NEW MEMBERS

John MacMillan, Factory Manager, L'Air Liquide Society, Limited, West Toronto.

Alex. Fellows, Machinist, Consumers' Gas Works, Toronto.

Riley Schenck, Safety Engineer, Toronto.

W. H. Sample, Master Mechanic, G. T. R., Ottawa, Ont.

A. J. Morrison, Rep. General Lamp Supply Company, Toronto.

J. H. Wilkinson, Machinist, G. T.R. Shops, Stratford, Ont.

Jas. Beaumont, Machinist, G.T.R. Shops, Stratford,Ont.

Jas. Geldart, Machinist, G.T.R. Shops, Stratford, Ont.

Geo. Kirby, Machinist, G.T.R. Shops, Stratford, Ont.

THE APPLICATION OF STEEL TUBING TO MECHANICAL CONSTRUCTION

The proportion of iron and steel tubing used in locomotive construction is so large that experience with the various materials of which this tubing is made in locomotive practice, forms by itself a good criterion of the value of such materials for general machine construction. Hence we might first consider locomotive tubes and the relation which has been found between the properties of the materials and the mileage record of the engine.

SERVICE AND LABORATORY TESTS

We have, as you are aware, three classes of tubing for boiler work; lap-weld charcoal-iron, lap-weld steel, and seamless steel. The first of these has been able to hold its own until recently in spite of comparatively inferior physical properties, probably due to the impression that charcoal iron was better able to resist corrosive conditions and was easier to weld than most grades of steel. The numerous laboratory tests which have been made in researches on this subject, particularly during the last ten years, have not shown the difference expected under natural conditions of corrosion; however, these tests were not considered entirely satisfactory by practical men. Service tests were started by a number of the leading railroads, about the same time as these laboratory investigations and there is now available plenty of data from both sources. Most of these practical service tests were made by applying charcoal-iron and steel tubes, side by side, in the same