

flour-mills, in which he made many improvements, particularly in the substitution of metal, for wood framing. In consequence of the injudicious proceedings of the Millwrights' Union, he was induced to oppose a determined resistance to their demands, and by the introduction of self-acting tools, and the instructions given by him to another class of workmen, the millwrights lost many of the privileges they had previously enjoyed.

The tread-mills for prisons* were first constructed at Mr. Penn's works, and latterly he (in conjunction with his son) manufactured many marine engines, particularly those with oscillating cylinders.†

Mr. Penn was well versed in general science; he was an amateur astronomer, and possessed some valuable instruments; much of his leisure time was devoted to horticultural pursuits, which led to several improvements in the methods of heating conservatories and forcing houses.

He died suddenly on the 6th June, 1843, in the 73rd year of his age, having enjoyed for many years the confidence and esteem of a large circle of friends.

Mr. Aher. Mr. David Aher, M. Inst. C. E., was born in the year 1780; he attained very early a proficiency in physical science, and at fifteen years of age commenced his studies as a civil engineer.

In 1803, he surveyed and superintended several of the works of the Grand Canal Company (Ireland), and subsequently directed the collieries in the County Kilkenny and Queen's County, an occupation for which he was well suited, from his knowledge of geology, a science at that time but little cultivated in Ireland. By his judicious direction of borings and other trials, discoveries were made which have proved very valuable to the neighbouring coal proprietors. His inventions and improvements in mining and boring machinery (which have been generally adopted), are remarkable for the mechanical ingenuity displayed in them, for the simplicity of their construction, and for their practical utility.

In the years 1810, 1811, and 1812, he was engaged in making experiments and reports for the Commissioners appointed by Government, to inquire into the nature and extent of the "Bogs in Ireland, and their capability of being made available for cultivation, or other purposes."

While engaged in the direction of the collieries, he laid out nearly all the new lines of road which have been made through the County Kilkenny and neighbourhood, and also the Great Leinster and

* Designed by Mr. William Cubitt, V. P. in 1818.

† First patented by Mr. Aaron Manby, in 1816.

Munster Railway, from Dublin to Cork, by Kilkenny, Clonmel, Cahir, &c.

In 1840 he met with some disappointments and losses, which weighed heavily on his mind, and were the principal cause of the illness which terminated his life. He died in the 62nd year of his age, respected for his high professional attainments and strict integrity of character, and regretted by all who knew him.

Mr. Robert Gill Ranson, Assoc. Inst. C. E., was a manufacturer of paper at Ipswich; in 1840 he introduced an improved mode of sizing and drying machine-made paper, substituting for the ordinary tedious process of tub-sizing (in which it was requisite that the paper should be previously cut into sheets), a method by which he was enabled to size and dry writing or drawing papers, in the lengths made by Fourdrinier's machine: by this process, the time occupied in the manufacture was reduced, and the uncertainty of the effect of the weather in drying was avoided.

In consequence of a long illness, preceding his decease, this invention was not extensively carried out, but it appears now probable that it will be generally adopted.

Mr. Ranson only became an Associate of the Institution in 1842, but he demonstrated the interest he felt in its welfare, by exhibiting at the President's conversazione a sheet of drawing paper 400 feet in length, which had been completed by his process from the state of rags, in the short space of 48 hours.

He was highly respected by his friends, and his decease, at the age of 51 years, was much regretted.

From the account of the receipt and expenditure of the past year, which is annexed to the Report,* it will be perceived that the liquidation of the debts progresses steadily, that if the arrears of subscriptions were paid, and the orders upon Bankers, or Agents, for the regular payment of the annual subscriptions, were given by the members, the financial position would be very satisfactory; the Council therefore would again urge the necessity for the ready co-operation of members in these measures, which would conduce so much to the welfare of the Institution.

Many members have still neglected appending their signatures to the Register of the Institution: they are particularly requested to defer this duty, lest, as in the case of the members whose deceases have been recorded in this Report, it be delayed until too late.

It will be observed that the name of Mr. John Macneill, who has been for nine consecutive years a Member of Council, is omitted from

* Page 18.