

CHARLES H. PIERSON.

Improvement in Carbureters.

No. 127,366.

Patented May 28, 1872.

Fig. 1.

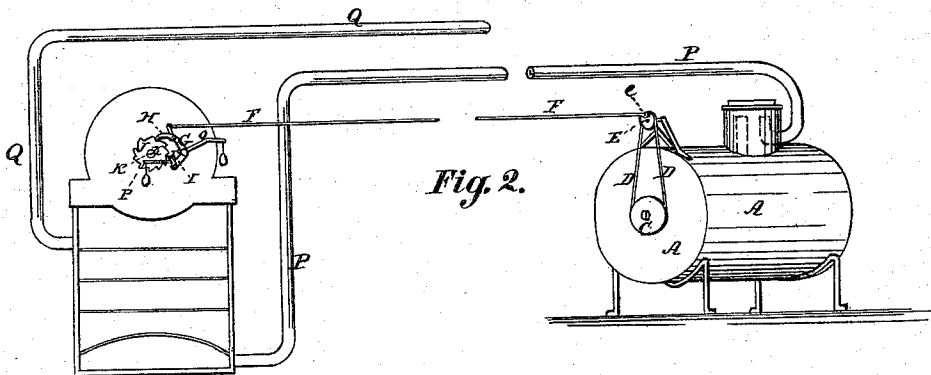
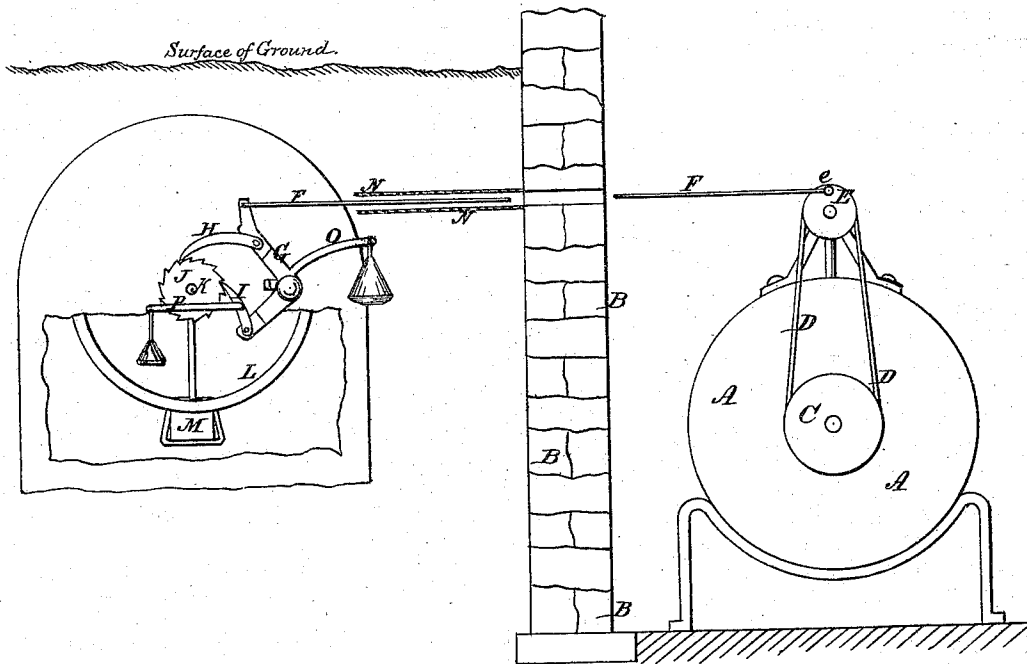


Fig. 2.

Witnesses:

Robt. Edw. Stevens

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Inventor:

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UNITED STATES PATENT OFFICE.

CHARLES H. PIERSON, OF PLAINFIELD, NEW JERSEY, ASSIGNOR OF ONE
HALF OF HIS RIGHT TO EDWARD B. DENNY, OF NEW YORK, N. Y.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. 127,366, dated May 28, 1872.

To all whom it may concern:

Be it known that I, CHARLES H. PIERSON, of Plainfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Carbureting Apparatus, of which the following is a specification:

My invention relates to apparatus for carbureting atmospheric air for illuminating purposes; and my said invention consists of arranging the air-wheel for supplying air to the generator in the basement or cellar of the house, and the generating apparatus away from the house and below the surface of the ground, and connecting the two by devices which will communicate the motion of the pump-shaft to produce a continuous motion of the gasoline feed-wheel, and by this means arranging the generating devices at a safe distance from the dwelling, and thus avoid all danger from accidents by explosion. My improvement also consists of certain feed devices arranged upon the outside of the gas-generator, and operated by an eccentric receiving motion from the air-wheel or pump-shaft, as will be hereinafter described.

In the accompanying drawing, Figure 1 represents an elevation showing the air-wheel and the feeding device of the generator arranged and connected according to my improvement; and Fig. 2 represents a similar view, showing the connecting air and gas supplying pipes of the pump and generator.

The air-wheel A may be of any suitable construction for supplying a continuous stream of air to the carbureting surfaces of the generator, and arranged in the cellar or basement B of a dwelling, the shaft of which wheel carries a pulley, C, from which a band or cord, D, leads to a smaller pulley, E, suitably supported at the top of the pump, and having a wrist or crank pin, *e*, for the attachment thereto of a connecting-rod, F. By this arrangement the crank-pulley E is caused to have a rapid motion from the larger pulley C of the air-wheel, and the connecting-rod F, being carried outside of the building, is connected to the shaft of the feeding-wheel by suitable feeding devices, so that the revolution of the crank-pulley E will communicate a rapid reciprocating motion to the connecting-rod F, which correspondingly vibrates a bell-crank lever, G, car-

rying suitable pivoted pawls H I, which take into a ratchet-wheel, J, on the end of the feed-wheel shaft K. The generator may be of any suitable construction; but my invention is designed to be used in connection with a revolving feed-wheel, L, having buckets M, (the feed, however, may be one that partially revolves, or one arranged to slide, or it may be a cock, the revolution of the eccentric causing it to open and shut, or any other feeding device which a wire and this peculiar cam motion would work,) the connecting-rod, F of course, being suitably protected by a case or tube, N, leading from the air-wheel in the house to the generator beneath the ground outside, so that the uninterrupted motion of the air-wheel derived from the usual winding weighted clutch may be communicated to the generator at a distance without interruption. The bell-crank lever G has its arms arranged so that one extends vertically horizontal, or nearly so, and they each carry one of the ratchet-pawls H I, both of which are arranged to engage with the teeth of the ratchet-wheel J, so that the vibration of the bell-crank lever G gives a continuous feed to the ratchet-wheel and the gasoline feed-wheel. This motion is derived directly from the crank-pulley E of the air-pump; but the bell-crank lever G is provided with a weighted arm, O, which tends constantly to pull the upper pawl H away from the ratchet-wheel J, thereby operating the latter by means of the lower pawl I, and in this way assisting the operation of both the crank-pulley E and the feed-wheel L. The lower pawl I also has a weighted arm, P, which keeps it engaged with the ratchet-wheel J. The feed-wheel L is arranged to revolve with it buckets M, within a gasoline chamber or reservoir, and the carbureting surfaces of the generator may be arranged in any convenient manner to receive the carbureting fluid from the buckets M, which are caused to tilt in their revolution.

My improvement, however, relates more particularly to the separation of the two principal features of the apparatus, the air-supply part and the gas-generating part, so that the movement of the one will be communicated to the moving parts of the other by under-ground and inclosed connections, thereby obtaining an apparatus working automatically, although its

parts are separated, and also avoid any fears or risks from explosions within the dwelling.

The air-wheel is also connected to the generating apparatus by means of suitable pipes P, through which the generator is supplied with air from the wheel, and which may be arranged in any suitable manner. The connection of the gasometer with the supply-pipes Q and their burners may be arranged in any suitable manner beneath the surface of the ground, and protected from the condensing effects of the change in temperature by any suitable means.

It is obvious that, instead of operating the connecting-rod F by pulleys, cog-gear may be used, and connect the operating rod within a slot in the face of the gear-wheel, so as to change the speed as required to effect the flow of the gasoline.

The separation of the carbureting apparatus and of the air-wheel, for the purpose of safety, has before been done, and several arrangements have been made the subjects of patents, in which the gas-generating apparatus has been located away from the house and buried beneath the ground, and connected by suitable pipes for supplying air from an air-wheel in the basement of the house. Carbureting apparatus have also been incased with-

in safety-vaults; and I do not wish to be understood as claiming these things, as my invention relates to connecting the air-supplying and gas-generating parts, when so separated, so that the motion of the former shall be communicated to and operate the gasoline-supplying device of the latter.

Having described my invention, I claim—

1. In a carbureting apparatus, the arrangement of the air-wheel A within the cellar or basement of a dwelling, and the gas-generating apparatus beneath the surface of the ground at a distance from the building, the two being connected by devices which will communicate the motion of the one to the operative parts of the other, so as to obtain the advantages herein specified.

2. In carbureting apparatus, in which the air-wheel and the gas-generator are separated from each other, I claim the connecting and operating devices, consisting of the pulley C and crank-pulley E, connecting-rod F, the weighted bell-crank lever G with its pawls H I, and the ratchet-wheel J on the gasoline feed-wheel shaft, as shown and described.

C. H. PIERSON.

Witnesses:

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