

TO OUR READERS.

Although our prospectus for next year's volume fully explains the extraordinary efforts we are making to establish for the SCIENTIFIC CANADIAN AND MECHANICS' MAGAZINE a reputation for usefulness to members of every mechanical trade, we desire to say a few words of thanks to our present subscribers for their past support, and in requesting a renewal of their subscriptions we can assure them that every effort will be made to raise the magazine to as high a standard as that obtained by many of its senior contemporaries.

In one branch of support, however, we have been greatly lacking, and that is in original contributions from our subscribers of their own practical knowledge, for the benefit of their fellow-men. This branch has been found particularly interesting to readers, if we may judge of the number of communications received and published in the columns of the *English Mechanic*, and many of the American scientific and mechanics' journals, particularly the *Metal Worker* and the *Sanitary Engineer*, both published in New York. We trust, for the future, diffidence will not deprive us of many valuable hints and suggestions which we know many of our subscribers are well competent to afford. We shall in next year's issue devote a page, or more if required, entirely to Questions and Replies, and we hope that much information will be obtained from this new and attractive feature in our journal. The publication of illustrated sheets of technical instruction, with the coming volume, is a novel and most useful feature, and cannot but win for the SCIENTIFIC CANADIAN a very large increase of patronage for the coming year. The very fact that any mechanic can obtain 12 illustrated sheets of practical instruction in his own particular line of trade (equal in value to a whole work), in addition to the magazine itself, and also the *Patent Office Record*, places the SCIENTIFIC CANADIAN at the head of all monthly periodicals for general usefulness and cheapness. The SCIENTIFIC CANADIAN, in its issue for the past year, shows no less than 400 illustrations and over 1000 articles on different subjects.

By publishing so much extra information in our illustrated sheets of technical instruction, we shall also be enabled to devote much more space to the discussion of current topics, scientific progress, the manufactures of the country, its resources, and other subjects of interest; but particularly will it be our object to afford to the young information in a pleasing and instructive form, so as to render this magazine a cyclopaedia of useful knowledge which should find a place on the library shelf of every family. We most particularly desire young people not to be bashful in seeking to acquire knowledge through our columns, or to be ashamed to ask a question. A celebrated Italian philosopher, being asked once how he came to acquire such a fund of information, replied: "Because I was never ashamed to ask for information when I was ignorant."

Although the return of prosperity is only just dawning upon us, yet we cannot but feel assured that the mist is clearing off the face of the land and brighter days are in store. We sincerely trust that we are entering upon a period of renewed prosperity, and hope that from the lesson of the past we may steer our course in an open sea, and avoid those rocks upon which so many of our manufacturers and business men, during the past five years, were carried by the whirlwind of speculation, shattered and lost. We heartily wish you all a happy

and prosperous new year, and only ask, in return for our efforts to serve you, a return in kind.

A FEW WORDS TO APPRENTICES AND YOUNG MECHANICS.

BY THE EDITOR.

My lads, before concluding the last month's number of this magazine for the closing year, I desire to have a little talk with you, not in my character as Editor of the SCIENTIFIC CANADIAN, but as a friend interested in your welfare, and in that of our country. I wish you to think more of yourself hereafter as a body, for the prosperity of your country and its great future is depending upon the ability, perseverance and moral character of a body of men upon whom it has to rely to develop, work into shape and use its resources, and that body is represented by you. You have only to recall to memory for a moment those who have done so much for the world's progress during the past half century, and a catalogue of names will present itself to the mind of working men who have done more for mankind by their inventive genius and perseverance than all those who existed before them since the commencement of the Christian era. A host of such men I could mention to you whose names will ever have a place in the world's history, and in every language of the civilized globe. Most of these brilliant men were of humble origin, many of them were, in fact, mechanics that even never had the benefit of a common school education; but how did they rise to eminence and fame? Not by indolence and lethargy surely. A youth who can take no active interest in business or lawful pleasures, is deficient in vitality, and is to be pitied for his torpidity, rather than condemned for his wrong doing. Not by devoting spare hours to reading trashy "dime novels" and low class literature, or by frequenting billiard rooms and saloons, where a youth cannot fail, in a short time, to become demoralized both in mind and body. No, but by a steady determination to cast aside the ignoble things of life, to improve the minds by the study of works treating on their avocations whatever they may be, and a determined spirit to overcome difficulties, however hard they might at first appear. Let me give you one or two instances of this:—

Nearly eighty years ago there was a poor weaver at Cockenell, working hard to keep the thatch whole over his head, and to support a large family beside him. His name was Fallows. His eldest son, a lad with legs just long enough to reach the treadles, had to help his father to raise the needful. The lad had talent, and by-and-by about the "wee sma' hour ayont the twall," father and son might be seen together conning the youngster's lessons. In this way the lad became a good grammarian and a first-rate mathematician. By-and-by he started a village school; crept up to college at Cambridge; contested with Hershell for the office of Astronomer Royal, and lost the election by only a *single vote*. He afterwards became Astronomer Royal at the Cape of Good Hope. There he drew a plan of the southern hemisphere and stamped himself as a first of his class. He published a catalogue of the stars in 1824 and died in 1831. Another instance of what perseverance will accomplish in the face of disadvantages is that of Richard Roberts, the inventor of the self-acting mule. He was