The total length of all railways in Japan at the end of March 1900, was 3,635 miles, of which 832 miles belonged to the government and 2,802 miles to the private companies, showing increases of 64 miles in the government railways and 159 miles in the private railways, a total of 223 miles compared with the figures of the preceding fiscal year.

In transmitting power by wire rope, the load stress or working tension should not exceed the difference between the maximum safe stress and the bending stress. The load stress may be greater therefore as the bending stress is less, but to avoid slipping a certain ration must exist between the tensions in taut and slack portions of the rope when running.

So great is becoming the stock of gold coin and bullion in the possession or care of the United States Treasury that it has become necessary to order the construction of a new burglar-proof vaults at Washington for its storage. At the present moment, the Government has on hand something like 800 tons of the yellow metal and the stock is growing at the rate of a ton or so every few days.

To make a test of coal, take a fragment and chip it till its weight is reduced to a pound. Place this in a glazed assayer's crucible and weigh the two together. The addition in weight will, of course, be the weight of the crucible. Place the latter, with its contents, in a vessel of boiling water shallow enough so that the water does not have any access to the coal, and maintain the water at a boiling temperature for four to six hours. Set aside the crucible and contents to dry, and then weigh. The loss in weight will represent the natural moisture in the coal. Then place the crucible with its coal in the muffle of an assay furnace, or, if that is not available, in a forge, and heat gently till all gas and smoke has been driven off. During this operation the top of the crucible should be nearly covered so that little if any air is admitted. A piece of brick or sheet metal will suffice. Then cool off and weigh again. The loss in weight will represent the volatile ingredients of the mineral. Finally, place the crucible back in the fire and heat strongly, but gently at first, and with the top open, till the coal is burned up. Then cool and weigh again. The loss in weight from the preceeding operation will represent the fixed carbon of the coal, and the final weight, less the weight of the crucible will represent the ash. A good bituminous coal should show about five per cent. of moisture, twelve per cent, volatile ingredients, eighty per cent. of fixed carbon and three per cent. of ash.

TRADE NOTICES.

We understand that Mr. Francis T. Peacock, mechanical engineer of Montreal, has furnished both the Broad Cove Mines and the Port Hood Mines, Cape Breton, N.S., with No. 14-6, Hedley Dials, fitted with the "Heffman" patent joint, Anemometers, manufactured by John Davis & Son, Ltd., of Derby, England. A large number of these instruments are in use in the mines of Nova Scotia, where they are generally used for mining purposes. Mr. Peacock is carrying a stock of these instruments in Montreal, and we understand that the prices compare very favourably with similar instruments coming from the United States.

Messrs. Watson, Jack & Co., of Montreal, have been appointed agents for the well known German mining machinery manufacturers, Messrs. Felten & Guilleaurne, Carlswerk Actien-Gesellschaft, in succession to Messrs. Jack & Robertson, who recently dissolved partnership.

We are in receipt of an extremely well got up pamphlet, entitled "Operation of Electric Mining Plants," published from the power and mining department of the General Electric Company. This pamphlet which is handsomely illustrated from photographs, contains much information of practical value regarding costs of electric haulage, pumping, etc., from mine superintendents and others, besides descriptions of plants now in use at collieries and mines in the United States. The Canadian General Electric Co. have also forwarded copies of the following descriptive catalogues, entitled: No. 1022, Electric Hoists; No. 4230, List of Polyphase Power Plants; No. 4209, Induction Motors; No. 1026, Industrial Applications of Electricity; No. 1030, Electric Mine Locomotives.

The Trent Engineering and Machinery Co., of Salt Lake City, Utah, have issued a descriptive catalouge of ore cars manufactured by them. These cars are built with a special view to strength and durability.

ROSSLAND IN 1900.

MR. JOHN KIRKUP, gold commissioner of the Trail creek mining division, has submitted to the Minister of Mines the following report on the condition of the mines and mining properties of the Rossland district for the year ending December 31st, 1900:

The ore shipments were as follows:

	Tons.
Le Roi	159,734
Le Roi No. 2.	3,013
War Eagle	9,886
Centre Star	40,875
Iron Mask	2,765
Evening Star	348
Giant	506
I. X. L.	500
Spitzee	155
Total	217,782
Gross Value	$2,333,125

DETAILED STATEMENT.

Le Roi Mine.

Tons of ore shipped (dry) 159,734, gross value, $1,437,726; average number of men employed, 655.25; underground 435.85; surface, 219.4.

Development. Shafting, 900 feet; driving, 2,061 feet; raising, 379 feet; crosscutting, 1,085 feet.

Additions to plant: Total value of plant and surface improvements, $3,782,407.90.

Additions for this year consist of: One 40-drill air compressor, one hoist engine, steam operating; one electric hoist engine, nine boilers, crushing and sampling machinery.

Additions to compressor building: New boiler house for 12 boilers, 38x140 feet; three new ore bins, 1,000 tons holding capacity; aerial tramway, capacity, 100 tons per hour; new head frame, 100 feet high; hoist engine room; crushing and sampling mill, 100 tons per hour; timber and timber framing shed and carpenter shop; blacksmith and machine shops and storehouse.

Nickel Plate Mine.

Tons of ore shipped, nil; average number of men employed, 113; underground, 82; surface employees 31.

Development. Shafting (raising third compartment alongside working shaft, making it a three compartment shaft), 268 feet; sinking shaft, three compartments, 218 feet; driving, 1,900 feet; raising, 59 feet; crosscutting, 1,131 feet. Total value of plant and surface improvements, $61,319.66.

A new hoist engine has been added to the plant and the surface improvements have had the following additions made: New hoist engine building; head frace and ore bins; new brick compressor building.

Kootenay Mine.

Tons of ore shipped, nil; average number of men employed, 35; underground, 26.33; surface, 8.67.

Development. Shafting, 466 feet; driving, 474 feet; tunnelling, 68 feet; winzing, 80 feet; raising, 299 feet; crosscutting, 829 feet. Total value of plant, $22,066.62. Additions consist of new compressor building and foundations.

Josie Mine.

Tons of ore shipped (dry), Josie and No. 1 combined, 3,013.43;