

PROGRESS

With which is Incorporated
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EDITORIAL COMMENT.

Our First Year.

WITH the current number PROGRESS completes its first year. From out the obscurity of a new and untired publication, possessing some twenty pages, this journal has, by a generally acknowledged merit, developed into an important contributory factor in the scientific and mechanical literature of New Zealand. Forty pages have comprised the issue for some months; yet, even with this extensive outgrowing, it has been found impossible to provide space for much that would have un-

questionably proved of first interest to our readers. Not only has New Zealand arisen to an appreciation of PROGRESS, but Australia, England and America have each recorded a measure of applause, consequently, it is reasonable for us to assume that this newspaper, as the organ and mouthpiece of invention, and chronicle of the engineering and allied professions throughout Australasia, has fully justified its introduction. During the past year the works of many noted writers have been printed for the first time in our columns, the articles having been of a designedly high standard in order to meet the critical propensities of those who require the best exposition of the colony's progress. The importance of a country will always lie in its engineering achievements, the constructive advancement of its cities and towns, the studied application of chemistry and the expansion of electricity for local purposes. To these four generic heads, and to the encouragement of invention the columns of this journal are dedicated.

Main Trunk Railway.

WE have pleasure in presenting in this issue the first of two articles on the Main Trunk Railway of the North Island, written by our Special Commissioner. We believe that this is the first attempt to give the public of New Zealand a complete record of the great undertaking. Our Special Commissioner, after having gleaned sufficient historical data, journeyed over the whole route in order to gather details and take photographs of the permanent-way construction. When the Line is finished it will unquestionably tend to cement the interests of Wellington and Auckland together in a manner hitherto rendered impossible. True, there is a great deal of valuable country to be opened up on the Wellington side, but the benefits to be obtained by the two centres are set out as practically even, for the greater portion of the timber from the Waimarino district will continue to go to Auckland. This timber, which consists principally of red pine (*rimu*), black pine (*matai*) totara and (on the mountains) birch, has all along been sent chiefly to Auckland, and forms a valuable adjunct to the trade of the northern city. It is not at all unlikely in view of the increased demand for timber which must necessarily follow the completion of the Main Trunk, that it will some day be found necessary to establish a forest preserve in the Waimarino. So vast, however are the forests at the present time that the estimated inroads for the next ten years cannot materially affect the crop. The possibilities of fast travelling from one part of the North Island to the other on this route appear to be very considerable, and the magnificent mountain country, hitherto accessible only by laborious coach journeys, will be traversed by the new route, allowing tourists to view the spectacle of smoking volcanoes and snow-capped ranges from comfortable railway carriages. It will be

quite easy when the Main Trunk is completed for through passengers to leave Invercargill on Monday early, and arrive in Auckland at 8 a.m. on the following Wednesday morning; in other words, we shall have a forty-eight hour through passenger and mail service between the two extreme cities. The fares, also, will prove an inducement to travel by the new route, for they have been tabulated at very low figures, viz. —from Wellington to Auckland (426 miles) 40/- first class; 21/- second class. In the second instalment our Special Commissioner will give some new and interesting facts in connection with the great work. The subject of our cover is a New Zealand built locomotive belonging to what is known in railway circles as the "W1" class.

Hollow-concrete Construction.

WITHIN the past five years a new building material, the hollow-concrete block, has come rapidly into use, and the industry has grown almost as surprisingly as the manufacture of Portland cement. Concrete building blocks were practically unknown in 1900, but it is probably safe to say that at present more than two thousand companies and individuals are engaged in their manufacture in the United States and the United Kingdom.

The cause of the remarkable development in the United States is chiefly to be found in the rapidly failing supply of lumber, together with the widespread public interest in all applications of Portland cement. The advance of more than 50 per cent. in the price of lumber during the past few years has been a serious hardship and obstacle to the increasing multitude of people who aspire to having homes of their own, and it is but natural that builders should look about for some efficient substitute for wood, and should look with favour on a material which offers advantages of durability, safety, comfort and beauty which are unknown in frame construction.

There is good reason to believe that an efficient substitute for wood has been found in the hollow-concrete block, and that we are still only on the threshold of the development of this building material. Opposition to its use on the part of the consumer is not to be feared; the obstacles to be overcome lie chiefly in the danger of careless or ignorant work by block-makers and builders, and in the need of study and invention to adopt the material to the economical production of convenient and beautiful structures. There is every reason why concrete should become the chief building material of the future. For large and costly buildings it is likely that solid concrete, plain or reinforced, will have the preference. For smaller structures, especially factories and dwellings, hollow blocks are certainly cheaper more suitable, and require much less technical skill in erection. The possibilities of this type of construction seem to be unlimited; and all that is needed to secure an immense expansion of the concrete-block industry is to improve the design of machines and product so as to make block construction simple, practical and beautiful. To accomplish this, ingenuity, invention and good taste will be required, and there is little doubt that these qualities, so characteristic of the English people, will in abundant measure be brought to bear upon the problem.