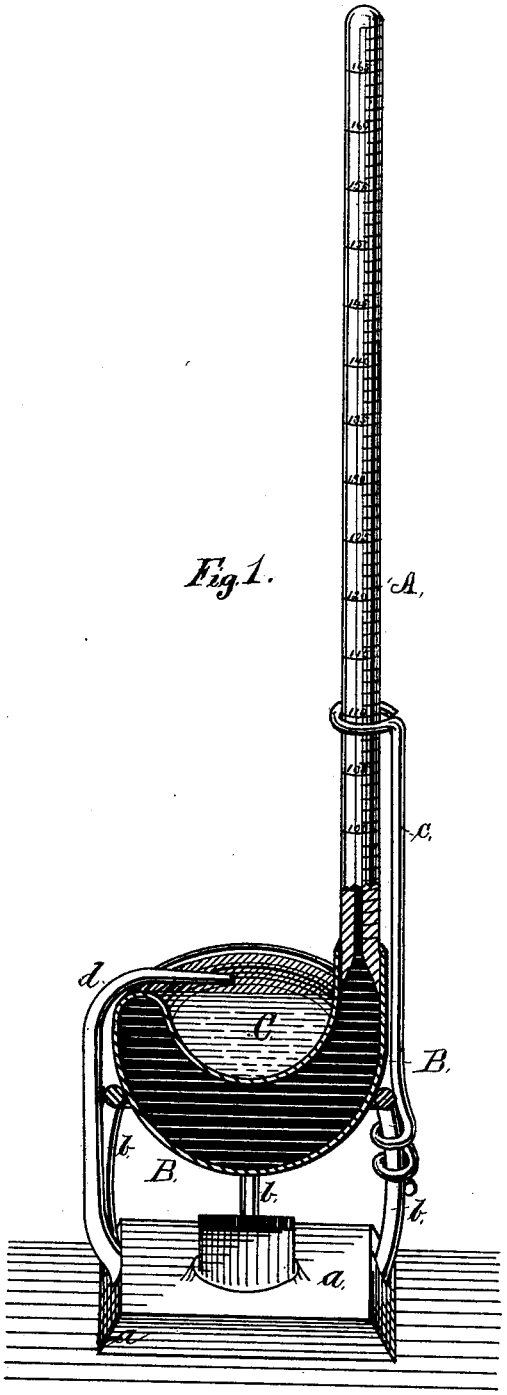
T. DeW. PINCKNEY.

Kerosene-Oil Tester.

No. 221,421. Patented Nov. 11, 1879.

Fig. 1.



WITNESSES

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By

INVENTOR

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UNITED STATES PATENT OFFICE.

THOMAS DE WITT PINCKNEY, OF CARMEL, NEW YORK.

IMPROVEMENT IN KEROSENE-OIL TESTERS.

Specification forming part of Letters Patent No. **221,421**, dated November 11, 1879; application filed September 12, 1879.

To all whom it may concern:

Be it known that I, THOMAS DE WITT PINCKNEY, of Carmel, in the county of Putnam and State of New York, have invented a new and valuable Improvement in Kerosene-Oil Testers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

The figure of the drawing is a perspective sectional view of my invention.

I base my invention upon the well-known fact that the vapors given off by hydrocarbon oils, and more especially kerosene, ignite at the touch of a flame, or at a high degree of heat, and when such vapors are ignited they explode or flash.

This invention relates to a device for testing hydrocarbon oils, or such oils as evolve vapors, which ignite and flash at the touch of a flame, or at a certain degree of heat; and the object of my invention is to measure the temperature at which such vapors will be evolved by the application of heat, or the degree of heat the oil will stand without evolving such vapors, whereby dangerous and highly explosive oils may be distinguished from those which are safe and non-explosive.

On the annexed drawing, A represents a graduated transparent tube of small inside diameter, which terminates in a bulb, B, at a right angle with the tube A. This bulb B is provided with a depression or cavity, C, in its upper part, which is designed to hold the oil to be tested. The bulb B is filled with some liquid which, under the action of heat, changes its volume, and which will indicate the temperature in the same manner as a thermometer, the degrees being marked upon the tube A.

If desirable, I may construct the thermometric part of my device so as to be self-registering.

The operation of this invention is as follows: The graduated tube A is held in an upright position, and the depression or cavity C in the bulb is filled with the oil to be tested. Heat is then applied to the bulb by means of a lamp, or other convenient means, which will cause the oil to become heated. A lighted taper is then applied near the oil, and when the volatile constituents of the oil arrive at the temperature of their disengagement and volatilization, the flame from the taper will cause the oil to flash, and the thermometer will exhibit the temperature of the flashing-point of the oil tested.

If desirable, I may use a device to hold the tester in position and heat the bulb, and also to apply a flame to the oil. I have shown such a device upon the annexed drawing, where *a* represents a lamp, which is provided with a frame, *b*, which supports the bulb B. From one side of this frame *b*, extending upward, is a rod, *c*, with a loop at its end, which encircles the tube A. On the other side of the frame, and attached to the oil-receptacle of the lamp, is a small tapering tube, *d*, which is provided with a wick. The upper part of this tube is bent, so as to hold the flame over the oil in the cavity C.

By the use of a stand and lamps my invention is rendered automatic, excepting so far as it is necessary to watch the flash and note the degree of heat indicated by the thermometer.

What I claim as new, and desire to secure by Letters Patent, is—

A thermometrical device for ascertaining the flashing-point of kerosene-oil, which consists of a transparent graduated tube, A, provided with a bulb, B, having a cavity or recess, C, in its upper part, substantially as shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THOMAS DE WITT PINCKNEY.

Witnesses:

JULIA FRANCES FERRIS,

HERBERT PINCKNEY.