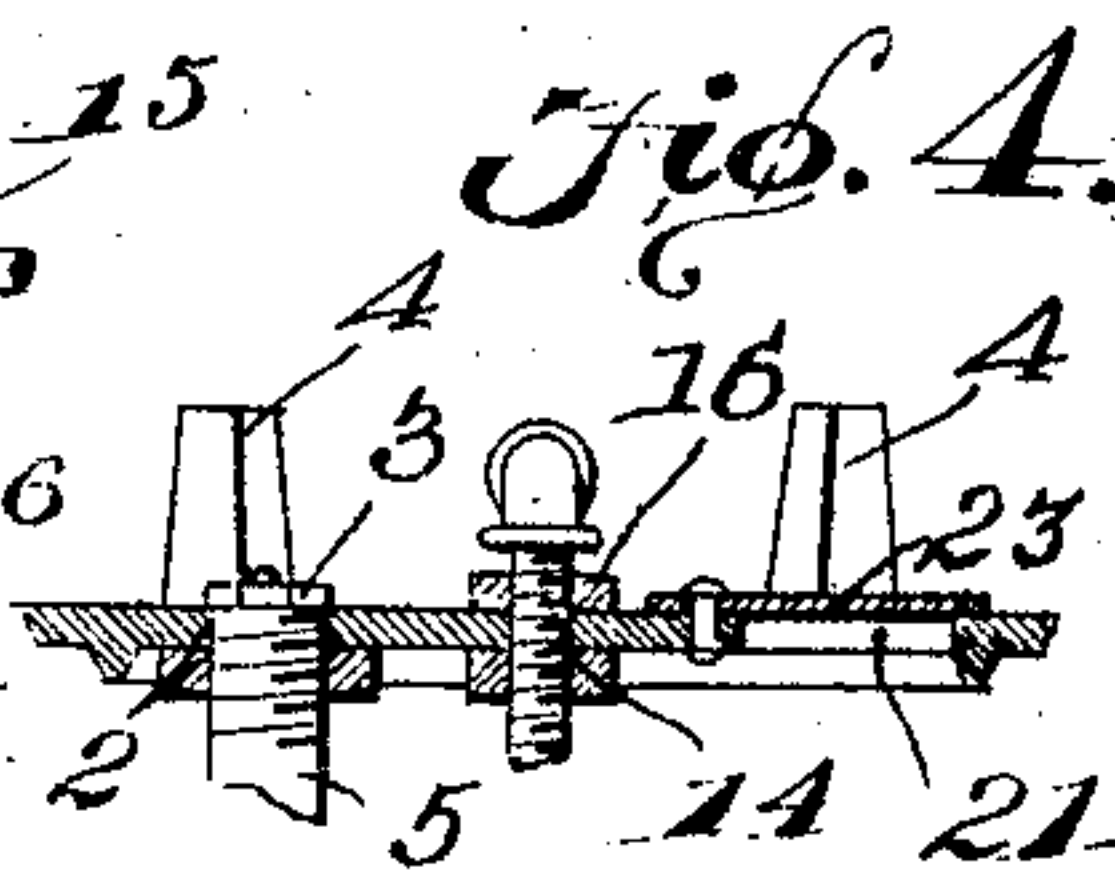
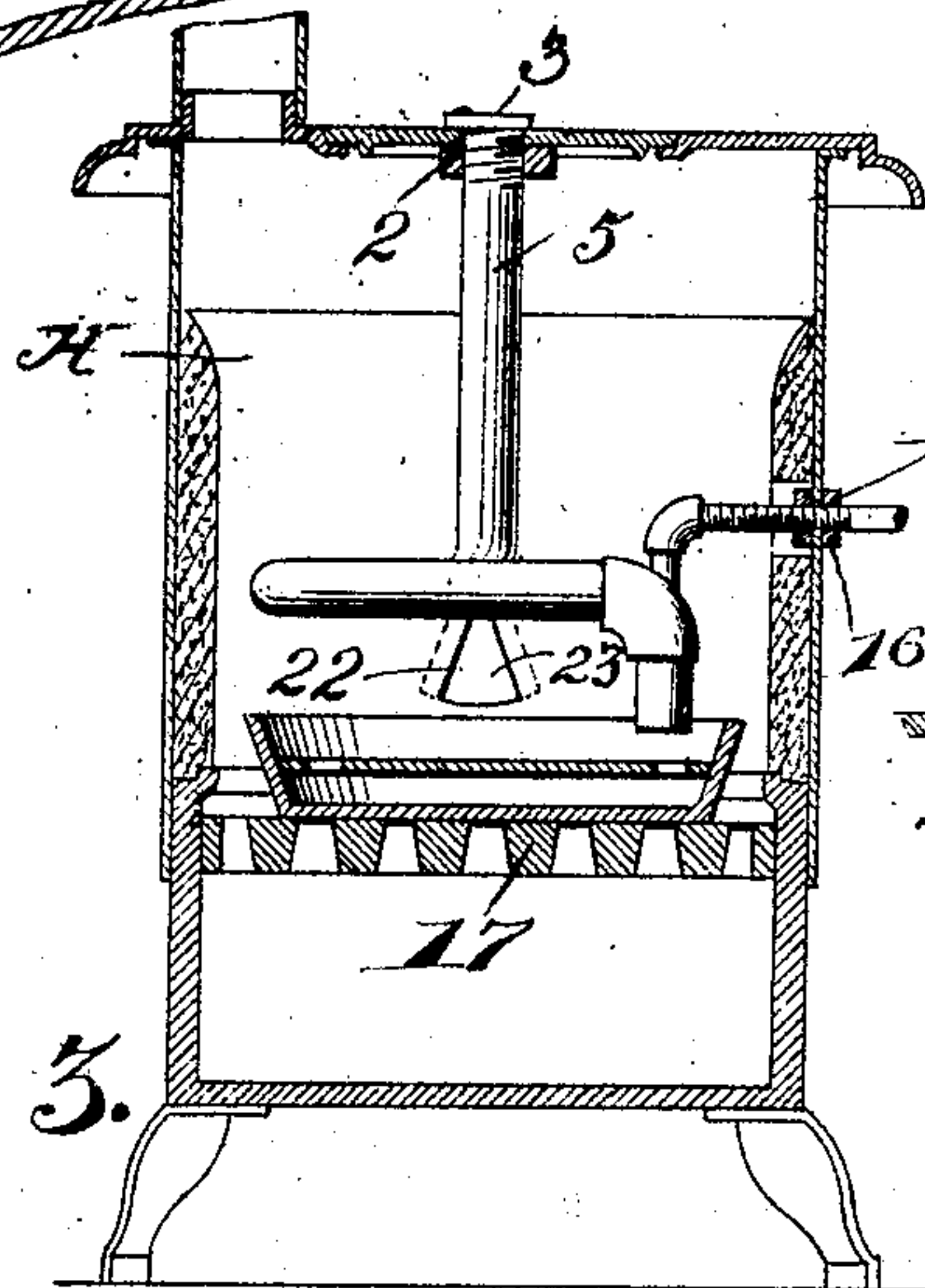
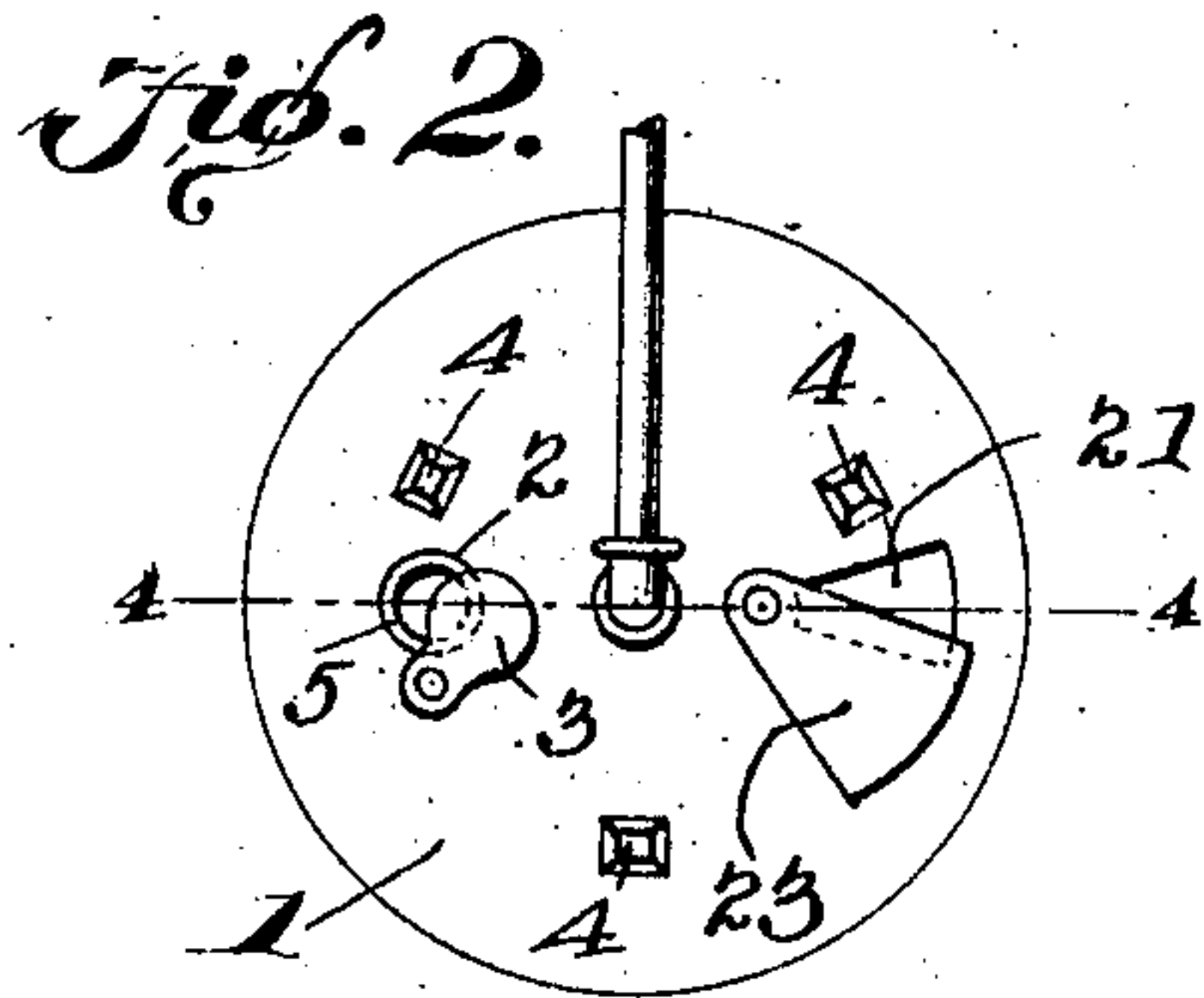
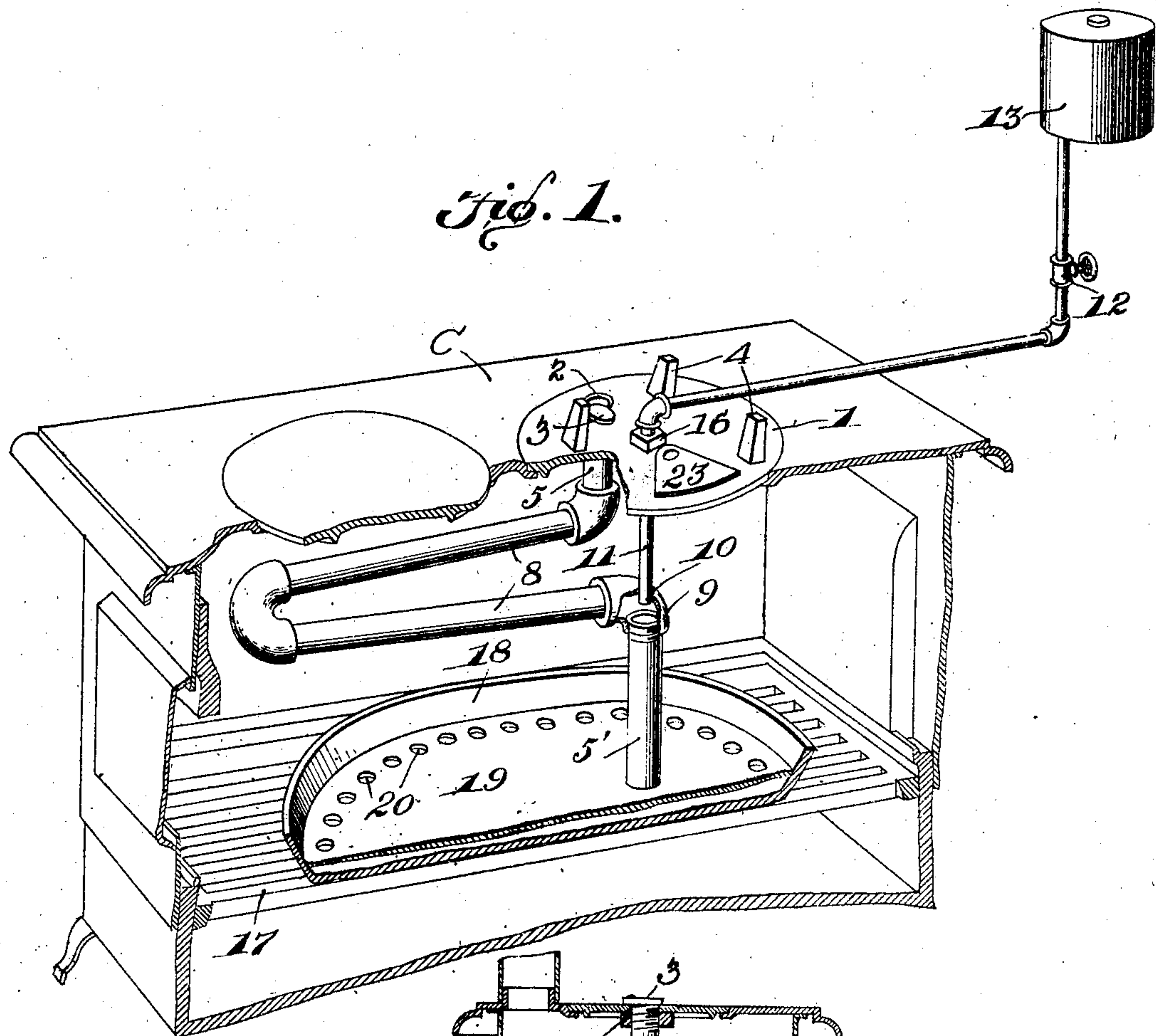


No. 889,291.

PATENTED JUNE 2, 1908.

H. H. ASHLOCK.
HYDROCARBON BURNER.
APPLICATION FILED MAY 24, 1906.



WITNESSES:

E. J. Stewart
Wm. Ragger

Henry H. Ashlock, INVENTOR.

By *C. A. Snow & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

HENRY H. ASHLOCK, OF SAN DIEGO, CALIFORNIA.

HYDROCARBON-BURNER.

No. 889,291.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed May 24, 1906. Serial No. 318,568.

To all whom it may concern:

Be it known that I, HENRY H. ASHLOCK, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented a new and useful Hydrocarbon-Burner, of which the following is a specification.

This invention relates to hydrocarbon burners adapted to be used in connection with the fire boxes of cooking and heating stoves, furnaces, and the like, for the consumption of liquid hydrocarbon, either in the form of crude or distilled oil; the invention having for its objects to avoid carbonization and consequent stoppage of the oil ducts of the burner.

Further objects of the invention are to simplify and improve the construction and operation of the device.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in an improved construction whereby the liquid fuel is discharged into an intensely heated air current to be thereby vaporized prior to its discharge in the form of gas upon the combustion surface; the invention further consists in the improved construction, arrangement and combination of parts, to be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to, when desired.

In the drawings:—Figure 1 is a sectional perspective view illustrating the invention applied in position for operation to the fire box of a cooking stove of ordinary construction. Fig. 2 is a top plan view of a stove lid supporting the device. Fig. 3 is a sectional detail view showing the invention applied to a heating stove. Fig. 4 is a sectional detail view, enlarged, taken through the supporting lid of the device, on the plane indicated by the line 4—4 in Fig. 2.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

A stove lid 1, which may be fitted to the fire box of a cooking stove C, as in Fig. 1, or

of a heating stove H, as in Fig. 3, is provided with tapped aperture 2 into which screws a pipe 5. The upper end of the pipe is open to permit air to enter and is preferably flush with the top of the lid so as to be equipped with a damper or valve 3 for controlling the air supply. The pipe 5 may be extended beneath the stove lid or cover any desired distance according to the character of stove or fire-box in connection with which it is to be used, and said pipe is provided intermediate its ends, and below the lid 1, with coils or convolutions 8 whereby a large area of said pipe will be exposed to the heat of the flames in the furnace or fire-box. The pipe includes an elbow 9 from which the lower terminal portion of the pipe extends vertically, as shown.

The elbow 9 has an aperture 10 disposed above and in alinement with the vertical mixing tube or terminal pipe portion, which latter is specially designated 5'; through the aperture 10 extends an oil feed pipe 11 which is provided with a regulating valve 12 and which is connected with a source of oil supply, such as a tank 13, shown in Fig. 1. The feed pipe may extend through an aperture 14 in the stove lid 1, lugs 4 being employed that extend above the height of the pipe to receive a cooking vessel, as shown in Figs. 1, 2 and 4 of the drawings; or it may enter through an aperture, as 15, in the side of the stove casing, as shown in Fig. 3; said feed pipe being in either case secured, as by means of nuts 16, or in any other convenient manner.

The grate 17 of the fire-box in connection with which the device is used, supports a shallow bowl or pan 18 which constitutes the generator pan; and in said pan there is supported a combustion plate 19 having apertures 20.

A convenient aperture is provided for the insertion of a torch whereby the oil in the generator pan may be ignited, said aperture being formed either in the stove lid, as shown at 21 in Figs. 1, 2 and 4, or in the side of the stove casing, as shown at 22 in Fig. 3; in either case, a valve or damper 23 is provided whereby said aperture may be obstructed when not in use.

In the operation of this device, a quantity of oil is permitted to flow by the valve 12 into the generator pan where it is ignited by the application of a torch through the aperture

21 or 22, as the case may be. The air pipe 5, 5' will thus become heated, so that when oil is permitted to flow slowly through the feed pipe 10 into the terminal 5' of the air pipe, it will become vaporized, forming by admixture with the heated air in the air pipe, a highly inflammable mixture which is ignited as it issues from the air pipe and is deflected upon the combustion plate where it will burn with a flame of great intensity. It is to be noted that all ordinary air inlets for supplying air to the fire-box are to be obstructed, so that the air necessary to support combustion will be compelled to enter through the air pipe 5, 5', which latter, being intensely heated, will cause the oil discharged thereinto to become practically instantaneously vaporized.

This invention, by making such changes as will readily suggest themselves to those skilled in the art, may be readily adapted for use in connection with cooking and heating stoves of various patterns, as well as with fire-boxes and furnaces of all descriptions.

Having thus described the invention, what is claimed is:—

In a hydrocarbon burner the combination with a stove lid having a torch receiving aperture and a closure for said aperture; of a vertically extending mixing tube below the lid and having an outlet at its lower end, an air conducting coil connecting said tube with the lid and opening through the lid, a pan disposed below the mixing tube and constituting a burner, said pan extending under the coil, an oil conducting pipe extending directly from the lid into the inlet end of the mixing tube, and means for regulating the passage of air through the coil and to the mixing tube.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HENRY H. ASHLOCK.

Witnesses:

W. J. WALSH,
MARIE E. LUBER