

How to Load a Waggon

Some three or four weeks ago the question was asked whether a waggon should be loaded heavier on the hind than on the front wheels. Your reply, though not asserted to be conclusive, implied that the load should be equally distributed. I propose a scientific elucidation of the subject, which will prove that the load should be heavier on the hind wheels, in the proportion of their diameter to the diameter of the front wheels.

A wheel is a lever, whose long arm, theoretically, is the distance from the ground to the centre of the axle; the short arm is a pivot; but, practically, it is impossible to construct a lever of such proportions. Hence, in calculating the advantage of the lever, a wheel or a lever, allowance must be made for the size of the axle, and for friction dependent on size, other things being equal. Without going into too elaborate a discussion, it will be sufficient to say in general terms that the power gained by a waggon wheel is in proportion to its semi-diameter, and hence that the load on a waggon should be placed proportionally to the diameters of the front and hind wheels.

Suppose the front wheels are four feet, and the hind wheels five feet in diameter—then five-ninths of the load should rest on the hind wheels and four-ninths on the front wheels.—*Cor. Rural New Yorker.*

The Correct Length of Whiffle-Trees.

A horse cannot draw as well with a whiffle-tree twelve feet long as with one two feet six inches in length, because the line of draught is not in the proper direction to be most effective. Nor can two horses, harnessed abreast, draw well with whiffle-trees ten feet long, while their heads are coupled close together, because they must travel sidewise, more or less, in which position no animal can exert all his strength to the best advantage in hauling a load.

Horses draw best with the double whiffle-tree just long enough to allow them to stand close to each other, having the single whiffle-trees attached directly behind them, and just long enough to meet in the middle. When the double-tree is very long, each horse must draw more or less sidewise, if the coupling lines and the neck-yoke are not made long enough to allow them to move directly forward, without having their heads turned towards each other. In order to determine the correct length of whiffle-trees, let two horses stand side by side with their sides three inches apart; then measure from the centre of one horse to the other on their backs. This will give the length for a neck-yoke, and the correct length for the double-tree, between the joints where the single-trees are to be attached. When a neck-yoke is only eighteen inches long, and the double-tree of the proper length, horses will be required to move more or less sidewise. For the same reason, oxen often get into the habit of hauling sidewise, because the yoke is too short. Neither oxen nor horses can travel easily and freely when their heads are turned towards, and the butts from, each other.

Whiffle-trees for ploughing should always be as short as they can be made, without bringing the traces against the legs of the

team. A very long double whiffle-tree tends to make a plough take too wide a furrow slice. If the clevis be adjusted to take a narrow furrow slice—when the double-tree is too long the plough will not run at all satisfactorily. The horse in the furrow will not be able to walk squarely in his place, because the line of draught is such as to keep crowding his hind feet out of the furrow on the ploughed ground. The length of the double whiffle-tree and the neck-yoke for a sleigh, should be just as long as the sleigh is wide, from the centre of one runner to the centre of the other.—*Manufacturer and Builder.*

Greasing Waggons.

The following extract from the *Scientific Press* has already appeared in these columns; but it refers to a matter of so much importance and so much neglected, that we have no hesitation in once more bringing it before the attention of farmers:—

"Greasing buggies and waggons is of more importance than some people imagine. Many a wheel is ruined by oiling too plentifully. A well made wheel will endure constant wear for ten to twenty years, if care is taken to use the right kind and proper amount of oil; but if this matter is not attended to, the wheel will be used up in five or six years, or may be sooner. Lard should never be used on a waggon, for it will penetrate the hub and work its way out around the tenons of the spokes and spoil the wheel. Castor oil is a good material for use on an iron axle; just oil enough should be applied to a spindle to give it a light coating; this is better than more, for the surplus put on will work out at the ends and be forced by the shoulders and nut into the hub around outside the boxes. To oil an axletree, first wipe the spindle clean with a cloth wet with turpentine, if it won't wipe without it. On a buggy or carriage, wipe and clean off the back and front ends of the hubs, and then apply a very small quantity of castor oil, or some especially prepared lubricator near the shoulders and point."

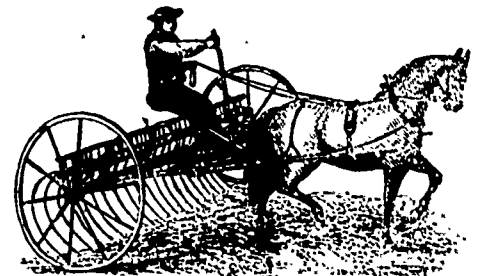
TO DRIVE AWAY RATS.—A writer in the *German Town Telegraph* says that keeping a goat is a sure way of driving rats from the premises.

A FANCY FARMER'S OPINION.—The Rev. Henry Ward Beecher does not take a rosy view of farming. In writing to the *New York Ledger*, he says:—"If one has money and leisure he may carry on a farm in the Eastern States with great enjoyment. That is as pleasant a way to spend money as can be devised—not excepting the management of fast horses and fast yachts—for both of these deteriorate in the using, and some go under, while the farm steadily rises in price and value. The farm is an institution designed to promote health and comfort in the expenditure of money. Money is the one manure which the farm greedily covets." Mr. Bonner appends a note to the effect that if Mr. Beecher is correct, "The best way to make money out of the farm is to sell it. As for the fast horse let them go—we do."

HOUSING AND PAINTING FARM IMPLEMENTS.—Every farmer should ask the following questions, and act according to the reply his own good judgment will give: How much does it cost to move mowing machines, harrows, rakes, etc., from the field? How much will new ones cost when these are rotted down? How much will a few quarts of paint cost, and how much utility will be added to farm tools by the use of it?

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