Editorial

INTERCHANGE OF IDEAS AMONG ENGINEERS.

The engineering profession, like many other professions, has among its members those who, either from indifference or lack of interest in research work on their own account, unconsciously, perhaps, but none the less surely, continually follow the other man's lead. In most instances he is the man who, always willing to profit from the other man's endeavor, is little disposed to make any contributions by oral or written discussion on subjects of common interest to the engineering profession. Like the proverbial sponge, he takes in all he can; but he is not big enough to give anything in return.

Such an engineer has never thought very deeply as to how the literature of his chosen profession originates. Perhaps there is no man able more adequately to understand this disposition on the part of certain members of the profession, than the editor of a technical paper, one of whose functions it is to draw out engineering discussion along certain specific lines. There are many members of the profession who are reluctant to pass along information of any kind. Every engineer has, or should have, something in the way of information that is of interest to other engineers. No one knows it all, although many of us know a little.

If engineering literature is to fulfil its highest function, then there must be disposition on the part of those who have experience, to impart a little of their own private fund of information for the benefit of others. There should be no exception to the "give-and-take" policy as applied to the engineering profession. The technically trained man who fails to see it in that light will not get the most out of life.

In this connection we would refer to the article by W. W. Pearse on "Stresses in Lattice Bars of Channel Columns," which appeared some weeks ago in these columns, and to a more recent series of articles by E. H. Darling, M.E., on "Impact Formulas for Highway Bridge Design." Both of these articles were the result of much study by their respective authors, and were real contributions to engineering literature, with the expressed wish that they should be of use to the particular branch of engineering to which they referred. Criticism was invited. It came freely, and evidence goes to show that the precipitation of the subjects by Messrs. Pearse and Darling led to a discussion that was worth while, and of value to not only the participants but to a great many others.

One man may spend a great deal of time on a specific problem and believe he has reached a satisfactory solution. Another engineer comes along and will be able, as a result of wider observation or broader experience, to see a phase of the question which probably had not been taken into account by the original investigator. This is all helpful and desirable.

There must be a great deal of valuable information stored away by engineers; information that is being made of no value whatever, either to its owner or anybody else. In many cases there is no very good reason why it could not be let loose without the owner being in any sense of the word a loser.

Engineering societies have rendered very useful service indeed in this direction, and it is to be hoped that during the next few years, when new problems are bound to arise, growing out of the war, there will be a gradually increasing tendency on the part of engineers to be more willing to interchange ideas, and thus contribute, in a real way, to the betterment of the profession.

SOME STATE SECRETS.

Technical papers are public servants, just as are railroads, power companies and many other enterprises. And, like all other public servants, it pays to take the public into their confidence as largely as possible. We therefore feel that our readers should have some idea of how the war has increased the difficulty of publishing a really good technical paper in Canada, so that they can better appreciate whatever slight success we may have had along those lines.

Sheet copper, from which all halftone engravings are made for illustrating the paper, has jumped from 22 cents to 68 cents a pound. Zinc, from which all line cuts are made, is now 48 cents a pound; formerly, 11 cents. Potassium bromide was 45 cents a pound before the war; it is now $7.85 a pound. Yet it is an essential in producing an illustrated paper. Iodine, dragon's blood, hydrochinone, and all other necessary chemicals, have also very greatly increased in cost.

Our white paper costs 57 per cent. more than it did before the war; our red cover paper costs slightly less than five times the former price, is purchasable only in small quantities, and may soon be impossible to secure at any price on account of the dye situation.

However, we're glad we're alive. But when you get your bill for $3 for a year's subscription, just bear these facts in mind, for you are getting a bigger $3 worth than ever before, considering cost of publication.

WATER DISINFECTION.

Standards of water purification have risen considerably the past few years. Physicians recognize that water cannot be too pure. Public health demands more than a palatable potion. It requires a water really free from pathogenic organisms.

H_2O, absolutely pure water, is seldom found in nature. Nearly all surface supplies are polluted to a greater or less extent. The filtration of nearly all drinking water is today a necessity. That is universally acknowledged by most engineers and public health officers.

But even filtration does not yield entirely sterilized water. Modern filter plants operate at a very high efficiency, removing even so much as 99 per cent. of the germs that are in the raw water. Yet, how to get after that stray 1 per cent. is the problem that has bothered the waterworks men.

There are four known ways of accomplishing this, *viz.*: Distillation, disinfection by heat, chlorination and sterilization by ultra-violet rays.

To heat or to distil a public water supply is, of course, impossible from a practical standpoint. Most Canadian