the free end of the finger 19. The screw 7 is then rotated, to set the closure 4 free, and the bail 6 is swung laterally, so that the closure 4 may be removed, for the insertion of carbid into the receptacle 1. When the bail 6 is thus tilted, the cam edge 9 of the finger 8 will ride along the cam edge 20 of the finger 19, causing a partial rotation of the rock shaft in a reverse direction, the foot plate 22 being swung laterally into engagement with the side wall of the receptacle 1, and the disks 16 and 17 being moved into alinement. The foot plate 22 is, therefore, so positioned that when the carbid is introduced into the receptacle 1, the carbid will hold the foot plate 22 in the position shown in Fig. 1, the disks 16 and 17 being alined, accordingly.

In that form of the invention which appears in Fig. 4, the operation is substantially the same as that set forth in connection with that form of the invention which appears in Fig. 1. When the carbid recedes sufficiently so that the foot plate 22 is set free, the spring 33 will actuate the arm 32, tilting the same, and causing the segment 31

to mesh into the pinion 30, causing a rotation of the shaft 28, the hand 29 moving over the dial 27 and indicating that the carbid has become depleted.

Having thus described the invention, what is claimed is:—

1. In a device of the class described, a receptacle; an indicator movably connected with the exterior of the receptacle; means within the receptacle, and under the control of the receding carbid, for moving with the indicator in one direction; a closure for the receptacle; movable means for retaining the closure upon the receptacle; and an element upon said means adapted to engage the indicator, to move the same in an opposite direction.

2. In a device of the class described, a receptacle; an indicator movable upon the exterior of the receptacle; means within the receptacle, and controlled by the receding carbid, for moving the indicator; a closure for the receptacle; a tiltable member pivotally connected with the receptacle; means carried by the tiltable member to engage the closure, to retain the same upon the receptacle; and an element upon the tiltable member, adapted to engage the indicator, to reset the same.

3. In a device of the class described, a receptacle; a rock shaft journaled therein; an indicator secured to the rock shaft and operating upon the outside of the receptacle; an arm secured to the rock shaft and extended within the receptacle, for engagement by the carbid; a finger secured to the rock shaft and located upon the outside of the receptacle; a closure for the receptacle; a member tiltable secured to the receptacle, and having means for holding the closure in place; and an element upon the tiltable member, adapted to engage with the finger.

4. In a device of the class described, a receptacle; a series of radially disposed elements, two of which are located upon the outside of the receptacle, the third of which is located within the receptacle; means for pivoting said elements to the receptacle at a common point; a closure for the receptacle; and a tiltable member connected with the receptacle and adapted to maintain the closure in place, the tiltable member having means to engage with one of the exterior, radially disposed elements.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOEL EDGAR HILL.

Witnesses:

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