R. R. MOFFATT.

Gas-Lighting Apparatus.

No. 197,879. Patented Dec. 4, 1877.

Fig. 1.

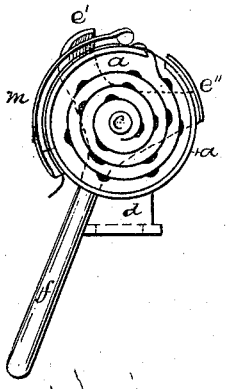


Fig. 2.

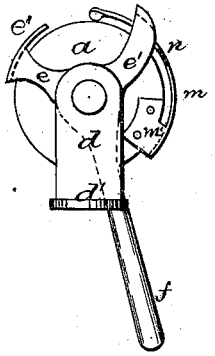


Fig. 3.

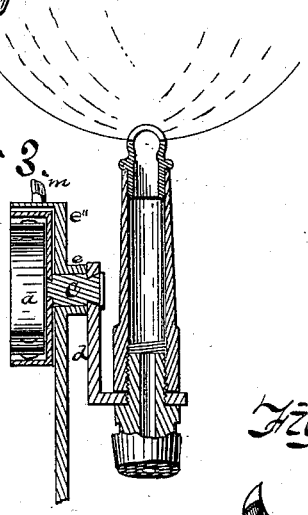


Fig. 4.

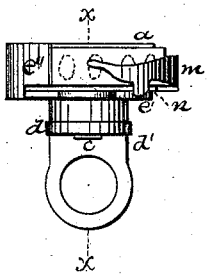
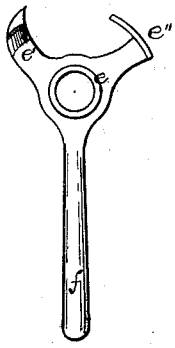


Fig. 5.



Witnesses:

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W. H. Hull.

Inventor:

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UNITED STATES PATENT OFFICE.

RICHARD R. MOFFATT, OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-THIRD HIS RIGHT TO CHARLES R. BROWER, OF SAME PLACE.

IMPROVEMENT IN GAS-LIGHTING APPARATUS.

Specification forming part of Letters Patent No. **197,879**, dated December 4, 1877; application filed October 10, 1877.

To all whom it may concern:

Be it known that I, RICHARD R. MOFFATT, of the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in an Apparatus for Lighting Gas, of which the following is a full description, reference being had to the accompanying drawings, and to the letters of reference marked thereon, said letters indicating corresponding parts in the several figures.

The object of this invention is to produce a cheap, reliable, and desirable gas-lighting attachment, that can be readily applied to gas-fixtures, and used with almost every kind of gas-burners without making alterations therein.

The nature of the invention consists in a novel method of constructing a gas-lighting apparatus, and also in attaching the same to the gas-fixture in such a manner as to permit its use in connection with various kinds of gas-burners.

In the attached drawings, Figure 1 represents a face view of the invention, looking into the magazine. Fig. 2 is a back view, showing the standard which holds the magazine and connects the apparatus to the gas-fixture, as also other parts of the invention. Fig. 3 is a sectional view of the apparatus, taken on the line *x x*, Fig. 4, showing it attached to a gas-fixture, with the burner in position for use. Fig. 4 is a top view of the apparatus. Fig. 5 represents the lever detached from the apparatus, showing its upper end provided with a cam, and also a feeding device.

In the several figures of the drawings, letter *a* is a cylindrical box or magazine, for holding a coil of paper tape primed at regular intervals with a percussion compound. This box or magazine is struck up out of sheet metal or cast, and is provided with an opening near its upper part, through which the primed tape passes in the operation of the apparatus, as shown in Fig. 1.

m is a spring, formed so as to pass partly around the periphery of the magazine, in such a manner that the paper tape (after the pellets are exploded) will pass between it and the magazine. One end of this spring is shaped so as to form and act as a hammer, with which to strike and explode the pellets upon the tape. As the latter is fed outward from the magazine, the other end, *m'*, is bent so as to pass down upon the side of the magazine, to which it is riveted or otherwise attached. *c* is a projecting pinion at the center of the cylinder *a*, by which it is firmly attached to the standard *d*. This standard is bent at its lower end so as to form an L shape, *d'*, in which part is a hole, that permits the standard (and apparatus) being attached to the gas-fixture, where the burner is screwed in place, as shown in Fig. 3.

The magazine *a*, and also the standard *d*, may be firmly attached to the shaft or pinion *c* by means of a screw or by riveting, as desired.

e is a cylindrical hub, which rotates upon the shaft *c*, and to which is attached a lever, *f*, at its lower part. On the upper part is a projecting cam, *e'*, which operates the spring-hammer. *e''* is also a projection upon the hub *e*, the upper part of which is formed so as to pass over the periphery of the magazine, to act as a means of feeding the primed tape out of said magazine by a rotating movement. Upon the spring-hammer *m* is a projecting spur, *n*, passing outward, so that the cam *e'* will move under it when rotated or moved in one direction. One edge of this spur is beveled, as is also the back edge of the cam *e'*, which permits of their passing each other without raising the hammer from its bearing upon the tape when the cam *e'* and feed *e''* are rotated or moved backward after a pellet has been exploded.

A cap or cover may be applied to the magazine in any desired manner, and stops for regulating the movements of the parts may also be applied in various ways.

The operation of this invention is as follows: The burner is removed from the gas-fixture, and the lighting apparatus is attached thereto by placing the screw portion of the fixture (where the burner is attached) through the opening or hole in the standard *d'*. The gas-burner is then replaced and firmly screwed down upon the standard, as shown in the drawing, Fig. 3. A primed tape is then inserted within the magazine, and one end of it is placed or passed through the opening, so that

a pellet will protrude beyond the magazine in front of the feed e''. The cap or cover is then placed in position, and the apparatus is ready for use. When the gas-cock has been turned so as to allow the gas to flow at the burner, the lever f is moved so as to rotate upon the shaft or pinion c, which also rotates the cam e' and the feeder e''. The latter pushes the primed tape out from the magazine with a percussion-pellet in front, while the cam e' passes under the spur n, and raises the spring-hammer m until it moves beyond the spur n, when the hammer falls and explodes the percussion-pellet that is in front of the feeder e'', the periphery of the magazine a acting as an anvil upon which to ignite it, thus firing the gas. When the lever f is returned by rotating it in the opposite direction, the cam e' passes the spur n without raising the hammer from the tape, as their back edges are beveled for that purpose, the spring-hammer being slightly pressed sidewise in passing. The feed e'', in returning to its former place, cannot force the tape back into the magazine, as the spring-hammer holds it firmly against the periphery of the magazine until the operation or movement for lighting is again made, when the feed e'' pushes forward the pellet-tape. At the same time the cam e' raises the spring-hammer, so as to permit of the tape moving with the feed, as already described. As the pellets are fired the tape moves or passes under the hammer-spring, and may be torn off when long. This is desirable, for if it fed upward, and was consumed by the gas-flame, the ash would fall and be objectionable.

Having thus fully described the object, construction, and the operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a gas-lighting apparatus, the standard d, constructed substantially as specified, for attaching the apparatus to a gas-fixture by screwing the burner into position, as herein set forth.

2. The combination, in a gas-lighting attachment, of the cylindrical magazine a, firmly secured to the standard d, and provided with a rotating cam, e', and feeding device e'', arranged substantially as and for the purpose herein specified.

3. The combination of the lever f, the cam e', and the feed e'', substantially as and for the purpose herein specified.

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Witnesses:

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