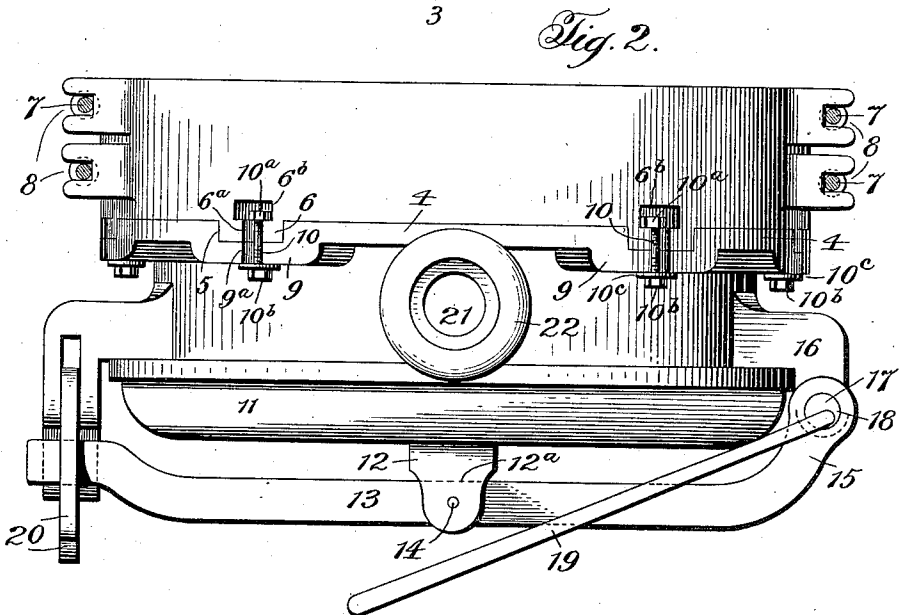
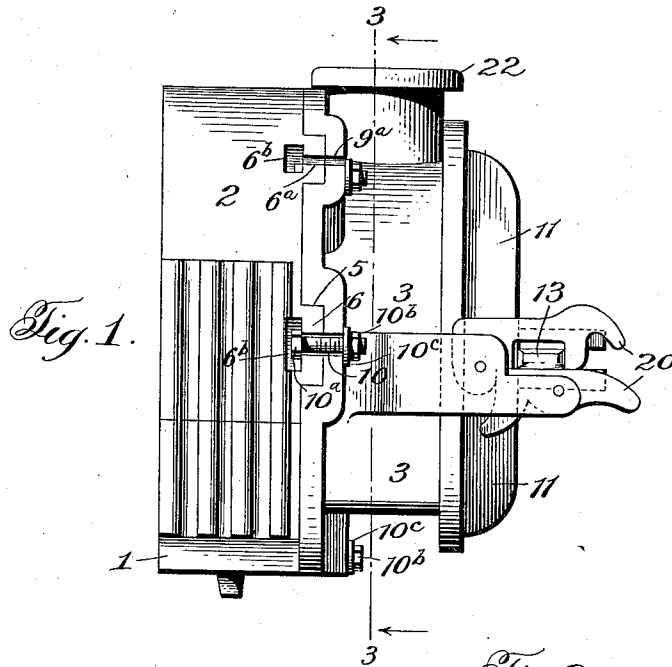


S. E. DE FRESE.
ATTACHMENT FOR GAS RETORTS.
APPLICATION FILED OCT. 14, 1911.

1,028,000.

Patented May 28, 1912.

2 SHEETS-SHEET 1.



Witnesses:

James Hutchinson
G. Wedemier

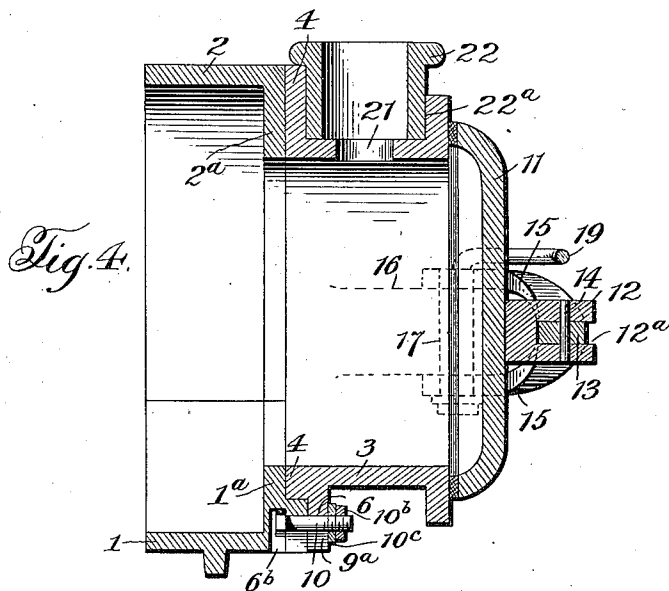
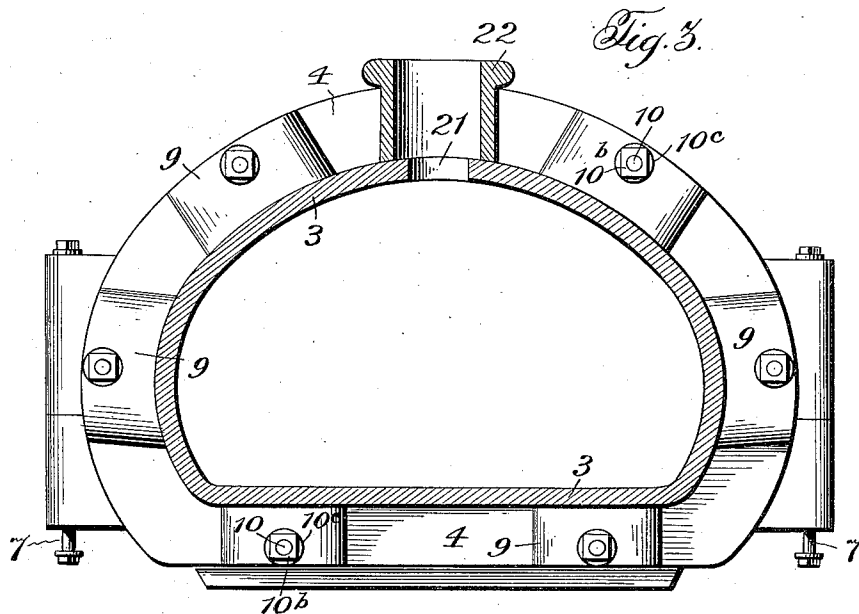
Inventor:

Samuel Coen de Frese
By *W. H. Johnson*, Attorney.

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UNITED STATES PATENT OFFICE.

SAMUEL EVENS DE FRESE, OF CHATTANOOGA, TENNESSEE.

ATTACHMENT FOR GAS-RETORTS.

1,028,000.

Specification of Letters Patent.

Patented May 28, 1912.

Application filed October 14, 1911. Serial No. 654,667.

To all whom it may concern:

Be it known that I, SAMUEL EVENS DE FRESE, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented certain new and useful Improvements in Attachments for Gas-Retorts, of which the following is a specification.

This invention has to deal with certain improvements in gas retorts and has more especial reference to a novel construction of mouth-piece and collar to be applied to the head or open end of the retort.

It is the primary object of the invention to provide a novel construction and arrangement of parts whereby the mouth-piece of the retort is more firmly supported than heretofore and whereby the attaching means for the mouth-piece is readily accessible at all times for the convenient removal and replacement of parts as occasion demands.

Various forms of attaching means for the mouth-piece of a retort have heretofore been suggested, and it has been proposed to detachably mount the mouth-piece upon the retort collar, usually by means of stud bolts or the like, but because of the high heat to which the parts are subjected, the bolts gradually become weakened and at times break off with the result that the mouth-piece is freed from connection and drops away from the collar, generally resulting in more or less damage to the apparatus. Again, it has been found exceedingly difficult to drill out the bolts which have become broken, and it is necessary to interrupt the operation of the apparatus in order to allow the gas bench to cool down before it is attempted to make the necessary repairs. This has proven very expensive, and together with other disadvantages, has led to the suggestion of the present invention which embodies means whereby the mouth-piece may at any time be positioned on the collar and removed therefrom after the gas benches are in use, and without the necessity of allowing the bench to cool, or having to resort to the drilling process, should the bolts become broken.

Further, the invention includes an auxiliary supporting medium for the mouth-piece whereby the same is temporarily sustained in position and prevented from dropping or doing damage to the apparatus, should the permanent attaching device or devices become broken or damaged.

More particularly, the invention embraces means for positioning and supporting the mouth-piece on the retort and maintaining the same in this position, together with means for drawing the collar and mouth-piece into gas tight engagement with one another and securing the same together.

Other improvements and novel details in the construction and arrangement of parts will be more particularly referred to in the description to follow which, for a clear understanding of the invention, should be read in connection with the accompanying drawings, forming a part hereof, and wherein is disclosed for the purpose of illustration, a convenient and satisfactory embodiment of the invention.

Referring to the drawings, Figure 1 is a side elevation of the retort and collar connected one to the other, Fig. 2 is a top plan view, Fig. 3 is a section on the line 3-3, of Fig. 2. Fig. 4 is a section.

With more particular reference to the drawings, like reference numerals refer to corresponding parts throughout the several views, in which it will be observed that I provide a retort collar of a character to engage over the usual open head or mouth of the retort of any of the approved types. The collar is preferably formed in sections detachably connected together, and conveniently is made up of a relatively flat base part 1 and a curved or dome-shaped part 2. Each of said parts 1 and 2 conveniently have an inwardly extending flange at its outer edge, as indicated at 1^a, 2^a. The mouth-piece proper is conveniently made up of a body portion 3 having a circumferential flange 4 adapted to engage the flanges 1^a, 2^a of the collar. An interlocking connection is provided between the collar and mouth-piece conveniently at the flanged portions thereof and a preferred construction consists in forming in the circumferential flange 4 of the mouth-piece a series of recesses or cut out portions 5 adapted for the reception of cooperating bosses 6 projecting outwardly from the flanges of the retort collar sections. The collar is applied to the head or open mouth of the retort and the sections thereof are drawn into tight engagement preferably through the medium of elongated bolts 7 fitting in registering grooved portions 8 at the ends of the respective sections of said collar. Said bolts are suitably headed at one end and threaded

at the other to be engaged by suitable nuts, as is obvious. When the collar is in position on the mouth of the retort, and the mouth-piece has been applied by fitting the
 5 bosses of the collar in the recesses or receiving pockets of the mouth piece, the latter will be suspended by the collar, and prevented from dropping and doing damage to the various parts of the apparatus. Again,
 10 the interlocking engagement referred to accurately positions the mouth-piece relative to the collar and maintains the same in this position during the application of the permanent securing devices about to be described.

15 The bosses 6 conveniently have slotted ways 6^a extending from the outer surface of the boss inwardly and connecting with an enlarged opening 6^b in the body portion
 20 of the collar. Suitable blocks or bosses 9 are also provided on the outer surface of the flange 4 of the mouth-piece, the said bosses overlying the recesses or cut out portions 5 of said flanges and having a slotted
 25 way or cut out opening 9^a adapted to register with the opening 6^a of the boss 6 of the collar. The attaching means between the collar and mouth-piece preferably takes the form of adjustable bolts 10, the same having
 30 a headed end 10^a adapted to rest in the enlarged opening 6^b in the collar and being threaded at its opposite end and of a length to extend through the opening 9^a of the boss 9 on the mouth-piece, and to be engaged by
 35 a suitable nut 10^b overlying the wall of the boss 9 surrounding the opening 9^a. Suitable washers 10^c may be employed as illustrated. Of course, it is obvious that the tongue and groove connection or engagement
 40 between the collar and mouth-piece may be reversed; that is to say, the collar itself may be formed with the receiving recesses for the projecting tongues on the mouth-piece, and such minor changes are
 45 within the contemplation of the invention.

By adjusting the bolts 10, it will be appreciated that the mouth-piece and collar may be drawn into tight engagement one with the other, and at the same time the
 50 attaching means afforded by the bolts in the arrangement described is readily accessible at all times. Also, the bolts may be bodily removed and applied by simply positioning the same through the cooperating
 55 openings 6^a of the boss 6 and 9^a of the boss 9. This arrangement does away with the necessity of drilling the bolts, should the same become broken for any reason, and allows a replacement without the necessity
 60 of waiting for the bench to cool off.

The cap or head for the mouth may be of any of the approved constructions, but is preferably of the form illustrated at 11, the same having projecting from the outer
 65 surface thereof a block 12 recessed at 12^a

and forming brackets adapted for the reception of an elongated lever 13 pivoted to said block through the medium of a pintle 14. The lever 13 conveniently has a bifurcated end 15 curved inwardly as shown and
 70 terminating in ears fitting over the sides of a suitable bracket 16 projecting outwardly from the mouth-piece. A pintle 17 is arranged to pass through the said ears 15 and said bracket 16, the pintle having an eccentric 18 arranged to engage an opening
 75 in one of the ears, whereby upon the rotation of the pintle through the medium of the elongated rod 19, inward pressure is imparted upon the cap 11 to force the same
 80 into tight engagement with the mouth-piece. The opposite end of the lever 13 is conveniently supported between opposed locking dogs 20 of any desired construction, but releasable so as to permit of the cap 11
 85 to be swung outwardly upon the pivot formed by the pintle 17.

In use, the gas retorts are usually arranged in series, one above the other in what is known as a "gas bench", and these retorts vary in size and construction, and it is to be borne in mind that the shape and size of the collars and mouth pieces may be altered to suit the particular type of retort.

The body portion of the mouth piece
 95 usually elliptical in shape as shown has an opening 21 in its top and a suitable collar or coupling member 22 surrounding said opening is fitted in a recess 22^a of the mouth piece and adapted for the reception of a
 100 vertically extending stand pipe (not shown) for the outlet of the gas.

From the construction described, it will be appreciated that the interlocking engagement provided by the interfitting bosses on the collar and mouth piece supply the main supporting medium for the mouth piece thereby taking the weight and strain from the securing bolts, with the resultant advantages. It is also contemplated to use suitable joining material such as clay in the form of mortar so as to make a gas tight connection between the parts but since this is the customary mode of assemblage and constitutes no part of the present invention
 115 the same has not been shown in the drawings nor referred to in detail in the description.

I claim:

1. In a gas retort, a retort collar, a mouth
 120 piece and a detachable supporting connection between the mouth piece and collar including an annular series of separated bosses on the face of one and an annular series of cooperating recessed portions on the opposed face of the other, and means for securing the mouth piece and collar together.

2. In a gas retort, a retort collar, a mouth-piece, an annular series of separated projections on one of the parts including the
 130

collar and mouth-piece, and a cooperating annular series of receiving pockets on the other, whereby one is accurately positioned on and sustained by the other, and releasable means for drawing the two into tight engagement.

3. In a retort, a collar connected thereto, a mouth-piece, means for detachably connecting the mouth-piece to the collar, said means being fitted in registering recesses in the said parts whereby it is bodily insertible and removable by a sliding movement and auxiliary interlocking connecting means between the collar and mouth-piece.

4. In a gas retort, a collar, a mouth-piece having a circumferential flange with a cut-out portion at its edge, a boss on the collar to engage said cut-out portion, a boss on the flange overlying said cut-out portion, the said bosses having registering slots, and bodily movable securing bolts positioned in said slots, and having means adjacent its ends to engage over one surface of said bosses.

5. In a gas retort, the combination of a collar and a mouth-piece, each having registering peripheral open ways, means for detachably connecting the collar to the retort and means for detachably connecting the collar and mouth-piece including bolts having means adjacent its ends to engage the collar and mouth-piece, the bolts being

bodily insertible and removable by a side-wise movement through said open ways.

6. In a gas retort, a collar, means for removably supporting the collar on the retort, a mouth piece having a circumferential flange with an annular series of cut-out portions in one edge, an annular series of projecting bosses on the collar, one for each cut-out portion of the mouth piece, and bosses on the flange of the mouth piece overlying said cut-out portions, the bosses of the respective members cooperating to form a temporary supporting means one for the other, of said members.

7. In a gas retort, a collar, means for removably supporting the collar on the retort, a mouth piece having a circumferential flange with an annular series of cut-out portions in one edge, an annular series of projecting bosses on the collar, one for each cut-out portion of the mouth piece, bosses on the flange of the mouth piece overlying said cut-out portion, and removable bolts projecting through said cooperating bosses on the mouth piece and collar respectively.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL EVENS DE FRESE.

Witnesses:

F. F. KELLEY,
E. E. J. DARLING.