

It often happens that a day and a half is consumed in dressing a wheel by present methods, while this process would take about three quarters of an hour. At the Erith works in England, they could dress twenty wheels at day, at a cost of 5½d each. At the close of this very interesting discussion it was announced that the American Society of Civil Engineers intended to hold a three days' convention at Quebec, beginning on June 30th, and Messrs. Hunt and Owen, members of the committee, who have recently passed through the city, intimated their intention of formally inviting the Canadian Society to join them.

### THE CANADIAN ASSOCIATION OF STATIONARY ENGINEERS.

The tenth annual banquet of the Hamilton C.A.S.E. was held in the Commercial Hotel, April 22nd. The chairman, R. Mackie, filled the chair in his usual happy manner. The following were visitors: Aldermen Findlay, Donald, McLeod, George Black, G. N. W. Telegraph Co., W. H. Ballard, Inspector of Public Schools, and others. The toast list was as follows: "The Queen", chorus, "God save the Queen"; "Governor General", the "Maple Leaf" in chorus; W. S. Hyslop singing the solo, "Dominion Parliament and Local Legislature", song, M. Wilson, response, James McLaughlin, song, W. S. Hyslop, "Our Army and Navy", duet, W. S. Hyslop and M. Wilson, response, Thomas Carter, "The Mayor and Corporation", song, W. Wood, response, Ald. Findlay, Donald and McLeod, "The Executive Head", response, A. M. Wickens, Toronto; W. Blackgrove, Toronto, R. C. Pettigrew, "Our Manufacturers", response by A. Rodgers, song, Rod. Harris, "Our Sister Associations", response by Walter Fox, Toronto, and J. Geary, Guelph, "The Learned Professions", responses by George Black, Mr. Ball and Mr. Gill; song, M. Wilson, "The Press", response by J. H. Mattice, of the *Globe*, "The Ladies", response by J. N. Morris, song, by W. S. Hyslop, "Host and Hostess", response by Mr. Maxey. The committee in charge of the affair was composed of R. Mackie, chairman; J. Ironside, secretary; W. Norris, W. Stevens, J. Johnson, W. Cornish. Mr. T. Bain had charge of the music and played the accompaniments.

Association Canadienne de Secours Mutuels des Ingenieurs-Mecaniciens F. i. Q. have taken possession of their new hall, 392 Lagache Street, Montreal. A report of the annual meeting will be given in next issue.

### CANADIAN ELECTRICAL ASSOCIATION.

The following is the programme for the convention which opens at Niagara Falls, June 2nd:

#### LIST OF PAPERS.

"The Best Method of Increasing the Day Load in Central Stations"—J. A. Kammerer, Toronto. "Submarine Cables—Dealing more especially with the Actual Experience in Cable-Laying and Maintenance in this Country"—D. H. Keeley, Ottawa. "Determination of the Heating Power and Steam Producing Value of Coal from a Preliminary Examination"—Wm. Thompson, Montreal. "Water-Driven Plants"—John Murphy, Ottawa. "The Commercial Aspect of Electric Railways"—C. E. A. Carr, London, Ont. "Accumulators. Their Application to Central Station Lighting and Power"—W. A. Johnson, Toronto. "Why Some Lighting Plants do not Pay"—F. C. Armstrong, Toronto. "Steam End of an Electric Plant"—A. M. Wickens, Toronto.

It is proposed to introduce at this convention a question drawer, and members are invited to forward questions to the secretary prior to May 22nd, and an effort will be made to furnish satisfactory answers at the convention.

#### SOCIAL FEATURES.

Wednesday, June 2nd.—7.00 p.m.—By special invitation of the management of the Buffalo and Niagara Falls Electric R'y Co., an excursion by special electric cars from Niagara Falls, N.Y., to Buffalo. Visit of inspection to Buffalo Railway Power House. Returning, reach Niagara Falls about 11 p.m. By courtesy of the Suspension Bridge Co., members taking part in this excursion will be permitted to cross the Suspension Bridge in both directions without charge.

Thursday, June 3rd.—8.00 p.m.—Annual banquet at Dufferin Cafe.

Friday, June 4th.—By courtesy of the undermentioned companies, the following programme has been arranged:—9.00 a.m.—Special car will leave Hotel Lafayette for a trip over the Niagara Falls Park and River Railway to Queenston. 9.45 a.m.—Cross Niagara River by Niagara Navigation Company's steamer to Lewiston, N.Y. 10.00 a.m.—Leave Lewiston by special cars on the celebrated Gorge Electric Railway, reaching Niagara Falls at 10.45. 11.00

a.m.—Visit of inspection to Hydraulic Power House. 11.30 a.m.—Descend by Incline Railway and take steamer "Maid of the Mist" for a trip to the foot of the Cataract, landing on Canadian side. 1.30 p.m.—Cross Suspension Bridge. 2.00 p.m.—Inspection of the Power House and Works of the Cataract Construction Co. 3.30 p.m.—Visits to various Electro-Chemical Works.

### THE TARIFF.

The tariff presents many difficulties, even at a cursory glance, both as to the immediate effect of its various clauses and as to the ultimate incidence of the taxation which it imposes. The whole subject is further complicated by the preferential clause, whose effects are as uncertain as at the moment its enforcement seems problematical. Whatever may be thought of freer trade with England, and most Canadians heartily endorse it, there can be little doubt of the wisdom of Protection against the United States. The Canadian tariff has been low, that of the United States high; when United States producers suffered from over-production they sacrificed their products in Canada, when the Canadian market was glutted our manufacturers had no such resource, but were compelled to dispose of their goods in competition with each other.

The abolition of the duty on machinery to be used in mining will, if not reconsidered, be a most serious injustice to a considerable number of manufacturers, many of whom have recently embarked additional capital in this department of industry. The admission of such machinery duty free means that virtually the whole trade will be done by United States manufacturers, and the prices current in the United States will rule in Canada. If a moderate duty be imposed, the Canadian maker would be enabled to remain in business, but in order to enter our market the United States manufacturer would have to reduce his price by the amount of that duty, and the prices to Canadian consumers would be practically the same as if they were supplied from the other side of the line, while all the advantages attending the development of this industry would be ours.

### ROPE DRIVING.\*

The subjoined table will be found of great value to those interested in the subject of rope transmission:

Diam. rope inches.	SPEED OF THE ROPE IN FEET PER MINUTE.										Smallest diam. pulley inches.
	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	6,000	7,000	
¾	3.3	1.3	5.2	5.6	6.7	7.3	7.7	7.7	7.1	4.9	30
1	4.5	5.9	7.0	8.2	9.1	9.8	10.8	10.8	9.3	6.9	36
1 1/8	5.8	7.7	9.2	10.7	11.9	12.8	13.6	13.7	12.5	8.6	42
1 1/4	9.2	12.1	14.3	16.8	18.6	20.0	21.2	21.4	19.5	13.8	54
1 1/2	13.1	17.4	20.7	23.1	25.8	28.4	30.6	30.8	28.2	19.8	60
1 3/4	18.0	23.7	28.1	32.8	36.4	39.2	41.5	41.8	37.4	27.5	72
2	23.1	30.8	36.8	42.8	47.6	51.2	54.4	54.6	40.0	35.2	84

### FIRES OF THE MONTH.

April 3rd.—A. Robson's elevator, Ayr, Ont. Loss, \$4,500.—April 3rd.—McKinnon Sash and Hardware Co's factory, St. Catharines, Ont. Japan room damaged, \$11,000.—April 6th.—Portland Packing Co.'s lobster factory, Canso, N.S. April 6th.—Jacques' saw mill, Hagersville, Ont.—Apr. 8.—Globe flour mills, Cornwall, Ont. Loss, \$20,000.—April 10th.—Saw and grist mills, Verner, Ont., belonging to Father Paradis.—April 17th.—The Rathbon Co.'s shingle dock at Deseronto, Ont.—April 22nd.—G. A. Burrows' carpet factory, Guelph, Ont. Loss, \$4,500. April 22nd.—Norsworthy & Lindop's machine shop, St. Thomas, Ont. Loss, \$1,000.

THE "Societe de l'Industrie Minerale" of Saint-Etienne, France, invites original communications from its members on mining, metallurgy and mechanics, for which the Council will award premiums varying from five hundred to one thousand francs. The subjects to be dealt with are: in the mining section, the working of thick-coal seams, and underground haulage by compressed air or electric locomotives in the metallurgical section, the methods for removing dust from combustible gases, the manufacture of open-hearth steel, and the utilization of the waste heat of furnaces for steam boilers; and, in the mechanical section, the use of high pressure, cut-off gears, compounding and condensation in winding engines, and the employment of superheating in steam engines. The papers must be written in, or translated into French, and must be in the secretary's hands by December 31st, 1897.

\* Table of the horse power of transmission rope, reprinted from the transactions of the American Society of Mechanical Engineers, vol. xii., page 230, article on "Rope Driving," by C. W. Hunt. The working strain is 600 lbs. for a 2-inch diameter rope, and is the same at all speeds, due allowance having been made for loss by centrifugal force.