

is horizontal and higher than the front axle. And the axle of the back wheels may be as high as the line of draft along the reach.

In the stage coach and prairie schooner which are drawn by a number of teams of horses, the traces of the forward teams are horizontal, so that the slant of the traces is unimportant, and the front wheels may be as high as the point on the hames to which the traces are attached. Against this, however, is the stability of the load, which is less as the wheels are higher. This may be secured, however, by making the axle longer, so that the wheels are farther apart.

In trucks used for short hauls with heavy loads the ease in loading is the important factor, and as a result the wheels are small.

Conclusion

TO THE BOYS AND GIRLS.—Now we have finished our study of some of the common tools, and we have found that they all obey some simple law, the most important of which are the Lever Law and the Law of Machines. You will notice that in all our work we started with our common knowledge of the tools; then, first, we made it more exact by measuring everything that had any bearing on the use of the tool; then, second, we tried to discover some law connecting the quantities measured; and third, when we had found the law we applied it to other tools, to see whether it would help us understand their use.

When we know the law which a tool obeys, we are the masters and the tool is our servant. We can calculate beforehand exactly what service the tool will give us, and what changes in it are necessary to adapt