

plank and to the running beams. The joints do not necessarily require to be broken on the beams and, therefore, there is probably less waste in laying a floor of this description than would be in the usual plank floor. In case of an extra heavy floor load or where an extra long span is required, 2" x 5" and even 2" x 6" may be used in the same manner. The material in question is usually dressed on four sides, one edge frequently being beaded or chamfered so as to give a neat ceiling effect to the floor below.

The writer has found it good practice to lay two ply of tarred felt, cemented at joints, between the lower and top flooring, for not only does this make it dust and oil proof, but frequently in case of a fire it prevents the water dripping down at many points on the machines below.

A floor of this description has been known to be flooded to a depth of 2" with water from the sprinklers, and the only leakage to the floors below was at the walls and columns.

Although modern work-shop design is doing much to reduce the cost of handling stock in process of manufacture, yet comparatively little attention is given to the cost of receiving and delivering to first process of raw stocks, supplies, etc. Of course, almost all manufacturing establishments are equipped with a warehouse or shed in a comparatively convenient locality adjoining the railroad, but in all probability the warehouse in question is located some distance from the point where the material will be required for the first process in manufacturing, and thus in nine cases out of ten entailing additional expenses for handling as the stock might probably have been placed in the first instance with little, if any, extra expense on almost the spot where it was to be used, or at least in such a position that further movement would be almost by gravity.

For instance, nearly all manufacturing establishments use coal to a greater or lesser extent, the usual procedure being to deliver it by team or barrow to the floor of the boiler house, from where every ton is transferred to the grate bars with shovels by the fireman. A coal handling plant would obviate this, but its first cost and operation are expensive, and it can therefore only be favourably considered in plants where large quantities of coal are being used; but in almost every case the boilers in manufacturing plants could be placed somewhat below the ground level or on an elevated runway erected so that the coal could be delivered by team into hoppers level with or above the boiler house roof, from which hoppers it would flow by gravity to the stokers, these in turn delivering it, as required, to the grate bars. The hoppers referred to need not necessarily be large, two or three tons' capacity being sufficient in many cases.