

(No Model.)

T. G. McEWEN.
APPARATUS FOR MANUFACTURING GAS.

No. 562,412.

Patented June 23, 1896.

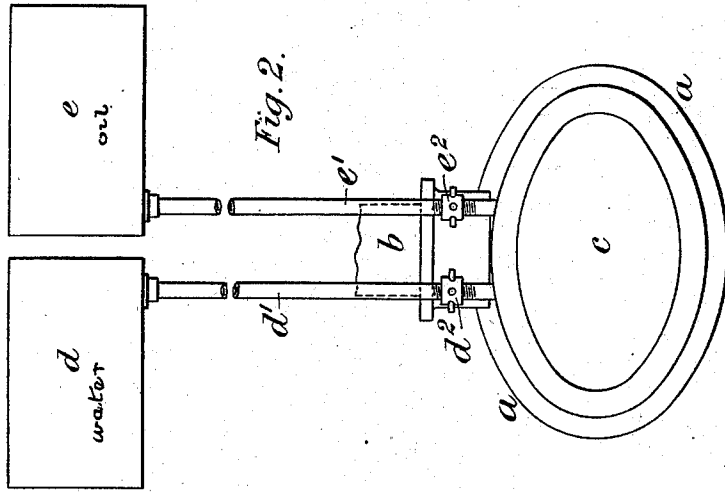


Fig. 2.

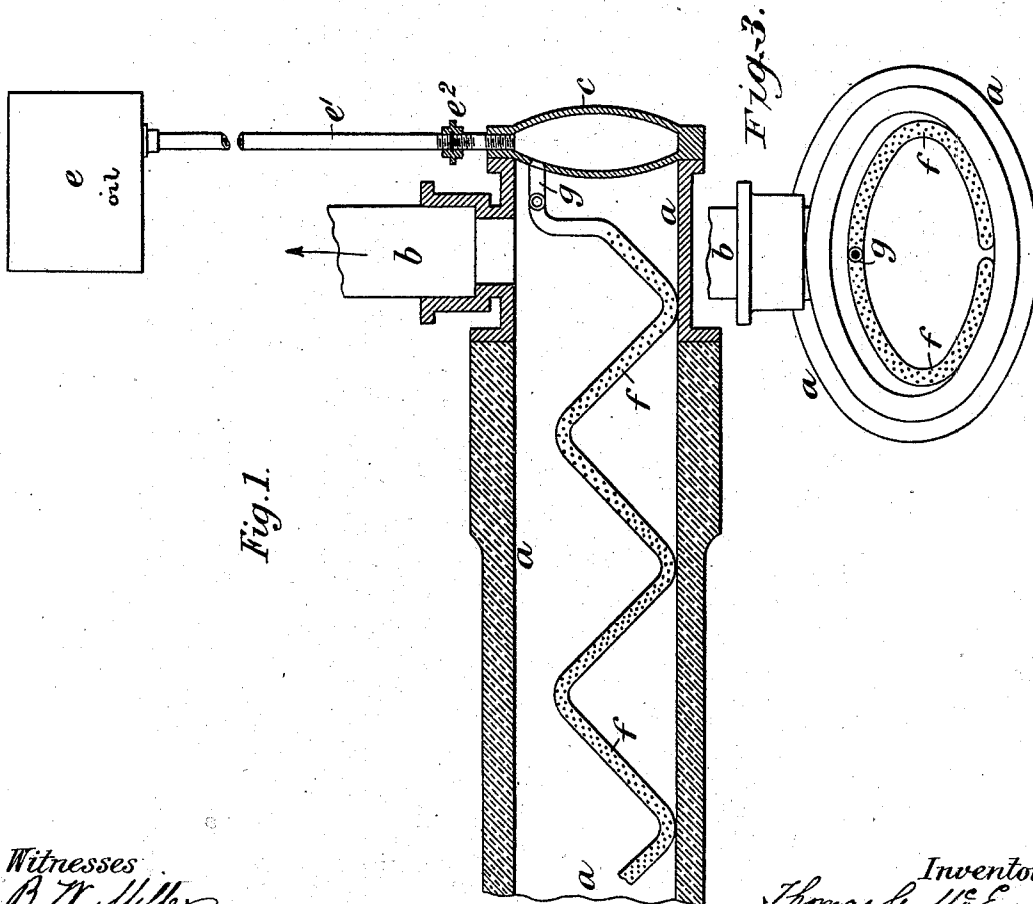


Fig. 1.

Fig. 3.

Witnesses
B. W. Miller.
Ray & Davis.

Inventor
Thomas G. McEwen.
By his Attorney,
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UNITED STATES PATENT OFFICE.

THOMAS GEORGE McEWEN, OF LONDON, ENGLAND, ASSIGNOR TO THE
UNIVERSAL GAS LIGHT AND FUEL SYNDICATE, LIMITED, OF SAME
PLACE.

APPARATUS FOR MANUFACTURING GAS.

SPECIFICATION forming part of Letters Patent No. 562,412, dated June 23, 1896.

Application filed August 5, 1895. Serial No. 558,269. (No model.) Patented in England May 5, 1894, No. 8,974.

To all whom it may concern:

Be it known that I, THOMAS GEORGE McEWEN, of Mount Carron, Hainault Road, Leytonstone, London, in the county of Essex, England, have invented certain new and useful Improvements in Apparatus for the Manufacture of Gas, (for which I have received Letters Patent in Great Britain, No. 8,974, dated May 5, 1894,) of which the following is a specification.

My apparatus is especially designed for producing a permanent gas from water and a hydrocarbon, such as petroleum, or other oil or fat, or it may be tar or the like.

The proportion of water may be varied from one-sixth to one-half, or more, according to the quality of the oil or other substance employed, the former proportion being suitable for a very light oil and the latter for a fat or tar.

In the accompanying drawings, Figure 1 is a longitudinal section of a part of a retort with my improvements applied. Fig. 2 is a front elevation of the same, and Fig. 3 is a similar view with the door removed.

a is the retort, and *b* the pipe leading gas from it. These are of ordinary construction.

c is the door, which is made hollow, as shown. It is secured in any suitable way, the fastening not being shown.

d and *e* are tanks supplying water and oil through pipes *d'* *e'* to the inside of the hollow door *c*.

*d*² *e*² are screw-couplings connecting the pipes *d'* *e'* to nozzles on the door, so that the latter can be opened to fill and empty the retort.

ff are perforated zigzag pipes in the retort, connected to a short horizontal pipe *g*,

having a conical end fitting into a corresponding seat in the door *c*.

When the door has become hot, oil and water are admitted into it together from the tanks *d* and *e*, and the resulting vapors pass by the pipe *g* into the perforated pipes *f*, where they are further heated. The permanent gas produced escapes through the perforations in the pipes *f* into the retort and passes away with the coal-gas through the pipe *b*.

In a similar way the door of a furnace may be made hollow, and be supplied with water and oil, the permanent gas produced being led into and burned in the furnace.

In my improved apparatus the oil floats on the surface of boiling water, and a most intimate mixture of steam with the vapor of hydrocarbon, at a comparatively low temperature, is obtained, and the danger of the minute drops of liquid hydrocarbon coming into contact with the hot surfaces in the subsequent treatment is obviated. The vapors pass directly, without being condensed or cooled, from the chamber where they are boiled to the retort.

I claim as my invention—

The herein-described apparatus, consisting of the combination of a furnace or retort, and a hollow door secured to one end thereof, inlet-pipes for conveying oil and water to the hollow door, and an outlet-pipe within the retort or furnace connected with the hollow door for conveying vapor therefrom.

THOMAS GEORGE McEWEN.

Witnesses:

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