

of the executive and administrative work of the Commonwealth by the Executive Department thereof and the administrative departments, boards, commissions, and officers thereof, including the boards of trustees of State Normal Schools, or Teachers Colleges; abolishing, creating, reorganizing or authorizing the reorganization of certain administrative departments, boards, and commissions; defining the powers and duties of the Governor and other executive and administrative officers, and of the several administrative departments, boards, commissions, and officers; fixing the salaries of the Governor, Lieutenant Governor, and certain other executive and administrative officers; providing for the appointment of certain administrative officers, and of all deputies and other assistants and employes in certain departments, boards, and commissions; and prescribing the manner in which the number and compensation of the deputies and all other assistants and employes of certain departments, boards, and commissions shall be determined," absolutely, and sections two hundred one, two hundred ten, four hundred thirty-one, and nine hundred six of said act, in so far as they apply to The Public Service Commission of the Commonwealth of Pennsylvania or the members or counsel thereof.

When effective.

Section 16. This act shall become effective on the first day of April, one thousand nine hundred thirty-seven, except that the Governor shall have power to appoint the members of the Pennsylvania Public Utility Commission as herein provided, at any time after the final enactment of this act, and to the extent necessary for such purpose this act shall become effective immediately upon its final enactment.

APPROVED—The 31st day of March, A. D. 1937.

GEORGE H. EARLE

No. 44

AN ACT

To amend the act, approved the seventh day of June, one thousand nine hundred and one (Pamphlet Laws, four hundred ninety-three), entitled "An act providing for the examination, licensure, and registration of persons, firms, or corporations engaged or engaging in the business or work of plumbing or house drainage, and prescribing certain rules, regulations, and requirements for the construction of plumbing, house drainage, and cesspools in cities of the second class; and imposing fines, penalties, and forfeitures for violation thereof," as amended, extending the provisions of said act to certain boroughs, incorporated towns, and townships of the first class; extending the same to include building drainage; imposing certain powers and duties on the Department of Health; making further provisions for the administration of said act; extending the speci-

fications, increasing certain fees and payments; and providing increased penalties, including imprisonment; and repealing sections fifty-four, fifty-five, fifty-seven, and fifty-eight of said act.

Section 1. Be it enacted, &c., That sections one, two, four, five, eight, and the title thereto, sections nine, ten, eleven, twelve, thirteen, fifteen, sixteen, eighteen, twenty-one, twenty-two, twenty-five, twenty-six, twenty-seven, twenty-eight, twenty-nine, thirty-two, thirty-three, thirty-five, thirty-six, thirty-seven, thirty-eight, forty-three, forty-five, forty-six, fifty-one, fifty-two, fifty-nine, sixty-five, sixty-seven, sixty-eight, seventy, and seventy-one of the act, approved the seventh day of June, one thousand nine hundred and one (Pamphlet Laws, four hundred ninety-three), entitled "An act providing for the examination, licensure, and registration of persons, firms, or corporations engaged or engaging in the business or work of plumbing or house drainage, and prescribing certain rules, regulations, and requirements for the construction of plumbing, house drainage, and cesspools in cities of the second class; and imposing fines, penalties, and forfeitures for violation thereof," as amended by the act, approved the fourteenth day of May, one thousand nine hundred and nine (Pamphlet Laws, eight hundred forty), and by the act, approved the twenty-first day of May, one thousand nine hundred and thirteen (Pamphlet Laws, two hundred seventy-six), and by the act, approved the twelfth day of June, one thousand nine hundred thirteen (Pamphlet Laws, four hundred seventy-six), are hereby further amended to read as follows:

Section 1. Be it enacted, &c., That from and after the passage of this act, it shall not be lawful for any persons to carry on or work at the business of plumbing or house or building drainage in cities of the second and third class, *in boroughs, incorporated towns, and townships of the first class* of this Commonwealth until a certificate or license to engage in or work at said business shall have been granted said persons by the director of the department of public safety, or department or board or bureau of health, of such cities; nor until they have registered as such in the office of the department or board or bureau of health of said cities, *as hereinafter provided.*

The word "borough," as used in this section and in this act, shall be construed to mean only such boroughs as have a population of three thousand five hundred (3,500), or more.

Section 2. All and every person, or persons, *with three years or more practical experience*, engaged or engaging in the business or work of plumbing, [and] house and building drainage in said cities, shall apply in writing to the said director of the department of

Sections 1, 2, 4, 5, 8 and the title thereto, sections 9, 10, 11, 12, 13, 15, 16, 18, 21, 22, 25, 26, 27, 28, 29, 32, 33, 35, 36, 37, 38, 43, 45, 46, 51, 52, 59, 65, 67, 68, 70, and 71, act of June 7, 1901 (P. L. 493), as amended by acts of May 14, 1909 (P. L. 840), May 21, 1913 (P. L. 276), and June 12, 1913 (P. L. 476), further amended.

Certificate or license.

Borough defined.

Examinations.

Board of
examiners.

public safety, department or board or bureau of health, for such certificate or license, *and in boroughs, incorporated towns, and townships of the first class, such application shall be made to the Department of Health of this Commonwealth, or such department thereof, or department or board or bureau of health as the said department shall designate*; and if, after proper examination made by the department or board or bureau of health of said cities, such person or persons so applying shall be found competent, the same shall be certified to the director of the department of public safety, department or board or bureau of health *in the case of cities, and to the Department of Health of this Commonwealth in the case of boroughs and incorporated towns and townships of the first class*, who shall thereupon issue a certificate or license to such person or persons, which shall, for the period of one calendar year or fractional part thereof next ensuing the date of such examination, entitle him or them to engage in or work at the business of plumbing, [and] *house and building drainage*. The mayor of said cities is hereby authorized to appoint a board of examiners, to consist of *one member of the board or bureau of health, one plumbing inspector, and two competent plumbers in no wise connected with the city government, who shall examine all applicants for license under the provisions of this act. The Secretary of Health of the Department of Health of this Commonwealth, in the case of boroughs and incorporated towns and townships of the first class, is hereby authorized to appoint a board of examiners, to consist of such master plumbers or journeymen plumbers of ten years experience, as he may designate, who shall examine all applicants for license under the provisions of this act outside of cities. In the performance of this duty he shall divide the State into a convenient number of districts, and appoint separate boards for the several districts, or shall direct that applicants from certain districts shall submit themselves to examination by city boards in certain cities designated by him, and shall also, upon satisfactory evidence, that certain municipalities outside of cities have constituted a competent board of examiners appointed by the council of said borough, direct that the applicants be examined by such board*. The said [board] boards shall make all reasonable rules, regulations, and examinations, which shall be approved by the said director of the department or board or bureau of health *in the case of cities, and by the Secretary of Health in all other cases*. An examination of any one member of a firm or corporation [or of the superintendent or foreman] therefor, shall be deemed sufficient. Said person or persons, firm or corporation, engaged or engaging in the business of plumb-

ing or house or building drainage, shall pay for each examination the sum of [five] *ten* dollars, and each journeyman or person engaged in the work shall pay the sum of [fifty cents] *five dollars*, which sum shall be paid into the *State, city or other municipal* treasury. [for the use of said cities] The proper officers [of said cities] are hereby authorized to pay to the plumbers acting on said board the sum of [five] *ten* dollars per day, for each day or session thus actually employed.

Fees.

The mayor of said cities is hereby authorized and required to appoint a [competent person] *practical plumber of at least ten years experience and not engaged or connected, directly or indirectly, with the plumbing business* as plumbing inspector, whose duty it shall be to supervise, superintend, and inspect all plumbing, [and] *house and building drainage*, in conformity with the provisions of this act. And the several cities are hereby authorized and required to make proper provision for the payment of the salary of the said plumbing inspector, as provided by law.

In order to afford the opportunity for local administration and enforcement of this law, the council of any borough or incorporated town, or commissioners of a first class township, are hereby authorized, by appropriate municipal action providing therefor, to appoint a practical plumber not engaged or connected, directly or indirectly, with the plumbing business as plumbing inspector, whose duty it shall be to supervise, superintend and inspect all plumbing, house and building drainage, in conformity with the provisions of this act; and to make provisions for the payment of the salary of the said plumbing inspector whenever this is done by such municipality. When this is done, the matter shall be submitted to the Secretary of Health of this Commonwealth by application, setting forth the action taken, and the name of the person or persons selected as inspector, and his qualification. If the Secretary of Health is satisfied that the enforcement of the act can safely be left to the municipality under this action taken, he may commit the same to it. Should, in its administration after being thus committed, the local authorities fail in the proper administration of the law, then the Secretary of Health of this Commonwealth shall revoke such commitment upon reasonable notice and hearing, subject to this provision. In cases outside of cities, the Secretary of Health of this Commonwealth is authorized and required to appoint such number of practical plumbers who are not engaged or connected, directly or indirectly, with the plumbing business as plumbing inspectors for the Commonwealth of Pennsylvania, whose duty it shall be to supervise, superintend and inspect all plumbing, house and building drainage, under the provisions of

Plumbing
inspector.

this act, and to do any acts necessary for carrying this act into effect. He may, however, at his discretion and upon such terms as he may prescribe, appoint, permit or designate the plumbing inspector of any city or borough to perform these duties within a district or districts convenient. Should the Secretary of Health elect the latter, joint compensation between the several districts shall be effectuated.

Every registered master plumber shall have a bona fide place of business in said cities, *in the case of any borough, incorporated town or township of the first class, either within the said municipality or within a distance of one mile from its nearest boundary, and shall display on the front of his or their place of business a sign, "Registered Plumber," bearing the name or names of the person, firm, or corporation, in letters not less than three inches high.*

Signs displayed on buildings not occupied as a bona fide place of business (other than advertisements) of any registered master plumber, firm or corporation, must not be construed to permit or allow said registered master plumber, firm or corporation to establish the same privileges or benefits as registered master plumbers, firms or corporations within the limitations of any city or municipality.

No person other than a registered master plumber, *as herein provided*, shall be allowed to carry on, or engage in, the business, nor shall any person or persons expose the sign of plumbing, [or] house or building drainage, or any advertisement or display pertaining thereto (*wholesale show rooms excepted*), unless he or they have first secured a license or certificate and been registered in the office of the board or bureau of health of such cities, *or in the case of a borough, incorporated town or township of the first class, then register with a board or bureau of health of such municipality, if any functioning, and if none such, then with the Department of Health of the Commonwealth*; nor shall any person or persons other than a registered master plumber, *or a registered journeyman plumber* [or person] in his or their employ [or under his or their supervision] (*registered apprentices excepted*) be allowed to alter, repair, or make any connection with, any water, drain, soil, waste, or vent-pipe, or any pipe connected therewith.

Every registered master plumber, firm, or corporation shall give immediate notice of any change in his, their, or its place of business; and upon his, their, or its retirement from business shall surrender his, their, or its certificate of registry to the board or bureau of health. Every person, firm, or corporation, [or representative thereof] in registering, shall give the full

name, or names, of the person, firm, or officers' names of the corporation, for which he or they shall register.

At the expiration of each calendar year said certificate or license shall be null and void. A licensed master or journeyman plumber desiring to continue in, or work at, the business of plumbing, [and] house *and building* drainage for the ensuing year, shall, between the first and thirty-first days of December of each and every year, surrender the said certificate or license to the department or board or bureau of health *who certified it*, and re-register his, their, or its name or names, and business or home address, upon such form or forms as may, from time to time, be furnished by *the several departments* [said department] or board or bureau of health.

A re-examination will not be necessary for re-registration, unless the licensed master or journeyman plumber should have failed to make an application for re-registration at the specified time. The sum of one dollar shall be paid by master plumbers, firms, or corporations, and the sum of twenty-five cents by journeyman plumbers, for re-registration, which sum shall be paid into the *State, city or municipal* treasury, for [the] *their* use. [of said cities] A register of all such applicants, and the license or certificates issued, shall be kept in said department, board or bureau of health, which said register shall be open to the inspection of all persons interested therein. Any person, firm, or corporation holding a license or certificate, granted by any [first, second or third class] city, *borough, incorporated town or township of the first class* of this Commonwealth, to engage in or work at the business of plumbing and drainage work, desiring to do plumbing or drainage work in any other city, *borough, incorporated town or township of the first class* than the one in which said license or certificate was granted, shall, without examination, be registered before entering upon such work: Provided, however, that such registration shall be restricted and limited to such plumbing and drainage work as he, they, or it shall have contracted for at the time of registry. On the completion of such contract or contracts the registration of such person, firm, or corporation shall be null and void, and no further permit shall be issued until he, or they, or it shall have first registered his or its name, or their names and address, as hereinbefore provided.

Section 4. There shall be a separate plan for each building, public or private, or any addition thereto, or alterations thereof, accompanied by specifications showing the location, size and kind of pipe,* traps, closets and fixtures to be used, which plans and specifications shall be filed with the *local board or bureau of health of the municipalities where same is functioning, or with the*

* "pipes" in the original.

Department of Health of the Commonwealth in other cases. The said plans and specifications shall be furnished by the architect, plumber or owner, and filed by the plumber. All applications for change in plans must be made in writing. *Plans filed for the correction of any complaint must designate the approximate time for the completion thereof.*

Section 5. Plumbers before commencing the construction of plumbing work in any building in the said cities, boroughs, incorporated towns and townships of the first class (except in case of repairs, which are here defined to relate to the mending of leaks in soil, vent or waste-pipes, faucets, valves and water supply pipes, and shall not be construed to admit of the replacing or installation of any fixture, such as water-closets, bath-tubs, wash-stands, sinks, refrigerator cases, soda or bar fixtures, et cetera, or the respective traps for such fixtures), shall submit to the board or bureau of health in their respective districts plans and specifications, legibly drawn in ink, on blanks to be furnished by said board or bureau. Where two or more buildings are located together and on the same street, and the plumbing work is identical in each, one plan will be sufficient. Plans will be approved or rejected within twenty-four hours after their receipt.

Materials of House or Building Drains.

Section 8. The main drainage system of every house or building shall be separately and independently connected with the street sewer, where such sewer exists, except where two houses are built together on a lot with a frontage of thirty feet or less, when one connection with main sewer will be allowed; but there shall be a separate house drain for each house, connected by a "Y" connection in the front of such houses, at the property line, with main house sewer; or, where one building exists or is erected in the rear of another, on an interior lot, of single ownership, and no private sewer is available, or can be made for the rear building through an adjoining alley, courtyard or driveway, the house drain from the front building may be extended to the rear building, and the whole will be considered as one house or building drain. Where it is necessary to construct a private sewer to connect with sewer on adjacent street, such plans may be used as may be approved by the department or board or bureau of health, but in no case shall joint drains be laid in cellars, parallel with the street or alley.

[House drains] Drains or soil pipes, laid beneath floor, must be extra heavy cast-iron pipe (as per table in section 16), with leaded and caulked joints, and carried five feet outside cellar wall. All drains or soil-

pipes connected with main drain where it is above the cellar floor shall be of extra heavy cast-iron pipe, with leaded and caulked joints, or of heavy wrought-iron pipe, with screw joints properly secured, and carried five feet outside of cellar wall, and all arrangements of soil or waste pipes shall be as direct as possible. [Wrought] *All genuine wrought-iron, wrought-steel or copperized iron pipes shall be galvanized.* Changes of direction on pipes shall be made with "Y" branches, both above and below the ground, and where such pipes pass through a new foundation wall a relieving arch shall be built over it, with two inch space on either side of main pipe.

The size of the main house drain shall be determined by the total area of the buildings and paved surfaces to be drained, according to the following table, if iron pipe is used. If the pipe is terra cotta, the diameter shall be one size larger for the same amount of area drainage.

Diameter.	Fall $\frac{1}{4}$ Inch Per Foot.	Fall $\frac{1}{2}$ Inch Per Foot.
4 inches,	1,800 square ft. drainage area,	2,500 square ft. drainage area.
5 inches,	3,000 square ft. drainage area,	4,500 square ft. drainage area.
6 inches,	5,000 square ft. drainage area,	7,500 square ft. drainage area.
8 inches,	9,100 square ft. drainage area,	13,600 square ft. drainage area.
10 inches,	14,000 square ft. drainage area,	20,000 square ft. drainage area.

The main house drains may be decreased in diameter beyond a rain-water conductor or surface inlet by permission of the department or board or bureau of health, when the plans show that conditions are such as to warrant such decrease; but in no case shall the main house drain be less than four (4) inches in diameter.

Section 9. The house or *building* drain must be provided with a horizontal *intercepting* trap, placed [immediately] inside the cellar wall, or as close thereto as practical, allowing for construction circumstances, and the approval of the board or bureau of health. The trap must be provided with a hand-hole, for convenience in cleaning, the cover of which must be properly fitted and made gas- and air-tight, with heavy brass screw-cap ferrule, caulked in. This class of traps shall be subject to the approval of the board or bureau of health.

Section 10. A fresh air inlet must be connected with the [house] drain just inside of the [house] *intercepting* trap. Where underground, it must be of extra heavy cast iron. Said inlet must lead to the outer air, and finish with an [automatic device] *open grill*, approved by the board or bureau of health, at a point just outside the front wall of building. The fresh air inlet must be of the same size as the drain, up to four inches.

For five and six inch drains it must not be less than four inches in diameter; for seven and eight inch drains,

not less than six inches in diameter, or its equivalent; and for larger drains, not less than eight inches in diameter, or its equivalent.

Section 11. House or building sewers and house or building drains must, where possible, be given an even grade to the main sewer of not less than one-quarter of an inch per foot.

Section 12. When main sewer is not located on street, house or building sewers must be constructed on outside of buildings, and branched into each house or building separately, and in no case will the sewer from one house or building to another be permitted to run through cellars.

Section 13. Where the ground is of sufficient solidity for a proper foundation, cylindrical terra-cotta pipe of the best quality, free from flaws, splits or cracks, perfectly burned, and well glazed over the entire inner and outer surfaces, may be used, if laid on a smooth bottom, with a special groove cut in the bottom of the trench for each hub, in order to give the pipe a solid bearing on its entire length, and the soil well rammed on each side of the pipe. The spigot and hub ends shall be connected. The space between the hub and the pipe must be thoroughly filled with cement mortar, made of equal parts of the best American natural cement and bar sand, thoroughly mixed dry, and enough water afterwards added to give the proper consistency. The mortar must be mixed in small quantities, and used as soon as made. The joints must be carefully wiped out and pointed, and all mortar that may be left inside removed, and the pipe left clean and smooth throughout, for which purpose a swab may be used. It must not be laid closer than five feet to any exterior wall of a building, or less than three and one-half feet below the surface of the ground, or when the sewer passes near a well, nor will it be allowed in bad or made ground or inside a building with or without a cellar.

Section 15. Floor, French or other drains will only be permitted when it can be shown, to the satisfaction of the board or bureau of health, that their use is absolutely necessary, and arrangements made to maintain a permanent water seal in the traps, and be provided with check or back water valves where warranted.

Section 16. All cast-iron pipes must be sound, free from holes, and of a uniform thickness, known as "extra heavy" pipe, and corresponding fittings will be required. The pipe must be tested to fifty pounds water pressure, and marked with the maker's name.

Pipes shall weigh as follows, namely:

Two-inch pipe, [five and one-half] five pounds per lineal foot.

Three-inch pipe, [nine and one-half] *nine* pounds per lineal foot.

Four-inch pipe, [thirteen] *twelve* pounds per lineal foot.

Five-inch pipe, [seventeen] *fifteen* pounds per lineal foot.

Six-inch pipe, [twenty] *nineteen* pounds per lineal foot.

[Seven-inch pipe, twenty-seven pounds per lineal foot.]

Eight-inch pipe, [thirty-three and one-half] *thirty* pounds per lineal foot.

Ten-inch pipe, [forty-five] *forty-three* pounds per lineal foot.

Twelve-inch pipe, fifty-four pounds per lineal foot.

Section 18. All yards, *paved ramps*, areas and courts must be drained and sewer connected, *such as gasoline or oil service stations and buildings of similar nature or construction*. [tenement-houses] *Tenement-houses* and lodging-houses must have the *paved yards, ramps*, areas and courts drained into the sewer, *and under no circumstances shall surface or storm water be allowed to drain over walks or driveways*. These drains, when sewer connected, must have connection not less than four inches in diameter. They should be controlled by one trap,—the leader trap, if possible.

French Subsoil, Foundation, Clear Water and Absorption Tile Drains.—Where subsoil drains are placed under the cellar floor or used to encircle the outer walls of a building, the same shall be made of open-jointed drain tile or vitrified clay pipe, and shall be effectively trapped before connecting into the building drain or building sewer, or shall connect into the storm water drain inside the storm water trap. The pipe must be laid on no less than four inches and covered with no less than six inches of crushed stone or gravel of medium size, and arrangements made to cover the stone with a material to prevent, as much as possible, sand or dirt from washing into and clogging the stone or gravel bed and cover. Where danger of basement flooding exists, they shall be protected against back-pressure by an automatic back-pressure valve, accessibly located, before entering the building sewer or drain, or they may discharge through a cellar floor drain provided with a back-water valve.

French subsoil, foundation, clear water and absorption tile drains.

Section 21. Inside leaders must be constructed of cast-iron, *galvanized, genuine wrought, steel or copperized iron pipe*, [or steel] with roof connections made gas and water tight. [by means of heavy copper drawn tubing, slipped into the pipe. The tubing must extend at least seven (7) inches into iron leader pipe.] Outside leaders may be sheet metal, but they must connect with house drain by means of a cast-iron pipe extending

vertically five (5) feet above grade level, where the building is located along public driveways or sidewalks. Where the building is located off building line, and not liable to be damaged, the connection shall be made with iron pipe extending at least one foot above grade level.

Section 22. All leaders must be trapped with cast-iron running or *P* traps, so placed as to prevent freezing, and provided with hand-hole and brass screw clean-out plug. Outside traps must have cleanouts brought to grade for convenience of cleaning. Brass cleanout plugs to be caulked and made gas and water tight, as hereinbefore provided.

Section 25. The smallest diameter of any soil-pipe permitted to be used shall be [four] *three*-inch. The size of soil pipes must be not less than those set forth in the following tables:

Maximum Number of Fixtures Connected to—

Size of Pipe.	Soil and Waste Combined.		Soil-Pipe Alone.	
	Branch.	Main.	Branch.	Main.
3 In.	7 fixtures,	14 fixtures,	3 water-closets,	4 water-closets.
4 In.	48 fixtures,	96 fixtures,	8 water-closets,	16 water-closets.
5 In.	96 fixtures,	192 fixtures,	16 water-closets,	32 water-closets.
6 In.	268 fixtures,	336 fixtures,	34 water-closets,	68 water-closets.

If the building is six (6), and less than twelve (12), stories in height, the diameter shall be not less than five (5) inches; if more than twelve (12) stories, it shall be six (6) inches in diameter. [A building six or more stories in height, with fixtures located below the sixth floor, soil-pipe four (4) inches in diameter will be allowed to extend through the roof; provided the number of fixtures does not exceed the number given in the table.]

All soil-pipes must extend at least two feet above the highest window, and must not be reduced in size. Traps will not be permitted on main, vertical, soil or waste lines. Each house must have a separate line of soil and vent pipe. No soil, *vent* or waste line shall be constructed on the outside of a building. *A two inch relief vent shall be required for first floor closets where a main vent stack of three inch or larger is in place, and fixtures are located above first floor.*

Fixtures with—

*One and one-quarter inch traps count as one fixture;
One and one-half inch traps count as one fixture;
Two-inch traps count as two fixtures;
Two and one-half inch traps count as three fixtures;
Three-inch traps (water-closets) count as four fixtures;
Four-inch traps count as five fixtures.*

Section 26. All sewer, soil and waste pipes must be as direct as possible. Changes in direction must be made with fittings, "Y['']'s", combination Y and eighth bends, or half "Y['']'s", [branches] or one-eighth bends. Offsets in soil or waste pipes will not be permitted when they can be avoided; nor, in any case, unless suitable provision is made to prevent accumulation of rust or other obstruction. Offsets shall be made with forty-five degree bends, or similar fittings. The use of [T—"Y's" (sanitary T's)] T's or sanitary T's will be permitted on upright lines only. *Saddle hubs when bolted or strapped on are prohibited.*

Section 27. Joints in cast-iron pipes and soil and waste-pipes must be so filled with oakum and lead, and hand caulked as to make them gas-tight. Connections of lead and cast-iron pipes must be made with brass sleeve or ferrule, of the same size as the lead pipe inserted in the hub of the iron pipe, and caulked with lead. The lead pipe must be attached to the ferrule by wiped joint. Joints between lead and wrought-iron pipes must be made with brass nipple, of same size as lead pipe. The lead pipe must be attached to the nipple by wiped joint. All connections of lead waste pipe must be made by means of wiped joints. *All connections for brass or copper pipe (which shall be full iron pipe size and weight) shall be screw joints, properly secured.*

Section 28. Every sink, bath-tub, basin, water-closet, slop-hopper, dental cuspidor, and all outlets of chemical or experimental laboratory tables, or any fixture having a waste-pipe specified, defined herein or not, must be furnished with a trap, which shall be placed as close as practicable to the fixture that it serves, and in no case shall they be more than one foot from said fixture. The waste-pipe from one [the bath-tub or other] fixture[s] must not be connected with a [water-closet] trap of another.

Section 29.

[Horizontal and Vertical] [Number of Small Fixtures]

1¼ inches,	1.
1½ inches,	2.
2 inches,	3 to 8.
2½ inches,	9 to 20.
3 inches,	21 to 44.

Number of Traps Permitted on Various Size Waste Pipes.

	1-1½ Trap	permitted on	1½ Waste Pipe.
3 to 8	2-1½ " , or equivalent,	permitted on	1½ " "
9	8-1½ " , " "	" "	2 " "
20	20-1½ " , " "	" "	2½ " "
44	44-1½ " , " "	" "	3 " "

If building is ten (10) or more stories in height, the vertical waste-pipe shall not be less than three (3) inches in diameter. The use of *short pattern recessed drainage fittings* or wrought-iron, *steel* or *copperized* pipe for waste-pipe two inches or less in diameter is prohibited.

The size of traps and waste branches, for a given fixture, shall be as follows:—

Kind of Fixtures.	Size in inches.	
	Trap.	Branch.
Water-closet,	3	4 3
Slop sink with trap combined,	3	3
Slop sink ordinary,	2	2
Pedestal urinal,	3	3
<i>Stall urinals</i> ,	2-4	2-4
<i>Wall urinals</i> ,	1½.2.3	2.3
Floor drain or wash,	3.4	3.4
Yard drain or catch basin,	4	4
[Urinal trough,]	[2]	[2]
Laundry trays (2 or 5),	1½.2	2
Combination sink and tray (for each fixture),	1½	2
Kitchen sinks (small) for dwellings,	1½	1½
Kitchen sinks (large), hotels, restaurants, grease trap,	2	2
Pantry sinks,	1½	1½
Wash basin, one only,	1¼	1¼
Bath tubs 4x[10] 8 inches, drum trap,		1½
<i>P or Running trap</i> ,	1½	1½
Shower baths <i>over bath tub</i> ,	1½	1½
Shower baths (floor),	2	2
Sitz baths,	1½	1½
Drinking fountains,	1¼	1¼
<i>Dental Cuspidor 4x8, Drum, P or Running trap</i> ,	1½	1½
<i>Dish Washers motor driven</i> ,	2	2

Section 32. All traps must be well supported, and set true with respect to their water levels. [The sizes for traps must not be less than those given in the following:

Traps for water-closets, four inches in diameter.

Traps for slop sinks, one and one-half inches to three inches in diameter.

Traps for kitchen sinks, one and one-half inches in diameter.

Traps for wash traps, two inches in diameter.

Traps for (bowl) urinals, one and one-half inches in diameter.

Traps for washstands, one and one-fourth inches in diameter.] All bath-tubs shall be supplied with drum, [-trap not less than three inches in diameter, with three-

inches trap-screws on floor line] "*P*" or running traps with clean-out trap-screw on floor or ceiling line. In case where an additional fixture is required in a building, and it is impossible to get revent pipe for the trap, the board or bureau of health shall designate the kind of trap to be used. This shall not be construed to allow traps without revents, in new buildings, or any one particular kind of an antisiphon trap. No trap, which depends for its seal upon the action of movable parts or submerged interior partitions, shall be allowed.

Section 33. Safe or special waste-pipes must not connect directly with any part of the plumbing system. Safe or special waste-pipe must discharge over an open, water supplied, publicly placed, ordinarily used sink, placed not more than three and one-half feet above the cellar floor.

The [safe] waste from a refrigerator, *soda fountain, refrigerator case, or bar fixture* must be trapped with suitable traps, [at the bottom of the line only] and must not discharge upon the ground floor, but over an ordinary [portable pan or some] properly trapped, and vented water supplied sink, as above. In no case shall the special [refrigerator] waste- [pipe] pipes discharge over a sink located in a room used for living purposes.

The branches on vertical lines must be made by "Y" fittings, and be graded [carried to the safe] with as much pitch as possible. Where there is an offset on a [refrigerator] waste-pipe, [in cellar] there must be clean-outs to control the horizontal part of the pipe.

In tenement- and lodging-houses the refrigerator waste-pipes must extend above the roof, and not be larger than one and one-half inches, nor the branches less than one and one-quarter inches. [Refrigerator waste-pipes, except in tenement-houses, and all safe waste-pipes, must have brass flap-valves at their lower ends.] Lead safes must be graded, and neatly turned over beveled strips at their edges.

Fixtures or appliances drained by safe or special waste-pipes include such fixtures as soda fountains, refrigerators, refrigerator cases, bar fixtures, ice boxes, bottle coolers, steam tables, glass washers, rinsing sinks, bain maries, air conditioning units, sprinkler system drains, house-tanks, small or portable drinking fountains, coffee urns, and sterilizers.

Section 35. Traps shall be protected from syphonage or air pressure by special vent-pipes. *Traps should not be more than approximately 24 inches from the vertical line serving the trap, and of a size not less than the following tables:—*

Size of Pipe.	Maximum Developed Length in Feet.	Number of 1-½ inch Traps Vented or Equivalent.		
		Mains.	Branch.	Main Vertical.
1 ¼ inch vent,	20,	1		
1 ½ inch vent,	40,	2 or less,		
2 inch vent,	65,	10 or less,	20 or less.	
2 ½ inch vent,	100,	20 or less,	40 or less.	
3 inch vent,	10 or more stories,	60 or less,	100 or less.	

The branch vent-pipes shall be not less than the following sizes:—

One and one-fourth inches in diameter, for one and one-fourth inch traps.

One and one-half inches in diameter, for one and one-half inch to two and one-half inch traps.

Two inches in diameter, for three inch to four inch traps.

One-half their diameter, for traps five inches and over.

Where two (2) or more water-closets are placed side by side on a horizontal branch, the branch line shall have a relief extended as a loop vent. A pipe two (2) inches in diameter will be sufficient as a loop vent for two (2) closets. A pipe three (3) inches in diameter shall be used as a relief for three (3) or four (4) closets; and where more than four (4) closets are located on the same branch the relief shall not be less than four (4) inches in diameter. All house or building drains and soil lines on which a water-closet is located must have a [four] three-inch main vent line. Where an additional closet is located in the cellar or basement, and within ten feet of main soil or vent line, no relief vent will be required for said closet; but where it is more than ten feet, a two inch vent line will be required as for first floor closets. Relief vent pipes for water-closets must not be less than two inches in diameter, for a length of forty feet, and not less than three inches in diameter, for more than forty feet.

Wall-Hung Water-Closets.

The three inch vent stack for a single wall-hung closet must be directly back of the closet, or have a separate two inch vent. Where two wall-hung closets are placed side by side on a horizontal branch, each must have a separate two inch vent back of each closet. Where three or more wall-hung closets are placed side by side on a horizontal branch, the branch line must have a relief extended as a loop vent. A pipe three inches in diameter shall be used as relief for three or four wall-hung water-closets, in addition to the separate two inch vent directly back of each closet. Where more than four closets are located on the same branch, the relief must be four inches in diameter, in addition to the separate two inch vent directly back of each closet.

No revent from traps under bell-traps will be required. *Connections between P traps and bell-traps should be made as hereinbefore provided.*

Any building having a sewer connection with a public or private sewer used for bell-trap connections or floor drainage only, a two-inch relief line must be extended to the roof of building from rear end of main drain. House or building drains, constructed for roof drainage only, will not require a relief vent.

A floor-trap for a shower shall be vented. [unless located in cellar or ground floor, the paving of which renders the trap inaccessible] If the number of these fixtures on a branch is two (2) or more, the waste line shall be extended as a loop vent, instead of back venting the separate traps; and when located in basement floor, they shall be provided with a removable strainer or cleanout.

Back vent pipes, from traps above the floor, must either be connected with crown of trap with ground in brass coupling, or, if connected solidly to trap, must have a ground in brass coupling at wall.

Section 36. Where rows of fixtures are placed in a line, [fittings of not less than forty-five (45) degrees to the horizontal must be used on vent lines to prevent filling with rust or condensation; except on brick or tile walls, where it is necessary to channel same for pipe] ninety (90) degree fittings will be allowed. Trapped vent pipes are strictly prohibited. No vent pipe from house side of any trap shall connect with ventilation pipe, or with sewer, soil, or waste-pipe: Vent pipes from several traps may be connected together, or may be carried into main vent line above the highest fixture. Where one vertical vent line connects with another, [a] *an inverted "Y" fitting must be used.* Branch vent pipes must be connected as near to crown of trap as possible.

Where future connections are left in the roughing of soil and waste lines, vent connections must also be provided.

Section 37. All offsets on vent lines must be made at an angle of not less than forty-five degrees to the horizontal, *unless building construction will not permit*, and all lines must be connected at the bottom with a soil or waste-pipe, or the drain, in such manner as to prevent the accumulation of rust, scale or condensation.

Section 38. Rubber connections for back vents will not be permitted. [without double couplings and thimble inside]

Section 43. The closet and all other fixtures must be set open, and free from all enclosing wood [or other] work. [Where water-closets will not support a rim-seat, the seat must be supported on galvanized iron legs, and

a drip tray must be used, which tray must be procelain, enameled on both sides and secured in place.] In tenement-houses and lodging-houses, sinks must be entirely open, set on iron legs or brackets, without any enclosing wood [or other] work. *Iron enameled water-proof cabinets are permissible under sinks and lavatories.*

Any fixture removed from service, either to be discarded or replaced with new by any owner, must have the inspected approval of the inspection department of plumbing under whose jurisdiction it is/was at time of removal before it can be reinstalled. If, after inspection, it is found to conform with proper standard, so as not to create a potential hazard to public or private health, it may be labeled, numbered, and certificate issued for its reinstallation with no other limitations reserved. No used plumbing fixture, intended for sanitary purposes, or any that may be connected to the domestic water system of any dwelling or building, can be installed without the inspection, approval of the department of plumbing, or board or bureau of health.

Section 45. All earthenware traps must have heavy brass floor plates, soldered to the lead bends and bolted to the trap flange, and the joint made permanently secure and gas-tight. *Iron closet bends and flanges are permissible on ground floors only where settlement is not likely to affect them.*

Section 46. Water-closets must not be located in sleeping apartments, nor in any room or compartment which has not direct communication with external air, either by window or air shaft of at least four square feet, or *mechanical ventilation equivalent to six changes of air per hour.*

When water-closets are located adjacent to kitchens or dining rooms, an intervening vestibule of at least three feet square must be provided.

Section 51. In all sewer-connected, occupied buildings, there must be at least one water-closet *and one sink*, and there must be additional closets so as there will never be more than fifteen persons per closet. In lodging-houses, where there are more than fifteen persons on any floor, there must be an additional water-closet on that floor for every fifteen additional persons, or fraction thereof.

Section 52. In tenement-houses, lodging-houses, factories, workshops, and all public buildings (*except single family homes*), the entire water-closet apartments and side-walls, to a height of [sixteen] *six* inches from the floor, except at the door, must be made waterproof with asphalt, cement, tile, or other waterproof material, as approved by the board or bureau of health. In tenement-houses and lodging-houses, the water-closet and urinal apartments must have a window or windows opening

into the outer air, of sufficient size, all of which shall be shown on plans, and shall be subject to the approval of the board or bureau of health. Except that tenement- or lodging-house, three stories or less in height, may have such window opening on a ventilating shaft, not less than ten square feet in area. *If over three stories, then said shaft must not be less than twenty-five square feet.* In all buildings, the outer partition of such apartments must extend to the ceiling, or be independently ceiled over, and these partitions must be air-tight. The outside partitions must include a window opening to outer air on the lot whereon the building is situated; or some other approved *mechanical* means of ventilation must be provided *to change the air at least six times per hour.* When necessary to properly light such apartments, the upper part of the partitions must be of glass. The interior partitions of such apartments must be dwarfed partitions.

Section 59. Wooden wash-trays, sinks or bath-tubs are prohibited (*except sinks in commercial or manufacturing establishments handling acids or other liquids that are subject to attack or destroy fixtures, as hereinbefore specified*) inside of buildings. Such fixtures must be constructed of non-absorbent material. Cement or artificial stone tubs will [not] be permitted, [unless] *when approved by the board or bureau of health.*

No fixture having a water connection, either to or from any direct or indirect line of sewer or waste or vent-pipe, the construction of which will in any way create a potential cross connection between the fresh water for drinking or domestic purposes and the sewer, will be permitted.

Section 65. The term "private sewer" is applied to main sewers that are not constructed by and under the supervision of the department of public works.

The term "house-sewer" is applied to that part of the main drain or sewer extending from a point five feet outside of the outer wall of a building, vault or area to its connection with public sewer, private sewer or cesspool.

The term "house drain" is applied to that part of the main horizontal drain and its branches inside the walls of the building, vault or area, and extending to and connecting with the house sewer.

The term "soil-pipe" is applied to any vertical line of pipe extending through the roof, receiving the discharge of one or more water-closets, with or without other fixtures.

The term "waste-pipe" is applied to any pipe [extending through roof] receiving the discharge from any fixtures except water-closet.

The term "vent-pipe" is applied to any [special] pipe, *extending through the roof*, provided to ventilate the system of piping, and to prevent trap syphonage and back pressure.

The term "plumbing fixtures" are receptacles intended to receive and discharge any liquid water or water carried wastes into a drainage system or treatment works with which they are connected.

The term "safe or special waste pipe" is supplied to any waste pipe receiving the discharge from any fixtures or drainage appliance, with or without water supply, not connected directly with the drainage system.

The term "dwelling" applies to any building which is designed for, or occupied in whole or in part as, the home, residence or sleeping place of one or more persons, either permanently or transiently.

The term "one family dwelling"—A separate building designed for or occupied exclusively by one family.

The term "two family dwelling" (duplex)—A separate building designated for, or occupied exclusively by, two families, one above the other, or an interior accessible door or passage way.

The term "tenement-house" is any house or building, or portion thereof, which is intended or designated to be occupied as a home or residence for three or more families living in separate apartments, and doing their cooking upon the premises.

Section 67. When drain, soil, waste, vent, and other pipes in the building, connected or to be connected with the sewer, have been placed in position, a preliminary water or air test of the same shall be applied, in presence of the *plumbing inspector* [an officer] of the board or bureau of health. A maximum of a five inch column of mercury held for a period of twenty minutes is prescribed when tests are made with air.

Section 68. When the work has been completed, a final notice shall be filed with the board or bureau of health in the district issuing the permit, when a final [air or peppermint] test shall be made, in presence of said [officer] *plumbing inspector*, with and by the use of such water connections as are connected to each respective fixture; when, if found satisfactory, a certificate of approval of the work will be issued; but no such plumbing or drainage work or system shall be used until said test has been made and certificate issued.

Section 70. In case of any dispute or difference of opinion existing between the department or board or bureau of health and any person, firm or corporation, as aforesaid, regarding the construction of plumbing, house or building drainage or cesspools, the same shall be submitted by either party to the director of the department of public safety, or the presiding officer of the

department or board or bureau of health, *together with the two plumbers of the examining board who are in no wise connected with the city or municipal government*, who shall pass upon the same, and whose findings therein, after hearing, shall be final and conclusive upon all parties.

Section 71. Any person or persons who shall fail to comply with any of the provisions of this act, regarding the procuring of a license or certificate to engage in or work at the business of plumbing, [or] house or building drainage, shall be liable, *upon conviction for a first offense*, to a fine of not less than ten dollars (\$10.00), nor exceeding fifty dollars (\$50.00), for each and every day he or they shall engage in or work at said business without first having obtained said certificate or license, *and for a second offense in a like manner to a fine of not less than twenty dollars (\$20.00), nor exceeding one hundred dollars (\$100.00), for each and every day, and for a third offense to a like fine as for a second offense, or to imprisonment in the county jail for a period not exceeding thirty days, or both, in the discretion of the alderman, justice of the peace or magistrate, together with costs of prosecution in each case*; and any person or persons who shall violate any of the rules, regulations, or requirements set forth in this act, regarding the construction, reconstruction or testing of plumbing, house and building drainage, or cesspools, or water connections to private or public fixtures or equipment, shall be liable, *upon conviction*, for [every such] a first offense, to a fine of not less than ten dollars (\$10.00), nor more than fifty dollars (\$50.00), and for a second offense to a fine of not less than twenty dollars (\$20.00), nor exceeding one hundred dollars (\$100.00), and for a third offense to a like fine as for a second offense, or to imprisonment in the county jail for a period not exceeding thirty days, or both, at the discretion of the alderman, justice of the peace or magistrate, together with cost of prosecution in each case.

[All fines and penalties imposed by this act shall be recoverable] *All prosecutions for violations of this act shall be, by summary proceedings, brought in the name and for the use of the municipality or the Commonwealth, as the case may be, within or against which the alleged offense is committed, before any alderman, police magistrate, or justice of the peace in [said cities] the county wherein the offense is alleged to have been committed. [and all suits or actions at law instituted for the recovery thereof shall be in the name and for the use of the city within or against which offense is committed; and upon recovery thereof all] All [such] fines and penalties shall be paid to the [city] treasurer*

Violations.

Fines.

[thereof] of the municipality to apply to general fund, or to the Commonwealth for the use of the Department of Health, as the case may be. [in] In default of the payment of any fine or penalty imposed by any alderman, police magistrate, or justice of the peace, under the provisions of this act, the person or persons so offending [may] shall be committed to the jail, workhouse, or other penal institution of the county [in which said city is situated] for a period not exceeding thirty days: *Provided, however, That in the case of third offense, such period, not exceeding thirty days, may be added to the sentence of imprisonment.*

Section 53-A
added to said act

Section 2. That said act is hereby amended by adding thereto, after section fifty-three, a new heading and section to read as follows:

Commercial or Experimental Installations.

Section 53-A. Drainage installations for chemical manufacturing, laboratories, processing or other liquids used for commercial or experimental purposes, that are subject to attack the materials hereinbefore specified for ordinary use, such as gray cast-iron, wrought-steel or copperized iron, lead, copper or brass waste-pipes are required, and subject to submit to such rules and specifications for other kinds of materials, as the local or State board or bureau of health may require. In no case shall the materials used for this class of installation be less in quality or acid-resistance and strength than cast-iron, containing fourteen and one quarter ($14\frac{1}{4}$) per centum to fourteen and three-quarters ($14\frac{3}{4}$) per centum silicon and not more than nine-tenths (0.9) per centum carbon, and have sufficient strength to permit all joints to be caulked with molded lead, in the same manner as other soil pipe hereinbefore provided. Outlets are a potential danger and must be trapped and vented when left either for convenience or future connection. No sanitary connection will be allowed to connect with an acid drain.

Repeals.

Section 3. That sections fifty-four, fifty-five, fifty-seven, and fifty-eight of said act are hereby repealed.

APPROVED—The 31st day of March A. D. 1937.

GEORGE H. EARLE