

THE LIFE OF A GREAT INVENTOR.

A work has recently been published in London, giving a minute account of the origin and progress of the mechanical inventions of James Watt—embracing his biography. To this great inventor has been assigned, and justly we think, the same position among mechanical discoverers, that Shakespeare occupies among poets, and Newton among natural philosophers. Every mechanic and inventor throughout the world has an affectionate regard for his memory. The work referred to—edited by J. P. Muirhead, a relative of the family—opens up the every day life of Watt, and presents in full, for the first time, the great number and value of his inventions and discoveries, and shows to us, how much the world is indebted to the genius and skill of a single man. James Watt was a native of the town of Greenock, in North Britain, and was of an exceedingly delicate constitution. He soon exhibited great reflective powers and mechanical skill, and at an early age learned the trade of a mathematical instrument maker, and went to London to perfect himself in his art, by paying a hundred dollars and his labor for a year's instruction. In 1756, being twenty years of age, he left London and came to Glasgow, full of professional knowledge, and esteemed the best mathematical instrument maker in Scotland. The old-fashioned trade privileges prohibited him from setting up his humble shop within the city limits, but he found an asylum within the gates of the College, where he was provided with a shop, and where he practised his trade for a number of years, beloved and respected by all, making Hadley's quadrants and other instruments, till those lights burst upon his mind which ultimately led him to fame and fortune. While working at his trade, he offers, in one so young, a noble example to all mechanics. He never spent his time in nonsensical amusements of any kind, but was fond of those which were innocent and ennobling. He studied music, and was fond of it; and he acquired a knowledge of chemistry, mechanical science, and natural philosophy surpassing all the students in the college, who looked up to him as an oracle.

It was while repairing a model of an old-fashioned steam engine used for experimental purposes in the college, that he made the grand discovery—that improvement which has made the steam engine "the iron apostle of civilization." The steam engine dates as far back as Hero, but in 1765 it was but a single-acting machine, condensing the steam within the cylinder. The first reciprocating steam engine condensed the steam under the piston, by application of cold water to the outside of the cylinder, when the piston had made a full upward stroke. The steam being then shut off, the cold water, by condensing the steam, formed a vacuum under the piston, which was open to the air at the top, when down came the piston with the atmospheric pressure of fifteen pounds on the square inch. An improvement on this slow mode of condensing was discovered by accident. It was noticed by the attendant on one engine, that steam condensed more rapidly in consequence of a rack in the cylinder, by which some of the condensing water was forced into the interior and mixed with the steam. This led to condensing the steam by injecting the condensing water into the inside of the cylinder. In this state the steam engine involved a vast expense for fuel, because the cylinder had to be cooled down from 212° to 200° in one stroke, before the vacuum was complete, and then heated up to 212° for the next stroke before the steam began to act to elevate the piston. In this state the steam engine was found by James Watt, and the improvements which he made on it during the years that he lived, left it nearly in the same condition in which it is found at the present day.

He invented the separate condenser, the double stroke, working the steam expansively, the steam jacket, the cutting off at various parts of the stroke, the use of the puppet valve and the dash pot to prevent slamming. In his specification he also described a locomotive, and his friend W. Murdoch, constructed a working model, with no other guide but this, as far back as 1787. Watt's inventions are not circumscribed by the steam engine; he invented quite a number of other useful machines; but it is upon the improved steam engine that his fame rests, because it has become the universal lord of commerce and manufacturers. He died wealthy, full of years and honors, in 1819, aged 84 years. But his life was not—at least for many years—an easy one. He suffered long from the want of money, neglect, and much opposition, before he could obtain means to construct his engines and get them introduced, and even after their complete success was demonstrated, ignorance and selfishness caused him many cares, many sleepless nights, and much loss and grief. His engines effected vast savings over the old ones. In one mine—Wheat Virginia—his first engine effected a saving of \$37,500 in one year, and yet the owners grumbled to pay him one-third of this, although he asked no pay but part of the savings his engine effected.

It may be supposed by some, that the government of Great Britain fostered and encouraged such a genius and benefactor; but Britain does not owe its success in manufactures to government patronage, but to the enterprise of the people, and even a dark spot remains upon the

escutcheon of that great statesman, Edmund Burke, in speaking and voting against the extension of Watt's patent, when he was still poor and needy.

The Russian government has always encouraged genius, and has employed its agents to buy the best skill in every country, and when James Watt could not find a patron in his own land, he was offered a lucrative situation in Russia, through Sir John Robinson, his countryman, chief engineer in Russia, and came very near embracing the offer.—Had he done so it, is possible—but we do not think probable—that Russia, at this time, might have been in advance of England in manufacturing industry.

The great benefits which Watt's inventions have conferred upon the world are now generally acknowledged, but to estimate their value is beyond the power of figures. We have thus briefly alluded to this great man and his inventions as a duty. Every mechanic may well be proud of him as the representative of their craft. He was so ingenious, simple, learned and generous, that we cannot but hold him up as a noble example to all young men possessed of a turn of mind for mechanical pursuits.

STEAMER OCEAN BIRD

The steamship designed by John W. Griffiths, editor of the *Nautical Magazine*, which was to have been named the *William Norris*, and to have crossed the Atlantic in six days, is now finished, and has made a trial trip, under the name of *Ocean Bird*. It has not been completed in detail as was originally contemplated, owing to it having been sold by the failure of Mr. Norris, and having passed into the possession of others. It however made most extraordinary time on the trip—stated to be equal to twenty knots per hour. The hull is beautiful, and it is supposed that it will make an extraordinary fast voyage across the Atlantic. It is intended to be sent to Europe for sale in a few weeks.

Its dimensions, as completed, are 222 feet on the load line, 225 feet on deck, 36 feet 10 inches beam, and 22 feet hold, or 7 feet deeper than her hull was designed for. The machinery is proportioned as follows:

Diameter of cylinder,	65 inches.
Stroke of piston,	12 feet.
Diameter of wheels,	33 feet.
Length of bucket,	8 ft. 9 in.
Breadth of bucket,	22 inches.
Number of buckets,	28
Dip of bucket,	4 ft. 8 in.

She is furnished with four single return flue boilers, two forward and two aft. Both of the forward boilers are 20 feet long, and the after two 22 feet in length. Width of boilers 9 feet 6 inches, and 10 feet 2 inches in height. The entire surface is 4,500. 44 superficial feet. Messrs. Guion & Boardman built the engines.

KERTCH.—This important town of Russia, in the Crimea, (recently taken by the Allies) is the ancient *Panticapum*. It is situated on a tongue of land forming a peninsula of the same name on the Strait of Enikale, connecting the Sea of Azoff with the Black Sea, 130 miles E. N. E. of Simferopol, latitude 44 degrees 20 minutes N., longitude 36 degrees 28 minutes E. It is regularly and beautifully built, chiefly of stone obtained from the fine quarries in the neighbourhood, and possesses great natural advantages for commerce. In 1827, it was declared a free port, and an extensive lazaretto was built, at which all the vessels coming by the Black Sea perform quarantine. The number of vessels which touch at it in passing out of the Sea of Azoff, averages 400; and the number of coasting vessels is from 500 to 600. The greater part of the inhabitants are employed in commerce. Kertch exports building stone and large quantities of salt, obtained from neighbouring lakes; and its herring and sturgeon fisheries are very productive. Its site is that of the ancient Panticapum, the residence and burial place of Mithridates. The modern town is of very recent existence, and has risen, as if by magic; and, by its increase, has prejudicially affected some of the other ports. In 1834, the population was 3000; and in 1847, it had increased to 16,000.

ANCESTRY OF WASHINGTON IRVING.—John of Irwyn had landed possessions in the parish of Holm, in Orkney, in 1438, when the county was still an appanage of the crown of Denmark and Norway. The Irvines of Sebay are very frequently mentioned in the times of Robert and Patrick Stewart, Earls of Orkney, and suffered very severely from the outrages of these rapacious nobles. They became extinct in the direct male line, tempore Charles I.; but one collateral branch had immediately before settled in the island of Shapinshay. They lost the estate of Gairstay several generations back, and sank down into the condition of mere peasants, tenants of Quhome, where some of them reside at this day. I was there lately with Mr. Balfour, the proprietor of Shapinshay, who pointed out the old and modest house at Quhome

where was born William Irving, father of Washington Irving. Is it not somewhat singular, that Sir Robert Strange and the author of *Bracebridge Hall* can be almost demonstrated of the same blood? I guess, if Irving knew his pedigree could be traced step by step up to John Irwyn of 1438, he would readily claim and vindicate his Orcadian descent.—*Dennistoun's Memoirs of Sir Robert Strange*.

'ROW, BROTHERS, ROW.'—Here is the scene of Moore's undying *Canadian Boat-song*, which he wrote on the fifth day of his descent of the St. Lawrence from Kingston. Thirty-three years after he wrote this song, I had the pleasure of shewing Moore the original manuscript, which he had entirely forgotten. He had pencilled the lines, nearly as they stand in his works, in the blank page of a book which happened to be in his canoe, from whence he transcribed them at night. The sight of the original copy of these famous lines, recalling youthful days and happy associations, produced a great effect on the poet, who alluded in a touching manner to his passage down the rapids of life.—*Weld's Vacation Tour*.

POPULATION OF THE WORLD'S DEAD.—There are millions in the grave and hundreds out of it. From extensive calculations it seems the average of human births per second since the birth of Christ to this time, is about 545, which gives 32,000,000,000; and after deducting the present supposed population of the world, (900,000,000) leaves the number of thirty one thousand and forty millions that have gone down to the grave—giving death and the grave the victory over the living, to the number of thirty thousand and eight millions. Of this the number in the grave have died—by war, about nine thousand millions; by famine and pestilence, seven thousand nine hundred and thirty millions; by intoxicating drinks, five hundred and eighty millions; naturally or otherwise, thirteen thousand millions.

REMARKABLE RESTORATION OF SIGHT.—Some 40 years ago, Owen Williams, of Bodedern, Anglesey, became perfectly blind. He was then a man of middle age, and under this terrible deprivation he continued year after year, until his blindness was regarded as confirmed. One day during last Easter, while sitting by the fire-side, his sight returned to him. The touching scene and the feelings it produced can be more easily conceived than described. Owen Williams was in his 92d year when this remarkable restoration took place after a total blindness of 40 years.—*Chester Courant*.

ENGLISH AND SCOTCH TIPPILING.—The correspondent of an Edinburgh journal, writing on the liquor consumed in England and Scotland, says:

"The English use three times more rum and brandy than the Scotch, 7½ times more beer, 2½ times more wine; but the Scotchman uses 4½ times more whisky. The cost to an Englishman for his tippie (keeping in view each inhabitant), is 48s. 4d., and to a Scotchman, 27s. England consumes 11.94 times more money in drink than Scotland, although the population is, in proportion, only 6,227 times greater. The two items of beer and whisky are most remarkable. An Englishman pays 33s. 1d. for his beer, and 6s. 10d. for his whisky; a Scotchman pays 4s. 3d. for his beer, and 19s. 10d. for his whiskey."

BROTHERS MEETING IN COMBAT.—The other day a curious thing happened during the severe engagement which took place for some rifle pits in front of the Bastion du Centre. In the Legion Etrangere, which was engaged on the French side, there is a Polish lieutenant of the name of Lubansky, who has two of his brothers in the Russian service. After the engagement was over, he began to talk with a sergeant who had been taken prisoner, and, asking him the usual questions about his name and regiment, found that he belonged to the regiment of his brother, so he asked further about Captain Lubansky. The answer was, "He is no more captain, but commandant, and he commanded in this very sortie." As he was neither among the dead nor the prisoners, he seems to have escaped, although some private letters were found on the field which must have fallen from his pocket, and which will be given back to him on the first occasion.—*Times*.

NEW FABRIC.—Mr. J. Niven, gardener, Keir House, has succeeded in fabricating paper and rope from the common garden hollyhock, and has patented his invention under the title of Niven's Patent Hollyhock

Paper and Rope." The paper is of the appearance and texture of that used for small bags and parcels by grocers, &c., and is very clean and firm. The rope is about half an inch thick, light and shining in colour, and apparently of considerable strength.—*Perth Courier*.

ASTRONOMY.—Astronomers are to be on the alert during the present year, to decide an important question that has lately arisen with respect to Saturn, namely, the collapsing of its rings. Compared with drawings made 200 years ago, a considerable difference is now perceived, as though the rings were gradually falling in upon the body of the planet.

COST OF WAR.—England spent sixty-five years in war and sixty-two in peace in the 127 years previous to the close of the war in 1815. In the war of 1688, we spent £36,000,000 sterling; in the war of Spanish succession £62,000,000; in the Spanish war (1739) £54,000,000; in the Seven Years' war (1756) £112,000,000; in the American War, £136,000,000; in the war of the French Revolution, £464,000,000; and in the war against Bonaparte, £1,159,000,000—thus forming a total expenditure for war, in 127 years, of £2,023,000,000 sterling, (or ten thousand one hundred and fifteen millions of dollars!)—*English paper*.

SCOTTISH EMIGRATION.—A large emigration is now going on from the North of Scotland to Canada; in two months no fewer than 5000 persons have left Aberdeen and other northern ports. The great majority are farm-servants, of both sexes.

VALUABLE BEQUEST.—A Scotchman, named William Maclure, says the *Toronto* (Canada) *Patriot*, recently deceased, left the bulk of his property, valued at \$300,000, to be appropriated expressly for the purpose of the diffusion of useful knowledge and instruction amongst the institutions, libraries, clubs, or meetings or useful instruction of the working classes or manual laborers in the United States of America.

EXTRAVAGANCE.—Lord John Russell and suite, while at Vienna, numbered so many persons as to occupy thirty-two rooms at the Hotel Munich, and what with the continual visits of courtiers and of his lordship's travelling countrymen, the hotel seemed transformed into an English colony. His lordship had with him his wife and six children, his doctor, the tutor, and the governess of his children, besides three young English ladies of quality, and ten domestics. It would be worth while to get the bill of expenses for all this party, and also to inquire what such a suite had to do with a grave diplomatic visit of brief duration.

PREACHING PIPES.—The *Caledonian Mercury* says that a lady, connected with one of the principal churches in the New Town of Edinburgh, having become enfeebled in health, and unable to leave her bed, felt her inability to join in the public exercises of devotion, one of her greatest deprivations. An ingenious friend suggested that she should take a house adjoining the church, and have one of those gutta percha conductors actually led to her bed. The suggestion was carried into effect; and now, in the solitude of her sick chamber, she listens to the public ministrations of her spiritual adviser!

James Keenan, in an interesting letter about Japan, says that "sacé," the principal drink of the country, is supposed to consist of sour whisky, tobacco juice, and aquafortis. Pleasant beverage.

NECESSITY OF A DUE ALLOWANCE OF SLEEP.—Habit influences, in some degree, the amount of sleep that is required. It should be said, however, that it is never well to withhold any of the revenue that is justly due to the drowsy god. A man may accustom himself to take so little sleep, as to be greatly the loser thereby in his waking moments. It may be commonly observed, that those persons who spend less time in sleep than is usually found needful by others of the same age, and strength, and occupation, consume a much larger portion of their days than others do, in a kind of dreamy vacancy, and virtual inactivity of mind and body. The hours expended in sleep are not the only hours that might be justifiably deducted from the sum total of the life, as having been lost to it; numbers of moments are daily spent in an absolute inaction of mind and body, and sleep cannot be robbed of its dues without adding largely, and in greater proportion than the time habitually stolen from the sleep, to that which it wasted in such waking reveries. In order that the mind may have the power of undergoing, trying and

exhausting the full it may undaunted amount proportionate to the on the mind be robbed time so mind or system restored somewhat constitute the energy spur of a great short-lived of its sleek power as will be disorderly forming directly vital for itself, thins its aspirant an anxiety, h vainly s this gre Diet and

It is old time there ar romance shut to modern have pr us with forefath them for sibly b "olden its impu tues. I doubt v morality whilst i forts an so impc human commo ages u Indeed ancesto they liv A R palmy and Bri that we in this nor a s in his c covering goes o Earl o woden pewter, Alnwic of the cabbag grew the rei the sca obtains flesh b rest of then, "live which from th beasts "chat was of ale, tea, cc saries dom. comfo now f forme richest capita emplo the d labor, discov