(No Model.)

# W. DALY.

## FUEL CARTRIDGE.

No. 408,220. Patented Aug. 6, 1889.

Fig. 1.

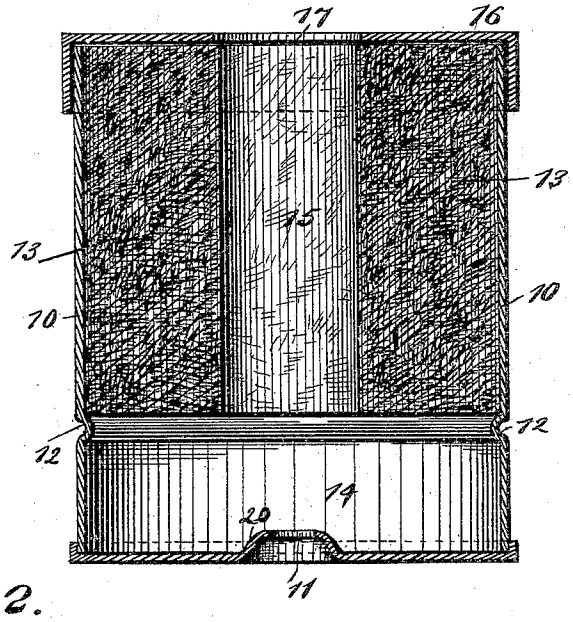



Fig. 2.

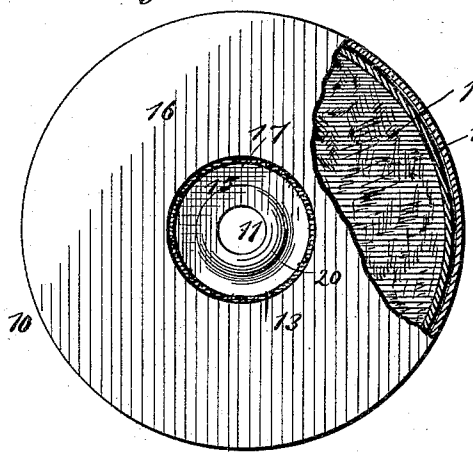
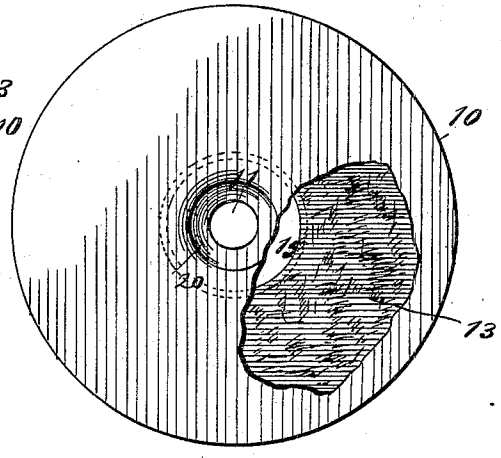



Fig. 3.




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# UNITED STATES PATENT OFFICE.

WILLIAM DALY, OF NEW YORK, N. Y.

## FUEL-CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 408,220, dated August 6, 1889.

Application filed June 8, 1888. Serial No. 276,488. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM DALY, of New York, in the county and State of New York, have invented a new and Improved Fuel-Cartridge, of which the following is a full, clear, and exact description.

My invention relates to an improvement in fuel-cartridges, and has for its object to provide a cartridge adapted to be charged with an inflammable liquid—such as kerosene-oil, either crude or refined—and has for its further object to provide a cartridge which will burn without discharging smoke, and wherein a means will be provided for supplying air to the products of combustion to generate an inflammable gas, which gas will be consumed in addition to the fluid.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a central vertical section through the cartridge. Fig. 2 is a plan view with the casing partly broken away, and Fig. 3 is a bottom plan view with the casing also partially broken away.

In carrying out the invention a casing 10 is provided, preferably cylindrical in contour, having an open top and a small aperture 11, produced centrally in its bottom, and a beading 12, formed in the body from the outside a short distance above the bottom, as best illustrated in Fig. 1, which bead, appearing upon the inner surface, is adapted for a purpose hereinafter set forth. The cylinder 10 is purposed to contain an asbestus filling 13, which filling is adapted to the inner contour of the casing, extending from the top to the beading 12, being supported by the latter above the bottom, whereby a chamber 14 is obtained.

Through the asbestus filling 13 a central longitudinal and vertical bore 15 is produced, the center of which bore is preferably in alignment with the center of the bottom aperture 11. The cartridge is completed by the addition of a cap or top 16 to the cylinder, in which cap a central aperture 17 is formed, preferably of a diameter equal to the diameter of the bore 15. The said cap or cover 16 is usually provided with an annular flange, whereby it is retained upon the cylinder.

In operation, to charge the cartridge, a cork or stopper of any character is placed in the aperture 17 of the cover, and the cartridge is inverted and the oil or other inflammable fluid used is introduced through the bottom aperture 11 until the asbestus filling is thoroughly charged. The cartridge may now be restored to its normal position and is fit for use.

In using the cartridge it is preferably placed in an upright position with its bottom resting upon the grate, and the liquid ignited through the top aperture 17. The air passing upward through the draft-aperture 11 fills the chamber 14, and, becoming heated in said chamber, commingles with the oil-vapor, creating an inflammable gas which burns with the said oil-vapor perfectly clear. By reason of the air-chamber 14 and the gas thus generated by the air mixing with the oil-vapors, as aforesaid, the oil burns for a longer time, emitting no smoke or disagreeable odor.

I preferably stamp up the metal in the bottom of the cartridge around the aperture 11 to form a central conical projection 20 upon the inner side. By reason of this projection I am enabled to provide for any surplus oil not absorbed by the asbestus in filling.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

As an improved article of manufacture, a fuel-cartridge consisting of a metal casing 10, having an annular inwardly-projecting portion 20 in its bottom forming a drip-chamber, a central opening 11, formed in the portion 20, said casing formed with a horizontal annular inwardly-projecting bead 12 near the bottom, an asbestus filling provided with a central bore, the lower edge of said filling supported upon the bead 12, whereby a chamber 14 is formed between it and the bottom, and a detachable cover 16, provided with a central opening 17, aligning the bore in the filling, all arranged substantially as shown and described.

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Witnesses:
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