

Carriage Maker's Work.

RANDOM NOTES ON COACH BUILDING.

So accustomed are we to things of the present that it frequently requires considerable effort of mind to divest ourselves of the notion that they have always been as they are. It requires an effort to look back to the origin of any of the conveniences and appliances of our modern civilization. If we stop to think, we know as a matter of course that the present graceful shapes and luxurious appointments of our furniture and of our coaches are the results of a long series of experiments and improvements. Yet who, of all our readers, when he sees a coach roll through the streets, with its shining panels, crystal windows, easy seats, and gold and silver mountings, ever stops to think that only a short time ago, even at a period when mankind had attained considerable progress in the arts and manufactures, the coaches employed by even kings and queens were but little more comfortable than the common farm waggons of the present day? If we go back a little further the coach becomes a mere car with two wheels; a step further and the wheels are simply sections of logs; a little further back still and there is nothing but a sledge to be drawn over the ground. From a consideration of these facts we have supposed that a little space in this journal devoted to an account of the origin and development of the coach or carriage of our modern civilization will not be without interest and value to our readers, and therefore, with this much of an introductory, we shall proceed to pen some random notes on coach building.

The term coach, in one form or another, is to be found in almost all the modern languages. An inquiry as to its etymology shows that at the root it has a meaning similar to that of our modern word couch. It signifies something upon or in which one may recline. It expresses both comfort and elegance. Popularly defined, a coach is a four-wheeled close carriage with two seats, and an outside seat for the driver. The term coach, while used in a restricted sense to indicate a certain form of close carriage, is very commonly employed in a much broader sense, to indicate coaches and carriages in general. It is in the latter sense that we shall in most cases make use of the term in these articles.

Like that of most articles of utility and luxury, the origin of the coach is in dispute, at least so far as to which country belongs the honor of first taking the step which distinguished what came to be called a coach from those forms of vehicles which immediately preceded it. The invention of the modern coach has been claimed by Holland, England, Italy, France, Spain and Germany. It is possible that the credit of the matter justly belongs to all of these countries, for, instead of being invented, coaches were undoubtedly developed from inferior styles of vehicles, and accordingly came along in the natural order of things when civilization was ready for them. As each of these countries contained centres in which the various arts which would be employed in building a coach were patronized, it is not impossible, nor at all improbable, that coaches originated in several or all of these countries at about the same time. In any event, it is a question which can never be determined to the satisfaction of all the claimants, even if some show of historical accuracy is made, and, after all, it is one the answer to which is of very little practical importance.

The earliest record of what may be called a coach relates to about the year 1280, when Charles of Anjou entered Naples, and his Queen rode in a *caretta*. By the best accounts accessible this vehicle seems to have been a small, highly decorated car, a form from which the modern chariot was derived. All vehicles of this early day were furnished with broad wheels, which, indeed, were the only ones at all adapted to the roads of the period. They were generally open overhead. History records that in the sixteenth century coaches came to be furnished with canopies. A coach with glass windows was used by an Infanta of Spain in 1631. In the time of Louis XIV. (A.D. 1643-1715) coaches were first suspended upon leathern straps, in order to secure ease of motion. The first carriage seen in England of which there is a historical account is said to have been made in the year 1555 by a Walter Rippon for the Earl of Rutland. In 1564 the same builder made a coach for Queen Elizabeth (Fig. 3). It was not until the seventeenth century that the use of coaches began to extend to any considerable degree in England.

Coming to the history of the arts and manufactures in our own country, an idea of how recent a trade our modern coach building is may be gathered from the following statements:—Before the Revolutionary War carts were not allowed to have tires upon their wheels, and private carriages were by no means common in

any of the cities. The manufacture of carriages was first commenced in this country in 1768. In that year Elkanah and William Deane, of Dublin, started a factory in New York, bringing their workmen from the old country for the purpose, as they stated in their advertisements, "at great expense." They offered to make "coaches, chariots, landaus, phaetons, post-chaises, curricles, chairs, sedans and sleighs, at 5 per cent. below importation prices." From these very brief historical notes our readers may obtain a general view of the subject as we propose to treat it. We shall enter more into detail as we proceed.

Let us stop right here and give some attention to the steps which have culminated in our modern vehicles. The time was when man was without vehicles; now he has them in abundance and of many different kinds. What have been the successive stages of their growth? What constitute the mile stones along the path of the ages which mark the progress made in this art?

The earliest means of locomotion was of course that supplied by nature, namely, the muscular action of the limbs. This was all very well when travelling was performed within a limited area; but when any considerable distance was to be traversed it proved inadequate, and accordingly use was next made of horses and other animals. This mode of conveyance was not without its disadvantages, for the old and infirm were seldom equal to a journey over rough ground on either a horse's or camel's back.

The first attempt at vehicular locomotion must necessarily have been very imperfect. To those living on the banks of a river, doubtless, a raft was the first idea. A raft, of course, could be of no use in its ordinary form except where water abounded. It is very probable that in the course of time the raft was so modified as to permit of its being dragged over the land in cases of necessity, similar to the manner in which sledges are now drawn. There is little doubt but that the first land carriage was the predecessor of the sledge as we now know it. It would only be natural to place a burden, which was too heavy for the shoulders, on some sort of a frame-work on which to drag it over the ground. But slight experience was required to enable men to judge of the best forms for sledges, and therefore we find this article in very nearly its modern shape in the earliest records. A sledge, shown in the sculpture of the Temple of Luxor, at Thebes, Egypt, is very similar to those used by brewers' draymen at the present day for sliding barrels down cellar stairs, and very generally known as a "barrel-skid."

It could not have been long before observation showed that the great friction attendant on the motion of the sledge resulted in a material loss of power. Based on this fact, the next step of progress was in all probability the introduction of the *littera*, or litter, which still may be occasionally seen in Spain and Portugal. This article is really a rude sort of sedan chair, which is borne by two mules—one before it, and the other behind—the poles being slung to their pack saddles. Various modifications of this vehicle are to be met with in other countries. For example, in England, the chair was borne by two men, even so lately as the last century. In the far East the arrangement changes to the more luxurious one of a couch, and, under the name of *palanquin*, it constitutes the chief vehicular conveyance of the rich. In those countries it is borne by olive-complexioned men, who are more capable of endurance in an enervating climate than quadrupeds.

But the litter and palanquin were alike imperfect, inasmuch as they consumed a large amount of animal power for very little effect, because the whole weight of the passenger had to be carried as well as have motive power applied to it. The next step was to find something other than animal agency to sustain the load, and at this point there can be no doubt that the forerunner of the wheel was discovered. The first wheel was probably a portion of the trunk of a tree roughly shaped and connected by means of a thinner portion as an axle. Soon it was discovered that the larger the wheel the more easily it would move, and consequently the greater load could be put upon it. After using this primitive arrangement for a short time, it would be discovered that the thickness of the wheels would bear reducing so as to make them mere slices of the trunk. After a time it would also be discovered that to lighten them holes could be bored or cut through their surface, thus giving the first suggestion of spokes.

Having reached this stage it would be an easy process to round the axle cross-beam and place a frame on it capable of carrying loads, the axle being confined at or near the centre of gravity of the frame by pins or guides similar to the row-locks of a boat. The front of the frame would be a central pole or beam sufficiently long to bear the bulk or volume of the load, and also to project forward to form a pole to which the horses or oxen could be attached. Parallel with the central beam would be ranged