shall, in this case, be considered as length. Steel and wrought iron columns shall be made in one, two or three-story lengths, and the materials shall be rolled in one length wherever practicable to avoid intermediate splices. Where any part of the section of a column projects beyond that of the column below, the difference shall be made up by filling plates secured to column by the proper number of rivets. Shoes of iron or steel, as described for cast iron columns, or built shoes of plates and shapes may be used, complying with same requirements. Cast iron columns shall not have a less diameter than five inches or less thickness than three-quarters of an inch; nor shall they have an unsupported length of more than twenty times their least lateral dimensions of diameter, except as modified by this ordinance, and except the same may form part of an elevator inclosure or staircase. All cast iron columns shall be of good workmanship and material. The top and bottom flanges, seats and lugs shall be of ample strength, reinforced by fillets and brackets. They shall be not less than one inch in thickness when finished. All columns must be faced at the ends to a true surface perpendicular to the axis of the column. Column joints shall be secured by not less than four bolts, each not less than three-quarters of an inch in diameter. The holes for these bolts shall be dulled to a template. The core of a column below a joint shall not be larger than the core of the column above, and the metal shall be tapered down for a distance of not less than six inches, or a joint plate may be inserted of sufficient

Thickness of cast iron columns.

Core of a column below a joint.

strength to distribute the load. The thickness of metal shall be not less than one-twelfth the diameter of the greatest lateral dimensions of cross section, but never less than three-quarters of an inch. Wherever the core of a cast iron column has shifted more than one-fourth the thickness of the shell, the strength shall be computed, assuming the thickness of metal all around, equal to the thinnest part, and the column shall be condemned if this computation shows the strength to be less than required by these regulations. Wherever blow-holes or imperfections are found in a cast iron column which reduces the area of the cross section at that point more than ten per cent., such column shall be condemned. Cast iron posts or columns not cast with one open side or back, before being set up in place, shall have a three-eighths of an inch hole drilled in the shaft of each post or column by the manufacturer or contractor furnishing the same, to exhibit the thickness of the casting, and any other similar sized hole or holes which the Inspector of Buildings may require shall be drilled in the said posts or columns by the said manufacturer or contractor at his own expense. Iron or steel shoes or plates shall be used under the bottom tier of columns to properly distribute the load on the foundation. Shoes shall be planed on top. In all buildings erected or altered, where any iron or steel column or columns are used to support a wall or part thereof, whether the same be an exterior or an interior wall, and columns located below the level of the sidewalk which are used to support exterior walls or arches over vaults, the

Blow-holes or imperfections.