

beautified our cities and our towns by means of systematically-planned streets and magnificent parks. It has developed our skyscrapers and other large buildings of both an artistic and a utilitarian nature to an extent never even dreamed of until late years. It has made practicable mining of all kinds on a most extensive scale and upon a sound, paying basis. It has produced enormous metallurgical plants that turn out metals of various kinds upon a stupendous scale. It has augmented many fold the production of lime, cement, and other materials of construction - all so necessary to world progress. It has secured wondrous results in the discovery, production, and utilization of numerous chemical products that are essential for modern manufactures. It has begun to mechanize farming upon an elaborate scale, and thus greatly to reduce the cost of crop raising and garnering. It has developed heating, lighting, water-supply, and ventilation to such an extent that the poor now live far more comfortably than did the rich three or four generations ago. It has furnished us with engines and machines of numerous kinds and sizes, varying from those of almost microscopic dimensions to those of tremendous proportions and capacities. It has built dams of towering heights and vast lengths to form reservoirs that constitute lakes of many miles in length and width, in order to impound water for power, irrigation, manufacture, and domestic use. It has widened, deepened, and regulated great rivers, so as to convert them from a menace to life and property into useful waterways for internal navigation, thus lowering materially the cost of bulk transportation; and it has constructed for a like purpose long and costly canals, as well as extensive harbors for the shelter and accommodation of vessels. It has built at enormous cost tunnels through hills and mountains, and subways beneath great cities.

These are its major accomplishments; but its minor ones are so numerous and so far reaching as to render impracticable any attempt at their enumeration.

Is it not evident, therefore, that without engineers not only would the