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PYROPHORIC LIGHTER

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Fig. 1.

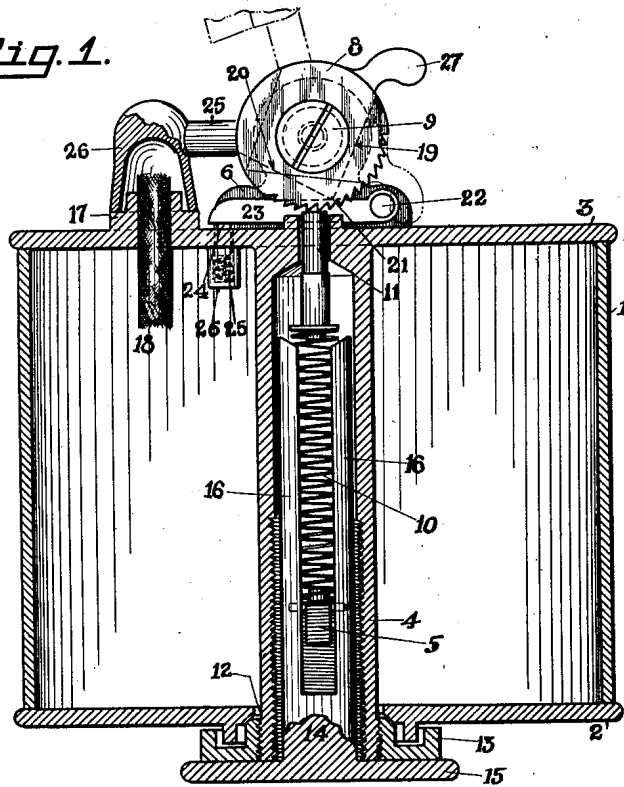
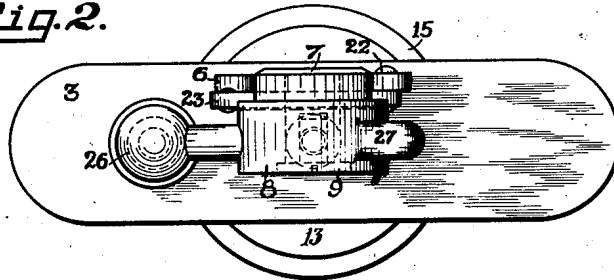


Fig. 2.



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PYROPHORIC LIGHTER.

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This invention relates to pyrophoric lighters embodying novel means for producing a flame.

An object of my invention is to provide a pyrophoric lighter embodying suitable means for producing a spark, whereby a flame may be secured.

Another object of my invention is to provide a flint lighter having novel means for creating a spark and furnishing materials for the production of a flame.

Another object of my invention is to provide a pyrophoric lighter having novel means for adjusting a flint which may be used as a support for the lighter.

In the accompanying drawings forming a part of this application,

Fig. 1 is a sectional view of a pyrophoric lighter comprising my invention; and

Fig. 2 is a top view of the same.

Referring to the drawings, the numeral 1 represents a casing having a bottom 2 and a top 3. Extending vertically through the inside of the casing from a point beneath the bottom 2 to the top 3, to which it is rigidly secured as by solder, is a tubular member 4, provided on its inside surface with suitable threads within which a disc 5 having its edges threaded may be screwed. Secured to the top 3 is a projecting lug 6, which is provided with an opening through which the body part of a pin 7 extends. Movably mounted on the pin 7 is a friction wheel 8 which has part of its circumferential edge roughened and is mounted for pivotal movement in a plane passing longitudinally through the central part of the casing 1. The central part of the pin 7 is provided with a threaded opening within which a screw 9 is adapted to screw. Located inside the tubular member 4 adjacent the disc 5 is a spiral wire spring 10, the lower end of which rests against the disc 5 and the upper end of which presses against a bar 11, of flint or other suitable pyrophoric metal, one end of which bar projects above the end of the tubular member 4 and contacts with the roughened segment of the friction wheel 8.

The tubular member 4 at its upper part is rigidly secured to the top 3, and the lower end of the same projects through an enlarged opening 12 located in the bottom 2.

Sufficient clearance is provided between the edge of the opening 12 and the sides of the tubular member 4 for the insertion of benzine or other suitable inflammable fluid. The lower end of the tubular member 4 is provided on its outside surface with threads suitable for the screwing thereon of closing cap 13, the upwardly extending flanged part of the said cap being adapted to fit tightly against the bottom 2 and prevent the evaporation and escape of the liquid fuel located inside the casing.

Removably located within the tubular member 4 and extending upwardly therein, is a manipulating rod 14, the bottom end of which is provided with an enlarged finger piece 15 which serves as a stand for supporting the lighter as well as a means for adjusting the flint bar 11.

The manipulating rod 14 is provided with pronged parts 16 which may contact with the inside surface of the tubular member 4 and which are adapted to grasp the disc 5 when the finger piece 15 is turned. The disc 5 may be screwed upwardly or downwardly inside the tubular member in such a manner as to cause the spring 10 to press more or less firmly against the bar 11.

Located adjacent the tubular member 4 is a wick tube 17 carrying a wick 18 which projects above the end of the wick tube and also extends inside the casing.

The side of the friction wheel 8 nearest the head of the pin 7 is cut away as at 19 and 20 to provide a square or pointed edge 21. Pivotaly attached at one of its ends to the inside surface of the projecting lug 6, as by a pin 22, is a lever bar 23, the opposite end of the same being normally pressed upwardly by a spring pressed pin 24. The pin 24 extends through the top 3 and is forced upwardly by a spring 25, which is located in a closed cylindrical shaped casing 26.

The pointed edge 21 of the friction wheel 8 normally contacts with the upper edge of the lever bar 23 at a point to one side of the central part thereof, thereby allowing the spring pressed pin 24 to normally maintain the free end of the lever bar above the top 3.

Secured to the friction wheel 8 is an arm 25 which normally lies in a plane parallel to the top 3 and which carries a hollow cap 26 adapted to enclose the end of the wick 18.

The opposite side of the friction wheel is provided with a finger piece 27, which may be pressed downwardly to turn the said friction wheel to produce a spark and to uncover the wick so the latter may be ignited.

The pointed edge 21 of the friction wheel is normally positioned in contact with the lever bar 23 and to one side of a vertical plane passing longitudinally through the center of the screw 9. The lever bar 23, when the closing cap is positioned to enclose the wick, presses upwardly against the pointed edge 21 of the friction wheel and serves to maintain the said friction wheel in a position to hold the closing cap in firm contact with the wick tube 17.

To produce a spark for ignition of the wick 18, the finger piece 27 is pressed downwardly, thereby turning the friction wheel on its pivot so that the roughened segment of the said wheel is made to rub on the flint bar 11 and make a spark which ignites the said wick. By this operation the cap 26 is moved upwardly to uncover the end of the wick, thereby enabling the spark to be thrown toward and against the said wick. By pressing the cap 26 downwardly after it has once been raised the wick may be again closed and the other parts of the friction wheel are also placed in position for another operation. The inside of the casing is ordinarily filled with absorbent cotton and the fuel for producing the flame at the end of the wick is in-

serted inside the casing through the opening 12 upon the removal of the closing cap 13.

It is apparent to those skilled in the art that various changes in the construction of my improved pyrophoric lighter may be made without departing from the spirit of the invention. I therefore desire it understood that the appended claim is to be considered as defining the limits my invention may assume, and not the drawings or description herein referred to.

Having described my invention, what I claim is:

In a pyrophoric lighter, the combination of a casing having a bottom and a top, the top having a wick and a pyrophoric element projecting above the same, a friction wheel pivotally mounted on the top having a segment thereof in contact with the pyrophoric element and also a triangular shaped portion formed integrally with the friction wheel, a cap for enclosing the end of the wick carried by the friction wheel, a press member for rotating the friction wheel against the pyrophoric element and for raising the cap above the wick, and means for normally maintaining the cap in an enclosed position over the wick, which said means comprises a spring pressed bar pivotally mounted on the casing and in contact with a triangular shaped portion of the friction wheel.

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