Date of Act.	Title of Act.
21 & 22 Vict. c. xlix. -	8. An Act for repairing and maintaining the road from Horsham, in the county of Sussex, through Dorking and Leatherhead to Epsom, in the county of Surrey, and from Capel to Stone Street at Ockley, in the said county of Surrey.
28 Vict. c. lxxx. -	9. An Act for more effectually maintaining and repairing several roads adjoining or near to the town of Great Torrington, in the county of Devon; and for new powers; and for other purposes.
29 & 30 Vict. c. c. -	10. An Act to continue the Huntley, Mitcheldean, and Elton Turnpike Roads Trust, in the counties of Gloucester and Hereford; and for other purposes.

CHAPTER 47.

An Act to continue and amend the Petroleum Act, 1871.

[11th August 1879.]

BE it enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

Short title, and construction of Act.

1. This Act may be cited as the Petroleum Act, 1879.

This Act shall be construed as one with the Petroleum Act, 1871, and together with that Act may be cited as the Petroleum Acts, 1871 and 1879. 34 & 35 Vict. c. 105.

Alteration of test. 34 & 35 Vict. c. 105.

2. Whereas by the Petroleum Act, 1871, it is enacted that the term "petroleum to which this Act applies" means such of the petroleum defined by that Act as, when tested in manner set forth in Schedule One to that Act, gives off an inflammable vapour at a temperature of less than one hundred degrees of Fahrenheit's thermometer, and it is expedient to alter the said test: Be it therefore enacted that—

34 & 35 Vict. c. 105.

In the Petroleum Act, 1871, the term "petroleum to which this Act applies" shall mean such of the petroleum defined by section three of that Act as, when tested in manner set forth in Schedule One to this Act, gives off an inflammable vapour at a temperature of less than seventy-three degrees of Fahrenheit's thermometer.

34 & 35 Vict. c. 105.

Every reference in the Petroleum Act, 1871, to Schedule One to that Act shall be construed to refer to Schedule One to this Act.

Verification of test apparatus.

3. A model of the apparatus for testing petroleum, as described in Schedule One to this Act, shall be deposited with the Board of Trade, and the Board of Trade shall, on payment of such fee, not exceeding five shillings, as they from time to time prescribe, cause to be compared with such model and verified every apparatus constructed in accordance with Schedule One to this Act which is submitted to them for the purpose, and if the same is found correct shall stamp the same with a mark approved of by the Board and notified in the London Gazette.

An apparatus for testing petroleum purporting to be stamped with the said mark shall, until the contrary is proved, be deemed to have been verified by the Board of Trade.

All fees under this section shall be paid into the Exchequer.

Continuance of 34 & 35 Vict. c. 105.

4. The Petroleum Act, 1871, shall continue in force until otherwise directed by Parliament.

Commencement of Act.

5. This Act shall come into operation on the thirty-first day of December one thousand eight hundred and seventy-nine, which day is in this Act referred to as the commencement of this Act.

Repeal of part of 34 & 35 Vict. c. 105.

6. The Petroleum Act, 1871, shall be repealed after the commencement of this Act to the extent in the third column of the Second Schedule to this Act mentioned.

Provided that any sample of petroleum taken before the commencement of this Act shall be tested in manner set forth in Schedule One to the Petroleum Act, 1871, and any offence committed before the commencement of this Act shall be prosecuted, and any investigation, legal proceeding, or remedy in relation to such offence, or to any act done before the commencement of this Act, shall be instituted, carried on, and have effect as if the provisions of this Act, other than those continuing the Petroleum Act, 1871, had not been passed.

34 & 35 Vict. c. 105.

34 & 35 Vict. c. 105.

FIRST SCHEDULE.

MODE OF TESTING PETROLEUM SO AS TO ASCERTAIN THE TEMPERATURE AT WHICH IT WILL GIVE OFF INFLAMMABLE VAPOUR.

SPECIFICATION OF THE TEST APPARATUS.

The following is a description of the details of the apparatus :

The oil cup consists of a cylindrical vessel 2″ diameter, $2\frac{2}{10}$″ height (internal), with outward projecting rim $\frac{5}{10}$″ wide, $\frac{3}{8}$″ from the top, and $1\frac{7}{8}$″ from the bottom of the cup. It is made of gun metal or brass (17 B.W.G.) tinned inside. A bracket, consisting of a short stout piece of wire bent upwards and terminating in a point, is fixed to the inside of the cup to serve as a gauge. The distance of the point from the bottom of the cup is $1\frac{1}{2}$″. The cup is provided with a close-fitting overlapping cover made of brass (22 B.W.G.), which carries the thermometer and test lamp. The latter is suspended from two supports from the side by means of trunnions upon which it may be made to oscillate, it is provided with a spout, the mouth of which is one-sixteenth of an inch in diameter. The socket which is to hold the thermometer is fixed at such an angle and its length is so adjusted that the bulb of the thermometer when inserted to its full depth shall be $1\frac{1}{2}$″ below the centre of the lid.

The cover is provided with three square holes, one in the centre, $\frac{5}{10}$″ by $\frac{4}{10}$″, and two smaller ones, $\frac{3}{10}$″ by $\frac{2}{10}$″, close to the sides and opposite each other. These three holes may be closed and uncovered by means of a slide moving in grooves, and having perforations corresponding to those on the lid.

In moving the slide so as to uncover the holes, the oscillating lamp is caught by a pin fixed in the slide, and tilted in such a way as to bring the end of the spout just below the surface of the lid. Upon the slide being pushed back so as to cover the holes, the lamp returns to its original position.

Upon the cover, in front of and in line with the mouth of the lamp, is fixed a white bead, the dimensions of which represent the size of the test flame to be used.

The bath or heated vessel consists of two flat-bottomed copper cylinders (24 B.W.G.), an inner one of 3″ diameter and $2\frac{1}{2}$″ height, and an outer one of $5\frac{1}{2}$″ diameter and $5\frac{3}{4}$″ height; they are soldered to a circular copper plate (20 B.W.G.) perforated in the centre, which forms the top of the bath, in such a manner as to enclose the space between the two cylinders, but leaving access to the inner cylinder. The top of the bath projects both outwards and inwards about $\frac{3}{8}$″; that is, its diameter is about $\frac{6}{8}$″ greater than that of the body of the bath, while the diameter of the circular opening in the centre is about the same amount less than that of the inner copper cylinder. To the inner projection of the top is fastened, by six small screws, a flat ring of ebonite, the screws being sunk below the surface of the ebonite, to avoid metallic contact between the bath and the oil

cup. The exact distance between the sides and bottom of the bath and of the oil lamp is one-half of an inch. A split socket similar to that on the cover of the oil cup, but set at a right angle, allows a thermometer to be inserted into the space between the two cylinders. The bath is further provided with a funnel, an overflow pipe, and two loop handles.

The bath rests upon a cast-iron tripod stand, to the ring of which is attached a copper cylinder or jacket (24 B.W.G.) flanged at the top, and of such dimensions that the bath, while firmly resting on the iron ring, just touches with its projecting top the inward-turned flange. The diameter of this outer jacket is $6\frac{1}{2}''$. One of the three legs of the stand serves as support for the spirit lamp attached to it by means of a small swing bracket. The distance of the wick holder from the bottom of the bath is 1″.

Two thermometers are provided with the apparatus, the one for ascertaining the temperature of the bath, the other for determining the flashing point. The thermometer for ascertaining the temperature of the water has a long bulb and a space at the top. Its range is from about 90° to 190° Fahrenheit. The scale (in degrees of Fahrenheit) is marked on an ivory back fastened to the tube in the usual way. It is fitted with a metal collar, fitting the socket, and the part of the tube below the scale should have a length of about $3\frac{1}{2}''$ measured from the lower end of the scale to the end of the bulb. The thermometer for ascertaining the temperature of the oil is fitted with collar and ivory scale in a similar manner to the one described. It has a round bulb, a space at the top, and ranges from about 55° F. to 150° F.; it measures from end of ivory back to bulb $2\frac{1}{4}''$.

NOTE.—A model apparatus is deposited at the Weights and Measures Department of the Board of Trade.

DIRECTIONS FOR APPLYING THE FLASHING TEST.

1. The test apparatus is to be placed for use in a position where it is not exposed to currents of air or draughts.

2. The heating vessel or water bath is filled by pouring water into the funnel until it begins to flow out at the spout of the vessel. The temperature of the water at the commencement of the test is to be 130° Fahrenheit, and this is attained in the first instance either by mixing hot and cold water in the bath, or in a vessel from which the bath is filled, until the thermometer which is provided for testing the temperature of the water gives the proper indication; or by heating the water with the spirit lamp (which is attached to the stand of the apparatus) until the required temperature is indicated.

If the water has been heated too highly, it is easily reduced to 130° by pouring in cold water little by little (to replace a portion of the warm water) until the thermometer gives the proper reading.

When a test has been completed, this water bath is again raised to 130° by placing the lamp underneath, and the result is readily obtained while the petroleum cup is being emptied, cooled, and refilled with a fresh sample to be tested. The lamp is then turned on its swivel from under the apparatus, and the next test is proceeded with.

3. The test lamp is prepared for use by fitting it with a piece of flat plaited candlewick, and filling it with colza or rape oil up to the lower edge of the opening of the spout or wick tube. The lamp is trimmed so that when lighted it gives a flame of about 0·15 of an inch diameter, and this size of flame which is represented by the projecting white bead on the cover of the oil cup is readily maintained by simple manipulation from time to time with a small wire trimmer.

When gas is available it may be conveniently used in place of the little oil lamp, and for this purpose a test-flame arrangement for use with gas may be substituted for the lamp.

4. The bath having been raised to the proper temperature, the oil to be tested is introduced into the petroleum cup, being poured in slowly until the level of the liquid just reaches the point of the gauge which is fixed in the cup. In warm weather the temperature of the room in which the samples to be tested have been kept should be observed in the first instance, and if it exceeds 65° the samples to be tested should be cooled down (to about 60°) by immersing the bottles containing them in cold water, or by any other convenient method. The lid of the cup, with the slide closed, is then put on, and the cup is placed into the bath or heating vessel. The thermometer in the lid of the cup has been adjusted so as to have its bulb just immersed in the liquid, and its position is not under

any circumstances to be altered. When the cup has been placed in the proper position, the scale of the thermometer faces the operator.

5. The test lamp is then placed in position upon the lid of the cup, the lead line or pendulum, which has been fixed in a convenient position in front of the operator, is set in motion, and the rise of the thermometer in the petroleum cup is watched. When the temperature has reached about 66° the operation of testing is to be commenced, the test-flame being applied once for every rise of one degree, in the following manner:—

The slide is slowly drawn open while the pendulum performs three oscillations, and is closed during the fourth oscillation.

NOTE.—If it is desired to employ the test apparatus to determine the flashing points of oils of very low volatility, the mode of proceeding is to be modified as follows:—

The air-chamber which surrounds the cup is filled with cold water, to a depth of 1½ inches, and the heating vessel or water bath is filled as usual, but also with cold water. The lamp is then placed under the apparatus and kept there during the entire operation. If a very heavy oil is being dealt with, the operation may be commenced with water previously heated to 120°, instead of with cold water.

SECOND SCHEDULE.

ACT REPEALED.

Year and Chapter.	Title.	Extent of Repeal.
34 & 35 Vict. c. 105. -	The Petroleum Act, 1871 - -	Section three, from "and the term petroleum to which this Act applies" inclusive to the end of the section. Section eighteen.

CHAPTER 48.

An Act to amend the Law respecting the Powers of School Boards in relation to Industrial Schools.

[11th August 1879.]

33 & 34 Vict. c. 75. s. 28. 36 & 37 Vict. c. 86. s. 10., and 39 & 40 Vict. c. 79. s. 15.

WHEREAS under the Elementary Education Acts, 1870 and 1873, and the Elementary Education Act, 1876, a school board have power, with the consent of one of Her Majesty's Principal Secretaries of State, to establish, build, and maintain industrial schools, and to spread the payment of the expense of such establishment and building over a number of years not exceeding fifty, and to borrow money for that purpose:

29 & 30 Vict. c. 118. s. 12.

And whereas a school board, under the said Acts, have the same power as is given to a prison authority by section twelve of the Industrial Schools Act, 1866, to contribute money towards the alteration, enlargement, or rebuilding of an industrial school, or towards the establishment or building of an industrial school, or towards the purchase of land required for the use or for the site of an industrial school:

35 & 36 Vict. c. 21. 29 & 30 Vict. c. 118. s. 12.

And whereas under the Reformatory and Industrial Schools Act Amendment Act, 1872, section twelve of the Industrial Schools Act, 1866, is extended to authorise the prison authority themselves to undertake anything towards which they are authorised by that section to contribute:

And whereas doubts have arisen whether a school board have power to undertake themselves anything towards which they are