



BELIZE

**DANGEROUS GOODS ACT
CHAPTER 134**

REVISED EDITION 2011

**SHOWING THE SUBSTANTIVE LAWS AS AT 31ST
DECEMBER, 2011**

This is a revised edition of the Substantive Laws, prepared by the Law Revision Commissioner under the authority of the Law Revision Act, Chapter 3 of the Substantive Laws of Belize, Revised Edition 2011.

CHAPTER 134

DANGEROUS GOODS

ARRANGEMENT OF SECTIONS.

PART I

*Preliminary, Carriage and Safe Keeping of Explosives
and Other Dangerous Goods*

1. Short title.
2. Interpretation.
3. Appointment of authorised officer.
4. Specially dangerous goods and dangerous goods.
5. Minister may declare other goods specially dangerous.
6. Vessels carrying specially dangerous goods to conform to regulations as to mooring.
7. Petroleum and specially dangerous goods not to be kept within fifty yards of a house, etc., without a licence.
8. Power of authorised officer to grant licence.
9. Duration of licence.
10. Conditions of licence.
11. Appeal to Minister from refusal of licence.
12. Specially dangerous goods not to be delivered to warehouse-owner or carrier, etc., without being marked.
13. Goods delivered, etc., in breach of section 12 liable to forfeiture.

14. Warehouse-owners and carriers not bound to receive specially dangerous goods.
15. Petroleum may be inspected and tested.
16. Search warrant.
17. Mode of testing.
18. Saving clause.
19. Part I to be subject to Orders made under Part IV.

PART II

Liquified Petroleum Gases

20. Interpretation in this Part.
21. Appointment of authorized inspectors.
22. Liquified petroleum gases declared to be dangerous goods.
23. Prohibition.
24. Exceptions to the Prohibition from using bob-tail delivery trucks.
25. Regulations for liquified petroleum gases.

PART III

Storing of Gunpowder

26. Application of Part III.
27. Saving clause.

28. Limitation of keeping quantity of gunpowder in towns, etc.
29. Justice of the Peace or constable with warrant may enter houses, etc. and search for gunpowder.
30. Fees on storage in public magazine.
31. Application of Part III to Belize City.
32. Minister may make regulations.
33. Part III to be subject to Orders under Parts I and IV.

PART IV

Specially Dangerous Explosives

34. Definition of “explosive”.
35. Power to prohibit or restrict manufacture, etc., of dangerous explosives.
36. Powers of customs officers.

PART V

Miscellaneous

37. Regulations.
38. Recovery of penalties, etc.
39. Effect of Order.

Schedule – Testing of Petroleum Products for
Inflammable Vapour

CHAPTER 134

DANGEROUS GOODS

Ch. 162,
R. L., 1958.
40 of 1963.
14 of 1982.
24 of 1984.
22 of 1987.
48 of 1999.

[26th June, 1877]

PART I

*Preliminary, Carriage and Safe Keeping of Explosives
and Other Dangerous Goods*

- Short title. **1.** This Act may be cited as the Dangerous Goods Act.
- Interpretation. **2.** In this Part of this Act,
- 24 of 1984. “authorised officer” means a public officer authorised by the Minister for the purposes of this Act;
- “carrier” includes any person or body of persons carrying goods or passengers for hire by land or water;
- “harbour” includes any port, dock, navigable river, canal, pier or other works in or at which vessels and ship discharge goods or passengers;
- “Minister” means the Minister of Government charged with the responsibility for the subject of dangerous goods;
- Schedule. “petroleum” includes all such rock oil, Rangoon oil, Burmah oil, oil made from petroleum, coal, schist, shale, peat or other bituminous substance, and any products of petroleum or any of the above-mentioned oils which, when tested in manner described in the Schedule, gives off an inflammable vapour at a temperature of less than one hundred degrees Fahrenheit;

“warehouse-owner” includes any person owning or managing any warehouse, store, quay or other premises in which goods are deposited.

3. The Minister may appoint for the purposes of this Act an authorised officer, and such authorised officer shall be responsible for the administration of this Act.

Appointment of authorized officer. 24 of 1984.

4. The goods or articles commonly known as nitroglycerine or glonoine oil shall be deemed to be specially dangerous within the meaning of this Act, and petroleum as defined in section 2 shall be deemed to be dangerous within the meaning of this Act.

Specially dangerous goods and dangerous goods.

5.-(1) The Minister may from time to time by Order direct that any goods named in such Order other than nitroglycerine or glonoine oil are to be deemed specially dangerous within the meaning of this Part.

Minister may declare other goods specially dangerous.

(2) All goods which are by any such Order declared to be specially dangerous shall, so long as such Order is in force, be deemed to be specially dangerous within the meaning of this Part.

6.-(1) Every vessel carrying a cargo consisting wholly or in part of goods which are specially dangerous, on entering any harbour within Belize, shall conform to the regulations in respect to the place at which she is to be moored as may from time to time be issued by the Harbour Master with respect to such harbour.

Vessels carrying specially dangerous goods to conform to regulations as to mooring.

(2) The owner or master of any such vessel which is moored at any place in contravention of such regulations shall be guilty of an offence and liable to a fine not exceeding one thousand dollars for each day during which the vessel remains so moored.

24 of 1984.

(3) The Harbour Master, or any other person acting under his orders, may cause any such vessel to be removed at the expense of the owner or master thereof, to such place as may be in conformity with the regulations mentioned in this section, and all expenses incurred in such removal may be recovered under the provisions of the District Courts (Procedure) Act, Cap. 97.

Petroleum and specially dangerous goods not to be kept within fifty yards of a house, etc., without a licence.
24 of 1984.

7.—(1) No goods which are specially dangerous and no petroleum shall be kept within fifty yards of a dwelling-house or of a building in which goods are stored, except in pursuance of a licence under this Part.

Provided that this prohibition shall not apply to petroleum not exceeding ten gallons in quantity kept for private use and not for sale.

(2) Any petroleum or specially dangerous goods kept in contravention of this section shall be forfeited, and in addition thereto the occupier of the place in which such petroleum or specially dangerous goods are kept shall be guilty of an offence and liable to a fine of one thousand dollars a day for each day during which petroleum or specially dangerous goods are kept in contravention of this Part.

40 of 1963.

(3) This section shall not apply to kerosene or gasoline and any other liquids declared by the Minister under any regulations relating to Belize City to be inflammable and kept within Belize City as defined by the Belize City Council Act, Cap. 85.

Power of authorized office to grant licence.
24 of 1984.

8. The authorised officer shall have power to grant a licence under this Part.

Duration of licence.
24 of 1984.

9.—(1) A licence under this Part shall be signed by the authorised officer.

(2) A licence may be granted for a limited time, and there may be annexed thereto any conditions, as to the renewal or otherwise, which the authorised officer thinks necessary for diminishing the risk of damage from explosion or fire.

(3) Every licensee who violates any of the conditions of his licence shall be deemed to be an unlicensed person.

Condition of licence.
24 of 1984.

10.—(1) There may be annexed to any licence such conditions,

(a) as to the mode of storage;

- (b) as to the nature of the goods with which dangerous or specially dangerous goods may be stored; and
- (c) as to the general safe keeping of dangerous and specially dangerous goods, as may seem expedient to the authorised officer.

(2) Any such licence may be for dangerous goods alone, or for specially dangerous goods alone, or for both.

(3) The conditions specified in subsection (1) of this section may be made applicable to any specified articles being dangerous or specially dangerous, or to all such goods generally.

11.—(1) If on application for a licence the authorised officer refuses the licence, or grants it only on conditions with which the applicant is dissatisfied, the authorised officer shall, if required by the applicant, certify in writing the grounds on which he refused the licence or annexed the conditions to the grant thereof, and shall deliver the certificate to the applicant, who may thereupon, within fifteen days from the time of the delivery thereof, transmit it to the Minister, together with a memorial praying that notwithstanding such refusal the licence may be granted, or that such conditions may not be imposed, or may be modified, or altered in such manner and to such extent as is set forth in such memorial.

Appeal to Minister from refusal of licence.
24 of 1984.

(2) The Minister may, if he thinks fit, on consideration of such memorial and certificate, and if he thinks it necessary or desirable after due inquiry from and a report by such person as he may appoint for that purpose, grant the licence prayed for, or alter or modify the conditions imposed by the authorised officer.

(3) Any licence so granted, altered or modified, as the case may be, when certified by the Minister, shall be to all intents as valid as if granted by the authorised officer.

Special dangerous goods not to be delivered to warehouse-owner or carrier, etc., without being marked. 24 of 1984.

12.--(1) Any person who,

- (a) delivers to any warehouse-owner or carrier; or
- (b) sends or carries, or causes to be sent or carried upon any railway, or in any vessel, aircraft or other means of conveyance to or from any port in Belize; or
- (c) deposits in any building or warehouse or upon any quay or stores in any place, any goods which are specially dangerous shall distinctly write, print or mark on the outside of the package,
 - (i) his name;
 - (ii) the time at which he delivers, or sends or carries the package, or causes it to be sent or carried, or so deposits the package;
 - (iii) the description of such goods; and
 - (iv) the words “specially dangerous”.

(2) No person shall deliver to or deposit with any warehouse-owner or carrier any goods which are specially dangerous unless in addition to complying with subsection (1) of this section he also gives notice in writing to him of the name or description of such goods and of their being specially dangerous.

(3) Any person who commits a breach of this section is guilty of an offence and is liable on conviction on indictment to a fine not exceeding ten thousand dollars, or to imprisonment for any term not exceeding five years. Provided that,

- (a) a person convicted of a breach of this section shall not be liable to imprisonment or to a fine of more than one thousand dollars if he shows to the satisfaction of the court and jury before whom he is convicted that

he did not know the nature of the goods to which the indictment relates;

(b) a person accused of having committed a breach of this section shall not be liable to be convicted thereof if he shows to the satisfaction of the court and jury before whom he is tried that he did not know the nature of the goods to which the indictment relates, and that he could not with reasonable diligence have obtained such knowledge.

13. Where goods are delivered, sent, carried or deposited in contravention of section 12 they shall be forfeited, and shall be disposed of in such manner as the Minister shall direct, whether any person is liable to be convicted of a breach of section 12 of this Act or not.

Goods delivered etc., in breach of section 11 liable to forfeiture. 40 of 1963.

14. No warehouse-owner or carrier shall be bound to receive or carry any goods which are specially dangerous.

Warehouse-owners and carriers not bound to receive specially dangerous goods.

15.-(1) The Commissioner, or any police officer not below the rank of assistant inspector, may at all reasonable times inspect and test all petroleum kept, offered or exposed for sale, and if upon such inspection and test any description of petroleum is found kept, offered or exposed for sale, contrary to this Part, it shall be liable to be seized and, on conviction of the offender, forfeited.

Petroleum may be inspected and tested.

(2) Every person who inspects and tests any petroleum under this section shall retain a sample thereof.

(3) Every person who keeps, offers or exposes for sale any petroleum contrary to this Part shall be guilty of an offence and liable to a fine not exceeding five thousand dollars,

24 of 1984.

Provided that if the person or persons in whose possession such petroleum is found as mentioned in subsection (1) of this section claims to have a further test made in his behalf, the magistrate before whom the case is tried shall call some person having competent chemical knowledge,

who shall test a portion of the sample retained under subsection (2) of this section in the manner hereinafter provided, and shall give evidence of the result of such test.

(4) The magistrate shall direct payment to be made to the analyst of a sum not less than ten dollars nor more than twenty dollars, which sum in case of conviction shall be paid by the person convicted, and in case of acquittal by the Financial Secretary out of the Consolidated Revenue Fund.

Search warrant.
24 of 1984.

16.—(1) A justice of the peace may, on reasonable information given to him upon oath that any petroleum or specially dangerous goods is or are suspected of being kept contrary to this Part, or in violation of any of the conditions of a licence granted under this Part, issue a warrant authorising the search for any petroleum or specially dangerous goods in any house, storehouse, warehouse, magazine, shop, cellar, yard, wharf or other place or in any ship, boat, vessel, aircraft or other means of conveyance in which any petroleum or specially dangerous goods are suspected of being so unlawfully kept.

(2) Every person acting in the execution of any such warrant shall seize all such petroleum and specially dangerous goods, and all barrels and other receptacles in which they are kept contrary to this Act, and shall convey all things so seized with all convenient speed after the seizure to some proper place and there detain them, and the barrels and other receptacles in which they are, until it is adjudged whether they are to be forfeited.

(3) No person searching for or seizing any such petroleum or specially dangerous goods or any barrels or other receptacles in which they are kept shall be liable for loss of or damage which may happen to any thing seized other than by his wilful act or neglect.

(4) Where anything is seized under this section, proceedings for the forfeiture thereof shall be commenced within twenty-eight days after the seizure.

17. The temperature at which petroleum gives off an inflammable vapour shall be tested in manner described in the Schedule.

Mode of testing.
Schedule.

18. Nothing contained in this Part shall be construed to exempt any person from any penalty to which he would otherwise be subject in respect of a nuisance, and all powers given by this Part shall be deemed to be in addition to, and not in derogation of, any other powers conferred on the Belize City Council or any district town board by any legislative enactment, and the Belize City Council and any district town board may exercise such other powers in the same manner as if this Act had not been passed.

Saving clause.

19. This Part shall be subject to any Order of the Minister made under Part IV.

Part I to be subject to Orders made under Part IV.

PART II

Liquified Petroleum Gases

48 of 1999.

20. In this Part, unless the context otherwise requires,

Interpretation in this Part.
48 of 1999.

“bob-tail delivery truck” means any pressurised container truck used for the distribution of liquified petroleum gases;

“fixed installation tank” means a container of liquified petroleum gases which is fixed and designed not to hold more than one thousand gallons of liquified petroleum gases;

“liquified petroleum gases” means any liquified gases consisting predominantly of C-3 and C-4 hydrocarbons which exist as gases under normal temperatures and pressures, but which become liquified under moderately high pressures, and includes commercial butane, propane, and a mixture of both butane and propane.

21.--(1) The Minister may, on the recommendations of any local authority responsible for the administration of any city or town, appoint suitably qualified persons as authorized inspectors for the city or town under

Appointment of authorized inspectors.
48 of 1999.

the administration of that local authority, and such authorized inspectors shall perform such duties and functions in the administration of this Part as may from time to time be specified to them in writing by the Minister.

(2) Any authorized inspector appointed by the Minister pursuant to subsection (2) of this section shall be an employee of the local authority which recommended his appointment.

Liquified petroleum gases declared to be dangerous goods.
48 of 1999.

22. Liquified petroleum gases as defined in this Part shall be deemed to be dangerous goods within the meaning of this Act, and shall be treated and dealt with in accordance with the provisions of this Act.

Prohibition.
48 of 1999.

23.—(1) Any owner of a bob-tail delivery truck, or the driver of such truck, or any other person who, within any city or town, uses or authorizes the use of a bob-tail delivery truck to store, carry, deliver or sell liquified petroleum gases for residential or domestic purposes, after a day appointed by the Minister by Order published in the *Gazette*, commits an offence against this section and shall be liable, on summary conviction, to a fine of not less than one thousand dollars and not more than two thousand dollars or to imprisonment for a term of not less than one year and not more than two years, or to both such fine and period of imprisonment.

(2) Where the owner of a bob-tail delivery truck referred to in subsection (1) of this section is a body corporate, every person who at the date of the commission of the offence was a director or manager if the body corporate shall also be deemed to have committed the offence unless he adduces evidence to show that the offence was committed without his knowledge.

Exceptions to the prohibition from using bob-tail delivery trucks.
48 of 1999.

24. Notwithstanding the provisions of section 23 of this Act, it shall be lawful for the owner of a bob-tail delivery truck, or the driver of such a truck, or any other person to authorize the use of, or to use the bob-tail delivery truck to store, carry, deliver, or sell liquified petroleum gases after the day appointed in subsection (1) of section 22 of this Act,

(a) at any hotel, restaurant, industrial undertaking or complex, or any other premises, as the case may be,

situated in any city or town at such times as may be specified in writing by the local authority responsible for administering the city or town if such hotel, restaurant, industrial undertaking or complex, or other premises has a fixed installation tank;

- (b) in any village or other area not comprised within the limits of a city or a town until the Minister prohibits such carriage, delivery and sale on a date appointed by him by Order published in the *Gazette*; or
- (c) at any port, if such bob-tail delivery truck is only used to deliver liquified petroleum gases for transshipment by boat from the mainland of Belize to the cayes or any other part of Belize.

25.—(1) The Minister may from time to time make Regulations relating to the storage, carriage, delivery and sale of liquified petroleum gases, and without prejudice to the generality of the foregoing, such Regulations may provide for any or all of the following,

Regulations for
liquified petro-
leum gases.
48 of 1999.

- (a) the location of storage depots of liquified petroleum gases within the limits of a city or a town, including the relocation of depots which are or have become surrounded by residential areas, and the type of assistance to be given by the Ministry to enable such relocation;
- (b) the carriage and delivery of liquified petroleum gas tanks and cylinders for residential or domestic use after the appointed day, including the type of vehicles to be used for such carriage and delivery, and the mechanical and safety standards required for such vehicles;
- (c) requiring liquified petroleum gas tanks and cylinders to have valve protectors and foot rings;

- (d) specifying the procedure to be followed by workers and managers who handle liquified petroleum gas tanks and cylinders, and the precautionary measures to be taken by such workers and managers;
- (e) requiring specified classes of fire extinguishers and other safety devices to be carried in specified places at all times by vehicles carrying or delivering liquified petroleum gas tanks and cylinders;
- (f) specifying the safety precautionary measures to be taken by the sellers and providers of liquified petroleum gas in the case of leaking gas tanks and cylinders;
- (g) requiring delivery trucks carrying liquified petroleum gas tanks and cylinders to be attended at all times;
- (h) specifying the emergency procedures to be followed when a delivery truck carrying liquified petroleum gas tanks and cylinders breaks down on the road or highway, or develops mechanical or other problems;
- (i) providing for any other matter incidental to or connected with paragraphs (a) to (h) of this subsection.

(2) Regulations made by the Minister under subsection (1) above shall be subject to negative resolution of the House of Representatives.

PART III

Storing of Gunpowder

26.-(1) The Minister may by Order declare this Part applicable to any city, town, village or other area or place on or from a day named in the Order.

Application of
Part III.

(2) The authorised officer may grant a licence to any person for the storage of gunpowder in any magazine or other building within a declared area on such conditions as are in the licence specified.

40 of 1963.
24 of 1984.

27. Nothing contained in section 26 of this Act shall affect any proclamation, rules or regulations lawfully made prior to the passing of this Act.

Saving clause.

28.-(1) When this Part has been declared to be applicable to any town or place as mentioned in section 26 of this Act, it shall not be lawful for any person, from and after the day named in the proclamation, at any one time to bring or receive into or to possess, keep or have, in any dwelling-house, shop, building, vessel, aircraft or other means of conveyance in any such town or place, any greater quantity of gunpowder than fifty ounces weight.

Limitation of keeping quantity of gunpowder in towns, etc.
24 of 1984.

(2) Any person who commits a breach of subsection (1) of this section shall be guilty of an offence and liable to a fine not exceeding one thousand dollars.

29.-(1) Any justice of the peace, or any police officer with the warrant of any justice of the peace, may enter any dwelling-house, shop or building in any town or place to which this Part is applied and search for gunpowder with a view to discovering whether any greater quantity than fifty ounces weight is being kept there.

Justice of the peace or constable with warrant may enter houses, etc., and search for gunpowder.
24 of 1984.

(2) Any person who resists any justice of the peace or police officer with such warrant, when entering any such dwelling-house, shop or building, or making such search, or who refuses admission thereto, when required, shall be guilty of an offence and liable to a fine not exceeding five hundred dollars.

30.-(1) There shall be chargeable upon and paid by persons depositing gun-powder in any public magazine, for the depositing and storing thereof, the same dues as are fixed in the customs tariff law for the time being in force.

Fees on storage in public magazine.

(2) Every keeper of any such magazine shall keep an accurate account of the times of receipt and issue into and from the public magazine of all the gunpowder which is deposited in or delivered from it, and shall deliver to the owners of the gunpowder written receipts for all gunpowder received by him upon their respective accounts.

Application of Part III to Belize City.

31. This Part is declared applicable to Belize City and every dwelling-house, shop and building within two miles from the court house at Belize City.

Minister may make regulations. 40 of 1963.

32.—(1) The Minister may make Regulations for the landing, storing and delivery of gunpowder, and may prescribe fines for their non-observance.

(2) Fines imposed by such Regulations shall be recoverable on summary conviction.

Part III to be subject to Orders under Parts I and IV. 40 of 1963.

33. This Part shall be subject to any order of the Minister made under Part I or Part IV or both.

PART IV

Specially Dangerous Explosives

Definition of “explosive”.

34. In this Part of this Act, “explosive”,

- (a) means gunpowder, nitroglycerine, dynamite, gun cotton, blasting powders, fulminate of mercury or of other metals, coloured fires and every other substance, whether similar to those above mentioned or not, used or manufactured with a view to produce a practical effect by explosion or a pyrotechnic effort; and
- (b) includes fog-signals, fire-works, fuzes, rockets, percussion caps, detonators, cartridges, ammunition of all descriptions and every adaptation or preparation of an explosive as above defined, and any other

substance which may be specially dangerous to life or property by reason of its explosive character.

35.—(1) Notwithstanding anything contained in this Act, the Minister may by Order prohibit, either absolutely or except under a licence of the Minister, the manufacture, keeping, importation, conveyance and sale, or any of them, of any explosive which is of so dangerous a character that in the judgment of the Minister it is expedient for the public safety to make such Order.

Power to prohibit or restrict manufacture etc., of dangerous explosives.

(2) The Minister may likewise subject to conditions or restrictions prohibit the manufacture, keeping, importation, conveyance and sale, or any of them, of any such explosive.

(3) If any explosive is manufactured in contravention of any such Order,

(a) all or any part of the explosive or the ingredients of such explosive found either in or about such place or in the possession or under the control of any person convicted under this section may be forfeited; and

24 of 1984.

(b) every person who manufactures the explosive shall be guilty of an offence and liable to a fine of one thousand dollars.

(4) If any explosive is kept in contravention of any such Order,

(a) all or any part of the explosive so kept may be forfeited; and

(b) the occupier of the place where it is so kept and also the owner of, or other person guilty of keeping, the explosive shall each be liable to a fine not exceeding five thousand dollars, and to a further fine of five dollars for every pound of explosive so kept.

24 of 1984.

(5) If any explosive is imported or sold in contravention of any such Order,

(a) all or any part of such explosive may be forfeited by a magistrate;

24 of 1984.

(b) the owner or master of the vessel, aircraft or other means of conveyance in which it was imported shall be guilty of an offence and liable to a fine not exceeding five thousand dollars, and to a further fine of two dollars and fifty cents for every pound of such explosive brought in the vessel, aircraft or other means of conveyance; and

40 of 1963.

(c) the person to whom it was delivered and the person selling it shall be guilty of an offence and liable to a fine not exceeding five thousand dollars, and to a further fine of two dollars and fifty cents for every pound of such explosive delivered, sold or found in his possession.

(6) If any explosive is conveyed in contravention of any such Order, or of any regulation made by the Minister relating to the conveyance of explosives, the person so offending shall be guilty of an offence and liable to a fine not exceeding two hundred and fifty dollars, and to a further fine of one hundred dollars for each day of such conveyance in contravention of such Order or Regulation, and the explosive shall be liable to forfeiture.

Powers of customs officers.
24 of 1984.

36. The Comptroller and other officers of customs shall have the same power with respect to any such explosive and the vessel, aircraft or other means of conveyance containing it, as they have for the time being with respect to any article prohibited to be imported by the law relating to the customs, and the vessel, aircraft or other means of conveyance containing it, and the enactments for the time being in force relating to the customs and any such article or vessel, aircraft or other means of conveyance shall apply accordingly.

PART V

Miscellaneous

- 37.** The Minister may from time to time make regulations as to the conveyances of explosives. Regulations. 40 of 1963.
- 38.** All penalties, fines and forfeitures under this Act, except where otherwise provided, shall be recovered on summary conviction. Recovery of penalties, etc.
- 39.** The effect of an Order made under Part IV shall be to override so much of Part I and Part III, any rules, regulations or Orders as may be in conflict therewith, but only so long as the said Order is operative. Effect of Order.

SCHEDULE

DANGEROUS GOODS ACT
Testing of Petroleum Products for
Inflammable Vapour
[Sections 2 and 17]

Specification of the Test Apparatus

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

- I. (a) The oil cup consists of a cylindrical vessel two inches diameter, two and two-tenths inches height (internal), with outward projecting rim five-tenths inch wide, three-eighths inch from the top, and one and seven-eighths inches from the bottom of the cup.
- (b) It is made of gun metal or brass (17 B.W.G.), tinned inside.
- (c) 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.
- (d) The distance of the point from the bottom of the cup is one-and-a-half inches.
- (e) The cup is provided with a close-fitting overlapping cover made of brass (22 B.W.G.), which carries the thermometer and test lamp.
- (f) 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.
- (g) 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 one-and-a-half inches below the centre of the lid.

2. (a) The cover is provided with three square holes, one in the centre, five-tenths inch by four-tenths inch and two smaller ones three-tenths inch by two-tenths inch, close to the sides and opposite each other.

(b) 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.
3. (a) 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.

(b) Upon the slide being pushed back so as to cover the holes, the lamp returns to its original position.
4. Upon the cover, in front of and in line with the mouth of the lamp, is fixed a white bead, the dimensions of which represents the size of the test flame to be used.
5. (a) The bath or heated vessel consists of two flat-bottomed copper cylinders (24 B.W.G.), an inner one of three inches diameter and two-and-a-half inches height, and an outer one of five-and-a-half inches diameter and five-and-three-quarter inches height and 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.

(b) The top of the bath projects both outwards and inwards about three-eighths inch, that is, its diameter is about

- six-eighths inch 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.
- (c) 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.
 - (d) The exact distance between the sides and bottom of the bath and of the oil lamp is one-half of an inch.
 - (e) 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.
 - (f) The bath is further provided with a funnel, an overflow pipe, and two loop handles.
- 6.**
- (a) 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.
 - (b) The diameter of this outer jacket is six-and-a-half inches.
 - (c) One of three legs of the stand serves as support for the spirit lamp attached to it by means of a small swing bracket.
 - (d) The distance of the wick holder from the bottom of the bath is one inch.

7. (a) Two thermometers are provided with the apparatus, the one for ascertaining the temperature of the bath, the other for determining the flashing point.
- (b) The thermometer for ascertaining the temperature of the water has a long bulb and a space at the top.
- (c) Its range is about ninety degrees to one hundred and ninety degrees Fahrenheit.
- (d) The scale (in degrees of Fahrenheit) is marked on an ivory back fastened to the tube in the usual way.
- (e) 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 three-and-a-half inches measured from the lower end of the scale to the end of the bulb.
- (f) The thermometer for ascertaining the temperature of the oil is fitted with collar and ivory scale in a similar manner to the one described.
- (g) It has a round bulb, a space at the top, and ranges from about fifty-five to one hundred and fifty degrees Fahrenheit and it measures from the end of ivory back to bulb two-and-a-quarter inches.

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. (a) 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.

- (b) The temperature of the water at the commencement of the test is to be one hundred and thirty degrees Fahrenheit, and this 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.
 - (c) If the water has been heated too highly, it is easily reduced to one hundred and thirty degrees by pouring in cold water little by little (to replace a portion of the warm water) until the thermometer gives the proper reading.
 - (d) When a test has been completed, this water bath is again raised to one hundred and thirty degrees 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.
 - (e) The lamp is then turned on its swivel from under the apparatus, and the next test is proceeded with.
- 3.
 - (a) The test lamp is prepared for use by fitting it with a piece of flat plaited candle wick, and filling it with colza or rape oil up to the lower edge of the opening of the spout or wick tube.
 - (b) The lamp is trimmed so that when lighted it gives 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.

- (c) 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. (a) 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.
- (b) 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 sixty-five degrees the samples to be tested should be cooled down (to about sixty degrees) by immersing the bottle containing them in cold water, or by any other convenient method.
- (c) The lid of the cup, with the slide closed, is then put on, and the cup is placed into the bath or heating vessel.
- (d) 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.
- (e) When the cup has been placed in the proper position, the scale of the thermometer faces the operator.
5. (a) 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.

- (b) When the temperature has reached about sixty-six degrees 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 oil 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 one-and-a-half 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 one hundred and twenty degrees, instead of with cold water.