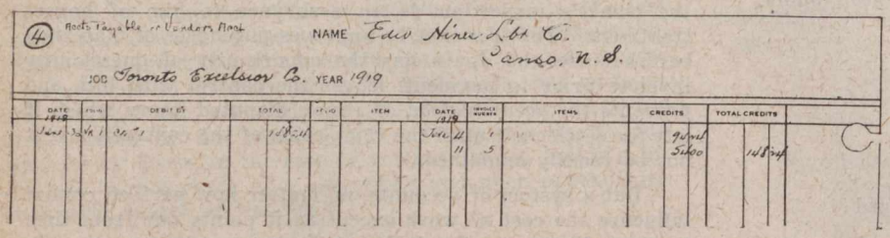
is still dependent upon the integrity of the contractor and his ability to perform.

We have used this system of accounting with entire satisfaction to the firms mentioned above and many others, and we are now engaged in work at Halifax, N.S., on this same basis. This is adequate proof that the cost-plus contract is workable and that the owners not only feel safe but prefer this method because under it 90% of the savings under the preliminary estimate accrue to the owner, because the 10% retained by the contractor is a reasonable incentive to make every possible saving, and because additional costs incurred through no fault or omission of the contractor are rightly chargeable against the owner and should not reduce or wipe out the contractor's profit.

There is incentive for the contractor to make all pos-



PAGE FROM ACCOUNTS PAYABLE RECORD

sible savings under both old and new contract, and some of the savings must go to the contractor to give him that incentive; 10% is adequate and the 90% going to the owner builds a good-will account which practically assures repeat orders as new work becomes necessary. The building of a relationship which will ensure repeat orders is just as important in contracting as in merchandising.

The Engineer's Library

GENERAL LECTURES ON ELECTRICAL ENGINEERING

REVIEWED BY A. H. HULL
Assistant Electrical Engineer, Hydro-Electric Power Commission of Ontario

By Dr. Charles Proteus Steinmetz. Published by the McGraw-Hill Book Co., Inc., New York City. Fifth edition; 248 pages; 6 by 9 ins.; illustrated. Price, $2.50.

This book is a collection of eighteen lectures dealing with direct and alternating current distribution, effect of load factor on the cost of power, generation and generator wave form, hunting of synchronous machines, transmission, oscillations and surges, and lightning protection.

Three lectures are devoted to electric railways and railway motors. Electrochemistry, arc lighting and incandescent lamps are treated in separate lectures.

The last lecture deals with the use of power limiting reactors in large systems. Two appendices are included, the first being part of an address before the Franklin Institute in 1914, on the effect of electrical engineering on modern civilization. The second consists only of a table of resistances and reactances for overhead wires and seems to be entirely out of place in the book.

The lectures are free of mathematics, the subjects being treated in a general descriptive manner. While the book does not attempt to cover the entire field of electrical engineering, a careful reading of it will give the advanced engineering student, or the young engineer, a comprehensive general outline of that part of electrical engineering that has to deal with the problems of generation, transmission, distribution and utilization of electric energy.

Save for the next "Victory Loan." Your money is needed to ensure national prosperity.

RELATION BETWEEN WATER SUPPLY AND GOITER

AN apparent connection between goiter and water supply in various parts of the world is traced by Mayo Tolman, chief engineer of the West Virginia State Department of Health, Charleston, W. Va., writing in the "American Journal of Public Health."

Goiter, which manifests itself as an enlargement of the thyroid gland, shows high endemicity in Switzerland, parts of France, and in regions in every continent. In North America the main endemic centres are in parts of New Hampshire, New York, the Blue Ridge Mountains of Virginia, nearly all of West Virginia, the region about the Great Lakes, and Edmonton, Alt. Recent studies by Mr. Tolman indicate that there are 12,000 cases in West Virginia, while in Broxton County a house-to-house survey showed 1,148 cases, or 1 to every 20 inhabitants.

The cause of the disease is most generally attributed to the character of the drinking water. Efforts to connect the disease with various inorganic impurities in the waters of the region have not been successful, Mr. Tolman states. The relation seems to be with the geological ages of the rocks of the regions.

"Apparently," Mr. Tolman says, "volvanic formations, the crystalline rocks of the Archaic period and all deposits laid down in fresh water, are free from the goiter-producing characteristic." In the United States the greatest endemicity is found in paleozoic areas. In West Virginia water from the coal measures seems to cause the disease, while in the same valleys people taking water from higher in the mountains, above the coal measures, have less goiter as the elevation increases.

"This association of goiter with certain geologic time," says Mr. Tolman, "would indicate that the disease is not caused by a living organism, but is due to some substance derived from marine animals in past time. What this substance is, is not known, but experiments indicate that it is not retained by a Berkefeld, and that its goiter-producing property is destroyed by heating to 70 deg. C. It is, of course, possible that goiter is a deficiency disease, that the marine animals of geologic time used up a certain substance in the water that is essential to animal economy. This theory is severely shaken, however, by the fact that heat evidently destroys the goiter-producing element, but nevertheless it should not be entirely abandoned at the present stage of our knowledge.

"Goiter presents phases that should be of interest to health officers in those areas in which it occurs, and it is to be hoped that the disease will be given more study in order that its cause may be definitely determined, for without accurate knowledge of the cause of a disease, any measures to combat it may be hit-or-miss. There can be little doubt that the efficiency of a community is lowered by endemic goiter; consequently the spread of the disease should be prevented."

The first general meeting of the Canadian Association of British Manufacturers and their representatives was held September 8th in Toronto. John Wilson presided, and pointed out that the 55 members of the association represent over 300 British manufacturers. The association hopes to have a representative in London, and that in time it will become as large as the C.M.A. Trade sections of the association were formed, and the chairmen will form a publicity committee. The appointment of tariff and transportation committees are to be looked after by the executive committee. F. W. Field, trade commissioner, reported that the British trade commissioners in Canada have been granted authority by the department of trade and commerce to appoint an expert to deal with all matters of dispute in regard to quality of goods. Capt. John Harris stated that there are in Toronto 250 representatives of British firms.