

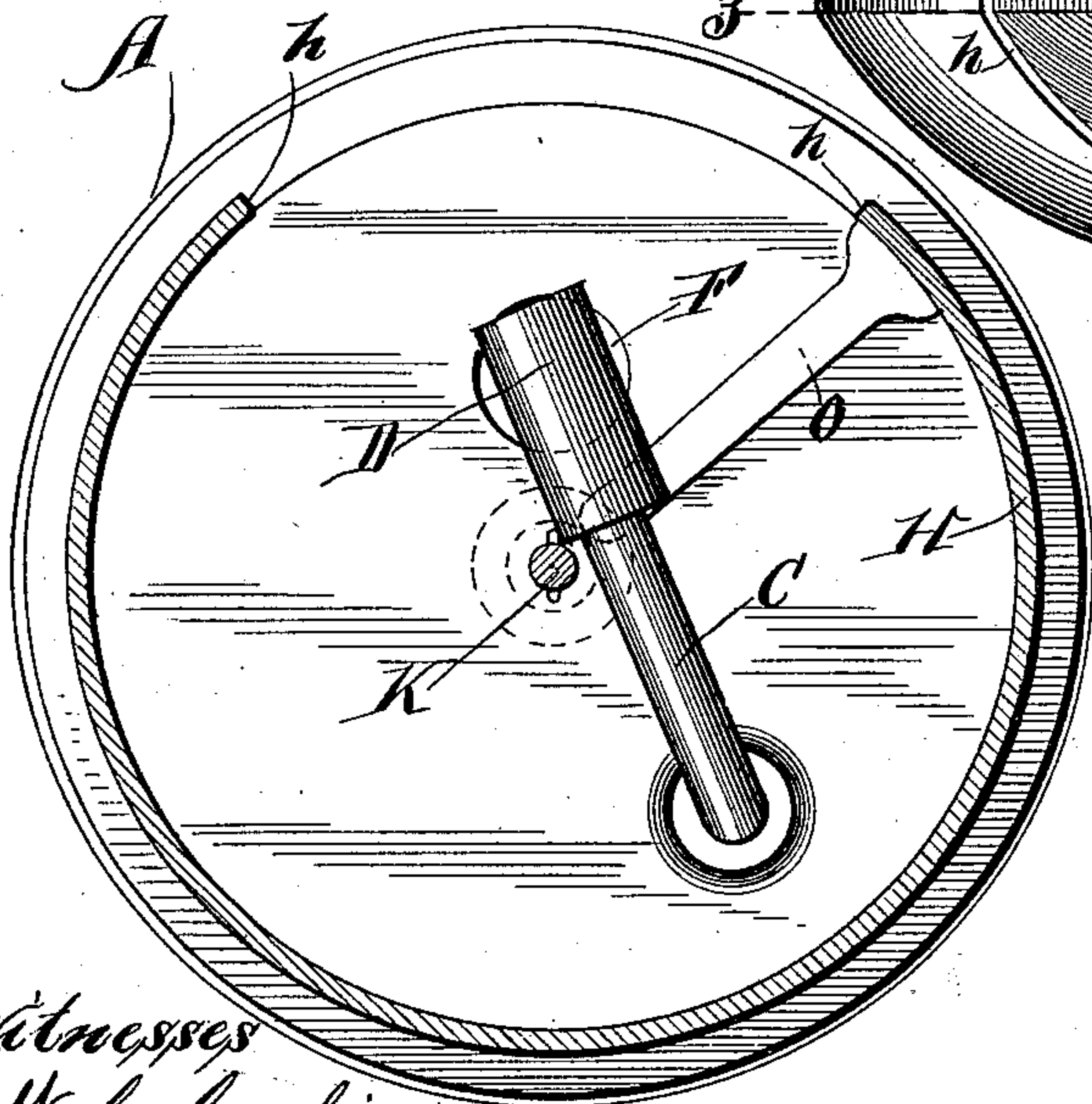
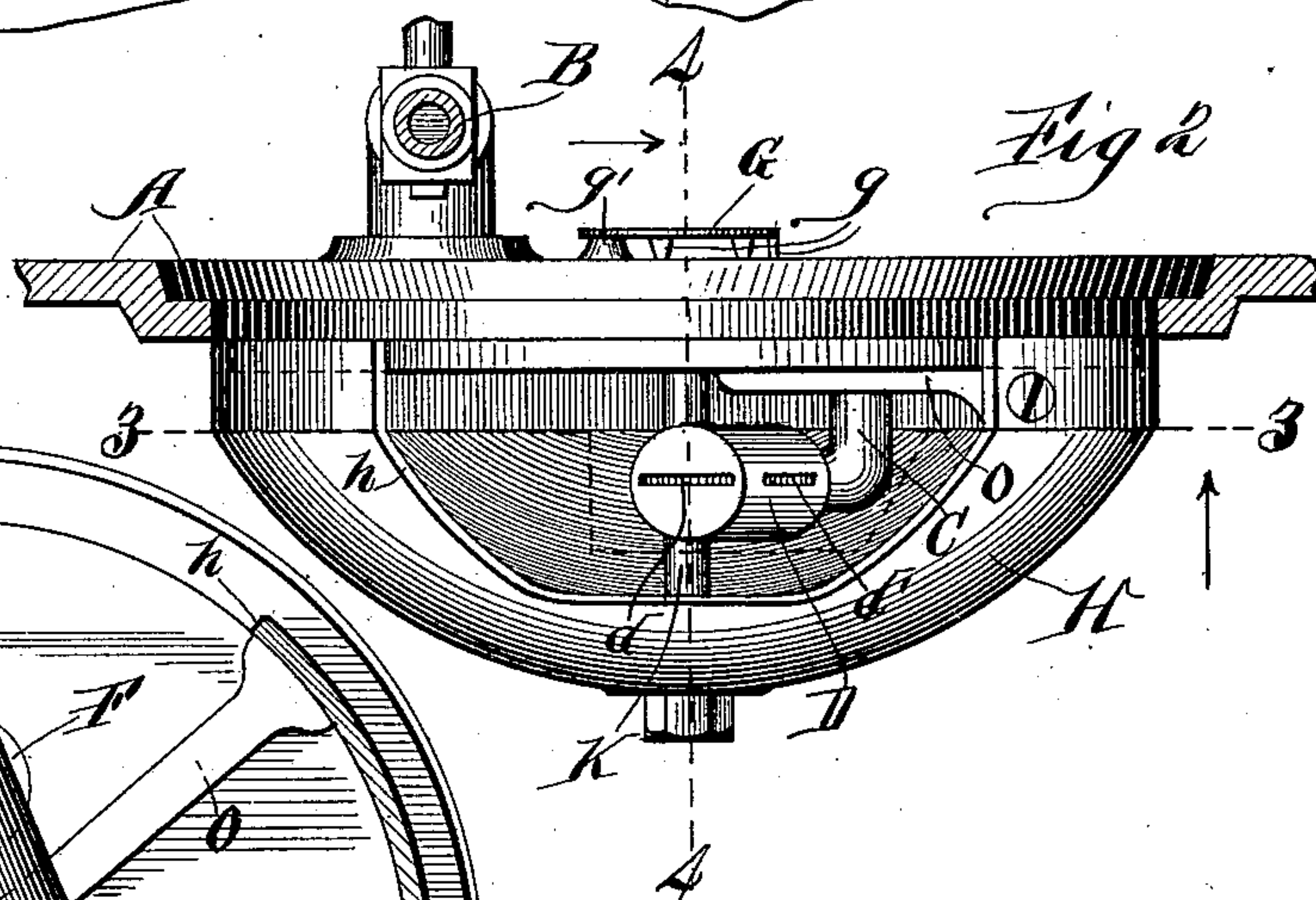
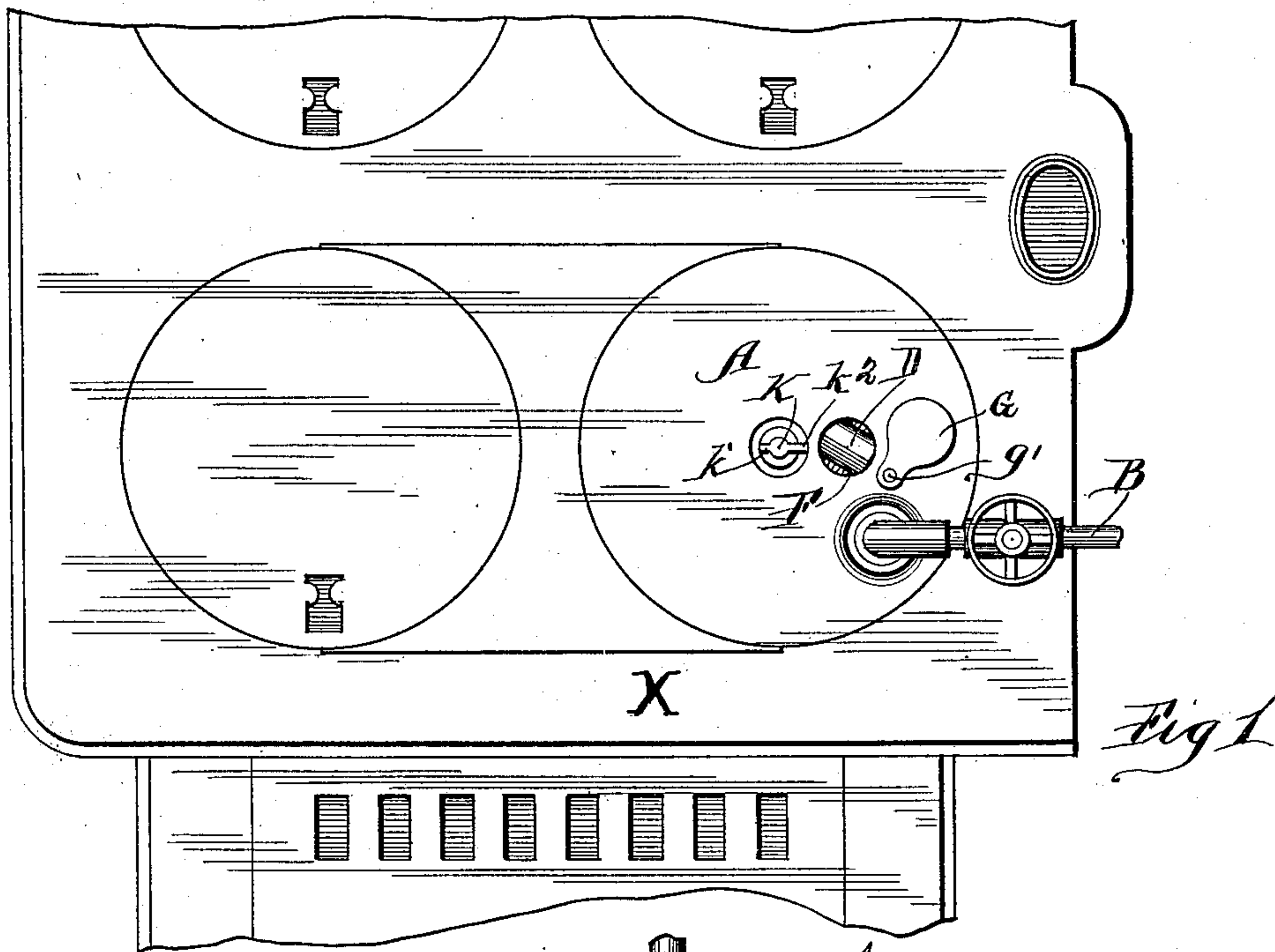
(No Model.)

2 Sheets—Sheet 1.

O. P. TALLEY.
GAS GENERATOR AND BURNER.

No. 592,102.

Patented Oct. 19, 1897.



Witnesses
W. C. Corlies
C. H. Crawford

Inventor,
Orrin P. Talley
By Louis K. Gilliam,
Atty

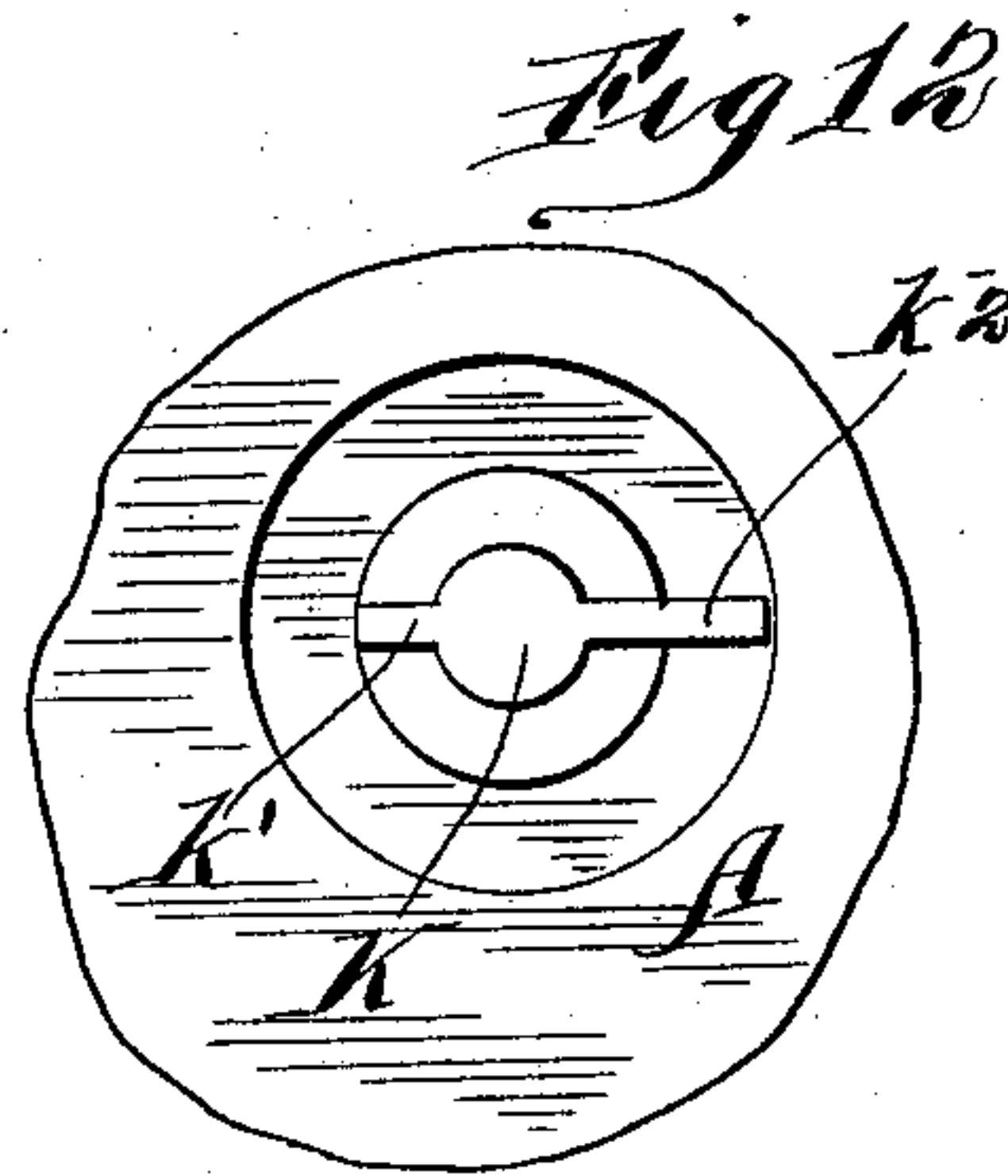
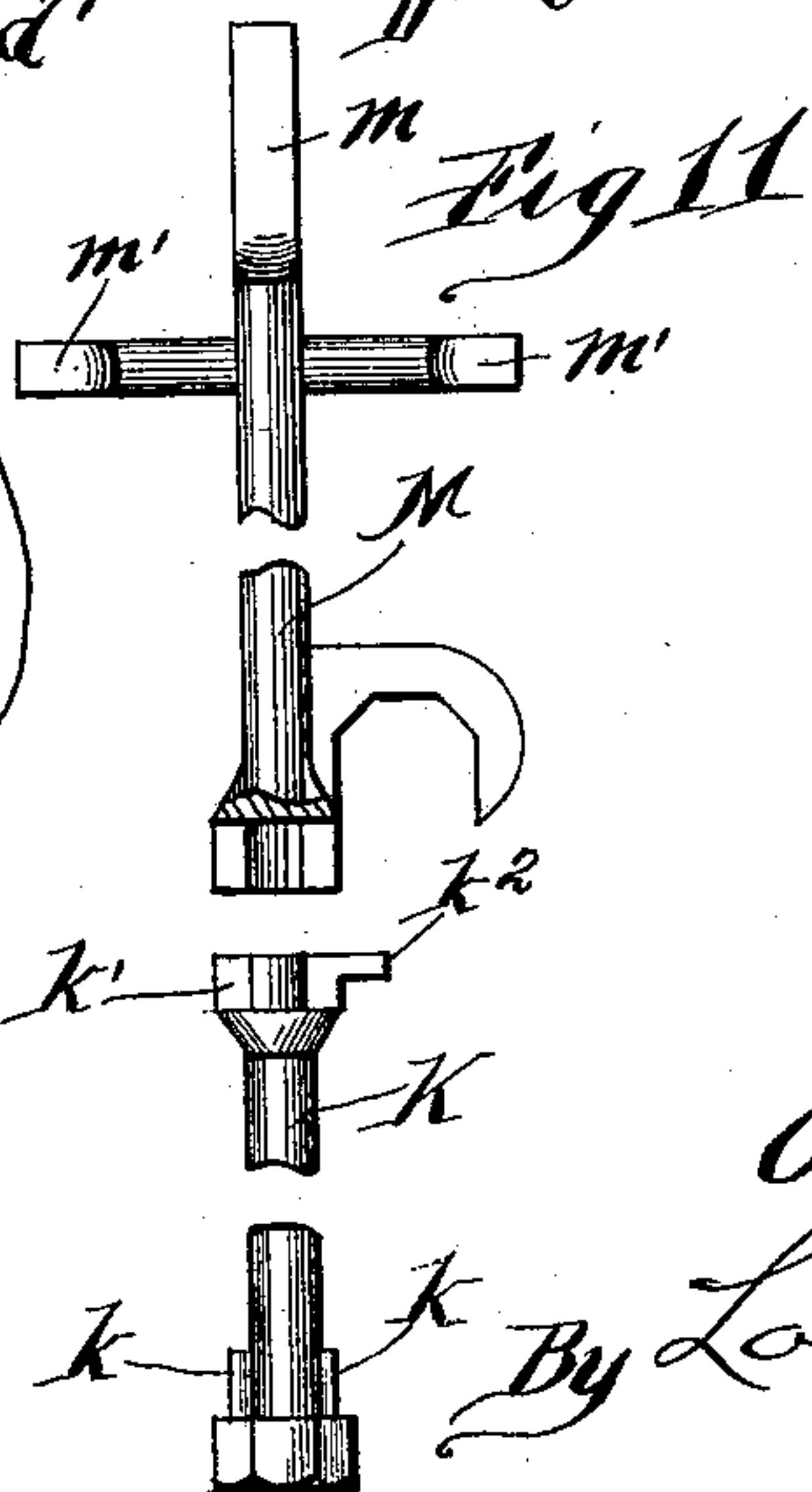
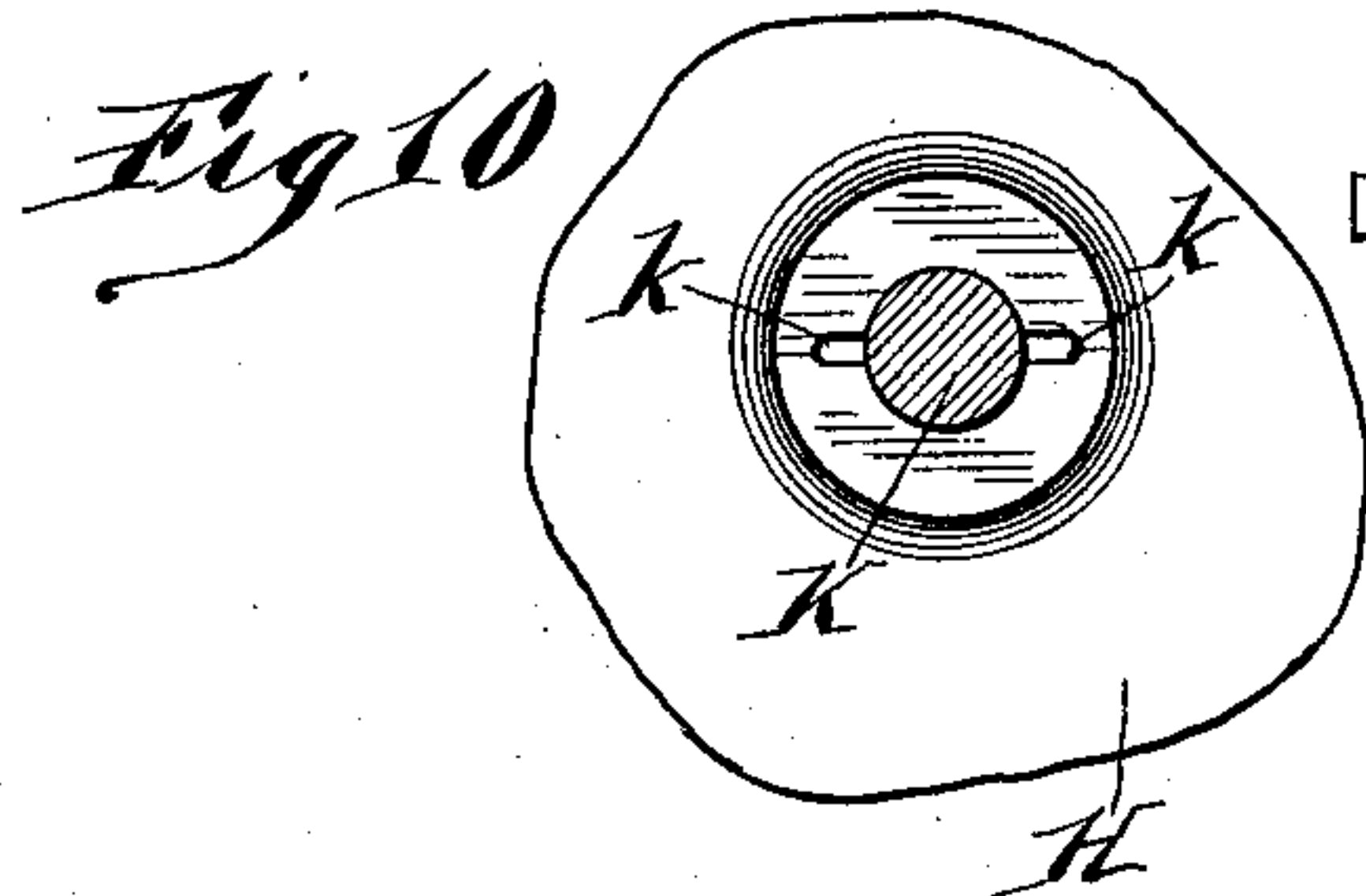
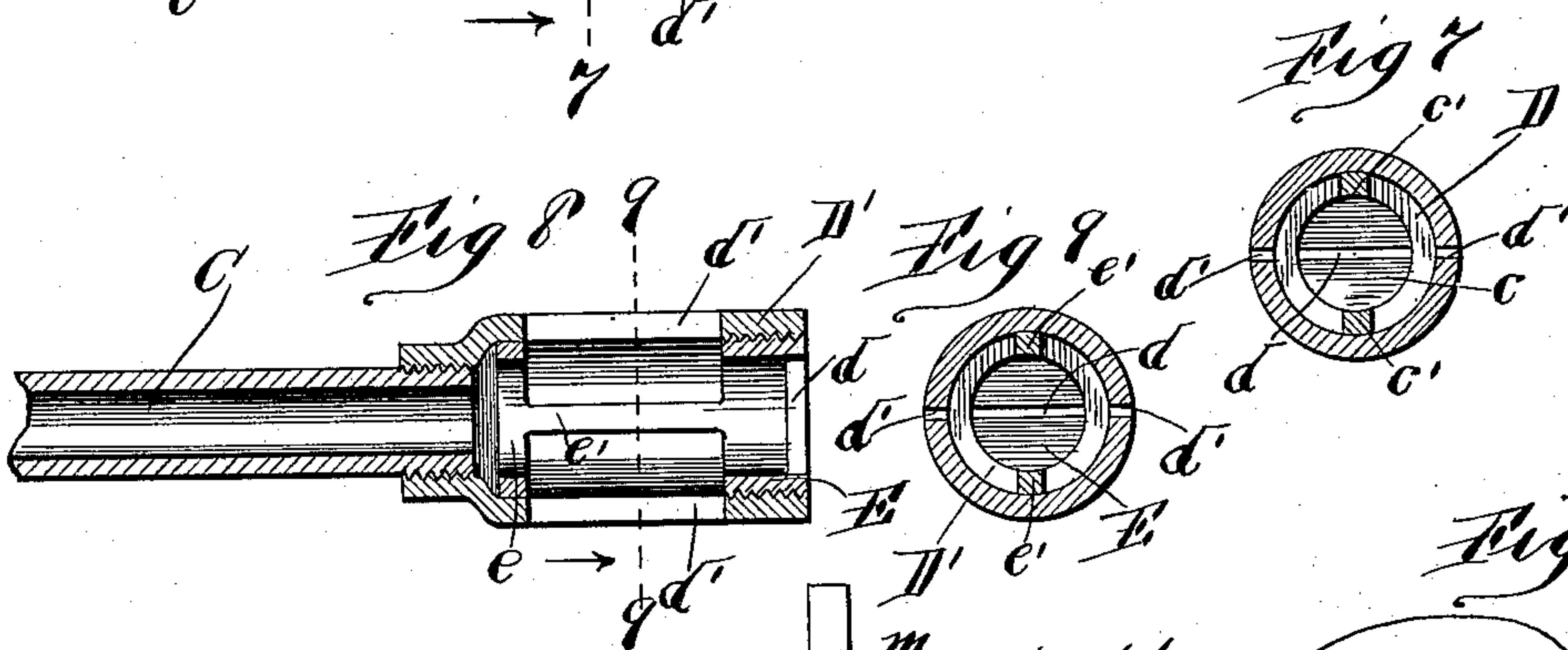
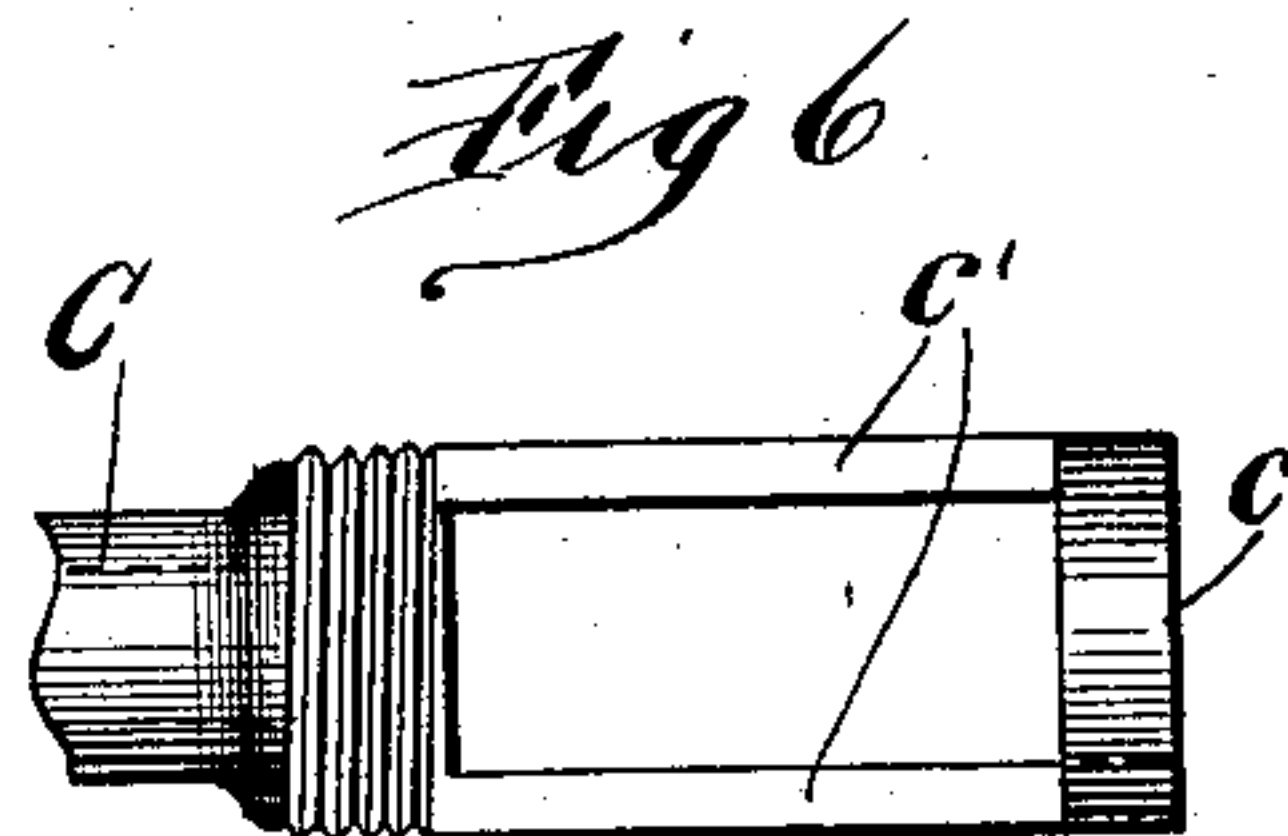
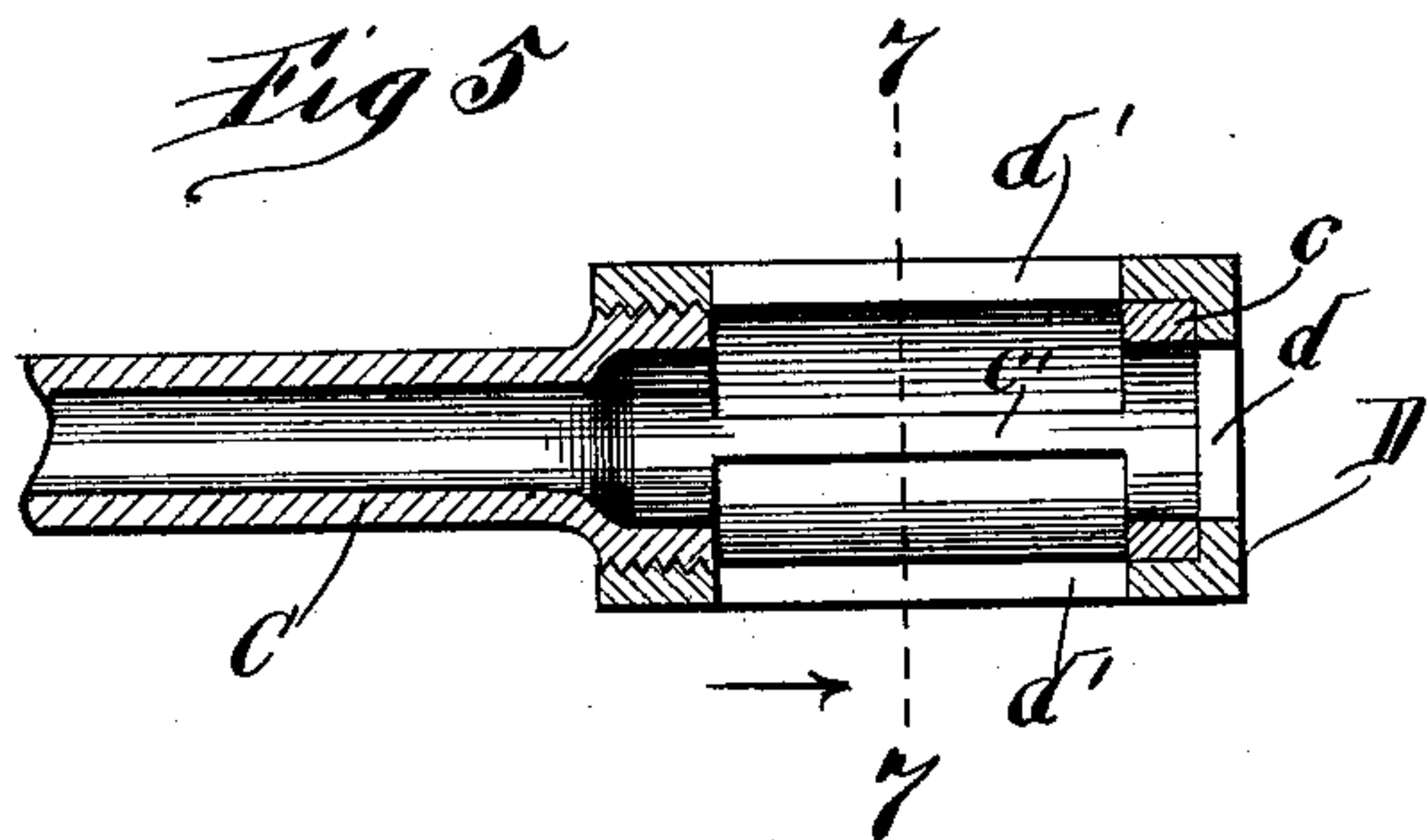
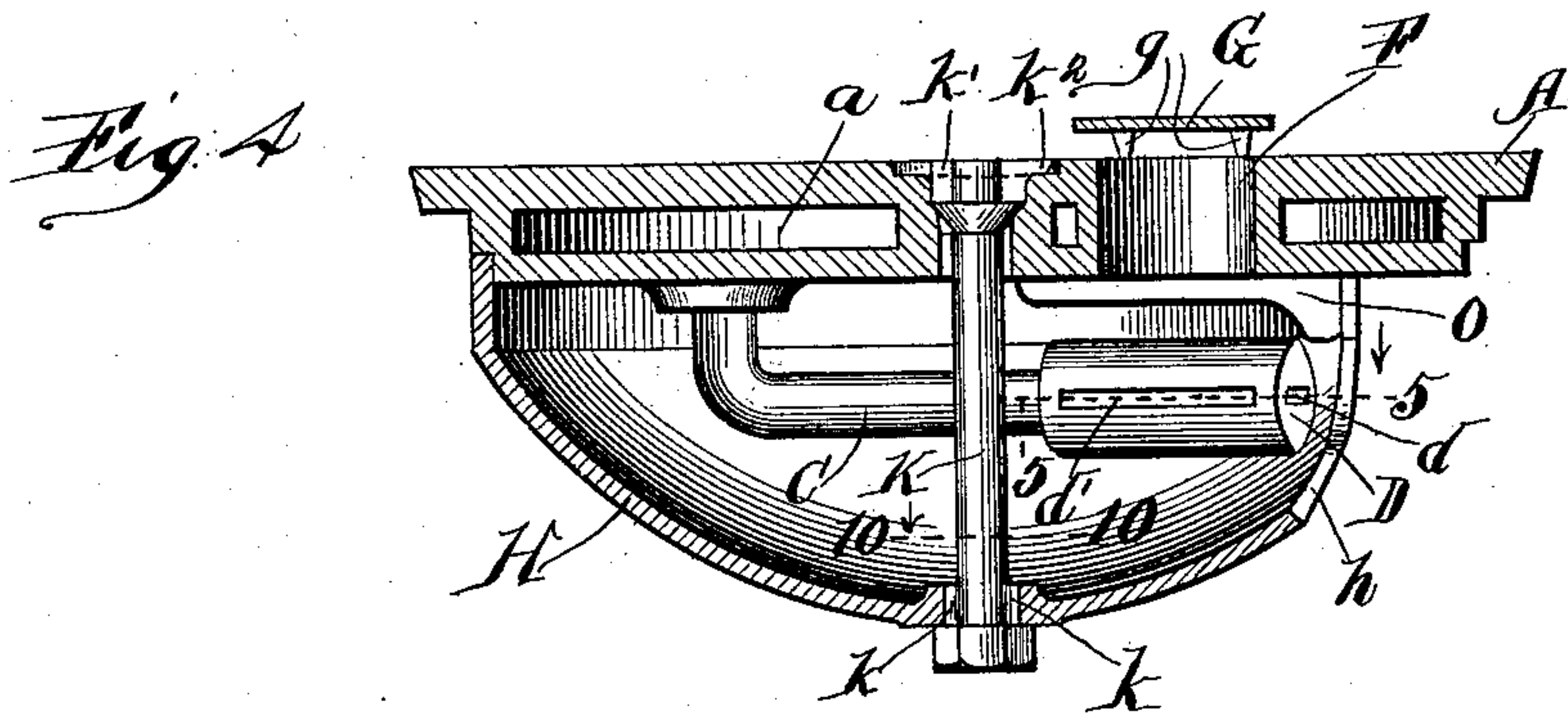
(No Model.)

2 Sheets—Sheet 2.

O. P. TALLEY.
GAS GENERATOR AND BURNER.

No. 592,102.

Patented Oct. 19, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

ORRIN P. TALLEY, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO
HENRY T. SPIVEY AND ROBERT B. SPIVEY, OF SAME PLACE.

GAS GENERATOR AND BURNER.

SPECIFICATION forming part of Letters Patent No. 592,102, dated October 19, 1897.

Application filed May 19, 1897. Serial No. 637,303. (No model.)

To all whom it may concern:

Be it known that I, ORRIN P. TALLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gas Generators and Burners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of vapor-burners which comprise a plate corresponding in size and form to an ordinary stove-plate and adapted to fit within a stove-hole, and in which a burner is located below the plate and inclosed by a casing having a lateral aperture, and which includes also a vaporizing-chamber.

The objects of the invention are to provide a simple, cheap, and durable construction; to provide means for preventing the discharge of any liquid which may find its way to the burner from the orifices thereof; to provide means for easily cleaning and repairing the burner; to provide for changing the direction of discharge of the flame from the inclosing shell, and to provide means for removing any accumulation of carbon from the under surface of the plate. These several objects are attained in the construction hereinafter set forth, and illustrated in the accompanying drawings, in which—

Figure 1 is a detail plan view of the top of a cook-stove with my improved generator and burner applied. Fig. 2 is a side elevation of the generator and burner, portions of the top of the stove being shown in section. Fig. 3 is an inverted plan section on the line 3 3 of Fig. 2. Fig. 4 is a vertical section on the line 4 4 of Fig. 2. Fig. 5 is a detail section of the burner, taken on line 5 5 of Fig. 4. Fig. 6 is a detail elevation of the inner portion of the burner, the outer portion being removed. Fig. 7 is a sectional view on the line 7 7 of Fig. 5. Fig. 8 is a detail longitudinal section of a modified form of burner. Fig. 9 is a sectional view on the line 9 9 of Fig. 8. Fig. 10

is a detail section on the line 10 10 of Fig. 4. Fig. 11 is a detail elevation, partly in section, of a tool for manipulating movable parts of the device and showing its application to the spindle for carrying the burner-inclosing shell; and Fig. 12 is a detail plan of the upper end of such spindle.

The plate A is of the general form of an ordinary stove-plate and is adapted to fit within one of the holes of a cook-stove, as X. It is thicker than an ordinary stove-plate and has a chamber *a*, which is substantially co-extensive with its area.

The novelty of the device resides in part in the casting of the plate integrally, the former practice having been to form a chambered plate of two sections, secured together by riveting or otherwise. Such devices have proved unsuccessful, for the reason that the expansion and contraction loosens the joint, however made.

An induction-pipe B, leading from any suitable fluid-receptacle, enters the chamber of the plate near one side, and a burner-tube C leads from the chamber near the opposite side of the plate, passing through its bottom and being bent at a right angle, so that its body portion assumes a horizontal position. A burner D is attached to the end of the tube C, and is cylindrical in form, and provided with two longitudinal slots *d' d'*, diametrically disposed, and located on a horizontal plane. The end of the burner D is closed, except as to a slot *d* on its horizontal radii. The end *c* of the tube C is open and abuts against the inner end of the burner D, and the sides of the pipe are cut away, so as to form apertures registering with the slots *d'*. These apertures may be made so large that only a pair of light bars *c'* remain to support the outer end *c* of the pipe, which assumes the form of an annulus. The burner D being cylindrical in form and its discharge-orifices being upon its horizontal radii, a chamber is provided below these orifices which will receive any of the fuel which may escape from the generating-chamber in liquid form, and hold it until it is vaporized by the intense heat of the burner, thereby preventing the discharge from the burner-orifices of any liquid fuel.

The volatilization of the liquid held by this

chamber of the burner will cause a slight incrustation of the interior of the burner which in time might clog the orifices. By rotating the burner D this residuum is scraped off by the bars c' . The burner D is preferably secured to the tube C by screw-threads, as shown.

If desired, the end of the tube C may be cut off, so that it enters the burner D' only a sufficient distance to afford proper support therefor, and the outer end of the burner may be open, its bore being provided with an internal screw-thread to which a plug E is adapted. This plug is of sufficient length to reach to the inner end of the burner and is apertured from its inner end, and its sides are cut away to form suitable apertures to register with the lateral burner-slots d' , leaving the bars e' for carrying the inner annular end e of the plug. The plug E has its outer end slotted, as shown at d , to form a burner-orifice. This form of burner provides the same recess or chamber for holding the liquid, and is cleaned in the same manner as the burner previously described.

A draft-aperture F is formed through the plate A directly over the burner, and is of sufficient size to provide an ample quantity of air for perfect combustion. A draft-regulator in the form of a plate G is pivotally secured to the upper surface of the plate A, as shown at g' , and is adapted to swing over the draft-aperture F.

Inasmuch as some air is always required, and as a careless user might sometimes ignorantly or unintentionally entirely close the draft, I provide the plate G with feet g , so as to elevate it slightly from the surface of the plate A.

A bowl-shaped shell or casing H is located below the plate A, so as to inclose the burner, and has a lateral aperture h to provide for the emission of the flame. In order to adapt the device for the heating of all or any portion of the top of the stove, I attach the shell H by means of a spindle K, projecting centrally through the plate A, and being rotatable therein, and being fixed in the bottom of the shell H, and prevented from rotation relatively thereto by means of a lateral lug k . The edges of the shell H make a comparatively close fit with the bottom of the plate A, but do not bind against it, so that the shell is free to turn with the spindle. The upper end of the spindle projects through the upper surface of the plate A, and is adapted to receive a wrench M, having radial lugs k' , or being of any suitable angular form. One of the lugs for receiving the wrench may be prolonged, as shown at k^2 , to serve as an indicating-finger, this finger being directed toward the aperture h of the shell H, so that the position of this aperture may be known without removing the device from its position on the stove. By the use of the wrench M the shell can therefore be turned so that the flame will

be discharged under either of the adjacent stove-covers.

The handle of the wrench M may be flattened, as shown at m , and may be provided also with lateral arms m' , flattened at their ends, whereby a convenient tool is provided for turning and removing the burner, and also for cleaning its lateral orifices without removing.

A finger O is secured to the inner surface of the shell H, near one of its edges, and projects inwardly toward its axis, and is adapted to sweep the lower surface of the plate A as the shell H is oscillated, thereby removing any carbon which may have collected.

While I prefer to make the burner cylindrical in form for convenience in putting the parts together and in repairing, as well as to facilitate cleaning, I do not desire to be limited to this construction, for the reason that any burner having a chamber below its discharge-orifice for the purpose of receiving and holding liquid which may enter the burner will come within the scope of my invention.

I claim as my invention—

1. In a vapor-burner the combination with a chambered generating-plate and a burner below such plate and in communication with its chamber, and a rotatable casing attached to the under side of the plate and inclosing the burner and having a lateral opening.

2. The combination with a cylindrical vapor-burner having its discharge-orifices above its lower side, of a relatively rotatable member within the burner and having a rib longitudinal as to the burner and in frictional contact with the inner surface thereof.

3. In a burner the combination with a tube having an open end and lateral apertures, of a cap having its closed end transversely slotted and being adapted to fit upon the end of the tube to cover its lateral apertures and having longitudinal slots for the purpose specified.

4. The combination with a vapor-generator, and burner below and in communication with the generator, of a rotatable spindle extending downwardly through the generator and controllable from above, and a laterally-apertured casing inclosing the burner and carried by and rotatable with the spindle.

5. In a vapor generator and burner the combination with a plate having a generating-chamber, a burner below the plate and in communication with its chamber, a rotatable spindle extending downwardly through the center of the plate, a case for inclosing the burner and having a lateral aperture, such case being carried by and rotatable with the spindle.

6. In a vapor generator and burner the combination with a plate having a generating-chamber, a burner below the plate and in communication with its chamber, a rotatable spindle extending downwardly through the center of the plate and having its upper end

adapted to receive a wrench, a case for inclosing the burner and having a lateral aperture, such case being carried by and rotatable with the spindle.

5 7. The combination with a generating-plate, a burner below the plate and a rotatable case for inclosing the burner, of a finger secured to the case and projecting inwardly toward its axis and being adapted to
10 sweep the bottom of the plate.

8. In a burner the combination with a tube

having lateral apertures, of a cap adapted to fit upon the end of the tube to cover its lateral apertures and having longitudinal slots for the purpose specified.

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

ORRIN P. TALLEY.

Witnesses:

LOUIS K. GILLSON,

JESSIE DALE ALTBERGER.