No. 782,486. PATENTED FEB. 14, 1905.

S. CARLSON.

SPIRITUS IGNITER FOR PETROLEUM LAMPS.

APPLICATION FILED APR. 23, 1904.

Fig. 1.

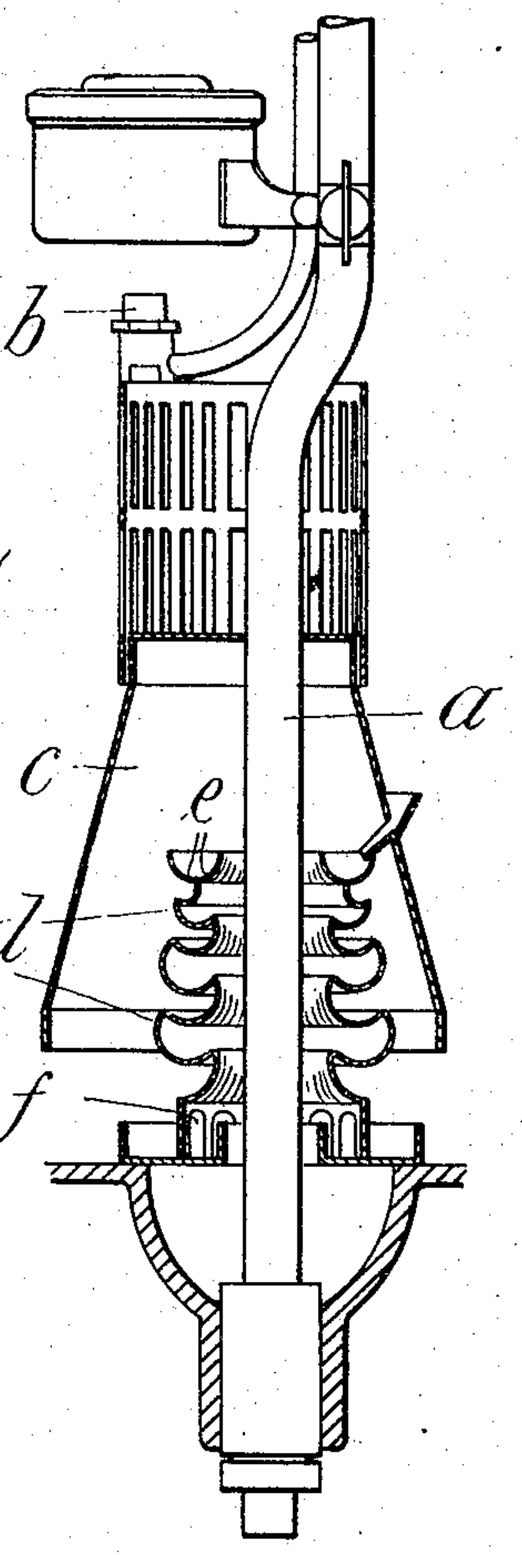


Fig. 4.

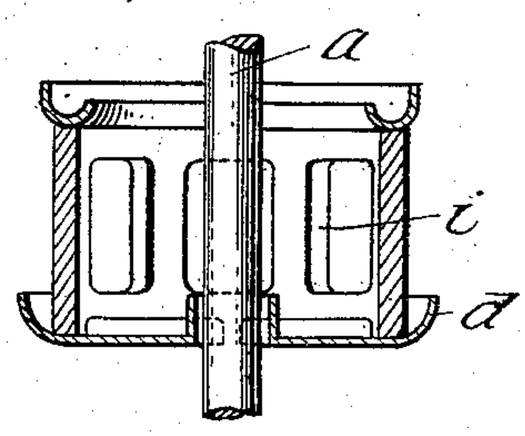


Fig. 2.

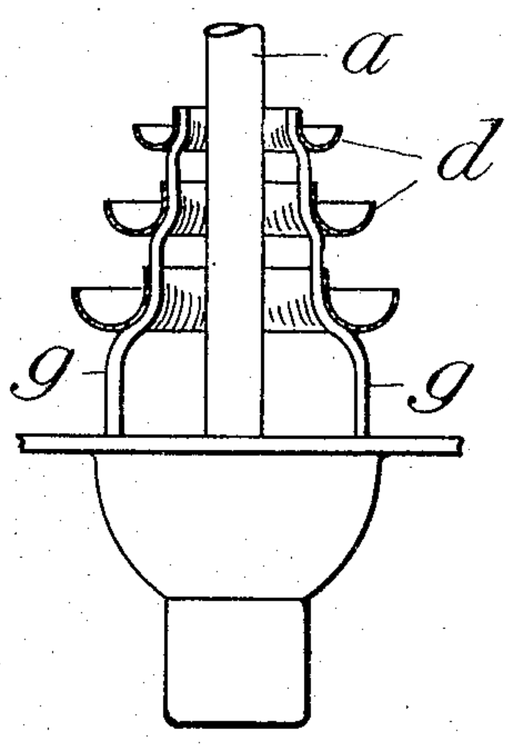
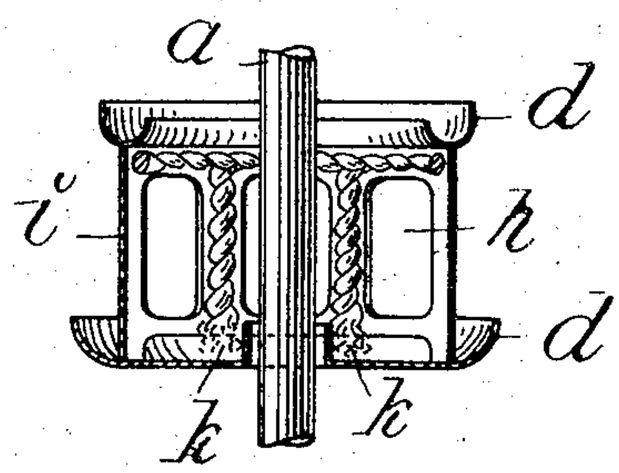


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

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SPIRITUS-IGNITER FOR PETROLEUM-LAMPS.

SPECIFICATION forming part of Letters Patent No. 782,486, dated February 14, 1905.

Application filed April 23, 1904. Serial No. 204,583.

To all whom it may concern:

Be it known that I, SVEN CARLSON, doctor of philosophy, a subject of the King of Sweden and Norway, and a resident of Valhallavägen 93, Stockholm, in the Kingdom of Sweden, have invented certain new and useful Improvements in Spiritus-Igniters for Petroleum-Lamps, of which the following is a specification.

For illuminating purposes petroleum-lamps are now used in which petroleum is forced by means of a compressed gas to a burner and previous to the discharge from the latter is vaporized by the flame of the burner heating the portion of the petroleum-supply pipe, which subsequently acts as vaporizer. When such a lamp is to be ignited, however, the vaporization of the petroleum must be introduced by heating the said vaporizer, the means heretofore employed for this purpose being usually a spirit-lamp or spirit-cup arranged close to the pipe and filled with a sufficient quantity of spirit to yield in its combustion heat enough to vaporize a quantity of the petroleum sufficient for the formation of the flame. This arrangement, however, suffers from the disadvantage of operating too slowly, several minutes being required for introducing the vaporization and igniting the lamp.

The present invention relates to a spirit-igniter more quick in its action, and by means of which consequently the lamp can be lighted in a very short space of time, (less than a minute,) depending on the arrangement admitting of burning a large quantity of spirit at once, so that a more intense and speedy heating is obtained than is otherwise the case.

In the accompanying drawings, four forms of the invention are illustrated in Figures 1 to 4. These forms all consist of at least two annular cups or troughs arranged around the vaporizer, and from the upper one of which the spirit when poured in flows down into the lower one, so that when ignited it will burn over a large surface, and consequently produce a more powerful flame and intense heat.

a is the vaporizer for the petroleum communicating with the burner *b*.

c is a hood surrounding the vaporizer, and *d* represents the annular cups mentioned above.

In the form of apparatus shown in Fig. 1 these cups are more than two in number, the upper one being provided at the bottom with small perforations *e* on each side of one edge of the adjoining cup, the other edge of which is connected with one edge of the next cup, beneath which is connected by its other edge with the succeeding cup, &c. The whole forms a corrugated tube provided at its lower end with air-inlets *f*. When spirit is poured into the upper cup *d*, it will flow down along both sides of the cups underneath and fill the said cups. On ignition the spirit will burn in all the cups at once, the contents of one cup heating that of the others and the vaporizer *a*.

In the form of apparatus shown in Fig. 2 the cups are separated and secured to supports *g*, so that the flame from each lower cup can sweep around the upper ones on both sides.

In the form shown in Fig. 3 only two annular cups *d* are employed, which, however, are connected by means of a partition *i*, provided with air-inlets *h*, on one or both sides of which partition are arranged wicks *k*, (of asbestos, for instance,) serving to absorb the spirit flowing down over the edge of the upper cup and on ignition increasing the size of the combustion-surface in the same manner as in Figs. 1 and 2, the cup or cups arranged between the top and bottom cups *d*. It is evident that in place of wicks other porous material may be substituted and that the partition *i* alternatively may be made of such material, in which case the wicks may be dispensed with, Fig. 4.

Apparently it is possible by producing a large combustion-surface in this manner and a violent vaporization of the spirit to attain the desired result—viz., a more rapid heating of the vaporizer, and consequently a quicker ignition of the lamp, than can be procured by a single spirit-cup or a spirit-lamp.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. An improved spirit-igniter for petroleum-lamps, consisting of a plurality of annular cups or troughs *d* arranged around the vaporizing-tube *a* at a distance therefrom and

superposed one above the others so that the spirit from an upper cup or trough can be caught by one underneath, for the purpose of affording a large surface of combustion to the spirit and thus attaining a rapid heating of the vaporizer *a* so that the lamp can be quickly lighted.

2. An improved spirit-igniter consisting of annular cups or troughs around the vaporizing-tube, a perforated partition *i* surrounding the vaporizer between the cups or troughs, and suitable porous material supported by said partition, said material being adapted to absorb a portion of the spirit flowing down from the upper trough and on ignition to increase the combustion-surface of the burning spirit, thus hastening the heating of the vaporizer.

3. A spirit-igniter consisting of a vaporizing-tube, annular cups around the same and porous material between the cups and surrounding the tube, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

SVEN CARLSON.

Witnesses:
JOHN EDBERG,
JOHAN MARKMAN.