

shutting off the flow is not a highly important factor. However, the flow could be checked in twenty-five minutes, and completely shut off in an hour and a quarter.

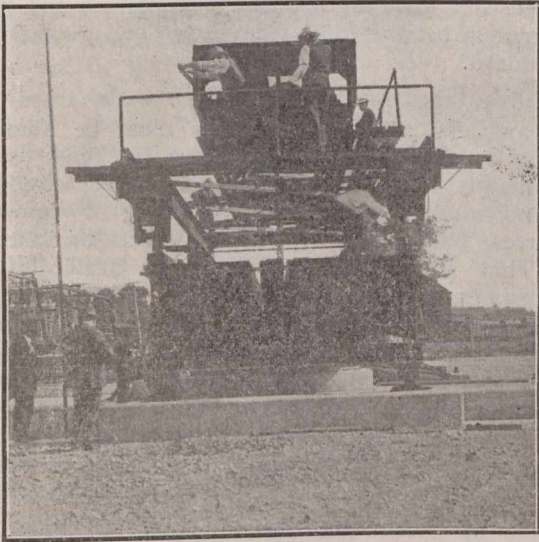


Fig. 7.—End View, Lowering Stop-Log.

The mechanism has been thoroughly tested. It has been satisfactorily operated by one man at night, and under all adverse conditions, and has given complete satisfaction.

The steel work was supplied and erected by the Dominion Bridge Co., Limited, and inspected in the shop and field by the Canadian Inspection and Testing Laboratories, Limited.

According to the United States Bureau of Standards, the melting points of fire brick are as follows: The most common fire brick, or those made of clay of which the main ingredient is kaolin, will melt at a temperature ranging from 2,831 to 3,137 degrees F.; bauxite brick, from 2,949 to 3,245 degrees; silica brick, from 3,092 to 3,101 degrees; chromite brick, at 3,722 degrees, and magnesia brick, at 4,929 degrees. These melting points, which represent the lowest temperature at which a small piece of the brick could be distinctly seen to flow, were determined in an electric vacuum furnace, the temperature being measured with an optical pyrometer.

The following is quoted from *Building Age*; "The freezing process in connection with excavations for the foundations of buildings appears to be something of a novelty in foreign countries, although many instances of it have occurred in America. The process, however, has recently been applied with economy and general satisfaction in Berlin, where the foundations of a large building had to be carried 10 ft. below the foundation of the abutting structures. As the latter were built on running sand, it was entirely out of the question to excavate for the new structure without special precautions, and the freezing process was adopted as an alternative to the pneumatic caisson method. Freezing pipes of 5-inch diameter were sunk around the space to be excavated and connected by headers with a brine pump and tanks. The cold brine was pumped through 1-inch pipes enclosed in the 5-inch pipes, and the brine was returned to the tanks through the latter. When the apparatus was put into operation the effect was to establish a stable barrier of frozen quicksand, permitting the foundation space to be excavated by ordinary means without difficulty."

TREE-PLANTING ON CITY STREETS.

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THE aims and objects of this paper are not so much to submit any fresh or original ideas on the subject as more particularly to awaken the civic conscience to a sense of its duty and obligation towards, and to enlist the sympathy of the public in, a matter which so much affects its personal and civic welfare. That there is a close connection between our civic well-being and the condition of our public places is generally conceded, and the relationship becomes increasingly more apparent as our public places are made more amenable and pleasurable through beautifying with well-kept boulevards and ornamental trees and shrubs. Although the subject is one which generally has the sympathy and approval of public and private bodies, as well as the majority of individuals, it is astonishing how little specific information there is concerning it, and how very little action is taken to make the matter a practical reality. So far as the West is concerned, the movement is in its infancy. While many of our older towns and cities have achieved something towards this end, the majority of places either overlook or disregard this important feature of civic planning and beautifying.

Design of Streets.—The uses and purposes for which streets and highways are intended may be classified in the following order of importance, viz., traffic, building and aesthetic considerations. While utility must of necessity precede aesthetics, the latter demands and deserves more consideration and attention in street planning than it usually receives. Although a well-designed and well-constructed street primarily serves traffic and building conditions, beauty and harmony are necessary to give the street character and tone. Such an atmosphere is created by the scenic beautifying of streets and thoroughfares with impressive shade trees and well kept boulevards. The accomplishment is not the work or skill of the single individual, but is indirectly the combined results of many minds and activities. The co-operation of the landscape gardener, the engineer, and a sympathetic public is essential to achieve any successful and satisfying results in street beautifying. Wise discretion, unlimited enthusiasm, and infinite patience are all necessary to further any beautifying scheme, and even after the designer and gardener have done their parts one has to watch and wait for results, for nature objects to be hustled and must have her own way.

Important preliminary steps in any permanent scheme for tree-planting and boulevarding are (a) the establishment of the permanent grades of the streets, and (b) the classification of streets, as far as possible, according to traffic and building requirements, present and prospective; (c) the proper proportioning of the street width to equally suit traffic and aesthetic conditions. While street trees can frequently be planted before the permanent grading by making due allowance for same, unless for merely temporary effect, it is not wise to carry out any extensive boulevarding until the permanent grade of same is fixed.

Where street widths have not been generally established, such as in this neighborhood, at a minimum width of 66 feet, they should be standardized and classified as business, residential, or semi-residential streets, and any construction or beautifying carried out along systematic lines to typical designs. To derive the best results and prettiest effects it is very essential to have the travelled roadbed, the sidewalk and the boulevard symmetrical pro-