pass, as objects of intelligent interest, many of the sights they may be traveling to see.

The various processes by which the iron is prepared to be used in bridge-building are many of them as new as is the use of this material for this purpose, and it will be a matter of interest to our readers, if not to our present audience, to know how it is done. The blast-furnaces are driven by a hot blast and kept burning night and day. The iron, as it becomes melted, flows to the bottom of the furnace, and is drawn off below in a glowing stream. Into the top of the blast-furnaces the ore and coal are dumped, having been raised to the top by a power-driven hoist. It is curious to notice how slowly the experience was gathered from which has resulted the ability to work iron as it is done here. Though even at the first settlement of this country the forests of England had been so much thinned by their consumption in the form of charcoal in her iron industry as to make a demand for timber from this country a flourishing trade for the new settlers, yet it was not until 1612 that a patent was granted to Simon Sturtevant for smelting iron by the consumption of bituminous coal. Another patent for the same invention was granted to John Ravenston the next year, and in 1619 another to Lord Dudley; yet the process did not come into general use until nearly a hundred years later.

The blast for the furnace is driven by two enormous engines, each of three hundred horse-power. The blast used here is, as we have said, a hot one, the air being heated by the consumption of the gases evolved from the material itself. The gradual steps by which these successive modifications were introduced are evidence of how slowly industrial processes have been perfected by the collective experience of generations, and show us how much we of the present day owe to our predecessors. From the earliest times, as among the native smiths of Africa to-day, the blast of a bellows has been used in working iron to increase the heat of the combustion by a more plentiful supply of oxygen. The