

ished. Indeed, the principal resistance arises from friction, which does not even increase in a direct ratio with the velocity of the carriage. If, then, a proa can be driven by the wind (the propulsive power of which is constantly diminishing as the velocity of the proa increases), through so dense a fluid as water, at twenty miles an hour, I can see nothing to hinder a steam carriage from moving on these ways at one hundred miles an hour. . . . This astonishing velocity is considered here as merely possible. It is probable that it may not, in practice, be convenient to exceed twenty or thirty miles an hour. Actual experience, however, can alone determine this matter, and I should not be surprised at seeing steam carriages propelled at forty to fifty miles an hour."

The Erie Canal was built, notwithstanding the arguments of influential opponents led by Colonel Stevens. Year by year he closely followed the developments in railroad locomotion in England, resolved that he should have a leading part in promoting like projects at home. For this a door stood open before him. Philadelphia and New York, in an airline but ninety miles apart, even at that early day transacted a huge business with one another. Added to this was the trade of intervening towns and villages, steadily growing in population and wealth. The Stevens family, as men of enterprise and capital, had developed the traffic on this highway until almost the whole rested in their hands. As far back as 1795 Colonel Stevens had designed a steam locomotive, which he had hoped to patent during the administration of President Washington. His great difficulty was to provide a track strong enough to support the heavy low-pressure engine of that day. In 1817 he obtained a charter from the State of New Jersey "to build a railroad from the river Delaware, near Trenton, to the river Raritan, near New Brunswick." No action followed the granting of his charter, as its project was deemed visionary. But Colonel Stevens never for a moment relaxed his labors on behalf of steam railroads. In 1823, with Stephen Girard