



Pumping Station.

of Toronto, and it is now in operation. The whole contract was to have been completed by July 1st, 1916, but owing to the scarcity of labor it is not yet complete, but it should be in a few months.

Kitchener will now have two complete systems of sewage disposal works of different types.

#### C.M.A. OPPOSES NATIONALIZATION.

The Canadian Manufacturers' Association is opposed to the plan for nationalization of all Canadian railways (except the C.P.R.) as proposed by Sir Henry Drayton and Mr. Acworth. It offers as a substitute the following suggestion, carried last week at its annual meeting in Winnipeg, and sent to Ottawa:—

"(1) That immediate steps be taken to assist in overcoming the desperate need for equipment, which at present exists, by providing an ample supply of cars and locomotives and turning them over to the companies under lease or contract of purchase;

"(2) That a Board of Trustees be appointed to receive all moneys of the companies unable to meet their obligations, and to determine and supervise all expenditures of the railways to whom advances might have to be made."

C. B. Watts, of Toronto, was a strong advocate of nationalization, but he got little support.

C. B. Hamilton, also of Toronto, proposed that as a war-time measure a central board of the ablest railway men available should be created to operate the railways as efficiently as possible, as a National Service system, but his amendment was defeated. George H. Douglas, of Hamilton, pointed out that it would take about a year to provide the rolling stock required, but his plea was in vain, and the original motion carried, Colonel Thomas Cantley, the retiring president, saying that the country should not get panicky; that in ten years all the Canadian railways will be able to stand upon their own feet.

Resolutions were passed supporting a tax survey, better fire protection, and research laboratories for Canada.

The Italian output of pig iron in 1916 is returned at 454,923 tons, as against 372,909 tons in 1915 and 424,099 tons in 1913. The imports last year were 302,333 tons, as against 240,366 tons in 1915 and 221,689 tons in 1913. The output of pig iron and the home consumption thus reached record figures. The output included 7,000 tons of electric furnace iron produced at Darfo, as against 2,800 tons in 1915. The output of charcoal iron was 5,090 tons.

#### THE USE OF CEMENT IN BULK.

**A**S one measure of economy, why not ditch the cement sack when possible? Cotton, paper and burlap are scarce and high-priced. Unnecessary use of any of them is wasteful, and now is the time to eliminate all waste, says the National Portland Cement Association in a recent circular.

Sacked cement is largely a habit. We got out of the habit of using barrels because the cement sack seemed a more convenient package. But hundreds of thousands of barrels of cement have been shipped in bulk, and on jobs where its handling in this form is practicable, it has been found much more convenient than sacked cement and the expense of handling is considerably lessened.

There are, however, other advantages too important to be overlooked. If you buy a sack of cement its cost includes that of the sack. You can, however, get your money back for the sack if you take such care of it that the mill can again use it for a cement container. But your best efforts to do so go wrong at times because workmen find cement sacks very convenient for protecting their boots or shoes; have found that they make good tool bags; are often the handiest things to use to cover up work. In many other ways they misuse sacks or appropriate them without compensating the owner.

Objections have been advanced against using cement in bulk. Not one can be sustained if we credit the experiences of those who have used large quantities of bulk cement. It is no longer an experiment. It is, of course, not adapted to every job, but where cement is being used directly from the car at a rate of 50 barrels a day or more, bulk cement fits the job better than sacked cement. Various users report savings varying from 5 to 10 cents per barrel on bulk cement, as compared with sacked cement. Figuring 5 cents a barrel, this would mean a saving of \$10 per car on the average carload.

Cement in bulk is not likely to suffer so much damage in transit as sacked cement. Even a leaky car results in less loss to bulk cement than to sacked cement. In the first case only a little cement is damaged; in the second case, more cement and a great many sacks are damaged.

Labor employed in emptying, shaking, counting, sorting, bundling and shipping sacks, is done away with on bulk shipments. This has often resulted in increasing the efficiency of the construction gang about 10 per cent. in the amount of concrete mixed and placed.

Bulk cement does away with freight charges on returned sacks and the clerical work necessary to keep track of them until they have been redeemed.

No special equipment is needed to handle bulk cement from the car to the job. The same kind of wheelbarrow that is good enough to measure aggregates can also be used to measure cement. Less dust comes from handling cement in bulk than from handling it in sacks—there are no sacks to be shaken.

Bulk cement is particularly adapted to the requirements of concrete products plants. Tight, waterproof bins are, of course, necessary, but no other special facilities. Many products plants now use bulk cement only.

On large jobs money tied up in sacks represents money that might be better in working capital. Also, experience shows that the sack losses on most jobs of any consequence vary from 5 to 10 cents per barrel.

On many jobs it is not necessary to provide storage facilities for bulk cement. It is both practical and convenient to use it directly from the car to the job as needed. If storage is required, the ideal arrangement is the overhead bin, discharging by gravity as required.