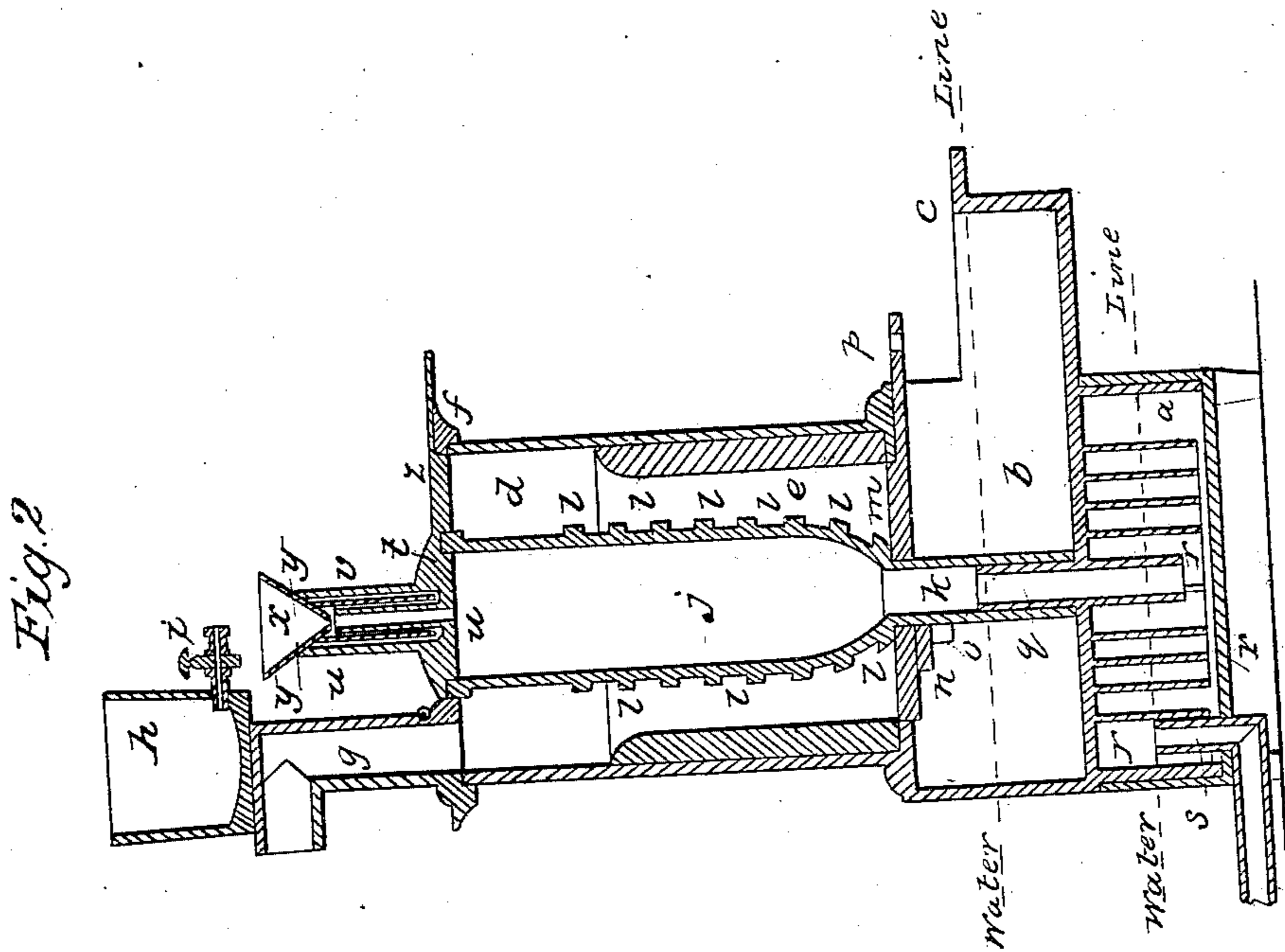
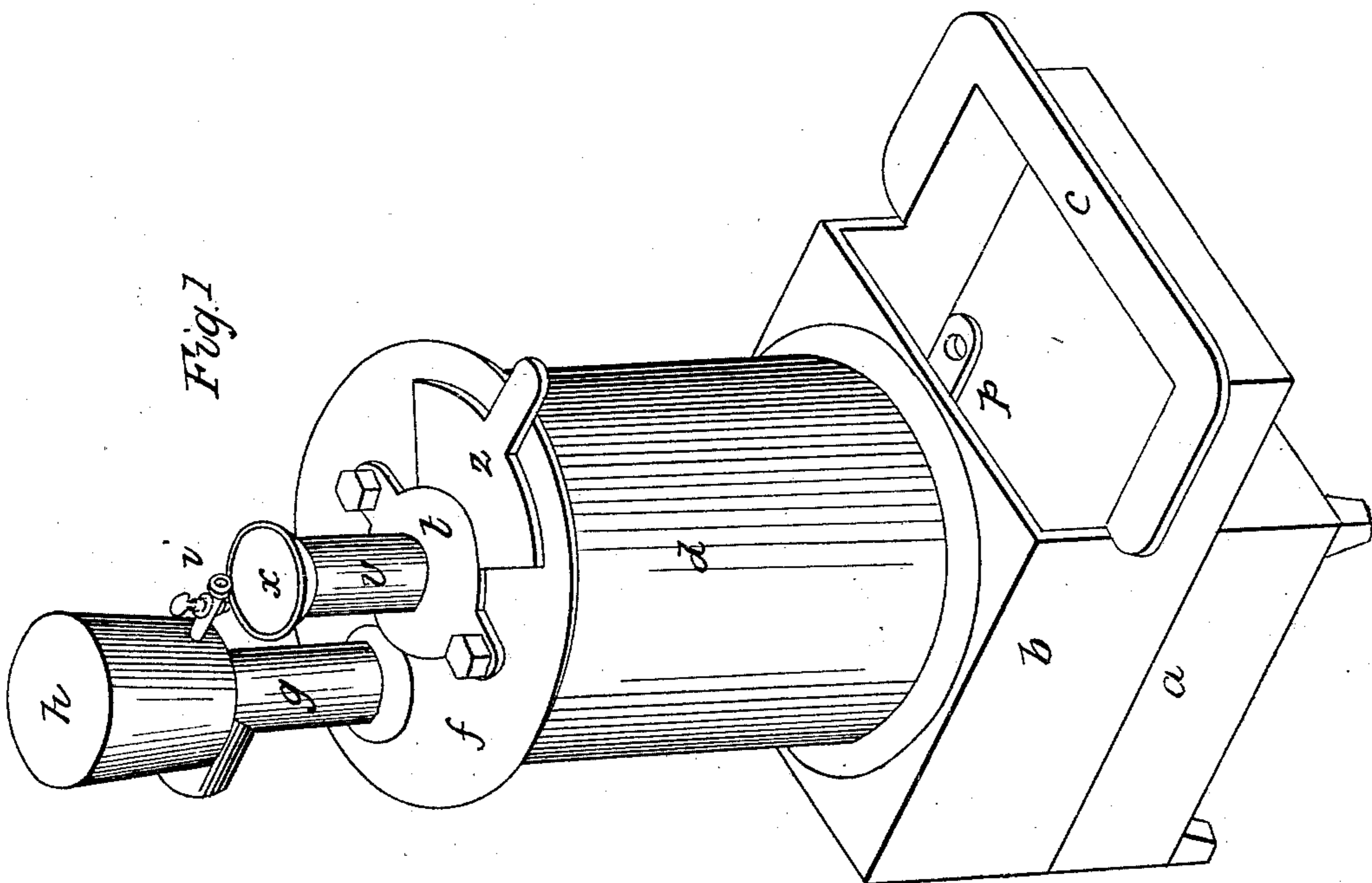


A. PIERCE.
Gas Apparatus.

No. 6,145.

Patented Feb. 27, 1849.



UNITED STATES PATENT OFFICE.

AMARIA PIERCE, OF PHILADELPHIA, PENNSYLVANIA.

GAS APPARATUS.

Specification of Letters Patent No. 6,145, dated February 27, 1849.

To all whom it may concern:

Be it known that I, AMARIA PIERCE, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and Improved Gas-Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an isometrical projection of the complete apparatus, and Fig. 2 is a vertical section of the same.

The base or lower part of the apparatus consists of a square box *a*, which, with its interior parts hereafter described, constitutes the condenser. On it, and (by means of a flange reaching down to the bottom) into it, fits the ashpit *b*, also of a square shape, which, half of its height, projects in front, forming a draft-hole, and having a hearth or rim *c* attached to it. On the ashpit sets the main cylinder *d*, which is lined with fire-brick *e*, and which forms the outside of the fire chamber. This cylinder has a close-fitting top-plate *f*, with a hole on which the smoke pipe *g* is placed, and on the top of the smoke pipe is set the rosin-kettle *h*, which has in front a cock *i*. Through the center of the top-plate is a larger hole, in which the retort *j* fits. This retort is of a cylindrical shape, gradually contracting at its lower extremity, and terminating in a smaller cylinder or pipe *k*, which passes through the fire grate hereafter described and extends down to the bottom of the ashpit, so as to form a direct connection with the condenser. The retort is furnished on its outside with projecting ribs or flanges *l*, the spaces between which are filled up with common clay of any kind, for the purpose of protecting the retort from the direct action of the fire, and consequently allowing the retort to be made of a less thickness, than otherwise required. The fire-grate *m*, corresponding in shape and size to the inner face of the fire-brick lining, is placed below the main cylinder, and rests on a crossbar *n*, supported by flanges *o* on the inner sides of the ashpit; it is held in its place by the retort setting on it, and has a handle *p*

extending in front of said ashpit, whereby it is caused to revolve around the pipe *k* to shake the ashes through. The cylinder or pipe *k* fits nicely over a pipe *q*, which passes through the bottom of the ashpit, extending upward into it beyond the water or fluid-line, and downward into the condenser somewhat below the water-line.

Fastened or cast to the underside of the bottom of the ashpit, and extending downward into, and nearly to the bottom of, the condenser is a spiral flange *r*, commencing near the pipe *q*, and winding around at uniform distances until it terminates, by a right-angular turn, against the back-plate of the condenser. Here, at its terminus, inside of the flue formed by the said spiral flange, a pipe *s* passes through the bottom of the condenser, and by an elbow-joint leads the gas to the gasometer.

The retort is covered by a lid *t*, which has a small central pipe *u* tending upward and passing into the cup *v*, which is cast with the lid, and the upper edge of which cup is somewhat above the upper edge of the last-named pipe. This said small central pipe *u* has a loose cover, the lower part of which consists of a pipe *w*, fitting over it and into the cup *v*, in such a manner as to leave a sufficient space between the said pipes *u* and *w*, and between the pipe *w* and the cup *v*, for the rosin to pass into the retort. On the top (and cast to) the loose cover is a funnel *x*, which receives the rosin from the cock of the rosin-kettle, and passes it through the perforations *y* in said funnel, said perforations being placed between the outside of the pipe *w* of the loose cover, and the inside of the cup *v* on the lid of the retort. *z* is a lid covering the opening in the top-plate *f*, through which the fuel is introduced into the fire-chamber.

The ashpit is filled with water, or any other suitable fluid, to a proper height, for the purpose of forming a fluid-joint between the retort and the condenser, so that the retort and the condenser, so that the retort may be taken out and put in without the necessity of having a permanent joint. The condenser is filled with water, to about half its height, for well known purposes.

What I claim as my invention, and desire to secure by Letters Patent, is:

1. The ribs or flanges *l* around the retort.
2. The passing of the lower end of the
5 retort through the fire-grate *m*, so as to connect it directly with the condenser.
3. The immersing of the lower end of the retort in water or other suitable fluid all of

which being constructed, arranged, and operating substantially, in the manner and for 10 the purposes herein above described.

AMARIA PIERCE.

Witnesses:

FRANCIS BENNE,
J. MITCHELL.