

much aid should they receive from the professor?" was the subject of a paper by Prof. C. D. Marx, who said that the inferiority of the instruction in American engineering colleges, except in the laboratories, was due to inferior preparatory training and the lack of teachers who combine theoretical training with wide practical experience. "The average American teacher is overburdened with work sufficiently to prevent giving efficient assistance to the few who take the fifth year and research work. The work of research is itself desirable if undertaken as post-graduate work and under proper conditions. For success in this work, the professor must have the proper training in addition to practical experience, and must be allowed sufficient time for this special work. Present salaries are not calculated to secure many such men, nor are they allowed time for such work. Student's work in research should follow, not precede, research work on the part of the professor." In the afternoon, the members of the society inspected the laboratory in the School of Practical Science and pronounced themselves highly pleased with the completeness of the equipment which the department possesses. Later in the afternoon the members assembled at Prof. Loudon's residence and were guests at the garden party to which they and the members of the Mathematical Society had been invited.

Professor C. M. Woodward read a paper on "Manual Training for Artisans." He pointed out that manual training was neither manual labor nor trade training. Manual training was purely educational, differing from the methods of ordinary workshops or of a trade school. Manual training is an excellent thing for an artisan, as for everyone else. It makes the learning of a trade a very simple and easy matter if one wishes to be a mechanic for a time, but the graduate of a manual training school will probably not become an artisan at all in the ordinary sense. The records show that a great majority of graduates earn more money and achieve greater success in other occupations. If you wish your boy to be a mechanic do not send him to a manual training school; if you do he may become an architect, an engineer, a lawyer or a physician. Prof. Thos. W. Mather read a paper on "Manual Training in High Schools." He said that two courses of instruction should generally be given in a manual training High School. The first should afford preparation for colleges or schools of technology, while in the second it may be assumed the boy's school education must end upon graduation. During the third year a period every day should be given to elementary mechanics experimentally treated. In the fourth year an equal time should be devoted to applied mechanics treated in the same way. This may profitably include heat, steam and the steam engine, the strength of materials and stresses in structures.

Dr. C. S. Murkland read an interesting paper on "Agricultural Colleges, their Function, with Relation to Engineering."

At the close of the meetings the following officers were elected:—President, J. P. Johnston, Washington University; vice-president, T. C. Mendenhall, Worcester Pyrotechnical Institute, and Harry W. Tyler, Massachusetts Institute of Technology; secretary, Albert Kingsbury, New Hampshire College of Agriculture; treasurer, J. A. Flater, Purdue University, Indiana.

THE AIR SHIP IS HERE.

On the 13th of August, at Vancouver, an object was seen in the sky travelling eastward, which had all the appearance of an air ship, and what was said to be a balloon was reported at three or four different points in Manitoba and the territories. At 12.40 on the morning of the 16th, C. W. Spencer, superintendent of the Eastern Division of the C.P.R., was sitting with Thos. Hay, his assistant, in the observation car of the train which had left Port Arthur for Sudbury, and as they were approaching Gravel River, and sat admiring the clear starlit heavens, they saw, in the words of Coleridge, "a something in the sky." There was a large white light, and at an angle above it on the left a red light and at a like angle on the right a white light. The object appeared to be about half a mile above the earth, and when first seen was at an angle of 30° to 40° above the horizon. It seemed to be moving with the wind about 30 miles an hour, as the train was running at 45 miles an hour, and the object appeared to fall in their wake. When they had watched it about three minutes the train turned inland from the shore of Lake Superior, and before it was hid behind the bluffs it tilted and turned inland, apparently following them up valley. As it turned the red light became blue, and there was disclosed in line with the main headlight a row of four lights terminated by a circle or ellipse of a dozen lights, in the midst of which was the dark body of the air ship. The light had the steady clearness of electric or acetylene light, and Mr. Spencer and Mr. Hay could form no other opinion than that it was an air ship, and if the object seen at Vancouver was the same it must have travelled to this point, 2,100 miles, at the rate of about 700 miles a day. It is quite possible that some inventor has set to work quietly and unosten-

tatiously, and thus put his theories in practice before announcing his discoveries to the world; and if he has not since come to grief in the wilds north of Lake Superior, we shall soon know that air navigation has been first accomplished on Canadian territory.

THE LATE F. B. ROBB.



The late F. B. Robb, secretary-treasurer and manager of the Robb Engineering Co., Limited, who was drowned while bathing at Fox Harbor, N.S., July 20th, was born at Amherst, Nova Scotia, on the 8th of November, 1857. His father, the late Alexander Robb, was one of the pioneer manufacturers of Nova Scotia, having established in 1848 the business which has since developed into the Robb Engineering Co. Mr. Robb was educated at the Cumberland County Academy and Dalhousie College, Halifax, afterwards being specially fitted for his work by a short experience in banking and a commercial college course at St. John. In 1876, when nineteen years of age, he, with his brother, D. W. Robb, now president and engineer of the company, took the full management of the extensive business in which he labored up to the time of his death.

METAL IMPORTS FROM GREAT BRITAIN.

The following are the sterling values of the metal imports from Great Britain to Canada for July, 1896 and 1897, and the seven months ending July, 1896 and 1897:

	Month of July,		Seven months ending July,	
	1896.	1897.	1896.	1897.
Hardware and cutlery	£4,032	£5,825	£36,143	£37,755
Pig iron	2,416	942	12,282	3,807
Bar, etc.	1,068	786	9,569	5,799
Railroad	40,614	17,368	88,089	37,654
Hoops, sheets, etc.	8,968	8,313	25,110	31,003
Galvanized sheets	7,625	6,083	30,979	25,458
Tin plates	9,681	5,987	77,235	94,942
Cast, wrought, etc., iron	3,522	1,943	29,625	19,277
Old (for re-manufacture)	2,496	1,080	11,422	2,577
Steel	10,778	6,099	55,185	29,537
Lead	950	3,699	8,506	10,959
Tin, unwrought	1,796	345	9,510	10,779

FIRES OF THE MONTH.

July 29th.—Sash and door factory of H. & F. Swim, Doaktown, N.B. Total loss.—Aug. 4th.—F. Moseley's tannery, St. Hyacinthe, Que. Loss, about \$100,000.—Aug. 5th.—The C.P.R. round house, at Revelstoke. The company lost a consolidated engine, a rotary snow plough and engine No. 59.—Aug. 15th.—J. T. Harvie's saw and lath mills. Loss, \$10,000.—Aug. 19th.—The Hamilton and Toronto Sewer Pipe Co.'s Works, in Hamilton, Ont. Loss, \$15,000.—Aug. 19th.—The Laurie Engine Works, Montreal: roof destroyed and pattern shop damaged.—Aug. 28th.—An explosion in the dust box in the Cobban Mfg. Company's Works, Toronto, caused \$600 damage. Fully insured.—Steamer "Acacia" and steam launch "Athena" burned at wharf, Hamilton, Ont. Loss on "Acacia" \$6,000; on "Athena," \$4,000.

CAPTAIN MICHAEL T. FREE, of the Rochester, N.Y., fire department, and son-in-law of Wm. Johnson, Peterboro', Ont., has invented a swivel joint hose nozzle which has received very favorable notice.

THE Wallaceburg, Ont., Glass Company has resumed operations, with a full force of blowers. The company has orders ahead. It is estimated that \$100,000 will be paid in wages during the present season.