

No. 874,351.

PATENTED DEC. 17, 1907.

F. E. STOVER.
CARBID FEED VALVE.
APPLICATION FILED AUG. 1, 1907.

Fig. 1.

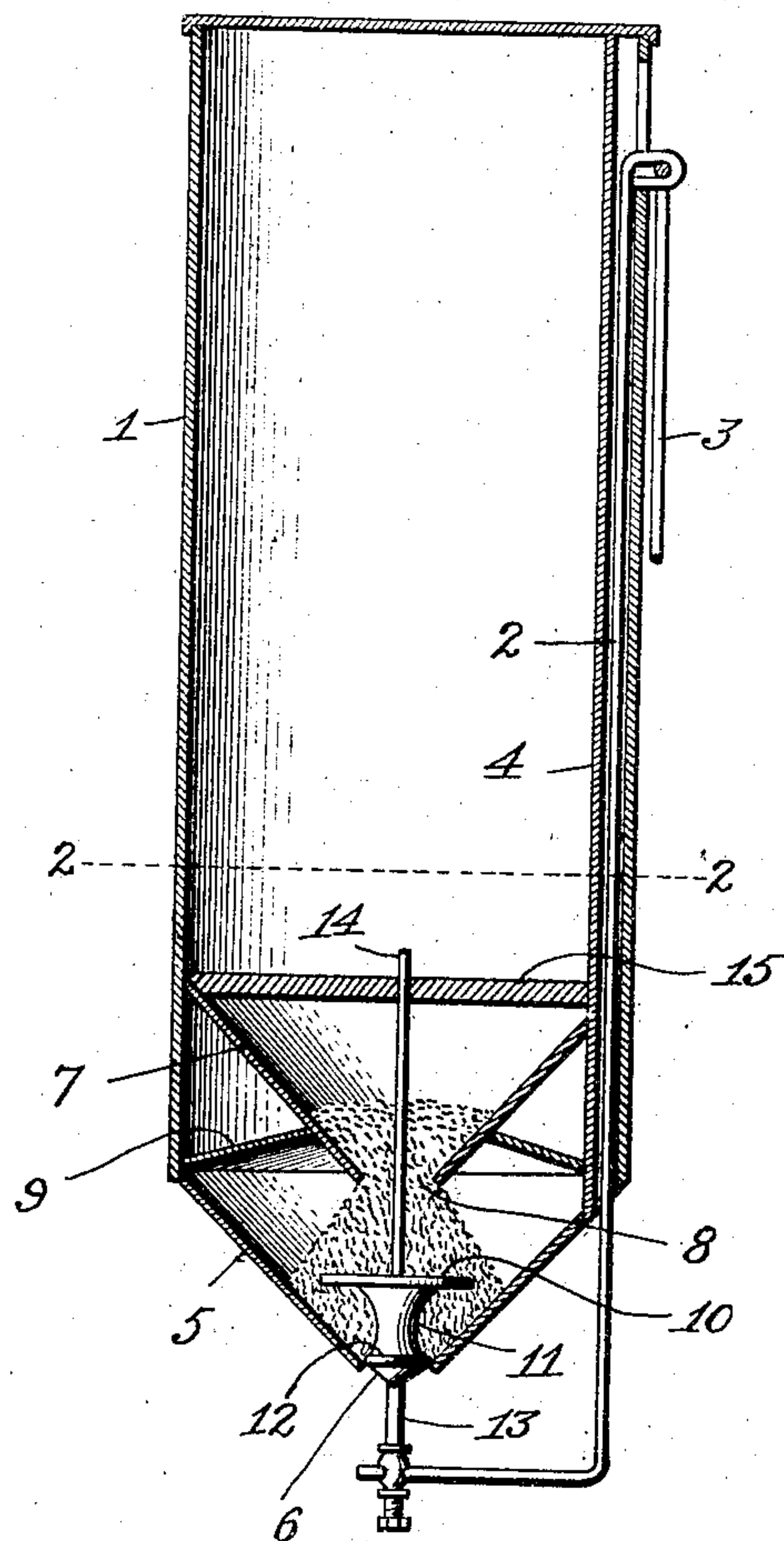
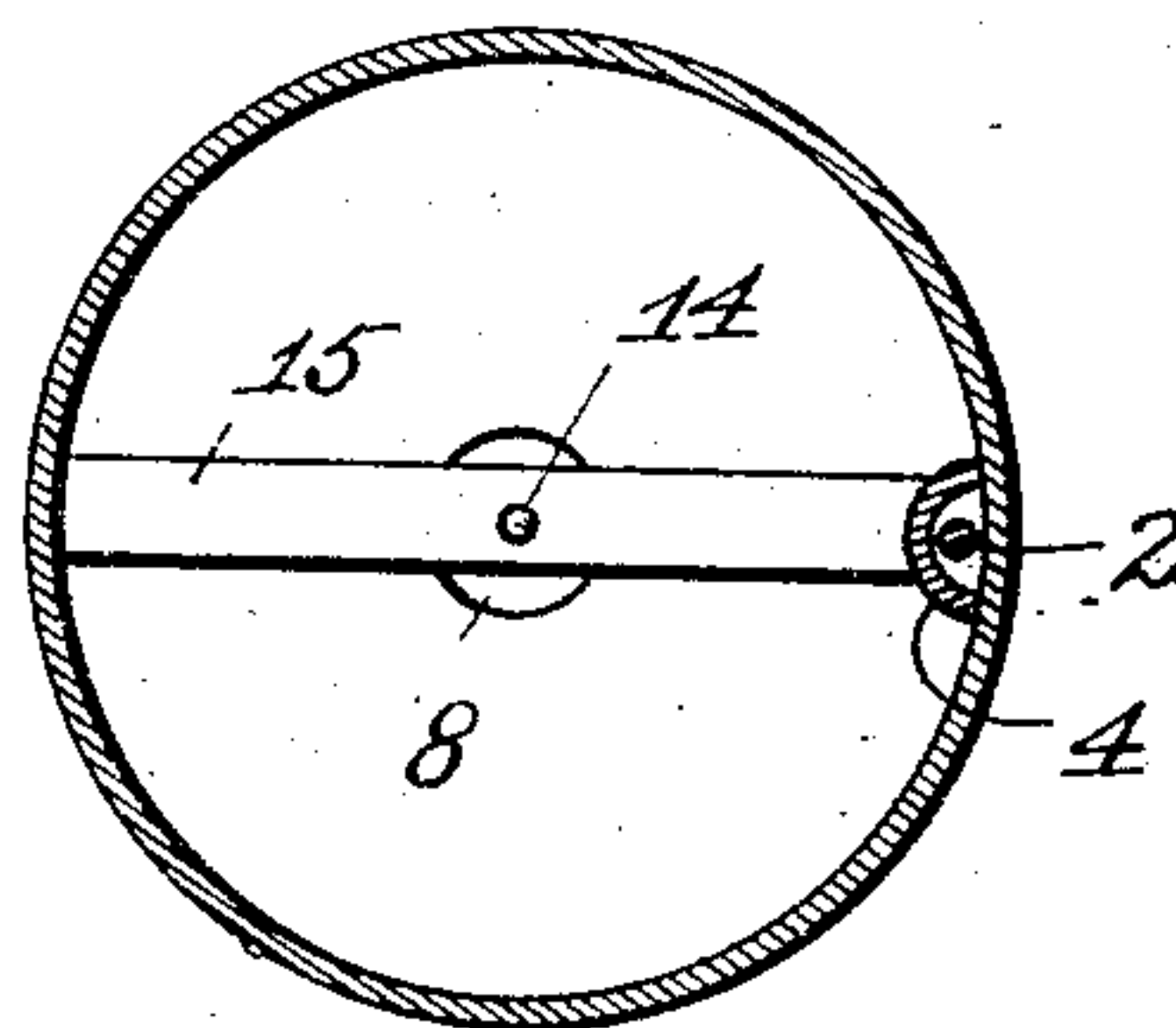


Fig. 2.



Witnesses

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CARBID-FEED VALVE.

No. 874,351.

Specification of Letters Patent.

Patented Dec. 17, 1907.

Application filed August 1, 1907. Serial No. 386,679.

To all whom it may concern:

Be it known that I, FRANK E. STOVER, a citizen of the United States, residing at Chattanooga, in the county of Hamilton, State of Tennessee, have invented new and useful Improvements in Carbid-Feed Valves, of which the following is a specification.

My invention relates to carbid feed valves for acetylene gas generators, and has for its object to provide an improved construction of the same whereby not only will the feed of the carbid be effectually checked when the valve is closed, but will also be checked when said valve is abnormally opened, the initial opening of the valve accelerating the flow of the carbid.

These objects I accomplish in the manner and by the means hereinafter described and claimed, reference being had to the accompanying drawing, in which:

Figure 1 is a central vertical sectional view of a carbid chamber with my improved valve in position therein. Fig. 2 is a horizontal sectional view taken on the line 2—2, Fig. 1. Similar numerals of reference denote corresponding parts in the two views.

In the said drawing the reference numeral 1 denotes a carbid chamber of a construction substantially similar to that shown in Letters Patent No. 853,746, granted to me May 14, 1907, a valve controlling rod 2, detachably connected at its upper end to a feed rod 3, passing downward in a pocket 4 formed in the side of chamber 1, serving to control the vertical movement of the valve hereinafter described.

The lower end of carbid chamber 1 is contracted into a funnel-shaped bottom 5 having a central aperture 6 therein for the discharge of the carbid, while within said chamber at a distance above said funnel-shaped bottom 5 is a similar funnel-shaped partition 7 similarly apertured centrally at 8, suitable braces 9 being employed to strengthen the same to sustain the weight of carbid in chamber 1.

Located in the space between said bottom 5 and partition 7 is my improved feed valve, the same embodying a circular flat top surface 10 somewhat broader than the opening 8 in the partition 7, a neck 11, and an enlargement 12 that normally fits into and closes the discharge opening 6 in the bottom 5, the under side of said enlargement lying substantially parallel with the inner side of the

bottom 5. A rod 13 extending downwardly from said valve is connected to the valve rod 2, while a rod 14 extending upward centrally from said valve passes freely through an aperture in a cross-bar 15 within the carbid chamber serves as a guide for said valve during its vertical movement.

From the above description the operation of my improved construction will be understood as follows: With the valve in its closed position, as shown in Fig. 1, the enlargement 12 thereof fitting within the bottom 5 effectually closes the same. At the same time the upper flat surface 10 thereof lies well below the opening 8 in partition 7, and the carbid flows through said opening 8 and builds up on and around said flat surface 10 and valve neck 11. Now, when the valve rod 2 is operated to lift the valve from its seat the upward movement of the flat surface 10 towards the partition 7 forces off on all sides the carbid piled thereon whereby it may more readily feed through the opening 6, as will be readily understood. A further or abnormal upward movement of the valve results in checking the flow of the carbid through opening 8 in partition 7 as the upper surface 10 of the valve approaches said partition, and a sufficient upward movement will necessarily completely stop the same, as will be readily understood. The action of the flat upper surface 10 thus initially augments the flow of the carbid when the valve is first opened, and then upon further upward movement thereof gradually checks the flow, and upon sufficient upward movement completely stops the flow.

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

1. In combination with a carbid chamber having an unobstructed discharge opening in its bottom and a partition above said bottom provided with an unobstructed aperture therethrough, a feed valve located in the space between said bottom and partition and having a flat top surface, said feed valve adapted in its downward movement to close said bottom aperture, in its initial upward movement to augment the flow of carbid, and in its further upward movement to stop the flow of carbid.

2. In combination with a carbid chamber having a discharge opening in its bottom and an apertured partition above said bottom, a

feed valve located in the space between said bottom and partition and having a flat top surface and a lower closing enlargement, said flat top surface acting upon the initial upward movement of said valve to force off therefrom the carbid piled thereon, and upon further upward movement to stop the flow of carbid through the aperture in said partition.

3. In combination with a carbid chamber having a funnel-shaped bottom with a central discharge opening therein, and a similarly shaped centrally apertured partition above said bottom, a feed valve located in the space between said bottom and partition

and having a flat top surface and a lower closing enlargement, said flat top surface acting upon the initial upward movement of said valve to force off therefrom the carbid piled thereon, and upon further upward movement to stop the flow of carbid through the aperture in said partition.

In testimony whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

FRANK E. STOVER.

Witnesses:

D. C. McKIM,

EMMET C. BERREY.