

No. 834,907.

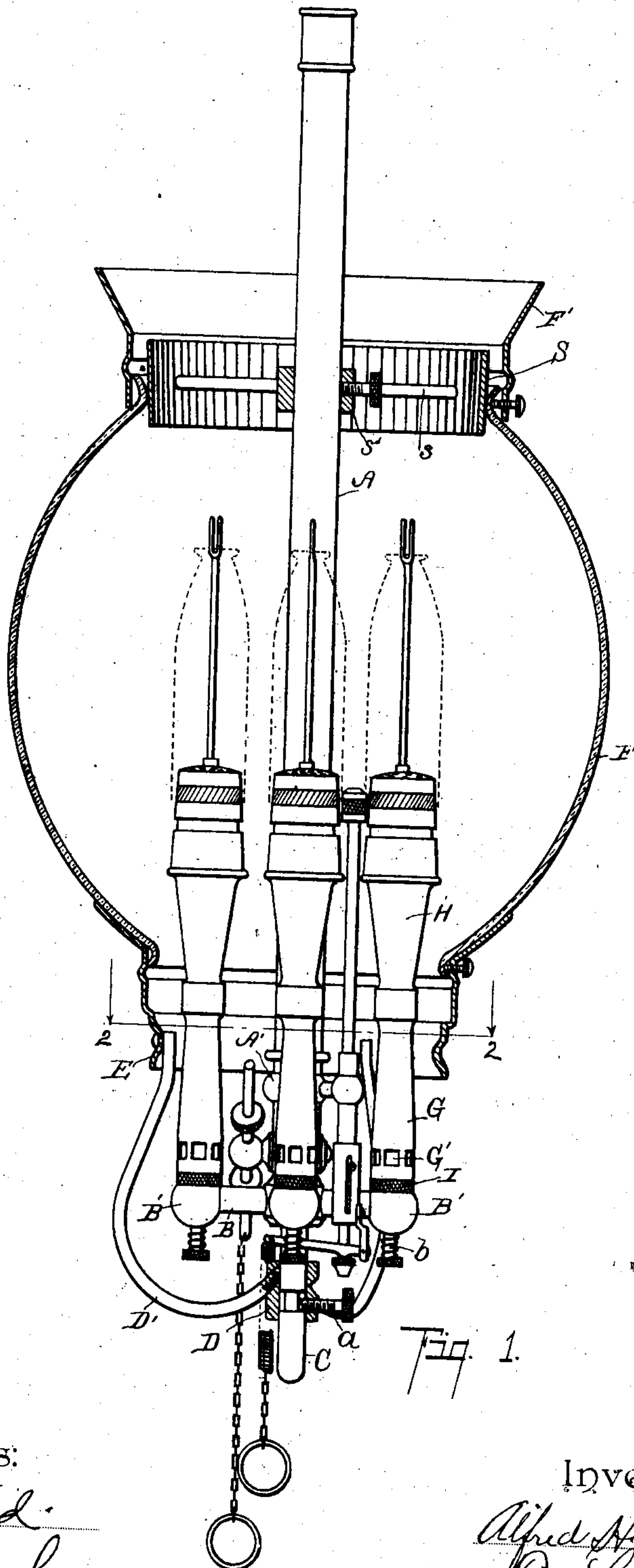
PATENTED NOV. 6, 1906.

A. H. HUMPHREY.

GAS BURNER.

APPLICATION FILED JULY 31, 1902.

2 SHEETS—SHEET 1.



Witnesses:

D. E. Wood
Otis A. Earl

Inventor,

Alfred H. Humphrey
By *Ernest L. Chappell*
Att'y.

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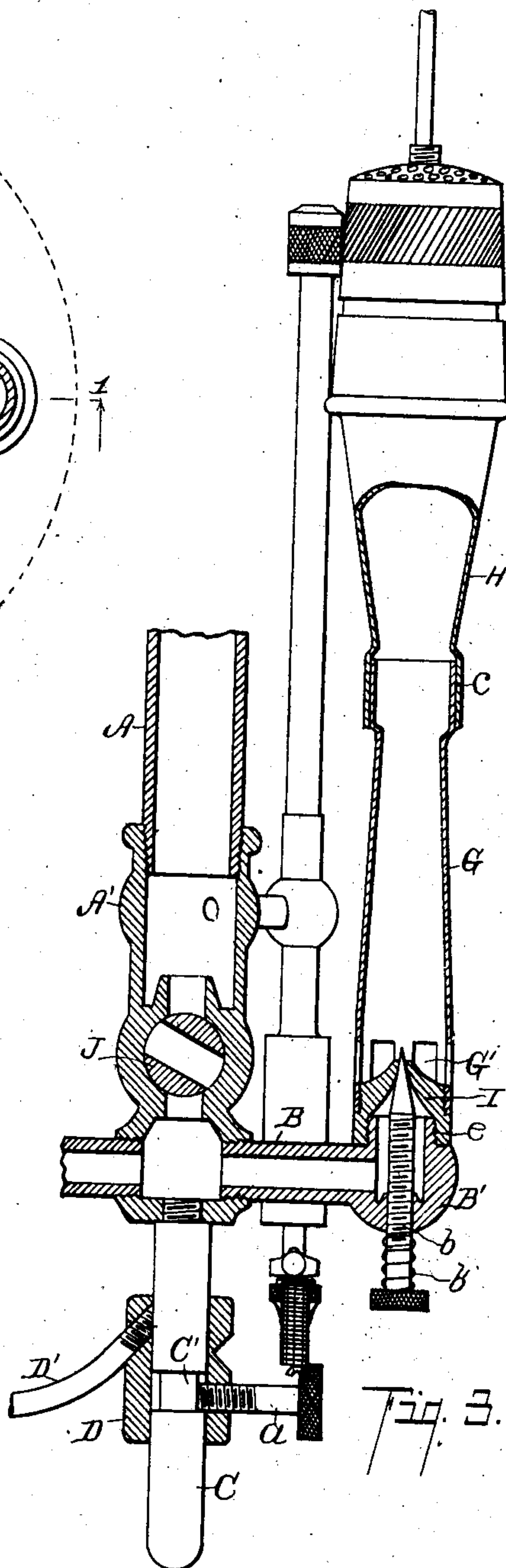
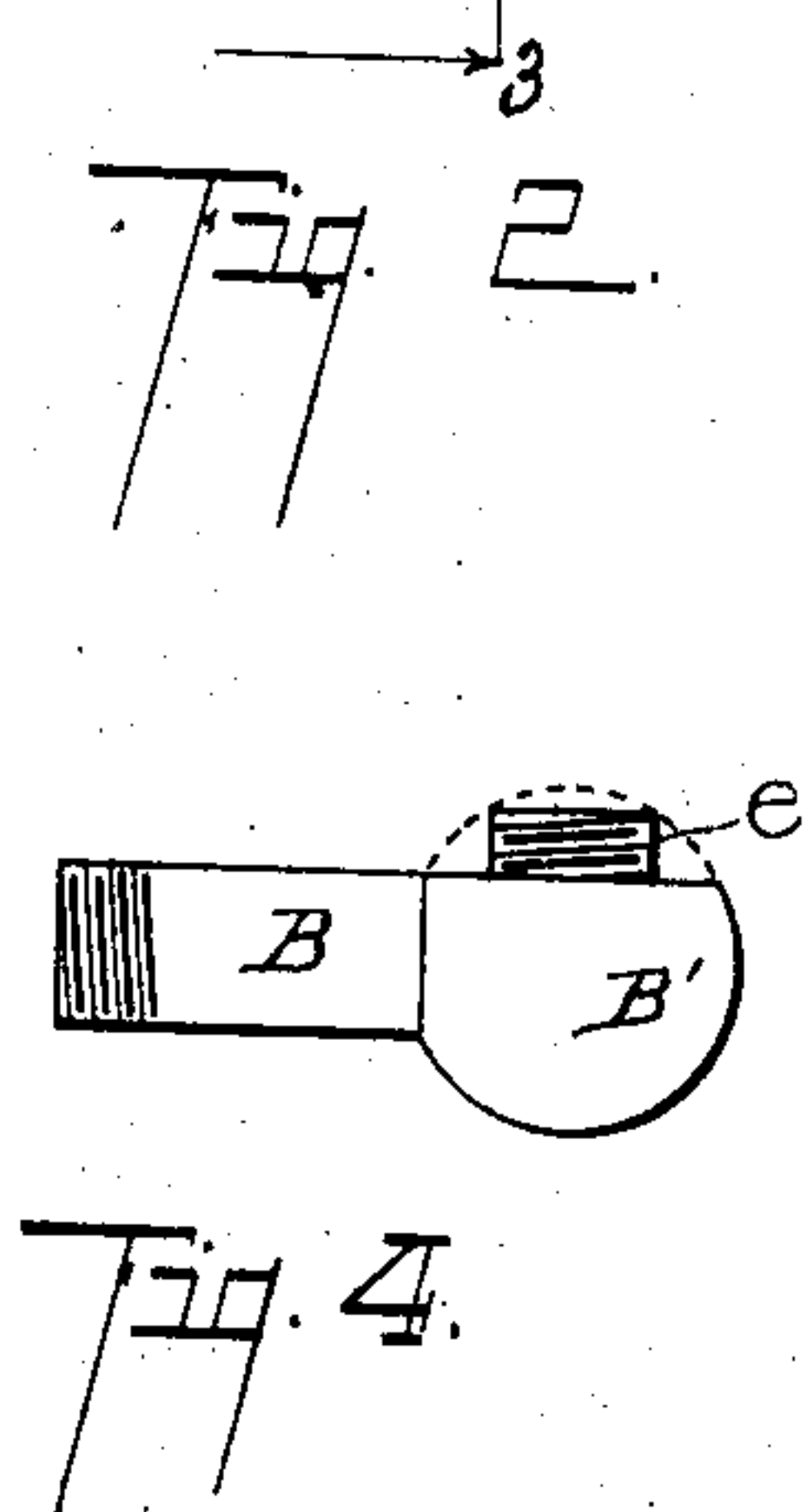
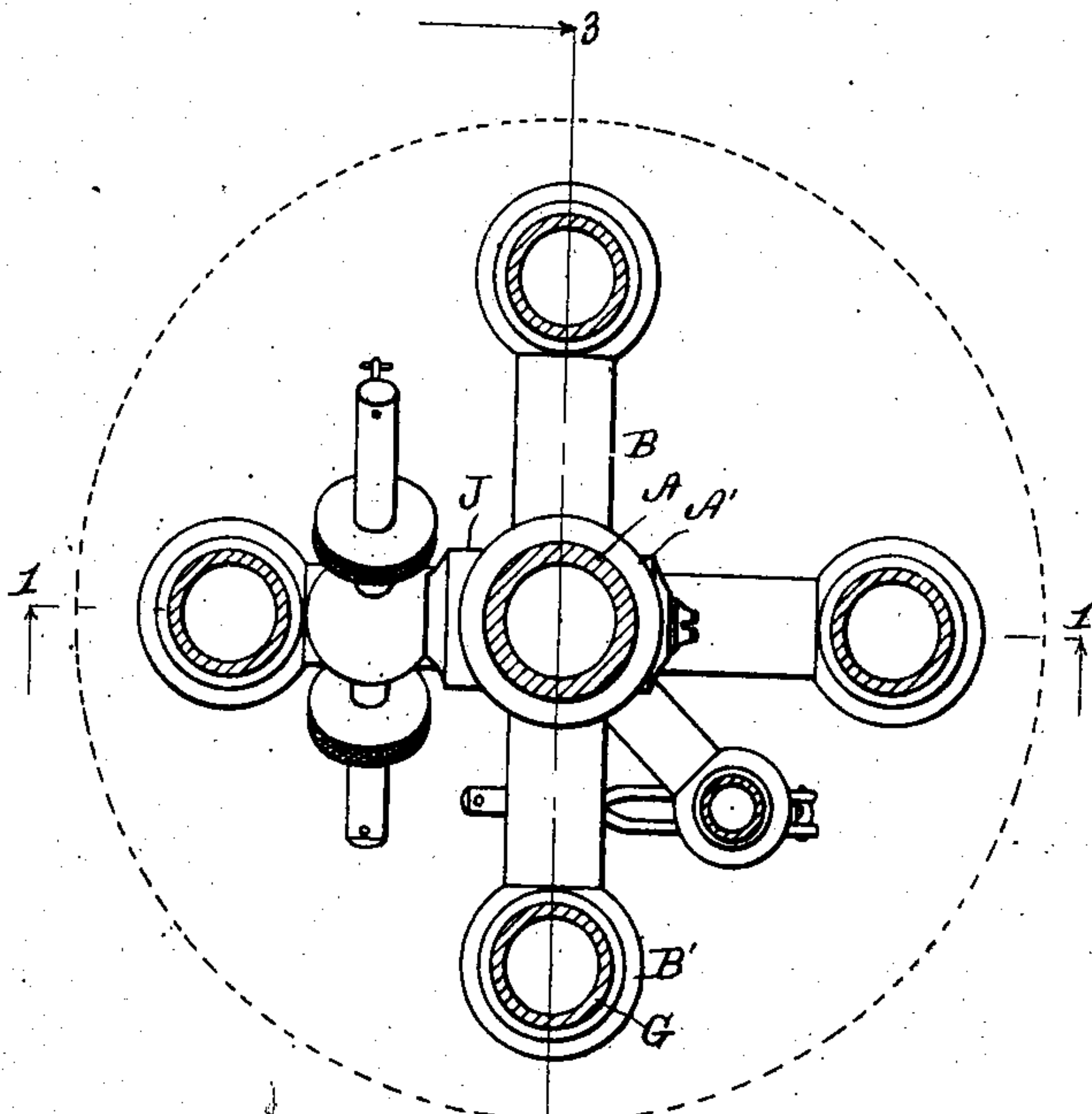
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ALFRED H. HUMPHREY, OF KALAMAZOO, MICHIGAN.

GAS-BURNER.

No. 834,907.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed July 31, 1902. Serial No. 117,781.

To all whom it may concern:

Be it known that I, ALFRED H. HUMPHREY, a citizen of the United States, residing at the city of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

This invention relates to improvements in gas-burners.

It relates particularly to an improved construction of burners known as "cluster-burners."

The objects of the invention are, first, to provide an improved cluster-burner in which a cluster of burners is embraced by a single globe for protection, without the necessity of using chimneys; second, to provide in a cluster-burner improved means for supporting a globe so that the same can be readily attached or removed or adjusted, as desired; third, to provide an improved construction of burner-base and controlling-valve; fourth, to provide an improved adjustable supply-valve for the burners for regulating the delivery of gas and completely controlling the same.

Further objects will definitely appear in the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined, and pointed out in the claims.

A structure embodying the features of my invention is fully illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a view, partially in section, taken on a line corresponding to line 1 1 of Fig. 2, showing the arrangement of the parts. Fig. 2 is an enlarged detail cross-sectional view taken on line 2 2 of Fig. 1. Fig. 3 is an enlarged vertical detail sectional view through one of the burners and the central mantle-support, taken on a line corresponding to line 3 3 of Fig. 2. Fig. 4 is an enlarged detail view of one of the single-burner bases B, showing the method of constructing the same.

In the drawings all of the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines, and similar letters of reference refer to similar parts throughout the several views

Referring to the lettered parts of the drawings, A' is the central bracket, to which the remaining parts are secured. This is hollow and contains the valve J for regulating the passage of gas. The bracket A' is adapted to be secured to a suitable gas-supply, as the depending piece of gas-pipe A.

Extending out radially from the lower part of the main bracket A' are tubular arms B, which terminate in balls B' at their outer ends, which are partially cut away on the upper side and formed into threaded nipples e. Nozzles I are adapted to be secured to the nipples e. These are provided with an upwardly-projecting part having a central perforation into which the point of the needle-valve b extends. This valve is screw-threaded to fit into a suitable threaded perforation in the bottom of the ball B' and is provided with a suitable knurled head for manipulation. A coiled spring b' is provided to put tension on the screw to prevent its accidental displacement.

It will be observed that this needle-valve requires very little adjustment and that a new nozzle I can be readily substituted when a larger or smaller passage is desired, as it is found desirable to have the passage as nearly unobstructed as possible to deliver a strong central jet to secure the best results.

Secured to the nozzle is an upwardly-extending mixing-tube G, which is provided with suitable apertures G' toward its bottom for the admission of air. The tube G is preferably tapered upwardly, and secured to its upper end by a suitable slip-joint at c is a suitable burner-tip holder H.

Projecting downwardly from the bracket or coupling A' is a pin C, having an annular groove C'. This affords a support for the globe-holder. The globe-holder consists of a collar D, adapted to be slipped upon the pin C, and this is provided with a set-screw a, adapted to engage in the groove C' to retain the collar adjustably in position.

Outwardly and upwardly projecting arms D are secured to the collar, and on the top of these arms is a globe-holder or band E, to which the globe may be secured by suitable set-screws.

Supported by radial arms s on the collar s' on the central pipe A is a band or ring S of corrugated metal, which the top of the globe F engages and which guides the same and retains it in position. This band S conforms to

the globe and forms a perfect guide and support therefor. The many points of contact to the metal absorb the heat from the globe and equalize the same and prevent the breaking of the globe.

On top of the globe F is an ornamental band F', which is secured in position by suitable set-screws.

I have illustrated and described my invention in the form preferred by me on account of the simplicity and economy of manufacture and convenience in use. I am aware, however, that it is capable of considerable variation in structural details without departing from my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a cluster-burner, the combination of a central bracket having radial arms with suitable burners toward their outer ends; a pin C downwardly depending from said central bracket, containing an annular groove C'; a globe-holder consisting of a globe-supporting band E with downwardly-extending arms D', curved slightly outwardly, thence inwardly; a collar D to which the lower ends of said arms are secured, and a suitable thumb-nut on said collar adapted to engage the said groove C', whereby the globe-holder and its attached globe can be readily adjusted and secured in position, or removed as desired without disturbing the burners, as specified.

2. In a cluster-burner the combination of a central bracket having radial arms with suitable burners toward their outer ends; a pin C downwardly depending from said central bracket, containing an annular groove C'; a globe-holder consisting of a globe-supporting band E with downwardly-extending arms D' curved slightly outwardly, thence inwardly; a collar D to which the lower end of said arms are secured, and a suitable thumb-nut on said collar adapted to engage the said groove C',

whereby the globe-holder and its attached globe can be readily adjusted and secured in position, or removed as desired without disturbing the burners; and a guide for the top of the globe above the burners, as specified.

3. In a cluster-burner the combination of a central bracket having radial arms; suitable burners on said radial arms; a pin downwardly depending from said central bracket; a globe-holder consisting of a collar movably secured to the said central pin; outwardly and upwardly curved arms secured to said collar, and a suitable globe-supporting ring secured to their upper ends, for the purpose specified.

4. In a cluster-burner the combination of a central bracket having radial arms; suitable burners on said radial arms; a pin downwardly depending from said central bracket; a globe-holder consisting of a collar movably secured to the said central pin; outwardly and upwardly curved arms secured to said collar; a suitable globe-supporting ring secured to their upper ends, and a guide S for the top of the globe above the burner, as specified.

5. In a cluster-burner the combination of a group or cluster of burners; a depending shank or stem below the same; a globe-holder surrounding the cluster and connected to a suitable collar for attachment to the central shank or stem; an upper globe-support consisting of a ring of corrugated metal which the said globe embraces to accommodate the expansion and contraction and to equalize the heat on the globe as specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

ALFRED H. HUMPHREY. [L. s.]

Witnesses:

ETHEL A. TELLER,
OTIS A. EARL.