

STEEL REPLACES WOOD IN MAKING OF AUTO BODIES

Carriage Builders Business Diminishes as New Trend Gets Under Way

The automobile industry is rapidly discarding the last vestige of its "horse and carriage" inheritance.

Since the first buggy was equipped with a gasoline motor, carriage builders' methods have directed body construction. The contour has, of course, changed radically since those early days. But in many cases bodies are still built around a wooden frame, over which is placed a thin sheet of metal, a compromise between the carriage and the modern motor car.

The modern trend is discussed by J. B. Edwards, writing in the Automobile Digest, who said that automobile designers all over the world are dissatisfied with composite wood construction and are following new paths.

"Designers," he said, "are dissatisfied with the old combination of wood and metal bodies. In their quest for a suitable one, they have taken opposite paths, one (the European group of designers) to a body of wood with a cloth covering that is flexible in every part, and the other (the American designers) to a steel body designed to remain inflexible. Which will become the final type, time will tell, but the less freakish, all-metal body would seem to have the superior hand-cap."

Of the steel body, he said: "Due to the greater strength of steel, much less of this material need be used. Moreover, steel is a more tractable material than wood, and it can be formed into sections that provide even greater strength for the amount of material used than is apparent from the relative strengths of steel and wood. A pillar or beam can be constructed of steel that will not only be stronger than a similar one of wood, but also lighter."

"Thus bodies may be built with steel framing that are both stronger and lighter than similar bodies built upon a foundation of wood. This feature not only makes possible a lighter and stronger body, but also allows many of the body parts to be made smaller, providing more room inside the body with the same outside dimensions."

"The pillars between the doors in closed bodies, and between the doors and the windshield, may also be made smaller, allowing clearer vision. More than one accident has occurred because a portion of the road was concealed from the driver by a wide strip of body between the front door and the windshield."

"It is in the frame joints, however, that the biggest advantage is the all-metal frame is to be had. With metal these joints may be riveted or welded together, making the several parts as firm as if they were actually of one piece. There are no screws to loosen under repeated strains and twists or from swelling and shrinking of the wood under seasonable changes."

"From the standpoint of safety, the steel body leaves little to be desired. The principal reason for the modern all-steel railroad coach is the safety to passengers it affords in case of a wreck. There is no reason why the all-steel automobile body should not furnish a proportionate amount of safety in case of an automobile accident, particularly cases involving a turnover of a closed body job. A modern all-steel body has sufficient strength to support its chassis in practically any type of turnover, excepting, of course, a drop down over the side of a precipice, and even in such a case it should furnish more protection than a body whose principal framing is of wood."

That the degree of safety found only in all-steel construction is influencing sales in the automobile field to a marked degree, is evidenced by the enormous production of those manufacturers who are standardizing on this type of body.

Dodge Brothers, Inc., for example, who use only the all-steel body, are enjoying the greatest volume of business in their history. They were first to break entirely away from the time-worn wood or composite bodies and enter the field of thoroughly modernized construction—the all-steel construction.

Tires can be easily destroyed by turning the front wheel while the car is standing still. Damage which always results from this practice may be obviated by moving the car when turning the wheels, no matter how slight the movement is.

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