

Among the items deserving of comment, is that regarding membership. This has now reached a total of 1,521, as compared with 1,387 a year ago. This means an increase of 144 members, or slightly in excess of ten per cent. A feature which must be viewed with no little pleasure, is the manner in which the student membership is being increased. The number is now 579, or thirty-five per cent. of the whole.

As compared with a year ago, the increase has been 67 members, or thirteen per cent. The general feeling in the Society is favorable to the admission of student membership, though some are opposed to it. Those who favor it, however, will see in the large increase a promise of a strong support to the Society in days to come. The falling off of student membership in the city of Montreal becomes understandable, when the large increase in the associate membership is pointed out, the graduates from the former having fortunately swelled the ranks of the latter. In addition to the total membership mentioned, there is a list of 134 candidates awaiting admission into the Society. With these added, the total would reach the large number of 1,655.

While the report on membership is all that could be hoped for, that on the financial condition of the Society is equally gratifying. Receipts have increased and expenditures decreased; what more could be asked for in these days of rapidly advancing costs? The receipts were \$8,780 for the year, or \$673 more than for 1905. Expenditures were \$7,963, or \$2,094 less than for 1905. The Society was thus nearly over \$800 ahead on the year's transactions. It now finds itself in possession of over \$2,100 in cash and in the bank, and if it were not the practice of the Society to pay out very considerable sums in books and magazines about this time of year, we should feel disposed to urge them to draw that large balance out of the bank and invest it in something that would make money for them.

A number of papers were read at the meetings of the Society, during the year, and many interesting and instructive discussions took place. A variety of topics, all concerning the engineering realm, were dealt with. The papers were of much value, but it would almost appear that none have been regarded as markedly superior, as the decision, whereon hangs the coveted Gzowski Medal, had not been given previous to the Annual Meeting.

The Society is to be congratulated upon the excellent progress it made during the year recently closed, and it should be a cause of no little satisfaction to the retiring president, Mr. H. D. Lumsden, and to the officers who have been associated with him, to feel that the affairs of the Society were never in better shape than when they handed them over to the incoming board for 1907.



THE COST-PLUS-A-FIXED-SUM CONTRACT.

Every person who has to do with the making of contracts for construction work, and indeed any kind of work, knows the difficulties that are to be met with:—the time in which the work should be completed; the charge for extras over and above the original contract, and last but not least, inferior workmanship.

In a paper read before the American Public Works Association, at Atlanta, Ga., Mr. Frank B. Gilbreth, general contractor, of New York, presents lucidly the difference between the "lump sum" con-

tract; the "percentage" contract, and the "cost-plus-a-fixed-sum" contract.

The cost-plus-a-fixed-sum contract is the only one in which the interests of the owner and contractor are identical, but in order to make this so the cost must be actual and complete, and the fixed-sum must be the only profit which the contractor receives. The cost of construction to the owner then is the actual cost of labor and material, and the profit to the contractor.

Mr. Gilbreth considers the advantages and disadvantages of the three forms of contracts, taking as a basis, the lowest cost to the owner, speedy construction, and future business between owner and contractor, based on past experience.

Under the "lump sum" contract the contractor agrees to furnish all material and labor, in accordance with the specifications for a certain fixed sum. This seems satisfactory enough to the inexperienced, but those who know are well aware that this form of contract offers too many chances for the contractor to put in a charge for numerous "extras," which he charges to the owner at his own price, since there can be no competition. He may also do the work hurriedly, or very slowly, doing which ever will keep the cost down, and in this way increases his profits. Then again he adds a large enough percentage to what he has figured as being the actual cost of the work to cover unfortunate circumstances that may happen, and which, if they do not happen, swell his profits. Why should not the owner have this saving? Every cent that the contractor can save, it matters not from what source, goes into his own pocket, whereas if anything extra has to be done the owner must pay for it.

The "percentage" contract offers a very good basis upon which to work, with the exception of its one great drawback. With this form of contract the owner's and contractor's interests are almost identical. The owner can regulate the speed at which the work is done, and decide as to the amount and kind of labor to be employed. In fact he has control over everything, and, as Mr. Gilbreth says, "the chances of continued pleasant relations would be good, if it were not for the fact that the owner is apt to suspect that the contractor may be increasing the cost of work for the sake of getting more profit, since this is directly in proportion to the cost."

To overcome this the cost-plus-a-fixed-sum contract has been devised. This form has all the advantages of the "percentage" system, and does not tempt the contractor to make the cost higher than is absolutely necessary, since the amount that he will receive is set from the first. The cost-plus-a-fixed-sum contract gives the owner direct supervision over practically the whole of the work, and the purchasing of the material, and if the contractor is desirous of making for himself a good reputation he will see to it that the work is well and expeditiously done.

In speaking of this system, an English contemporary says:—"If contractors in Canada can get business under these circumstances they are fortunate, but in England people are more sceptical." Judging from this it would appear that they have not a thorough understanding of the subject, which may be summed up as follows:—The contractor is assured a certain