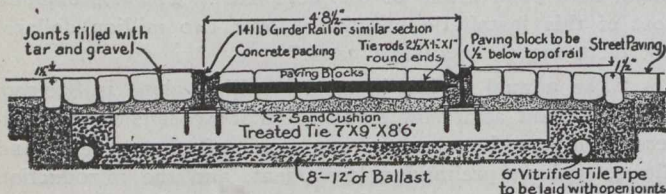


Freight House Floors.—"Freight house floors should ordinarily be built to carry a uniformly distributed load of at least 250 lbs. per sq. ft. Except for small houses, a filled-in floor, considering the cost of maintenance, is ordinarily cheaper than joist construction. It is also advantageous, because it will carry the unusually heavy loads that sometimes occur.

"The usual method of construction consists of filling up to the required level with sand or gravel, thoroughly flushed and compacted. To ensure a dry floor, on this filling is laid a bed of cinders about 6 in. thick, thoroughly compacted. In the cinders are bedded sleepers, preferably about 4 in. x 6 in., laid flat, about 2-ft. 6-in. centers. These and the plank above them should be thoroughly treated with creosote of zinc chloride where there is to be an additional



Recommended Track Construction for Steam Railroads at Paved Street Crossings.

wearing surface applied. With untreated timber renewal is sometimes necessary within four years, though under favorable conditions a life considerably greater is usually obtained. When no cinders are used on top of the sand the decay seems to be hastened.

"In place of cinder filling and sleepers a layer of coal-tar pitch spread upon a layer of sand over a course of concrete is being quite extensively used. This is durable and is said to give good results. Specifications for this method are obtainable from the coal-tar producers.

"Either on the sleepers, laid in cinders, or on the pitch are laid planks about 2 in. thick. With the pitch sub-floor the plank should be laid with broken joints toenailed and embedded in the pitch by hammering until the proper stability is obtained. Care should be taken to see that they are brought to an exact grade. The plank need not necessarily be toenailed with the wooden sleepers.

"To get a smooth-wearing surface on top of the plank hard maple is generally preferable. It does not splinter and it wears evenly. It has a short life when exposed to the weather. It is growing scarce and getting expensive. Beech is often sold for maple, they being difficult to distinguish. It is somewhat darker in color and it splinters more. Birch is softer than beech or hard maple, but does not splinter so readily as beech.

"Gum, especially tupelo, is recommended as a substitute for maple, and it probably will, to some extent, displace it. It is darker in color and somewhat softer, but it wears evenly and it does not splinter much more than maple. Thorough seasoning is particularly essential. There is a large supply of gum in the South and its use for floors should be extensive.

"Under most conditions, the best floor can be had by laying the top floor diagonally, putting the plank lengthwise and the sleepers crosswise of the house, without any bearing on the side walls. Inequalities in settlement of the floor are then less liable to make trouble, the plank can be laid with minimum expense, and the top floor gives the best results after considerable wear. This costs for the top slightly more for laying and more for repairs. Where there is a pronounced amount of trucking in one route it is sometimes thought desirable to put the flooring parallel to this trucking but where the amount of traffic warrants it would seem best to put a runway of steel plates.

"Wood block pavements may be used in place of the board floor. They are best used on top of a concrete sub-floor, with a 1-in. sand cushion between. With wood blocks care should be taken to obtain sufficient expansion joints, as many floors have failed from a lack of this precaution. One inch for 50 ft. is about the correct amount. Care should also be taken to avoid the use of creosoted blocks where flour or similar articles which are easily damaged by odors are handled. There is also a chance of such damage from tar used in the expansion joints. Zinc chloride is for this reason recommended as a preservative for wood blocks when used for freight house floors. Zinc chloride is cheaper than creosote, and in a freight house the blocks will not suffer from the leaching which takes place when they are exposed to the weather, the main objection to the use of zinc chloride for treatment of cross-ties and paving blocks. It is almost impossible to get this kind of floor as smooth as a maple floor, but if properly laid it tends to wear smooth. It is adapted to points where wear is especially severe, such as are due to the handling of castings and heavy machinery. Its main advantages are in the ease with which it can be repaired. The blocks are ordinarily made of pine. It would seem that gum blocks would be better. Maple blocks are also used, but are expensive.

"Concrete has been used successfully where the wear is not too severe. There is a good deal of chance of damage by falling freight, and its use must be restricted to places where there is little chance of castings and similar articles being handled, unless the top surface is carefully made of the best of hard aggregates. Under such conditions excellent results have been obtained.

"A concrete sub-floor protected by a layer of asphalt mastic will give excellent results. It will cost more than the concrete floor, but it will not chip and scars made in its surface soon disappear. It is not so cold as the concrete floor and has been used for this purpose with success.

"Asphalt blocks properly made would seem to have some advantage for this purpose. They should make a smoother floor than the wood blocks and can be more easily repaired than the mastic floor."

RAILWAYS AND CIVIC WORKS AT REGINA, SASK.

The following civic works will be carried out this year:—Street railway extensions, \$825,000; gas plant investigations, \$25,000; trunk sewer (48-inch), \$240,000; waterworks extension, \$200,000; storm sewer mains, \$60,000; power plant (new one), \$425,000; electric light extensions, \$250,000; health and scavenging equipment, \$117,000; road making, \$22,000; fire hall and motor equipment, \$60,000; footbridge over Canadian Pacific Railway tracks, \$35,000; winter fair auditorium, \$134,000; police station and court, \$180,000; hospital addition, \$125,000; complete subways, \$37,000; remodel market building, \$7,500; domestic sewer mains, \$630,000; domestic water mains, \$420,000; paving, \$580,000; paving (under old by-law), \$550,000, (debentures sold); concrete sidewalks, \$115,000; collegiate extension, \$100,000.

As a railway centre Regina occupies a fine position. All three of the great transcontinental lines operate in and out of Regina. The Canadian Pacific Railway was the pioneer, but the Canadian Northern and the Grand Trunk Pacific has entered into an agreement with the city council to spend \$1,000,000 on the erection of a large hotel, which will contain 275 sleeping rooms. This railway will also erect a large station at a cost of about \$500,000. About eight hundred feet of train sheds will be built adjoining the station so that all trains arriving in the city will be under cover.