What is a jig?

What are its advantages?

Make a drawing of a mogul crank pin, half size, drawing to be inked in.

The apprentice is required to make an inked in drawing of some part of locomotive, further advanced each year.

The object of the text-book is to have the boy theoretically conversant with the work that is going to be done by him after his next promotion. For instance, a boy going from the blacksmith shop to the machine shop has to pass his examinations before he is accepted in the machine shop, which is called, "Examination for promotion of Apprentices from other shops to the machine shop." As he is usually put on a drill to commence with, by studying his text-book, he learns considerable about it, and also the tools he is to use in connection with it. The same practice is followed throughout the whole term of apprenticeship, and while the apprentice is working at one he is studying as much as possible about the machine he is to go on to next. One of the great advantages of this system is that it gets the apprentice thinking, and leads him to reading up in line with his work.

The indenture system has been found to be of great advantage both to the company and the apprentice. It has a tendency to keep the apprentice satisfied, and steady his energies along the required lines. It also prevents him from being tampered with by outside firms or corporations who desire to obtain the services of the boy as soon as he has become useful to the company who has instructed him. At the completion of his term each apprentice receives a certificate showing that he has served as an apprentice and as a mechanic in the branch of the trade that he was apprenticed to. An apprentice is required to serve five years at the following rates, 8, 10, 12, 15 and 17 cents per hour. Before he is granted each year's advance he is required to pass a written examination on shop work, also make a drawing of some detail part of a locomotive, as sepecified in the apprenticeship book, which examination and drawing must have the approval of the Master Mechanic and Superintendent of Motive Power before his advance is allowed.

The above system insures thorough education in all details of the trade, and while some of the work may be specialized it is not done by the apprentice until he becomes a journeyman. For instance the apprentice comes from the boiler shop to the machine shop, from the machine shop to the motion bench, to the side rod bench, to the axle box gang, to the steam pipe gang, to the valve gang, and finally to the erecting gang, so that after an apprentice is out of his time he is a specialist in any of these branches. This system of apprenticeship on the Grand