

## CHAPTER X.

## NEWSPAPERS AND MISCELLANEOUS SOURCES OF INFORMATION.

As may be supposed, articles from the public press refer generally to announcements of the supposed practical solution of the problem; and we have here an addition to the British and foreign claimants already cited. To these are added the views of Pasley, from his eccentric work on Natural Philosophy; four unpublished schemes; instances of imposture; and the particulars of a Joint-stock Perpetual Motion Company.

We shall commence this chapter with an apposite quotation from that ancient book of "Notes and Queries"—"The Athenian Oracle," which inquires and replies as follows:—

QUEST. 5. Why may there not be invented a perpetual motion?

ANSW. Archimedes, that indefatigable inquirer into mathematical speculation, having this question proposed unto him, viz., Whether he could move the globe of this world, he made this answer, That if the proposer could find another basis to fix the foot of his engine upon, he would undertake to remove it. In like manner, we say, Find us bodies or matter that are qualified for a perpetual motion, and we'll undertake the affirmative of the question. But if, upon a particular search of every individual particle of the creation, we find nothing but what is subject to change—not by flux of time, for time destroys nothing, but by motion and antipathies in nature—then it follows that the impossibility of perpetual duration necessitates the impossibility of a perpetual motion.\* —["The Athenian Mercury," No. 7, April, 1691.]

\* The History of the Athenian Society, for the resolving of all nice and curious questions. Printed for James Dowley (1690-3), folio.

Also, The Athenian Oracle, being an entire collection of all the valuable questions and answers in the old Athenian Mercuries. 3 vols., 8vo., 1704. (See vol. 1, p. 18.)

ALLEGED DISCOVERY OF PERPETUAL MOTION by Lewis Bayne, and Account of John Spence's Invention; from an Inverness paper.

We have much pleasure in being enabled to announce to the public that Mr. Lewis Bayne, officer of excise, in this place, two years ago constructed a perpetually-moving time-piece, which, we are informed, measures time with the greatest exactness. This machine is kept in motion by means of magnetic attraction; but in the construction of it Mr. Bayne makes use of but one magnet. It is only about six months since this ingenious time-piece was shewn to us; but there are several inhabitants of this place who have seen it going those two years past. The inventor has often been requested to announce his invention to the public, but it is only now that he has consented to do so. He is about to construct one on a small scale, to stand on a table or chimney-piece. The principle upon which this machine is constructed is very simple, and the expense at which it could be made, we think, would be considerably less than that of an ordinary clock. It is but fair to state that, in the pursuit of his mechanical inventions, Mr. Bayne found it both expensive and troublesome to procure the brass wheel, &c., of which he stood in need. He therefore, a considerable time ago, set himself to make a machine for cutting his own wheels, and succeeded in this also. In the "Edinburgh Magazine" for May, 1818, we have an account of the invention of a perpetual motion, by John Spence,\* of Linlithgow, by means of two magnets. But independently of Mr. Bayne's invention being first in point of time (for we have no reason to believe that the invention of the ingenious mechanic of Linlithgow is a twelvemonth old), it is certainly also first in point of importance.

The invention of John Spence consists merely of a wooden beam, poised by the centre, which has a piece of steel attached to one end of it, that is alternately drawn up by a magnet placed above it, and down by another placed below it. As the end of the beam approaches the magnet, hither above or below, the machine interjects a non-conducting substance, which suspends the attraction of the magnet

\* See also pages 180 and 226.

approached, and allows the other to exert its powers. Thus the end of the beam continually ascends and descends betwixt the two magnets, without ever coming into contact with either; the attractive power of each being suspended precisely at the moment of nearest approach.—[“The Kaleidoscope.” Liverpool, Nov., 1818. Vol. 1, p. 67.]

JOHN DALLING'S PERPETUAL MOTION.—The following letter on this subject has been addressed to the Editor of the “Dumfries and Glasgow Courier:”—

Sir,—Having been informed that the Board of Longitude has offered a great reward to any person who should produce a machine so constructed as to preserve a perpetual motion without the aid of weight or spring, and being stimulated by the hope of such reward, I set my invention to work, and have now discovered one which, I hope, will meet with approbation. It will revolve without the aid of wind, water, weight, steam, spring, lever, or attraction. It will keep uniform motion as long as the materials of which it is made will last, which may be of wood, or any metal. It will revolve vertically, horizontally, or at any angle of inclination. It is the same on water as on land. The motion of a ship makes no variation upon it, neither is it affected by heat or cold. Its principle may be applied to a watch or clock, and made to drive any sort of machinery. It is not dependent upon any power yet known to the world, and its principle is as endless as the periphery of a circle. The above are a few, but a very few, of the qualities of which it is possessed, and of the uses to which it may be applied; and I trust its own intrinsic worth, when known, will be sufficient to advocate its cause. I have no patron to introduce me to public notice, but propose humbly to lay my claim at the feet of his Royal Highness the Duke of Clarence, who presides at the Honourable Board of Longitude; and, if it is found by them to possess the requisite qualities for nautical purposes, superior to anything of which they are at present in possession, I think I may rely on their justice and liberality for a suitable recompense. When my secret is brought to light, it will astonish the most learned of the present day. It will elevate the honour

of this country, and will incalculably augment its wealth and resources. By giving the above a place in your patriotic paper, you will oblige, Sir, your obedient humble servant, JOHN DALLING, Joiner, Castle Douglas.—[“The Liverpool Mercury,” October, 1813, vol. 3, p. 134.]

WAGER IN REFERENCE TO REDHCEFFER'S PERPETUAL MOTION, ALLEGED TO BE AN IMPOSTURE.\*—The following wager appears in the “Philadelphia Gazette:”—

I hereby offer, on demand, any bet or bets from 6,000 to 100,000 dollars, to the end of proving, in a few days, both by mathematical data and three several experiments, to the satisfaction of enlightened judges, chosen by my very opponents out of the most respectable gentlemen of this city, or of New York, that Mr. Redhceffer's discovery is genuine, and that it is incontestibly such a perpetual self-moving principle as the one alluded to by Sir Isaac Newton, in his “Principia Mathematica,” b. 1, sec. 13, on the Laws of Motion.

N.B. This is to be valid until the 15th inst., at sun-setting.

CHARLES GOBERT, Civil Engineer, &c. Philadelphia, July 12th, 1813.—[“The Liverpool Mercury,” October, 1813, vol. 3, p. 134.]

MANNARDET'S PERPETUAL MOTION.—A French mechanic at Neufchatel, named Mannardet, is said to have discovered the *perpetuum mobile*. It consists of a wheel, on the periphery of which are small pipes half filled with quicksilver, which, at the top, have a centrifugal direction, and by a simple contrivance receive below an opposite impulse. He shows the machine publicly, and intends to submit the solution of this difficult problem to a further examination at Paris. The simplicity of the construction occasions a favourable opinion of the thing.—[“The Liverpool Mercury,” October, 1815, vol. 5, p. 110.]

GARHAR'S PERPETUAL MOTION.—A. M. Raymond Vincent Ignan Garhar, of Frankfort, it is pretended, has

\* See statement made at page 222.

invented a wheel, the movement of which is perpetual and spontaneous. The Emperor of Austria has granted him an exclusive privilege for fifteen years, if within a year he brings his invention into use.—[“The Liverpool Mercury,” May, 1816, vol. 5, p. 358.]

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GEYSER'S PERPETUAL MOTION.\*—M. M. Geysler, canton of Berne, Switzerland, residing at La Chaux-de-Fonds, has exhibited to the Genevese Society for the Advancement of Arts, a wheel which seems to turn of itself, and of which the most skilful artists cannot discover the moving principle, which the artist keeps a secret. The Society admire the execution of the machine, and acknowledge that the effect is very striking. Probably it is on a principle already announced, which applies, as a moving power, the elasticity of the atmospheric air to an exhausted cavity which is made to turn out of the centre of the mass by uniform pressure.—[“The Liverpool Mercury,” October, 1816, vol. 6, p. 107.]

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AN ADVERTISED PERPETUAL MOTION.—The following curious advertisement is from a late “Dublin Evening Post.” Whatever ingenuity may be in the mechanical part of the invention, we are particularly struck with the modesty of the projector, in contenting himself with so moderate a payment in advance:—

PERPETUAL MOTION.—Take notice, that I will exhibit, after six days' notice, for the sum of £300,000, that long-wished-for perpetual motion, now going in its rapid velocity, without the aid or assistance of man or beast, springs, weights, or balances, steam, wind, or water, or any other visible assistance, and will continue in its rapid velocity as long as a body of any substance lasts.

Let the reader not doubt my undertaking, as I will undergo any penalty requested of me to exhibit an art which no second mortal can effect by study or ingenuity. Now, all gentlemen who study the merit and honour of

\* Declared an imposition, see page 183, and end of this chapter.

their country, let them appeal to me, and I will, for the above sum, exhibit an art that will be a honour to Ireland until the expiration of time.

An art that had heretofore defeated the great Sir Isaac Newton, after many years' study; likewise the known world. This art I have effected at my first trial of it, on a small scale, with a few minutes' study and three hours' labour.

An art that no second mortal can effect, I now challenge the known world; I dare their study or ingenuity to execute what I have done. Should this undertaking be left unnoticed, I will sell its merits to another country.—[“The Liverpool Mercury,” August, 1817, vol. 7, p. 62.]

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ALLEGED DISCOVERY OF PERPETUAL MOTION.—What a proud day for the “Mercury” to have to announce the discovery of the perpetual motion, which has baffled so many wiseacres and ruined so many speculative mechanists. What a credit to the country, too, that this “consummation, so devoutly to be wished for,” should have proceeded from an inhabitant of Toxteth Park. The modesty of the projector is only surpassed by his genius, or he would never have concealed his name from a wondering and an enquiring world. The following bulletin, on this great occasion, is given *verbatim et literatim* as we received it from the author:—“Gentlemen Please to Publish in Your paper that I Can produce an instrument that will Give true time by Real Perpetual Motion it is no use for Me to praise My Works for the Works and Move Movements will prove and praise them Selves and the Latitude Can be found out by the same instrument—it is found out by J. . n A. . . . n a Resident in in Toxteth Park Near St. James.”—[“The Liverpool Mercury,” October, 1817, vol. 7, p. 120.]

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PERPETUAL MOTION BY A MECHANIC AT NEWCASTLE.—An ingenious mechanic, of Newcastle, has discovered a new and simple power, which he conceives involves the desideratum of perpetual motion, and which he purposes laying before the proper authorities appointed by Government.—[“The Liverpool Mercury,” 1821, vol. 10, p. 382.]

A FICTITIOUS PERPETUAL MOTION.—A correspondent, addressing the "Liverpool Mercury," says:—

The model now exhibiting in Lord-street, as a perpetual motion working by the "power of gravity," was, during the last spring, offered to the inhabitants of the metropolis, when, being detected by a celebrated American engineer, who had seen several of the kind in Philadelphia, some gentlemen posted a large placard at the door of the exhibition, cautioning the public against imposition, which soon induced the proprietor to decamp to places whose inhabitants he conceived more likely to be imposed on by his "powers of gravity."

Several of these articles have been prepared in America, the whole of which act by means of a concealed spring, either in the horizontal wheel itself, in the pedestal of the model, or by a helical one in either of the pillars. In the two latter modes of arranging it, the motion is communicated by means of a small watch wheel, concealed in the clumsy brass bridge through which the lower pivot of the upright shaft works, with its point resting upon a plate of glass.

I trust this communication may prevent the good people of Liverpool from being duped by one of the most glaring absurdities I ever witnessed.—["The Liverpool Mercury," August, 1822, vol. 12, p. 46.]

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The Editor next week remarks on this Perpetual Motion :

We have to state that the manager of the wonderful perpetual motion decamped immediately after the appearance of the "Mercury" in which his trick was exposed.

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PRESUMED DISCOVERY OF PERPETUAL MOTION.—A correspondent, writing from Ormskirk, April, 1828, says:—

An ingenious neighbour of mine has been exercising his wits to find out the perpetual motion. He does not pretend to have achieved so great a desideratum, but he says he has found out a motion that will continue in action, or to move, as long as the material of which it is composed will

endure. It is applicable to watches, lathes, engines—steam engines, I had nearly said; but there will be no occasion for steam or gas either. Not being a mechanic myself, I find it a very difficult matter to state the man's ideas, and make them plain to the reader. He says he has mentioned the thing to several curious men, and even showed it in its rude state to many neighbours. They all agreed that it was a great discovery, and that it ought to be made public; but, though most of them are men of talent, they are not in the habit of writing for newspapers. It was, at last, agreed that he had better apply to your humble correspondent, who would, at all events, do something by describing his excellent invention, and thereby bring to his aid all the lovers of mechanism. His object is not money: he wishes to do something for the benefit of his fellow-men. He is an honest, industrious man, but he wants the means to put his machine in such order, perfection, &c., that it may easily be understood by the public. He says that, if any society or individual will enable him to put his discovery into a tangible shape, he will gladly share the profits with them, or throw the whole concern into their hands.—[“The Liverpool Mercury,” April, 1828, vol. 18, p. 107.]

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**ALLEGED DISCOVERY OF PERPETUAL MOTION BY M. VANDYKE.**—This long-sought-for discovery, it is said, has been brought to light by Mr. Vandyke, of Orleans county. The machine is so constructed, by means of tubes, as to produce a current of air that propels a wheel, and keeps it in continual motion. It is said that it may be converted to many valuable purposes.—*American Paper.*—[“The Liverpool Mercury,” July, 1829, vol. 19, p. 222.]

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**RICHARDS' ENDLESS POWER ENGINE.**—An engineer of Bristol, named Richards, living in that city, has, after fifteen years' study and labour, completed a machine, which he calls his “Endless Power Machine,” which is now in motion. This engine, it is said, will supersede the use of steam in all its various purposes. The inventor declares that his self-acting engine of 250 horse power will take a vessel round the world



with the small quantity of two gallons of oil applied to its movements when required.—*Bath Herald*.—["The Observer," London, July, 1831.]

M. DE VIGNERON'S NEW MECHANICAL POWER; and English claim to the same.—In a letter addressed to the Editor of the "Morning Advertiser," inserted Dec. 5, 1851, the writer says:—

Will you have the goodness to do the reputation of England a piece of justice, which the "Times" (newspaper), never possessed of a particle of public spirit, omits to do.

Some few days ago that paper quoted from the "Courrier de la Garonne" a paragraph stating that a French engineer of Bordeaux, named De Vigneron, had obtained "from a quantity of water at rest, and confined in a certain space, a perpetual power that will supply the place of all other moving powers."

Now this was vague enough to the general reader, but the writer of this letter detected at once the identity of this French discovery with one he himself had submitted to the late Sir Robert Peel, and which will come before the public as soon as it can make an appearance suitable to its importance; wherefore, complying with the conditions laid down for correspondents, but concealing his name from the public (therefore evidently aiming at nothing more than he professed, viz., to reserve a claim on behalf of this country), he solicited the insertion of a letter confirming the statement of De Vigneron (however improbable it may appear), but contending, if such a thing had been done by this gentleman, it had previously been done by an Englishman; and predicting the time not far off, when the beautiful and costly steam engines would be reduced to the value of old metal.

But, as if to make good the charge of the "Edinburgh Review," that though the "Times" would go in any direction and to any lengths with the masses, it never lent a helping hand to any individual, however situated, my missive, self-denying as it was, could not find entrance. In a few months it may be important, in claiming our share of the merit of the discovery, to have this letter in your columns to refer to.—I remain, respectfully yours, J. W. P.

Walcot Place West, Lambeth, Dec. 3, 1851.

STANNARD'S PERPETUAL MOTION MACHINE.—We have just been given to understand that an artisan in very humble circumstances, residing in Ipswich, has, after three years' labour, succeeded in constructing a model of a machine, 15 inches by 13, and 11½ deep, which is self-acting, after being put in motion by a screw. It is powerful enough to turn a grindstone against the power of one person who, had an iron bar on the stone. It has kept in motion upwards of 36 hours, at the end of which time the speed was not diminished; and the constructor, whose name is Thomas Stannard, contends that the machine will keep in motion as long as the materials will last. The invention was offered to several firms in Ipswich, who declined taking it up, since which three persons belonging to one of the first firms of engineers in London have visited Ipswich, and examined the machine, and have been induced to pay the inventor liberally, and have taken the machine and the inventor to London to prosecute inquiry.—[“Ipswich Express.” (1853?)]

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ALLEGED DISCOVERY OF A SELF-MOVING MACHINE BY JOSEPH HUTT.—A correspondent in the “Leicester Mercury” writes as follows:—

A poor framework-knitter, named Joseph Hutt, now living near the Church, Hinckley, has, after twenty years' application and study, completed a machine, which he calls a “self-moving machine,” or perpetual motion; and he is very confident of its being fully entitled to the term “perpetual;” and, also, that its power may be increased almost to any extent. From his own account and description of the machine, it appears that he set it in motion on the 26th of August last, since which time it has continued to work exceedingly well, and with the greatest ease and regularity; and that it is so constructed as to bid fair to become one of the most useful inventions that has hitherto been discovered. Its motions are both quick and powerful, and may be applied to anything to which mechanics may think well to apply it. It does not require the aid of steam or any other power to keep it in motion, having one continued and regular movement of its own. Its bearing arm wants no repose, and it will continue as long as the materials it is made of. The simplicity of the machine

is such that the inventor is afraid to allow any person to see it. He is desirous of bringing it out in a more finished style, but this he cannot accomplish under £20, which sum he is too poor to raise.—[“The Mining Journal,” vol. 17, 1847, p. 532.]

In relation to the same, we read in the “Builder,” June, 1847, that—

This vain delusion, if not still in force, is at least as standing a fallacy as ever. Joseph Hutt, a framework-knitter, in the neighbourhood of the enlightened town of Hinckley, professes to have discovered it, and only wants £20, as usual, to set it agoing.

IS PERPETUAL MOTION AT LAST DISCOVERED?—An intelligent friend, in whom we have confidence, writes to us gravely from Lille, to state that a mechanic there, after thirteen years' effort, has positively obtained the means of perpetual motion. Parties have formed themselves into a company to bring the discovery before the public, and on Tuesday (8th August) in last week, a meeting of these, including some engineers connected with mines, was held to witness the machine in operation, and the only objection made, according to our informant, was, that it was not applicable to navigation; but this the inventor denies, maintaining its applicability to all purposes. The present machine is of wood, but it is decided to make one of iron. We need scarcely say that we are not believers in perpetual motion, having the word “friction” floating in our mind, and we have often cautioned correspondents against being led into so dangerous and difficult a chase; but in this case the circumstances are put before us by so careful a mind that we are bound to wait rather than to scoff. A belief prevails that the British Government some time since offered an enormous premium for the discovery of this power, but we are disposed, after inquiry, to consider this belief erroneous.—[“The Builder,” August, 1848, vol. 6, p. 406.]

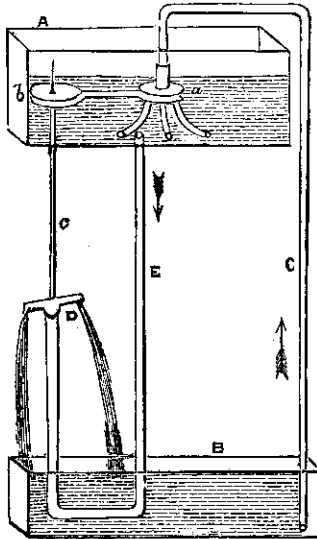
PERPETUAL MOTION.—In detailing the steps which led to the formation of his theory of motion, Mr. Pasley (of Jersey) says in his Preface:—

For a number of years the discovery of a perpetual

motion occupied my thoughts, and at every mechanical device I could imagine my leisure hours were employed. The pursuit brought me acquainted with my own errors. Nothing disheartened by numerous failures, I gave up all idea of employing mechanical means, but looked to the planets in search of the cause of these bodies performing perpetual motion; and being convinced that self-motion of a mass of inert matter is an absurdity, it appeared to me a matter of certainty that planets must be involved in a medium on the pressure of which their motions depend. \* \*

It is almost needless to mention, I felt ambitious to be the discoverer of the cause of motion, if not capable of effecting a perpetual motion; still, by experience taught, I may be blind to some fundamental mistake which I am incapable of discovering.\*

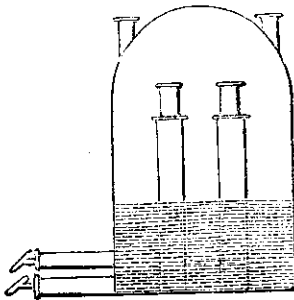
EATON'S PERPETUAL SYPHON.—This is a plan proposed



\* A Theory of Natural Philosophy, on mechanical principles, divested of all immaterial chemical properties, showing for the first time the physical cause of continuous motion. By T. H. Pasley. 8vo. Whittaker, London, 1836.

by Mr. Eaton, in 1850, and consists in providing two water cisterns A, B; the short leg of a syphon C enters the upper cistern, and terminates in three escape pipes, capable of being rotated by the pulley *a*, connected by a band with the pulley *b*, affixed to the vertical shaft *c*, rotated by the inverted Barker's mill D, constructed on the short leg of the inverted syphon E, supplied from the bottom of the upper water cistern. By this means it was expected to keep up a continual flow down the pipes C and up E, as shown by the arrows.

LEGGE'S HYDRO-PNEUMATIC POWER.—Mr. Legge gives the annexed sketch of an invention, the result of fourteen years' study. It is a dome-shaped vessel; its upper part A filled with air, and the lower half with water, as at B.



This vessel contains two apparatus for returning the water which is worked through C D, apparently like pump barrels. The air is to be at from 250 to 500 pounds' pressure on the square inch. When once started it will (it is stated) go on as long as it is oiled. The inventor estimates a one thirty-second share at one thousand pounds value.

FOSTER'S WHEEL OF INCLINED PLANES.—Messrs. Spon have communicated, by a large drawing, the plan of Mr. Foster, of New York, for producing perpetual motion by a

series of inclined planes set round the periphery of a wheel, each incline having a roller retained on its surface by two side rods, each pair connected at one end to the rollers, and at their other ends to the sides of the wheel, by means of pins, allowing them free rolling motion. It was expected that on turning the wheel in a direction to carry the rolling weights down an incline on the central horizontal line, and consequently farthest from the centre of rotation, the other inclined planes would follow in succession, and deliver their rolling weights in like manner. But innumerable trials proved, after a large outlay of money, that gravitation was not to be overcome by any such means. An eminent engineer considered this method so feasible, that he devoted considerable time in practically testing the several model apparatus constructed by the equally or more sanguine inventor.

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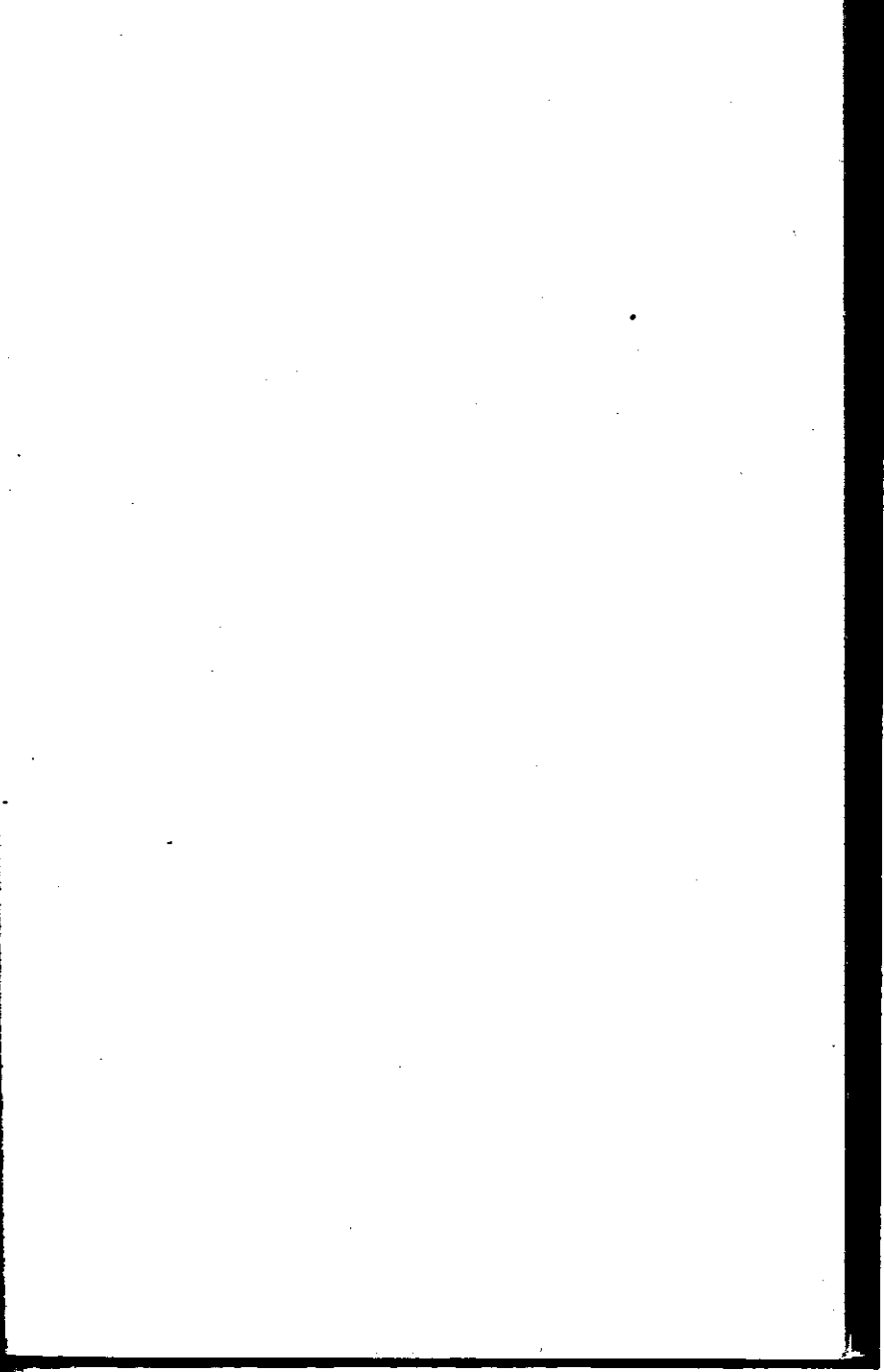
**PREDAVAL'S PATENT MOTIVE POWER COMPANY.**—The following particulars are taken from the prospectus of the above intended-to-be-formed company, for it most likely never went so far as to apply for its proposed "capital £1,500,000, in 3,000 shares of £50 each; deposit £3 per share," notwithstanding the flattering expectancy held out that "we shall have £2,000,000 annual profit."

The prospectus, consisting of four folio pages, is curious enough to deserve being copied entire, but the following extracts must here suffice:—

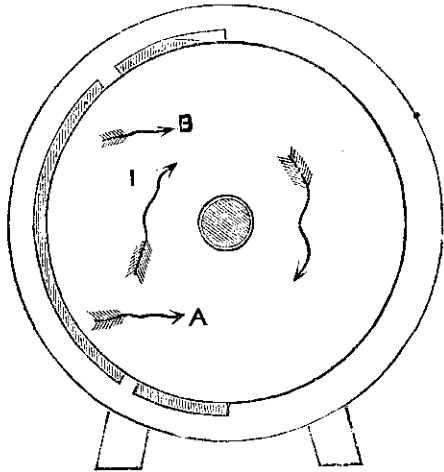
**Importance and Advantages of the Motive Power.**—The following considerations are sufficient to prove to the shareholders that a large benefit may be realized.

There are, in the united Kingdom, about 20,000 Steam Engines, of a mean power of 50 horses. The advantages of this motive power, in comparison with the steam engine, are so plain and enormous, that there is no doubt that it will be applied at least to all the existing steam engines, without considering the newly-constructed ones; and supposing only £2 for each horse power every year, for the licence, or for the profit of construction, we shall have £2,000,000 of annual profit.

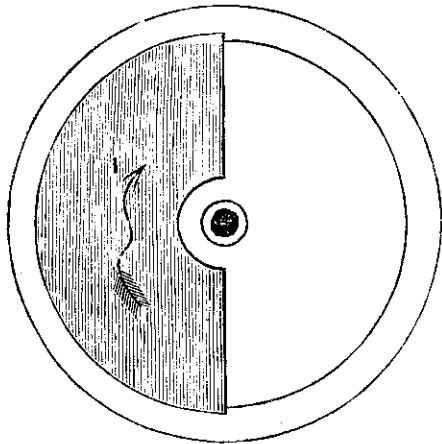
This invention will open a new epoch of prosperity for the



(Fig. No. 1.)



Cover.





English constructors, seeing that the accuracy with which the machine requires to be constructed will oblige foreign nations to send their orders to England. The low price of transport will encourage the export of coal to foreign countries, with the other productions of the kingdom, and will produce a new source of riches to the nation.

This invention is worthy of the patronage of all persons, and all departments of the Government, considering its economy and security.

Specification of the Patent.\* (Sealed 1833. No. 6510.)  
—The invention is an attempt to obtain a rotatory motion from a hollow drum or cylinder, mounted on an axle, turning in bearings in an outer air-and-water-tight case; the space between the case and the drum being divided in a vertical direction by an air-and-water-tight partition, into two compartments; one is filled with a fluid, and a vacuum is produced in the other by a pump, or by the adhesion of the surface of the half air-tight case upon the half drum, when it is expected that the tendency of the part of the drum which is in the liquid chamber will rise by its buoyancy, and the inclination of the other part, or that in the vacuum, will fall by its gravity, and will produce a rotatory motion as long as the vacuum is kept up in one chamber and the liquid is in the other.

The surface of the drum, in cast-iron, should be perfectly smooth; and the plates of the air-tight case upon the half drum should be in gun-metal, perfectly smooth; and by a friction with mercury the surface will be covered by it, and will destroy the adhesion of the metal upon the surface of the drum.

The general claim is, "A machine acting by a joint power derived from the buoyancy of a body in fluids, and the weight of a body in vacuum."

When the parts are put together, they are secured by screws, the joints being made air-tight.

Fig. No. 1,—is a side view of an Engine constructed on the principle of this Invention, with the outer cover being removed to expose its internal construction.

Experiment made without expense, by every person, to ascertain the efficacy of this Motive Power.—Put in a vertical

\* See Chapter XI, under date 1833, No. 6510.

direction into the water, the half drum in wood (A B C, Fig. 1) until it is surrounded; and taking it easily in the fingers, it will turn round according to the pointed line A E.

Take easily in the fingers the other half drum (Fig. 2), and in a vertical direction, according to the letters F G H, hold it in the air, and it will fall by gravitation according to the line H I.

The force with which the No. 1 will rise is equal to the difference between the body of the half drum and the body of the volume of water displaced,—minus the friction of the axis in the fingers, and the friction of the liquid upon the surface of the half drum.

The force with which the half drum (No. 2) will fall is equal to the difference between the body of the half drum and the body of the air displaced,—minus the friction of the axis in the fingers, and the friction of the air upon its surface.

All this is practical; and it is plain that it will turn upon every scale. This experiment proves that the force with which the two half drums move is more than the friction of the axis against the fingers, and the friction of the liquid against the surfaces of the drum.

By the practical construction of steam engines, I prove, in the following numerical report, that the friction to prevent the fluids going into the vacuum chamber, or into the plates at air-tight upon the half drum, is less than the motive power; and that there remains sufficient to produce a disposable force. For instance, it must be considered that upon a small scale a little difference in the construction will destroy the motive power, but that will not be the case upon a large scale, because a great power will easily destroy too hard a friction.

Numerical Illustration, applied to a Machine in which the diameter of the drum is 5 feet, and the length 2 feet.—Hydrostatic Laws: "Fluids press in proportion to the height of their levels, in every direction; but the greatest pressure is that from the bottom to the top of the vessel. When a body is entirely, or in part only, immersed in a fluid, the horizontal pressures exercised by the fluid upon its surfaces are mutually destroyed. The result of all the vertical pressures is equal to the weight of the fluid displaced, and directed in opposition to the gravitation, applied to the centre of gravity, of that portion of the fluid displaced; and the

body loses a part of its weight equal to the absolute weight of that portion of fluid displaced."—(See the above indisputable practical principles in *Hydrostatics and Mechanics*, by Poisson.)

After a variety of calculations and statistics, we are informed, in the concluding observations of this lengthy prospectus, that—

This motive power is applied also to the steam engines existing; we want only to take out the boiler and the pistons. We need scarcely say that we can obtain any number of horse power, and that, by its simplicity, this motive power can be applied to all things wanting force.

Every person laughs at what is called "perpetual motion," but a very small number know what that expression signifies. D'Alembert's *Encyclopædia*, at the word "Perpetual," says, "Perpetual Motion is a machine working by itself, without any external force, and only by gravitation of matter." At the first sight, it is plain that by the gravitation we shall only obtain a movement for a limited time; after which the equilibrium will succeed: but it must be considered, that in the above system there are two forces—one is gravitation, the other is the impetus with which every fluid has a tendency to raise the body surrounded by it in a direction opposite to the gravitation. This tendency is continuous in every fluid; consequently, in this machine the property of the motive power is continuous; but not the machine, which requires the plates to be repaired every three years. If anybody was to ask me to show them a machine at work, I should answer—The globe is one;—the earth turning by this system, half only being surrounded by water: and in general, all planets turning upon their axes are surrounded in part by fluids; the moon not turning upon its axis, because it is deprived of fluids.

The engineers' constructors possess and know the construction of a smooth plate, and a piston in a cylinder; these are all the pieces necessary for the working of the machine. The complement to go more or less quickly, or to stop, is the same as that employed in steam engines, according to the circumstances and the application.