In answer to a circular letter, a copy of which I enclose, dated October 4th, 1911, sent to the members of the committee, I find that we are of the general opinion, that owing to the late change of Government and administration of Public Works Department, nothing further can for the present be accomplished by our Committee. A suggestion has been made by members of our committee that we might lay before the present Minister, at the proper time, a statement of the facilities for testing materials already in Canada. Also that the object which the Society has in view would be best accomplished by co-operation between the existing Testing Laboratories and whatever Government Testing Laboratories may be established to secure greater economy and avoid unnecessary duplication of equipment.

Yours etc.,
C. H. KEEFER,
Chairman, Committee on
Testing Laboratories.

Ottawa, Ont.,
November 29th, 1911.

The Secretary, Canadian Society Civil Engineers,
Montreal, P.Q.

DEAR SIR,

I received your letter of the 11th inst. *re* report of Committee on "Establishment of Testing Laboratories," acknowledging receipt of our report, and instructing me, on behalf of Council, to call on the Hon. Mr. Monk, Minister of Public Works.

I arranged to secure a necessarily brief interview with the Minister this afternoon, as he is very busy, he however expressed generally sympathy with the movement, and asked me to see him later when he would have more time to discuss the matter.

Yours very truly,
C. H. KEEFER,
Chairman.

Office of the Assistant Deputy Minister,
Ottawa, September 29th, 1911.

DEAR SIR,

I beg to enclose herewith for your information and that of the Committee on the Testing of Materials two copies of the report of Messrs. Geo. E. Perley and Arthur Surveyer in connection with the proposed establishment by the Government of a General Testing Laboratory.

Yours very truly,
A. ST. LAURENT,
Assistant Deputy Minister.

C. H. Keefer, Esq.,
Civil Engineer,
Metropolitan Building,
Ottawa.

REPORT ON THE INITIAL AND MAINTENANCE COST OF A LABORATORY FOR TESTING MATERIALS.

We want to state at the very beginning that we found it very difficult to arrive at the cost of a fully equipped laboratory, as the Directors of the different laboratories were loath to give the prices, and the manufacturers refused to mark prices in their catalogues and insisted on having a full list of the machinery required before giving out any quotation.

Not knowing how much money the Government would be willing to spend, we have made out a list including the machinery for the testing of building materials, and also the machinery for the testing of road materials. Since the recent development in reinforced concrete, construction wire has been used extensively both as mesh for floor fabric and as spiral wound columns, so that we have thought advisable to include the wire testing machines.

In order to justify our list, we give below some of the resolutions of the Conventions held at Munich, Dresden, Berlin and Vienna, for the purpose of adopting uniform methods for testing construction materials with regard to their mechanical properties.

1. *Tests of wrought iron, mild steel, steel, cast iron, copper and alloys.*
   - Tension tests (wrought iron, mild steel, steel, cast iron, copper and alloys).
   - Transverse tests (wrought iron, mild steel, steel, alloys).
   - Bending hot and cold (wrought iron, mild steel, steel, copper and alloys).
   - Compression tests (cast iron, alloys).
   - Impact tests for brittleness (wrought iron, mild steel).
   - Penetration tests (wrought iron, mild steel, steel).

II. *Tests of wire (steel and copper).*

- Tensile tests.
- Torsion tests.
- Repeated bending tests.
- Twisting tests.

III. *Tests of Wood.*

- Compression tests.
- Transverse tests.

IV. *Tests of Building Stone (Natural and Artificial).*

- Compression tests.
- Tensile tests.
- Transverse tests.
- Specific gravity.
- Resistance to frost.
- Resistance to fire.
- Porosity.
- Abrasion tests.
- Chemical analysis.

V. *Tests of Paving and Ballast Material (Natural and Artificial).*

- Determination of French co-efficient of wearing.
- Compression tests.
- Abrasion tests.
- Resistance to frost.
- Cementation tests.
- Hardness tests.
- Chemical analysis.

The nucleus of all testing laboratories, with the exception of the laboratory of the U. S. Bureau of Standards at Washington, seems to be several universal testing machines ranging in capacity from 100,000 pounds to 600,000 pounds.

The U. S. Bureau of Standards in Washington is in charge of Col. J. E. Howard, of the U. S. Army, who has been identified with the experiments made in the last 20 years at the U. S. Arsenal at Washington, Mass.

The Colonel showed us the blue prints of two testing machines (similar in design to the Waterton machines), which are made by A. H. Emery, of Stanford, Conn. Both the machines are horizontal and have the following capacity: Machine No. 1 will develop 230,000 pounds in tension or compression, will test pieces 30 inches long, and cost $10,000.

Machine No. 2 will develop 2,300,000 pounds in compression, 1,150,000 pounds in tension, will test pieces 30 feet long, and cost $150,000.

We consider, however, that besides being too expensive, these horizontal machines will not give as accurate results as the vertical machines in the testing of beams and columns. When we expressed the opinion that in practice, pieces working in compression were not generally horizontal, the Colonel gave us the example of the top chord of a Pratt Bridge and added that anyhow, the pieces could