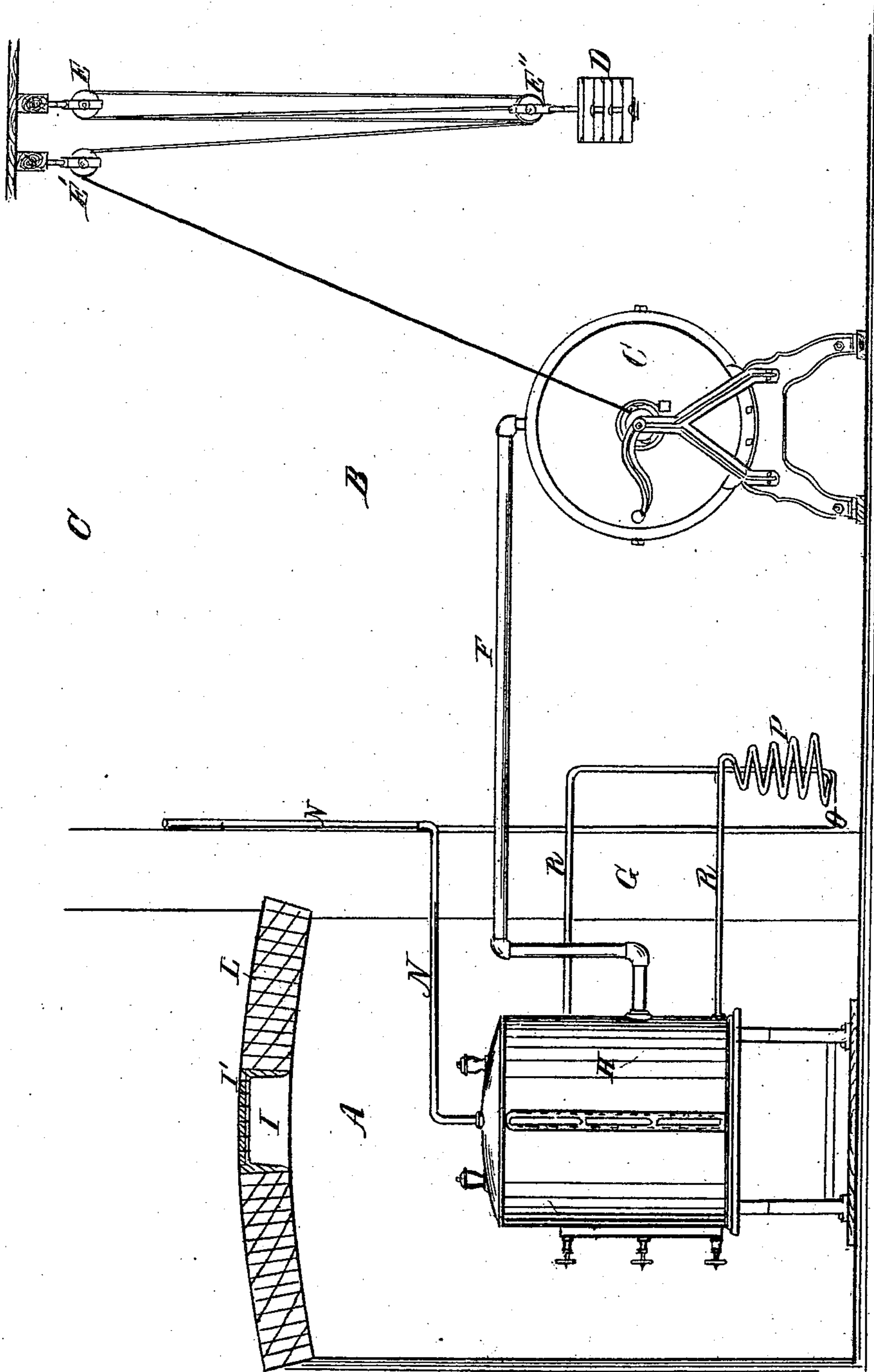


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J. F. BARKER & C. N. GILBERT.  
APPARATUS FOR CARBURETTING AIR.



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# United States Patent Office.

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Letters Patent No. 93,268, dated August 3, 1869.

## IMPROVED APPARATUS FOR CARBURETTING AIR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, J. F. BARKER, of Springfield, in the county of Hampden, and State of Massachusetts, and C. N. GILBERT, of the city, county, and State of New York, have invented a new and useful Improvement in Apparatus for Carburetting Air; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a view showing the general arrangement of the carburetter with the pump or meter-wheel, which drives the air through the carburetter, together with the connecting-pipes, and the coil and pipes for heating the oil contained within the carburetter.

Our invention relates to the apparatus used for carburetting air in the manufacture of illuminating-gas; and consists in the arrangement of the carburetter with the meter-wheel or pump for driving the air through said carburetter to the burners, and the coil and heating-pipes for evaporating the oil within the carburetter, whereby the whole apparatus is rendered perfectly safe with regard to life and property in the building lighted, the carburetter being situated in a vault or house away from the building to be lighted, while the heating-apparatus and the pump or meter-wheel are within the building to be lighted, and where they can be easily and quickly reached, and under perfect control of the occupant of the house.

That others skilled in the art may be able to make and use our invention, we will proceed to describe its construction and arrangement, and its application to use.

In the drawings—

B represents the cellar of the building to be lighted, and

G, the outside wall of the house.

A represents a vault, made outside the cellar of the building to be lighted, and under ground, I being a man-hole, through which to enter the said vault when necessary, said hole being covered with a grating, or hammered glass, as may be desirable.

This vault A may be made with no other place of ingress or egress except the man-hole I, and the carburetter is set therein, and then arched over at the top with bricks, stone, or other material, L.

The meter-wheel or pump C is set in the cellar B of the building to be lighted, the said wheel or pump being driven by the weight D, suspended and arranged with the pulleys E E' E'' and cord S, one end of which is attached to the winding-drum upon the pump C.

The pipe F, passing through the outer wall G, con-

nects the pump C with the carburetter H, and furnishes a conduit for the passage of the air from the pump C to the carburetter H.

The heating-coil P is placed also in the cellar B of the building to be lighted, and is connected by the pipes R R' to the carburetter C, said pipes passing through the wall G.

The pipe N passes out the top of the carburetter H, and through the wall G into the building to be lighted, and thence into the distributing-pipes to the burners.

All the apertures in the wall G through which the pipes pass, may be made tight around the pipes, so that there shall be no leakage of gas from the vault A through said apertures into the cellar B.

It is evident that the vault A may be made at any desired distance from the cellar B, the pipes being laid in the ground and passing through the wall G. Large manufactories may be lighted in this way, the vault A being made fifty feet or even more from the building to be lighted, so that the possibility of any accident resulting from the escape of gas from the carburetter shall be entirely removed, as there will then be no vessel containing gas within or near the building to be lighted.

It will be seen that all the apparatus which requires care is situated within the cellar B.

O is a small gas-pipe, supplying gas to the burner under the coil P; and whenever it becomes necessary to heat the oil in the carburetter, it is easily done by lighting the gas at the burner under the coil, and the water or other heating-fluid rises in the coil as it becomes heated, passes through the lower pipe R' into and up through the carburetter, out through the upper pipe R, and down into the lower part of the coil again, and a constant circulation of hot water is kept passing through the carburetter H as long as the gas is kept lighted under the coil P.

The pump C and coil P, being the only parts of the apparatus which require daily care, are within easy access of the persons having charge of the apparatus, and can be attended to by descending into the cellar; while the carburetter, being once filled, need require no care for months, the occasional attentions requisite being given to it by descending through the man-hole I.

It is evident that the meter-wheel may be driven by a spring applied to the drum, or other mechanical power, which would be an equivalent to the suspended weight and cord.

We are aware, however, that a meter-wheel has been driven by a suspended or descending weight, and also by other applications of mechanical power, and we do not claim the same irrespective of our arrangement

The pump C and coil P, being the only parts of the apparatus which require daily care, are within easy access of the persons having charge of the apparatus, and can be attended to by descending into the cellar, while the carbureter being once filled need require no care for months, the occasional attentions requisite being given to it by descending through the man-hole I.

It is evident that the meter-wheel may be driven by a spring applied to the drum or other mechanical power, which would be an equivalent to the suspended weight and cord. We are aware, however, that a meter-wheel has been driven by a suspended or descending weight, and also by other applications of mechanical power; and we do not claim the same irrespective of our arrangement of the wheel with the carbureter and the connecting-pipes; neither do we claim the combination of a meter-wheel with a carbureter; but

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of the carbureter with a meter-wheel, said wheel being driven by a descending weight, or other equivalent mechanical power, applied to force the air through the carbureter to the burners, said carbureter being placed within a vault by itself, separate from the building to be lighted, the whole arranged and connected with pipes substantially as herein described and set forth.

2. The heating-coil P and pipes R R' connected with a carbureter, said carbureter being placed within a vault by itself, while the coil is placed within the cellar or building to be lighted, the whole arranged substantially as herein described, and for the purpose specified.

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