beautifully worded the first clause of their constitution, unless they are a working, living force they serve no purpose in the community, they damn the profession they are supposed to represent, and are a useless load to their members. It would be better to have no organization at all than a lifeless, purposeless one.

Every new movement has its day of "little things," but keep it growing, spend more money, open new departments, branch out—grow.

TRAINING MECHANICS.

This is the day of the trained man. To be a leader to-day a man must be a specialist; but, more than that, if a man wishes to keep even a good place in the ranks he must be skilled and trained.

Competition is keen in the business world to-day—keener than it has been for years. The department manager must cut cost down to the very last fraction of a cent. He may do that by lowering wages or by reducing waste and increasing output. It is recognized that the trained mechanic, understanding his work and why he does it, interested and informed, will with the same effort produce better and surer results than the workman who is a mere machine.

The Grand Trunk Railway mechanical department recognized the value of trained mechanics years ago, and were pioneers in attempting to solve the problem of effectually supplying the demand for skilled mechanics. Their solution has appealed to heads of other large industrial corporations, and has been copied in whole or in part.

In a booklet, entitled "Training Modern Mechanics," issued recently, the Grand Trunk Railway tell how this great railway system solved the apprenticeship problem, and furinshed its own shop and those of many other large companies with master workmen and master mechanics.

The boy leaving day school, stepping out into the world to make his own way, must pass a physical test as to sight, hearing, writing, spelling and arithmetic. Having passed a satisfactory examination, he is then taken on under articles agreeing to serve faithfully four or five years with the company. Stripped of all its legal phraseology, "This Indenture" simply means the boy must work where he is put, and out of working hours do a certain amount of study, the company agreeing to pay him for his labor, provide instructors, class-room and courses of study, and foremen who will do more than exact toll, men who will take pleasure in instructing the apprentice.

The apprentice is encouraged, guided, rewarded. The company secure a loyal employee, a man who grows up to respect the company that educated him and made him more than a machine.

The working out of this system has taken years of study, adjusting and revision, but the results to the Grand Trunk Railway and to Canada have justified the effort.

EDITORIAL NOTES.

We have sometimes wondered why members of the engineering profession do not take a more active part in the administrative departments of our country. Perhaps it is because in the ordinary routine work there is so little to do. It is interesting to notice that when the position of Lieutenant-Governor of British Columbia—a real, live position, where much is doing—is vacant, it is filled by an engineering-contractor—by a man who has always been busy doing things.

Lieutenant-Governor W. P. Paterson — railway builder—we extend congratulations.

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According to returns made under the Mining Act to the Provincial Bureau of Mines, the output of the metalliferous mines and works of the Province for the nine months ending September 30th, 1909, was as follows: Gold, 1,125 ounces, valued at $18,026; silver, 18,751,549 ounces, valued at $9,385,600; cobalt, 427 tons, valued at $79,450; arsenic, 780 tons, valued at $39,221; copper, 5,583 tons, valued at $740,677; nickel, 8,912 tons, valued at $1,921,363; iron ore, 205,262 tons, valued at $473,770; pig iron, 294,698 tons, valued at $4,095,735; zinc ore, 785 tons, valued at $8,000. The gross production amounted in value to $16,762,742, as compared with $12,185,511 for the first nine months of 1908.

SOCIETY NOTES.

Central Railway and Engineering Club of Canada, Toronto.—The regular monthly meeting of the above club will be held in the Assembly Room, Prince George Hotel, on Tuesday, December 21st, at 8 p.m., when a paper will be read on "Gas Manufacture," by Mr. C. G. Herring, chief draughtsman, Consumers Gas Company, Toronto.

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Canadian Society of Civil Engineers, Montreal.—An ordinary meeting of the society was held on Thursday evening, 16th inst., when Mr. A. D. Swan, resident engineer, Montreal harbour works, gave a description, illustrated by lantern slides and cartoon drawings, of the construction of the new harbour, wet dock, and graving dock, at Bristol, England.

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Engineers' Club, Toronto.—At the Engineers' Club last Thursday evening Mr. A. Sothman, Dr.E., chief engineer of the Ontario Hydro-Electric Power Commission, took about sixty local engineers for a trip over the Ontario Government's transmission line, which will shortly supply Niagara power to the large towns and cities of south-western Ontario. Mr Sothman presented a map of the country affected, showing the route of line and the points it touches, following which lantern slides illustrating the progress of the construction work and the method of erecting the towers, the type of apparatus used and the lay-out of the different transformer stations were provided together with much information. Mr. A. B. Barry, C.E., presided.

COMING MEETINGS.

Montana Society of Engineers.—January 6-8. Annual meeting at Butte, Mont. Secretary, Clinton, H. Moore, Butte.

American Association for the Advancement of Science.—December 27. Annual meeting at Boston, Mass. Secretary, L. O. Howard, Smithsonian Institution, Washington, D.C.

American Society of Agricultural Engineers.—December 28-29. Annual meeting at Ames, Iowa. Secretary, L. W. Chase, University of Nebraska, Lincoln, Neb.