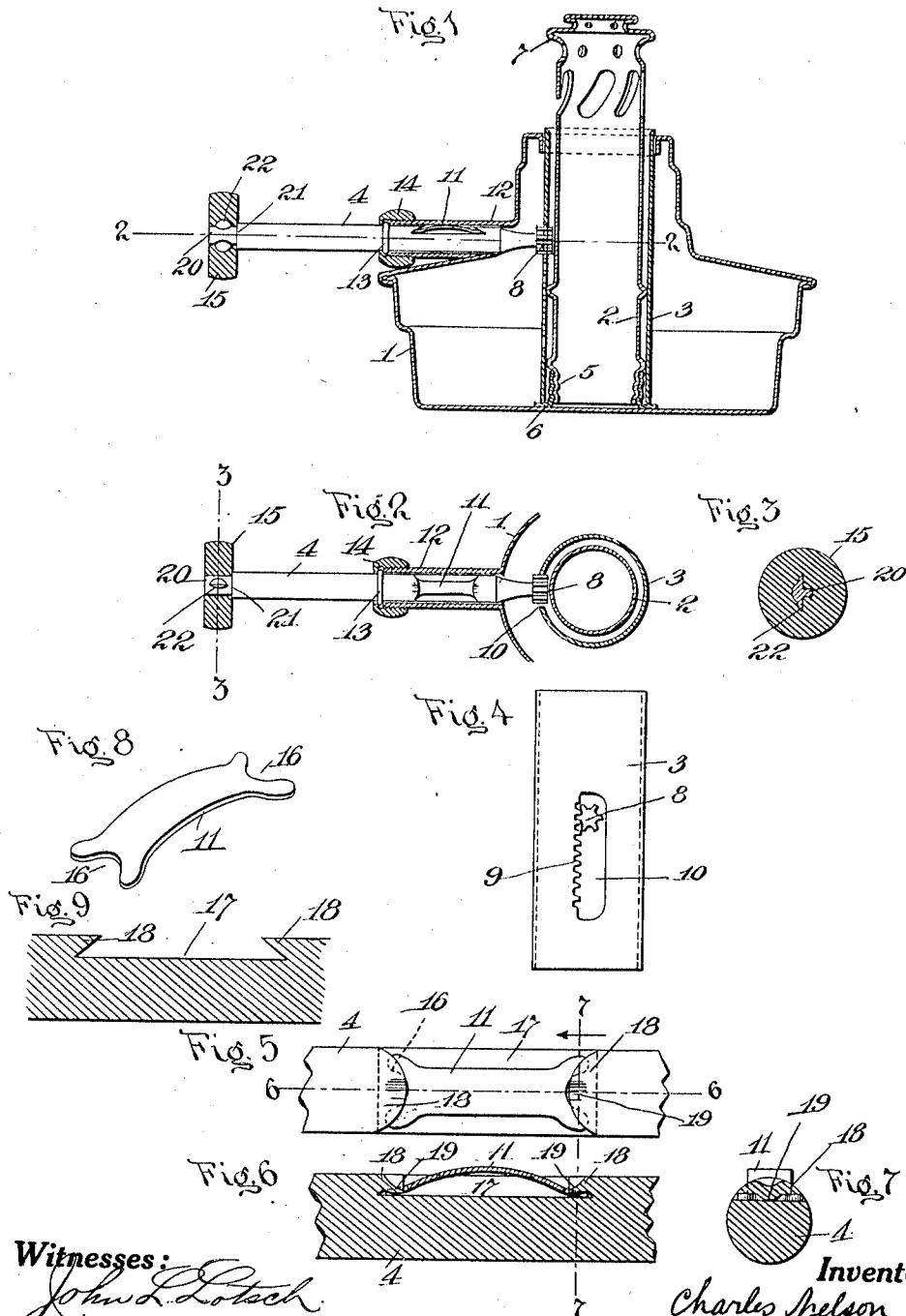


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ALCOHOL LAMP.
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1,061,318.

Patented May 13, 1913.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES NELSON AND WALTER G. BARKER, OF NEW YORK, N. Y., ASSIGNORS TO S. STERNAU & COMPANY, OF BROOKLYN, NEW YORK, A COPARTNERSHIP.

ALCOHOL-LAMP.

1,061,318.

Specification of Letters Patent.

Patented May 13, 1913.

Application filed February 11, 1911. Serial No. 607,937.

To all whom it may concern:

Be it known that we, CHARLES NELSON and WALTER G. BARKER, citizens of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented a certain new and useful Alcohol-Lamp, of which the following is a specification.

The object we have in view is the production of a lamp, burning alcohol or other spirit by means of a wick, in which, first, the device for holding the flame controlling sleeve in fixed position will be cheap and effective; and, second, the elevating handle will be cheap, slightly and easily and permanently attached to the spindle. These and other objects will more fully appear from the following specification and accompanying drawings, considered together or separately.

In the drawings: Figure 1 is a transverse section of a lamp embodying the invention. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is an elevation of the flame controlling sleeve, showing the position of the elevating pinion. Fig. 5 is a detail, on an enlarged scale, showing the spring retaining means. Fig. 6 is a section on the line 6—6 of Fig. 5. Fig. 7 is a section on the line 7—7 of Figs. 5 and 6, looking in the direction of the arrow. Fig. 8 is a detail view of the sleeve holding spring; and Fig. 9 is a detail view of the spindle before the spring is secured in place.

In all of the views, like parts are designated by the same reference characters.

The lamp, in the embodiment of our invention chosen for illustration, embodies the usual reservoir 1, and carries the wick tube 2, the flame controlling sleeve 3 and a shaft or spindle 4. The wick tube 2 has a screw threaded portion 5, at its lower extremity, which engages with a threaded nipple 6 which is attached to the bottom of the reservoir 1. This holds the wick tube firmly in position within the reservoir. The wick tube 2, which is shown without the wick—the latter filling the inside of the tube, and being omitted from the drawing, as its presence would tend to confuse—is composed of a single piece of metal. It has a flange 7, adjacent to the top, and suitable perforations, as shown, to permit the escape of the flame and to expose surfaces of the wick so

that the fluid which is being consumed, may burn. The sleeve 3 surrounds the wick tube and is adapted to be moved up until its upper edge comes adjacent to or in contact with the flange 7. The tube is elevated by a pinion 8, on the shaft or spindle 4, the said pinion engaging with a rack 9, on the sleeve 3. The rack 9 is integral with the sleeve, a slot 10 being cut or otherwise formed in the sleeve, and having one wall formed with teeth, as shown in Fig. 4. The material which constitutes the sleeve is sufficiently thick so as to produce a proper bearing surface for engagement with the face of the pinion. This slot 10 and rack 9 may be formed by a single cutting operation by a suitable die. If any bur is left upon the edges of the teeth of the rack, it will be unobjectionable, as it will increase the bearing surface on the pinion.

The first portion of our invention relates to the device or means for holding the sleeve 3 in position. This means comprises a spring 11, which is carried by the shaft or spindle 4 and engages within the barrel or bearing 12, the latter serving as a support for the shaft or spindle. The shaft is held in position against longitudinal displacement by means of a ring or flange 13, which engages in an annular chamber formed between the end of the barrel 12 and an annular flange on the gland 14 (see Fig. 2). This holds the spindle 4 in position against longitudinal displacement, and maintains the pinion 8 in proper relation to the rack 9. As before stated, the spring 11 engages with the inside of the barrel 12, and by its elastic pressure will prevent the spindle 4 from turning with sufficient resistance to maintain the sleeve 3 in any desired position in which it may be left. The engagement of the spring 11 with the inside of the barrel is not sufficient, however, to prevent the spindle 4 from being readily turned or twisted by means of the knob or handle 15.

The details of the spring 11 and its mode of attachment to the shaft 4, are as follows: The spring is a leaf spring, bent to bow shape. It has extremities which are provided with notches 16, 16, the extremities being shown as wider than the body of the spring so that a larger notch will be provided than otherwise. The spring rests within a contact portion which is cut away in the side of the shaft or spindle 4 (see Fig. 9) and is

retained in position by portions of the shaft or spindle which are forced down into the notches 16. The cut-away portion is indicated at 17, and is a little longer than the length of the spring when the latter is bent. The ends of the cutaway portion are formed upon curved lines, as shown in Fig. 5, and the material under the ends is cut away, as shown in Fig. 9, forming lips 18, said lips having their opposing faces curved as shown in Fig. 5. The spring may be introduced in position with its ends under these lips. When it fairly rests upon the cut-away portion, the material in about the middle of each lip is bent downward at 19, forming lugs, such lugs entering the notches 16 of the springs. The engagement of the lugs with the notches is not sufficiently close, however, to prevent the spring from being collapsed or otherwise bent; consequently, the spring upon being originally curved will elastically engage with the inside of the barrel 12. The spindle may be introduced or removed readily from its bearing, the inclined ends of the spring permitting this to be done. The parts may be easily and cheaply put together, and they allow of efficient working, independently of irregularities in the dimensions of different lamps.

The second portion of our invention relates to the knob or handle 15, and its attachment to the shaft or spindle 4. Heretofore this has been attached to the shaft by means of screws or other separable attaching devices. According to our invention we attach the knob directly to the spindle and secure it in place by means of a portion of the spindle which is upset or distorted. The knob is shown as disk-shaped, but the shape of the knob forms no portion of the invention. It is provided with a central opening through which passes a portion 20, of the spindle, which is preferably reduced in diameter as shown in Fig. 1, the portion 20 being separated from the rest of the spindle by a shoulder 21. This reduced portion 20 is provided with one or more lips 22, which are integrally formed with the spindle 4. Fig. 3 shows the shape of these lips. One way of forming them is by means of a tool which is driven against the side of the reduced portion 20 and upsets the material on both sides, forming two lips. These lips are semi-circular, as shown in Fig. 1, and have sharp edges, as will be ap-

parent from examination of Fig. 2. The knob may be provided with a central opening slightly larger than the diameter of the portion 20, and may be inserted in place by being driven over this portion until it comes in contact with the shoulder 21. The number of lips, their arrangement and shape, is immaterial; so also the shoulder 21 may be omitted. We find that when the knob is made of a semi-elastic material such as insulating material or ebonite, it may be driven in place and will satisfactorily withstand use. It cannot be withdrawn without the use of a tool. Any material that is sufficiently tough, durable and elastic may be used for the knob, but we prefer to use the material which is known as insulating fiber.

Our improved lamp may be used for the burning of alcohol, spirit or other fluids, and is particularly intended for use in coffee machines, chafing dishes or other analogous structures. Some portions of our invention, however, may be used in connection with other forms of lamp.

In accordance with the provisions of the patent statutes we have described the principle of our invention, together with the apparatus which we now consider to represent the best embodiment thereof; but we desire to have it understood that the apparatus shown is merely illustrative and that the invention can be carried out in other ways.

Having now described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. A lamp having a controlling shaft, or spindle, a bearing for the shaft, and a leaf spring, the ends of which are carried by the shaft and rotate with it and the intermediate portion of which elastically engages with the inside of the bearing.

2. A lamp having a controlling shaft, a cut-away portion therein, a leaf spring lying within the cut-away portion, said spring having notched extremities and lips struck down from the body of the shaft and engaging with the notches for holding the spring in place.

This specification signed and witnessed this 31 day of Jan. 1911.

CHARLES NELSON.
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Witnesses:

D. HESSLER,
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