

J. H. HAYWARD.
Portable Gasometer.

No. 42,085.

Patented March 29, 1864.

Fig. 2

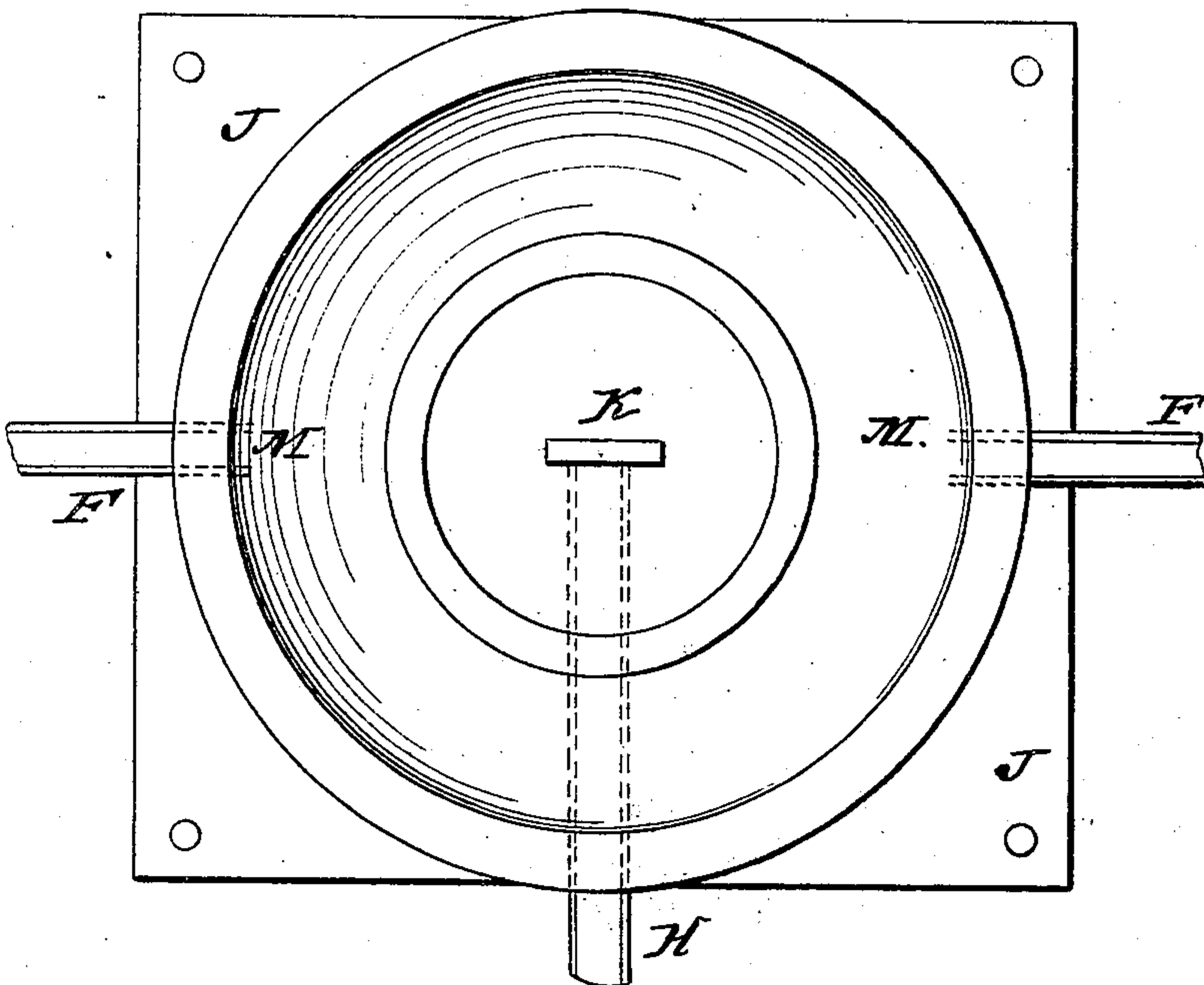
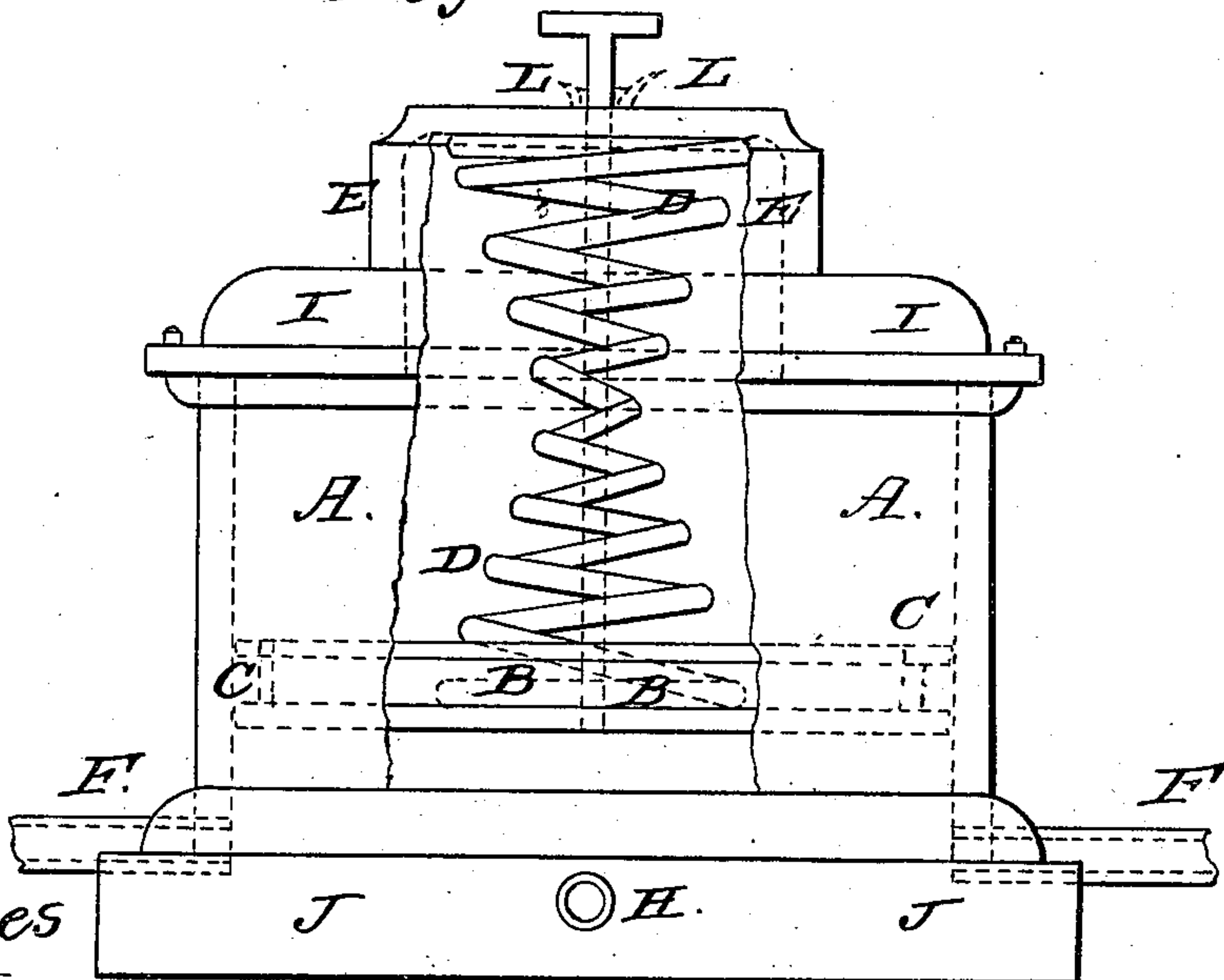


Fig. 1. G



Witnesses
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IMPROVED PORTABLE GASOMETER.

Specification forming part of Letters Patent No. **42,085**, dated March 29, 1864; antedated March 23, 1864.

To all whom it may concern:

Be it known that I, J. HENRY HAYWARD, author and journalist, of the city, county, and State of New York, have invented a new and useful machine for the purpose of lighting cars and other vehicles, or boats for traveling rivers, seas, lakes, and canals; and I hereby declare that the following is a full, clear, and exact description of the same, it being a portable gasometer, designed to convey gas from place to place for said purposes, references being had to the accompanying drawings, making a part of this specification, and the letters of reference marked thereon, in which the same letters represent the same thing in each figure.

Figure 1 is a vertical elevation with the casting broken, showing the interior. Fig. 2 is a plan view.

My invention consists in the form and arrangement and combination of the several parts, to wit:

First, Fig. 1, letters A A is a cylindrical case of metal, smoothly bored and ground out, so as to admit of the free movement up and down of the compressor B B, which is also of metal, turned and ground so as to fit the cylinder or case exactly, and having a recess, C C, a packing of oil, rubber, or any other suitable material to make it perfectly air-tight, so that the gas may not escape into the space above when it is admitted into the vacuum beneath the compressor, and thus equalize itself.

D D is a double-cone spring with the base of the upper cone immovably fixed into the spring-box E E, while the lower cone is thus also fastened to the upper surface of the compressor, upon which it operates, and, having a tendency to extend downward, it forces the compressor, when raised to the top, down to the bottom, thus expelling the gas beneath out through the egress-pipes F F to the burners.

G is a ratchet-rod, the lower end of which is fixed immovably in the center of the compressor, passing thence up through the center of the double-cone spring, out through an opening in the top and center of the spring-box, at which place is fixed a ratchet-collar,

L L, which, being arranged with a spring, closes on the teeth of the ratchet-rod as it slides down, and thus prevents the compressor from springing up and down with the motion of the car, vehicle, or boat, thereby securing a uniform pressure upon the gas within, the same also answering as a means whereby the compressor may be raised from the bottom to the top of the cylinder or case prior to its being charged with gas, which is done by means of an ordinary air-pump, which, being connected with the meter from which the gas is to be taken, draws it thence and forces it up through the supply-pipe H into the cylinder or case, the air having been first drawn out so as to create a complete vacuum, into which the gas is then compressed to the utmost capacity of the cylinder, which being thus charged and ready for use, the stop on the ratchet-collar is removed and the compressor thus permitted to set down on the gas, which is thus forced, first, by its own elasticity, and then by the compressor, out through the egress-pipes F F to the burners, regulated by the usual stop-cocks attached.

I I is the case-top and a part proper of the spring-box, and is simply bolted to the case.

J J is the base, by which the whole may be secured firmly to any desired place or thing.

K is the inner opening of the supply-pipe; M M, the inner openings of the egress-pipes.

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

1. The application of the movable piston-head or compressor and its several parts, for the purpose of expelling the gas.

2. The use of the double-cone spring, or springs of other shape, by means of which the gas is compressed and expelled from the cylinder.

3. The ratchet-rod with its several parts, as a means by which a steady and uniform pressure is maintained upon the gas while being expelled for consumption.

JOHN H. HAYWARD.

Witnesses:

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