

voice Stephenson ordered the engine man to lower him down the shaft in the corve. There was danger, it might be death, before him—but he must go. As those about the pit-mouth saw him descend rapidly out of sight, and heard from the gloomy depth of the shaft mingled cries of despair and agony rising from the workpeople below, they gazed on the hero man with breathless amazement. He was soon at the bottom, and in the midst of his workmen, who were paralyzed at the danger which threatened the lives of all in the pit. Leaping from the corve on its touching the ground he called out, 'Stand back! Are there six men among you who have courage enough to follow me? If so, come and we will put the fire out.' Silence succeeded the frantic tumult of the previous minute, and the men followed and set to work. A wall was raised at the entrance to the main, thus excluding the atmosphere. The fire was extinguished, the people were saved from death, and the mine was preserved."

After this, Stephenson invented the Geordy Safety Lamp. The name of Sir Humphrey Davy has been generally identified with the invention, but Stephenson had made a successful trial of his lamp before Davy's invention was made public.

Many people predicted that some day there would be a terrible disaster at Killingworth by the blowing up of Stephenson's engines. But they worked on, and he built new ones with improvements such as experience suggested and his ingenuity devised. He was engaged to build the Helton line of railway, and it was opened in November, 1822. Five of his locomotives were at work on it. This was the first decisive recognition of his engineering skill.

The Stockton and Darlington line, the first public railway, was opened in 1825. Mr. Stephenson himself drove the locomotive at the opening ceremonies, drawing a train of thirty-eight cars at a speed of twelve miles an hour. Then came the Liverpool and Manchester railway, which Mr. Stephenson was engaged to build. This line received opposition almost everywhere. It was fought in parliament, and the bill providing for it was withdrawn. During the inquiry a parliamentary committee subjected Stephenson to a rigid cross-examination. One member hinted that he was mad; another suggested that he must be a foreigner; and he was subjected to severe rebuffs. The idea of a train going nine or ten miles an hour was regarded as absurd. A member suggested that if a cow should get on the track when a train was going at that rate it would be a very awkward circumstance. "Aye, aye," replied Stephenson, in his broad Northumbrian dialect, "very awkward indeed, for the cow."

The projectors of the line surveyed a new route, and this time got the bill through parliament. It provided that the road should cross Chat Moss, a deep bog twelve miles square which was thought to have some connection with the bottomless pit. It was said that "no man in his senses would undertake to do it." But Stephenson had not known failure. Even when the directors of the road

grew discouraged, he urged them to persevere. The insatiable bog seemed to swallow all, but after six months of labor the solid embankment arose above the bog. Stephenson's vigor and determination had conquered.

The question as to what power would be used on the road was a difficult one to decide. The eminent practical engineers of the country reported against the employment of the locomotive. Stephenson alone stood by it. The directors had confidence in him, and decided to make a test. They offered a prize of £500 for the best locomotive for the conditions prescribed. One of these was that it should maintain a speed of ten miles per hour. Four locomotives were built, the "Novelty," "Perseverance," "Sanspareil" and "Rocket." The latter was built by young Robert Stephenson, aided by his father. The first three signally failed to meet the requirements. The "Rocket" attained during a trial trip with thirteen tons' weight in cars, a speed of twenty-nine miles per hour—three times the speed that one of the judges had declared to be the limit of possibility. The spectators were filled with astonishment, and one of the directors of the road lifted up his hands and exclaimed, "Now is George Stephenson at last delivered!" This was in 1830, and eight of the Stephenson locomotives were constructed and put on the line.

The practicability of railway locomotion was now established, and lines were projected in every direction. The next line on which Stephenson was engaged was the London and Birmingham railway, which required the construction of the Kilsby tunnel, 2400 yards in length and penetrating 160 feet below the surface. It was successfully accomplished, and was justly regarded as a great engineering triumph.

The opposition to Stephenson's ideas of railroading did not all disappear with his victory, but he was no longer placed at a disadvantage. The "profession" would not recognize him as an engineer, and the Civil Engineers' Institute would not waive the condition that he should compose a probationary essay in proof of his capacity as an engineer, and admit him. About this time he was called to advise Leopold, king of Belgium, as to the most efficient system of railways for the latter's kingdom. Stephenson did not need the recognition of foppery and frippery to bring him to the front. He came forward through sheer force of intellect and never-failing determination. He projected the High Level Bridge over the Tyne, but did not live to see it completed. The work was performed by his son Robert, who was worthy of such a father, and has done much to bring honor to the Stephenson name.

The history of George Stephenson is a lesson to men of all time. By patient, unwearied, self-reliant industry, he rose from obscurity to world-wide renown, emphatically proving that perseverance is power. He was vigorous in thought and energetic in action. When he was recognized as the greatest engineer of his day, the social elevation did not destroy his natural humility. The absence of vanity was as marked in him as was his possession

of tenacity of purpose. His death occurred August 12, 1848. The record of his life is one of deep interest, especially to young men, and enforces valuable lessons. Today, June 9th, the anniversary of the day when heaven gave to earth such a representative of frank, fearless and heroic manhood, is a fitting time for those of the present to step forward with a determination to succeed, as did George Stephenson, in good and noble work.

WASHINGTON LETTER.

The gold question is again very much on top, the exportation of gold having brought the reserve up below \$80,000,000, and the prospect being that a large amount will be required to meet the demands for the next week or ten days. Great pressure is still being brought to bear by the New York bankers to compel an issue of bonds, but it is having no apparent effect. A special meeting of the cabinet was held this morning to consider this question and it was a very lengthy one. No announcement has been made, nor is likely to be made, for some time of any change in the present policy, although there are good reasons for believing there will be a change should the present demand for gold continue for any length of time to be as great as during the past week. While it cannot be stated as a certainty, it is believed by some lawyers that Secretary Carlisle has authority under a section of the act of March 17, 1862, to issue legal tender notes for the purpose of purchasing gold. The cabinet is said to think that this method if it be legal would be preferable to an issue of bonds. Those who claim that the authority conferred by the act mentioned still exists say that there is no limit other than the secretary's discretion to the amount of legal tender notes that may be issued to purchase gold. This would meet the approval of those who think an increase in the amount of money in circulation would be advantageous, and it could not be claimed by those who profess to be in deadly fear of a depreciated currency that there would be the slightest danger in that direction, as every dollar so issued would be replaced in the treasury by a gold dollar, provided, of course, that the gold could be obtained at par. Your correspondent doubts the existence of the authority for the issue of legal tender notes by the secretary of the treasury.

The annual meeting of the board of lady regents of the Mount Vernon association, which was unusually interesting this year, has just adjourned. According to the annual report of the superintendent 87,000 people visited the grounds last year. That number will be quadrupled this year by reason of the electric railway from Alexandria to the Mount Vernon grounds. From each visitor the association exacts twenty-five cents for admission to the grounds, and in addition a steam boat company which has for many years been monopolizing the right to land at the Mount Vernon wharf has paid nine cents for each passenger. This steam boat company has grown rich out of visitors to Mount Vernon, and