

(No Model.)

W. SNYDER.
OIL BURNING ATTACHMENT.

No. 374,433.

Patented Dec. 6, 1887.

Fig. 1.

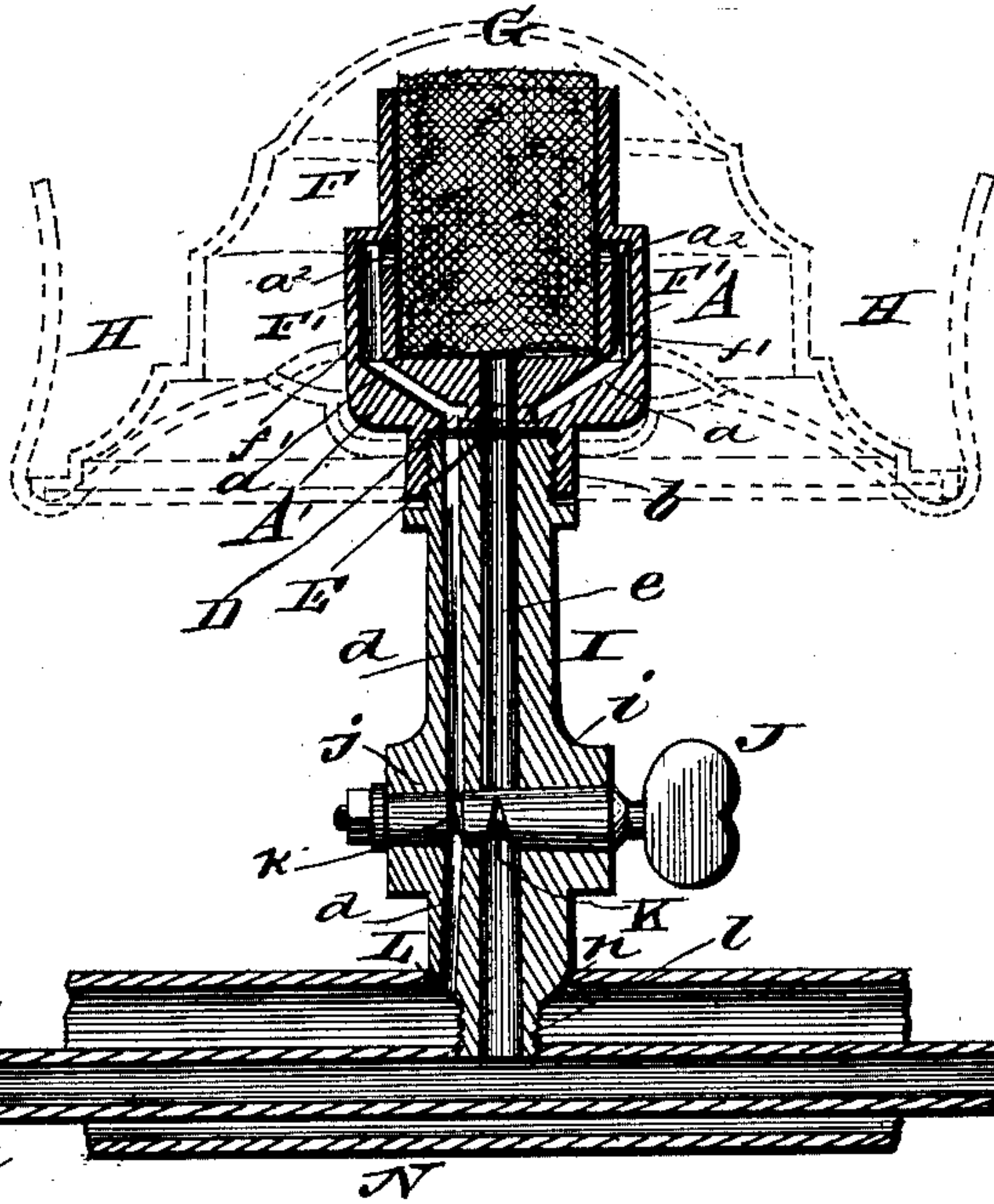


Fig. 3.

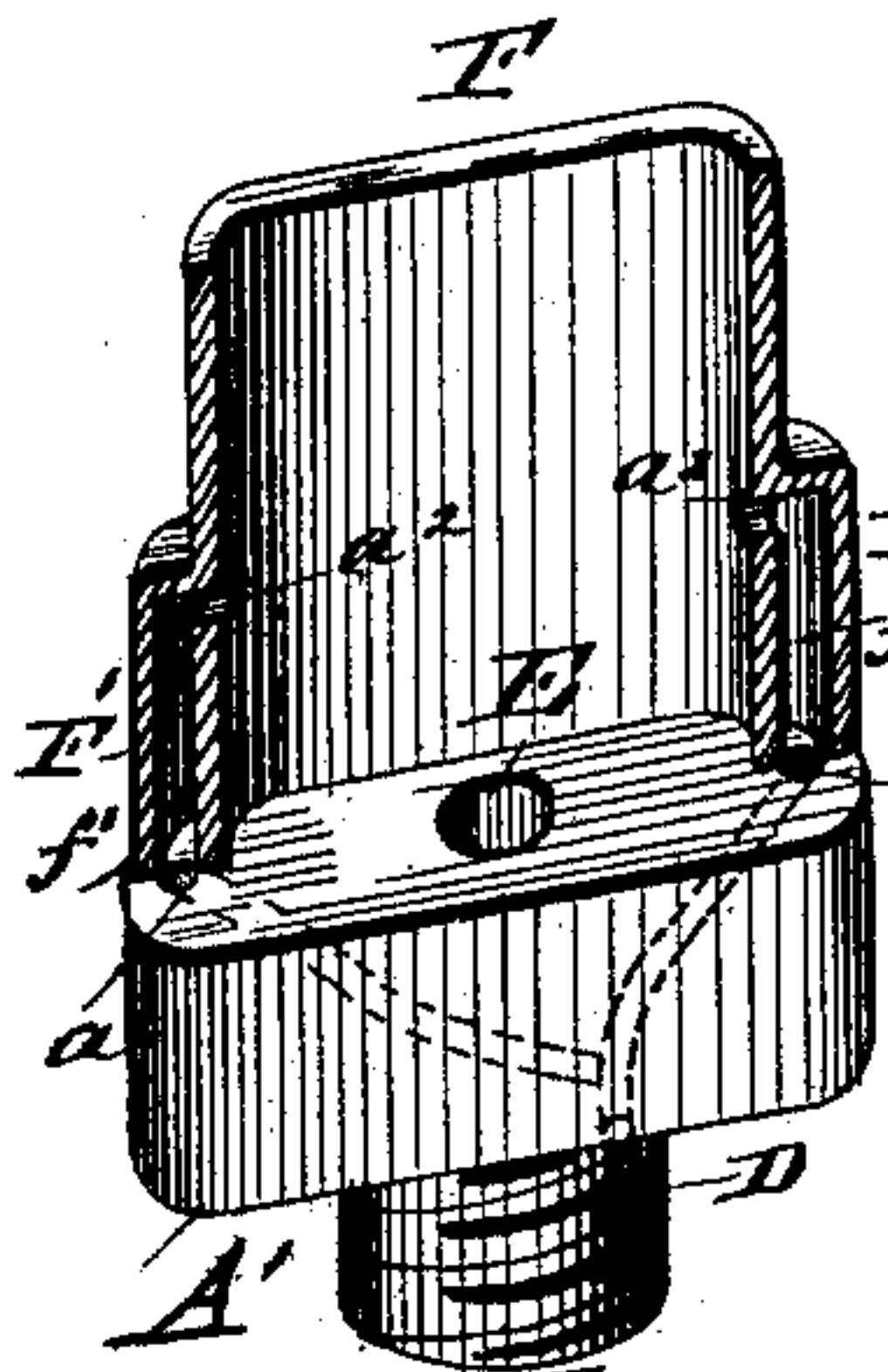


Fig. 2.

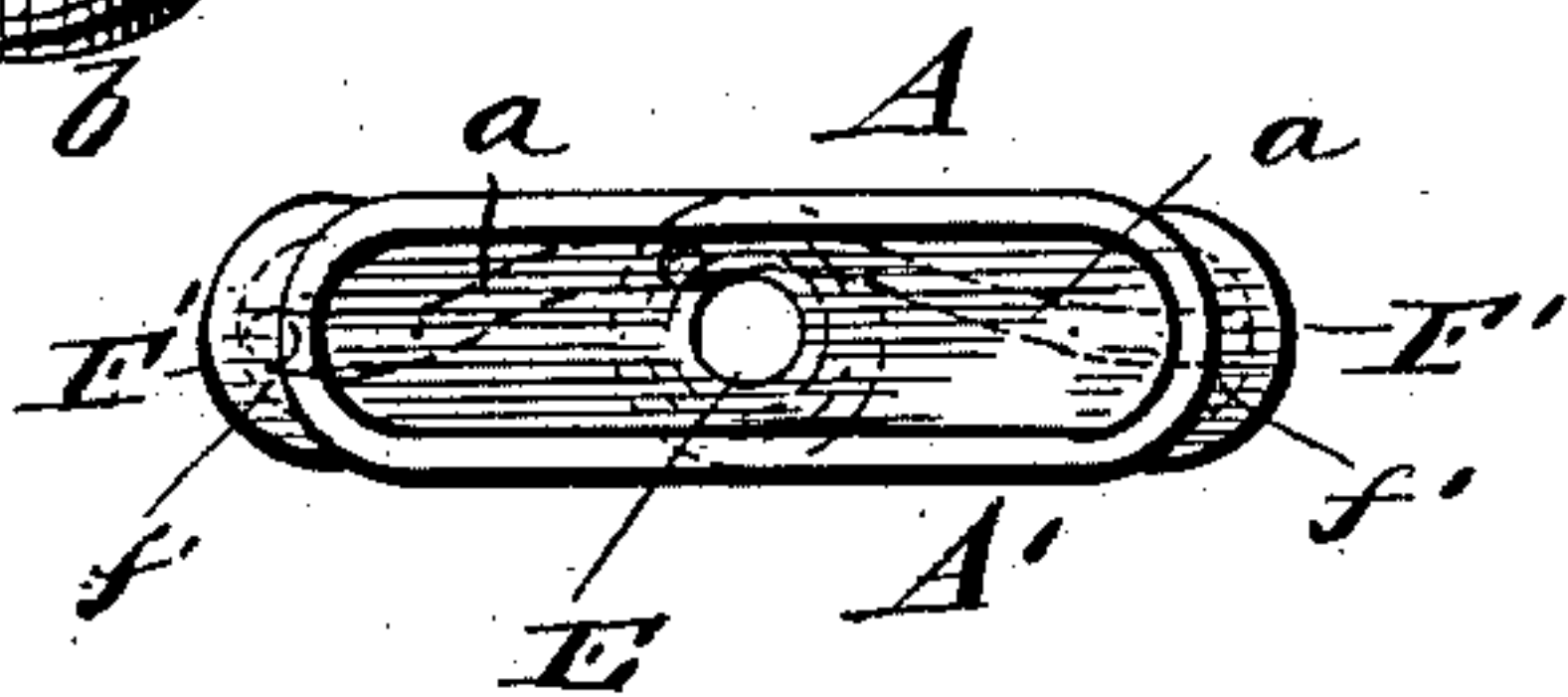


Fig. 4.

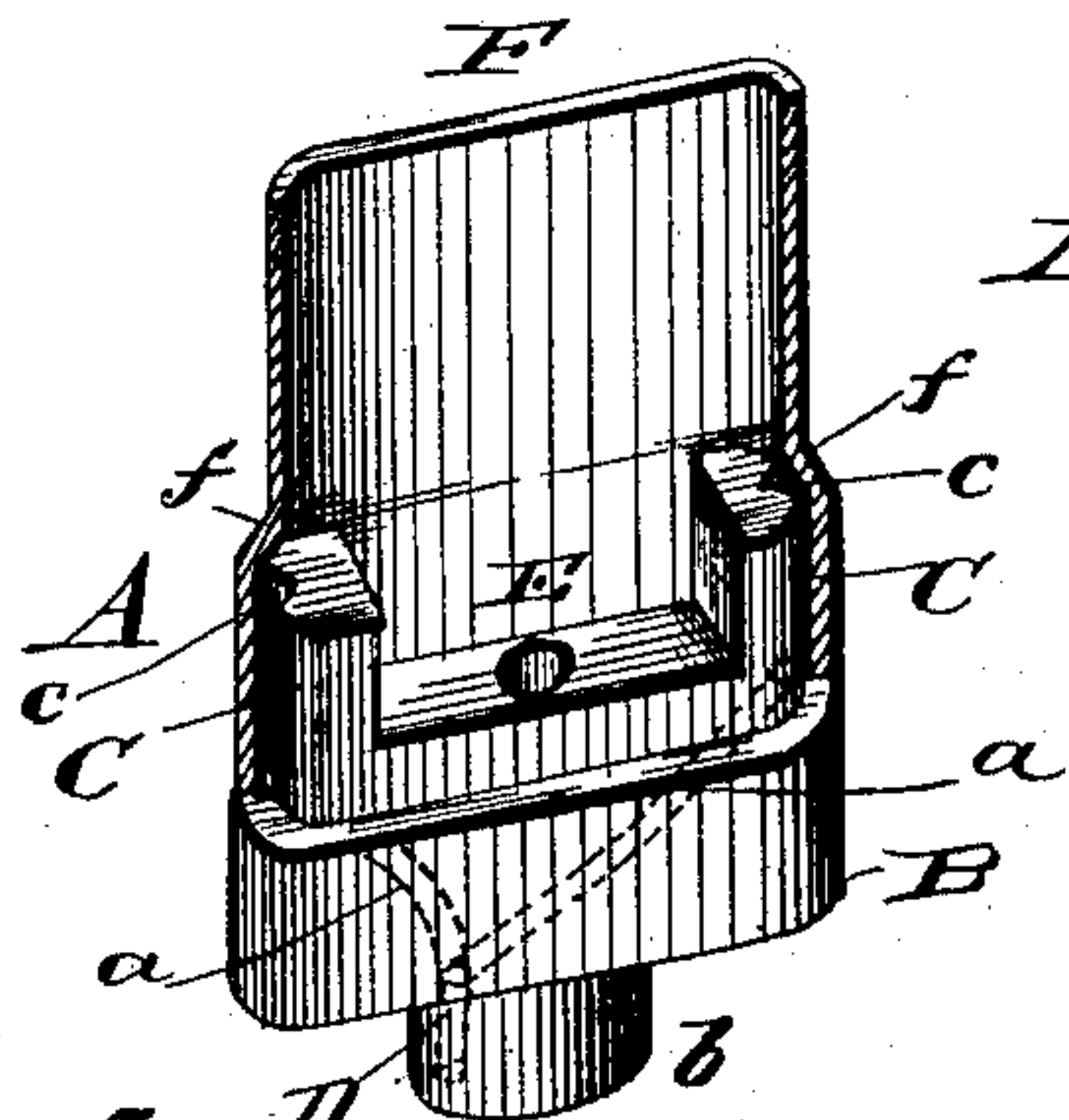
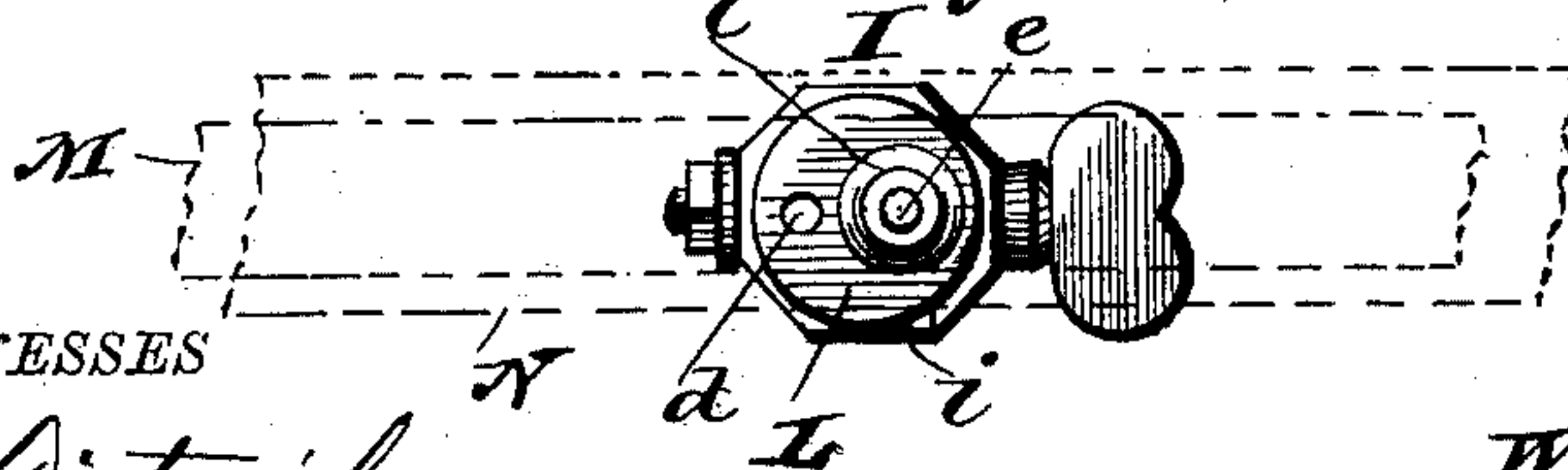


Fig. 5.



WITNESSES

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OIL-BURNING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 374,433, dated December 6, 1887.

Application filed April 22, 1887. Serial No. 235,791. (No model.)

To all whom it may concern:

Be it known that I, WATSON SNYDER, of Ypsilanti, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Oil-Burning Attachments; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a vertical section showing my improved oil-burning attachment in position for use. Fig. 2 is a top plan view of the burner-head. Fig. 3 is a perspective view of the same, partly in section. Fig. 4 is a similar view to Fig. 3, showing a modified form of burner-head. Fig. 5 is a detail view of the oil delivery and drainage pipe.

This invention relates to improvements in devices for burning hydrocarbon oils, such as petroleum; and it consists in the peculiar and novel construction of the devices for effecting the same, hereinafter described, illustrated in the drawings, and particularly specified in the appended claims.

Referring to the drawings by letter, A designates the head of the attachment, which is formed of a metallic lamp-wick tube, F, of proper form to hold a wick, G, hereinafter referred to. This tube is preferably made of sheet metal, and has its bottom closed by a base-piece, A', which has a central depending lug, b, suitably screw-threaded for attaching the head in position, and through this lug is a vertical opening, E, by which oil is admitted into the tube F to supply the wick G therein with oil.

a^2 a^2 designate openings made in the sides of tube F a proper distance above the base thereof, and F' F' are suitable cap-pieces secured over these openings, closed at top and extending down to the extended ends of base A', to which they are properly connected. The interior of caps F' form tubes or channels f' in connection with the sides of part F, and the lower ends of said channels communicate with horizontal channels or passages a , formed in base A', which passages unite at a point to one side of opening E in lug b, and unite in a vertical passage, D, running through shank b

beside opening E, but not communicating therewith. It will be observed that when oil is admitted into tube F through opening E it can rise therein until it reaches the level of openings a^2 , when it will escape into channels f' , and be conducted thereby to passages a and D, as hereinafter shown.

In Fig. 4 I show a modification of the construction of head A, which is formed of a tube, F, and base B, as follows: The portion B corresponds in form to the section of a lamp-wick tube, of either a flat or Argand burner, and is provided on its upper edge with two opposite upstanding ears, C C, which have vertical channels c in their outer faces running down to and communicating with tubes or passages a , formed in portion B, which passages incline downwardly and toward each other and unite at a point to one side of the center of shank b above the same, and forming a vertical channel, D, which extends through shank b to one side of its center, as shown.

E is the vertical opening or passage extending centrally through shank b and portion B, opening between the ears C C thereof, below the upper ends of the same, as shown.

F designates the metallic lamp-wick tube, seated at its lower end on a suitable flange on portion B outside of ears C C, and struck outward at $f f$ at points corresponding to the ears C C, to form the outer walls of the channels $c c$ and prevent entrance of oil therein except at the top thereof or escape of oil therefrom. The tube F may be formed integral with part B, if desired, or made separate and securely united thereto, as may be found convenient.

G designates the wick placed in tube F, and preferably made of wire or asbestos, so that it will not require trimming. This wick will absorb sufficient oil, entering through opening E, to feed the flame, but will, when the flame is out, be prevented from draining by capillary attraction the oil out of tube F by reason of the drainage-passages, as described.

H designates an ordinary lamp-chimney hold and flame-guard, which can be mounted on head A, if desired.

The means for supplying the burner-head with oil and draining overflow therefrom is preferably as follows:

I designates a metal stem or rod having a

central vertical opening or passage, *e*, and a side opening or passage, *d*. The upper end of stem I may be screw-threaded exteriorly, to engage the threaded inner surface of shank *b*, as shown in Fig. 1; or it may be suitably connected to the exteriorly-threaded shank *b*, as shown in Fig. 3. When so connected, the openings *E e* in the head and rod will register, and the openings *D d* must be also made to register, and the joints between the parts must be such that no oil can escape from passage *e* into *d* without first passing through the burner-head, as described. In some cases it may be found desirable to weld or solder stem I to head A, instead of using screw-threads.

At a suitable point in the length of stem I is formed the horizontal enlargement *i*, which is provided with a conical horizontal opening, *j*, which passes through both passages *e d*, and in which is fitted a conical plug, J, which has a suitable retaining and adjusting nut and washer on its smaller end outside enlargement *i*, as shown, and is provided with a suitable head on its larger end for turning the same.

K is a notch formed in the periphery of plug J at a point to register with passage *e*, so that said passage can be opened or closed, as desired, and *k* is an annular groove formed in plug J, corresponding to passage *d*, so that oil can always pass freely through the same.

The lower end of stem I is rounded or shouldered at L, and has a reduced screw-threaded portion, *l*, below shoulder L, the passage *d* terminating and opening above and outside of part *l* and the passage *e* continuing through said part, as shown in Fig. 1.

M designates the oil-supply pipe, which is placed, preferably, within a larger pipe, N, which forms the drainage-pipe. Pipe N has an opening, *n*, through which the part *l* of stem I is passed and engaged by its thread with a corresponding opening in pipe M, as shown, the shoulder L closing the opening in pipe N by means of suitable interposed washers, (not shown,) but which do not prevent the passage *d* from communicating with the interior of pipe N.

It is obvious that the pipes M and N may be arranged to communicate with passages *d* and *e* in various other ways, as may be found desirable.

The operation of the burner is as follows: Oil being supplied to pipe M under proper pressure, and the plug J properly adjusted to permit the oil to rise through passage *e* into

head A, the wick G will absorb sufficient oil to feed the flame, and any oversupply will be withdrawn through the described passages and channels D and *d* and discharged into pipe N, whence it can be conducted to other burners or to a proper receiver.

It is obvious that by means of plug J the flow of oil and consequent brightness of flame can be regulated or entirely cut off, so that by the use of a wick, G, as described, there will be no necessity for means for raising or lowering the wick to graduate the intensity of the light, though such means may be employed, if desired.

Having described my invention, I claim—

1. A burner-head, A, composed of base portion having a central opening therein for the delivery of oil, a wick-tube, F, and drainage-passages opening into tube F above the base portion and connecting with each other in said portion, but to one side of its feed-opening, all substantially as and for the purpose described.

2. In an oil-burner, the combination, with the supporting-stem I, having oil feed and drainage openings and provided with a suitable plug, J, for regulating the passage of oil therethrough to the burner, of the burner-head A, mounted on stem I and having a wick-tube, F, feeding-tube E, registering with the feed-opening of the stem I, and side drainage-passages opening into the tube F at points above its bottom and communicating below said tube F and to one side of the oil-delivery passage thereof with the oil-drainage passage of stem I, all constructed and arranged substantially as and for the purpose described.

3. In an oil-burning device, the combination of the burner A, having wick-tube F, feed-opening E, and side drainage-passages for said tube, with the stem I, supporting burner A, having oil-supply passage *e* and drainage-passage *d*, registering, respectively, with the feed-opening E and the drainage-passage of the burner, and the oil feed and drainage pipes connected to stem I, all constructed and arranged to operate substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WATSON SNYDER.

Witnesses:

E. P. ALLEN,
W. M. OSBAND.