

T. PARKER.
RETORT FOR THE DISTILLATION OF COAL AND OTHER CARBONACEOUS SUBSTANCES.
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913,552.

Patented Feb. 23, 1909.

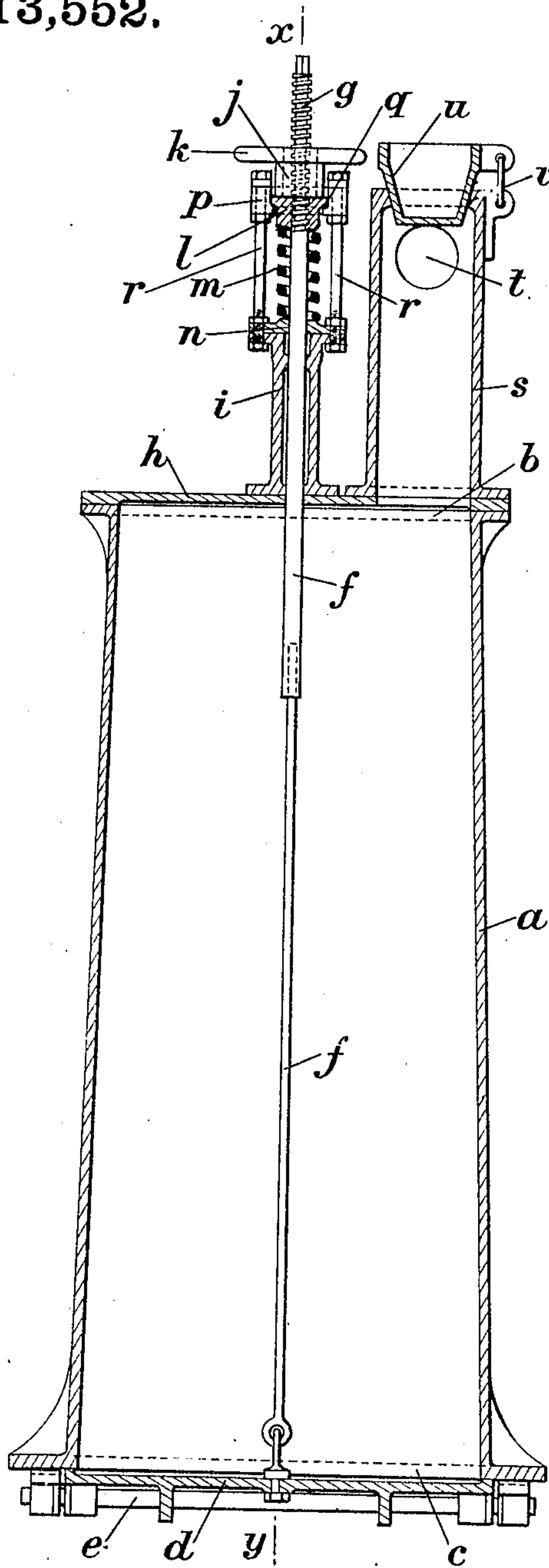


Fig. 1.

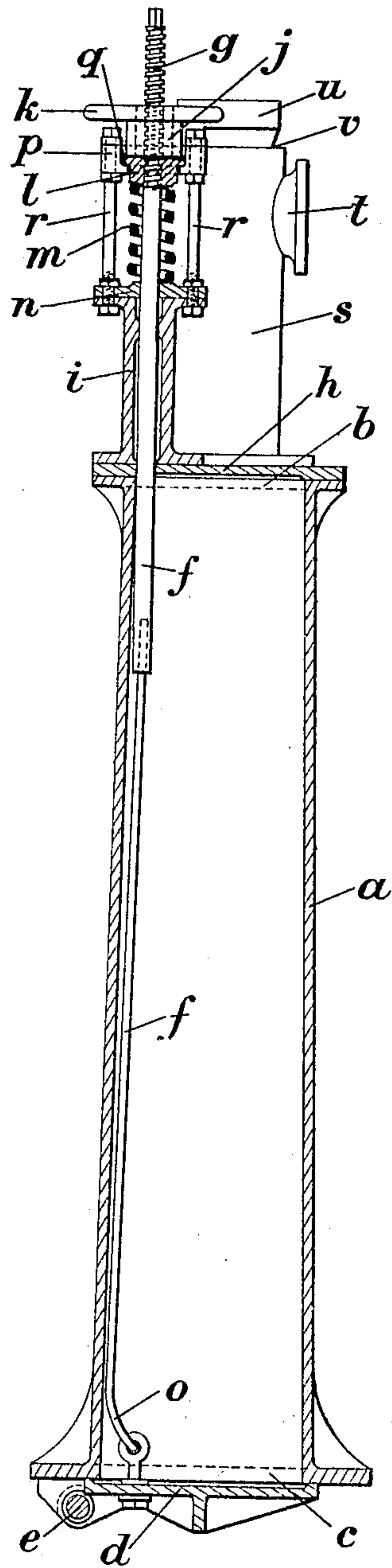


Fig. 2.

Witnesses:-
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UNITED STATES PATENT OFFICE.

THOMAS PARKER, OF LONDON, ENGLAND.

RETORT FOR THE DISTILLATION OF COAL AND OTHER CARBONACEOUS SUBSTANCES.

No. 913,552.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed April 26, 1907. Serial No. 370,516.

To all whom it may concern:

Be it known that I, THOMAS PARKER, M. I. C. E., a subject of the King of Great Britain and Ireland, residing at 1^b, Chapel street, Edgware Road, London, W., England, have invented certain new and useful Improvements in Retorts for the Distillation of Coal and other Carbonaceous Substances, of which the following is a specification.

This invention relates to the distillation of coal and other carbonaceous substances more particularly for the production of a partially coked fuel under the conditions and in the manner described in the specification of the British patent granted to me No. 14365/06.

The invention has for its object to provide a retort or still of such shape as will insure the convenient charging of the coal and its withdrawal after treatment without possibility of the charge hanging to the sides of the retort or still and of such shape that the charge may be conveniently and uniformly heated from without.

The invention is illustrated in the accompanying drawings in which—

Figure 1 is a front sectional elevation of a retort or still provided according to the invention. Fig. 2 is a section on the line $x-y$ (Fig. 1).

According to the invention I provide a retort or still a advantageously of oblong section and tapering uniformly from the charging mouth b at the top of relatively small cross sectional dimensions to the discharging mouth c at the bottom of relatively large cross sectional dimensions. A number of such retorts are capable of being vertically or diagonally mounted in a common setting or brick-work so that heat may be uniformly and completely applied around them. According to the invention moreover I provide a hinged bottom cover plate d to the retort or still a , to close the discharging mouth c and to carry the burden of the charge. This bottom cover plate d is hinged loosely upon a spindle e conveniently carried on the underface of the retort or still a and means are provided comprising a rod f advantageously passing up alongside one of the walls of the retort or still a with means operated from above the retort or still a by which the rod f may be lifted or lowered for the lifting or lowering of the lower cover plate d upon the spindle e aforesaid upon which it is mounted to hinge. These means conveniently consist

in the provision of screw threads g upon the extremity of the rod f aforesaid which projects above the upper cover plate h of the retort or still, which cover plate h is advantageously bolted to the top of the still a , the rod f advantageously passing through a stuffing box i mounted upon the cover plate h or integral with it by which a tight joint may be insured. The screwed extremity of the rod f protrudes beyond the stuffing box i and the internally screwed boss j of an operating hand wheel k is mounted thereon.

The upper extremity of the rod f has mounted upon it and beneath the operating hand wheel k a sleeve or collar l against which a spiral spring m abuts which encircles the rod f in a position above the stuffing box i aforesaid, the opposite extremity of the spiral spring m abutting against the cover plate or gland n of the stuffing box and thus exercising pressure tending to force the sleeve or collar l and operating hand wheel k upwardly so that the pressure imposed on the rotation of the screw g for the purpose of lifting the lower cover plate d may be in fact transmitted through the spring m and thus the lower cover plate d may be closed by elastic pressure, and compensation provided for the contraction and expansion of the rod f .

I prefer to connect the lower extremity of the rod f to the upper face of the lower cover plate d at a point as nearly as convenient and effective to that side of the still or retort at which the lower cover plate d is hinged and I divert the rod towards its lower extremity as shown at o so that it may pass up the retort or still in close proximity to the wall thereof.

I may mount above or upon the gland two or other number of stops, or a ring to act as a stop, or a ring p carrying an internal annular groove q within which the sleeve or collar l before referred to may have restricted longitudinal play for the purpose described, such ring may be carried by means of two or more vertical bolts r mounted upon the top flange of the stuffing box i aforesaid.

I prefer to provide the charging chute s of cylindrical or other form and to mount it upon the upper cover plate h of the retort or still a which at the same time may serve as an uptake for the gases and vapors generated during the process of distillation, which vapors and gases may pass out therefrom through a lateral hole t of which two may be

provided in opposite positions so that thus when a number of retorts are mounted side by side in series, they may be connected together with their outlets in line and thereby the vapors and gases may discharge through the outlet of the still or retort at the end of the series or otherwise. A removable lid *u* or cover plate of any suitable form may be mounted upon the upper aperture of the cylindrical charging chute and is preferably provided with a conical face to correspond with a conical seat *v* provided around the aperture aforesaid.

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

1. A retort having a hinged bottom plate, a rod connected to said plate, a spring engag-

ing with the rod to keep the plate normally closed and means for adjusting the tension of the spring.

2. A retort having a hinged bottom plate, a rod connected to said plate, said rod having a screw threaded upper end, a nut engaging with said screw threaded end and a coiled spring between the nut and a part of the retort.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

THOMAS PARKER.

Witnesses:

WILLIAM EDWARD EVANS,
G. F. WARREN.