

(No Model.)

C. V. FLEETWOOD.  
PETROLEUM BURNER.

No. 392,021.

Patented Oct. 30, 1888.

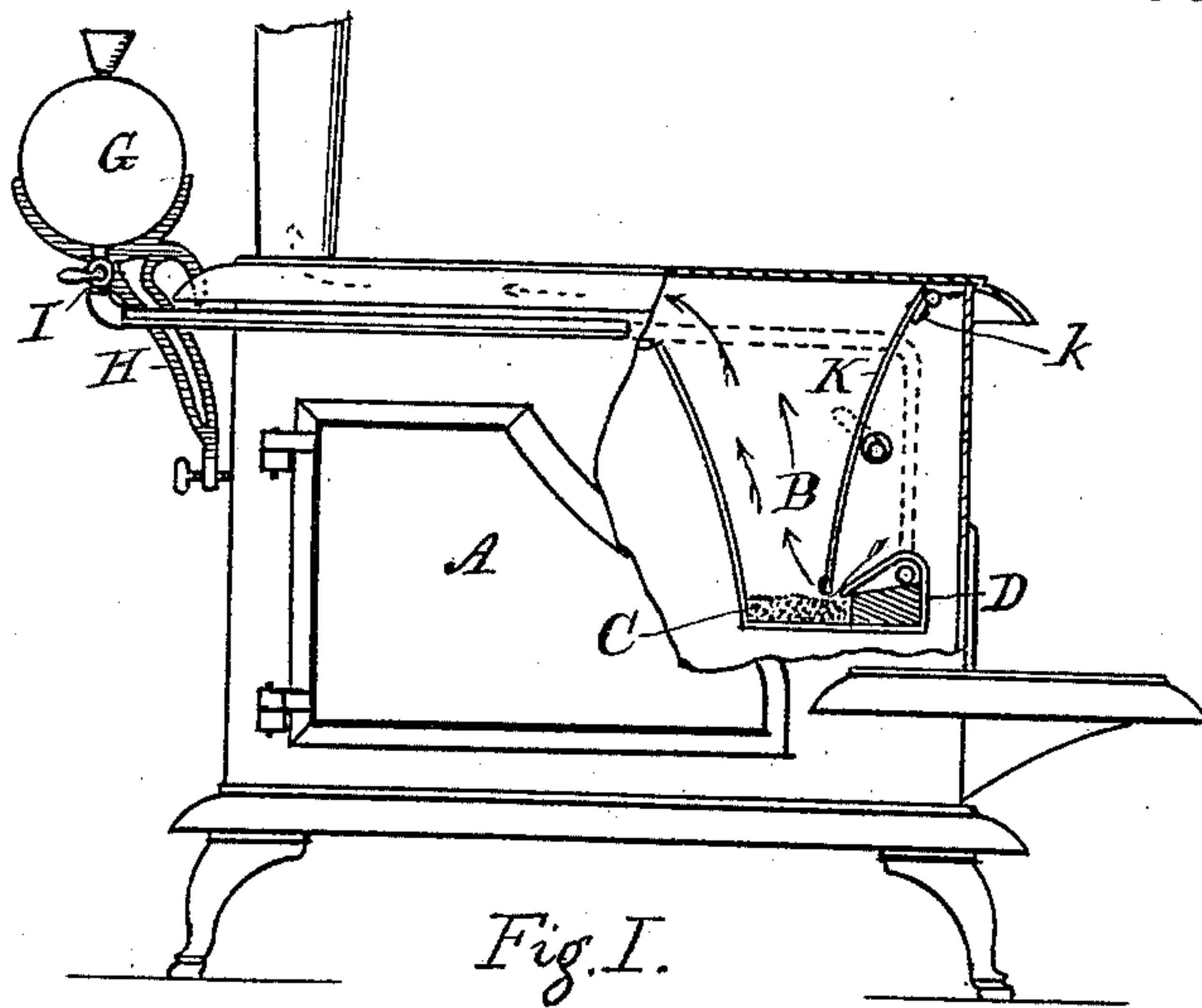


Fig. I.

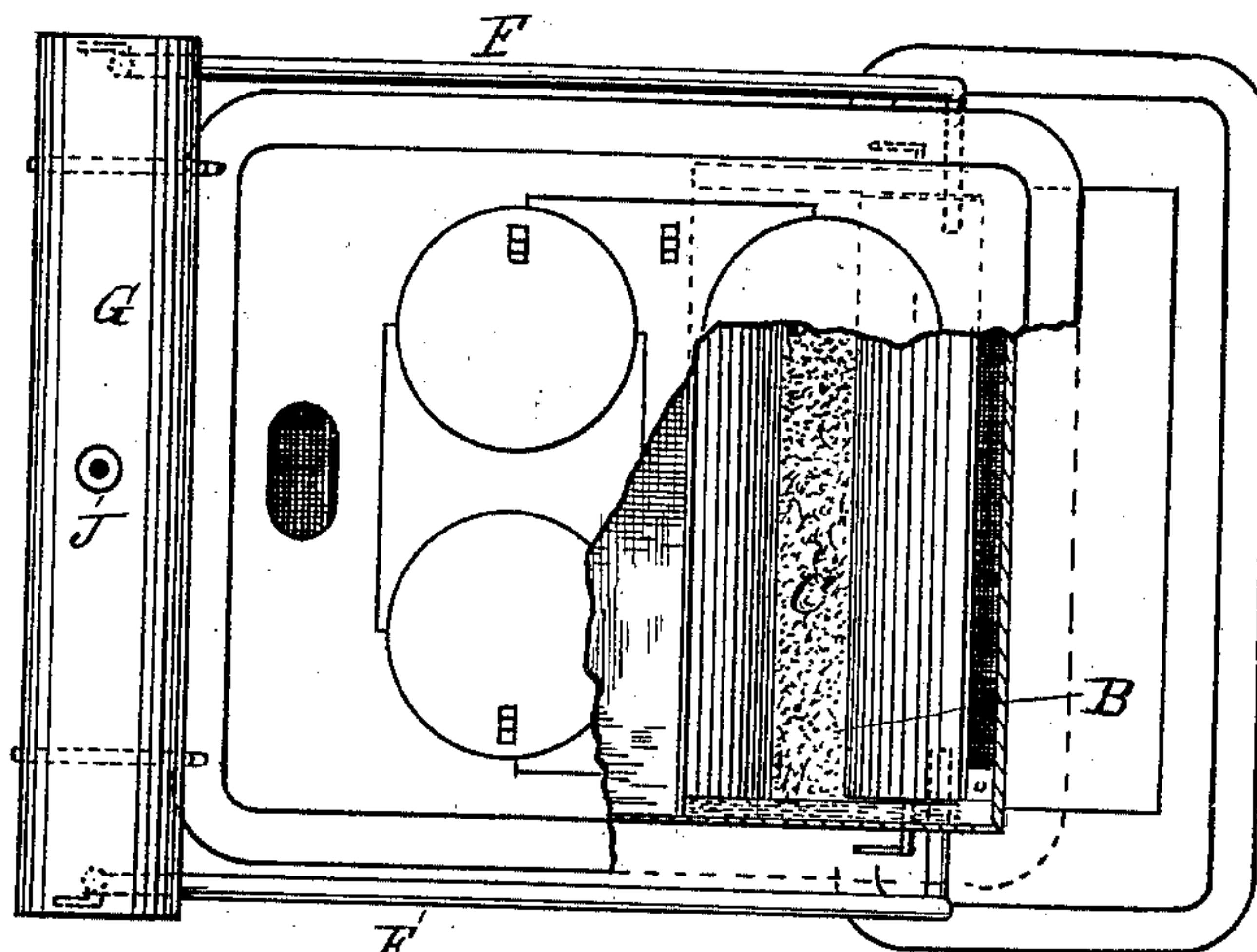


Fig. II.

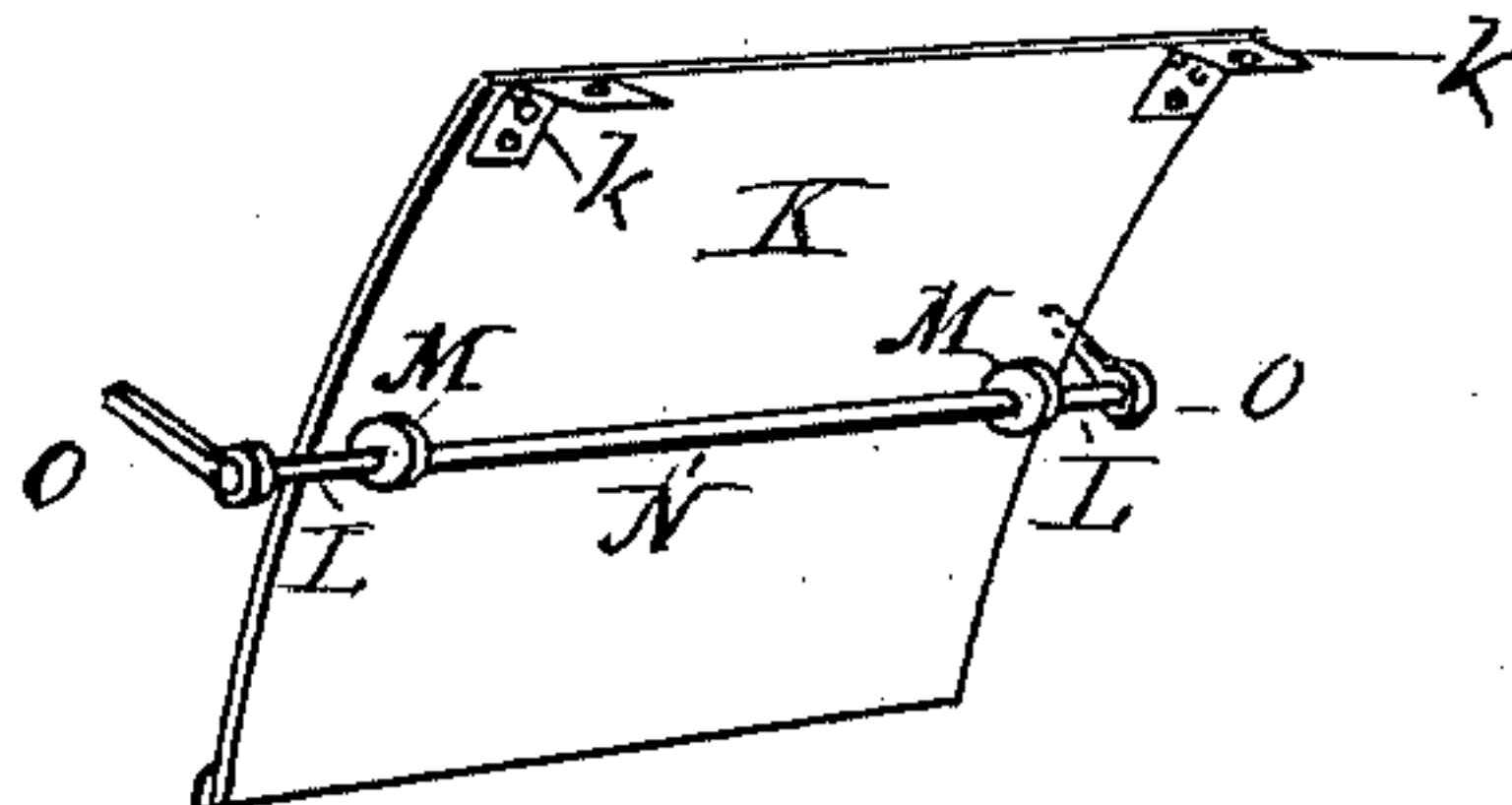


Fig. III.

WITNESSES:

Robert Kirk.  
Robt J. Millar.

INVENTOR :

Caleb V. Fleetwood.

By

*[Signature]*

Attorney.



# UNITED STATES PATENT OFFICE.

CALEB V. FLEETWOOD, OF CLEVELAND, OHIO.

## PETROLEUM-BURNER.

SPECIFICATION forming part of Letters Patent No. 392,021, dated October 30, 1888.

Application filed October 24, 1887. Serial No. 253,375. (No model.)

*To all whom it may concern:*

Be it known that I, CALEB V. FLEETWOOD, of Cleves, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Petroleum-Burners, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side view of an ordinary stove, showing a cross-section of my device. Fig. 2 is a top view showing the reservoir and supply-pipes, and Fig. 3 is the front plate with the adjusting attachment.

The object of my invention is to construct an improved device for utilizing crude petroleum as fuel for cooking or heating.

The device is simple, practical, and inexpensive, and may be readily adapted to stoves of ordinary construction; or, if desired, can be used in connection with stoves or fire-places designed for the purpose.

The peculiar construction of the apparatus provides means for easily regulating the supply of fuel according to the varying requirements—viz., limiting the same so that no excess beyond the proper quantity can be exposed to the action of the fire, immunity from danger caused by overheating or volatilizing the petroleum before it reaches the combustion chamber, and the means employed to supply the right proportion of air to insure the uniform and complete combustion of the fuel.

Referring to the accompanying drawings, A designates the frame of an ordinary cook-stove; B, the fire-box or combustion-chamber, the bottom of which is provided with asbestos, C, or other incombustible fibrous material to absorb and distribute the petroleum. A chamber, D, supplied with petroleum, as hereinafter described, is partially filled with plaster-of-paris or any suitable non-conducting medium to prevent communication of an undue degree of heat from the fire-box to the petroleum in the upper portion of said chamber. To provide additional protection, the non-conducting medium in chamber D extends above the level of the asbestos in the fire-box.

The petroleum fuel is conveyed into the petroleum-chamber D through the pipes F from the reservoir G, which is supported by hanging brackets H, attached to the rear flange of

the top plate of the stove. The reservoir is located at a proper distance from the stove to obviate all danger from the heat, but sufficiently near to secure the degree required to prevent chilling and prepare the fuel to pass freely through the pipes F to the chamber D.

It should be observed in the construction and arrangement herein shown that as the petroleum discharges from the pipes F it enters the chamber D above the plaster-of-paris filling, and the cover or top of the chamber has its rear edge bent down close to the rear edge of the plaster filling, so that when the petroleum flows down the inclined face of the filling the cap will check it in a measure and distribute it along the chamber, causing it to flow therefrom in a thin sheet at a point below the lower edge of the front plate of the fire-box. The flow of the fuel is regulated by faucets I. The reservoir is supplied through a funnel, J, which is provided with a cover having a small orifice to admit sufficient air to permit the fuel to gravitate into the supply-pipes F.

K indicates the front plate of the fire-box, which is hinged or loosely connected to the under side of the top plate of the stove by means of lugs k at each end. About midway of the length of this plate it rests against the cams M, fixed on the rod N, which rod passes in front of the plate and through the sides of the stove, outside of which it can be operated by one of its cranks O. Thus the plate can be adjusted forward by the cams or backward by gravity, so as to place it in any desired relation to the rear plate of the fire-box. The lower edge of this plate is doubled to give it the rigidity required for close and accurate adjustment. By this arrangement the entire draft passes through a narrow slit extending across the entire front of the fire-box, and the air being admitted in the form of a thin sheet is thus prepared to combine at once with the gases generated by the heated petroleum, and the process of combustion is thereby rendered active and complete. The nozzles of the supply-pipes F are gaged so as to admit only so much of the fuel as is required to furnish the due proportion of combustible matter for thorough consumption. If a slow fire is desired, one of the faucets may be closed and the draft reduced, so as to furnish a corre-



sponding amount of air. When the flow of the petroleum is cut off by the faucets, the flames soon expire.

To guard against inconvenience in rekindling, which might arise at times when the petroleum becomes chilled in the reservoir, it is only necessary after the fire is extinguished to open the faucets a few moments and admit a very slight amount of oil, so as to merely cover the surface of the fire-box between the plates K and B. This will enable the fire to be started and the slight amount of heat so developed will be sufficient to warm the pipes connecting with the oil-reservoir, and so insure a flow and suitable supply of the oil in the fire-chamber.

What I claim as new is—

1. In combination with a petroleum-burner, the fire-box having in its base or trough a bed of fibrous incombustible material, and provided at its front with a liquid-fuel-feeding chamber the discharge-mouth of which is in close proximity to the bed of fibrous material, and a front plate the lower edge of which is slightly above the said bed, and means for adjusting said plate, substantially as described.

2. In a stove or petroleum-burner, the feed-chamber having on its rear side a horizontal discharge-opening, in combination with a plate which forms one side of the combustion chamber, and means for adjusting the lower end of the plate to and from the feed-chamber, and the oil-supply pipe, substantially as herein set forth.

3. In a stove or petroleum-burner, the combustion-chamber having in its base an absorb-

ent bed of incombustible material, the front wall of said chamber being hinged at its upper edge to the under side of the top of the stove, and means for adjusting the lower end of the plate to and from the fuel-chamber, in combination with a fuel-feed chamber located at the base of and outside of the combustion-chamber, substantially as herein set forth.

4. In a stove or petroleum-burner, the horizontally-disposed fuel-feed chamber having a rearwardly-inclined floor therein, and a cap or top the rear depressed edge of which approaches close to the floor of the chamber, in combination with the plate or front wall of the combustion-chamber, and means for adjusting the lower end of the plate to and from the fuel-chamber, and the oil-supply pipe, substantially as herein set forth.

5. In a stove or petroleum-burner, the combustion-chamber having its rear wall inclined and its front wall inclined and hinged at its upper edge to the under side of the stove, and means for adjusting the lower end of the plate to and from the liquid-fuel-feed chamber, in combination with a bed in the base thereof of absorbent incombustible material, and the said liquid-fuel-feed chamber, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand, this 21st day of October, 1887, in the presence of witnesses.

C. V. FLEETWOOD.

Witnesses:

EDWARD BARTON,  
ROBT. S. MILLAR.