

Shelter was the crying need of the hour after the explosion. The temperature dropped to 12° below zero and snow fell the night of the disaster and kept on falling most of the time until nearly April. It was the worst winter that Halifax had experienced in twenty years, and enormous efforts had to be made to house temporarily the afflicted thousands. Owing to the storms, even the work of merely repairing semi-shattered houses was difficult; but it progressed rapidly. Glass and glaziers poured into Halifax from every direction.

Eighty-four Temporary Apartment Houses

"We need food and glass, especially glass," Col. Low telegraphed broadcast. Chimneys were the next consideration, for fire-places and furnaces in thousands of houses could not be lit owing to damaged chimneys. Next, a type of temporary dwelling for the homeless had to be devised, and a city of frame and beaver-board structures sprang up at the rate of an apartment an hour. These dwellings were standardized in the form of two-story apartment houses, each house containing eight four-room-and-bath apartments.

Forty-four of these apartment houses were erected on South Commons by contractors, forty in the Exhibition Grounds by the commission, ten on Garrison Commons by Bate, McMahon & Co. (the firm doing this work free of charge), and eight in Dartmouth by the commission, a total of 102 houses, or 816 apartments.

In addition to the construction of the ten apartments and the two office buildings, and the services of Col. Low and his staff, the firm of Bate, McMahon & Co. also furnished the commission with about \$25,000 worth of needed machinery for reconstruction plant. The firm had been asked by Chairman Rogers to help with the construction of the temporary buildings by assuming contracts, but they agreed to help only upon the understanding that their services would be accepted without remuneration.

Of the 44 apartments erected under contract, the Eastern Investment Corporation built twenty, and Falconer & MacDonald built twenty-four. The lump sum contract price was \$6,600 per house, exclusive of water and sewerage works.

Early Resumption of Business

Speedy rehabilitation, so as to permit of early resumption of business, was the aim in determining what reconstruction should first be given attention. The principle of enabling the citizens to "carry on" again independently of charitable relief was the one adopted by the commission. The population of Halifax city and county at the time of the 1911 census was 74,662, and was estimated at over 80,000 at the time of the disaster; but more people than that number were affected, owing to the interruption to shipping. The exports from the port of Halifax for the year 1917 totalled \$142,000,000; imports, \$10,000,000. The customs receipts totalled \$2,500,000; building permits, \$900,000; value of manufactured products, \$22,000,000; post-office receipts, \$1,800,000; bank clearings, \$152,000,000; civic assessment, \$38,000,000; shipping, 17,100,000 tons; freight handled, 1,700,000 tons. The business that was interrupted by the explosion was, therefore, of no mean proportions, and the Relief Commission wanted the same sort of rapid construction work that had built Valcartier and Borden military camps in world's record time. It is true that there were some who preferred to assume the rôle of obstructionists rather than reconstructionists, but in the main the people bent to the task eagerly and helped Col. Low in every possible way to carry out the decisions of the Relief Commission.

Sanitary Precautions

The commission decided that a separate organization should be effected for clearing the devastated area, and awarded a contract to Cavicchi & Pegano, contractors, of Halifax, to carry out that part of the work. They were paid a lump sum price per load of debris carried away and also a certain sum for the remains of each body found, and the work was done very carefully so as to find every victim.

Dr. J.W.S. McCullough, head of the Ontario Provincial Board of Health, went to Halifax as consulting sanitary specialist, and upon his advice the devastated area was quickly and most thoroughly cleared of every particle of debris, to prevent unsanitary conditions arising, and possible epidemics, with the coming of warmer weather. Every drain was removed down to the sewer connections. The water mains and sewers were not injured, so far as could be ascertained upon inspection by the city engineer.

Town Planning Scheme

The devastated areas will be rebuilt under the direction of the commission. In this work a definite "town plan" will be followed. The scheme is being prepared by the town planning boards of the city and county under the advice of Thos. Adams, of the Commission of Conservation, who has been appointed consultant to both boards. In co-operation with the city engineering department, these boards are preparing draft schemes for five areas.

H. L. Seymour, D.L.S., of the surveyor-general's staff, Ottawa, has been loaned to the Commission of Conservation to assist with this work.

One scheme is being prepared for the city of Halifax for an area of about 3,285 acres and four schemes are being drafted for adjacent parts of the county of Halifax, comprising an aggregate area of about 20,000 acres. R. M. Hattie is secretary to the Town Planning Board. Public notice has been published under the Nova Scotia Town Planning Act of 1915, of the intention to proceed with this work under authority of the provincial commissioner of works and mines.

Greatest Explosion in History

At the official investigation into the cause and responsibility for the disaster, an American engineer in the employ of one of the largest manufacturers of explosives in the United States, and who had been selected by them to give expert testimony at the enquiry, said that the explosion at Halifax was the greatest that had ever occurred in the history of the world.

Explosives, he testified, are of two classes: (1) Gunpowder, the explosion of which is comparatively slow, as the material is a mechanical mixture and the flame has to spread from layer to layer. Such a material requires only flame to set it off, and its properties as an explosive are not improved by the action of a detonator, although that means of firing it can be employed. Gunpowder cannot be exploded by shock alone. (2) High explosives, such as T.N.T., picric acid, nitro-glycerine, and dynamite. These substances can be exploded by means of a detonator, but the best results are obtained by means of a detonator, such as a mercury fulminate blasting cap. This results in an instantaneous release of the explosive into a gaseous form. The gas expands at the rate of 7,600 metres a second, that is to say, about 8,300 yards, or over $4\frac{1}{2}$ miles a second. This applies to T.N.T. Ordinary blasting charges expand at the rate of three to four thousand yards a second. Of course, the effect of the explosion varies, picric acid or T.N.T. causing the