

lish and European practice is the general idea of Mr. Clarke and others in America that everything there is stationary and unchanged, and that the time of evolution and improvement has long since set in Europe, to be found now only in America. Says Mr. Clarke: "The Stephenson type of engine once fixed has remained unchanged in Europe, except in detail, to the present day. European locomotives have increased in weight and power, and in perfection of material and workmanship, but the general features are those of the locomotives built by the great firm of George Stephenson & Son before 1840." So far from this being the case, the standard engine of the Stephenson works, Robert Stephenson & Co., not George Stephenson & Son, from 1837 to 1842, has been entirely abandoned since 1844, and although other builders continued that excellent type for a number of years, and perhaps occasionally do so still, Stephenson entirely gave it up after their patent of 1842 came into use, and that style again has since been entirely abandoned. The Stephenson's after 1831 never had a monopoly of a locomotive type. As before mentioned, Bury's engines always formed a separate type, so did the Allan engine, or Crewe engine of 1840, still the type of the Northern division of the North Western, of the Caledonian, and some of the French railways. As far as the locomotive of different countries is concerned, the fixidity of type, the absence of change, the slavish following of precedent is to be seen now more in America than any where. You travel from New Orleans to Montreal, from New York to the Pacific, and you see nothing but the one type of locomotive unchanged for forty years, the American 8 wheel, 4 coupled driver, truck engine, with inside frame and outside cylinders, with its Swedish iron lag-gings, and its monotonous uniformity. In England, on the contrary, the complaint justly made by a recent writer, that the type of locomotives varies on every railway, is unfortunately but too true, and the most casual observer cannot but notice it. The dull red colored machine, with its two coupled driving wheels and single leading wheel, heavy outside frame entirely covering up the inside cylinders and machinery, which takes you in 4½ hours from Liverpool to London on the Midland, is essentially different in design and arrangement from the bright green outside cylinder engine with its one huge driver, 8 feet 6 inches in diameter, of the Great Northern, or the North Western compound, with its bright central polished cylinder cover, and its double machinery, each part working its separate uncoupled driving wheel. These three locomotives are as distinctly different from each other as any one of them is from the old Rocket, yet all running between the same termini, and keenly competing for the same traffic. It is difficult to trace any resemblance between the Mediterranean engine of the great French company or the Lombardo Venetian, or the Belgian, yet all are in a constant state of alteration and struggle for improvement, and each developing and evolving its own type of ideas, and improving its own specific class of machine, although that improvement often, nay always, leads to a further divergence from the common original and from each other. The standard locomotive of the future has yet to be designed.