## ON THE CONSTRUCTION OF PLANK ROADS.

driven up to it with the commander. No pinning is necessary. When the road is thus well laid, it is very difficult to raise a plank. It can hardly be done, except with a lever. The plank being laid, the next business is to embank a little more earth on the sides of the road, so as to raise the road on each side at least more or four inches above the surface of the plank. It will soon pack so as to be on a level, and should not be permitted to be, when packed, lower than the surface of the plank—thus the planks are kept from moving endwise, and it is easy to get the wheel of the wagon on to the plank, when it gets off when one carriage is passing another, or otherwise.

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Where there is no heavy grading and not an unusual amount of bridging, and where plank can be delivered on the road for five dollars a thousand, one thousand dollars will pay for making a mile of plank road.

There is some inconvenience and some additional expense in cutting the plank only eight feet long, that length is not suited to the sled on which the plank is brought in winter from the woods to the mill, and it requires a greater number of logs to be loaded and sawed and a greater number of planks to be handled. This inconvenience may be obviated by cutting the logs of any convenient length; say twelve feet, and laying the plank di-agonally across the sleepers. It is needless to add, that when thus laid, the sluice-ways are covered without the aid of cross pieces. This mode of laying the plank diagonally has not found much favor, but it is thought that planks thus laid will wear longer than if at right angles with the stringers, and that the wheel rolls easier on a plank lengthwise, or partially so.

But if this mode is adopted, it is desirable that there should be, at intervals of half a mile, a change in the direction of the planks, as is illustrated in the diagram, which also shows the position of the stringers, and the mode in which the sluice is carried, as at B. Unless there is this change in the direction of the plank, the wheels of the carriage will crowd and grind on the same shoulder of the axle and the same linch pin all the time. It is a proper precaution to have "washers" against both the shoulder of the axle and the linch pin always covered with some anti-friction composition; otherwise, in fast driving, the hub of the wheel will heat. There is in most axles what is called the "gather," that is an inclination which induces the wheel to run on, rather than off the axle; there is no inconvenience in this on common roads, for its effect is continually counteracted by the inequality of the road. On the plank road, where the planks are laid at right angles with the stringers, the tendency of the wheel that has a "gather" in its axle, is continually to crowd the shoulder. There is no use in this gather anywhere, and it is particularly injurious on plank roads. There is much saving in sawing the logs through and through, and then edging the plank; and there is no need that the plank should have square and full corners on each side; it is enough if, on the under side of the plank, both bottom edges are straight, for an inch of its width, from end to end. The "wane" on the upper side, will immediately fill with dirt; but it is well not to place two wancy planks together, and always lay the wancy side of the plank up. Wancy is a word in common use, as distinguished from straight. As to the durability of these plank roads, the estimate is, that they will require to be covered once in seven or eight years, unless there is so much travel as to wear out the plank sooner, which is an event devoutly to be wished; but the stringers, being continually moist and nearly excluded from the air, will outlast three coverings.

I have no doubt that, in the free use of pulverized charcoal, or some other antiseptic material to imbed the plank in, the means will be devised of saving the plank from rotting; and I have no doubt that a thin coat of hot pitch, on the top of the planks, with gravel sifted on, would in a great degree prevent the planks from wearing out.

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