

(No Model.)

K. TROBACH.

APPARATUS FOR BURNING PETROLEUM.

No. 261,791.

Patented July 25, 1882.

Fig. 2.

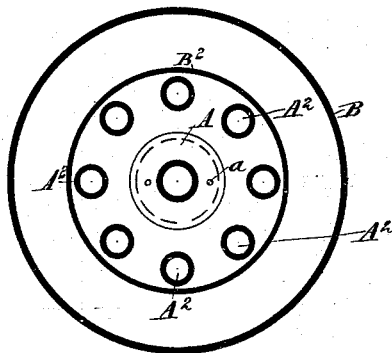
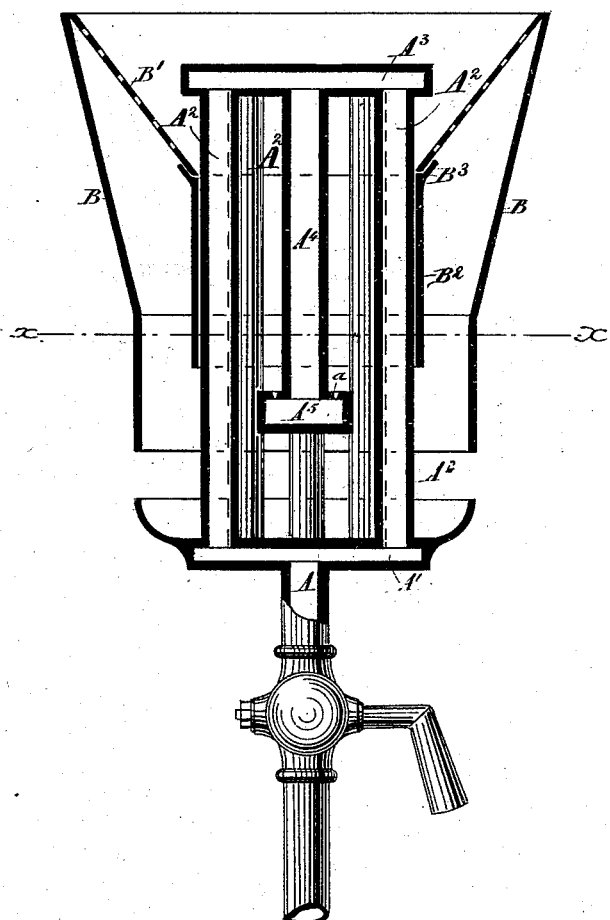


Fig. 1.



Witnesses.

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UNITED STATES PATENT OFFICE.

KONRAD TROBACH, OF BERLIN, GERMANY, ASSIGNOR TO SIEGMAR ELSTER, OF SAME PLACE.

APPARATUS FOR BURNING PETROLEUM.

SPECIFICATION forming part of Letters Patent No. 261,791, dated July 25, 1882.

Application filed December 30, 1881. (No model.)

To all whom it may concern:

Be it known that I, KONRAD TROBACH, of Berlin, in the Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Apparatus for Burning Petroleum, of which the following is a specification.

This invention relates to improvements in wickless burners for burning petroleum; and the objects of the invention are to provide a burner of novel construction which will subdivide the flamerising from the burner-orifices into a series of flames; to provide means for introducing into the series of flames a continuous flow of air for oxidizing the flame, and to regulate and control the supply of such air, and consequently modify the intensity of the heat. These objects I accomplish by the construction of burner illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical central section of a wickless petroleum-burner constructed in accordance with my invention, and Fig. 2 a transverse sectional view on the line $x x$ of Fig. 1.

Referring to the drawings, the letter A indicates a main oil-supply pipe, supporting the burner and adapted to connect with a reservoir containing the petroleum or other fluid to be burned. This pipe at its upper end is provided with an annular chamber, A' , from which project a series of vertical tubes, A^2 , arranged in an annular row, as shown in Fig. 2, and which connect at their upper end with an annular chamber, A^3 , from the center lower part of which depends a pipe, A^4 , having at its lower end a lateral mouth-piece or chamber, A^5 , the upper wall of which is provided with burner-orifices a , located outside the depending pipe.

A sleeve, B^2 , loosely surrounds the annular row of tubes A^2 , and is adapted to be moved vertically by the provision of any suitable mechanical contrivance; such, for instance, as a rack and pinion; but I contemplate making the sleeve hug the pipes snugly, so that the frictional contact will be sufficient to retain the sleeve in its adjusted position.

The upper edge of the sleeve is provided with an outwardly-flaring flange, B^3 , on which rests or is attached the contracted end of a

perforated truncated cone, B' , to the upper wide end of which is secured a funnel, B, which projects downward and surrounds the major portion of the burner. It will be obvious that by the vertical movement of the sleeve the funnel will be correspondingly adjusted.

In operation the oil ascends through the pipe A under pressure and enters the lower chamber, A' , from which it rises in the series of tubes A^2 into the upper chamber, A^3 , and it then flows down the central depending tube, A^4 , into the mouth-piece or lateral chamber A^5 , where it is heated and burned at the burner-orifices a . The flame rising from the burner-orifices a is divided above the upper edge of the sleeve B^2 by passing or issuing laterally through the spaces intervening between the series of vertical tubes A^2 . The heat of the flame causes an ascending draft of atmospheric air through the funnel, which air passes through the perforated truncated cone or plate B' and mixes with the series of flames, thereby insuring perfect combustion and oxidation of the same. The draft of air is controlled by the vertical adjustment of the funnel, and consequently the intensity of the flame can be regulated. The oxidized flame caused by the air-draft constitutes a petroleum steam-blast, the heating power or intensity of which can be controlled by regulating the supply of atmospheric air through the medium of the adjustable funnel.

Having thus described my invention, what I claim is—

1. An oil-burner combining in its structure a main oil-supply pipe, A, a series of tubes, A^2 , end chambers, A' and A^3 , depending pipe A^4 , provided at its lower portion with burner-orifices, and an adjustable funnel, B, substantially as described.

2. The combination of the main pipe A, the series of tubes A^2 , the end chambers, A' and A^3 , the depending pipe A^4 , having burner-orifices a at its lower portion, the movable sleeve B^2 , surrounding the series of tubes, and the funnel B, movable with the sleeve, substantially as described.

3. The combination of the main pipe A, the series of vertical tubes A^2 , the end chambers, 100

A' and A³, the depending pipe A⁴, provided at its lower end with a mouth-piece or chamber having burner-crifices *a*, the movable sleeve B², surrounding the series of tubes, the
5 perforated truncated cone or plate B', supported by the sleeve, and the funnel B, carried by the cone or plate and movable with the sleeve, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

KONRAD TROBACH.

Witnesses:

ROBERT R. SCHMIDT,
BERTHOLD ROI.