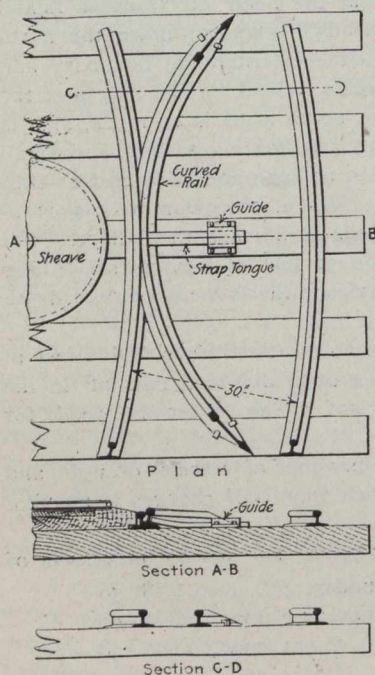


The Dominion government's contract for the first 6,900 feet of three-mile jetty will be completed by April 1st, 1913, and forms part of LeBaron scheme, which will give 25 feet at low-water from the Pitt River to the Gulf of Georgia.

GUIDING ROPES ON CURVES.

A rope incline which contains many curves sometimes occasions trouble by the rope catching under the rail head, when rounding the curve, and thus being thrown off the sheave.

Joseph Daniels proposes an ingenious method of avoiding this trouble in *Coal Age*, August 24, 1912. It is as follows:



Sketch of Guide Arrangement for Use on Curves.

The action of this arrangement is as follows: The cars going up or down the incline spring the curved rail away from the point of contact, thus permitting the trip to pass and immediately spring back to place after the last wheel flange has passed.

The rope at this time is approximately in the middle of the track, but its tendency will be to side over toward the short cord of the adjacent curve. In doing so it is carried from the middle of the track over the wedge point of the curved rail past the main rail to the sheave. In this way the rope is prevented from getting underneath the head of the main-track rail.

TOWN-PLANNING FROM AN ENGINEERING ASPECT.

A paper on the above subject was read by Mr. Ernest R. Matthews, Assoc. M. Inst. C.E., F.G.S., before the Society of Engineers recently. It was divided into two main headings—(a) town-planning in a residential district, and (b) town-planning in a manufacturing area, the former being illustrated by a brief description of Bridlington town-planning scheme. The author stated that, in his opinion, one of the principal points to be considered in the preparation of a scheme was the direction, width, and method of construction of main arterial, secondary, and subsidiary streets. He did not agree with making the foundations of a roadway in a

subsidiary street less substantial than that in a wider street. He deprecated the practice of putting in heavy kerbing and flagged footways in residential districts, and thought that grass margins and asphalt footways not only effected a saving of cost, but presented a more rural and pleasing appearance. He thought that the road requirements of our by-laws were unreasonable, and resulted in houses being built with a narrow frontage and deep back, instead of a wider frontage and shallow back, which he considered much preferable. Open spaces should be left for parks, tennis courts, bowling greens, children's playgrounds, garden enclosures, sites for public buildings, &c. The sewerage scheme and sewage disposal were also very important matters. In a manufacturing area town-planning was different from that of a residential area, some of the points to be considered being:—(1) The position of the proposed industrial area, (2) its proximity to railway sidings, (3) the facilities for vehicular traffic to and from the area; (4) the necessity for constructing any new roads leading to this area in a substantial manner, so that they would carry the heavy traffic likely to come upon them; (5) the area to be occupied by workmen's dwellings; and (6) the supply of electrical energy for power and lighting purposes. In addition to these there would be questions of water and gas supply to be considered, and the disposal of sewage, storm-water, &c.

OIL FUEL BURNERS.

At the October meeting of the New York Railroad Club a paper on the subject of liquid fuel was presented by W. N. Best. Mr. Best stated that one of the greatest abuses of liquid fuel is the fact that it is often used with burners that do not thoroughly atomize the oil and evenly distribute the heat throughout the firebox or the charging space of the furnace. A burner should really form a flame to fit the length and width of a furnace as evenly as a blanket covers a bed. It should be capable of atomizing any gravity of fuel procurable in the open market without either clogging or carbonizing, no matter whether it be fuel oil of very light gravity or crude oil, oil tar or coal tar. A burner is not worthy of consideration unless it enables the operator to burn any gravity of liquid fuel, for no manufacturer should be limited to the purchase of one particular kind of fuel oil.

A burner wherein the base of the fuel carbonizes over the fuel passage is absolutely worthless. A burner should be of such construction that it can be filed to make a long, narrow flame or a broad, fan-shaped blaze, and each burner should be thoroughly tested, so that when it leaves the shop where it is made the manufacturer will know that it will fill the requirements for which it is being furnished. A burner having the oil orifice below the atomizer orifice and independent of it renders efficient service because of there being no liability of the oil solidifying or carbonizing over the atomizer slot at the nose of the burner.

A combustion chamber of adequate proportions for the uniting of the air requisite for perfect combustion with the atomized fuel before it reaches the furnace proper should be used on furnaces. This prevents oxidation of the metal charged in the furnace. It also aids in forming a blanket of flame to cover the entire charging space, thus insuring the even distribution of the flame and heat. Steam or compressed air should be used to atomize the oil and distribute the heat in the furnace, the pressure varying in proportion to the size of the furnace. Air at from 3 oz. to 5 oz. pressure admitted independently below the burners will aid in furnishing the oxygen requisite for perfect combustion.