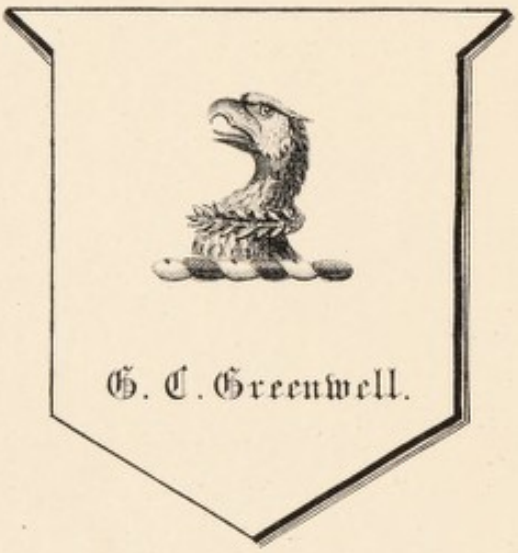
A new system of natural philosophy, on the principle of perpetual motion; with a variety of other useful discoveries / By William Martin.



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William Martin.

Natural Philosopher.

A

NEW SYSTEM

OF

NATURAL PHILOSOPHY,

ON THE PRINCIPLE OF

Perpetual Motion;

WITH A VARIETY OF OTHER

USEFUL DISCOVERIES.

PATRONISED BY HIS GRACE

THE DUKE OF NORTHUMBERLAND.

By William Martin,

OF WALL'S-END, NORTHUMBERLAND.

NEWCASTLE:

PRINTED BY PRESTON & HEATON.

1821.

CONTENTS.

NEW SYSTEM

OF

NATURAL PHILOSOPHY, &c.

THE Grand Desideratum of a Natural Philosophy, founded on the Principle of a Perpetual Motion, and the great Cause of such Perpetual Motion, have been the result of Thirty-seven different experiments, made by the Author, up to the 4th day of January, 1807; and, since that period, publicly exhibited in London.

I shall begin my subject with referring the reader to the seventh verse of the second chapter of the First Book of Moses, called Genesis; and prove from thence, that God Himself pointed out the great Perpetual Cause, or *Primum Mobile.* This passage has hitherto been slightly noticed, or rather, indeed, entirely overlooked by our great Philosophers, from whom (as vainly preferring their own imaginations, and too much neglecting the study of God's Holy Word) the Great Almighty has thought proper to conceal this important Discovery, until mankind had arrived at a more perfect state; and, to make it a matter of greater admiration, to illuminate, by His Divine Assistance, the mind

of a poor simple individual (favoured by education only in a small degree) with light sufficient to make this great Discovery : an important lesson this to mankind, not to depend altogether on their learning, for learning will not confer genius ; that *must* be innate ; if otherwise, our Blessed Lord and Saviour Jesus Christ would not have chosen poor illiterate fishermen to preach his Holy Word ! He only intended thereby to magnify His Holy Name, to display His Wonderful Power, and to render the Works of God the more astonishing.

In the second chapter of Genesis and the seventh verse, as before alluded to, will be found these words : "And the LORD GOD formed man of

the dust of the ground, and breathed into his nostrils the breath of life, and man became a living soul." Now this passage completely proves, that AIR is the real Cause of the Perpetual Motion; without which neither man nor beast can live, vegetation nor the fishes of the sea exist.

By that great second cause the Planets perform their functions, and the Tides ebb and flow; and, by the assistance of the Great God, I mean to prove, that the Moon is not the cause of the *Tides*, but only of the *Spring-Tides*. If the Moon was the cause of these *daily* phenomena, as Sir Isaac Newton states, he ought to have proved her the cause of *all*

things, as well as the ebbing and flowing of the Tides, before his assertion can be admitted: but, by the assistance of our Heavenly King, I shall clearly prove it to be otherwise.

Permit me to entreat attention, while I state one simple case: Suppose that one man were to desire another to work a question in arithmetic, and that such question required a proper statement, before the answer could be given; were that man unable to find out the proper statement, would it not be impossible for him to solve the question? Just as impossible was it for any Philosopher to tell the cause of the ebbing and flowing of the

tides, without a previous discovery of the cause of the Perpetual Motion. That alone was the proper statement necessary for exploring and accounting for all the Planetary Motions; but that was concealed both from Sir Isaac, his predecessors, contemporaries, and successors, from whom the Great God thought proper to keep it secret, notwithstanding their persevering efforts to find it out: the time was not yet come. The Scripture was to be fulfilled; simple things were to be brought forward to confound the minds of the great and the learned. So, nothing can be more simple, *when discovered*, than the Perpetual Motion.

The author, in the month of August 1805, began to study the Perpetual Motion; and, in the month of December 1806, after thirty-six different contrivances, was perfectly convinced of the impossibility of attaining his object by means of machinery, and gave up the pursuit as impracticable, concluding, as many others had done before him, that no such thing was to be found.

On the very evening of that day, on which he formed this conclusion, he was visited by a wonderful dream, awful in one part of it, and pleasant in another; then was he perfectly satisfied, that he was the man, whom the Divine Majesty had chosen (by His Assistance) to discover the great

secondary cause of all things, and the true Perpetual Motion; and it is not a little wonderful that the invention, subsequent to the aforesaid dream, viz. the thirty-seventh, proved to be the grand desideratum.

On the fourth of January, 1807, I set my machine in motion in Newcastle upon Tyne, as is well known to many gentlemen of that place; and on that day twelve-months, January fourth, 1808, began to exhibit it in the Metropolis, at No. 28 in the Hay-market. This is well known to His Grace the Duke of Northumberland, and many of the first nobility and gentry of the kingdom; which exhibition has continued in London ever since.

In this manner did the author find out, that *Air* was, under Divine Providence, the primary agent, the great cause of all things; of the Perpetual Motion, of the ebbing and flowing of the tides, as well as of all animal and vegetable existence. The great Sun itself, and all the Planets, are supported by that wonderful agent; and without it, all organized bodies cease to exist. Upon this principle, the same impelling Power that moves the Planets, moves the Earth; it consequently follows, that, if we discover the cause of the Earth's motion, we likewise find out the cause of the motion of all the other Planetary Bodies; a fact, which my discovery of a Perpetual Motion shall clearly demonstrate.

DESCRIPTION OF THE MOVEMENT

OF

THIS PLANET, THE EARTH,

UPON THE PRINCIPLE OF MY

PERPETUAL MOTION.

As this Earth turneth once upon its axis in twenty-four hours, commanded by the North and South Poles and influenced by the Sun, it floateth upon the Atmospheric Air; for this reason it cannot find a resting place. This may be exemplified by gently blowing a pea placed on the end of a tobacco-pipe shank held in a vertical position, as the pea will

go round and round, and oscillate as it goes in miniature; so the Earth, making four vibrations in twenty-six hours, causeth the four tides regularly to ebb and flow. Were there *no* Moon, the tides would ebb and flow as at present; with this difference only, there would be no Spring-tides. Time cannot be more accurately measured than by a pendulum; and further to satisfy my readers, that the Earth oscillates in the same manner as a common pendulum, I entreat their attention to the following *lemma.*

The common pendulum of $39\frac{2}{10}$ inches will vibrate neither more nor less than sixty seconds in a minute. Put such a pendulum in motion, by

giving it a touch with the hand, so as to set it to its greatest extent of swing; it will move so much the quicker, and yet still keep the same time, although swinging at its full extremity; when its motion begins to decrease, it will vibrate so much the slower, and yet still keep the same time. So it is with the Tides: when we have the largest Spring-tides, and, in spite of the increased velocity of the oscillation, the time is the same; and when the Tides are at the weakest, the oscillations are so much the slower, and nevertheless still keep the same time. This is a complete proof, that my System of the Earth's Motion is correct, on the principle of my Discovery.

Having discovered the true Philosophy of our Planet the Earth, viz. that it has two different motions, the one circular, the other oscillatory, the latter of which is the true cause of the ebbing and flowing of the Tides; this discovery leads to that of the whole Planetary System, and clearly proves, on the principle of Perpetual Motion, the impossibility of any of the Heavenly Bodies being fixed or stationary.

What Philosophers long sought in vain to discover,
What ne'er fail'd to mark the impetuous lover,
What the gay and the great are fond of pursuing,
In pleasure's gay round, tho' it lead to their ruin,
Is now clearly prov'd to be no foolish notion,
Since MARTIN has found out PERPETUAL MOTION.

THE MAGNITUDE OF THE SUN,

ASCERTAINED ON THE PRINCIPLE OF

PERPETUAL MOTION.

Sir Isaac Newton, being unacquainted with the powerful influence of Perpetual Motion on the whole Planetary System, computes the magnitude of the Sun to exceed that of the Earth 900,000 times; this misconception arose from the hypothesis, which he had adopted, that the ebbing and flowing of the Tides were occasioned by the operation of the Moon.

William Martin's mode of ascertaining the magnitude is, as follows: He finds, that, as in 365 days, the number of our vibrations or tides

amounts to 1348, so the Sun in magnitude exceeds the Earth 1348 times. The two vibrations in 365 days, by which the Sun causeth our Winter and Summer, Autumn and Spring, are equal to the 1348 vibrations made by the Earth; thus the statements mutually prove each other. That great luminary, which is no more stationary than any other Planet, is the Heaven of Heavens, and no other will be found!

For want of a proper statement of the motion of the Earth and the other Planets, as well as of the irresistible influence of Perpetual Motion on all bodies without exception, philosophers have hitherto been completely baffled; in short, like un-

skilful logicians, they formed their conclusions without understanding the premises; or rather, to speak more correctly, from erroneous premises they drew false conclusions.

It is no more a matter of surprise, that this new discovery of mine should shake the foundations of their systems, than that the recent experimental proofs given by modern Chemists of *Air* itself (which was for ages esteemed a simple homogenous element) being absolutely a compound and divisible substance, should have overthrown the theories of their predecessors.

I shall now proceed to prove, by a simple Rule of Three Question,

founded on my statement, of four vibrations or tides in twenty-six hours, that Sir Isaac, in computing the size of the Sun to exceed that of the Earth 900,000 times, is 898,651 times wide of the truth.

	Hrs.	*Vib.*		*Days.*	*Hrs.*	*Min.*	*Sec.*
As	26	4	: :	365	5	48	49
	60			24			
	1560			1465			
	60			730			
	93600			8765			
				60			
				525948			
				60			
				31556929			
				4			
				93600) 1262277.1.6. (1348			
				93600			
				326277			
				280800			
				454771			
				374400			
				803716			
				748800			
				54916			
				93600			

The Sun (1348 times larger than the Earth.

Rem. $\frac{54916}{93600}$ = in Decimals to .5867

So, From 900,000, Sir Isaac's computation,
Take 1348'.5867, W. Martin's do.

Leaves 898651.4133 too much.

Having, I should presume, already proved, to the satisfaction of my readers, that the cause of the failure of former philosophers in framing a rational and just system, proceeded from the ideas they had formed of the impossibility of discovering a Perpetual Motion, and from the natural consequence of their ignorance of such a powerful agent as *Air*, viz. their being driven to the necessity of forming various, and often discordant, hypotheses, and, of course, reasoning from false data; common candour requires of me to allow, that their labours have most certainly, even on their own erroneous principles, been of great service to mankind; but, since it has been the will of the Great God to enable me to

explain, in their true light, those important branches of Natural Philosophy, it is to be presumed that mankind will no longer, in this liberal and enlightened age, continue unreasonably sceptical, but will at length yield to the irresistible force of truths, which shrink not from the test of experiment.

All former system-builders have uniformly asserted, that the Sun was a fixed and stationary body; but, upon the true principle of Perpetual Motion, I can prove it to be a Planet, although, from its being placed in the centre, and the largest of all the planets, its motion is slower and less perceptible; likewise, that it gives Summer and Winter to all

the other Planets, as well as to the Earth. Those large Planets, nearest to the Sun, are the ordinary Heavens; but the great Sun has the command of all, being the Planet of our Great God and Heavenly King, and his place of residence. The Sun is no more a tremendous burning globe of fire, than any other Planet; were that the case, it would waste and diminish in its size, consequently alter the whole Planetary System; would shorten our days and nights, and bring the Heavens and all things else to an end. This was as wild a notion as that of the Sun being 900,000 times larger than the Earth; whereas I have proved it to be only 1348 times larger. The warmth and light, which we receive

from that great luminary, are only the irradiations of the Great God, its heavenly Resident, perpetually shed abroad upon all the other Planets.

Having now pointed out the Heaven of Heavens, the residence of the Great Creator of the Universe, and the ordinary Heavens, so, by Divine assistance, must I also point out Hell, that awful and tremendous place.

The Sun, the largest of the Planetary Spheres, dispenses its light and radiance all around, until, in the immensity of distance, he himself becomes invisible. Here commence the Regions of Darkness, boundless

and illimitable! Were a cannon-ball to fly a million of years with undiminished velocity, at the end of that period it would be no nearer its place of destination, than when it left the cannon's mouth. The Heavens have a boundary, but Hell has none; neither height nor depth, end nor sides: no circumference bounds those doleful shades: well may the Holy Scriptures term it 'The bottomless pit.' There, 'far removed from God and light of Heaven,' will the wicked, after receiving that awful sentence, 'Depart from me, ye cursed, into everlasting fire,' be removed further and further into the dark and boundless abyss of eternal night: 'There will be weeping and gnashing of teeth!'

As the Sun is the Heaven of Heavens, and the dwelling place of the Most High, from that Seat of Glory he commands the Universe; and, by the power of his word, can doom to destruction any part of it he pleases. For instance, the blazing Comets, which appeared in 1812 and 1821, are planets similar to our own, in a state of conflagration; the long fiery tail or train is the immense quantity of refuse and waste discharged from the Comet during its combustion: yet will they still continue to move in their eccentric orbits, and, in proportion to their reduction, with increased velocity, until they are extinct, and exist no more. For any thing we know, the Earth, on which we live, may be the next to receive

the dreadful sentence: May we be all prepared to meet our Awful Judge!

OBSERVATIONS

ON THE

MOON AND THE EARTH.

The Moon and the Earth are two Planets of an equal size, and act reciprocally as Moons to each other; when the one is a full Moon, the other is beginning to be a new Moon. Many people may suppose the Moon to be the largest of the

Planets, because it appears so to us; we can look at all the Heavenly Bodies, the Sun alone excepted: that glorious Orb is too splendid, too dazzling for our weak optics. If human eyes, then, cannot look at the dwelling-place of God, how can they look at God himself, and live? But I am of opinion that the stars are nearly all of one size, excepting those large ones nearest the Sun, composing the ordinary Heavens. The reason of the superior apparent magnitude of the Moon is her proximity to the Earth: Were the Moon removed to the distance of the Pleiades or Seven Stars, she would appear to us no larger than they do, nor we to her; and, were the Pleiades brought as near to us as the Moon,

they would appear as large to us as the Moon does at present, and still retain their planetary motions. The brightness of some stars, and the comparative dimness of others, together with their apparent difference of size, depend on their greater or lesser distance from our Planet.

Having pointed out the proper motions of the Planets, described the Heavens, and also the Infernal Regions or Bottomless Pit, I now proceed to state the cause of the beautiful azure colour of the Sky.

As the glorious Sun scattereth its rays in all directions, until they are lost in the immensity of distance, and the regions of darkness com-

mence, that pitchy darkness, forming, as it were, a back-ground to the regions of light, and, in a manner, seen through that transparent medium, will naturally communicate to the sky an azure tint of the most transcendent beauty, as we now behold it. Philosophers have said, 'could you soar beyond the Moon, and pass through all the planetary choir; could you wing your way to the highest apparent star, and take your stand on one of the loftiest pinnacles of Heaven; you would there see other skies expanded, another Sun distributing his inexhaustible beams by day, and other stars to gild the horrors of the night.' This assertion I shall, by Divine assistance, refute. Was there, as they assert, a plurality

of Suns, there would, as well as Suns, be Gods without number, and they would leave no place for Hell. Upon the principles of my Philosophy, there is only one God and one Sun. Let any unprejudiced person, of a sound understanding, calmly reflect and say, whether any dependence can be placed on the theorems of those, who were destitute of the knowledge of Perpetual Motion, and consequently had no stable foundation to build upon.

Now, that this grand Desideratum is discovered, their visionary schemes will vanish; they will be dispersed 'like the light clouds of a windy day.' As I have already hinted, a man might with equal consistency expect

to solve a Rule of Three Question without being able to state it correctly, as they to found a true Philosophy without the knowledge of a Perpetual Motion.

Having already proved, that the excess of the Sun's magnitude above that of the Earth, instead of being, according to Sir Isaac Newton's calculation, 900,000, is only 1348; I now proceed to point out the true extent of the vibration of that great Planet, on the principles of Perpetual Motion, in the Question exhibited in the following page, and subsequent observations.

Sec.	*In.*	*Days*	*Hrs.*	*Min.*	*Sec.*
If 1	— 39 2-10	— 365	5	48	49 ?
	10	24			
	392	1465			
		730			
		8765			
		60			
		525948			
		60			
		31556929			
		392			
		63113858			
		284012361			
		94670787			
		10) 12370316168			
		12) 1237031616 .. 8 = 4-5 in.			
		3) 103085968			
		5½) 34361989 .. 1 ft.			
		2 2			
		11) 68723978			
		4,0) 624763,4 .. 4 = 2 yds			
		8) 156190 .. 34 poles			
		2) 19523 . 6 . 34 . 2 . 1 . 0 4-5			

Miles	*Fur.*	*Poles*	*Yds.*	*Ft.*	*In.*
9761	7	17	1	0	6 4-10

Extent of the Sun's Vibration.

As we have it in the tenth chapter of Joshua: 'Sun, stand thou still

upon Gibeon, until I am avenged of mine enemies;' some philosophers, considering the Sun as a fixed and stationary body, consequently, *always* at rest, (the impossibility of which has already been demonstrated on the principles of Perpetual Motion) have contended, that the Earth and Moon stood still at the word of Joshua. Although Joshua was a good commander, it by no means follows that he was also a good philosopher; but, as the children of Israel were a favorite people of the Great God of Heaven, and the Amorites a wicked and idolatrous race, God thought proper to display his omnipotence, by fighting the battle himself; for more of the Amorites were destroyed by the hail-stones,

than fell by the swords of the children of Israel.

Now I affirm, that this account is perfectly correct; for the Sun did then stand still, and all the other planets also; their circular motion stopped, but not their oscillating motion, which causes the ebbing and flowing of the tides, as already demonstrated; and when the Almighty Fiat ordered the Sun, his heavenly habitation, to resume its course, the attracting power of that great orb would set all the other planets in motion along with it.

Sir Isaac Newton says, 'we confess, that we are all entirely ignorant of the Cause of Gravity.' But Willi-

am Martin will not say that, after having, for nearly fifteen years, proved the true Perpetual Motion, which, as it is the cause of all things, must of course be the cause of Attraction and Repulsion also.

As he considers the Sun to be the Heaven of Heavens, and the dwelling-place of the Omnipotent, who, from that Planet, surveys, regulates, and commands the Universe, it cannot be doubted, that its attractive power must be wonderfully great; indeed, so great is its influence, that all the other planetary bodies are perpetually tending to that great centre, and would all be drawn together, in one huge mass, around the Sun, had not its Almighty Inhabi-

tant endued it with a power of Repulsion equal to its power of Attraction.

'Hitherto shall ye come, and no further!' From an equipoise of these two powers it happens, that the planets deviate not from their appointed courses: they neither approach too near the Sun, nor to each other; but only at certain times, according to their relative positions, eclipse each other by their shadows. Every planet, great and small, moves with a velocity proportionate to its size and its distance from the Sun, the centre of all their orbits: For example, we find, in a carriage with four wheels, that the hind-wheels are much larger than the fore-wheels;

now it is clear, that, as they have to keep pace together, the smaller wheels must move with greater velocity, and make more circumvolutions, than the large or hind ones. So it is with the smaller planets nearer to the Sun, and the larger ones the most remote from that great luminary.

Thus I prove, that the Sun, instead of being 900,000 times larger than the Earth, only exceeds it in magnitude 1348 times.

OBSERVATIONS

ON THE

Ice breaking away from the North Pole.

[Sent to the Editor of the Tyne Mercury.]

The immense accumulation of ice around the North Pole, for some centuries back, had of late years (particularly since the year 1775) occasioned a very great irregularity and deterioration of the seasons in these Northern climates. About the year 1815, as nearly as I can guess, Providence, for the good of the poor, and for the purpose of making our seasons more regular, and, con-

sequently, the fruits of the Earth more plentiful, was pleased to detach prodigious quantities of it from the main mass, which had already extended itself so far towards the south, as to have a most chilling influence on these Northern parts of the world. The ice will not again accumulate to that enormous degree, for several generations to come. Since this diminution of the Polar Ice, the Air, the great cause of all things, has a more free circulation round the Pole, and will tend, in no small degree, to afford us more regular seasons for a considerable time to come.

OBSERVATIONS

ON THE

FIXED STARS.

Having, on the principles of my Perpetual Motion, proved the proper movement of this Planet, the Earth, viz. that it has two kinds of motion, the one circular, the other consisting of four oscillations in twenty-six hours, which cause the four tides regularly to ebb and flow; it necessarily follows, that, the motion of one Planet being ascertained, we discover the motions of all the rest. It being impossible, on these principles, that any Planet or Star should

be stationary or at rest, the term 'Fixed Star' is a very erroneous appellation. It has pleased God, in his wisdom, to place the heavenly bodies at such distances, in such situations with regard to each other, and to appoint some of them to describe circles so small, that they cannot be observed to move by our finest observations: now, from their motions being absolutely imperceptible, they become to us so many points of observation, from which we derive many important results, particularly in the facilities which they afford to navigation. 'The Heavens declare the glory of God, and the Firmament sheweth his handy-work!'

Sir Isaac Newton's miles round the Sun, 22518,000,000
William Martin's miles round the Sun, ... 258,895,950

Difference, 22259,104,050

THE DREAM,

Which, in the month of December, 1806, convinced the author, that he was the man, chosen by God, to discover that grand Desideratum, the Perpetual Motion.

I thought that the sky was clear, not a cloud to be seen, the weather pleasant and serene, and the Sun totally eclipsed; it appeared to be in its meridian, and the heat was excessive. I dreamt that I was naked, and in a pleasant forest; it was level, and the grass as short as that of a bowling-green: large oaks extended regularly, in every direction, over the vast plain, the limits of which I could not discern. As I stood, I looked over my right shoulder, and

there beheld a Lion of a wonderful size, exceedingly pretty; he appeared to be equal in height to a common-sized horse, and his limbs seemed like those of an elephant; he had a large and shaggy mane, and his countenance was wonderfully fierce. He appeared to be distant from me about fifty yards. From his heavy appearance, I thought within myself, that he could not be very quick at running; and as I flattered myself, that I was able to run with any man for a few hundred yards, I made my start, and he made his also; I thought that I ran with the speed of a race-horse, and that nothing under the sun could outstrip me. I bethought me, that a Lion never pursued his prey very far, and this

thought encouraged me to persevere. Wondering that I was able to maintain my speed so long without my strength failing me, and looking behind me to see how far I had left my pursuer behind, he seemed to be at such a distance as to appear no larger than a mastiff, crouching with his nose close to the earth, like a hound footing a hare. It then struck me, that I, who seemed to have so far the advantage of him in point of speed, was under no necessity to run so fast; I therefore slackened my pace, intending, nevertheless, to preserve a greater distance from him, than when we first started. In a short time, I again looked behind me, over the left shoulder; and, as he seemed within a few yards of

me, I made no further efforts to escape from him, but exclaimed, 'The Lord have mercy upon my soul! I am not conscious of having injured any man!' I then thought, that the Lion ran past me with such velocity, that, I supposed, he had run himself blind, and could not see me; but, after passing me about fifty yards, he suddenly stopped and faced me again. Fear now left me, and I became resigned to a fate, which I deemed inevitable; when, approaching very near me, his countenance, methought, divested of all its former ferocity, became extremely mild and pleasant. He fawned upon me, wagged his tail, walked by my side, and licked my hand; looking me pleasantly in the face, as a

faithful dog looks up to his master. However, in the midst of these caresses, a sharp stroke with his tail between my shoulders, awoke me, and put an end to the vision. My first attempt, after this extraordinary dream, which was the thirty-seventh, was successful, and I discovered the grand Desideratum.

INTERPRETATION

OF THE

FIRST DREAM, IN 1806.

The gloom, spread over the sky by the total eclipse of the Sun, denotes the darkness, in which Great

Britain was involved respecting this important branch of natural philosophy, until the Omnipotent was pleased to enlighten the nation by this discovery of a simple individual, which had been hitherto concealed from the great and the learned. The large forest of spreading oaks, that covered the extensive plain, is the Royal Navy; for to the Commissioners of that Navy did I point out the method of preserving timber from the dry-rot, by boiling it in sea-water; a mode, which has been practised ever since: One year produced twenty-eight different inventions; and I have now by me more than thirty letters from the Navy-office concerning them. My being naked signifies, that I was in a state of po-

verty; and my flight through the vast forest points out, that some time should elapse before the announcement of my discovery to the world. The noble Lion, pursuing and passing the naked man, signifies the British Government, who, from the year 1808, when I was exhibiting the Perpetual Motion at No. 28 in the Hay-market, passed me by unheeded, until February 1817, when I was directed by His Grace the Duke of Northumberland to lay my designs before the Lords of the Admiralty; and the Lion fawning upon me, licking my hand, and looking pleasantly up in my face, portends, that Government will, at some period of my life, take notice of me and my inventions.

To make the works of God more and more wonderful, in 1817, after the directions I had received from His Grace the Duke of Northumberland to address myself to the Lords of the Admiralty, I dreamt a second time of the Lion as follows :

THE SECOND DREAM, IN 1817.

I thought, that I was in my own apartment, and perceived a large Lion under my bed; and having a piece of raw meat, not larger than a shilling, on my finger's end, I threw it behind the head of my bed. By his violent efforts to come at it, it seemed as if he would have carried away the bed upon his back. I said to my wife, 'This poor animal seems

starving of hunger, and, when he comes out from under the bed, will certainly tear us to pieces;' but he had no such ferocious intentions, for, on coming out, he laid himself quietly down at my feet, stretching out his fore-legs, and looking earnestly at me, with a placid and good-natured aspect, as if he wished to speak to me. At this juncture a neighbour came in and said, 'Mr Martin, what a fine Lion you have got! what do you mean to do with him?' I told him, that 'I intended to exhibit him;' when he replied, 'you will have to feed him with the best of meat, and will find him very expensive.' On observing, that 'I could not afford to do that, but that he must take such as I could procure for him,' I

thought the Lion spoke and said, 'Very true, a daily dish is no dainty.' Upon this I clapped his head, spoke kindly to him, while I caressed him, and awoke.

INTERPRETATION

OF THE

SECOND DREAM, IN 1817.

The Lion under my bed, eagerly receiving the small morsel of meat, signifies the Lords of the Admiralty, always eager to receive any scheme

or invention, however small, or from whatever quarter it may come, which promises to be productive of any advantage or utility to the Royal Navy, and which, of course, must be beneficial to the nation at large.

The neighbour, who stepped in and remarked how expensive the maintenance of the Lion would prove to me, represents those who, having no ideas of the nature of business, or of the mode of carrying on a correspondence with the Government, conceive that, from my present projects and pursuits, I must incur heavy expences in keeping up such correspondence. And when the Lion exclaims, 'Very true, a daily dish is no dainty;' this circum-

stance points out, that the Admiralty-Board are satisfied with the simple explanation of my ideas and inventions, when they can perceive that any benefit is to be derived from them, or that they are likely to contribute to the public good.

Now, as both ancient and modern philosophers have, by reasoning from erroneous principles, drawn such false conclusions, and steered so wide of the mark in their calculations of the size of the Planetary Bodies, they must, of necessity, be as far wrong in calculating their distances, as, I trust, I have already demonstrated; the only alternative, therefore, now remaining is, that they must disprove my Perpetual

Motion, or their own hypotheses must fall to the ground. My readers, doubtless, have observed, that my arguments against their doctrines, and in favor of *Air* being the great Secondary Cause of both motion and existence, are founded wholly on the word of God; for, although Moses is generally, and justly, reputed the author of the book of Genesis, it must be recollected, that that great man was only the organ, which conveyed the revealed will and word of God to mankind. Is it not, then, more natural to conclude, that principles drawn from that Divine Source must rest upon a more stable foundation than the visionary theories of human beings unassisted by Divine Light, and rea-

soning entirely from their own limited capacities? Let the Christian answer this question. I arrogate no merit to myself; but have, throughout this little work, uniformly spoken of myself as merely an instrument, for communicating to my fellow-creatures a discovery emanating from that August Being, 'by whom all things were made, and without whom was not any thing made, that was made.'†

† John i. 3.

CONCERNING THE

DESTRUCTION OF THE WORLD.

As I have already described the Comets to be Planetary Bodies in a state of conflagration, after having received the sentence of dissolution from a wise and just God, such will one day (and we have scriptural authority for it) be the fate of the Planet which we inhabit! 'But of that day and that hour knoweth no man, no, not the Angels which are in Heaven, neither the Son, † but the Father.'* We are not to sup-

† Not in his human capacity. * Mark xiii. 32.

pose, that when this awful judgment is pronounced against the Earth, that any alteration will take place with regard to the Sun, or any other planet whatever. Although the Scripture informs us, 'That the Sun shall be turned into darkness, and the Moon into blood, before the great and terrible day of the Lord cometh;' it does not follow that these words are to be literally understood; but it is extremely probable that such would be their exact appearance, when viewed through the medium of the flaming atmosphere, which will surround the globe in a state of conflagration, and yet they themselves remain as they are at present.

It may be, that the Most High hath, in his wisdom, decreed a similar exit to every one of the Heavenly Bodies, and may, out of their remains, create new worlds and new systems, filled with myriads of intelligent beings. If Destruction cometh from the Lord, why not Renovation?

WILLIAM MARTIN's

EXPLANATION

OF THE

PERPETUAL MOTION.

Let a tube of two inches diameter communicate with the external air at the outside of the house, leading

from thence to the inside of a Receiver, made on purpose to confine the included air: place the machine in a convenient part of a close room, so as to stand out of the way, and let the tube, that communicates with the external air, be concealed under the boards of the room, thus conducting the atmospheric air into the receiver, at the top of the central part of which must be fixed a small tube of the length of a man's finger, with a hole in it, large enough to admit the end of the finger. Then place as many small pillars as may be necessary on the top of the air-receiver, standing perpendicularly, right over the top of the up-cast, with an arched top to fix the pendulum to. The length of the pendu-

lum, from the point of suspension to the centre of oscillation, to be precisely $39\frac{2}{10}$ inches. The pendulum to be linked to a small chain. Straighten a small piece of the mainspring of a watch, to each end of which rivet a piece of brass; one end to be fixed on the top of the standard at the point of suspension, and the chain to be hooked to the other end. To the lower end of the pendulum affix an ivory ball, about half the size of a billiard-ball. Let the pendulum hang over the centre, so near the top of the up-cast of air, that it may move without touching; then the motion will commence of its own accord; and, if the machine be ingeniously constructed, its motion will never cease, for it is as im-

possible for it to stand still, as it is for a bird to fly without wings.

The materials have little to do with it; they are composed of inert matter, which, if left undisturbed, would remain at rest as long as they endured; but, under GOD, the Great First Cause, AIR, the Secondary Cause of all things, is the perpetual mover of this simple machine. It has been already observed, that a pendulum, $39\frac{2}{10}$ inches in length, will vibrate neither more nor less than sixty seconds in one minute.

OBSERVATIONS

ON THE

IRREGULAR VELOCITY OF THE TIDES,

ON ALL COASTS

WHERE THE TIDES EBB AND FLOW.

Mariners know, by experience, that the tides, even on our own coasts, are much weaker in one place than they are in another, though only a few miles distant; this they cannot account for. The reason of which is, that, although they traverse the surface of the deep, they are unacquainted with the bottom of it, except in places where rocks or sand-

banks rise so near to the surface, as to endanger their vessels and their lives. In such places they are guided, through proper channels, by the assistance of the trusty lead. Now it is evident, from universal experience, and from the accurate surveys taken by skilful navigators, that, in all parts of the ocean which have hitherto been explored, sand-banks, reefs, and ridges of rocks, occur, more or less, near the surface, while the sea around them is unfathomable. This proves, that the bottom of the sea, like the dry land, consists of mountains, hills, and vallies; for, what are the Canary Islands, the Azores, and that vast assemblage of small islands, scattered through the immense Pacific and Indian Oceans,

but the summits of Alpine mountains, whose bases are at the bottom of the deep? Some of them rise to a prodigious height above the surface; while others are flat, and elevated only a few feet above the level of the sea. The tide, in flowing along the coast, frequently encounters shoals, ridges of rocks, and obstacles of the like nature, at the bottom of the sea, which must, of necessity, retard its motion; it then continues to force its way round the extremities of these impediments, and, on again meeting with flat, even ground, it will naturally resume its wonted velocity. It is obvious that, where impediments of this kind come in the way, it cannot proceed with the same degree of swiftness, as when it

flows over a smooth, plain bottom; this must be comprehensible by the meanest capacity.

Were the ocean laid dry, and exposed to the view of mortal eyes, we should see tremendous rocky mountains, as high as the Alps or the Andes; we should find sand-banks to be extensive hills of considerable elevation, intersected by large vallies; in some places horrid chasms, deep and narrow glens; and, in others, plains, more extensive than the flat deserts of Tartary, or the wilds of Siberia.

When the mariner perceives large broken waves, and a furious rippling, he may be certain that, beneath him,

lie hid rocks or sand-banks at no great depth, although sufficiently distant from the surface to allow him to pass over them in safety: but, when the sea runs high, with great waves, which seldom break unless agitated by very violent storms, there he may be assured that the sea is very deep. In those parts of the globe nearest the equator, where motion is the slowest, and which form the centre of oscillation to all the other parts of the Planet, neither ebb nor flood is discernible.

GENERAL OBSERVATIONS ON AIR

What is the occasion of Music? AIR.
— of Man's Life? ..... AIR.
— of Trees and Vegetation? ... AIR.
— of Animal Existence? ..... AIR.
— of Perpetual Motion? ..... AIR.
— of the Ebbing and Flowing of the Tides? ..... AIR.
— of Attraction? ..... AIR.
— of Repulsion? ..... AIR.
— of Electricity? ..... AIR.
— of Fire and Water? ..... AIR.
— of Thunder and Lightning? AIR.
— of Wood and Stone? ..... AIR.
— of the Planets & their Motions? AIR.
— is the great Preserver? ..... AIR.
— is the great Destroyer? ..... AIR.

This is the powerful agent, which is made use of by the Almighty, to carry on his stupendous operations in the government and management of the Universe. A few extracts from the Word of God will prove, to every candid and unprejudiced reader, who this August and Omnipotent Being is. 'In the beginning God created the Heavens and the Earth.' *Gen.* i. 1.—'In the beginning was the Word—All things were made by Him, and without Him was not any thing made, that was made.' *John* i. 1, 3; and, 'He was in the world, and the world was made by Him.' *v.* 10.—This is most fully declared by the inspired Apostle to the Gentiles, in *Col.* i. 16; 'By Him were all things created, that are in

Heaven, and that are in Earth, visible and invisible, whether they be thrones or dominions, or principalities or powers; all things were created by Him and for Him.'—In *Psal.* cii. *v.* 25, it is said, 'Of old thou hast laid the foundations of the Earth, and the Heavens are the work of thy hands;' which words are quoted, *Heb.* i. 10, as belonging to our Lord Jesus Christ, to shew his dignity above all angels and creatures whatsoever. Therefore He is said to be 'The Beginning of the Creation of God,' *Rev.* iii. 14; as being the Original and First Cause, by which all things were created and made; the Father having 'created all things by Jesus Christ,' *Eph.* iii. 9.—His Omnipotence is proved by his own

words, even the name by which he made himself known to Abraham, *Gen.* xvii. 1; 'I am the Almighty God.'—And in the Prophet *Isaiah*, ix. 6; 'His name shall be called Wonderful, Counsellor, the Mighty God.' Omniscience is evidently claimed by the Lord Jesus Christ, *Rev.* ii. 23; 'And all the Churches shall know, that I am He that searcheth the reins and the heart.'—Likewise, in *John* ii. 24. 25; 'He knew all men, and needeth not that any should testify of man, for He knew what was in man.'—In *Mat.* ix. 4, and xii. 25, it is written, 'Jesus knew their thoughts.'—Indeed, were not Omniscience and Ubiquity the attributes of the Redeemer, how could He mediate for lost sinners, or present their

prayers to the Throne of Grace? Therefore our Lord saith, *John* x. 30, 'I and my Father are One.'—*John* viii. 58; 'Verily, verily, I say unto you, before Abraham was, I am.'—His not saying, *I was*, but *I am*, brings to mind the glorious Name of GOD, *Exod.* iii. 14: 'And God said unto Moses, I am, that I am; thus shalt thou say to the children of Israel, I AM hath sent me unto you.'—*Mat.* xviii. 20; 'Wherever two or three are gathered together in my name, there am I in the midst of them;' for, being present every where, he can manifest his presence when and where he pleaseth.

It has been the will of this Divine Being so to enlighten the mind

and understanding of a simple, unlettered individual, born and bred, not in a gorgeous palace, but in a humble cottage, (the soil from which genius most usually springs) as to enable him to point out to the world the Perpetual Motion, together with its cause, viz. AIR, the *Primum Mobile* of the Universe, the secondary cause of all things.

WILLIAM MARTIN's

INVENTION

For preserving the Lives of Seamen in the Hour of Danger—1804.

This consists of a Jacket, made in the common way, of the best tanned

calf-skin, sufficiently easy to allow a man to work with freedom; to the outside of which must be sewed another skin, larger and looser than the inner Jacket, to allow the space between them to be filled with air, by means of an ivory tube fixed to any convenient part of the outer skin, provided with a stop-cock. The Jackets must be closely and strongly sewed together, so as to be both air and water-tight: proper straps to be fastened to the lower and under part of the Jacket, to buckle round the thigh, for the purpose of preventing it from slipping up above the short-ribs, and the whole to be anointed with a mixture of bees'-wax and tallow, which will render it perfectly tight. To use it in time of danger,

it must be inflated by blowing into the ivory tube, till it is quite full of air, which will be kept in by turning and properly securing the stop-cock. This simple invention, if brought into general use, would, doubtless, under Divine Providence, be the means of saving many valuable lives.†

† Having lost the drawing of this contrivance out of my pocket in London streets; on my return thither, in 1807, and passing the Tower, I saw one Daniel, of Wapping, exhibiting my Life Preserver to the multitude. With a loud voice I claimed it as mine, but without effect.

EASY METHOD

OF

CONVEYING COALS FROM THE SHAFT-MOUTH TO THE SCREEN.

In the year 1805, my brother John Martin, the celebrated Historical Painter in London, and my brother Richard, now Quarter-master in the Guards, being on a visit to me at Howdon-Dock, between Newcastle and Shields, we took a walk to see Percy-Main Colliery. The banksman was conducting a corf of coals from the pit mouth to the screen, when I observed to my brothers,

'Look at that poor horse, whose exertions so far exceed his natural strength, as must soon wear him out, and render him incapable of working at all: I can easily contrive a method, by which the banksman himself shall be able to do it with more ease than it is done with the assistance of the horse.' 'In what manner?' replied they. I answered, 'I would raise the pit mouth so as to form a hardly discernible descent to the screen, and then lay a cast-metal rail-road from one to the other for a rolly to run upon, which, when it had received the full corf, would, by a sudden push from the banksman, reach the screen of itself; and might be sent back again, when emptied, with very little exertion indeed.'

My brother John made a sketch of it, from which he afterwards drew a regular plan, according to what I had suggested. About this time I was deeply engaged in my Researches after a Perpetual Motion, and the aforesaid plan was stolen out of my lodging. When, in the year 1814, I returned from the Northumberland Militia, and claimed the Ventilators or Air Fans, (which I also found in general use) as my invention in 1806, I perceived them taking the full corf to the screen upon my plan, without the aid of horses. Thus was I robbed of the merit of two valuable discoveries, which originated solely from myself.

WILLIAM MARTIN's

METHOD

OF VENTILATING COAL-PITS.

Being at Howdon-Dock, in October, 1806, I was informed by some neighbours of the dreadful circumstance of thirty-two men having lost their lives that morning in Hebburn Pit; they were pleased to observe, at the same time, that, as I was a great inventor, they wished that I could discover some more efficacious method of ventilating coal-pits, than the mode used at present; that the coal-owners would reward me hand-

somely, and that such a discovery would turn to better account than my cracking my brain with endeavouring to find out the Perpetual Motion, a pursuit which had baffled Sir Isaac Newton and all the other philosophers. In reply, I observed, that 'the failure of Sir Isaac and others, who were only men like myself, was but a poor reason for my relaxing my efforts to make that important discovery; but, that I was very sorry for the sufferers, and hoped to be able, by Divine assistance, before that time to-morrow, to strike out some New Method of rendering such fatal disasters of much more rare occurrence than heretofore.'

The method, which I proposed, was on the principle of a winnowing-machine, but on a much larger scale. The fans to be wrought by a spear and a crank from the steam-engine, conveyed by a drift to the down-cast, which, when put in motion, would send the air down the pit in great quantities. This plan was, two or three days after the accident, communicated to Charles Brandling, Esq. M. P. of Gosforth-House in Northumberland, who observed, that it appeared to him to be the very thing, and wondered that a scheme so simple, and, as he believed, so likely to prove efficacious, should not have occurred to any of the Colliery Viewers, whose more immediate business it was to attend to and turn their

thoughts to things of that nature. That gentleman asked me, if I had shewn the plan to ———? My reply was, that I might as well put it into the fire at once; for, as he had no concern in the discovery, he would make a bad report of it, though perhaps, on my death or removal, he might bring it forward, and, making some slight alteration in it, claim it as his own invention. Mr Brandling replied, he believed that I was perfectly right; and added, that he would acquaint the Coal-owners with the discovery. Accordingly it appeared in the Newspapers in October, 1806; but Mr Brandling leaving the North shortly after to attend his parliamentary duties, the whole business fell to the

ground. While I was exhibiting my Perpetual Motion in London, in January, 1808, among the nobility and gentry, who honoured me with their presence, Mr Brandling paid me a visit to see my new invention, and observed, 'you have surprised the people in the North with your ingenuity, and are now come to surprise the good people in London.' He was then pleased to ask me, how I came on with my invention for ventilating the coal-mines? I replied, that I could only state the matter to him, as I had done before, when it was shewn to him in the North; and indeed it appeared, in the sequel, that there was something prophetic in the observation I had then made to him; for, on my joining the Nor-

thumberland Regiment of Militia in 1810, after having sold my Perpetual Motion to a person in London, where it remains moving to this day, they set to work at Percy Main Colliery near Shields, and built a long tube, resembling the chimney of a glass-house, and placed a Fan upon the top of it. Now the idea of a Fan originated with me, and had they built a tube as high as St. Paul's, still the invention could not with justice be ascribed to any person except myself; and, when I returned from service in the Militia, I openly claimed the merit of the discovery, but without either redress, advantage, or acknowledgment. They are now in general use among the collieries.

WILLIAM MARTIN's

SAFETY LAMP.

About the year 1813, Dr. Clanny, of Sunderland, in the county of Durham, invented a Safety Lamp, that is to say, a lamp which was capable of being introduced into the subterranean workings of the coal-mines without igniting the fatal hydrogen gas, with which those places abound: For this invention he received a Gold Medal from the Society of Arts in London. After Dr Clanny, other persons turned their

thoughts that way, and produced lamps, the hint of which was evidently taken from Dr Clanny, but which they were very modestly pleased to term inventions of their own. I shall proceed to notice two lamps, the productions of Sir Humphry Davy, and one Stephenson, an engineer at West-Moor Colliery. It is but fair to acknowledge, that Sir Humphry Davy's wire-gauze was certainly an improvement on the Doctor's lamp; but I entreat the candid reader to peruse the following Certificate, granted to me on the trial of *my improved* lamp against Sir Humphry Davy's, made by order of John Watson, Esq. head-viewer of Willington Colliery.

'*GENTLEMEN*,

'These are to certify, that Mr William Martin's lamp has been tried with Sir Humphry Davy's, by the order of John Watson Esq. and Mr Johnson, Viewers of Willington Colliery. We, the undersigned, were strictly charged by these gentlemen to act impartially, and to give no reports on their comparative merits, but such a one as we could substantiate upon oath. We took the lamps down the pit, and giving each of them a good wick, we lighted them, and noted the time of lighting them by a watch. In one half-hour, Sir Humphry's lamp was entirely filled up with smoke and soot; Mr Martin's lamp burned $5\frac{1}{2}$ hours, and did not appear dull, for, by blowing at

the top of the lamp, it became as brilliant as when newly lighted. Sir Humphry's lamp is much superior to Mr Stephenson's, which cannot conscientiously be called a Safe-lamp; but Mr Martin's surpasses Sir Humphry's by the duration of its burning, and the brightness of its light, and cannot fail giving satisfaction, both to masters and workmen. The merit of Mr Martin's lamp lies in the chimney and breaker of soot with the small ventilators; it stands proof against fire in every dangerous part of the colliery; is looked upon to be much cheaper, on account of its durability, and much safer on account of its top, where the chimney and breaker of soot are. Where Sir Humphry's is the weak-

est, Mr Martin's is the strongest: in short, Mr Martin's lamp is not exceeded either in light or safety, and is more beneficial both to masters and men than any lamp that has been introduced to the coal-mines. The glass may be dispensed with, as the top is the essential part of the improvement. We do therefore hereby certify, that we have justly tried Mr Martin's well-designed lamp, and that we have not enlarged upon its merits more than truth demands of us; indeed, we cannot find words to express its superiority. We likewise calculate, that one of Mr Martin's gauze-wires will outlast ten of Sir Humphry Davy's.

Signed,
April 19, 1819,
Willington Colliery.

Clem. Simson,
John Gaskin,
Andrew Bell,
Demr. Hornsby.'

The men, who signed the above Certificate, and who are still living, (1821) are termed Wastemen ; their duty is to traverse the coal-mine, to examine every part, and to report the state and condition of the pit to the Viewer. From their daily experience, they are allowed to be competent judges of the comparative merits of the two lamps. The reader will observe, that no notice is taken of Dr Clanny, the original *inventor* of the lamp ; but that plate to the value, it is said, of £.1800 was presented to Sir Humphry for his *improvement* ; and £.1000 collected for Mr Stephenson, who could neither boast of an invention nor an improvement ; and that my *improvement* (for mine was nothing else) though

proved by the foregoing Certificate to be superior to Sir Humphry Davy's, was as much disregarded as Dr. Clanny's original invention. Of these matters of fact, the candid reader will form his own opinion; one thing will surely strike him, viz. that patronage, with little or no merit, is much more likely to obtain rewards, than merit without patronage.

METHOD

OF PREVENTING THE DRY ROT IN SHIP TIMBER;

Laid before the Commissioners of His Majesty's Navy, in 1817.

A large boiler to be constructed, correspondent in magnitude to the size and length of the timber to be prepared, which ought to be placed as near the salt water as possible: the bottom of the boiler to be provided with hooks and chains, to prevent the timber from floating on the

surface. An engine to be placed in some convenient situation for pumping the salt water into the boiler: the timber to be boiled, until the sap be all extracted and its pores filled with sea-water. After this simple process, timber, thus prepared, will never be subject to the Dry Rot. Six weeks after this plan was laid before the Navy Board, notice was given in the public prints, that, in future, all timber used in building His Majesty's Ships, was to be previously boiled in salt water. Thus, although my method was adopted, I received the same remuneration as for all my former inventions, *nothing at all!*

Another and more effectual Method of preventing the Dry Rot.

To extract the sap perfectly out of the timber, let an oven in the form of the common steamer, or of such a shape as may appear best adapted to the figure of the timber, be built of brick or stone in the dock-yard; let the bottom of it be covered with metal plates, not too thick, that they may be the sooner heated. In order to prevent the timber from injuring the plates in drawing it out and in, let a number of iron rollers be placed at no great distance from the bottom of the oven, a metal door at each end,

and made to shut close, which, during the operation, must be well luted with lime or clay, to confine the heat effectually. The oven must be provided with a sufficient number of fire-grates and flues. When heated, the timber, after being duly fashioned for its place in the ship, must be introduced, the doors well stopped, and, when the sap is extracted, it will be found, not charred, but of a deep brown colour, when it may be withdrawn. Before it is cool, it must be slightly brushed all over with boiled linseed oil. This process will effectually prevent the Dry Rot, is still cheaper than the method of boiling it in salt water, and, if rightly managed, may be done with less trouble.

SCHEME

FOR RAISING THE WRECK OF THE ROYAL GEORGE;

Laid before the Commissioners of His Majesty's Navy, in 1817.

As the war was now ended, and many of His Majesty's Ships disposeable for a service of this nature, it struck me, that, by using the following means, the wreck might be loosened from its bed, and raised to the surface. I proposed to the Commissioners, that as many of the hea-

viest and strongest ships of war should be placed around the wreck, as could act without incumbering each other; then, at dead low-water, to lay hold of different parts of the wreck with strong grapnels. As the tide flowed, the ships would begin gradually, but powerfully, to lift her; at this juncture I proposed, that each ship should fire a broadside of cannon, in the same manner as soldiers do a volley. I conceived, that the powerful lifting of the ships, combined with this tremendous shock, if properly managed, would either have the effect of loosening her from her bed, or tearing her in pieces. A few weeks, (as nearly as I can recollect) after this communication, the newspapers announced,

that men were ordered down with diving-bells, to see in what manner she was lying; they gave information, that she laid east and west, with her head to the westward; that she was no ways sanded, but that all her three decks had fallen in, and the starboard side upon them, for which reasons she was not worth the lifting. In consequence of this, I laid before them the following plan for blowing her to pieces where she laid.

METHOD PROPOSED

For blowing up the Wreck of the Royal George.

In the first instance, a large and strong shell, to be provided with an

arched top, and the bottom to be flat. At the top an aperture, to receive as many barrels of gunpowder as may be thought necessary: this opening to be secured with a screw-top, into which must be screwed a strong iron tube, having also a screw at the upper end to receive other tubes of the same description, each six feet long; every screw to be perfectly water-tight, and strongly secured from any hazard of unscrewing. The shell to have four strong eyes at right angles with each other, to receive the chains or ropes, by which it is to be let down to the bottom, close to the centre of the ship's side, or, if possible, into the inside of the wreck, from a boat fitted with cat-heads for the purpose. The lowest

tube will, of course, communicate with the powder within the shell. In fine weather, the sea being smooth, the shell, filled with dry gunpowder, must, after the lowermost tube has been screwed in and properly secured, be gradually lowered, and another tube screwed on in like manner, (great care being taken that no water get admittance) and so on, until the shell shall rest on the bottom or in the wreck. The uppermost tube should rise nine feet above the surface. It might be a necessary precaution to have stays or shrouds extended from the upper tube to several kedge anchors, and so tightened, as to prevent any wavering or vibration, and keep it in a perpendicular direction. From

the top of the upper tube, an elbow tube to stand across to receive the train. These tubes being filled with dry gunpowder all the way from the shell to the cross tube, which is to contain the fuse, it must be so contrived as to be a full hour before it reach the train contained in the perpendicular pipes leading to the magazine. As soon as the match is applied to the fuse, the boatmen must double man their oars, and make off for the Isle of Wight, which, I think, is the land nearest the wreck. This tremendous explosion will resemble an earthquake, and the air, rushing into the vacuum occasioned thereby, will crush the wreck to atoms.

METHOD

OF EXTINGUISHING FIRE IN SHIPS AT SEA.

One of His Majesty's Transport Vessels, on her passage to Port Jackson with settlers and convicts, was prosecuting her voyage to that distant part of the world, with a favorable wind and fine weather, the people all in high health and spirits, when a dreadful accident soon changed the scene.

The nearest land was at the distance of 600 miles. The mate had

gone into the hold to draw off the allowance of spirits for the passengers, when, unfortunately, the spirit caught fire from the flame of the candle, and all was presently in a blaze. In vain did they throw down water to extinguish the fire; this only added fuel to the flames, and increased the fury of the devouring element, serving no other purpose than to hurry on its victims to the untimely dissolution that awaited them.

For the benefit of future navigators, who may meet with a like misfortune, the author recommends the following methods to be pursued. After ordering all hands on deck, the hatches must be battened down with

all possible expedition; the cabin necessaries closely stopped, and every avenue, chink, or crevice, that can conduct the air between decks, closed by every possible means. This being done, let all hands be employed in perpetually sluicing the deck with water. Now, as combustion cannot continue without the access of atmospheric air, it inevitably follows, that, this feeder being cut off, it must soon expire of itself. This operation may be performed, with ease and certainty of effect, on board a ship, as the passages of communication between the deck and the hold are few, and easily closed in. Calmness and presence of mind, to take such methods as are here stated, will save any ship that takes fire be-

low; for, when the air is excluded, the fire *must* die out; when the cause is removed, the effect must cease.

EXPEDITIOUS MODE

OF

CUTTING CANALS.

Some years since, it was in contemplation to cut a Canal from Lemmington, on the river Tyne, about four miles above Newcastle, across the island, to Solway Firth; the following method occurred to me, as likely to prove the cheapest and the most expeditious.

At the end of each mile place 200 workmen, who must sink to a sufficient depth for the proper level. Let two shifts of miners be employed in driving a drift close by the intended bottom, and exactly in the centre of the canal; in this drift is to be lodged a quantity of gunpowder, in bomb-shells, to such a length as the miners may think sufficient; then, stopping the drift strongly up again at the mouth, only leaving room for a train and a fuse, when all is ready, timely notice must be given for every one to get out of the way; and when the explosion takes place, the surface will be blown up, and the sides so loosened with the concussion, that the workmen will be enabled to do their work with wonderful facility and expedition.

A small cast-metal rail-road to run on each side of the Canal, with moveable cranes (steadied with a proportionable weight) to be pushed up to the workings, for the purpose of conveying the metal from the cut. A dozen of miners will be found sufficient for each company of 200 men. I shall now point out the Line of Canal, which appears to me to be the least expensive and the most practicable. A plan was given in, proposing to make it on the South side of the Tyne, against which scheme several objections may be made. The Tyne is formed by the conflux of two rivers, called the North and South Tyne, which mingle their streams about a mile above Hexham, and, flowing in a full stream to Newcas-

tle, enter the German Ocean ten or eleven miles below that town. The South Tyne rises near the foot of Cross-Fell, a very high mountain in Cumberland, and flows through a hilly country, receiving in its course many tributary streams, all of them liable to rise very suddenly, after the heavy rains so frequent in mountainous districts. A Canal on the South side of the Tyne must inevitably cross this impetuous and rapid stream; a circumstance, which would perpetually endanger the locks, aqueducts, &c. The North Tyne rises in the borders of Roxburghshire, flowing, in many parts, through mosses, which, in a great measure, retain its waters; neither does it receive in its course any feeder of importance,

except the river Reed, which flows through a tract of land nearly similar. For these causes it is by no means so subject to sudden floods and inundations as its sister stream, but would furnish the Canal with a regular supply of water, and seldom be productive of damage to the locks, &c.

Now, the most eligible course for the Canal to take, would be from Lemmington to Wylam, past Ovingham and Ovington, to the North of Bywell; from thence, passing Styford, to proceed North of Corbridge and South of Beaufront, past Anick-Grainge, North of Hexham Brewery and the Hermitage, keeping along St. John Lee Banks, across the

North turnpike, through the haughs of Simon Mewburn, Esq. ; then, crossing the North Tyne, and proceeding on the South side of Low-Warden, South of Newbrough, past Alerwash, through Capon's Clough and Ostenside, to the North end of Haydon Bridge ; from thence past Lipwood Well to Bardon Mill, South of Henshaw, Milkridge, and Haltwhistle ; and, missing a large hill, on to Glenwhelt, passing to the South of the Spaw Wells to Mumps Hall, from which place to the Solway Firth it will be found all plain road.

APPENDIX.

COPIES OF TWO LETTERS,

Received by me from the Board of Longitude,

CONCERNING THE

PERPETUAL MOTION,

Discovered by me, January 4, 1807.

'*Somerset Place, 6th May*, 1807.

'*Sir*,

'Your letter, addressed to the Commissioners of Longitude on a Motion considered by you as Perpetual, has been received, and it shall be laid before the Commissioners at their first meeting, which will be in June next; but it may not, perhaps, be improper to inform you, that the

Board of Longitude does not offer any reward for a Perpetual Motion; it is an Equable Motion that is wanted for ascertaining the Longitude.

I am, Sir,

Your obedient servant,

Mr Wm. Martin. G. GILPIN.'

'*Somerset Place, 5th June,* 1807.

'*Sir,*

'Your letter to the Commissioners of Longitude, on a Perpetual Motion, was laid before the said Commissioners at their last meeting; and I am directed to acquaint you, that they are of opinion that it does not deserve their attention.

I am, Sir,

Your obedient servant,

Mr Wm. Martin. G. GILPIN.'

COPIES OF TWO LETTERS

From His Grace the present Duke of Northumberland,

DIRECTING ME TO THE

COMMISSIONERS OF THE NAVY.

'*Northumberland House, London,*
2d January, 1817.

'*Sir,*

'Lord Percy has received Mr Martin's three Letters respecting the preservation of timber from the Dry Rot. Lord Percy has desired inquiries to be made, whether any premium is likely to be given by the Admiralty for the discovery; if any

premium should be given, Lord Percy will acquaint Mr Martin with it.

To Mr Wm. Martin, Half-way Bank, Shields Road, Newcastle upon Tyne.'

'*Northumberland House,*
Feb. 10, 1817.

'*Sir,*

'I have made the inquiries you desired, and find, that it will be necessary for you to send a Memorial to the Commissioners of the Navy Board, stating the Discovery which you have made, and, if the Commissioners are inclined to offer any premium for the discovery, it will then be time enough to state how you

propose to preserve the timber. I have therefore been particular in not shewing your letters to any person.

I am, Sir,

Your obedient,

PERCY.

To Mr Wm. Martin, Half-way Bank, Shields Road, Newcastle upon Tyne.

Inclose your Memorial to I. Bedingfield, Navy Pay-Office,

Somerset Place,

London.'

'*Society of Arts, &c. Adelphi, London, December* 24, 1813.

'*Sir,*

'I have the pleasure to acquaint you, that the Society instituted for

the Encouragement of Arts, Manufactures, and Commerce, have voted to you their silver medal and ten guineas, for your invention of a Spring Weighing Machine, on your leaving with the Society an accurate model thereof. You are therefore desired personally to attend at the Society's House, in the Adelphi, on Tuesday morning the 31st of May, to receive the said reward from the hands of His Grace the Duke of Norfolk, the President. Requesting your answer, I have the honor to be, Sir,

Your obedient servant,

CHAS. TAYLOR, M. D. SEC.'

To Mr Wm. Martin.

OBSERVATIONS

ON THE

TWO LETTERS

FROM THE

COMMISSIONERS OF THE BOARD OF LONGITUDE.

In the first letter from the Commissioners, dated the 6th of May 1807, they observe, that they offer no reward for a *perpetual*, but an *equable* motion for ascertaining the Longitude; and in their second let-

ter, of the 5th of June 1807, they say, that they are of opinion that my discovery does not deserve their attention.

In answer to these two observations, I shall beg leave humbly to remark, that a perpetual motion must be an equable one; for, as long as a pendulum of $39\frac{2}{10}$ inches continues to vibrate sixty times in a minute, (which will most probably be the case to the end of the world) that motion must be equable, as well as perpetual. I have discovered the cause, the true principle of such motion, and it now remains for mechanical geniuses to reduce it to practice; a field is opened for them to exercise their talents in; but, as the ori-

ginal discoverer of a Perpetual Motion, which, as already observed, must be an equable one, I feel no hesitation in declaring to the Board of Longitude and to the world, that I think myself entitled to, and do claim on solid grounds, the premium of £.30,000, assigned by Government to the Discoverer of an Equable Motion for ascertaining the Longitude.

BATTLE OF WATERLOO.

TO THE READER.

Being at Kilkenny in Ireland, in the year 1813, with the Northumberland Regiment of Militia, I there became acquainted with William Jordan, a private in the same regiment. I soon discovered that this poor soldier (allowance being made for his humble rank in life and want of education) was possessed of a talent for poetry above mediocrity. An order arriving, not long after the commencement of our acquaint-

ance, from the Commander in Chief to allow a certain number of men to volunteer into the line, this young man quitted the Northumberland, and entered into the 33d regiment of foot, which was soon after ordered to the Continent, where the youthful cultivator of the Muse soon entered upon actual service, and was afterwards present at the Battle of Waterloo; and, though not personally engaged in the action, was so placed, as to command a full view of the achievements of that bloody day. On this great battle he composed the following poem.

The reasons for annexing it to my work are two; the amusement of my readers, and a wish to rescue merit

from obscurity; to shew, that talent is not the exclusive privilege of the rich and the great, but may be found in the ranks, in the half-deck, in the cottage, and in the work-shop.

'Full many a flower is born to blush unseen,
'And waste its sweetness on the desert air.'

Battles of the 16*th and* 17*th of June.*

AID me, great God, (I ask no *nine*)
Assist me with thy pow'r divine;
O teach me how to sing the strains
Of hostile troops and bloody plains;
The thunder storm, the sanguine foes,
And where the din of battle rose,
That strife which wrought Napoleon's woe,
Upon the field of Waterloo.
The morning smil'd, the sun-beams play'd,
Each Briton awfully array'd,
The song of war and arms prevail,
The biting jest and merry tale,
As jocund marching up to death,
As hunters seek the distant heath.

The shepherd and the village hind
Fly and leave their cots behind,
Weeping for their fields of grain,
Which they ne'er must see again;
Fields where every waving ear
Told a goodly harvest near,
Now as level with the earth
As the grain that gave it birth,
Trodden down by false alarms,
Strew'd with dead and broken arms,
'Midst where ruin'd cots appear,
And shrieks of woe assail the ear.

* * * * * * *

The eastern wind began to howl,
The distant thunder's angry roll,
The frowning darkness of the sky,
Proclaim'd a dreadful storm was nigh.
And now the roaring thunders sound,
Rain in torrents floats the ground,
Forked lightnings strike the eye,
Cannons roar and bullets fly;
Till the rain and darksome night
Put a period to the fight,
Waiting till Aurora's car
Again renews the scenes of war.

Battle of the 18th of June.

The stormy clouds had broke away,
And Phœbus 'gan to shine,
When dark upon yon distant hill
Was seen the Gallic line.

Their horse, foot, and artillery,
A formidable band!
Led by a Chief, in France yet nam'd
Napoleon the Grand.

And now the troops began to move,
Their eagles perch'd around,
Soon as the British bugle-horn
Aloud to arms did sound.

'Rise up,—stand firm!' our Chief exclaim'd,
'Each man upon his guard;
For death or victory, this day,
Must be our great reward.

Now, Uxbridge, fix your cavalry
Firmly on La Hay Sainte;
I see the foe upon our left
Intends to make a feint.'

And loud their guns begin to roar,
The shots thick whistling fly;
While man and horse in one great mass
Together groan and die.

The centre and the right engage,
  The grand attack was there;
But who can paint the onset fierce,
  Or tell what Britons dare?

Now horse to horse and man to man
  Their iron armour sound,
And ghastly heads, and lop'd-off limbs,
  Bestrew the bloody ground.

Behold the glorious Wellington,
  Erect his noble form,
Riding through the thickest fight,
  Regardless of the storm.

His animating voice who hears
  As soon fresh vigour gains;
Imperial Guards and Cuirassiers
  Are driven o'er the plains.

The fight resembles now a storm,
  Where wintry Boreas raves,
Where wind, and hail, and thunder drive
  Whole fleets beneath the waves.

Or when a forest rudely rocks,
  And trees are rent and tore,
And stately oaks and pines laid low,
  Which lately crown'd the shore.

So lovely youths in bloom of health,
  Who smil'd at morning's dawn,
Lie pale and ghastly here and there,
  Extended o'er the lawn.

'Revenge! Revenge!' the Brunswicks cry,
'Our duke lies in the clay;
No Frenchman, if we have our will,
Shall carry life away.'

And quick their sable lines advance,
As quickly they engage;
The Frenchmen meet them in midway,
And fight with equal rage.

Revenge is yours, ye Britons, too,
Your gallant Picton dies;
A braver nor a better soul
Ne'er sought his kindred skies.

Bleak Caledonia's hardy bands,
Deep dye their steel in blood,
And Scotia's bloody *Lion* rear
Amidst a crimson flood.

The Guard Imperial back retire
Before the Scottish spear;
Each haggard eye and yellow cheek
Pourtray their deadly fear.

Fair *Albion's* squares, more cool and firm,
As constant and as brave,
Receive the charges of the horse,
As rocks receive the wave.

The polish'd Cuirass, man and horse,
Lay thickly scatter'd round,
Like broken fragments of a fleet,
When storms and wrecks abound.

But now the sun begins to sink
With broad and ruddy face,
As if he blush'd that man should thus
His Maker's form disgrace.

And still in smoke the battle's din,
Was thundering o'er the field,
Nor yet the Briton nor the Gaul
Could tell which side would yield.

But Britons, ever constant, firm,
Amid the storms of strife,
Ne'er think of yielding to a foe,
While there are hopes of life.

But see the Prussian arms appear,
Bright gleaming from afar!
Soon does their sable Bird approach,
And mingle with the war.

'Form line upon the grenadiers!'
Was each commander's word;
Then, quick preparing to the charge,
They wave the glittering sword.

And red with angry heat they charge,
Wild driving o'er the plain,
Now plunging ancle-deep in blood,
Now tumbling o'er the slain.

Then o'er their wounded comrades oft
With erring steps they go,
And as they onward press, they hear
The piteous sounds of woe.

Mean time the Gallic hosts had fled,
And left the field of fight;
Their general cry was 'save yourselves
Beneath the shades of night!'

Behold their grand artillery,
Which late destruction spread,
Now quite deserted on the hill,
Surrounded by the dead.

The din of battle dies away,
The night to silence yields,
Save the wail of wounded troops,
That clothe the sanguine field.

The Britons, weary with the fight,
Betake themselves to sleep,
Except some fathers, brothers, sons,
That wild lamenting weep.

See yon soldier, sad and lowly,
Bending o'er his brother dead!
See he writhes in wild emotion,
See him kiss the bloody head!

'O my brother! must I leave thee?
Thy kind heart was ever true;
Thou to me hast been a father,
Father else I never knew.'

Groan on groan successive mingle,
Prayers and curses, song and wail;
Some are drinking tears of sorrow,
Some are drinking gin and ale.

Thus the day of blood was ended,
  Thus Britannia beat the foe;
But our fame was dearly purchas'd,
  On the field of Waterloo.

CONCLUSION.

Aurora now had chas'd afar
  The louring shades of frowning night;
And Phœbus, in his burnish'd car,
  Had bless'd the world with golden light.

Aloud to arms the bugle sounds,
  Soldiers from their slumbers rise;
Wretches, tortur'd with their wounds,
  Gaze with anguish on the skies.

'Are we left to die and languish
  On a distant foreign soil,
The reward of pain and anguish,
  For our labour, blood, and toil?'

'Think not so hardly,' said our Chief,
  And dropt the pitying tear;
'I trust you'll quickly find relief
  From soldiers in the rear.

Not ev'n the enemy shall want,
  Nor crave our aid in vain,—
The generous Briton still will grant
  Relief to foes in pain.'

Chiefs, of noble blood descended,
Stretch'd upon a grassy bed,
With the meanest soldiers blended,
Knapsacks pillows for their head.

British soldiers now advancing,
Blood and carnage left behind,
Sun-beams on their armour glancing,
Songs of triumph fill the wind.

Palace, statue, picture shining,
Scenes of Paris fill the mind;
Pleasures round our hearts entwining,
Leave the traits of war behind!

WHAT IS ALL THIS ABOUT?

Such, perhaps, will be the question put by many readers of the preceding pages, first given to the world by William Martin; and such, no doubt, is the question often breathing from many an honest but untaught heart, on looking abroad upon the wonders of the Universe, and endeavouring to appreciate the amount of its own enjoyments.—Into such a heart William Martin would wish to pour the consoling assurance, that, independent of the prospect held out to the imperishable part of our nature, mankind alone have the glorious privilege on earth of surveying and admiring the stupendous works

of the Divine Architect in Heaven !—This very evening (Nov. 5, 1821) I have beheld, with an ecstacy bordering on adoration, the two great luminaries, named, by astronomers, Jupiter and Saturn, appearing nearly in conjunction, though known to be immensely distant from each other. —These Celestial Visitants in the East were seconded by the charming lustre of Venus in the West; the whole surmounted by an almost full-orbed Moon, glowing in cloudless majesty, amidst a firmament 'powdered with stars !'—Inspired by the sight, I could not help exclaiming, in the language of the poet,

'These are Thy glorious works, Parent of Good !
'Almighty ! Thine this Universal Frame,
'Thus wondrous fair ! Thyself how wondrous then !'

Pursuing this train of thought a little further, and considering my own littleness, where every other object was so divinely great, I cried out, with the French philosopher,

'Sovereign and mysterious Power of the Uni-
'verse! Secret Mover of Nature! Universal Soul
'of every thing that lives! Infinite and incompre-
'hensible Being, whom, under so many forms, mor-
'tals have ignorantly worshipped! God, who, in
'the immensity of the heavens, dost guide revolving
'worlds, and people the abyss of space with millions
'of orbs! Say, what appearance do HUMAN insects
'make in Thy eyes? When Thou directest the
'stars in their orbits, what to Thee are the worms
'that crawl in the dust? Of what importance, to
'Thy Infinite Greatness, are their distinctions of
'sects and parties? And how art Thou concerned
'with the subtleties engendered by their folly?'

I cannot quit this subject, nor conclude my volume, without first recommending a perusal of the well-known, but highly powerful and

comprehensive, 'Universal Prayer,' by our enlightened countryman, Pope.

'Father of All! in ev'ry age,
In ev'ry clime, ador'd,
By saint, by savage, and by sage,
Jehovah, Jove, or Lord!

Thou Great First Cause, least understood,
Who all my sense confin'd
To know but this, that Thou art good,
And that myself am blind.

Yet gave me, in this dark estate,
To see the good from ill;
And, binding Nature fast in Fate,
Left free the human will.

What Conscience dictates to be done,
Or warns me not to do;
This, teach me more than hell to shun;
That, more than Heav'n pursue.

What blessings thy free bounty gives,
Let me not cast away;
For God is paid when man receives;
T' enjoy, is to obey.

Yet not to earth's contracted span
Thy goodness let me bound,
Nor think thee Lord alone of man,
When thousand worlds are round.

Let not this weak, unknowing hand,
  Presume thy bolts to throw,
And deal damnation round the land,
  On each I judge thy foe.

If I am right, thy grace impart,
  Still in the right to stay;
If I am wrong, oh teach my heart
  To find that better way!

Save me alike from foolish pride,
  Or impious discontent,
At aught thy wisdom has deny'd,
  Or aught thy goodness lent.

Teach me to feel another's woe,
  To hide the fault I see;
The mercy I to others show,
  That mercy show to me.

Mean tho' I am; not wholly so,
  Since quicken'd by thy breath;
O lead me wheresoe'er I go,
  Thro' this day's life or death.

This day, be bread and peace my lot;
  All else beneath the sun,
Thou know'st if best bestow'd or not,
  And let thy Will be done.

To Thee, whose temple is all space,
  Whose altar, earth, sea, skies!
One chorus let all being raise!
  All Nature's incense, rise!'

FINIS.

Preston & Heaton, Printers.