

MEMOIRS OF JAMES BRINDLEY.

JAMES BRINDLEY, the ingenious projector of the present system of Canal navigation, was born at Tinted, in the parish of Wormhill, Derbyshire, in 1715. His father was a small freeholder, who dissipated his property in company and field amusements, and neglected his family. In consequence young Brindley was left destitute of even the common rudiments of education, and, till the age of seventeen, was casually employed in rustic labours; and at that period he bound himself apprentice to one Bennet, a mill-wright, at Macclesfield, in Cheshire, where his mechanical genius presently developed itself. The master being frequently absent, the apprentice was often left for weeks together to finish pieces of work, concerning which he had received no instruction, and Bennet, on his return, was greatly astonished to see improvements in various parts of mechanism of which he had no previous conception. It was not long before the millers discovered Brindley's merits, and preferred him in the execution of their orders, to the maker of any other workmen. At the expiration of his servitude Bennet, being grown into years, he took the management of the business upon himself, and, by his skill and industry, contributed to support his old master and family in a comfortable manner.

In process of time Brindley set up as a mill-wright on his own account, and, by a number of new and ingenious contrivances, greatly improved that branch of mechanics, and acquired a high reputation in the neighbourhood. His fame extended to a wider circle; he was employed in 1752 to erect a water engine at Clifton, in Lancashire, for the purpose of draining some coal mines. Here he gave an essay of his abilities in a kind of work for which he was afterwards so much distinguished, driving a tunnel under ground, through a rock nearly 600 yards in length, by which water was brought out of the Irwell for the purpose of turning a wheel, fixed 30 feet below the surface of the earth. In 1755 he was employed to execute the larger wheels for a silk mill at Congleton; and another person, who was engaged to make other parts of the machinery, and to superintend the whole proving incapable of completing the work, the business was entirely committed to Brindley, who not only executed the original plan in a masterly manner, but made additions of many curious and valuable improvements, as well in the construction of the engine itself, as in the method of making the wheels and pinions belonging to it. About this time, too, the mills for grinding flints in the Staffordshire potteries received various useful improvements from his ingenuity.

In the year 1756, he undertook to erect a steam engine, upon a new plan, at Newcastle under-Line; and he was for a time very intent upon a variety of contrivances for improving this useful piece of mechanism; but from these designs he was, happily for the public, called away to take the lead in (what the event has proved to be) a national concern of capital importance, the projecting the system of canal navigation. The Duke of Bridgewater, who had formed the design of carrying a canal from his coal works at Worsley to Manchester, induced by the reputation of Mr. Brindley, to consult him on the execution of it; and having the sagacity to perceive, and strength of mind to confide in, the original and commanding abilities of this self-taught genius, he committed to him the management of the arduous undertaking. In the projecting of these works, Mr. Brindley, from the very first, adopted those leading principles which he ever after adhered to, and in which he has been imitated by all succeeding artists.

To preserve as much as possible the level of his canals, and to avoid the mixture and interference of all natural streams, were objects at which he constantly aimed. To accomplish these, no labour and expense was spared, and his genius seemed to delight in overcoming all obstacles to them, by the discovery of a new and extraordinary contrivances.

The most experienced engineers upon former systems were amazed and confounded at his projects of aqueduct bridges over navigable rivers, mounds across deep vallies, and subterraneous tunnels; nor could they believe in the practicability of some of these schemes till they saw them effected. In the execution, the ideas he followed were his own; and the minutest, as well as the greatest, of the expedients he employed, bore the stamp of originality. Every man of genius is an enthusiast. Mr. Brindley was an enthusiast in favour of the superiority of canal navigations above those of rivers; and this

triumph of art over nature, led him to view with a sort of contempt the winding stream, in which the lover of rural beauty so much delights. This sentiment he is said to have expressed in a striking manner at an examination before a committee of the house of commons, when, on being asked, after he had made some contemptuous remarks relative to rivers, what he conceived they were created for, he answered, "to feed navigable canals." A direct rivalry with the navigation of the Irwell and Mersey was the bold enterprize of his first great canal; and since the success of that design, it has become common all over the kingdom to see canals accompanying with insulting parallel the course of the navigable rivers.

After the successful execution of the Duke of Bridgewater's canal to Mersey, Mr. Brindley was employed in the revived design of carrying a canal from the river to the Trent, through the counties of Chester and Stafford. This undertaking commenced in the year 1766, and from the great ideas it opened to the mind of its conductor, of a scheme of inland navigation, which should connect all the internal parts of England with each other, and with the principal sea ports, by means of branches from this main stream, he gave it the emphatical name of the "Grand Trunk." In executing this, he was called upon to employ all the resources of his invention, on account of the inequality and various nature of the ground to be cut through; in particular the hill of Harecastle, which was only to be passed by a tunnel of great length, bored through strata of different consistency, and some of them mere quick-sand, proved to be a most difficult as well as expensive obstacle, which, however, he completely surmounted. While this was carrying on, a branch from the Grand Trunk to join the Severn, near Bewdley, was committed to his management, and was finished in 1772. He also executed a canal from Droitwich to the Severn; and he planned the Coventry canal, and for some time superintended its execution, but on account of some difference in opinion he resigned that office. The Chesterfield canal was the last undertaking of the kind which he conducted, but he only lived to finish some miles of it. There was, however, scarcely any design of canal navigation set on foot in the kingdom, during the latter years of his life, in which he was not consulted, and the plan of which he did not either form, or revise and improve. All these it is needless to enumerate; but as an instance of the vastness of his ideas, it may be mentioned, that on planning a canal from Liverpool to join that of the Duke of Bridgewater's at Rimcorn, it was part of his intention to carry it by an aqueduct bridge across the Mersey at Run-corn-gap, a place where a tide, sometimes rising fourteen feet, rushes with great rapidity through a sudden contraction of the channel. As a mechanic and engineer he was likewise consulted on other occasions; as with respect to the draining of the low lands in the different parts of Lincolnshire and the Isle of Ely, and to the cleansing of the docks of Liverpool from mud. He pointed out a method which has been successfully practised, of building sea walls without mortar; and he was the author of a very ingenious improvement of a machine for drawing water out of mines, by the contrivance of a losing and a gaining bucket.

The intensity of application which all his various and complicated employments required, shortened his days, as the number of his undertakings, in some degree, impaired his usefulness. He fell into a kind of chronic fever, which, after continuing some years, with little intermission, at length wore out his frame, and put a period to his life, on September 27, 1772, in the 55th year of his age. He died at Turn-hurst in Staffordshire, and was buried at New Chapel in the same county.

In appearance and manners, as well as in acquirements, Mr. Brindley was a mere peasant, unlettered and rude of speech; it was easier for him to devise means for executing a design than to communicate his ideas concerning it to others. Formed by nature for the profession he assumed, it was there alone that he was in his proper element; and so occupied was his mind with business that he was incapable of relaxing in any of the common amusements of life. As he had not the ideas of other men to assist him, whenever a point of difficulty in contrivance occurred, it was his custom to retire to his bed, where, in perfect solitude, he would lie for one, two, or three days, pondering the matter in his mind, till the requisite expedient had presented itself.

This is that true inspiration which poets have almost exclusively arrogated to themselves, but which men of original genius in every walk are actuated by, when, from the operation of the mind acting upon itself, without intrusion of foreign notions, they create and invent.

A remarkably retentive memory was one

of the essential qualities which Mr. Brindley brought to his mental operations. This enabled him to execute all the parts of the most complex machine in due order, without any helps of models or drawings, provided he had once accurately settled the whole plan in his mind.

In the calculation of the powers of machines, he followed a plan peculiar to himself; but, indeed, the only one he could follow without instruction in the rules of art. He would work the question for some time in his head, and then set down the result in figures; then taking it up in this stage, he would again proceed by a mental operation to another result, and thus he would go on by stages till the whole was finished, only making use of figures to mark the several results of his operations. But though, by the wonderful powers of native genius, he was thus enabled to get over his want of artificial method to a certain degree, yet there is no doubt, that when his concerns became extremely complicated, with accounts of various kinds to keep, and calculations of all sorts to form, he could not avoid that perplexity and embarrassment, which a readiness in the processes carried on by pen and paper can alone obviate. His estimates of expense have generally proved wide of reality; and he seems to have been better qualified to be the contriver than the manager of a great design. His moral qualities were, however, highly respectable. He was far above envy and jealousy, and freely communicated his improvements to persons capable of receiving, and executing them; taking a liberal satisfaction in forming a new generation of engineers, able to proceed with the great plans, in the success of which he was so deeply interested. His integrity and regard to the advantage of his employers were unimpeachable. In fine, the name of Brindley will ever keep a place among that small number of mankind, who form aras in the art or science, to which they devote themselves, by a large and durable extension of their limits.

We have received a copy of GOVERNOR ST. CLAIR'S Speech to the Council and House of Representatives of the Territory N. W. of the Ohio. It is very long and contains much matter entirely local. But the following extract contains sentiments worthy of general notice.

"SITUATED, Gentlemen, as we are, in a country bordering upon many savage tribes, with whom (the principles of religion and justice out of the question) it is our interest and should be our policy to be at peace, it is clearly necessary, that the treaties made with them by the government of the United States, should not be contravened with impunity, by any of the inhabitants of this territory, and it may be proper that the general regulations, that have been established with respect to them should, sometimes, be aided by municipal laws; and this has, by the ordinance for the government of the territory, been made a duty; speaking of those tribes it says, "in their property, rights, and liberty, they shall never be invaded or disturbed, unless in just and lawful wars, authorized by congress, but laws founded in justice and humanity shall from time to time be made for preventing wrongs being done to them, and for preserving peace and friendship with them." Justice, gentlemen, is as much a duty of societies as of individuals, and our holy religion commands, that whatever we would that others should do unto us, so should we do unto them. To act honestly, fairly, and justly, and to perform our promises to Indians with whom the nation is at peace, is as much a duty, or more so, as to those who are in the highest state of civilization, and it is within the sphere of your Legislative power to compel it. It has long been a disgrace to the people of all the States bordering upon the Indians, both as men and as christians, that while they loudly complained of every injury or wrong received from them, and imperiously demanded satisfaction, they were daily offering to them injuries and wrongs of the most provoking and atrocious nature, for which I have not heard that any person was ever brought to due punishment, and all proceeding from the false principle, that, because they had not received the light of the gospel, they might be abused, cheated, robbed, plundered and murdered at pleasure, and the perpetrators, because professed christians, ought not to suffer for it.

What kind of Christianity is this, or where is it to be found? Surely not in the gospel of Jesus Christ. And what an obstacle must it throw in the way of such of them as might be desirous to embrace that religion, the doctrines of which we profess to believe to be founded in unerring wisdom,

and the precepts given by the command of God himself, when they see it so totally disregarded by us, with respect to them. I hope we shall be careful that no reproach of this nature shall attach to us. But it would be criminal to conceal from you, that the number of those unhappy people who have been killed since the peace of Grenville, in consequence of this diabolical principle, is great enough to give a very serious alarm for the consequences. A late attempt to bring to punishment a person who, with another, had killed two of the Six Nations, and wounded two children, in Trumbull county, proved abortive. Though the homicide was clearly proven, and that it was committed with deliberate malice, the perpetrator was acquitted. Under such circumstances can it be expected, that any people, civilized or savage, will remain at peace? Have we not reason to fear the displeasure of the Almighty, who looks with an equal eye on all his creatures, and that the rage of the savage may be let loose to vindicate his broken laws. Effectual measures should be taken to insure to the Indians all the privileges that they are entitled to by treaty—to render redress of wrongs easy to them—and to compel juries to do their duties by temporal pains and penalties, where the sanctions of religion fail of producing that effect.

IRISH HOUSE OF COMMONS.

TUESDAY, July 1.

Dr. Duigenan moved for leave to bring in a bill "to compensate ecclesiastical persons for tithes withheld during the rebellion."—Leave given.

Mr. Alexander reported from the committee of Supply, the following resolutions, which were agreed to by the house:

1. That a sum of 11,411. 11s. 11d. be granted to the Right Honourable, the speaker, to be by him applied to defray the expense of forming indexes to the several volumes of the new Edition of the journals of the House of Commons, of forming a General Index to the said Journals, and of printing the same, and also the expense of binding six hundred and nine sets of the said Journals and Indexes.
2. That his majesty be enabled to charge upon the consolidated fund an annual sum of 600l. net, to be paid to the earl of Roscommon towards the support of the high rank he holds in this kingdom.
3. That his majesty be enabled to charge upon the consolidated fund an annual sum not exceeding 2000l. net, to be paid to the earl of Athlone, and the successors to that dignity, in lieu of the annuity of 1200l. which has been granted to him in pursuance of an act passed in this kingdom in the thirty-sixth year of his majesty's reign.
4. That his majesty be enabled to charge upon the consolidated fund an annual sum not exceeding 600l. net, to be paid to lord Aylmer, towards the support of the dignity he holds in the Peerage of this kingdom.
5. That his Majesty be enabled to charge upon the consolidated fund an annual sum not exceeding 1200l. net, to be paid to the Right Honourable John Moreck Mason, in consideration of his long and faithful services, to commence upon his resignation of the office of one of the Commissioners of his Majesty's Treasury.

CITY OF WASHINGTON.

FOR SALE,
Lot No. 9, in Square 122.

THE above is inferior to few lots in this city, being but two squares west of the President's Square, commanding an extensive view of the Potomac, it is a corner lot, and fronts 155 feet 10 inches on F. Street, and 59 feet and an half inch on 20th Street.—An indisputable title will be given on receiving the amount of the purchase money. For terms apply to the subscriber a few doors east of the Little Hotel.

JOHN KEARNEY.

N. B. I will also sell Lot No. 4, in Square No. 491, fronting 55 feet 3 inches on the Pennsylvania Avenue, and extending back 150 feet to an alley of 30 feet wide, with the advantage of a 15 feet alley along side of it; and Lot No. 24, in Square No. 378, fronting 51 feet 5 inches on Ninth Street, and running back 107 feet 2 inches to a 30 feet alley. West India goods will be taken in payment for a considerable part of the above property.

I. K.

November 17, 1800.

BOARDING AND LODGING.

FIVE or Six gentlemen can be accommodated with General Board and Lodging, in a good and comfortable House, on New-Jersey Avenue, at Mr. Law's former residence. Also good Stabling wherein twenty horses can be accommodated by,

SAMUEL BOOTES.

Nov. 26th, 1800.