No. 788,250. PATENTED APR. 25, 1905.

F. A. COURTOIS.

FLASH TESTER.

APPLICATION FILED JAN. 11, 1905.

2 SHEETS—SHEET 1.

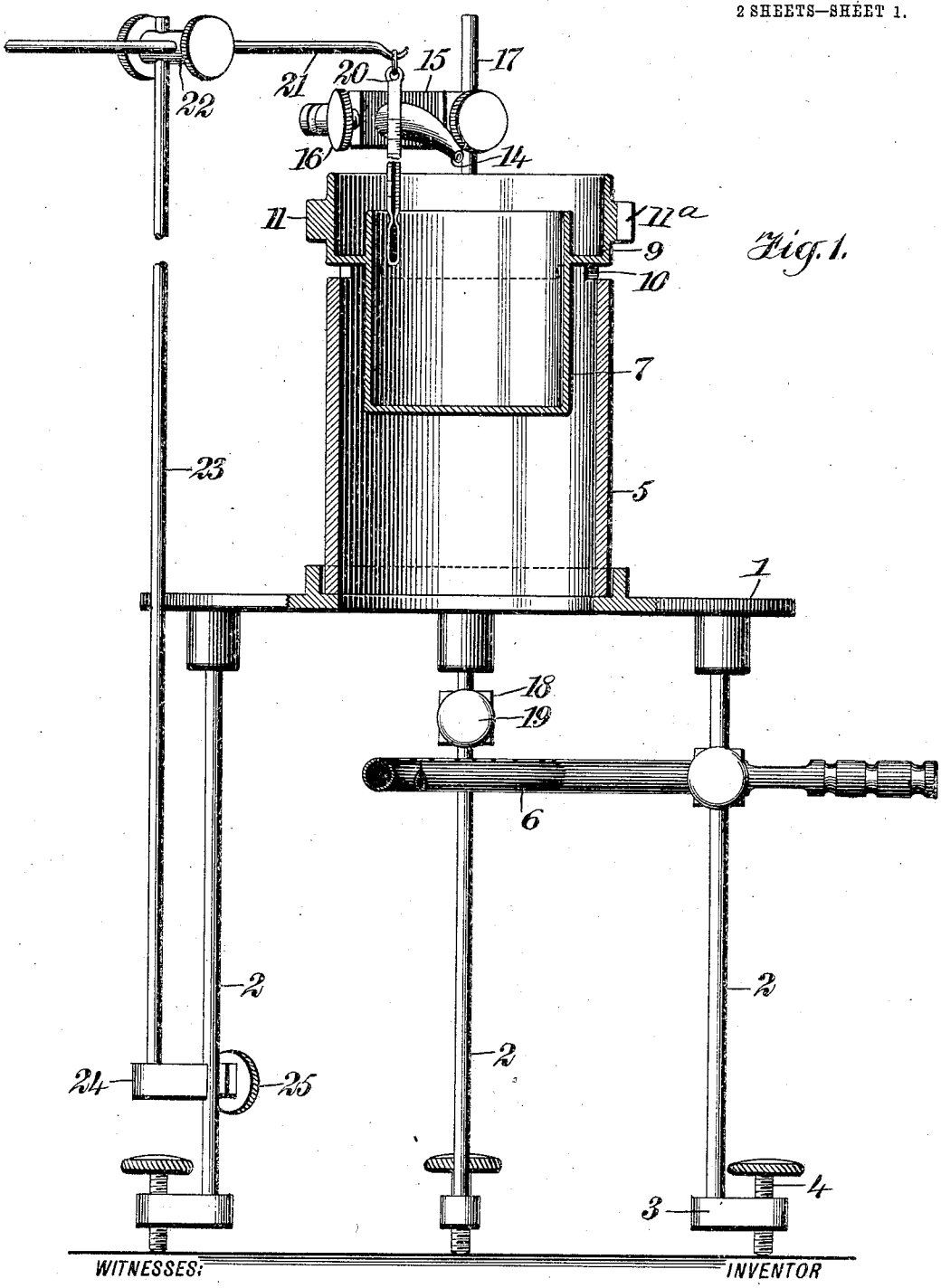


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

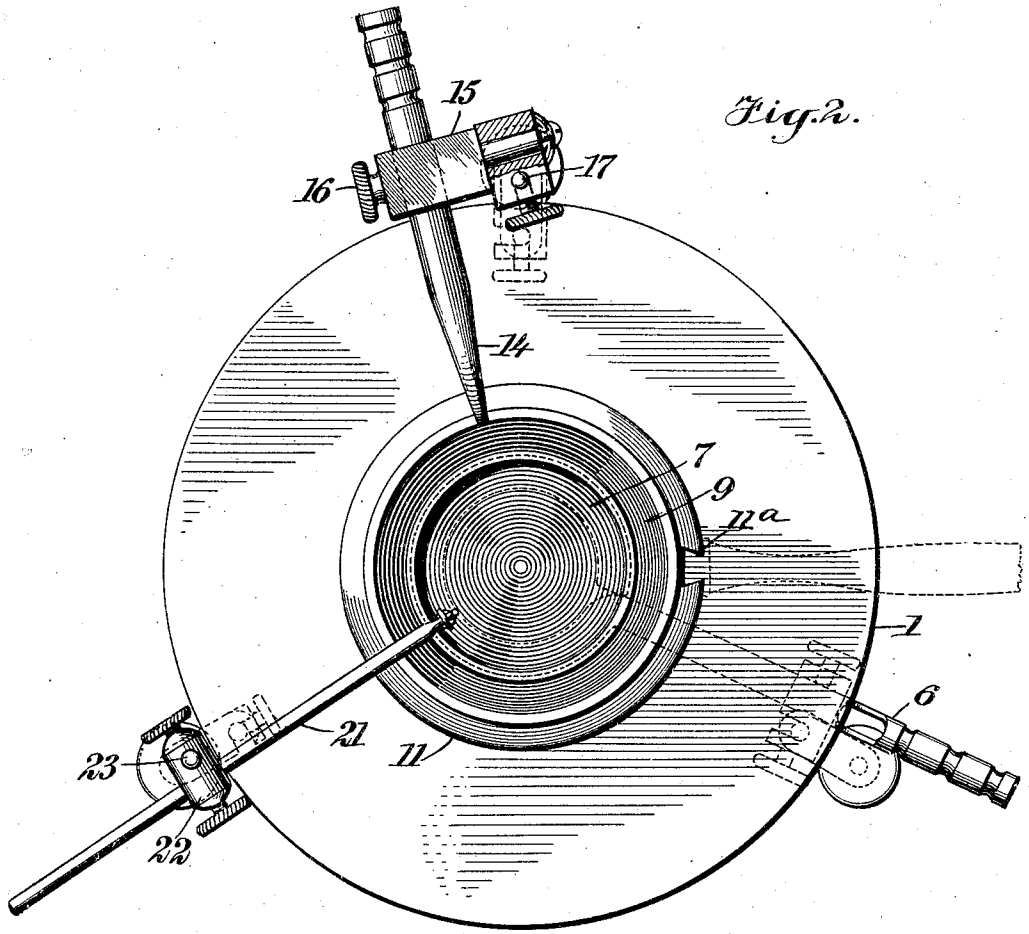


Fig. 3.

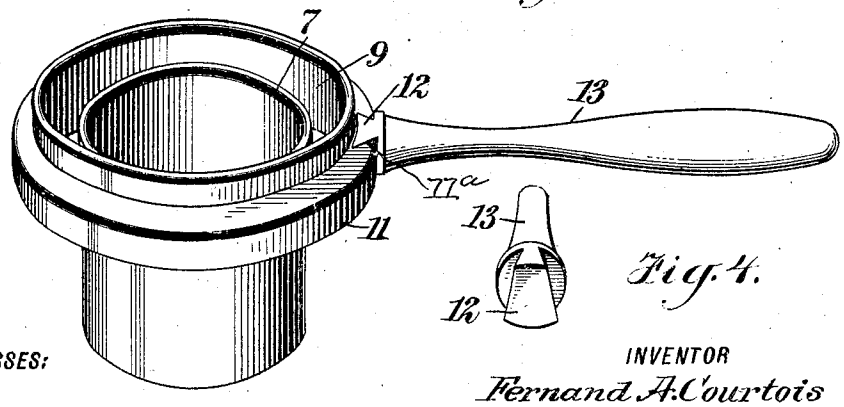


Fig. 4.

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No. 788,250. Patented April 25, 1905.

UNITED STATES PATENT OFFICE.

FERNAND A. COURTOIS, OF NEWARK, NEW JERSEY, ASSIGNOR TO FISKE BROTHERS REFINING COMPANY, OF NEW YORK, N. Y.

FLASH-TESTER.

SPECIFICATION forming part of Letters Patent No. 788,250, dated April 25, 1905.

Application filed January 11, 1905. Serial No. 240,584.

To all whom it may concern:

Be it known that I, FERNAND A. COURTOIS, a citizen of France, and a resident of Newark, in the county of Essex and State of New Jersey, have invented a new and Improved Flash-Tester, of which the following is a full, clear, and exact description.

This invention relates to improvements in devices for determining or testing the flashing-point of inflammable liquids, such as oils, an object being to provide a device of this character that will be simple in construction, easily kept clean, and so arranged that the igniting-flame will pass over the surface of the oil in a uniform and practically horizontal direction.

Other objects of the invention will appear in the general description.

I will describe a flash-tester embodying my invention and then point out the novel features in the appended claims.

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

Figure 1 is a sectional elevation of a flash-tester embodying my invention. Fig. 2 is a plan thereof. Fig. 3 is a perspective view of the test-cup, and Fig. 4 shows a handle that may be employed for removing the cup from the heating apparatus.

Referring to the drawings, 1 designates a ring-like support mounted on legs 2, on the lower ends of which are outwardly-extended portions 3, receiving leveling-screws 4. Removably placed on the ring 1 is a flue 5, which receives the flame from a heating device, such as a Bunsen burner 6, supported on one of the legs 2. Removably placed in the flue 5 is a test-cup 7, having a trough 9 at its upper portion for receiving oil that may be passed over the top of the cup by expansion due to heat. The cup when in position is raised slightly above the flue 5, or, in other words, is supported by upwardly-extended lugs 10 on the upper end of said flue, the spaces between the lugs forming ports to provide a proper draft for the heating-flame.

An annular ring 11 on the outer wall of the trough 9 is provided with a recess 11^a, the opposite walls of which are dovetailed to engage with the correspondingly-shaped head 12 on a handle 13, designed to be employed for lifting the cup out of the flue 5 when it contains hot oil. A gas-burner tip 14 is adjustably arranged over the upper end of the cup. This burner-tip is supported in a block 15 and held as adjusted by means of a thumb-nut 16, the said block 15 being adjustable vertically on a rod 17, attached to a block 18, movable on one of the legs 2 and held in position by a thumb-nut 19. A thermometer 20 has its lower end extended into the cup 7 when the apparatus is in use, this thermometer being suspended from an arm 21, adjustable in a block 22, the said block 22 being adjustable on a rod 23, extended upward from an arm 24, clamped to one of the legs 2 by means of a thumb-screw 25.

In the operation the flue 5 is to be placed on the supporting-ring 1, which is to be properly leveled by means of the screws 4. The cup containing the oil, which reaches to within a short distance of the upper edge, is then to be placed in the flue and the bulb of the thermometer placed into the oil. The Bunsen burner is to be adjusted up or down to regulate the thermometer, as required, and then the burner-tip 14 is to be adjusted to extend slightly over the edge of the test-cup. The flame from the tip 14, as before mentioned, will pass in a substantially horizontal plane over the surface of the oil, and when the oil flashes its flash-point will be indicated by the mercury in the thermometer.

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

1. A flash-tester comprising a support, a heater arranged underneath the support, a flue on the support, a test-cup removably placed in the flue and having a trough around its upper portion, a burner-tip for extending over the test-cup, and a thermometer-support.

2. In a flash-tester, a support, means for leveling the support, a heating device arranged underneath the support, a flue on the support,

a test-cup removably placed in the flue and having a trough around its upper portion, a gas tip or jet adjustable over the test-cup, and means for suspending a thermometer in the cup.

3. An oil-testing device comprising a flue, a heater arranged underneath the flue, a test-cup removably placed in the flue and having a trough surrounding its upper portion, and means for suspending a thermometer in the cup.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FERNAND A. COURTOIS.

Witnesses:

LEWIS S. HOYT,

FRED J. SNYDER.