N. H. HALE.

CARBIDE DISCHARGING MEANS.

APPLICATION FILED OCT. 3, 1921.

1,438,595.

Patented Dec. 12, 1922.

2 SHEETS—SHEET 1.

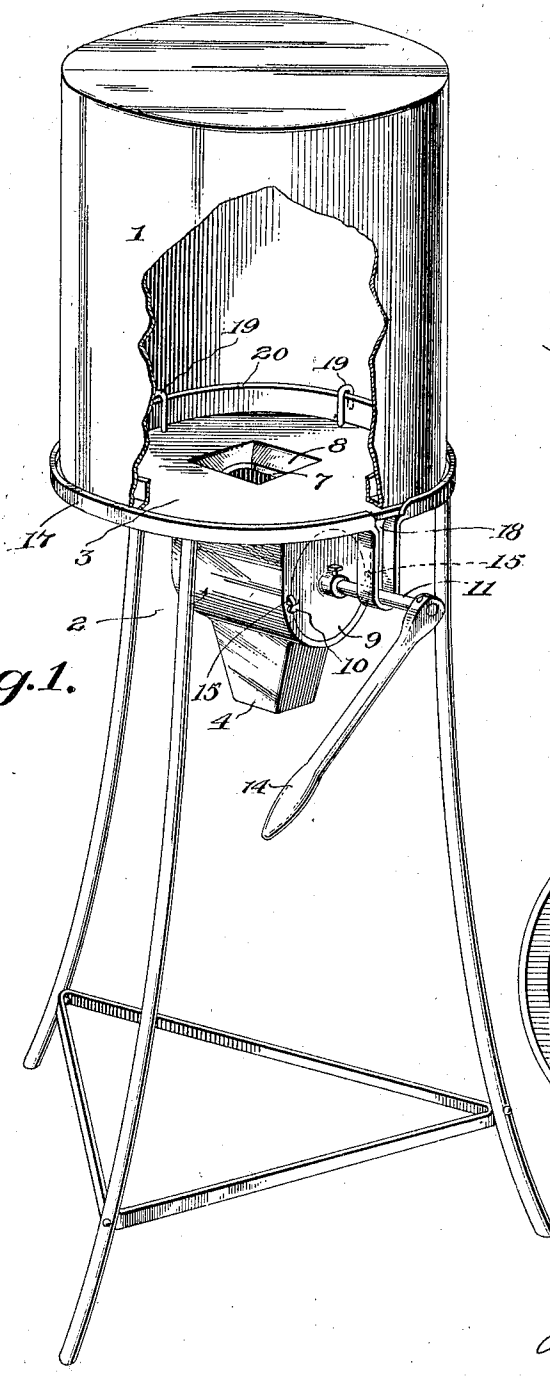


Fig. 1.

Fig. 6.

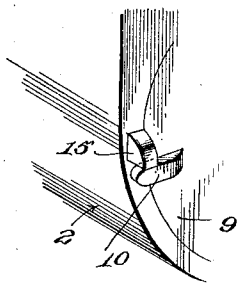
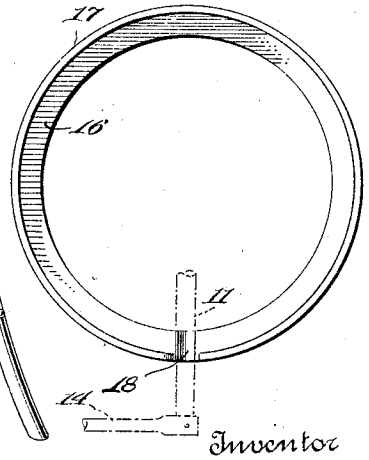


Fig. 7.



Inventor

Nathaniel H. Hale,

Eccleston & Eccleston

Attorneys

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2 SHEETS—SHEET 2.

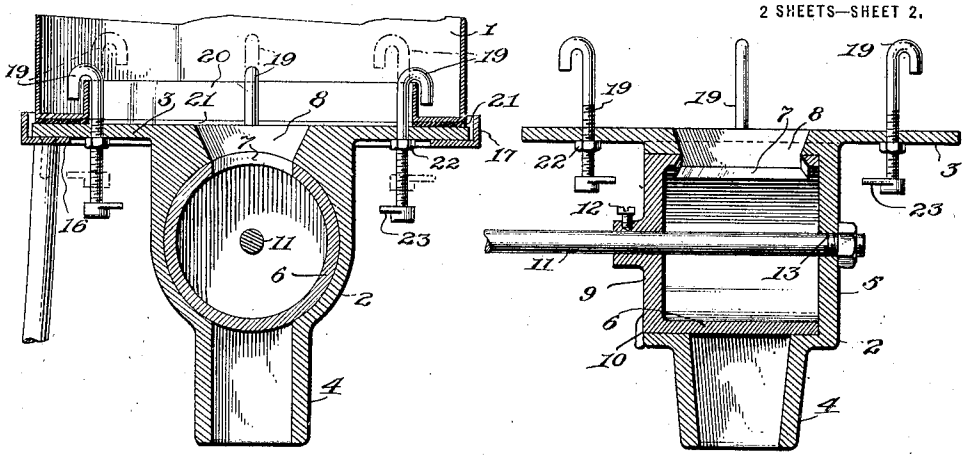


Fig. 2.

Fig. 3.

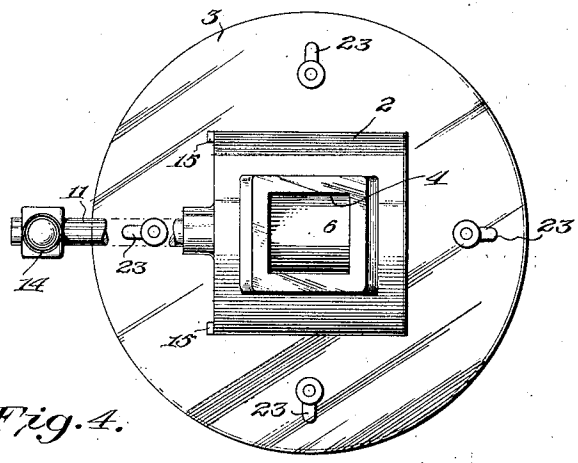


Fig. 4.

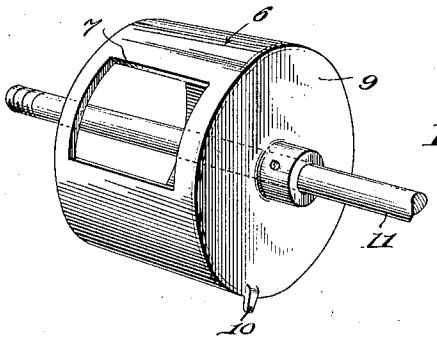


Fig. 5.

Inventor

Nathaniel H. Hale,

Eccleston & Eccleston

Attorneys

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UNITED STATES PATENT OFFICE.

NATHANIEL H. HALE, OF STONE, KENTUCKY.

CARBIDE-DISCHARGING MEANS.

Application filed October 3, 1921. Serial No. 505,112.

To all whom it may concern:

Be it known that I, NATHANIEL H. HALE, a citizen of the United States, residing at Stone, in the county of Pike and State of Kentucky, have invented certain new and useful Improvements in Carbide-Discharging Machines, of which the following is a full, clear, and exact description thereof.

My invention relates to carbide discharging machines, and one of the objects of my invention is to provide a machine of this character which will discharge carbide in accurately measured quantities.

Another purpose of my invention is to provide a carbide discharging machine which eliminates the necessity for any special container, the ordinary carbide shipping drum being applied directly to the discharging machine, and thus there is no transfer of the carbide.

Another purpose of my invention is to provide a machine of this character wherein the desired amount of carbide may be quickly dispensed without the necessity of the clerk's hands coming into contact with the carbide.

Another advantageous result of my invention is that it prevents the escape into the storeroom of the disagreeable carbide fumes.

Another advantage of my invention resides in the great saving of time which is accomplished.

Still another advantage resulting from the use of my invention is that the carbide is maintained in a better condition, due to the fact that it is not necessary to be continually removing and replacing the cover, thereby admitting air and consequently slacking the carbide to some extent.

Other advantages of my invention will become apparent as the description proceeds.

In the present practice of selling carbide for miners' lamps and for similar purposes, it is necessary every time there is a sale, for the clerk to remove the cover from the carbide drum, scoop out and weigh the carbide, and then secure the cover in place again. This takes much time, and besides that the storeroom becomes filled with the disagreeable carbide fumes; and air is admitted to the carbide drum resulting in some slacking of the carbide. It is also necessary for the clerk to take the time to wash his hands each time he handles the carbide.

All of the above noted inconveniences and others are overcome by the use of my invention, which I will now describe in detail, reference being had to the accompanying drawings, in which,

Figure 1 is a perspective view of the apparatus completely assembled.

Figure 2 is a transverse sectional view of the discharging apparatus, the table and drum being broken off.

Figure 3 is a longitudinal sectional view of the discharging apparatus, which is shown as removed from the drum and table.

Figure 4 is a plan view of the discharging apparatus from the under side.

Figure 5 is a detail perspective view of the measuring cup.

Figure 6 is a fragmentary view showing the stop arrangement; and,

Figure 7 is a detail view of the table, with the drum and discharging apparatus removed.

Referring to the drawings more in detail, numeral 1 indicates the ordinary carbide shipping drum, and in the present invention this drum is applied directly to the discharging and measuring mechanism. Numeral 2 refers to the body of the discharging apparatus, and cast integral with this body is the supporting flange 3, and the discharging nozzle 4. The body member is closed at one end 5, and is open at the other end, and is adapted to receive the measuring cup 6.

The measuring cup 6 is provided with an opening 7 which is arranged to register alternately with the opening 8 in the body, and with the nozzle 4. The measuring cup is entirely open at one end and is closed at the opposite end 9, and cast on the closed end is a lug 10 for arresting the rotative movement of the cup. The cup is attached to the operating shaft 11 by a set screw 12, and the shaft is journalled in one wall of the body member as indicated by numeral 13. The shaft is provided on its opposite end with any desired form of operating lever 14.

Two lugs 15, adapted to be engaged by the lug 10 on the measuring cup, are cast integral with the body member.

To support the apparatus I provide any suitable stand or table having an annular base member 16 on which the flange 3 rests. the discharging mechanism projecting downwardly through the opening in the table or stand. An upwardly projecting flange 17 is provided on the annular base member for the purpose of firmly holding the supporting

flange 3 and the carbide drum 1. A slot 18 is provided in the annular base member to permit the operating shaft 11 to pass downwardly through the table, and if desired a stirrup may be provided to assist in supporting the operating shaft after the mechanism is assembled on the table.

I will now describe the means for securing the discharge mechanism to the carbide drum.

Screw-threaded hook-shaped members 19 pass through the supporting flanges 3, and the hooks are adapted to engage over the inwardly projecting collar 20 provided on all carbide drums. A gasket 21 is employed between the supporting flange 3 and the carbide drum for the purpose of preventing the admission of air to the drum. By setting up on the nuts 22 the drum, the gasket, and the discharge mechanism, are bound tightly together.

To remove the drum it is only necessary to loosen the nuts, push the hook members upwardly and rotate them a half turn out of engagement with the collar on the drum. Indicating fingers 23 are provided on the hook-shaped members for the purpose of showing the position of the hooks and thus facilitate the mounting and removal of the drum.

The operation of the apparatus is obvious. Assuming the parts to be in the position shown in Fig. 2, the carbide will flow from the drum into the measuring cup and fill the latter. Now when it is desired to dispense the carbide it is only necessary to grasp the operating lever and rotate the cup until the lug 10 engages the lug 15. The position of the measuring cup is now reversed, and the opening 7 will register with the discharge nozzle, thereby permitting the carbide to flow into the bag which is held around the discharge nozzle. The cup is now rotated in the opposite direction until the lug 10 engages the other lug 15, when the opening 7 registers with the opening 8, thereby allowing the carbide to again fill the measuring cup. Of course the cup will be made of such size as to discharge the desired amount of carbide at each operation of the apparatus.

From the foregoing description it will be clear that I have devised an inexpensive apparatus which will quickly discharge accurately measured amounts of the material: that it is unnecessary to employ any special container with the apparatus as the carbide shipping drum is applied directly to the discharging apparatus, and by so employing the drum it becomes unnecessary to handle the carbide at all; that air is prevented from entering the carbide drum at all times; and that as the bag covers the nozzle when carbide is being dispensed, the disagreeable fumes from the carbide are not allowed to escape into the room.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A discharging and measuring apparatus including a body member, a measuring cup oscillatively mounted in the body member, a supporting flange cast on the body member, a stand, said stand having an annular base member for receiving and supporting said flange, a container detachably connected to said supporting flange, said container comprising a conventional carbide shipping drum.

2. A measuring and discharging apparatus including a body member, a measuring cup rotatively mounted in the body member, a supporting flange provided on the body member, a container associated with the body member, said container comprising a conventional carbide shipping drum, and means for securing the container to the body member, said securing means comprising hook-shaped members passing through the supporting flange and engaging over the inwardly extending collar of the carbide drum.

3. A measuring and discharging apparatus including a body member, a measuring cup rotatively mounted in the body member, a supporting flange provided on the body member, a container associated with the body member, said container comprising a conventional carbide shipping drum, means for securing the container to the body member, said securing means comprising hook-shaped members passing through the supporting flange and engaging over the inwardly extending collar of the carbide drum, and means on said hook-shaped members for indicating whether said members are in or out of engagement with said collar.

4. A measuring and discharging apparatus including a body member, said member being open at one end and closed at the other end, a measuring cup rotatively mounted in said body member, said cup being open at one end and closed at the other end, a supporting flange provided on the body member, a table, said table having an annular base member for receiving said supporting flange, a container associated with the body member, said container being a conventional carbide shipping drum, means for securing said container to the body member, said means comprising hook-shaped members passing through the supporting flange and engaging over the inwardly extending collar of the carbide drum, and means for indicating the angular position of the hook-shaped members.

NATHANIEL H. HALE.