

FOR THE GOOD OF THE PROFESSION.

Speaking of one of the departments of our paper a contractor said: "I receive many valuable suggestions from the articles, but if I were to contribute I would feel I were giving away what was to me 'trade secrets.' That spirit of always receiving and never giving is hardly fair. We receive aid or suggestions from others, but do not care to give in return, assistance.

After all that is not the spirit of success. Success is better emphasized by co-operation and reciprocity. In endeavoring to ferret out and record new methods and new ideas in the world of engineering we are successful in only so far as we have the active sympathy of the man in actual practice. We endeavor to give practical suggestions and papers containing information of value to our readers. How many of our readers recognize any obligation to their fellow-readers in return?

TIMBER TESTING.

The effect of impact and variable loading upon beams and trusses has been very difficult to even approximate. To assist in solving this problem the United States Forestry Service are designing a special form of impact machine to be built and installed by the University of Washington at Seattle.

Engineers and designers will await with interest the results of experiments, for no satisfactory answer has yet been given to the question of the effect of repeated shocks on the strength of wood. Another question allied with this one, and which experiments with such a machine should assist in answering, is connected with the calculating of stresses in beams and trusses under repeated loadings.

This machine will be provided with a 1,500 pound hammer, which can be dropped upon the wood specimens under test from any height up to three feet. It is so constructed as to be both automatic and autographic.

EDITORIAL NOTES

Canada's canal traffic shows a steady increase for 1907. It aggregated 20,543,639 tons, or nearly double the tonnage for 1906.

* * * *

The Canadian National Exhibition is delighting her thousands this week. Next week the attendance will likely be larger than it is for the present week. The engineer may spend simply a holiday at an exhibition, or he may use it as a means of gathering information, and Toronto Exhibition is no exception.

* * * *

Toronto's city council has again shown their inability to recognize that their City Engineer knows "what he wants when he wants it." Mr. Rust recommended a certain location for the septic tanks in connection with the trunk sewer. The council refused to sanction the plan, and now the greatest improvement Toronto has ever undertaken bids fair to have its usefulness, in part at least, destroyed.

* * * *

The Governments, both Dominion and Provincial, grant aid to Agricultural Experimental Stations. The money so spent has brought forth large returns, both to the profession interested and for the general good. An Engineering Experimental Station in connection with our Faculties of Applied Science would be just as successful.

Most of the hard steel at the present time is made in the open-hearth furnace. Enormous quantities are used for car-springs and agricultural machinery, and both the acid and basic furnaces furnish a share.

VALUE OF IRRIGATION.*

Prof. Carpenter, Denver, Col.

Canadians have realized the value of irrigation to this country. They must have realized that without water their values were small, but with water there was no limit to what they could do. In fact, with irrigation it would be a venture-some act to try to set a value on the possibilities of this country.

For 25 years he had been connected with irrigation and had a chance to see something of its development. Twenty-five years ago men who made prophecies that land would reach certain values that seemed extreme were regarded as visionaries and lost caste, but in 25 years those forecasts had been more than made good. Water on the land had caused it to reach values that no one would have thought of.

There were people who supposed that the water supply would have been depleted years ago, but they had gone on building reservoirs and dams and there were no more signs of depletion now than then. Conditions were changing and enterprises which ten or fifteen years ago were not commercially feasible were feasible to-day. It was considered then that anyone who wanted to invest money would not consider irrigation, as the enterprise would not be worth the cost. In the meantime, however, land that was only worth \$30 an acre had become worth \$150 an acre, so that it paid to irrigate now where it would not have paid then. An enterprise he had reported against a few years ago, he had reported on favorably this summer, and an enterprise he might report against this year might pay to construct in a few years to come.

While it seemed that we have as much water as before, though more is being used, there has been no real increase. It is only that we are more saving with water now than we have been in the past.

As the value of land increases it pays to save it, and you build reservoirs and ditches because conditions demand it. When it will pay to do it, you will do it, but till it does pay you will not, and you would be foolish if you did. You may build a 10-foot dam to-day where you will build a dam of 100 feet in a few years, and you may even go as far as to conduct all the water in pipes.

Development is much the same in different countries. Even in Italy, I was struck by the similarity of their system to ours. It is true that they have been 600 years arriving at a condition which we have arrived at in a few years, but the stages were the same. I also find this country passing through exactly the same experience that Colorado passed through years ago.

Water the Prime Necessity.

In passing through British Columbia they knew the character of country they had here. It would develop as financial conditions changed. They had taken advantage of the streams as they found them, and had quarrelled about the water. They then found there was not enough water and began to seek means of storing it. For what was the value of land without water? In the States they could grow \$60 an acre of root crops on irrigated land, so that it paid to spend \$20 an acre on irrigation. They had there what they called the bonded system in which they put dams and ditches on condition that they could sell their bonds. The prices he had quoted were not in a fruit district such as this, where they had land selling at \$500, \$1,000 or \$1,200 per acre. As conditions developed, the call on the water would be greater, and the greater the value of the water would become, so that it would justify more expense in getting and saving it, and the individual would take pains to see that none was lost, for where a community was economical the individual might be wasteful.

It did not take much irrigated land to make a great country, and he instanced Egypt, of which only a small portion was annually irrigated by the Nile and yet it maintained a dense population. In fact, it would be impossible to estimate the possibilities of these central valleys of British Columbia

* Abstract of an address at Vernon, B.C.