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Date of Application, 14th May, 1898

Complete Specification Left, 22nd Dec., 1898—Accepted, 18th Feb., 1899

PROVISIONAL SPECIFICATION.

An Improved Vapour Lamp for Soldering and like purposes.

A communication by Messrs. Briquet and de Raet, of Brussels, in the Kingdom of Belgium, Manufacturers.

I, William Phillips Thompson, F.C.S., M.I.M.E., of the Agency for Foreign Patent Solicitors, 6, Lord Street, Liverpool, and 6, Bank Street, Manchester, both in the County of Lancaster, 118, New Street, Birmingham, in the County of Warwick, and 322, High Holborn, in the County of Middlesex, Civil Engineer, do hereby declare the nature of this invention to be as follows:—

The arrangement of vapour lamp for soldering and like purposes which forms the object of the present invention enables ordinary lamp petroleum to be used successfully in soldering lamps in the same way as spirit, that is to say by means of the said arrangement a perfect working is obtained exempt from any obstruction, whilst in similar apparatuses at present employed the working ceases after a short period of use, sometimes of a few hours and even in some cases after one hour's working. This suspension is not merely temporary but continuous as it is not generally possible to set the lamp again in action.

This arises from the fact that, in the apparatuses at present employed, the gas forming passage leading from the reservoir and mounted in the hood becomes filled with liquid petroleum under the pressure of the air pump which causes a preliminary distillation of the petroleum thus brought directly under the influence of the flame of the central burner, thereby causing a separation of the tar which dries little by little on the internal walls of the passage and on becoming hard stops said passage entirely and irremediably without the possibility of unstopping it in a short time.

The invention will be described with reference to the accompanying drawings, in which,

Figure 1 is a side elevation;

Figure 2, a longitudinal section of the hood for producing the gas; and

Figure 3 a rear view of the latter.

The improved lamp radically obviates the aforesaid drawback by such an arrangement of the gas producing passage that the petroleum arrives in the part in contact with the flame already in a gaseous condition, or at least in a state of such fluidity that distillation is no longer produced, and that the vapourisation is as perfect as in the case of spirit; that is to say instead of causing a thickening of the petroleum in the passage under the action of heat it is progressively and homogeneously fluidified without disassociating its constituents which are thus together brought into a gaseous condition, and hence there is an absolute impossibility of deposition and a continuous perfect working of the lamp is ensured.

This result is attained by the combination with the gas producing passage C of a spiral coil S, preferably of less diameter, which is wound a certain number

[*Price 8d.*]

of turns round the hood P and of which the admission arm *a* and the discharge arm *e* are connected with the gas producing passage C below, and above a partition *c* dividing the passage C into two separate parts at that portion of it which is exterior of the hood P above the petroleum reservoir R.

The working will now be easily seen from the foregoing explanation. By actuating an air pump A, petroleum is lifted or raised against the partition *c* and through the pipe *a* into the coil S in which it undergoes a progressive heating which fluidifies it homogeneously as it travels through it to the discharge pipe *e* above the partition *c* where it passes into the gas forming passage C in the desired density in order to be totally gasified under the action of the flame of the burner B which raises the passage C to a dull red heat so that the lamp works absolutely as if it were fed by spirit.

It may be added for the object of better bringing forward the character of the invention that the combination of the external coil and the internal passage is indispensable for obtaining the result hereinbefore described seeing that neither the use of the coil S without the passage C nor the use of a single gasifying passage C without the equivalent coil S enables it to be realised.

Dated this 13th day of May 1898.

WM. P. THOMPSON & Co.,
Agents.

COMPLETE SPECIFICATION.

An Improved Vapour Lamp for Soldering and like purposes.

A communication by Messrs. Briquet and de Raet, of Brussels, in the Kingdom of Belgium, Manufacturers.

I, William Phillips Thompson, F.C.S., M.I.M.E., of the Agency for Foreign Patent Solicitors, 6, Lord Street, Liverpool, and 6, Bank Street, Manchester, both in the County of Lancaster, 118, New Street, Birmingham, in the County of Warwick, and 322, High Holborn, in the County of Middlesex, Civil Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The arrangement of vapour lamp for soldering and like purposes which forms the object of the present invention enables ordinary lamp petroleum to be used successfully in soldering lamps in the same way as spirit, that is to say by means of the said arrangement a perfect working is obtained exempt from any obstruction, whilst in similar apparatuses at present employed the working ceases after a short period of use, sometimes of a few hours and even in some cases after one hour's working. This suspension is not merely temporary but continuous as it is not generally possible to set the lamp again in action.

This arises from the fact that, in the apparatuses at present employed, the gas forming passage leading from the reservoir and mounted in the hood becomes filled with liquid petroleum under the pressure of the air pump which causes a preliminary distillation of the petroleum thus brought directly under the influence of the flame of the central burner, thereby causing a separation of the tar which dries little by little on the internal walls of the passage and on becoming hard stops said passage entirely and irremediably without the possibility of unstopping it in a short time.

The invention will be described with reference to the drawings accompanying the Provisional Specification in which,

Figure 1 is a side elevation;
Figure 2 a longitudinal section of the hood for producing the gas; and
Figure 3 a rear view of the latter.

The improved lamp radically obviates the aforesaid drawback by such an arrangement of the gas producing passage that the petroleum arrives in the part in contact with the flame already in a gaseous condition, or at least in a state of such fluidity that distillation is no longer produced, and that the vapourisation is as perfect as in the case of spirit; that is to say instead of causing a thickening of the petroleum in the passage under the action of heat it is progressively and homogeneously fluidified without dissociating its constituents which are thus together brought into a gaseous condition, and hence there is an absolute impossibility of deposition and a continuous perfect working of the lamp is ensured.

This result is attained by the combination with the gas producing passage C of a spiral coil S, preferably of less diameter, which is wound a certain number of turns round the hood P and of which the admission arm *a* and the discharge arm *e* are connected with the gas producing passage C below, and above a partition *c* dividing the passage C into two separate parts at that portion of it which is exterior of the hood P above the petroleum reservoir R.

The working will now be easily seen from the foregoing explanation. By actuating an air pump A, petroleum is lifted or raised against the partition *c* and through the pipe *a* into the coil S in which it undergoes a progressive heating which fluidifies it homogeneously as it travels through it to the discharge pipe *e* above the partition *c* where it passes into the gas forming passage C in the desired density in order to be totally gasified under the action of the flame of the burner B which raises the passage C to a dull red heat so that the lamp works absolutely as if it were fed by spirit.

It may be added for the object of better bringing forward the character of the invention that the combination of the external coil and the internal passage is indispensable for obtaining the result hereinbefore described seeing that neither the use of the coil S without the passage C nor the use of a single gasifying passage C without the equivalent coil S enables it to be realised.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, as communicated to me by my foreign correspondents, I declare that what I claim is:—

A vapour lamp for soldering and like purposes enabling lamp petroleum to be used, characterised by the combination of a gas producing passage (C) divided into two parts by a partition (*c*) inside the hood (P), and a coil (S) or equivalent passage wound externally round the hood (P) and connecting with one arm *a* below and with the other arm *e* above said partition (*c*) in the gas producing passage arranged in the interior of the hood, with the object of progressively and homogeneously fluidifying the petroleum and bringing it to a degree of density insuring its integral conversion into gas in the passage (C) substantially as hereinbefore described and shown as as example in the drawings accompanying the Provisional Specification.

Dated this 21st day of December 1898.

WM. P. THOMPSON & Co.,
Agents.

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Fig. 1.

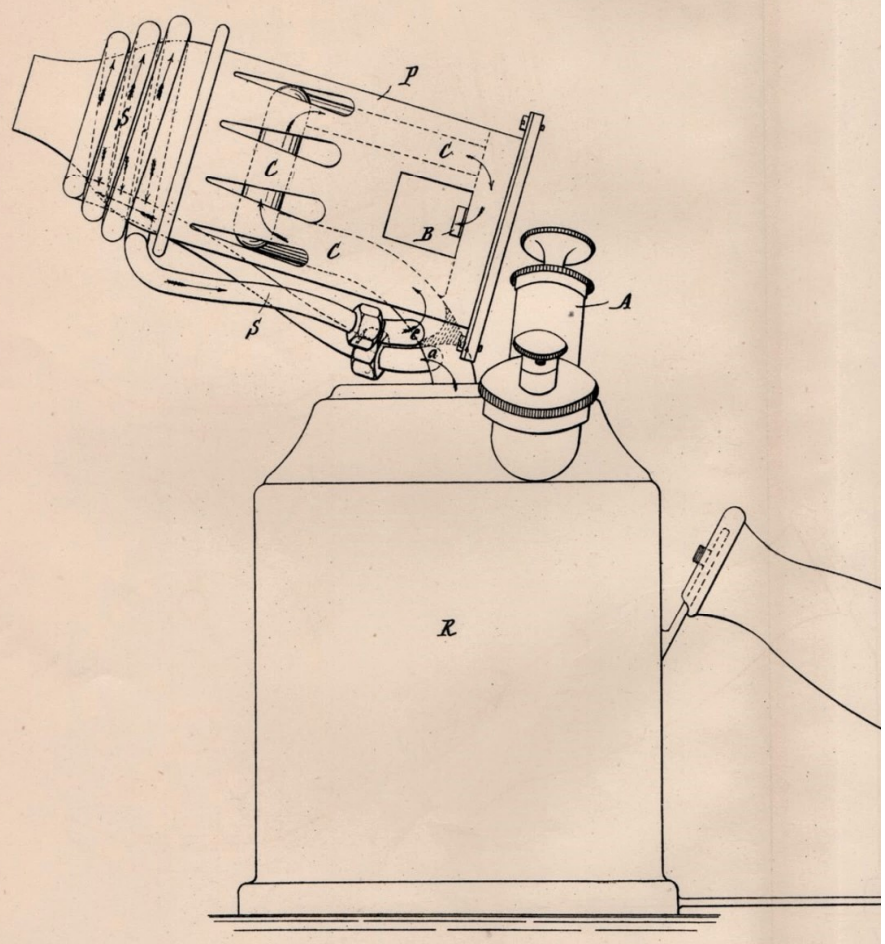


Fig. 2.

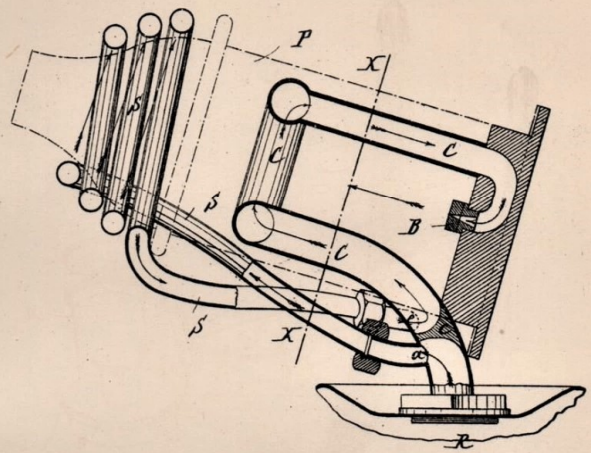
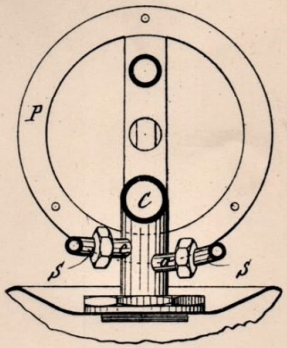
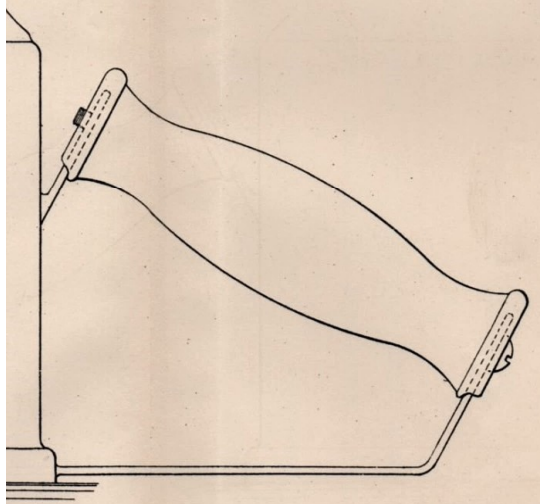


Fig. 3.





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