

WAGON MAKING (WHEELWRIGHT AND WAINWRIGHT)

"And under the borders were four wheels; and the axletrees of the wheels were joined to the base: and the height of a wheel was a cubit and half a cubit. And the work of the wheels was like the work of a chariot wheel: their axletrees, and their naves, and their felloes, and their spokes, were all molten" (1 Kings 7:32, 33).

Wagons of colonial days did not have "molten" wheels like the ones described above, but the art of making wheels was important. Even though people traveled by boat as much as possible because of the few good roads, they often used carts and wagons to haul produce, supplies, and farm equipment. A wheelwright made and repaired wheels, and a wainwright made and repaired wagons.

To make a wheel, the wheelwright used his tools to saw and shape the various wooden parts—the spokes, the fellies (formerly called felloes), and the wooden parts of the hub. He shaped the ends of each spoke into sturdy pegs that fit into the hub at the end closest to the center, and into the fellies at the outer end. Fellies were curved pieces of wood that formed the wooden rim of a wheel. Each felly had two spokes pounded tightly into holes made for them, and a peg on one end to fit into a hole in the next felly.

The wheelwright forced the spokes into the fellies and then forced all the fellies together. He used an auger to shape the center hole where the axle would fit through. (Iron was used for strength in hubs and axles, especially for heavy wagons, but some early wagons had mostly wooden parts.) An iron or steel rim was heated and then welded and fastened tightly around the fellies of the new wheel. Water was poured over the hot metal rim to make it shrink onto the wheel and bind the wooden parts tightly together. The iron or steel rim also helped the wheel to withstand the rigors of traveling over the rough roads of those times.

A wainwright fashioned wagons and coaches out of wood such as swamp oak, white oak, and hickory. In colonial days, these vehicles did not have the luxury of springs or other features to cushion the ride for the traveler. The seats were hard planks, and some stagecoach riders complained of bruises, aching arms, and blistered hands from hanging on to avoid being thrown about. Coaches floundered through mudholes and bumped terribly over corduroy roads. Travel was more pleasant in winter, when sleighs could be used.

The famous Conestoga wagon was named for the Conestoga Valley in Lancaster County, Pennsylvania, where it was first built by German farmers in the early 1770s. Conestoga wagons carried most of the people and freight traveling westward over the Allegheny Mountains from the 1770s to about 1850. This large wagon was designed to carry about 5 tons (4,500 kg) of freight over rough ground, being pulled by six or eight horses. When the team of horses was hitched to the wagon, the unit stretched about 60 feet (18 m)!

The Conestoga wagon had several features that helped pioneers and their possessions to reach their destinations safely. Broad-rimmed wheels helped to prevent bogging down on muddy roads. If a waterway had to be forded, the wheels could be taken off and the wagon body used as a boat. The wagon had a deep bed that was about 13 feet (4 m) long and a little over 3 feet (1 m) wide. The ends were built higher than the middle to help keep cargo from falling out when the wagon went over a steep hill. The wagon had a cover of white homespun canvas about 24 feet (7 m) long, which was fitted over hoops to make a high, rounded shape. This canvas cover protected the contents and occupants from sun and rain, and the front and back ends could be closed in stormy weather. The harnesses of the horses often had bells that rang cheerily as the wagon moved along.

After 1850, a covered wagon called the prairie schooner was used by pioneer families moving to the western prairies and beyond. Though smaller than the Conestoga, this wagon was still large; it measured about 10 feet long, 4 feet wide, and 8 feet (3 m by 1.2 m by 2.4 m) high. A typical prairie schooner carried about 2,000 pounds (907 kg) of cargo. Part of this weight consisted of items that the pioneers would need at their new homes, and the rest was supplies needed to sustain the travelers and animals on the journey.

