Concrete Work Easy in Winter

Expert Gives Results of Experience in Extreme Canadian Climate, and Points Out Desirability of Rushing Construction This Winter Owing to Building Shortage

By A. E. WELLS.

On the verge of winter, construction blocked in hundreds of cities, a shortage of many materials of construction and of labor and yet withal, an acute shortage of homes, offices, stores and in many cities, of office buildings, factories and warehouses—what is the answer?

The answer lies in winter construction, in proceeding with work during December, January and February, which have been normally "closed" months. Winter work is not new. It has been practised for years, its safety adequately demonstrated, its economy proved. It should be more generally practised.

Any owner who, through prosecuting work during cold weather, can get occupancy of factory or warehouse or can lease apartments, offices or store space on May 1, stands to gain far more than the added costs of winter work.

Not only the owner, but builder, engineer and architect, gain. There is financial loss to the contractor who breaks up his trained organization, only to build it again in the spring. New men must take time to acustom themselves to working together and owners pay the bill in increased costs. Architects' and engineers' offices are frequently idle thru much of the winter. Building superintendents have nothing to do and owners pay for unproductive overhead.

Perhaps the best way then, to reduce the cost of building is to keep architects', engineers' and contractors' forces busy twelve months of the year.

WHY DOES CONSTRUCTION STOP?

Primarily the reason why building has been inactive is that concrete does not harden so rapidly when its temperature hovers near freezing. But we heat our homes, offices and stores and coal is a comparatively small operating cost. We are to-day able to enclose a structure, warm it with simple coke stoves, heat aggregates prior to mixing with Portland cement, and keep the concrete or mortar warm until hardening has occurred.

Without these precautions, cold weather work is impossible, but the precautions are simple and reasonably inexpensive. Why not do the logical thing and consider the winter as an open season for all but the most exposed class of construction?

Our organization has continued to lay brick and place concrete under zero temperature even in the northern cities of Canada. A part of our normal equipment is sufficient tarpaulins to enclose practically any structure and sufficient salamanders or coke stoves to keep such enclosures warm. Boilers of any type, frequently those used to furnish steam for hoisting, supply live steam for heating aggregates and water and for thawing snow and ice from forms and reinforcing steel.

While a heavy snow may temporarily delay the delivery of materials, yet deep snow is seldom encountered. It is temperature alone that commonly hampers work, and temperature need not be feared.

PLANT LAYOUT FOR COLD WORK.

In laying out a plant for handling concrete in winter, or where the work is likely to run on into winter before completion, there must be provision for the proper heating of materials and water. In case of sand or gravel in open storage piles, it is only necessary to lay a grid of steam pipes under the material piles and place a tarpaulin over the pile. From one main through the centre, branches should extend in both directions every six feet. These branches should be drilled with ⅛-inch holes spaced about 18 inches apart. Several hundred yards of material stored in one pile can be heated in this way with the steam from an ordinary hoisting boiler. Several days prior to concreting, steam should be turned into the pile during workings hours which will be sufficient, except at times of extreme cold, to maintain the necessary temperature.

When material is stored in bins, a series of pipes should be laid on the floor of the bins, feeding from a main pipe at the top of the sloping floor. Steam radiates through the entire contents of the bin and if a canvas cover is pulled over the top when work is stopped at night, the material will retain its heat, except in very cold weather, when a small amount of steam may be needed at night.

It is necessary also to heat mixing water, and a steam line running directly into the water tank is the customary way; a one-inch line being sufficient to heat water for a one-yard mixer.

But concrete poured into forms exposed to cold would lose its heat before hardening had progressed sufficiently. Forms must therefore, be protected and the most satisfactory means is a complete canvas enclosure, with salamanders or coke stoves to maintain a temperature of 45 degrees or over, within. Several hours before concrete is poured, salamanders are started in the story below the forms, unless that story is already heated. Immediately after pouring, a sufficient number of salamanders are placed above the new concrete to insure its safe hardening. These will furnish heat for the floor above.

INDUSTRIAL DEMOCRACY WORKS.

The New York Journal of Commerce says that the remedy for labor troubles known as "industrial democracy" which is fathered by John Leitch and which is being worked in the textile industry to some extent, seems to be giving entire satisfaction, and with labor unrest still very much in evidence other mills who have not adopted this system so far are giving it serious thought.

In the mills of the B. Edmund David, Inc., at Paterson, the plan has been in operation for about fifteen months and there has been no trouble in that time. In justice to the milll, however, it must be said that before that time there was no labor trouble, but during the past year and a quarter when the plan has ben working, the morale of the operatives is reported to be considerably better and a much more noticeable spirit of team work exists in the mill.

In another textile mill it is reported that the production of seconds has been practically done away with, and the resulting yardage of quality goods in this particular case is not the only advantage that has come about since the plan has been put into operation.

While it may be a little too early to tell definitely just how this plan will work as a permanent proposition, it is making an impression on the silk and textile trades, and many feel that if the plan will stem the tide of labor unrest that is abroad to-day it must have something to commend it to others.

TO DO ACCEPTANCE BUSINESS.

The Foreign Credit Corporation, recently inaugurated by the Guaranty Trust Company of New York, the Chase National Bank, New York, and a group of other banking interests throughout the country, has opened for business at 37 Liberty Street, New York.

The Corporation, which has a fully paid-in capital and surplus of $6,000,000, is organized primarily for the purpose of carrying on an acceptance business similar to that done by a class of British institutions known as "Acceptance Houses," The Corporation will accept the drafts of both foreign and domestic clients for the financing of import and export transactions.

Banks and the Victory Loan

A meeting of the accountants of all the Banks on the Island of Montreal was held at the Victory Loan District Headquarters, 247 Notre Dame street west.

Nearly 100 bankers were present, when the chairman, E. B. McInerney, of the Royal Bank of Canada explained the object of the meeting, which was to work for the heartiest co-operation between the banks and headquarters of the Victory Loan during the entire campaign. He called upon John W. Ross, vice-chairman, to speak, and Mr. Ross gave a very clear outline of why it was absolutely necessary that the Government should secure this money, and said that to make the campaign a success, the Victory Loan Executive hoped that the banks would give even greater assistance than in the previous loans.

A. D. Anderson, honorary-treasurer, then explained the system of reporting from headquarters to the banks, and also how necessary it was for each branch bank on the island to send in to headquarters a daily report of all applications received by them from their customers.

Rene T. Leclerc, vice-chairman spoke in French.

The meeting was closed by a few remarks from R. Knight, assistant-accountant of the Bank of Monteral, who speaking as a banker, assured the officers of the Victory loan that the accountants would co-operate in every way possible to make this loan a greater success than either of the two preceding campaigns.

The following committees have decided to co-operate with the Victory Loan executive in every way possible: Dominion Executive Committee. Leading bankers of the Dominion who were consulted in regard to floating the loan.

Committee for Province of Quebec, consisting of Messrs Neill Mackenzie, Pratt, Leman and Merritt.

Montreal Committee: Messrs. Stevens, McInerney and Mr. Knight.

The programme will be as follows:

First—By extending to their customers a line of credit by which they can purchase bonds at the same rate of interest (5½ per cent) as paid by the Government on the bonds; this special credit not to interfere in any way with their regular business credit; also where companies are helping their employees to buy bonds, the banks will help the companies.

Second—To the small investor who wishes to buy bonds and cannot get the backing of his employer, the banks have agreed to accept payments extending over ten months; such payments to be entered on a card system, the bank holding the blue card and the purchaser the white card.

Third—Banks have agreed to hold for safe keeping the bonds of purchasers who have no safe place to put them, free of charge, for one year.