

W. D. JONES.

LAMP IGNITER.

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944,875.

Patented Dec. 28, 1909.

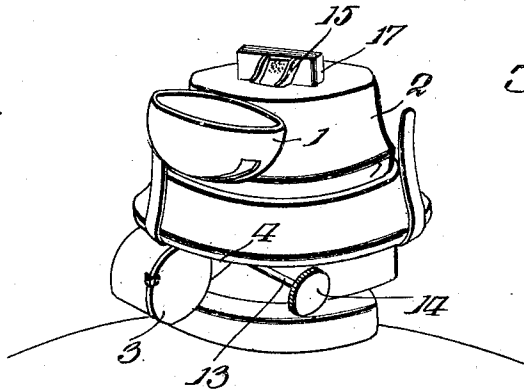


Fig. 1.

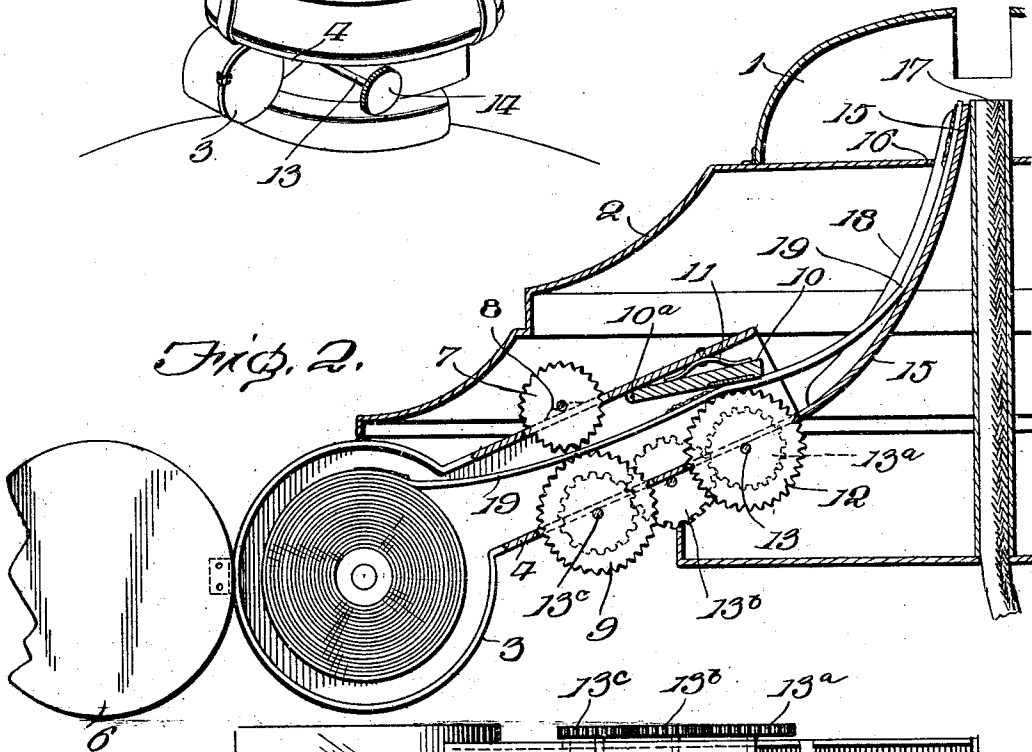


Fig. 2.

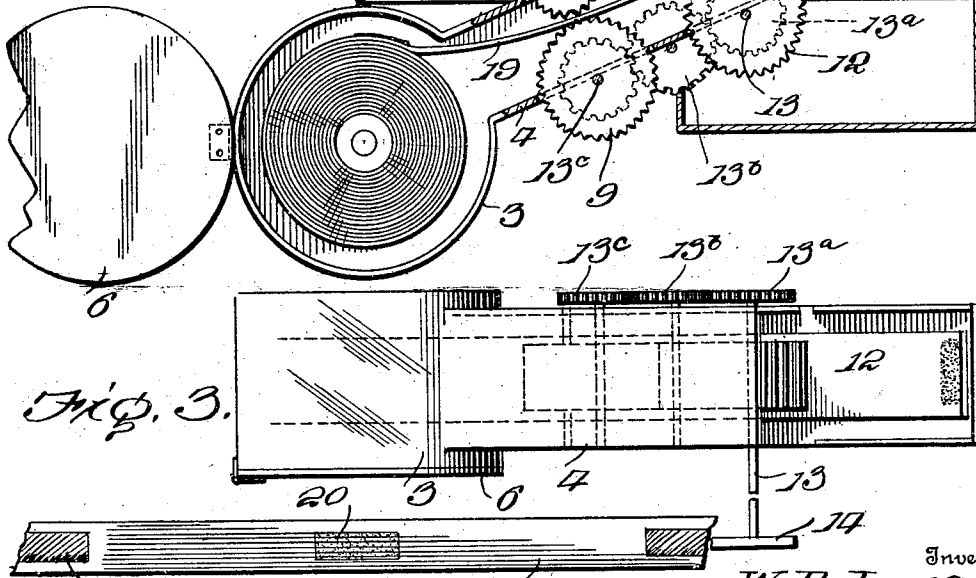


Fig. 3.

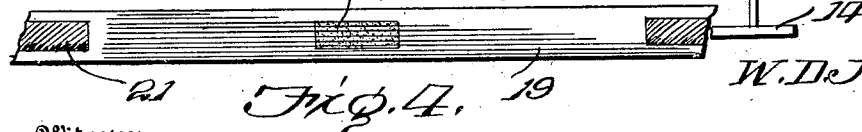


Fig. 4.

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UNITED STATES PATENT OFFICE.

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LAMP-IGNITER.

944,875.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM D. JONES, a citizen of the United States, residing at Cullman, in the county of Cullman and State of Alabama, have invented certain new and useful Improvements in Lamp-Igniters, of which the following is a specification.

This invention comprehends certain new and useful improvements in lamps and attachments therefor, and relates particularly to an igniting device.

The invention has for its primary object, a simple, durable and efficient construction of device for igniting the wicks of kerosene and similar lamps, and the invention consists essentially in an improved lamp lighting device, embodying a casing or magazine designed to hold an ignitable strip provided at intervals with heads of some substance, that is ignited by friction, the same being fed in the operation of lighting a lamp, to the burner or wick thereof by rotating an actuating shaft which is arranged to feed the strip forwardly and at the same time ignite one of the heads so as to bring the ignited portion of the strip into juxtaposition to the wick and light the same. And the invention also consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing in which:

Figure 1 is a perspective view of a lamp lighting device embodying the improvements of my invention; Fig. 2 is an enlarged longitudinal sectional view thereof; Fig. 3 is a top plan view of the device; and Fig. 4 is a portion of the ignitable strip which may be employed.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

Referring to the drawing the numeral 1 designates the burner cap, and 2 the burner base of a kerosene lamp, these parts being selected for the purpose of illustration only, as it is to be understood that my invention is applicable to burners of any conventional type or design.

My improved igniting device comprises a casing 3 which is secured in any desired way

to the lower outer edge of the burner base 2, and which is connected at one end to a tube 4 which is mounted in the base and substantially rectangular in cross section in the present instance. The casing 3 is provided with a side opening for the introduction of the roll or coil of the ignitable substance which will be hereinafter described in detail, the said roll being mounted upon a central shaft 5 in the casing and the side opening of the casing being then closed as by a cover 6, which is secured thereto in any desired way and maintained in closed position by any desired means.

7 designates an upper feeding roller which is preferably formed with a roughened or toothed periphery, the teeth being somewhat beveled as shown. This roller is journaled in spring bearings 8 secured in the top of the tube 4 at any desired distance from the casing 3. The said roller coacts with a lower feeding roller 9 journaled in the bottom of said tube, the roller 9 also having a roughened periphery as clearly illustrated in the drawing. The spring mounting 8 for the roller 7 is provided so that the ignitable strip may pass between said rollers in the feeding operation without being ignited. Above or beyond the roller 7 is a scratching element 10 which may be formed of any desired substance covered with sand paper or any other suitable roughened or friction material. This scratching element 10 is preferably of wedge shape as shown and is hinged at the lower end to the top of the tube 4 as indicated at 10^a. 11 designates a spring which is secured to the scratching element 10 and the inner wall of the top of the tube 4 so as to provide for an upwardly yielding movement of the scratching element as the ignitable strip passes between it and the rotary companion scratching element 12 underneath. This latter element is journaled in the bottom of the tube. The rollers 9 and 12 may be actuated in any desired way as by an extension of their shafts outwardly in the direction of the exterior of the burner base 2.

In the present instance the shaft 13 of the roller and rotary scratching element is thus extended being journaled in any desired way in the tube 4 and in the side wall of the burner base, if desired and the protruding end of the shaft 13 may be provided with a milled finger piece 14. It is preferred that the finger piece 14 be located at the side of

the burner base opposite the ordinary wick raising and lowering device and that it be of a different size than the device for raising the wick so that in use, the two may be easily distinguished in the dark. Motion is communicated from the shaft 13 to the roller 9 by a pinion 13^a secured to the shaft 13 and meshing with a corresponding pinion 13^b on the shaft of the roller 9 through the instrumentality of an idler pinion 13^c which is journaled in any desired way in the tube 4.

The bottom wall of the tube 4 is extended inwardly and upwardly as shown, constituting a chute 15 which leads upwardly to and communicates with an opening 16 formed in the ordinary wire gauze top of the burner base in proximity to the burner 17, and the upper end of this chute from the wire gauze top of the burner itself to the wick or top of the burner 17 may be straight if desired. Preferably the side edges of the chute 15 are formed with retaining flanges 18 so as to prevent the strip from being displaced in its forward movement to the wick. In the preferred arrangement of the parts, the front of the tube 4 is open from the casing 3 to rollers 7 and 9, and the upper end of the tube terminates at about the upper inner edge of the swinging scratching element 10 so that the chute, it will be understood is entirely open at the top from the scratching element 10 to the top of the burner and the necessary ventilation is provided so as to avoid smothering the flame after the strip has been ignited.

The coil or roll of ignitable material is preferably composed of a strip of paper 19 preferably impregnated with liquid sulphur, wax or the like, and having secured thereto at desired intervals protuberant ignitable heads 20. Preferably the strip 19 is provided in alternate arrangement with the heads 20, with relatively small sections that are coated with non-combustible paint or the like as indicated at 21, so as to prevent any unnecessary burning of the strip.

From the foregoing description in connection with the accompanying drawings, it is believed that the practical operation of my improved lamp lighting device is obvious. When the coil is inserted in the casing 3, it is preferably so placed therein that it will unwind from the top thereby having a tendency to lie close to the bottom of the tube 4 and chute 15 as it is moved upwardly and inwardly to the burner. The end of the strip is passed between the rollers 7 and 9 and is fed upwardly between the scratching elements 10 and 12 by the manual rotation of the shaft 13. As the strip passes between these parts, it is manifest that the necessary friction will be produced to ignite one of the heads 20 by means of the yielding mounting of the swinging scratching element 10 and the ignited strip by a continued rotation

of the shaft 13 may then be fed upwardly to the burner top and light the wick.

While the accompanying drawing shows the preferred embodiment of my invention, it is to be understood that my invention is not limited to the construction shown but that various changes may be made in the details of construction and arrangements and proportions of the parts without departing from the scope of the invention as defined in the appended claims.

It is to be understood that if desired the paper match roll or tape may be finely corrugated so that the feeding device may obtain a firm hold thereon.

Having thus described the invention, what is claimed as new is:

1. A lamp igniting device comprising a casing, a tube connected to said casing, a scratching device mounted in the tube and juxtaposed toothed feeding rollers journaled in the tube and interposed between the scratching device and the casing, the bearings of one of said rollers being yieldable.

2. A lamp igniting device, comprising a casing, a tube connected to said casing, a spring pressed scratching element pivotally mounted at one end of said casing, and a rotary scratching element journaled in the casing and coacting with the pivoted element.

3. A lamp igniting device comprising a casing, a tube connected to said casing, a chute connected to one end of said tube, a spring pressed swinging scratching element mounted in the tube, a rotary scratching element coacting with the first named element, a shaft upon which said rotary element is mounted, the shaft being provided with a finger piece for turning the same, feed rollers mounted in the tube and interposed between the casing and the scratching element and a gearing connection between one of said feeding rollers and the rotary scratching element.

4. A lamp igniting device comprising a casing, a tube connected to said casing, a chute extending upwardly from the tube, a scratching element mounted in the tube and hinged at one end thereto, a spring interposed between the top of the tube and the scratching element, a rotary toothed scratching element journaled in the tube underneath the free end of the pivoted scratching element, toothed feeding rollers journaled in the tube between the scratching elements and the casing and arranged to feed between them an ignitable strip and pass the same between the scratching elements, and a gearing connection between one of said feeding rollers and the rotary scratching element.

In testimony whereof I affix my signature in presence of two witnesses.

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Witnesses:
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A. B. THOMPSON.