

from the surface of the wood and makes the blocks bright and clean, even when oils containing much tar and carbon have been used. It also probably has considerable influence in retarding subsequent bleeding of tar mixtures.

Laying.—The moisture content of the treated blocks at the time they are laid is of great importance. Treated wood will lose or take up moisture quite readily, even though heavy paving oils have been used. If dry blocks are laid in the street, they may swell sufficiently to cause bulging or displacement of the curb. They may also squeeze the bituminous filler onto the surface and create

expansion trouble, hence careful consideration should be given to the method adopted. Care should be taken to see that the blocks are not jammed too tightly together as it would then be difficult to thoroughly fill all of the spaces between them.

Poor results have been obtained so frequently where sand was used that this practice seems very inadvisable. Sand filler permits water to penetrate to the base of the blocks and consequent swelling.

PENETRANCE TESTS

(DATA IN TABLE 21)

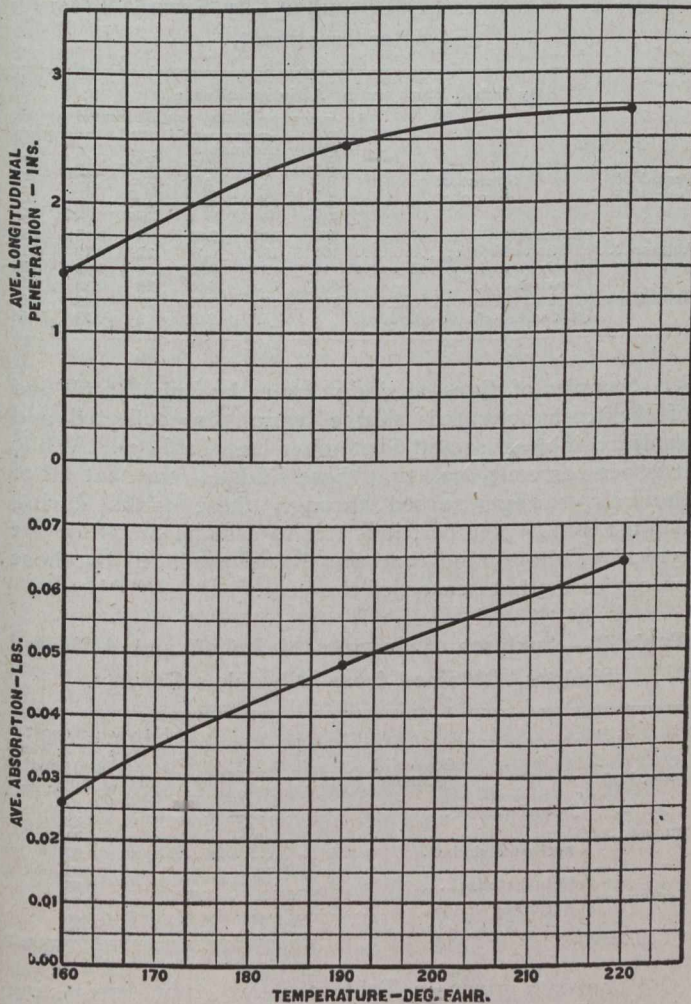


Fig. 7.

Relation between absorptions and penetrations in longleaf pine using a mixture of 25 per cent. creosote No. 4 and 75 per cent. tar No. 5 at different treating temperatures. Pressure, 200 lbs. per sq. in. Time of treatment, 1 hour.

a condition which is essentially as objectionable as bleeding.

It is important, therefore, to have the blocks expanded to their maximum size when laid. If green timber is used in treatment, this point can readily be taken care of. If well seasoned stock is used, the steaming treatment is depended upon to add water to the wood and expand it nearly to its maximum size. Care must be taken to have the blocks laid as soon as possible after treatment, or to so protect them during the meantime that they cannot dry out.

After laying, the blocks should be filled with suitable bituminous filler. This is depended upon to prevent water reaching the base of the blocks, which could cause

CANADIAN SOCIETY OF CIVIL ENGINEERS.

At the meeting of the Canadian Society of Civil Engineers, Montreal, to be held November 2, Mr. L. M. Jones, city engineer of Port Arthur, Ont., will read a paper entitled "Water Supply of the City of Port Arthur." This paper had been scheduled for the meeting of October 19, but at the last moment it was found necessary to defer its presentation until the later date.

CANADIAN SOCIETY OF CIVIL ENGINEERS, MANITOBA BRANCH.

At the regular meeting of the above branch on October 5, 1916, Dr. R. C. Wallace, professor of geology, University of Manitoba, delivered an interesting address in which he dealt with the present stage of mining development in the province. Interest in metalliferous deposits was confined to three districts: (1) the Rice Lake area; (2) the district north of The Pas; (3) the Star Lake area.

The Rice Lake area now consists of four separate fields—the original Rice Lake area, the Gold Lake area, the Long Lake area, and the area north of the Hole River. The only development work is in the original Rice Lake area, where several shafts have been sunk to the 100-foot level, and some drifts have been run; and in the Gold Lake district where on the Gold Pan and Moose properties depths of 125 feet have been reached.

North of The Pas a belt extends over 120 miles from west to east, the centre of the belt being over 60 miles distant from The Pas. The deposits in this belt are of two kinds: (1) Sulphide bodies; (2) quartz veins with gold. The sulphide bodies have attracted widespread interest. They have been formed by impregnation in zones of weakness, and are consequently irregular in shape, and discontinuous.

In the Star Lake district a fahlband of conglomerate and quartzite has been extensively impregnated with pyrrhotite and arsenopyrite. Irregular veins and stringlets of quartz which traverse the fahlband, carry high values in gold; and into the whole fahlband gold has been introduced, but in low values. On one property there is a very complete set of buildings, but new mill machinery must be installed. The underground development is by no means extensive. Elsewhere development work has been confined to stripping and the sinking of shallow pits.

The lecturer emphasized the fact that mining operations were frequently retarded because the conditions of sale which prospectors demanded and those which mining companies were willing to offer were dissimilar in nature. He suggested that if development companies were organized to take over prospects and develop them to the stage where values could be approximately estimated, prospects of real value would have a much better chance of becoming producing mines.