Building code Columbus, Ohio

Columbus (Ohio)

THE BUILDING CODE

CITY OF COLUMBUS, OHIO

DEPARTMENT OF BUILDINGS

BUILDING CODE

COLUMBUS, OHIO

THE OHIO COMPANY, PRINTERS
309 SOUTH HIGH STREET

BUILDING CODE

To regulate the construction, erection, repair of, alterations in and additions to, buildings and other structures in the City of Columbus, Ohio, and to repeal Ordinance No. 23,073, passed November 14, 1904, and all other ordinances inconsistent herewith.

Be it ordained by the Council of the City of Columbus, State of Ohio:

Section 1. That it shall be unlawful for any person, persons, firm or corporation to construct, erect, repair, alter or add to any building or other structure in the City of Columbus, Ohio, except in compliance with the terms and provisions contained in this ordinance and in the manner and of the materials hereinafter specified.

Sec. 2. That it shall be unlawful for any person, persons, firm or corporation to construct, erect, repair, alter or add to any building or structures, in the City of Columbus, Ohio, except in case of repair for maintenance not affecting the construction, sanitation or other vital features of such building or structure, until he or they shall have made application to and received from the inspector of buildings of said city a permit so to do. Such applicant shall furnish said inspector of buildings with a written statement, on blanks to be furnished by the inspector of buildings, of the location, intended use and estimated cost of the proposed buildings or structure, or proposed repair, alteration or addition thereto, together with complete plans and specifications of the same, which plans and specifications shall remain in the custody of the inspector of buildings until the proposed work is completed. Provided, however, that if such building or structure, repair, alteration or addition thereto, shall be estimated to cost less than $5,000.00, such plans and specifications or information, or both, shall be furnished to the said inspector of buildings for his examination as will advise him of the nature of the proposed building or repair with reference to the requirements of the ordinance; and the inspector of

buildings shall be the judge of the sufficiency of such plans and specifications and information. The inspector shall have the right to retain said plans and specifications in his possession a sufficient length of time to enable him to make the necessary examination, after which they may then be taken away by the person who furnished them; provided, however, that the inspector of buildings shall have access to them at any time thereafter. If it shall appear to the inspector of buildings that the laws and ordinances in force upon the subject have been complied with, he shall give the permit asked for, upon the payment of fees as follows:

The sum of fifty cents when the estimated cost of the building or structure does not exceed one thousand dollars ($1,000.00), and an additional sum of one cent for each and every one hundred cubic feet of contents of such building or structure; the sum of one dollar when the estimated cost is more than one thousand dollars ($1,000.00), and an additional sum of one cent for each and every one hundred cubic feet of contents of said building or structure; except that for factories, warehouses, barns, ice houses, coal, lumber or other sheds, the sum of one-half cent in addition to the above-named charges of fifty cents and one dollar, shall be charged for each and every one hundred cubic feet of contents; the sum of fifty cents for the repair of, alteration or addition to buildings or structures where the estimated cost is five hundred dollars ($500.00) or less, and the sum of fifty cents for every additional estimated cost of five hundred dollars ($500.00) or part thereof, provided that when such estimated cost is less than fifty dollars ($50.00), no charge shall be made for the permit.

Sec. 3. (As amended November 26, 1906). Each and every permit issued by the inspector of buildings shall be subject to revocation by said inspector of buildings whenever it appears that such building or structure is being so constructed that the same, or any part thereof, encroaches upon any street, alley or other public place, or is being so constructed as to violate any of the terms or conditions of this ordinance or any other ordinance of the City of Columbus, or any statute of the State of Ohio, relating to the location, erection, alteration or repair of buildings. The revocation of the permit shall be in writing and shall be served upon the owner, or upon the superintendent or contractor in charge of the work, and posted upon the building or structure for which the said permit was granted; and from and after such revocation

of said permit and the posting of said notice, all work of every kind and character on such building or structure shall be discontinued. And no person shall continue the construction of any building, use any material in or about any building, or use any machinery in or about any building, after said inspector of buildings or his regular authorized assistants, have directed in writing, the suspension of the work thereon.

Sec. 4. The inspector of buildings and his deputies are hereby given authority to make such tests as may be necessary to determine the safety of the condition of any building or structure which it becomes their duty under the provisions of this ordinance to inspect. The inspector of buildings and his deputies shall have power and they are hereby authorized to enter any building or enclosure within the limits of Columbus, Ohio, for the purpose of inspecting the same, and for enforcing the provisions of this ordinance; and it shall be unlawful for any one to hinder or prevent them, or either of them, or to attempt to hinder or prevent them, or either of them, from so doing.

Sec. 5. All words and building terms used in this ordinance when recorded on the dedication plats of the city engineer's ofspectively in this section, as follows:

(1) Adjoining owner. The owner or owners of the premises adjoining those under consideration, or adjoining the property of the building owner.

(2) Alteration. Any change, addition, or modification in construction.

(3) Apartment house. An apartment house is one in which the rooms are occupied in suites by several families. Apartment houses may include tenements.

(4) Areas. Covered subsurface space adjacent to building or the building line, for lighting or ventilating a basement.

(5) Attic story. A story situated wholly or partially in the roof.

(6) Basement. A story suitable for habitation, partly below the level of the adjoining street or ground and below the first floor of joists.

(7) Bay window. A projection for a window other than a tower projection or show window; a rectangular, circular or polygonal window which projects from an apartment or hallway and so

forms recess not separated by a partition from the balance of the room or hall and not intended for display of goods or wares.

(8) Building. Anything erected by art, and fixed upon or in the soil composed of different pieces connected together, and designed for use in the position in which so fixed. Thus, a pole fixed in the earth is not a building, but a wall or any construction within the scope or purview of these regulations is.

(9) Building line. A line beyond which property owners or others have no legal or vested right to extend a building or any part thereof, or ordinarily a line of demarkation between public and private property, but so applied to a building restriction line when recorded on the dedication plats of the city engineer's office, Columbus, Ohio.

(10) Building owner. The owner, agent or trustee of the building or premises under consideration, construction, alteration, removal, repair or affected under these regulations.

(11) Cellar. That portion of a building below the first floor of joists, if wholly or partly below the level of the adjoining parking, street or ground, and not suitable for habitation.

(12) Cement. By cement is meant a material made by burning to incipient fusion and afterwards grinding to powder, a mixture of carbonate of calcium and silicate of aluminum in proper proportions. If the mixture be one found in natural rock, it is known as natural cement. If the mixture be an artificial one, it is known as Portland cement.

(13) Curtain wall. Is a partition wall built of brick or other non-combustible material.

(14) Dome. A roof formed by a series of arches or curved surfaces, every point of which is in a curved surface, receding from the outer wall of the building and springing from a plane base either circular or polygonal, and converging and meeting at a ridge or finial with no appreciable part of such roof flat or a plane surface.

(15) Dwelling. A building designed or used for human habitation or abode. When used by members of not more than two families it may be designated as a residence. But when rooms, apartments or sleeping accommodations are provided for hire or compensation, such buildings may be classified and treated as apartment houses, tenements or lodging houses.

(16) External wall. The outer wall or enclosure of a building other than a party wall.

(17) Factor of safety. The quotient obtained by dividing the breaking load by the safe load.

(18) First story. The story the floor of which is at or first above the level of the sidewalk or adjoining ground; the other stories to be numbered in regular succession, counting upward.

(19) Foundation wall. That portion of an exterior wall below the surface of the adjoining earth or pavement, and that portion of a partition or party wall below the level of basement of cellar floor.

(20) Hotel. A hotel shall be taken to mean and include every building or part thereof, intended, designed, or used for supplying for compensation, food and shelter to residents or guests, and having a public dining roof, cafe or office, or either, and usually maintaining a register of guests, and of a more public character than an apartment house or tenement.

(21) Incombustible roof or non-combustible roof. On buildings and sheds a roof covered with tin, iron or incombustible material not subject to ignition or combustion from sparks of fire on the surface of the roof, shall be considered a non-combustible or incombustible roof.

(22) Lodging house. A hotel or other building in which for compensation, persons are accommodated temporarily with sleeping apartments for a compensation.

(23) Mansard roof. A roof formed with an outer and inner set of rafters, the outer set more inclined to the horizon than the inner set, and with the surface of the roof inclined at least two inches to every foot in height above the cornice, walls or other parts of roof.

(24) Masonry building. A building, the walls of which are built of brick, stone or other substantial and incombustible materials.

(25) Oriel window. A window supported on corbels or brackets above the first floor, projecting from the outer face of the wall, and similar in other respects to a bay window.

(26) Partition. An interior wall constructed of wood, laths and plaster or other materials than masonry.

(27) Partition wall. An interior wall of masonry in a building.

(28) Party wall. A wall built upon the dividing line between adjoining premises for their common use.

(29) Repairs. The reconstruction or renewal of any part of

a building, or of its fixtures or appurtenances, and not made for the purpose of converting the building in whole to a new one.

(30) Shed. A rough or unfinished structure for storage, or an open structure for temporary shelter.

(31) Show windows. A store window in which goods are displayed for sale or advertisement.

(32) Spire. A tapering structure with vertical dimensions much greater than the diameter of the base, which covers but a small area of the roof or building upon which it is built, and is in the nature of a minaret or steeple.

(33) Story of a building. A division in a building comprising the space between two successive tiers of joists.

(34) Tenement or tenement house. See apartment houses. A building or any portion thereof used or to be used by more than two families living separately. The terms tenement may be taken to include apartment house.

(35) Theatre. A building or portions of a building in which it is designed to make a business of the presentation of dramatic, operatic, or other performances or shows for the entertainment of spectators, and having a permanent stage for said performances which can be used for scenery and other stage appliances.

(36) Thickness of a wall. The minimum thickness of such wall.

(37) Ton. A ton is the weight of 2,000 pounds.

(38) Tower. Tall structure forming a part of a building or built alone, and with height much greater than breadth, but with vertical sides, and not intended for human habitation above the legal height of the roof of the building of which it may form a part.

(39) Vault. An underground construction beneath sidewalk.

(40) Wooden building. Any building of which an external or party wall is constructed wholly or partly of wood, the same as a frame building.

Sec. 6. Whenever by the terms of this ordinance certain materials are required, the same shall be of the quality specified in this section, as follows:

(1) Brick used in all buildings shall be well burned, solid or hollow brick. When old brick are used, they shall be thoroughly cleaned before being used, and shall be whole, good, well-burned brick.

(2) All stone used in buildings shall be of a quality, size and strength suitable to the specific use to which it is to be put.

(3) The sand used for mortar or concrete in all buildings shall be made of grains of varying sizes, but not coarser than No. 10, and containing at least 50 per cent. of silica. It shall be free from all organic matter and shall contain not more than 10 per cent. by volume of clay or loaming material.

(4) Lime mortar shall be made of one part of slacked lime and not more than three parts by volume of sand. All lime used for mortar shall be thoroughly burned, of good quality, and properly slacked before it is mixed with the sand.

(5) All cements, Portland or natural, shall meet the requirements of the American Society for Testing Materials for such cement, namely:

	Portland.	Natural.
Fineness through No. 100 sieve	92 Pct.	90 Pct.
Initial set, not less than	30 min.	10 min.
Final set, not less than	1 hr.	30 min.
Final set, not less than	10 hrs.	3 hrs.
Minimum requirements for the—		
Tensile strength, neat cement, 1 day	150-200 lbs.	50-100 lbs.
Tensile strength, neat cement, 7 days	450-550 lbs.	100-200 lbs.
Tensile strength, neat cement, 28 days	550-650 lbs.	200-300 lbs.
Tensile strength, 1 to 2 mortar, 7 days		50 lbs.
Tensile strength, 1 to 2 mortar, 28 days		100 lbs.
Tensile strength, 1 to 3 mortar, 7 days	150-200 lbs.	25-75 lbs.
Tensile strength, 1 to 3 mortar, 28 days	200-300 lbs.	75-150 lbs.

(6) Cement mortar shall be made of Portland or natural cement and sand in the proper proportions for the work in hand. The cement and sand shall be proportioned by volume and thoroughly mixed dry until a uniform color is secured, then sufficient water shall be added and the mixing continued until the mortar has the proper consistency. The proportions shall not exceed one part of natural cement to three parts sand, or one part of Portland cement to five parts sand.

The mortar shall be used before initial set occurs or within 30 minutes after beginning to mix the mortar.

All lumpy cement shall be rejected.

(7) Concrete shall consist of cement, sand and gravel or

broken stone in the proper proportions for the work in hand. It shall be proportioned by volume, loose measure.

(8) When mixed by hand the sand and cement shall be mixed dry until a uniform color is secured, water added and the mass again thoroughly mixed. The stone, which previously has been wet down, shall then be added and whether carefully mixed by hand or machine, the whole carefully mixed until every piece of the aggregate has been entirely coated with cement. Sufficient water shall be used to make a concrete that will quake under very light ramming or juggling. All concrete shall be laid within forty-five minutes after beginning to mix it. When mixed by machine the same results shall be obtained.

(9) All timbers and wood beams used in any building shall be good sound material, free from rot, large or loose knots, shakes or imperfections, whereby the strength may be impaired, and of such size and dimensions as the purpose for which the building is intended requires.

(10) All structural materials shall be of such character and quality and all structural steel shall be fabricated as prescribed in "Manufacturers' Standard Specifications," as revised and published February 6, 1903, by the Carnegie Steel Company, of Pittsburg, Pennsylvania.

(11) Connection between various structural members of metal of whatever kind, and connections and relations between metal and other building materials of whatever kind shall be made, as to material, design and workmanship, in a manner to insure the full strength and safe efficiency of the various connected and related parts.

Sec. 7. The safe bearing load to apply to first-class brickwork, built of hard-burned solid brick, shall be taken at ten tons per square foot when lime mortar is used; twelve tons per square foot when lime and cement mortar mixed is used; eighteen tons per square foot when Portland cement mortar is used. The safe bearing load to apply to rubble stone work shall be taken at twelve tons per square foot when Portland cement is used. When cement other than Portland is used, nine tons per square foot; when lime and cement mortar mixed is used, eight tons per square foot; and when lime mortar is used, six tons per square foot.

(1) The safe bearing load to apply to concrete when Portland cement is used shall be taken at fifteen tons per square foot;

when cement other than Portland is used, five tons per square foot.

Sec. 8. Where the unit strength for any material is not prescribed in this ordinance, the relation of allowable unit stress to ultimate strength shall be as one to four for metals subjected to tension or transverse stress, as one to six for timber; and as one to ten natural or artificial stones and brick or stone masonry. But wherever working stresses are prescribed in this ordinance, varying the factors of safety hereinbefore given, the said working stresses shall be used. The allowable working unit stresses shall be those given and allowed by the "Manufacturers' Standard Specifications," as revised and published February 6, 1903, by the Carnegie Steel Company, of Pittsburg, Pennsylvania.

Sec. 9. Structural materials and soils, of whatever nature, shall be subjected to such tests to determine their character and quality as the inspector of buildings shall direct; such tests shall be made under the supervision of said inspector, or the architect or owner may file with him a certified copy of the results of tests, such as the inspector of buildings may have prescribed, which have been made.

Sec. 10. It shall be unlawful to use for columns, standard gas or steam pipe of a greater length than fourteen (14) feet, or of a less external diameter than four (4) inches, and in no case shall standard gas or steam pipe be used to support brick walls, except to support the fronts of one-story brick buildings.

(1) In all cases where standard gas or steam pipes are used, the ends of the columns shall be turned true and shall have iron or steel plates for bearings at top and bottom.

Sec. 11. All structures exposed to wind shall be designed to resist a horizontal wind pressure of thirty (30) pounds for every square foot of surface thus exposed, from the ground to the top of the same, including roof, in any direction. In no case shall the overturning moment due to wind pressure exceed seventy-five per cent. of the moment of stability of the structure.

(1) In all structures exposed to wind, if the resisting moments of the ordinary materials of construction, such as masonry partitions, floors and connections are not sufficient to resist the moment of distortion due to wind pressure taken in any direction or any part of the structure, additional bracing shall be introduced sufficient to make up the difference in the moments.

(2) In calculation for wind bracing, the working stresses shall be increased by twenty-five per cent.

(3) In building masonry structures under one hundred feet in height, provided the height does not exceed four times the average width of base, the wind pressure may be disregarded. In buildings constructed of structural steel the wind pressure shall be allowed for as follows: ten pounds per square foot of exposed surface for buildings twenty (20) feet or less to the eaves; twenty pounds per square foot of exposed surface for buildings sixty (60) feet to the eaves, thirty (30) pounds per square foot of exposed surface for buildings over sixty (60) feet to the eaves.

Sec. 12. The dead loads in all buildings shall consist of the actual weight of walls, floors, roofs, partitions and all permanent construction.

(1) The live or variable loads shall consist of all loads other than dead loads.

(2) Every floor shall be of sufficient strength to bear safely the weights to be imposed thereon in addition to the weight of materials of which the floor is composed; if it be used as a dwelling house, apartment house, hospital or lodging house, each floor shall be of sufficient strength in all its parts to bear safely upon every square foot of its surface not less than fifty pounds; if it be used for office purposes, not less than seventy-five pounds upon every square foot above the first floor, and for the latter floor one hundred pounds; if it is to be used as a school or as a place of instruction, not less than one hundred pounds upon every square foot; if it be used for stable or carriage-house purposes, not less than eighty-five pounds upon every square foot; if it be used as a place for public assemblages, not less than one hundred and twenty-five pounds upon every square foot; if it be used for ordinary stores, light manufacturing and light storage, not less than one hundred pounds upon every square foot; if it be used as a store where heavy materials are kept or stored, warehouse, factory or other manufacturing or commercial purposes, not less than two hundred pounds upon every square foot or upward, according to the character of loading.

(3) The strength of factory floors intended to carry running machinery shall be increased above the minimum given in this section in proportion to the degree of motion liable to be transmitted to the floor.

(4) The roofs of all buildings shall be proportioned to bear

safely thirty pounds upon every square foot, measured horizontally, in addition to the weight of the materials composing the same.

(5) Vertical support shall be of sufficient strength to bear safely the weight of each and every floor depending upon it for support in addition to the weight required as hereinbefore stated, to be supported safely upon said portion of said floors.

Sec. 13. In all cases provisions shall be made for carrying the full superimposed dead load. Beams shall be proportioned to carry the live and dead load. Beams, girders and columns shall be proportioned to carry full live and dead load of roof or other loads which are or may be constant. Excepting as subsequently mentioned and as above indicated, girders may be proportioned to carry 85 per cent. of the superimposed live load and all of the dead load. Columns not carrying roof loads or constant loads may have their actual superimposed live loads reduced by 5 per cent. for each succeeding lower floor until 50 per cent. of the live load fixed by the above section shall have been reached, when such reduced loads shall be used for all remaining floors.

(1) Proper provisions shall be made for eccentric loading.

(2) Structural members carrying elevators and elevator machinery shall be proportioned to carry twice the actual moving dead and live load.

(3) In warehouses, factories, school buildings, auditoriums or theaters, the girders and columns shall be proportioned to carry the full live and dead loads.

Sec. 14. Every temporary support, placed under any structure, wall, girder or beam, during the erection, finishing, alteration or repairing of any building or structure, or any part thereof, shall be built of sufficient strength to safely carry the load to be placed therein, and shall be satisfactory to the inspector.

Sec. 15. All excavations for buildings shall be properly guarded and protected by the person, persons or corporations causing the same to be made, so as to preevnt the same from becoming dangerous to life and limb, and shall be sheath piled where it may be necessary, or by some other method approved by the inspector of buildings, to prevent the adjoining soil from caving in by reason of its own weight, or by reason of any weight that may rest upon it.

Sec. 16. All excavations for walls, piers and columns of brick or stone buildings, shall extend to a depth of not less than three (3)

feet below any adjoining surface exposed to frost, to a good bed or solid bottom of such character as to provide safe support to loads intended to rest thereon.

Sec. 17. Excavations for foundation walls of two-story frame dwelling houses shall be not less than twenty-four inches below the established grade line of the lot on which they rest, or to a sufficient depth to rest upon the solid earth, should it become necessary to go deeper than the aforesaid depth.

Sec. 18. Under no circumstances shall the foundation of any brick or stone building be built upon filled or made earth, unless same is properly reinforced with piles or reinforced concrete.

(1) Foundations shall be proportioned to the actual loads they will have to carry in the completed and occupied building.

(2) All buildings shall have foundations of brick, stone, iron, steel or concrete. Where metal is incorporated in, or forms part of the whole of a foundation, it shall be thoroughly protected from rust by paint, concrete or other approved methods of protection.

(3) Foundations for dwelling houses and other wooden structures shall be of brick, stone, vitrified hollow tile or concrete, and shall be not less than eight inches thick.

Sec. 19. All basement and foundation walls shall have footings proportioned to the sustaining value of the soil, and the load to be imposed thereon.

Sec. 20. The walls of all buildings other than veneered, frame or wood buildings, shall be constructed of stone, brick, Portland cement, concrete, iron, steel, or other hard incombustible material and the several component parts of such buildings shall be as herein provided. All buildings shall be enclosed on all sides with independent or party walls.

Sec. 21. In all walls of the thickness specified in this ordinance, the same kind or quality of materials may be used in piers or buttresses. Bearing walls shall be taken to mean those walls on which the beams, girders or trusses rest.

(1) The walls and piers of all buildings shall be properly and solidly bonded together with close joints filled with mortar. They shall be carried up plumb and straight. The walls of each story shall be built up the full thickness to the top of the beams above.

(2) All brick laid in non-freezing weather shall be well wetted before being laid, except non-absorbent brick.

(3) All isolated piers shall be built of stone, Portland cement, concrete, or good, hard, well-burned brick laid in lime or cement mortar.

(4) In case piers are faced with pressed brick, they must be so laid as to have proper bearings of mortar under each pressed brick, so that the strength of the pier may be fully maintained on all sides, the central part of pier to be laid in Portland cement.

Sec. 22. Brick piers shall be built of good, hard, well-burned brick of uniform size, laid in cement or lime mortar, with uniform joints throughout facing and backing, and of sufficient size to carry safely the load which they are intended to carry. The joints shall not exceed three-eights of an inch in thickness. One course of brick shall be laid over the whole surface of the pier and each brick to be thoroughly surrounded by mortar, and all to be properly bonded, and the joints slushed full of mortar before the next course shall be laid. The top of the pier when finished shall be level for the cap stone, plate or other covering.

(1) Proper bearings proportioned to weight to be sustained and full size of pier shall set under all columns or girders bearing on said piers.

(2) Isolated piers shall not exceed in height ten times their least dimension.

(3) Where walls or piers are built of course stone with dressed level beds and vertical joints, said walls or piers shall be proportioned to the duties they may have to perform.

(4) In case of an external brick pier, the plates may be reduced sufficiently in size to allow four (4) inches of brick work to intervene between the edge of the plate and the face of the pier exposed, providing that the part of the pier over which the plate extends shall be equal to the duty imposed thereon.

Sec. 23. The outer walls of buildings to be used as hotels, lodging houses, stores, shops, office buildings, warehouses, factory buildings or public buildings, if of brick, shall be of the following thickness:

Outside Party and Division Walls	Rubble Basement.	Brick Basement.	Concrete or Cement Block Basement.	First Story.	Second Story.	Third Story.	Fourth Story.	Fifth Story.	Sixth Story.	Seventh Story.	Eighth Story.
1-story	18	13	12	13	..	..	..	..	..	..	..
2-story	18	17	16	13	12	..	..	..	..	..	..
3-story	20	17	16	17	12	12	..	..	..	..	..
4-story	20	17	16	17	17	12	12	..	..	..	..
5-story	24	21	20	21	17	17	13	13	..	..	..
6-story	28	25	24	21	21	17	17	13	13	..	..
7-story	28	25	24	21	21	21	17	17	13	13	..
8-story	32	29	28	25	25	21	21	17	17	13	13

Sec. 24. Buildings having the first story, the basement, or both designed for business purposes and the upper stories for dwellings, walls if of brick, of the following thickness:

Brick Walls in Business Blocks and Dwellings	Rubble Basement.	Brick Basement.	Concrete or Cement Block Basement.	First Story.	Second Story.	Third Story.	Fourth Story.	Fifth Story.	Sixth Story.	Seventh Story.	Eighth Story.
2-story	18	17	16	13	13	..	..	..	..	..	..
3-story	20	17	16	13	13	13	..	..	..	..	..
4-story	24	21	20	17	13	13	13	..	..	..	..
5-story	24	21	20	17	17	13	13	13	..	..	..
6-story	24	21	20	21	17	17	13	13	13	..	.
7-story	30	25	24	21	21	17	17	13	13	13	..
8-story	30	25	24	21	21	17	17	17	13	13	13

(1) The above table shall apply to all walls of sixty (60) feet and under in length; walls exceeding sixty feet in length shall not have more than two upper stories twelve (12) inches thick, unless strengthened by brick cross-walls or pilasters.

Sec. 25. Dwellings and apartments and flat buildings shall have walls if of brick, of the following thickness:

Brick Walls for Dwellings and Apartment and Flat Buildings	Rubble Basement.	Brick Basement.	Concrete or Cement Block Basement.	First Story.	Second Story.	Third Story.	Fourth Story.	Fifth Story.	Sixth Story.
1-story	18	13	12	9	..	..	..	..	..
2-story	18	13	12	9	9	..	..	..	..
3-story	20	17	16	13	13	9	..	..	..
4-story	22	21	20	17	13	13	9	..	..
5-story	25	22	20	17	17	13	13	9	..
6-story	28	25	24	21	17	17	13	13	9

(1) The above table shall apply to all walls sixty (60) feet and under in length; when over sixty (60) feet in length such walls shall not have more than two upper stories twelve (12) inches thick, unless strengthened by brick cross-walls or pilasters.

Sec. 26. The thickness for each story and basement, of all brick division walls in dwellings, apartment and flat buildings, shall be as shown in the following table:

Brick Division Walls	Brick Basement.	Concrete or Cement Block Basement.	First Story.	Second Story.	Third Story.	Fourth Story.	Fifth Story.	Sixth Story.
1-story	13	12	9	..	..	..	..	..
2-story	13	12	9	9	..	..	..	..
3-story	17	16	13	9	9	..	..	..
4-story	17	16	17	13	9	9	..	..
5-story	21	20	17	17	13	9	9	..
6-story	21	20	17	17	13	13	9	9

Sec. 27. Partitions of brick, Portland cement or concrete not less than eight (8) inches in thickness may be used above first floor

where stud partitions in buildings are allowable under this ordinance. Where such partitions exceed one story in height, thirteen (13) inch foundation walls shall be provided. Hollow tile partitions may be used under similar conditions, if constructed and proportioned as elsewhere indicated in this ordinance. No hollow tile partitions less than eight inches in thickness shall be used as a bearing wall. Such partitions, if more than one story high, shall be provided with twelve (12) inch foundation. Hollow tile partitions less than nine inches in thickness may be provided with nine (9) inch foundation walls in basement, providing said basement is not more than ten (10) feet in the clear.

(1) In case of dwellings or apartments more than two stories in height, eight (8) inch walls of concrete or brick may be used in lieu of stud partitions specified in this ordinance. In no case, however, shall eight (8) inch walls be more than two (2) stories in height without sub-walls proportioned as elsewhere indicated in this ordinance.

(2) This section of this ordinance in no way affects the provisions relating to division walls between apartments.

Sec. 28. The foundations for building more than six stories above the sidewalk, or more than seven stories above the footings, shall be specially designed to adequately withstand the live, dead and wind loads which may come upon them.

Sec. 29. Frame dwellings not over two stories high may have outside foundation walls of brick or Portland cement, concrete eight (8) inches in thickness or of eight (8) inch vitrified hollow tile, where floor level of basement or cellar is not more than five and one-half (5½) feet below the established grade, if provided with proper lateral supports. In case of veneered frame houses, the foundations of Portland cement, concrete or brick wall shall be four (4) inches thicker than the above. In the event of depth of basement floor being more than five and one-half (5½) feet below the established grade or in event of basement or cellar being more than ten (10) feet in depth, outside foundation walls shall be four (4) inches thicker than the above, and shall be provided with proper lateral supports. Rubble foundations not less than sixteen (16) inches in thickness may be used for any part of frame house foundation.

(1) Inside foundation walls of brick or Portland cement con-

crete for frame houses, may be eight (8) inches in thickness, if not over ten (10) feet in height.

(2) No wall under any part of a frame dwelling shall be less in thickness than above. This applies to porches, bay windows and other appurtenances to a dwelling.

(3) Proper ventilators shall be provided in foundation, one under each outside wall of each room.

(4) By lateral supports for walls is meant cross-walls, buttresses or other supports made of Portland cement, concrete, brick or stone.

(5) All foundation walls as above shall be provided with footings properly proportioned to carry the super-imposed load on the soil where they are used.

Sec. 30. The following shall be accepted as the allowable bearing power of soils in tons per square foot:

Rock equivalent to the best ashler masonry	25
Rock equivalent to the best brick masonry	15
Rock inferior to the above	5
Clay in thick beds always dry	4
Clay in thick beds moderately dry	2
Clay soft	1
Gravel and coarse sand, well cemented	8
Sand, compact and well cemented	4
Sand, clear and dry	2
Quicksand, and alluvial soils	0.5

Sec. 31. No person or persons shall hereafter construct any wooden, frame or brick or stone veneered apartment or flat building more than two stories in height.

Sec. 32. If the ground area of any two-story frame or veneered apartment or flat building hereafter constructed exceeds five thousands (5000) superficial feet in area, then there shall be constructed division walls of brick, stone or other incombustible material, extending from front to rear and built from basement through the roof of such a building as a fire wall. Provided that in all buildings covered by this section, the street frontage shall not exceed fifty-five (55) feet without a division wall constructed from front to rear of such building, and construtced of such material as above provided for division walls.

(1) All apartment or flat buildings hereafter constructed or erected within the City of Columbus that are over two stories in height, shall have the outside walls constructed of brick, stone or other incombustible material, and if more than one flat or apartment in width, shall have division walls of brick, stone or other incombustible material, extending from front to rear and from basement through roof of said building as aforesaid.

(2) It shall be unlawful to construct any brick or stone veneered building for any purpose, over two and one-half stories in height.

Sec. 33. All basement walls of brick shall be laid in lime or cement mortar. If solid buttresses, or if iron or steel pillars, not over eighteen feet between centers, with sufficient strength to carry trusses or girders are used, then the thickness of the walls may be reduced four (4) inches; provided, however, that no brick wall shall be less than twelve inches in thickness. The thickness of walls specified herein and set forth in the tables for the various buildings are intended to cover all exterior enclosing walls and all such interior walls as may be required for the support of floors and roofs.

Sec. 34. No curtain wall shall be over one story in height without under-bearing, and not less than eight inches in thickness excepting in case of tenement or apartment buildings, where they may be four inches in thickness.

Sec. 35. Where it should appear that extra or additional stress shall come upon any wall or pier, extra provision shall be made for carrying the same by additional thickness of walls or additional size of pier or the addition of proper pilasters.

Sec. 36. When an adjoining roof comes in contact with a party wall, the said party wall shall be at least three feet above the adjoining roof at all points of contact, and there shall be no opening in such wall above contact of roof.

(1) No such wall shall be of less thickness than the wall next below.

Sec. 37. Recesses may be made in external walls, provided the thickness of the backs of such recess be not less than eight (8) inches.

Sec. 38. Whenever it becomes desirable to cut an opening through or leave any opening in any party or division wall, notice shall be filed with the Inspector of Buildings, who shall when satisfied that such openings will be protected by a fire-proof door or

doors on each side of wall, said doors to be sliding doors wherever practicable, issue a permit therefor.

Sec. 39. Hollow walls, not bearing walls, may be used in all cases, but all hollow walls should be bonded or tied together with incombustible anchors, placed not more than three feet apart. If used as bearing walls, the thickness shall be reckoned by their solid parts, unless either part is at least eight (8) inches thick and solid connections are made in upright directions not less than twelve (12) inches wide or not more than eight (8) inches apart from centers.

Sec. 40. Hard burned hollow brick may be used for the inside course of walls for buildings, when well bonded into the solid brick walls. Provided, however, that the strength of walls so built shall be sufficient to properly support the dead and live loads they may have to sustain.

Sec. 41. Exterior walls faced with stone, pressed brick, terra cotta or concrete shall have a backing of not less than four (4) inches of hard brick work laid in mortar or of concrete, but in no case shall the thickness of stone and backing taken together be less than the thickness required for a brick wall of the height as given in tables, and the exterior wall shall be bonded to the interior wall by diagonal or blind headers, sufficient in number so as to carry its proportion of the load.

Sec. 42. In all cases where a wall is finished with a stone or terra cotta cornice, the greater weight of material of such cornice shall firmly balance upon the wall, or shall be safely or securely anchored.

Sec. 43. In every brick wall, at least every seventh course of brick shall be header course, except where walls are faced with face brick, in which case every sixth course shall be bonded with Flemish headers or by cutting the course of face brick and by putting in diagonal headers behind the same.

All heading courses shall be of good, hard, perfect brick.

Sec. 44. In all walls which are faced with thin ashler anchored to the backing, or in which the ashler has not alternate headers and stretchers in each course, or alternately heading and stretching courses, the backing of brick shall be not less than twelve inches thick. Each stone of said ashler work shall be properly anchored. The backing of all walls, of whatever material it may be composed, shall be of such thickness as to make all walls, the facing of which is less than four (4) inches thick, conform as to

thickness, independent of the facing, with the requirements of this ordinance.

Sec. 45. It shall be unlawful to erect, construct, or build of masonry any rear, front, party, division or partition wall upon wooden girders, rafters or lintels, or to support any such wall by any wooden support whatever, but all such supports shall be of iron, brick, reinforced concrete or stone, and shall rest on sufficient stone or incombustible templates.

Sec. 46. No timber shall be used in any wall of any building as a means of support where stone, brick, reinforced concrete or iron is used as a common construction, except wood lintels over doors and windows on the inside of wall.

Sec. 47. The end and side of party walls shall be anchored at each tier of beams or joists at intervals of not more than ten (10) feet with good strong wrought iron anchors at least three-eighths by one and one-half inches, well built into the wall and fastened to the beams; and where the beams are supported by girders, the ends of the beams resting on the girders shall be butted together end to end and properly tied together at the same distance apart and in the same beams as the wall anchors, and shall be well fastened. All wall anchors shall run within four inches of the opposite side of the wall, where they do not run through the wall.

Sec. 48. During the construction of any brick building other than steel construction no wall shall be carried to a greater height than two stories above any other wall of the same building. All walls shall be securely braced during process of construction.

Sec. 49. Floor beams or joists shall have a bearing of at least four inches at each end, and shall be large enough so that the same unit pressure shall not be exceeded for the beam and its support. The butts or ends of all floor beams and rafters entering brick walls shall be cut on a splay of three inches in width.

Sec. 50. Roof or floor timbers entering the same wall from opposite sides shall have at least four inches solid brick work between the ends of said timbers, except foundation walls in dwelling houses.

Sec. 51. Every trimmer or header more than four (4) feet long, or tail joists, used in floors of any buildings, except in dwellings, shall be hung in stirrup irons of suitable strength for the weight to be supported.

Sec. 52. All floor beams, joists and headers shall be kept at

least two (2) inches clear of any wall enclosing a fire flue or chimney breast.

Sec. 53. In all walls or chimneys furred with wood, two courses of the brick work between the ends and opposite the wood beams of joists shall project the thickness of the furring beyond the inner face of the walls.

Sec. 54. Scantling partitions shall not be employed to support any floor or roof, except in dwellings and two (2) story buildings.

Sec. 55. No building hereafter erected to be used as an apartment house, hotel, lodging house, office building, hospital, school building, assembly hall of any kind, or public building, located in any part of the city, shall be constructed with floor beams or joists of wood exceeding twenty-six (26) feet clear span. Each joist shall have proper bearings at end on non-combustible or properly insulated material. These supports may be of stone, brick or other form of burnt clay, concrete or structural metal. In the case of structural metal it shall be properly insulated against the destructive action of heat in the following manner: Such insulation shall be made of burnt clay, metal lath covered with cement or plaster, or such other method of fire-proofing as may be approved by the Inspector of Buildings. Girders, beams or joists of metal for supporting joist may be in excess of twenty-six (26) feet in length, but no joist shall be supported by a stud or other combustible partition or a partition that is destructible by heat, except as provided in this ordinance.

(1) Within the inner fire limit of said City of Columbus, as established from time to time by ordinance, or for structures of the class above named in this section, furring of wood or other combustible material and partitions shall have at the bottom thereof in each story, cut-off eight (8) inches in height of brick, cement, plaster, concrete or other non-combustible material. Each span of joists for all such structures shall be provided with cut-offs of block bridging two (2) inches thick by the width of the joist or other material which shall prevent the passage of heat and smoke from one end of the joist to the other. Each ramp of stairway of above structure shall be provided with two (2) sections of blocking, as above. This blocking is in addition to the bridging elsewhere described.

Sec. 56. Under the ends of iron and steel girders resting in the walls stone caps or bearing plates shall be used of sufficient

carrying capacity to sustain the superimposed load. Standard bearing plates shall be used under all metal beams or girders.

Sec. 57. Eight inch brick and six inch and four inch hollow tile partitions of hard burnt clay or porous terra cotta, may be built not exceeding in their vertical portions a measurement of twenty-five (25), sixteen (16) and twelve (12) feet respectively, and in their horizontal measurement, a length not exceeding seventy-five (75) feet, unless strengthened by proper cross walls, piers or buttresses, or built in iron or steel frame work. All such partitions shall be carried on proper foundations or under supports, or in iron or steel girders and columns, or piers of masonry.

Sec. 58. All rubble masonry work shall be thoroughly bonded with three-quarter or full bond. Ledges will be permitted to support joists or beams, but shall be of sufficient strength to carry the load imposed thereon.

Sec. 59. Walls heretofore built or used as party walls, whose thickness at the time of their erection was in accordance with the requirements of the then existing laws, but which are not in accordance with the requirements of this ordinance, may be used if in good condition, for the ordinary use of party walls, providing the height of the same is not to be increased.

Sec. 60. In case it is desired to increase the height of existing walls or independent walls which are less in thickness than required under this ordinance, the same shall be done by a lining of brick work to form a combined thickness with the old wall of not less than four inches more than the thickness required for a new wall corresponding with the total height of the wall when so increased in height. The said lining shall be supported on proper foundations. No lining shall be less than eight inches in thickness, and all linings shall be laid up on Portland cement mortar and thoroughly anchored to the old brick wall with suitable wrought iron anchors placed two (2) feet apart and properly fastened or driven into the walls in rows alternating vertically and horizontally with each other, the old walls being first cleaned of plaster or other coatings where any lining is to be built against the same. No walls shall be lined less than twelve (12) inches in basement. All linings in basement must project four (4) inches beyond the lining in the first story. Skeleton steel or iron construction may be used with posts and girders, supporting each story and carried up to full height of proposed building resting on sufficient footings.

Sec. 61. The height of stories for all given thicknesses of walls must not exceed ten feet in the clear for the basement, sixteen feet in the clear for the first story, twelve feet in the clear for the second story, eleven feet in the clear average height of all stories above the second story.

(1) If any story exceeds these heights, respectively, the walls of such story, and of all stories below the same, shall be increased four inches in thickness additional to the thickness already mentioned.

Sec. 62. In all cases where the nature of the soil is damp or contains water, suitable provision shall be made to carry off such dampness or moisture by means of drainage tiles laid inside or outside of the walls, or both. Such drain tiles shall be connected with a catch basin or other suitable device and thence discharged into a dry well or sewer.

Sec. 63. Every building in the inner fire limit, hereafter erected or altered to be used for any purpose other than a dwelling house, shall be of fire-proof construction if such building is five (5) stories or more in height.

(1) Every building hereafter erected or altered, to be used for any other purpose than a dwelling house, either three (3) or four (4) stories in height, shall have at least one (1) stairway enclosed by fire-proof partitions at least equal to three (3) inches of solid plank covered with metal lath and two coats of plastering on each side.

(2) No woodwork or other inflammable material shall be used in any of the walls, partitions, furring or ceiling in any fire-proof building. Excepting, however, that the floors, doors and window sash and their frames, the interior finish and blocking and grounds therefor, floor boards and floor stirps directly thereunder may be of wood.

Sec. 64. The term "Skeleton Construction" shall apply to all buildings wherein all external and internal loads and stresses are transmitted from the top of the building to the foundation by a skeleton or framework of structural metal. In such metal framework, the beams and girders shall be riveted and not bolted to each other at their respective junction points. All pillars shall be made of structural metal and their different parts shall be riveted together and the beams and girders resting upon them shall have

riveted connections to unite them with the pillars. No cast iron lintels shall be used in the construction of skeleton buildings.

Sec. 65. In all buildings of skeleton construction, when the walls are carried by the metal frame, the thickness of outside masonry must be not less than twelve (12) inches, except as hereinbefore provided for "Curtain Walls."

(1) In buildings less than five (5) stories in height, cast iron columns may be used, in which case the column connections must be bolted. In buildings of less than five (5) stories, where the skeleton construction of the external walls is replaced by walls of masonry of proper and sufficient strength to sustain the weight of the floors and roof imposed on side walls, the interior pillars may be of cast iron. If cast iron pillars are used, each successive pillar shall be bolted to the one below it by at least four (4) bolts, not less than three-quarters (¾) of an inch in diameter and the beams and girders shall be bolted to the pillars and the pillars shall have faced ends.

Sec. 66. The term "Fire-Proof Construction" shall apply to all buildings in which all parts that carry weights or resist stresses are constructed wholly of stone, burned clay, iron, steel or concrete and in which all stairs and all elevator inclosures, and their contents, are made entirely of incombustible materials, and in which all metallic structural members are protected against the effects of fire by coverings of a material which must be entirely incombustible and a slow heat conductor.

Sec. 67. The materials which shall be considered as fulfilling the conditions of fire-proof coverings are: first, brick; second, hollow tiles, burned clay or concrete.

(1) All structural metal work shall be insulated against the influence of heat and no such structural metal work shall have a covering extending less than three (3) inches from the metal; one inch on the interior of such fire-proofing may be hollow air space.

(2) Fire-proofing may be of hollow tile, or other fire-resisting and insulating material composed of proper clay, properly burned, or it may be of Portland cement concrete properly composed, mixed and applied. By the term "Structural Metal" is meant such metal as is used in preserving the stability and integrity of the structure itself, or any integral structural part thereof, and does not apply to any ornamental metal work, screens, stairs, or other metal work which is not used for carrying loads, stress, and which

may be removed without affecting the structural stability of the work or any part thereof.

(3) Stairs in fireproof buildings, if covered with slate, stone or marble treads or other fractious materials, shall be provided with metal under-treads of sufficient carrying capacity to perform all the offices of the finished and superimposed tread.

(4) In buildings of this fireproof construction all door or window mullions, whether vertical or horizontal, shall be faced with cast iron, terra cotta, or other incombustible material of equal fire-resisting value, excepting as otherwise specified.

(5) All iron and steel used as supporting members of the external construction of any building specified to be fireproof, shall be protected, as against the effects of external changes of temperature by a covering of the thickness below specified, of fireproof material, completely enveloping said structural members of iron and steel. If of brick or concrete, it shall not be less than four (4) inches thick; if of hollow tile, it shall not be less than three (3) inches thick, and there shall be an air space between the iron and steel members and the outside of the hollow tile coverings. In all cases the brick or hollow tile shall be bedded in mortar close up to the iron or steel members, and all joints shall be made full and solid. When a skeleton construction is used for the whole or part of the building, these enveloping materials shall be independently supported on the skeleton frame for each individual story. If iron or steel plates are used in each story for the support of this covering within the said story, such plates must be of sufficient strength to carry, within the limits of the fire stresses for iron and steel elsewhere specified in this ordinance, the enveloping material for the said story and such plates may extend to within two (2) inches of the exterior of said covering. If terra cotta is used as a part of such fireproof inclosure, it shall be backed up with brick, concrete or hollow tile, whichever is used being, however, of such dimensions and laid up in such a manner that the back will be built into the cavities of the terra cotta facing and its backing. Provided, however, that terra cotta of sufficient thickness may be used without backing. If hollow tile alone is used for such inclosure, the thickness of the same shall be made in at least two (2) courses, breaking joints with and bonded into each other.

Sec. 68. The internal structural parts of all fireproof buildings

of skeleton construction shall be fireproofed by covering of brick, hollow tile, porous terra cotta or cement concrete. In places where there is trucking or wheeling or other handling of packages, the lower five (5) feet of the fireproofing of columns or pillars shall be incased in a protective covering, either of sheet iron or of oak plank which covering shall be kept continually in good repair.

(1) The fireproof covering of iron or steel beams and girders shall be protected with either of the materials hereinbefore specified. If hollow tiles are used, the tile shall be set close to the metal to be protected; and there shall be an air space between the tile as above specified. If porous terra cotta is used, it shall be as above specified. In all cases, the covering of beams, if of hollow tile or porous terra cotta, shall be so applied as to be supported entirely by the beams or girders protected, and shall be held in place entirely by the support of the flanges of such beams or girders and by the mortar used in setting. Wire binding and anchors shall not be used as fasteners of such fireproof covering. The fireproofing applied to columns shall be stable and self-supporting.

(2) The filling between the individual iron and steel beams supporting the floors of fireproof buildings shall be made of brick or hollow tile arches, or other forms and materials of fireproof construction, as provided in this ordinance, and the inspector of buildings may require a practical test to be made by the owner or contractor of the proposed construction, or either of them to determine its safe carrying capacity and its fire-resisting qualities. If brick arches are used, they shall not be less than four (4) inches thick and shall have a rise of at least one and one-quarter (1¼) inches to each foot of the span between the beams. If the span of such arches is more than five (5) feet, the thickness of the same shall be increased as required by the inspector of buildings. The said brick arches shall be laid with close joints in cement mortar in proportions of not more than two (2) parts of sand to one (1) part of cement by measure.

(3) If hollow tile arches having a straight soffit are used, the thickness of such arches shall not be less than at the rate of one and one-half (1½) inches per each foot of span.

(4) In all cases, no matter what the material or form of the arches used, the protection of the bottom flanges of the beams and so much of the webs of the same as is not covered by the arches

shall be made as before specified for the covering of beams and girders, and shall be at least two inches thick.

(5) Plastering on wire or metal lath shall not be considered as fireproofiing for steel or iron structural members. Slag and cinder concretes shall not be considered as fulfilling the requirements for fireproofing in any building, nor shall they be allowed to take the place of standard sand and gravel cement concrete in the construction of any wall, column, beam or floor resting on the ground. All metal work of columns, beams, girders or reinforcements shall be increased within at least two inches of fireprofing material and air space. No piping shall be enclosed in the fireproofing surrounding columns.

Sec. 69. All iron or steel columns shall be machined true and smooth on both ends at right angles to the axes of the columns and shall rest on shoes or plates or iron or steel and shall have iron or steel caps which shall be made true, and such plates and caps shall be of size and strength sufficient to properly distribute the weights that may be imposed upon them. Provided, however, that in all buildings four (4) stories and over in height such columns shall rest upon properly designed bridge plates bolted to the columns. All iron or steel trimmer beams, headers and tailbeams shall be suitably framed and connected together, and all iron or steel girders, columns, beams, trusses or other iron or steel shall be strapped, bolted, riveted, anchored and connected together in a strong and workman-like manner.

Sec. 70. All buildings six stories and over in height, not especially mentioned under the head of fireproof buildings, if not strictly fireproof, must be built equal in slow burning qualities to the following, which shall be known as "slow burning or mill construction":

(1) All floor and roof joists shall not be less than sixty (60) inches in area of cross section and the top surface of such joists shall be floored over with matched planks of not less than two and one-half (2½) inches thick.

(2) Partitions to be either brick, tile or plank; if plank are used, the same must not be less than two and three-fourths (2¾) inches thick. No stud partitions or wall furring of wood shall be allowed in buildings intended to be "slow burning." Provided, however, that no buildings of "slow burning" or mill construction

shall be more than eight (8) stories in height. And provided, further, that if metal columns or girders are used they shall be fireproofed in a manner as hereinbefore provided.

(3) Warehouses, storehouses and factories of "mill construction" three (3) stories or more in height, shall have their stairways and elevators constructed in fireproof shafts built for the purpose and provided with automatic, self-closing fireproof doors at each opening to the several floors, and no opening shall be allowed through the floors of such buildings except for belts for running machinery, without the special permission of the inspector.

Sec. 71. Buildings more than two (2) stories high shall have the partitions adjacent to or inclosing stairways constructed of either brick or tile; or stud partitions may be used, if the place between studs be filled with brick or terra cotta nogging, or if metal lath be used on each side of studding. If metal lath be used, there shall be cut-offs of slow burning material at each door.

Sec. 72. All wood beams shall be kept clear from all flues and chimneys, whether the same be smoke, air or other flues.

Sec. 73. No building over three (3) stories in height, the outside walls of which are constructed of wood, shall hereafter be erected in the City of Columbus.

Sec. 74. Concrete blocks, concrete, hollow brick, hard hollow tile, terra cotta, stone or metal, may be used in whole or in part or combination for the construction of walls. Such material may be used for backing, filling or facing when the character of materials, design and construction is such as to realize the ultimate strength of walls indicated in other tables and requirements for various purposes in building.

Sec. 75. All fixtures, appliances and wiring installed or any change made in same, in any building, for use in connection with electric lighting, heating or other use of electricity shall be done to the satisfaction of the inspector of buildings, but it shall be considered full compliance with this ordinance if done in accordance with the "National Electrical Code of the Rules and Requirements of the National Board of Fire Underwriters for the installation of Electric Wiring Apparatus. Edition of 1903."

Sec. 76. All chimneys shall be built of brick, stone or other incombustible material, and whether built inside or outside of buildings, or whether connected with the same or isolated, shall have foundations designed and built in conformity with the provisions

relative to foundations of buildings hereinafter given. Chimneys in all buildings shall have walls at least eight (8) inches thick, if of brick, unless terra cotta or fire clay flue linings are used, in which case four (4) inches of brick work may be omitted. Chimneys other than those built of brick shall have walls at least eight (8) inches thick, and shall have an additional lining of four (4) inches of brick or terra cotta or fire clay flue lining. Every chimney not forming a part of a wall shall rest upon the ground or other sufficient fireproof foundation. All fire places occurring in mansonry walls shall have a wall eight inches thick at the back and all chimneys, when corbeled out, shall be supported by at least five courses of brick, but shall not be corbeled over a wall more than two-thirds (2-3) the thickness of the wall, and if supported by piers, the same shall start from the foundation on the same face with the chimney above. All chimneys occurring in brick walls shall be bonded to the walls at every seventh course from the bottom to the top in regular bond. Sheet metal smoke flues inclosed in vent flues are prohibited. All chimneys shall extend at least four (4) feet above the top of a flat roof and at least eight (8) feet at the eaves and two (2) feet at the comb of a pitched roof, and proportionate amounts for intermediate positions.

(1) No chimney flue shall be less than sixty-four inches in area when used as a smoke flue.

(2) Timber of any kind shall not rest on chimney wall, but in all cases framing timbers shall be kept at least two (2) inches away from the outer face of chimney walls; provided, that corbeled brick firestops shall be used between chimney and joists as in case of walls.

(3) All brick smoke flues, stacks or chimneys hereafter erected having a sectional area greater than two hundred and sixty (260) square inches, but less than five hundred (500) square inches, shall be surrounded with walls not less than eight (8) inches thick, and shall comply in all respects with the requirements of this ordinance relative to flues in brick walls.

(4 Brick smoke flues, chimneys or stacks having a sectional area greater than five hundred (500) inches, unless made of hollow brick blocks, shall have hollow walls, in which the combined thickness of the enclosing walls shall be at least twelve (12) inches, and the air space between the inner and outer walls shall not be less than two (2) inches.

(5) For a distance of two (2) feet below the smoke inlet, and at least ten (10) feet above it, such flue chimney or stack shall be lined with fire brick or vitrified brick laid in fire clay mortar, together with the openings for smoke pipe. The tops of all smoke flues, chimneys or stacks, which may hereafter be erected exceeding a sectional area of one hundred and seventy (170) square inches, shall extend to a height of not less than four (4) feet above the highest part of the roof of the building.

(6) Where there are other buildings within a radius of fifty (50) feet, any smoke flue which exceeds five hundred (500) square inches in area shall be carried to a height sufficient to protect such buildings from smoke and gases, or suitable and approved smoke consuming devices may be used to serve the same purposes.

(7) Any flues in party walls shall be kept at least two (2) inches from the party line of said wall; except joint flues, which shall be separated by a four (4) inch width of brick work the entire length.

Sec. 77. Whenever any chimney, flue, fire place or heating apparatus on any premises in the City of Columbus, Ohio, shall become dangerous or unsafe by reason of endangering the buildings on said premises or adjoining premises by fire or otherwise, it shall be the duty of the owner or the agent of the owner forthwith to put said chimney, flue, fire place or heating apparatus in a safe condition or tear down and remove the same. The failure of the owner, or agent of the owner, forthwith to put said dangerous or unsafe chimney, flue, fire place or heating apparatus in a safe condition, or tear down and remove the same shall constitute a misdemeanor, and each and every day such chimney, flue, fire place or heating apparatus shall remain in such dangerous and unsafe condition shall constitute a separate offense.

Sec. 78. All hearths for fire places shall rest on brick or Portland cement concrete trimmer arches not less than four (4) inches thick, the header kept at least two (2) feet from face of chimney breast. The backs of all fire places shall not be less than eight (8) inches thick; all stove holes to have proper thimbles and stoppers. All centers shall be taken out under hearths before the floor is laid and no hearth shall be laid on any other than a brick or cement arch. The jambs on each side of fire place shall be not less than thirteen (13) inches wide, and not less than seventeen (17) inches thick, and fire place fronts to be built up the full width of the

breadth to the bottom of the joists; no wood work to be used in constructing the chimney. All chimneys containing fire places shall be built between floors full size, base, entirely of masonry; no woodwork to form any part of its construction. Corner chimneys containing fire places shall be built on each of their three sides of solid masonry the full size of base.

Sec. 79. Smoke stacks or chimneys built of iron or steel shall be thoroughly anchored or guyed, but shall not pass through the floors of a building unless protected by fireproof walls entirely enclosing the stack or chimney where smoke stack or chimneys of iron or steel pass through the roof of boiler houses, the roof shall be protected with a metal jacket. Metallic chimneys or smoke pipes shall not be used inside of any building in such a manner as to pass through the floors or roof of the same unless properly protected by a metal jacket.

Sec. 80. Where metallic smoke pipes of a dimension of twelve (12) inches or less pass through a wood or plastered stud partition, they shall be surrounded either by a body of brick, hollow tile or porous terra cotta or other incombustible substance measuring at least four (4) inches all around such smoke pipes. Or they shall be surrounded by a sheet metal thimble made of two concentric rings at least two (2) inches apart, and the entire thimble so constructed that there will be a free circulation of air between the two rings forming the same. Six (6) inch smoke pipes may have thimbles with one (1) inch air space. Metallic smoke pipes of greater diameter than eight (8) inches shall be kept at least sixteen (16) inches away from any wood work, otherwise the said smoke pipes must be covered with at least two (2) inches of asbestos cement applied on wire lath, or the wood work above the smoke pipes must be protected by steel metal, porous terra cotta, hollow tile, plaster or asbestos board, supported at least one inch from the wood work.

Sec. 81. Iron cupola chimneys of foundries shall extend at least ten (10) feet above the roof and at least twenty-five (25) feet horizontally from nearest wood work to such cupola. No wood work shall be placed within one (1) foot of the cupola.

Sec. 82. Smoke stacks, flues and connections other than those above named, may be made or constructed, which shall be built of metal, brick, concrete or other suitable non-combustible material to be supported, arranged and connected in a satisfactory manner.

Sec. 83. Every building over two stories in height having a building area of more than 3,500 feet shall be provided with at least two distinct and separate staircases of ample capacity, one of which may be a fire escape on the outside. The carrying capacity of stairs mentioned in this section shall be not less than one hundred and fifty (150) pounds per square foot of their entire surface.

Sec. 84. All buildings erected or altered for use as a store, factory, hotel or lodging house, except as herein otherwise provided, shall have a stairway as follows:

(1) The stairs leading down from the top floor shall have treads at least three feet, six inches long for each 3,500 square feet of floor space or fraction thereof, or for each 50 people or fraction thereof who will occupy said floor, and for each additional 500 square feet of floor space of said floor, or for each additional 10 people occupying said floor at one time, the treads of said stairs shall be made six inches longer. The treads of each lower stairs shall be one-seventh longer than the stairs next immediately above it. If any floor should be occupied by more than 100 persons at one time, or shall have an area greater than 7,000 square feet, said floor shall have one stairway for each 100 people or fractional part thereof, or for each 7,000 square feet or fraction thereof.

(2) For buildings of fireproof or slow burning mill construction, the stairs shall be as follows: The stairs leading down from the top floor shall have treads at least three (3) feet six (6) inches long for each 5,000 square feet of floor space or fraction thereof, or for each 75 people or fraction thereof, who will occupy said floor, and for each additional 700 square feet of floor space of said floor, or for each additional 15 people occupying said floor at one time, the treads of said stairs shall be made six (6) inches longer. The treads of each lower stairs shall be one-seventh (1-7) longer than the stairs next immediately above it. If any floor shall be occupied by more than 150 persons at one time or shall have an area greater than 10,000 square feet, said floor shall have one stairway for each 150 people or fractional part thereof, or for each 10,000 square feet or fraction thereof.

Sec. 85. Every building in which boilers or machinery are placed in the cellar or lowest story, shall have stationary ladders or stairs leading direct from such story to manhole above, on the sidewalk or other outside exit.

Sec. 86. Every apartment house, flat building, tenement house

and dwelling over two (2) stories in height, shall be provided with at least two (2) distinct and separate staircases.

Sec. 87. Stairways in all school buildings shall be constructed as provided in this section. Buildings two (2) stories in height shall have at least two stairways leading from the first to the second floor, and as far removed from each other as possible. Buildings having four (4) rooms on second floor shall have ten (10) lineal feet of tread surface therefor, but no stairway of a school building shall have less than four (4) lineal feet of tread for each stairway to second floor. For each additional second floor room seating not over fifty (50) pupils, stair service shall be based upon two (2) lineal feet for each school room on that floor. Stairways from first floor to grade line shall be provided with six (6) inches of additional tread for each school room seating not over fifty (50) pupils in excess of the stair service from first to second floor. Stairways to basement from first floor shall be at least three-fourths of stair service from the first floor to second floor. Each stairway not straight and direct from one floor to another shall be provided with landing at the turn, which shall equal in width the length of the treads. All such buildings shall be provided with entrances, two in number, located as remote from one another as possible from first floor to grade line and to basement, and shall be proportioned as above stated. No riser in any stairway shall be over seven (7) inches high, and no tread less than ten (10) inches on the run. Stairways eight (8) feet or more in width shall be provided with stiff and substantial rail in the middle thereof.

(1) All stairways and landings shall have carrying capacity of at least two hundred (200) pounds to the square foot. There shall be door exits to the exterior of all buildings, which shall at least equal the lineal feet of tread of the stairs leading down to the door. In the case of three (3) story buildings the width of stairs from second to third floor shall be as above provided for first to second floor, and the stairs from grade to first floor and from first to second floor shall be increased by six (6) inches, for each room seating not over fifty (50) pupils, located on the third floor. In case of rooms seating over 50 pupils, a corresponding increase shall be made in the length of the tread. In case assembly hall is located in the attic or immediately under the roof, the stair service thereto shall not be less than that of stairs from the first to second floor.

Sec. 88. No winding or circular stairs shall be allowed in any building except dwelling houses.

Sec. 89. Every building hereafter erected or altered to be used as a theater, opera house, church or for public gatherings of any kind, shall be built so as to comply with all the provisions of this ordinance, and in addition thereto, the following provisions shall be especially applicable to such buildings:

(1) The halls, doors, stairways, seats and aisles shall be arranged so as to facilitate egress in case of fire or accident, as the inspector of buildings may deem necessary for the public protection in such cases.

(2) Every such building or any building remodeled for the aforesaid purposes shall have at least one front on the public highway or street and in said front there shall be suitable means of entrance and exit of sufficient size for the audience to and from each floor, balcony or gallery.

(3) Emergency exits or doors in walls not directly related to the main entrance shall be provided with space equivalent to twenty (20) inches in width for each one hundred (100) of seating capacity provided on their floor, gallery or balcony of said exit. Fire escapes shall be provided therefor in accordance with the provisions of this ordinance. Such buildings shall be provided with exits on at least two (2) public highways.

(4) To overcome any difference of level existing between exits from the parquet and the stage and level of corridor, gradients shall be employed of not over one (1) foot in ten (10) feet, with no perpendicular risers.

(5) From the auditorium there shall be two (2) exits, unless one side is on a street, in which case there shall be more than two if desired, in each tier from and including the parquet and each and every gallery.

(6) Each exit shall be at least five (5) feet in width in the clear and provided with doors.

(7) All doors shall open outward, and must be fastened with easily accessible and movable bolts or hooks, the bolts or hooks to be kept drawn during the performance.

(8) All exterior and interior walls shall be as provided for walls of other structures within the same district, and of the same general class, and shall in all ways conform to the provisions of this ordinance.

(9) Interior walls of masonry, hereinafter described, shall separate the auditorium from the stage, from the entrance vestibule and from any room or rooms over the same; also from any lobbies, corridors, refreshment or other rooms.

(10) The stairways shall be constructed as per general provisions of this ordinance and shall be sufficient to sustain a weight of two hundred (200) pounds per square foot. Stairways shall be closed on at least one side with incombustible material. Stairways in fireproof buildings, if constructed entirely of fireproof materials, may stand free from the adjoining walls and shall be provided with substantial handrails on each side thereof.

(11) A fire wall to be built of masonry shall separate the auditorium from the stage, and the same shall extend at least four (4) feet above the highest roof adjoining said fire wall.

(12) Above the proscenium opening there shall be an arch of fireproof material to protect it from the heat; if a girder, there shall be constructed a relieving arch over the same, the intervening space to be filled with masonry to the full thickness of the wall, the masonry wall shall then be carried up above the roof, as hereinabove provided.

(13) The frame around the proscenium opening shall be formed in metal or plaster and filled in solid with non-combustible materials and securely anchored to the wall with metal fastenings.

(14) One or more shafts or openings shall be provided over the stage and extending through the roof, and of an area or combined area of at least one-tenth area of said stage, fitted with skylights having sliding sash and glazed with double thick sheet glass, not exceeding one-eighth of an inch thick, and each pane measuring not less than three hundred (300) square inches.

(15) The whole of said skylight shall be so constructed as to open instantly on the cutting or burning of a hempen cord, which shall be so arranged as to control the whole of said skylight or by some other equally simple and approved device for automatically opening said skylight.

(16) All doorways or openings through the proscenium wall in every tier shall have standard fire doors which can be opened from either side at all times.

(17) Direct access to these doors shall be provided on both sides, and the same shall always be kept free from any incumbrance.

(18) The entire main floor of the auditorium, foyer and exits

to the street shall be constructed of fireproof material throughout except where the floor of the main auditorium, foyer or exits to the street, are directly on the ground, in which case masonry or concrete may be used.

(19) None of the walls or ceilings shall be constructed of wooden sheathing or canvas. This shall not include the use of wall fabrics pasted directly or plastered on masonry walls or ceilings of the auditorium, foyers and entrances. This shall not include the use of wooden wainscoting to a height not to exceed six feet, which shall be filled in solid between the wainscoting and the wall with fireproof materials.

(20) The wall separating the actors' dressing rooms from the stage, and the partitions dividing the dressing rooms, together with the partitions of any passage from the same to the stage, and all other partitions on or about the stage, shall be constructed with fireproof material.

(21) All that portion of the stage floor not comprised in the working of the scenery, traps and other mechanical apparatus for the presentation of a scene, and four (4) feet wider on each side than the proscenium opening, shall be built of steel beams, filled in between with fireproof material; and all girders for the support of said beams shall be of steel.

(22) The ceiling or the underpart of the fly galleries shall be tightly covered with iron or tin over the entire exposed woodwork.

(23) All woodwork on or about the stage, shall have been rendered fireproof and shall be coated twice each year with fireproofing paint or material of approved quality.

(24) The proscenium curtain shall be placed at least two (2) feet distant from the floor lights at the nearest point. The proscenium opening shall be provided with a fireproof metal curtain or a curtain of asbestos or other acceptable fireproof material. Said fireproof curtain shall be raised and lowered by approved machinery for that purpose.

(25) All seats in the auditorium, excepting those contained in the boxes, shall be not less than thirty-one (31) inches from back to back, measured in a horizontal direction, and not less than twenty (20) inches in width from center to center of arms and firmly secured to the floor. All platforms in galleries formed to receive the seats shall be not more than twenty-one (21) inches in width of riser nor less than thirty-one (31) inches in width of platform. No seat in the

auditorium shall have more than seven seats intervening between it and an aisle.

(26) All aisles in the auditorium shall have a width of at least twenty (20) inches for every one hundred (100) persons or fraction thereof using said aisle. Main aisles shall not be less than three (3) feet at their narrowest part; and the same shall increase in width toward the exit at least one inch for every ten feet or fraction thereof. Lateral aisles and aisles adjoining proscenium boxes may be of lesser width, but in no case shall these aisles be less than twenty-four (24) inches at their narrowest parts.

(27) Every doorway or communication between aisles in the auditorium, and any lobby, corridor or passages shall have a clear opening of not less than five (5) feet in width.

(28) The aggregate capacity of the lobbies, corridors, passages and rooms for the use of the audience on each floor or gallery must be sufficient to afford safe and easy egress for the entire audience.

(29) Gradients or inclined planes shall be employed instead of steps to overcome slight difference of level in or between aisles or passages.

(30) All inclosed staircases shall have on both sides strong hand-rails, firmly secured to the wall, about three (3) inches distant therefrom and about thirty (30) inches above the floor of the stairs.

(31) No passageways leading to any stairway communicating with any entrance or exit, shall be less than four (4) feet in width in any part thereof.

(32) Every building used for any of the above purposes accommodating three hundred (300) persons shall have at least two exits; and one additional exit for each two hundred people additional or fraction thereof.

(33) No doorway of exit or entrance for the use of the public shall be less than five feet in width, and for every additional one hundred (100) persons or fraction thereof to be accommodated, in excess of five hundred (500), twenty (20) inches of additional width of exit must be allowed.

(34) All doors of exit must open outward, and such doors shall not be locked when the building is open to the public.

(35) Distinct and separate places of exit and entrance shall be provided for each gallery above the first gallery. A common place of exit and entrance may serve for the main floor of the auditorium and first gallery, provided its capacity be equal to the aggergate capa-

city of the outlets from the main floor and said gallery.

(36) The width of stairways serving for the exits for the audience shall be one foot in width for each one hundred (100) people and in no case shall the width of such stairway be less than five (5) feet. All stairways leading from the main auditorium shall be of fireproof material. In no case shall the risers of any stairs exceed seven (7) inches in height, nor shall the treads be less than ten inches in the run in straight stairs. When straight stairs return directly on themselves, a landing of the full width of both flights without any steps, must be provided. Stairs turning at an angle must have a landing at said turn, introduced without winders, whose legal dimensions shall not be less than the width of the stairs leading thereto.

(37) Any steam boiler designed to carry more than ten pounds pressure per square inch which may be required for heating or other purpose, shall not be placed under the auditorium or stage, and the place allotted to the same shall be enclosed by walls of masonry on all sides, and the ceiling shall be constructed of fireproof materials; all doorways in said walls shall be fireproof doors.

(38) Gas main supplying any theater shall have independent connections for the auditorium and the stage, and provisions shall be made for shutting off the gas from the outside of the building.

(39) When interior gas lights are not lighted by electricity, other suitable and approved appliances must be provided. All gas lights shall have strong metal wire guards or screens, so constructed that any material in contact therewith shall be out of reach of the flames.

(40) No portion of the main floor of any public hall not used as a theater and with accommodations for five hundred (500) persons, shall be elevated to a greater height than thirty-five (35) feet above the street grade except in case of fireproof buildings. Public halls with accommodations for one thousand (1,000) persons or more, shall have the main floor not more than twenty-five (25) feet above the street grade, except in case of fireproof buildings. No portion of the main floor of any theater, with accommodations for five hundred (500) persons or more, shall be more than five (5) feet above the street grade.

(41) At least one circuit feeding light in auditorium shall be so installed as not to be dependent upon the main fuse. Wire shall be installed in such manner that in case of fire, wiring and appa-

ratus will not be readily susceptible to injury. Wire shall be of the best quality of rubber covered wire. Wiring for signal lights over exits shall be run in iron armored conduit throughout and not dependent for power upon main fuse block. Switchboard shall be installed in an easily accessible place and not in vicinity of easily inflammable material, and shall be preferably in a fireproof cabinet. The fuses shall be of the plug cartridge type. No link fuses shall be permitted.

(42) All fuses or switches shall be so protected that at no time will there be any liability of scenery or any inflammable material coming in contact with same. All live parts shall be kept behind the switchboard, which must be of slate or other equally suitable material, and must not be mounted on or adjacent to any inflammable partition. All permanent wiring on stage and all wiring in halls and dressing rooms shall be installed in approved metal conduits in accordance with the "National Electrical Code" of the Rules and Requirements of the National Board of Fire Underwriters for the installation of electric wiring and apparatus. "Edition of 1903."

(43) Floor plugs shall be installed in iron sockets completely encasing them and shall be dust and waterproof. Sockets and plugs to be of rigid construction and of sufficient carrying capacity to stand any load to which they may be subjected without overheating.

(44) Border lights sockets shall be fixed rigidly to their supports and shall be equipped with a wire netting guard so constructed that at no time can inflammable material come closer than two inches from the lamps. Flexible connections shall be of approved construction.

(45) Portables and extension cords shall be of heavy construction, capable of standing all the stress and usages to which they may be subjected without injury to the insulation.

(46) Spot or flood lights shall be encased in fireproof material and so constructed that there will be no possibility of particles of carbon or other hot metal getting outside of the lamp, or of any inflammable material coming in contact with or dangerously near to lamp. No temporary wiring shall be installed on stage at any time unless put in in accordance with these rules.

Sec. 90. The Inspector of Buildings and the Deputy Inspector of Buildings shall have the right at any time to enter the stage

or any part of any of the buildings named in Section 89, for the inspection of the same.

Sec. 91. In all cases where hot air, steam, hot water or other furnaces are used, the smoke pipe shall be kept at least twelve inches below the beams or ceiling above the same, and twelve inches away from any woodwork. The furnace smoke flue must start from the basement, 30 inches below the bottom of joist or ceiling line. The thimble placed in flue to receive smoke pipe must be not less than 12 inches from ceiling or bottom of joist to the top of said thimble, and to be not less than 12 inches away from any woodwork. Also there shall be arranged below the entrance of the smoke pipe a thimble with cap for the purpose of cleaning out the flue or chimney.

Sec. 92. In all cases where metal pipes and register boxes are used to convey heated air in any building, these pipes and boxes shall be thoroughly covered with ten-pound asbestos sheathing and joints of said pipes shall be made perfectly tight and the pipes or ducts shall be securely fastened in position by supports, and these supports securely fastened to the studding. All such pipes or ducts that come in contact with woodwork must be either covered with asbestos or be double ducts with air spaces between so that a circulation of air can pass between the outer and inner piping.

Sec. 93. All furnaces shall be set so that there are at least twelve (12) inches between the top of casing or brick work and the bottom of joist or ceiling line. Should it be necessary to set a heating apparatus where this space is not possible, then there shall be a metal or asbestos shield properly supported and suspended over the top of the furnace as a protection to the ceiling, joist and woodwork. Said shield shall be at least twelve (12) inches larger in diameter than the outside furnace.

Sec. 94. When only two registers are connected with furnace, the said register shall have no valves. All registers in floor where the heated air is received into the room shall be protected with a piece of zinc in angle form to extend on top of floor under register frame the full size of the frame, so that the iron frame of the register where it rests on floor shall come in contact with the zinc and no part of it shall come in contact with the wooden floor.

Sec. 95. Whenever any building or other structure, in the City of Columbus, Ohio, shall become insecure and in a dangerous and unsafe condition, it shall be the duty of the owner and the agent of

the owner forthwith to put such building or other structure in a safe condition or tear down and remove the same. The failure of the owner or the agent of the owner forthwith to put such insecure and dangerous and unsafe building or other structure in a safe condition or tear down and remove the same, shall constitute a misdemeanor, and each and every day such building or other structure shall remain insecure and in a dangerous and unsafe condition, shall constitute a separate offense.

Sec. 96. Upon the failure of the owner or the agent of the owner of any building or structure, or of any chimney, flue, fireplace or heating apparatus, which has become unsafe or insecure, or in a dangerous condition, to put such building or other structure, or such chimney, flue, fireplace or heating apparatus in a safe condition or tear down and remove the same, the Inspector of Buildings of said city shall put such building or other structure or such chimney, flue, fireplace or heating apparatus in a safe condition or tear down and remove the same, and for such purpose may employ such help as he may deem necessary.

Sec. 97. Whenever the Inspector of Buildings shall have knowledge of such insecure or dangerous or unsafe buildings or other structure, it shall be his duty to put a notice thereof on the exterior of such building or other structure. Any person removing or defacing such notice so posted, without authority, shall be guilty of a misdemeanor.

Sec. 98. Smoke houses shall not be built in any cellar or basement. They shall be provided with ventilators at or near the top, and with guards not less than four (4) feet above the firebed, sufficient to prevent the meat from falling into the fire. If smoke houses open into other buildings, such openings shall be protected by iron doors or shutters properly and thoroughly constructed.

Sec. 99. All buildings having flat roofs and two or more stories in height now or hereafter built, shall have scuttle frames and covers, or else bulkheads and doors on the roof, and they shall be made of or covered with some fireproof material. All such scuttles or bulkheads shall have stationary ladders or stairs leading to the same, and all such scuttles or bulkheads and ladders or stairs shall at all times be kept free from obstructions and ready for use. In all such cases where stairs are used, they shall be provided with a

sufficient guard or handrail leading to the roof. No scuttle shall be less than two (2) feet by three (3) feet in size.

Sec. 100. In no case shall the door in the bulkhead or scuttle be locked. It may be fastened on the inside by easily removable bolts or hooks.

Sec. 101. All skylights shall have frames and sash constructed entirely of metal. The tops shall be properly protected externally by a metal screen placed twelve (12) inches above the glass. The sides of the extrior above the roof line shall be protected by sheet metal. An additional screen shall be used on the inside where wire glass is not used.

Sec. 102. No building shall be used or occupied in part or in whole as a woodwork factory unless such building shall have in connection with it a brick vault with fireproof doors and roof of sufficient capacity to contain all the shavings, sawdust, chips or light combustible material which may be accumulated.

Sec. 103. Buildings fronting on a street shall be kept provided with proper leaders for conducting the water from the roof to the ground, sewer, street gutters, or dry well, in such manner as shall protect the walls and foundations from damage.

Sec. 104. There shall be one (1) row of one (1) inch by three (3) inches truss bridging for each twelve (12) feet length of joist or fractional part thereof and an additional row of bridging for each additional six (6) feet in length or fractional part thereof. Similarly spaced truss bridging made of pieces two (2) inches thick by half the width of studs shall be inserted in all stud partitions. Two eight-penny nails shall be driven in each end of each piece of bridging.

Sec. 105. All stud walls, partitions, furring, stair carriages and joists for all buildings hereafter erected shall be provided with two (2) inch block bridging neatly fitted between joist studding, furring or carriages, in such manner as to prevent the passage of smoke, fire or heat from top to bottom of walls or partitions or throughout the length of stair ramps and from end to end of joists. This blocking shall be fitted into each span at each end of joist in a manner to completely cut off communication.

Sec. 106. No boiler to be used for steam shall be placed on any floor above the cellar floor unless the same is set on non-combustible beams and arches, or on an incombustible platform. Outer walls of all boilers shall be at least thirteen (13) inches thick. Boil-

ers, their breeching and smoke connections shall be covered with at least two inches of suitable heat insulating material or four inches of brick work wherever same come within three (3) feet of any woodwork or other combustible material.

Sec. 107. All receptacles for ashes within the fire limits shall be of incombustible material.

Sec. 108. All walls, ceilings and partitions, inclosing drying rooms, when not made of fireproof material, shall be fire lathed and plastered or covered with metal, tile or other incombustible material.

Sec. 109. Bake ovens shall rest on solid foundations or metal beams and columns; the sides and ends shall be at least three (3) feet from any woodwork or other combustible material, and the crown of arch at least four (4) feet from ceilings that have wood joists, unless same ar properly protected. The hearth in front of bake oven shall extend at least three (3) feet beyond the surface of said oven.

Sec. 110. Gas, water, steam or other pipes, which may be introduced into any buildings, other than dwelling houses, shall not be let into the beams unless the same be placed within twelve (12) inches of the end of the beam, nor be let into the beam more than two (2) inches.

Sec. 111. Any person or persons repairing any building or other structure or tearing down and removing the same, shall keep the debris occasioned thereby thoroughly dampened to prevent the dust from flying around in the neighborhood. Whoever shall permit such dust to fly around in the neighborhood to the annoyance of the public, shall be guilty of a misdemeanor.

Sec. 112. Any person, persons, firm, partnership, corporation or corporations, who shall violate any of the provisions of this ordinance, or any section, or any clause or provision of any section of this ordinance, or who shall fail to comply with any of the requirements thereof, or who shall assist in any such violation, shall, for each and every violation or non-compliance, be deemed guilty of a misdemeanor, and upon conviction thereof, be fined in any sum not less than five dollars ($5.00) nor more than five hundred dollars ($500.00) or imprisoned not more than six (6) months, or both, at the discretion of the court.

Sec. 113. The continued violation of any provisions of this ordinance shall constitute a separate offense, under this ordinance,

for each and every day such violation or any of the violations of this ordinance shall continue.

Sec. 114. It shall be the duty of the inspector of buildings to inspect all buildings and other structures in process of erection, alteration or repair, so often as may be necessary to secure compliance with this ordinance, and it shall be his further duty to enforce all the provisions hereof.

Sec. 115. All ordinances or parts of ordinances inconsistent with any part of this ordinance, including Ordinance No. 22073, passed November 14, 1904, are hereby repealed.

Sec. 116. This ordinance shall take effect and be in force from and after January 1, 1906.

Passed November 23, 1905.

STERLING B. TAYLOR,
President Pro Tem. of Council.

Approved by the Mayor, November 27, 1905.

Attest: JOHN T. BARR, Clerk.

February 8, 1904.

An Ordinance, No. 21592, Authorizing any person, persons, firm or corporation owning real estate in the City of Columbus, Ohio, to construct covered areas under the sidewalks upon which real estate bounds and abuts and to repeal Ordinance No. 19089, passed December 2, 1901.

Be it ordained by the City Council of the City of Columbus, State of Ohio:

Section 1. That any person, persons, firm or corporation owning real estate in the City of Columbus, Ohio, may construct covered areas under the sidewalks upon which said real estate bounds and abuts, upon the following conditions:

First—That said owners of real estate shall make an application to the Board of Public Service for said city for a permit to construct said covered areas, and receive a permit from said Board of Public Service to construct said covered areas.

Second—That said owners of real estate shall enter into a contract with the City of Columbus, Ohio, for the construction of said covered areas, which contract shall provide that the said owners of real estate shall covenant and bind themselves, their heirs, executors, administrators and assigns, to save the City of Columbus, Ohio, harmless from any and all damages which may arise from or grow out of the construction and maintenance, or either, of the said covered areas, and which may arise from or grow out of the construction and maintenance or either, of any thing incident or appurtenant thereto; that said owners of real estate shall defend at their own cost every suit in which the City of Columbus, Ohio, shall be made a party, brought and prosecuted for the recovery against said City of Columbus, Ohio, for damages arising directly or indirectly, from the construction or maintenance, or either, of the said covered areas, or anything incident or appurtenant thereto, shall be held to be, and shall be, a first lien upon the said real estate; that the permit to construct said covered area shall be accepted by said owners upon condition that the City of Columbus, Ohio, shall have the right at any time to construct, under, over or through said covered areas, water pipes, gas pipes, sewers, conduits, or other pipes, or any underground construction that may be deemed necessary to be placed in such covered areas, and that no compensation shall be paid therefor; that such owners of real es-

tate, immediately upon notice from the City of Columbus, Ohio, shall forthwith move any boiler, pipe, wall, beam, machinery, fixed construction, or other thing therein, without cost to said city, so as to leave the space clear and sufficient for the introduction and maintenance of underground construction by said city; and that said owners of real estate will yield all right to occupy such covered areas if the space therein becomes necessary for the use of said city, said city reserving the right to enter upon the premises at any time for the inspection or proper maintenance of anything therein; that boilers, gasoline, gas and steam engines, pumps, plumbing fixtures, urinals, water closets, or any pipe or fixture generating or emitting gas, steam or offensive odors, shall not be located in such covered areas outside of the building line; that no fan or pipes ejecting vitiated or superheated air from the adjoining buildings, or exhaust pipes causing disagreeable noises shall be located in such covered areas; that in the event the street, roadway or sidewalk is widened, the said covered areas shall be changed to correspond therewith by such owners of real estate, without expense to the city, as directed by the chief engineer of said city; that said permit is accepted by said owners of real estate with the understanding that the occupying of said covered areas is permitted merely as an accommodation to such owners of real estate, and that no right, title or interest to the public is in any way waived or abridged thereby; and that all things provided for in said contract shall be done under the direction of the chief engineer of said city, according to instructions issued by him, and with the approval of the building inspector of said city, and the decisions of said chief engineer and building inspector shall be final.

Third—That said owners of real estate shall pay all the costs and expenses incurred in the issuance of said permit and the recording of said agreement.

Sec. 2. The said Board of Public Service be and is hereby authorized to issue the permit herein provided for, upon such terms and conditions as it shall see fit, and in conformity to the rules of this ordinance. The said Board of Public Service shall determine the size and extent of said covered areas, and the number and size of openings therein.

An Ordinance, No. 18043, to regulate the use of public streets in the City of Columbus, Ohio, and other spaces belonging to said city, by any person, persons, firm, corporation, or their agents or employes, erecting, constructing or repairing a building or buildings, and authorizing the granting of a permit for said purpose.

Be it ordained by the Council of the City of Columbus, Ohio, as follows, to-wit:

Section 1. No person, persons, firm or corporation, or their agents or employes, shall in any way or manner use any of the public streets in the City of Columbus, Ohio, or any other space belonging to said city, by depositing building material thereon or otherwise without first securing a permit so to do from the inspector of buildings of said city. Permits for the said use of said public streets and other spaces belonging to said city shall not be granted for a longer time than four months, but may be renewed from time to time for periods not exceeding four months. All applications for said permits must describe the space so to be used and the length of time desired. The amount of space used shall be within the discretion of the said inspector of buildings.

Sec. 2. Building material shall not be deposited nearer the street car tracks than four feet, or within ten feet of any fire cistern or hydrant, and the outside line of material so deposited shall not extend into streets further than one-third the width of said street, nor into the sidewalk further than one-third the width of said street, nor into the sidewalk further than one-half its width; the gutter to be kept clean and free from all obstruction. No mortar, mortar beds or lime boxes shall be placed upon any of the streets of this city, which are paved with asphaltum, concrete or macadam, unless such mortar be mixed in boxes, the bottoms of which must be tight tongued and grooved boards, placed upon four-inch bearers or sleepers, leaving an air space, and protected on all sides by a margin of two-inch boards, not less than six inches high, above the floor space. Whenever any of said public streets or said other spaces are used as provided by the terms of this ordinance, the person, persons, firms or corporation, or their agents or employes, as the case may be, shall place and keep thereon, from sunset to sunrise, a lighted lantern with red glass, and whenever the space

occupied exceeds ten feet in length or breadth, one such lantern shall be placed at each end thereof.

Sec. 3. It shall be unlawful to erect and use any derrick or hoisting apparatus that exceeds 22 feet in height on any street or sidewalk in said city, for the purpose of erecting, changing or repairing any building or structure, except a special permit be issued therefor, according to the terms of this ordinance. Said permit to be issued under such conditions as may be required by the said inspector of buildings.

Sec. 4. Whenever any person, persons, firm or corporation shall be about to erect, change or repair any building within five feet of the line of a traveled street, said person, persons, firm or corporation shall build and maintain a temporary sidewalk (or bridge if there is an areaway under permanent sidewalk) not less than four feet wide nor more than six feet wide, contiguous to the lot line of the premises on which the building is to be erected. The sidewalk (or bridge) shall be constructed in such a manner as the said inspector of buildings shall direct, and when the said building is one story high the said sidewalk or bridge shall be roofed and provided with barricades so as to completely protect passersby. A lighted lantern of red glass shall be hung to each end of the same at all times between sunset and sunrise.

Sec. 5. The said inspector of buildings shall have the right and privilege of revoking any permit for the occupancy of street or space, should the public use of such street or space demand the same and the person, persons, firm or corporation, to whom such prmit was issued shall remove the material upon said street or space and restore the same to its former condition within ten days after having been notified to do so by the said inspector of buildings.

Sec. 6. That any person, persons, firm or corporation, or their agents or employes, who violate or authorizes the violation of any provision of this ordinance, shall be guilty of a misdemeanor and be fined not less than five dollars ($5.00) nor more than one hundred dollars ($100.00) in the discretion of the court.

Section 354. That it shall be unlawful for any person to erect, cause to be erected or suffer to remain standing any house, building, wall, fence or other permanent structure in such a manner that any part thereof shall stand or project beyond the line of any lot or parcel of ground into any street, alley, sidewalk, highway, or

public ground of this city, and any person who shall in any way violate the provisions of this section, shall, upon conviction thereof, be fined in any sum not exceeding one hundred dollars, nor less than ten dollars, and shall be liable to a further fine of ten dollars for each and every day he shall suffer such structure to remain standing in any street, alley, sidewalk, highway or public ground, after being notified to remove the same.

Sec. 355. That it shall be unlawful for any person to erect, cause to be erected, or permit to remain standing any porch, portion, veranda, stairs, steps, cellar door, area or other projection, extending over or upon the sidewalk of any street, alley or public highway in this city, and any person who shall violate any of the provisions of this section, upon conviction thereof, be fined in any sum not exceeding one hundred dollars.

An Ordinance, No. 22,110. To establish a fire limit in the City of Columbus, Ohio, to prescribe the character of the buildings that may be constructed therein and to repeal Ordinance No. 20,201, passed July 14, 1902.

Be it ordained by the Council of the City of Columbus, State of Ohio:

Section 1. That sections one (1) and three (3) of ordinance No. 22,110, passed November 28th, 1904, entitled "An ordinance to establish a fire limit in the City of Columbus and to prescribe the character of the buildings that may be constructed therein and to repeal ordinance No. 20,201, passed July 14th, 1902," be amended so as to read as follows:

Section 1. There is hereby established a fire limit in the City of Columbus, Ohio, to be known as the inner fire limit, the boundaries of which are fixed as follows: Beginning at the intersection of Mound and Second streets; thence east with the center line of Mound street to the center line of Lazelle street; thence south with the center line of Lazelle street to the center line of Jackson street; thence east with the center line of Jackson street to the center line of Grant avenue or Seventh street; thence north with the center line of Grant avenue to the center line of Spring street; thence west with the center line of Spring street to the center line of Fourth street; thence north with the center line of Fourth street

to the center line of Goodale street; thence west with the center line of Goodale street to the center line of Front street; thence south with the center line of Front street to the center line of Chestnut street; thence west with the center line of Chestnut street to the center line of Water street; thence south with the center line of Water street to the intersection of the center line of Scioto street; thence with the center line of Scioto street to the center line of Rich street; thence west with the center line of Rich street to the center line of Second street; thence south with the center line of Second street to the center line of Mound street, the place of beginning.

Sec. 2. All buildings hereinafter erected within the said inner fire limit shall be enclosed with walls constructed of brick, stone or other hard incombustible substance, which may be approved by the building inspector of the city, and the foundations of all said buildings shall rest upon stone, concrete or other sufficient substance as may be approved by the building inspector.

The following buildings are exempt from the provisions of this section: Shelter sheds and temporary sheds not exceeding ten feet in height, measuring from the ground and not to exceed 256 square feet of ground area and roofed with incombustible material.

Sec. 3. There is hereby established a fire limit within the City of Columbus, Ohio, to be known as the outer fire limit, the boundaries of which are hereby fixed as follows: Beginning at the west bank of the canal in said city and the center line of Livingston avenue; thence east with the center line of Livingston avenue to High street; thence south with the center line of High street to the center line of Beck street; thence east with the center line of Beck street to the center line of Parsons avenue; thence north with the center line of Parsons avenue to the center line of Livingston avenue; thence east with the center line of Livingston avenue to Champion avenue; thence north with the center line of Champion avenue to the center line of Mt. Vernon avenue; thence west with the center line of Mt. Vernon avenue to the center line of Fifth street; thence south with the center line of Fifth street to the center line of Naghten street; thence west with the center line of Naghten street; thence north with the center line of Fourth street to the center line of Eleventh avenue; thence west with the center line of Eleventh avenue to the center line of Neil avenue; thence south with the center line of Neil avenue to the center line of Eighth avenue;

thence west with the center line of Eighth avenue to the center line of Michigan avenue; thence south with the center line of Michigan avenue to the center line of Goodale street; thence east with the center line of Goodale street to the center line of Dennison avenue; thence south with the center line of Dennison avenue to the east bank of the Scioto river; thence south with the Scioto river and canal to the intersection of the canal and Livingston avenue, the point of beginning.

Sec. 4. All buildings hereafter erected within the said outer fire limit shall be enclosed with walls constructed of brick, stone or other hard incombustible substance, which may be approved by the building inspector of the city, and the foundation of all said buildings shall rest upon stone, concrete or other sufficient substance as may be approved by the building inspector.

The following buildings are exempt from the provisions of this section:

Frame dwellings not to exceed two stories in height and not to exceed 1500 square feet of ground area and resting on foundations of stone, concrete or on other solid substructure as may be approved by the building inspector.

Barns and sheds for storage not to exceed fourteen (14) feet in height measuring from the ground to the square and covering not more than five hundred (500) square feet of ground area and roofed with some incombustible material.

Frame storerooms with dwellings above not to exceed two stories in height, not covering more than twelve hundred square feet of ground area resting on foundations of stone, concrete or other solid material as may be appproved by the building inspector.

Sec. 5. All buildings hereafter erected within the inner and outer fire limits shall be roofed with incombustible material, except one-story buildings in the outer limit may have combustible roof. All repair of roofs must conform to the regulations of new buildings.

Every frame building within the inner fire limit which may hereafter be damaged to an extent not greater than one-half (½) the value thereof, exclusive of the value of its foundations, may be repaired, but must have incombustible roof covering, but if such damage shall amount to more than one-half (½) it must be torn down. The amount and extent of such damage shall be determined upon the examination by the inspector of buildings.

No wooden or frame building within or without the fire limits

shall be moved to or on any lot within said fire limits where it would be in violation of law to build such wooden or frame building.

Sec. 6. Any person, firm or corporation, either as owner, contractor or architect, or any agent, trustee, director, officer or employe of any person, firm or corporation who violates or authorizes a violation of any of the provisions of this ordinance shall be guilty of a misdemeanor, and upon conviction thereof, be fined in a sum not exceeding one thousand dollars, or imprisoned not exceeding three months, or both, in the discretion of the court or judge imposing the same.

Sec. 7. That Ordinance No. 20,201 of the City of Columbus, Ohio, passed July 14, 1902, be and the same is hereby repealed.

Sec. 8. This ordinance shall take effect and be in force from and after its passage and publication according to law.

Passed November 28, 1904.

GEORGE D. JONES,
President of Council.

Approved by the mayor, December 9, 1904.

Attest: JOHN T. BARR, Clerk.

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Date Due

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