It is desirable that wood block be paved into the street as soon after treatment as possible. For this reason it is well to have the concrete laid before the blocks are received and thus be able to deliver them directly to the pavers.

In case this is impossible, the blocks should be tightpiled along the line of the work and they should be protected from the sun by wet straw, tarred paper or similar means and sprinkled with water from time to time to keep them from drying out too much. In piling block alongside of the street it is desirable to make the piles as high as convenient, for they will occupy less sidewalk area and interfere less with pedestrian and delivery traffic.

In paving, care should be taken to keep the courses straight and at right angles to the curb. Special attention should be given to paving around manhole heads, street car tracks and other iron work. Blocks should be paved against a vertical surface; to get this it is necessary with rails and may be necessary with other iron work to plaster the abutting face with a rich mixture of sand and cement. It is absolutely necessary adjacent to all such iron work that the cushion be specially tamped and thickened so that the block when paved shall be from 3/16 to 14 inch above the wearing surface of the iron. Traffic will bed these blocks down to the level of the iron in a short time.

Block paved as already outlined is all right for streets having a grade not over three per cent. Streets with greater grades should be paved with a 3%-inch groove between each row of block. The best way of doing this is to separate each row with a creosoted strip 36 inch thick. The width of these strips should be one inch less in depth than the block, so as to leave a groove one inch deep. These grooves are sometimes filled with pebbles and pitch. Wood block should not be used on grades exceeding six per cent. except in special cases.

With wood block pavement the crown should be as light as possible; just sufficient to shed water freely.

Car-Track Work .--- It has already been pointed out that in paving against street car rails the blocks should be set against a perpendicular surface and also paved about 1/4-inch high. Between the car tracks it is possible to use this construction with a Trilby rail. With the old form of girder rail this may be done, too, but the surface of the block within the car tracks will be on a level with the wagon wheel tread of the rail.

A great many street railways use T head rail. Blocks may be paved against such rails by plastering the surface and paving low enough to allow the flange of the wheel to pass freely. This means that the pavement within the tracks will be about one inch below the abutting pavement. Or the rail may be plastered and the blocks paved from rail to rail at the same level as the surrounding pavement; the blocks that set up against the rail in this case must have one corner chanpfered off to permit the passage of the wheel flange. Instead of plastering the side of the rail, creosoted strips are often used. Specially formed blocks are also used.

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Many bridges are paved with wood blocks. them have concrete roadways on which the blocks are paved substantially as outlined previously. Many have plank floors and some iron floors. Planks should be creosoted, surfaced to an even thickness and laid smooth. Blocks may be laid directly on the creosoted plank, but it is often desirable to Cover the plank first with one or two layers of tarred paper. The joints between the blocks should be filled with bituminous filler. This filler is recommended for all bridge, shop and stable floors.

Whenever there is a plank foundation laid on a grade or with traffic all one way, it is desirable to fasten angle irons across the roadway every twenty feet or so to prevent the block from creeping.

In regard to the blocks themselves: they are made either three, three and one-half or four inches deep; their width varies from three to four inches, but all blocks in one improvement should be of the same width. Three-inch block should be limited in width between three and three and onehalf inches. Deeper block should be four inches wide. The average weight per yard of wood block is 140 pounds for three inches deep; 165 pounds for three and one-half inches deep and 187 pounds for four inches deep.

As to treatment: twenty pounds per cubic foot of wood has been the standard in this country, but for heavily travelled streets 16 pounds is sufficient.

Long-leaf yellow pine and Southern black gum have been the standard woods for streets of heavy traffic. In the West they have also used Norway pine and tamarack, and in the East and South North Carolina pine is coming into great favor for residential streets, for those of moderate traffic and for streets with heavy grades. North Carolina pine more nearly resembles the creosoted wood used in Paris and London than does the long-leaf; it wears uniformly and permits crushed trap rock to be rolled into its surface, making it less slippery than long-leaf. It is ideal for state highways, where if used it should be laid with bituminous filled joints. It is also extensively used for factory floors.

In regard to the labor necessary to lay wood block pavement, leaving out the preliminary work of excavation, foundation, etc., I would say that an ordinary paving gang consists of a foreman, about four pavers, a bed-maker and his helper and some twelve laborers. The yardage that such a gang will lay in a day depends largely on local conditions, but they should pave in the neighborhood of five hundred yards per day on continuous work. The above men do not include those engaged in carting and piling the blocks on the sidewalk or the rolling.

## THE TREATMENT AND CARE OF FLOORS.

## By Geo. W. Saums.

In the very much larger demand for the preservation of cross ties, poles, and what might be termed wood for heavy duty, the application of preservative methods to wooden flooring has been neglected and has apparently received little or no attention at the hands of those who have been giving special and particular attention to the larger subject.

Everybody needs floors, and therefore as a matter of fact the care and preservation of floors is in reality also a large subject and worthy, it has always seemed to me, of more attention.

Wood used for flooring has no different characteristics from wood used for any other purpose, and is subject to precisely the same rotting conditions as when used for heavier work, and mainly, perhaps, because each individual floor in itself does not represent a very large outlay of money for maintenance, the fact that the aggregate of all floors does run into a large cost has been neglected, and unfortunately neglected to the extent that under present conditions concrete and other composition floors are rapidly being substituted for wood, especially where any heavy wear is likely, even though these compositions can never be as entirely satisfactory as a good wood floor, if that floor could only be preserved in good condition for a reasonable length of time.

Obviously, in addition to rot, it is necessary in floors to consider splintering and buckling, and it does not require a combination of any two or more of these difficulties to make it necessary to relay a floor. Upon the appearance of any one of them it means that sooner or later a new floor must be laid.