

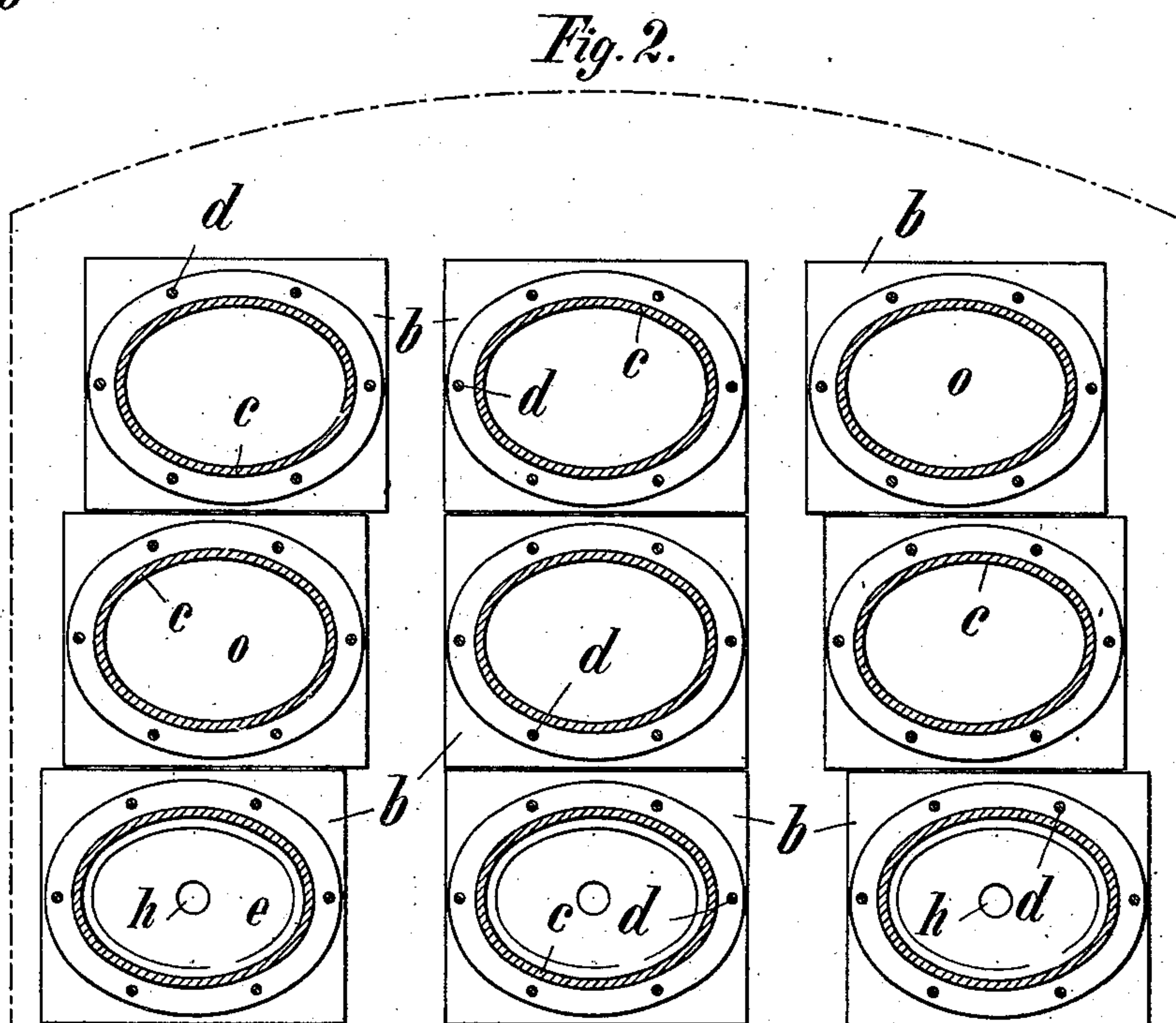
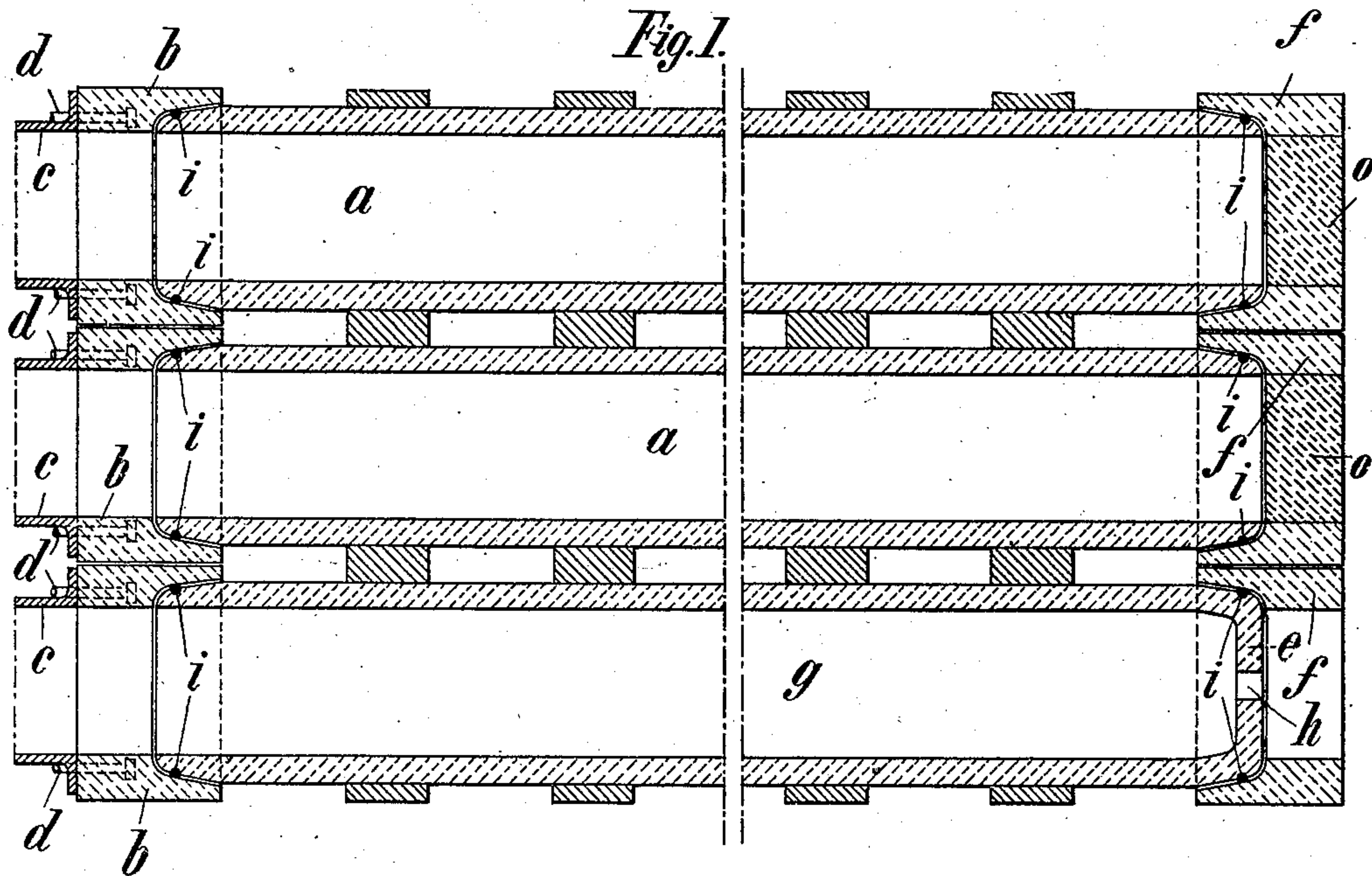
No. 860,095.

PATENTED JULY 16, 1907.

G. T. A. JERRATSCH.

GAS RETORT.

APPLICATION FILED MAY 10, 1906.



Witnesses:

M. Sommers
M. E. Beall.

Inventor:

Gottfried Theodor Albert Jerratsch,
by *Henry Orth* *Atty.*

UNITED STATES PATENT OFFICE.

GOTTFRIED THEODOR ALBERT JERRATSCH, OF SCHWERIN, GERMANY.

GAS-RETORT.

No. 860,095.

Specification of Letters Patent.

Patented July 16, 1907.

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To all whom it may concern:

Be it known that I, GOTTFRIED THEODOR ALBERT JERRATSCH, a subject of the German Emperor, and a resident of Schwerin, in the Grand Duchy of Mecklenburg-Schwerin, in the German Empire, have invented certain new and useful Improvements Relating to Gas-Retorts, of which the following is a specification.

The present invention relates to improvements in gas retorts and has for its object a retort of the kind which are known as fire clay retorts and is particularly adapted for the production of illuminating gas from coal, the novelty of the retort consisting in the fact that its two end portions, or at all events the front head piece which serves for the attachment of the casing, do not, as has hitherto been the case, form a whole with the middle part of the retort, but are arranged as separate parts, so that the retort shaft, which is chiefly exposed to the heat, may be separately replaced without necessitating replacement of the end parts at the same time. The rectangular or polygonal head pieces which are given plane outer faces in order that they may fit the masonry of the furnace are recessed on the end face which is directed toward the retort in a manner corresponding with the cross section of the retort; these recesses serve for the reception of the ends of the retort, and when the joints are made tight they constitute a thoroughly safe and reliable support for the retort. In this manner the shaft of the retort is entirely relieved from the weight of the cast-iron mouth piece and ascension pipe.

In the accompanying drawings: Figure 1 illustrates a longitudinal section and Fig. 2 a front elevation of a combination of retorts constructed in accordance with and embodying my invention.

Similar letters of reference refer to like parts throughout the figures.

The retorts marked *a* (Fig. 1) are open at both ends; the socket stones *b* are rectangular externally and the form and width of their opening correspond with the interior of the retort; the front end of which is inserted in the correspondingly recessed socket stone *b* and made tight by means of a refractory mortar and of an asbestos washer *i* inserted in an annular groove. The iron retort head *c* is secured upon the socket stone *b* by means of screw bolts *d* in the usual manner. The rear ends of the retorts are likewise arranged in socket

stones *f* the openings of which are faced with refractory masonry *o*, or which may be provided with cast iron obturating pieces.

The ends of the retorts taper slightly externally; since the retort which consists of one piece and at the same time extends throughout the entire inner furnace, expands under the influence of the great heat more than the remaining refractory masonry formed by joints made with mortar, the ends of the retort with the asbestos washer move further and more firmly into the socket stones, so that the expansion does not prejudicially affect, as has hitherto been the case, but improves the tightness of the joint.

The retort *g* which has a somewhat modified form, is provided with a perforated bottom *e* which is likewise mounted in a socket stone *f*: the opening *h* in the bottom may be closed, in known manner, by means of a stone (not shown) and serves for the access of air when burning graphite.

The circumstance that the inner structure of the furnace and accordingly the retorts also were heated sooner and to a greater extent than the front and rear walls of the furnace, has hitherto been the main reason for the fracture of retorts, but this irregular or unequal action of the heat is not able to exert any harmful influence in retorts of the present novel construction.

I claim:

1. The combination of a retort and a socket to receive the end thereof, said end tapering from the outer to the inner periphery of the retort and having an annular groove therein, the interior of the socket having a portion conforming to said end and to the bore of the retort, and a packing in the groove.

2. The combination of a retort having tapering ends, provided with annular grooves, of a socket on each end of the retort having interior recessed portions corresponding with the exterior of said ends, asbestos washers mounted in the grooves, a head secured to one of the sockets, and a perforated bottom mounted in the other socket.

3. In combination, a plurality of retorts having their ends tapering from their outer to their inner peripheries, a socket for each retort, having its interior conforming the bore of the retort and the tapering end, and its exterior rectangular, to form a seat for the adjacent socket.

GOTTFRIED THEODOR ALBERT JERRATSCH.

Witnesses:

FRIEDR. AD. MAX KAEMPF,
 OTTO W. HELLMRICH.