paver which is 4 ins. in depth. In the use of the 3-in. brick there is a saving of one-quarter in the freight charges and a consequent saving of handling. This type of work has been done in a number of instances and has every indication of being satisfactory. Some work under consideration may use 2½-in. and even 2-in. brick and if successful the resulting economies will make brick pavements feasible in many localities.

Laboratory Work in Relation to Road Surfacing

There should be laboratory control in connection with every piece of highway work because to insure good work the materials must be up to some standard which has proven its adequacy in service.

Field tests by the men in charge of the work should be made in a practical manner and in conjunction with those of the laboratory in order that a constant check may be had upon the materials going into the work.

As a matter of cost it may not be entirely practical for every department in its early stages of development to have a fully equipped laboratory, but if there is a sufficient demand for laboratory work to guarantee enough of it, the commercial laboratories in existence would be willing to equip themselves to render this service at a nominal charge. This would stabilize all work done and the amount expended for the service would be the cheapest kind of insurance.

Good slag is essential if it is to be used in any type of pavements. The tests on slag run in the standard stone abrasion machine were not indicative of quality or comparable with different qualities of stone. It was learned that the material worn from the sample during the test filled the corners of the closed pot, and as soon as sufficient material had accumulated, a cushion was formed which greatly reduced the abrasion.

We designed a new pot to remedy this condition. This is of the same size and shape as the standard pot, but it is slotted at intervals to allow the worn-off material to escape and to prevent cushioning. This new test has been very successful in determining qualities of slag.

It has also been used in testing gravel with promising results. The aim in the gravel testing is to determine what gravel is suitable for use as coarse aggregate in concrete road surfacing. The better known gravels of the State, which have been proved successful by service test, have been tested in this machine and the results used as a standard for the judging of other gravels.

In testing gravels, several methods have been tried with charges of steel shot both in the closed and the slotted pot. So far, judging from results obtained, the most reliable method is in using the slotted pot without any charge.

CANADIAN SOCIETY FINANCES

The gross income of the Canadian Society of Civil Engineers was slightly higher in 1917 than for any previous year. The total income was $25,698, as compared with $23,727 in 1916, which was the previous high-water mark.

The expenses for 1917 were $25,210, compared with $20,085 in 1916, so that the excess of receipts over expenditures in 1917 was $488, compared with $3,642 in 1916.

The larger income was due mainly to an increase of over $2,000 in the current fees collected. The larger expenditure was chiefly due to increases of $1,818 in general items, $773 in refunds to branches, and $2,693 in salaries. The salary increase was mainly due to the appointment of a secretary who would devote his entire time to the society's affairs.

In commenting upon the annual statement of the auditors, R. A. Ross, chairman of the finance committee, says: "In spite of greater exertions, the arrears collected are practically the same as for the two previous years, indicating that most of the cream has been extracted. Current fees collected show recovery in spite of war and consequent remission of fees to active service members. . . . In spite, however, of the absence at the front of over 850 members, whose fees would total about $6,000, and of increased salaries, the society is in a position to show a small excess of receipts, which should increase next year when the effects of new activities become evident."

The assets of the society now amount to $111,160, approximately just the same as last year. There is a reduction in cash on hand and in the bank, but this is more than offset by the reduction in accounts payable and by the investment of $1,000 as part payment on a $5,000 Victory Loan bond. The largest asset is the property at 176 Mansfield Street, Montreal, which is valued at $89,041, but on which there is a $20,000 mortgage. The estimated value of arrears of fees is still carried forward at $5,000, which would appear to be warranted by the fact that over $6,000 arrears have been collected each year for the past three years. The cash and investments amount to about $8,000, while books and furniture are valued at nearly $9,000. The liabilities, other than the mortgage, amount to only $4,640.

TORONTO BRANCH, CAN. SOC. C.E.

Prof. Peter Gillespie, of the University of Toronto, has been elected chairman, for the year 1918, of the Toronto Branch, Canadian Society of Civil Engineers. Geo. Hogarth, chief engineer of highways of the province of Ontario, will be secretary, and the executive committee will consist of the following:—

J. R. W. Ambrose, chief engineer of the Toronto Terminals Railway Co.; Willis Chipman, consulting engineer; E. L. Cousins, manager of the Toronto Harbor Commission; Prof. H. E. T. Haultain, of the University of Toronto; E. G. Hewson, division engineer, G.T.R.; and R. O. Wynne-Roberts, consulting engineer.

There are 171 corporate members of the branch at home and about 30 in active military service. Of about 100 junior and student members of the branch, fully three-quarters are in khaki. Therefore, of the entire branch membership, totaling about 300, just about one-third are in the army. In connection with the election just held, 171 ballots were sent out, of which 62 were marked and returned to the secretary by mail or at the meeting last week. About thirty-five members attended the meeting.

SASKATCHEWAN BRANCH, CAN. SOC. C.E.

The annual meeting of the Saskatchewan Branch of the Canadian Society of Civil Engineers was held January 10th, when the following officers were elected:—

Chairman, G. D. Mackie, Moose Jaw; vice-chairman, H. S. Carpenter, Regina; secretary-treasurer, J. N. de Stein, Regina; executive committee, H. R. Mackenzie, Regina; E. G. W. Montgomery, Regina; W. H. Greene, Moose Jaw; C. J. Yorath, Saskatoon; J. E. Underwood, Saskatoon