

Answers to Correspondents.

"BLACK DIAMOND."—We can but give you the calculations as we find them in our excellent London magazine contemporary, *The Lamp*. Few can realize the power stored in coal for man's use. It is stated as a scientific fact that in a boiler of fair construction a pound of coal will convert nine pounds of water into steam. Each pound of steam will represent an amount of energy or capacity for performing work equivalent to 746,000 foot pounds, or for the whole nine pounds, 6,720,000 foot pounds. In other words, one pound of coal has done as much work in evaporating nine pounds of water into nine pounds of steam as would lift 2,332 tons ten feet high.

"A BANKER'S CLERK."—No; Bank of England notes are never re-issued when once paid in to the Bank, but are at once cancelled. They are then preserved for seven years, so that inquiries relative to forgeries or frauds on which the notes may throw light may be answered. The stock of paid notes for seven years numbers 91,000,000, and fills 18,000 boxes, which, if placed side by side, would reach three miles. Pile the notes one on the other, and the pile would be eight miles long. Join them end to end, and you will have a ribbon 15,000 miles long. Arrange them side by side, and you may more than cover Hyde Park with them. Finally, their original value was over £3,000,000,000 sterling, and their weight more than 112 tons.

"N. R. McC." (Plattsburg).—The first great and extensive railway enterprise was "the Liverpool and Manchester," commenced in October, 1825, and opened September 15, 1830. We read that there were tramways in and about Newcastle-upon-Tyne so early as the middle of the seventeenth century. In the "Life of Lord Keeper North," published in 1676, these tramways are thus mentioned: "The manner of the carriage is by laying rails of timber from the colliery to the river exactly straight and parallel, whereby the carriage is so easy that one horse will draw down four or five chaldrons of coal, and is of immense benefit to the coal merchant." The first railway in the United States was the Quincy and Boston, to convey granite for Bunker Hill monument, 1827.

"STUDENTIS" is wrong. There were laws in Ireland under the Penal Code restricting education; nay, more, prohibiting it altogether. Carey, in his excellent work, "Vindiciae Hibernia," tells us that "To brutalize and barbarize the Irish, to plunge them into the abysses of Climmerian darkness, they were, at one stroke, cut off from education," and we find in Robins' "Abridgement of the Statutes," (Dublin edition, page 612) this decree of banishment or death against any Catholic guilty of the offence of teaching school: "If any Papist shall publicly teach school, or instruct youth in learning in any private house, or shall be entertained to instruct youth as usher or assistant to any Protestant schoolmaster, he shall be esteemed a Popish regular clergyman, and prosecuted as such, and shall incur penalties and forfeitures as any Popish regular convict is liable unto." Children of parents subjected to this worse than Draconian law are still living, and yet we hear occasionally, in polite circles, and in high-toned newspapers, such phrases as "the ignorant Irish," "the brutalized" and "barbarous" Irish, etc.

"MILES."—The facts have been frequently given in detail in newspaper columns. The following, however, is a summary of the returns: The strength of the British Army, exclusive of commissioned officers, is 177,678 men, of whom 117,701 are English, 15,885 Scotch, and 44,092 Irish. In the infantry of the line the Irish proportion is very large.

"MERCATOR" asks "What is the meaning of 'Law's Bubble,' now so frequently referred to in the public journals in respect of monetary affairs?" The phrase refers to the famous Mississippi scheme devised by John Law, for paying off the national debt of France (1716-1720). By this French "South Sea Bubble" the nation was almost ruined. It was called Mississippi, because the Company was granted the exclusive trade of Louisiana on the banks of the Mississippi.

"CHRONOLOGIST" is wrong. This is the nineteenth century, though "the enumerations are in the 'eighteens'"—The matter is very simple. The first century of the modern and Christian calendar began with the birth of Christ. Therefore the second century must have commenced with the year 101. Follow this up and you will find that the first year of the eighteenth century was 1701, and that, therefore, we, who are now living, live in the nineteenth century.

"M. R. O'S."—We have once more to state that we do not desire to turn the "Answers to Correspondents" into a medium for the decision of wagers. However, we give you the information you seek. The phrase, "God tempers the wind to the shorn lamb," is not in either the New or Old Testament. It occurs in Sterne's "Sentimental Journey," but before Sterne's time, in a collection of French proverbs, published in 1591 by Henry Estienne. It is given: *Dieu mesure le vent a la brebis tondue.*

"SINCERITY."—The author of "Don Quixote" was Cervantes. The book is not an immoral one; though called a romance, it is a merciless satire on the chivalric romances of the Middle Ages, and had the effect of putting an end to this sort of literature. Your second question, namely, "If persons attending the death-bed of a person are more affected than the dying one" is somewhat of a puzzler. We have never been in either position; and cannot write from experience; but it is said, and we believe truly, that the dying are vouchsafed a certain resignation to the inevitable, which is peace compared to the poignant grief of friends.

"W. C. D."—We find, opportunely enough, floating through our exchanges, the information you seek. Here it is, as given by our namesake of New York: There are six European kingdoms, ruled by crowned monarchs, which have each a smaller population than the State of New York, the last census of which shows it to be on the verge of five millions. These kingdoms are Holland, Portugal, Belgium, Denmark, Bavaria and Greece. New York State is just about equal in population with Belgium and Bavaria; it is a million above Holland; two millions above Portugal; three millions above Denmark; and three and a half millions above Greece. Its population is nearly twice that of the republic of Switzerland. It is up to that of the Persian empire, though we should say there were only estimates for Persia. It has twice the population of the republic of Peru, and half that of the empire of Brazil. The two cities of New York and Brooklyn have by themselves a population greater than the kingdoms of Denmark, and New York alone is almost as populous as the kingdom of Greece.