posed of one part of cement, three parts of fine limestone screenings, and three parts of crushed limestone, known as the one-fourth-inch size. This was thoroughly mixed quite dry, so no mortar would flush to the surface, and well rammed in wooden forms made in the usual manner. The result was an evenly grained, finely-honeycombed surface, of a pleasing soft gray color, which grows darker with time and blends admirably with the park landscape. In placing it was not spaded next the form; it was too dry to cause any flushing of mortar, so there is no smooth mortar surface, the imprint of joints between the boards is hardly noticed, and the grain of the wood is not seen at all. There is no efflorescence apparent on the surface anywhere, and cannot be on account of the dryness of the mixture and the porosity of the surface. The buildings are used as gynmasiums, assembly halls, reading and refreshment rooms, and as a rule the same grey concrete finish is given the interior walls as the exterior. In some cases a little color has been applied on the interior walls, and the walls of shower and bath-rooms have been waterproofed with plaster. The porosity of the surface makes it well adapted to receive and hold plaster.

This sort of surface is not capable of treatment with acid as a smooth mortared surface, nor is it desirable. Consequently the only color obtainable is the natural color of the cement-covered stone, but which is softer and far more agreeable than the grey of the usual mortar-finished surface. It is not suited for the surface of a pavement and is not impervious to water. Although it is evident the water enters the pores to a considerable extent, there is no evidence of injury from the frost during the two winters some of the walls have stood.

The same finish has been used for retaining walls, arch bridges, fence posts, walls enclosing surface yards, etc. In the buildings the thin walls were made entirely of this mixture, while in the heavier structures it has been used only as a facing. Two reinforced arches of 60 feet span were faced with this mixture, but the steel was imbedded in a wetter, more impervious concrete. The same dry mixture can be used for moulded stones when the mould is open enough to permit tamping, and of course it is eminently suited to block machines.

With the finely crushed stone a sound, smooth surface was obtained (when the sides of the boxes were removed) where it was manifestly impossible to plaster or grout the surface and where spading a mixture of coarse stone simply washed the cement away from the surface stones. On account of the variable water-level it was particularly desired to have a sound, smooth surface.—Cement World.

CEMENT SIDEWALK SPECIFICATIONS.

The following specifications formed a part of the paper read by Alber Moyer, New York City, at the convention of the National Association of Cement Users in Chicago:

Drainage Foundation.—Excavate to a sufficient depth so as to get below the frost line, ram and tamp the ground thoroughly and evenly, fill in with clean cinders, broken stone or brickbats to within — in. of top of the established grade of the pavement (a sufficient number of inches to provide for the thickness of slab necessary to give sufficient strength for the character of the work it is to perform); tamp this drainage foundation well and evenly, thoroughly wet the cinders, stone or broken brick, place in position wooden forms in a manner necessary to accurately outline the top and external edges of the walk, the top of the form being located so as to coincide with the established grade of the walk. As an additional precaution, and where necessary to accomplish the purposes of drainage, side drains should be placed every ten or twelve feet, having a fall of not less than one-quarter inch to the foot, leading to some point forming an outlet for water which may accumulate. This outlet should be below the frost line and may be accomplished by a hole filled with cinders, stone or brickbats.

Concrete Base.—For a concrete base spread — in., number necessary to provide for the thickness of slab which will come to within one inch of the top of the established grade; this concrete to be composed of one part Portland cement and two and a half parts sand or quarry screenings, all passing one-quarter inch mesh, and five parts broken stone or gravel, all passing one-inch mesh.

These specifications may be regulated if proportions can be obtained which will allow of a larger proportion of broken stone, at the same time giving maximum density. Tamp the concrete to an even thickness, cut same into uniform squares of not over six feet square, using a steel cleaver of not less than one-eighth inch and not over one-quarter inch in diameter. Fill the joints thus formed with dry sand, so that there is no possibility of the square blocks adhering together. Mark on the wooden forms the exact locations of these cuts. After each batch of concrete is laid as required, it shall be immediately covered with a top coat, or wearing surface, no dirt or dust having been allowed to accumulate on the base and the surface of the base to be wet or moist. Any portion of the foundatio which has been left long enough to have the appearance of setting or hardening shall be taken up and relaid before the top coat is put on.

Place a 2 x 3 inch strip parallel with sides of walk, in such position as will form square blocks, of equal dimensions, not over six feet wide; brace same with stakes, but do not nail to frame; then cut a strip 2 x 3 inches, the length of which is to be the width of the blocks. Place this strip so as to form a square block. On inside of strips place thick tar, or felt paper, one-quarter inch thick and three inches wide; fill in the space thus formed with concrete composed of one part Portland cement, two and one-half parts sand, and five parts crushed stone or gravel, mixed thoroughly. Tamp concrete thoroughly to an even thickness of three inches, then remove strip; the tar paper will adhere to the concrete. Move the strip to the next position, place the thick tar or felt paper as before, and proceed the same with each block, laying alternately. Put on top coat before the first block made starts to set or harden, and in regular order as blocks were made.

Top Surface.—For wearing surface, mix one part Portland cement with two parts crushed granite or other hard stone, all of which will pass through a one-quarter-inch mesh screen, or good coarse sand; mix by turning with shovels, raking with a garden rake as each shovelful is turned, turn twice dry and twice wet;