the immersion of concrete products in acid solution will not only prove a great saving of acid and labor, but produce a class of work that cannot be obtained with the scrubbing brush. We use two rectangular tanks four by four by sixteen built of cement slabs, grooved and bolted together, and six circular wood tanks seven feet diameter and from two to four feet deep. Concrete should be from two to three weeks old before treating in acid bath; duration of bath depends on age of the stone, and if rough or fine texture is desired, the time being from one to ten hours. A solution from one to twenty up to one to ten is recommended, and after the article is put in the tank the solution does the rest. This style treatment preserves the edges and details of the design and makes the surface uniform. Any of the hard spots not sufficiently affected by the acid bath can be treated separately after the article has been flushed with clean water. Care must be taken that the aggregates of the surface are nearly uniform in hardness, or the acid will destroy the soft portion before the harder particles have been cleaned of the cement coating. I have had some very fine work spoiled where, to obtain a certain effect, I mixed black marble (a limestone) and crushed granite. The acid bath left only the holes where the black marble had been, while the granite showed a very fine texture and natural color. Judicious handling of this effect can produce desired results in texture, like Travertine stone, etc.

To produce color effects we may use gray or white Portland cements, separate or mixed in certain proportions, adding to this suitable pigments, but in such cases the natural colored aggregates, sand, silica, pebble grits, marble and granite, will give excellent and more uniform results. It requires great skill and care to properly mix cement and color pigments without reducing the strength of the cement and still obtain good color effects.

The importance of mixing the pigment thoroughly with the cement, before adding the aggregates, should be understood before attempting to make concrete in colors successfully on a large scale.

As a very simple method to test the proper amalgamation of the pigment with the cement, take a handful of the dry mixture and press it under a sheet of stiff paper; this will produce an even surface of the material, and when this surface does not show absolute uniformity in color the mixing is incomplete. If small specks of color show under this test, these same specks of unassimilated pigment will appear in the finished concrete. So far a very important factor that can be utilized for coloring concrete or cement has been given little or no attention; while very simple in its primary action, the successful application requires thorough understanding of the principle and medium employed.

This refers to the absorptive qualities of concrete during its stage of curing and seasoning, which offer opportunities for coloring concrete

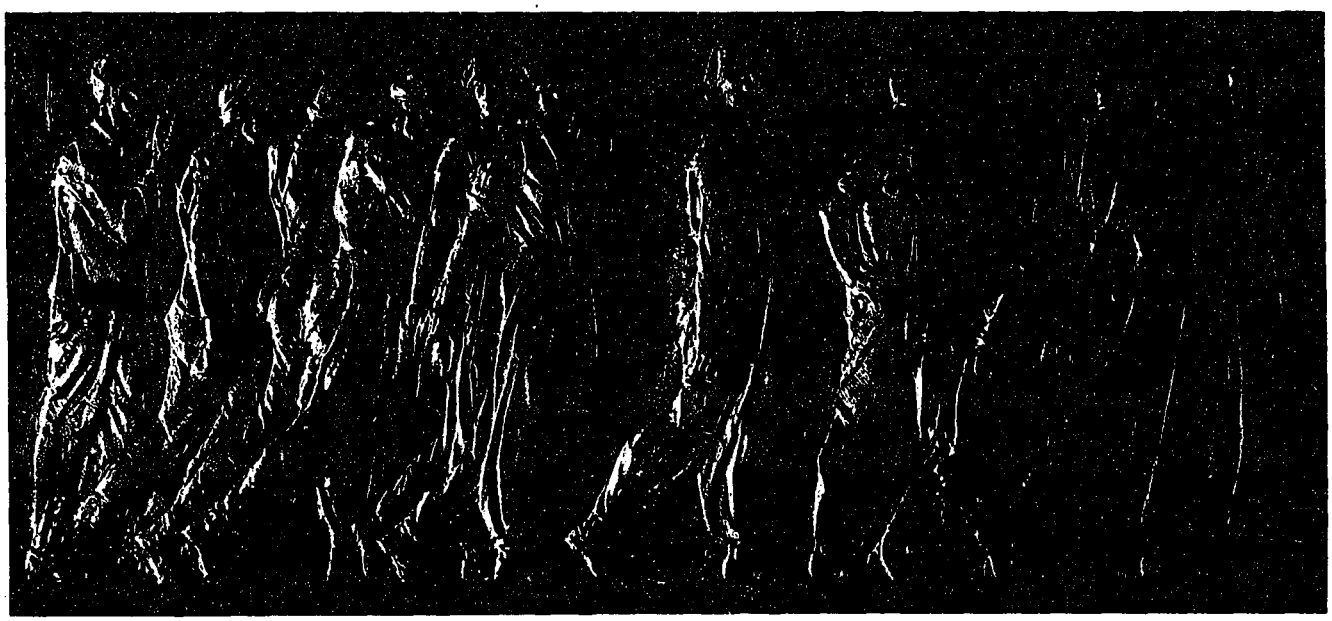

Photo courtesy of the Architectural Bronze Department, Canadian Wm. A. Rogers, Limited.

NOONTIME IN A CANADIAN MUNITION PLANT

Cast bronze bas relief panel, 6 ft. 6 ins. x 2 ft. 11 ins., representing the work of Miss Frances Loring, a Toronto sculptor, who together with Miss Florence Wyle of that city, is executing a series of statuettes and panels for the Canadian War Records Museum, Ottawa, consisting of industrial subjects depicting activities in the munition works of Canada during the war period.