



A.D. 1837 N° 7386.

Obtaining Motive Power.

BERRY'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, MILES BERRY, of the Office for Patents, 66, Chancery Lane, in the Parish of Saint Andrew, Holborn, and County of Middlesex, Patent Agent and Mechanical Draftsman, send greeting.

5 WHEREAS His late most Excellent Majesty King William the Fourth, by His Royal Letters Patent under the Great Seal of Great Britain, bearing date at Westminster, the Sixth day of June, in the year of our Lord One thousand eight hundred and thirty-seven, did, for Himself, His heirs and successors, give and grant unto me, the said Miles Berry, His especial licence,
10 full power, sole privilege and authority, that I, the said Miles Berry, my executors, administrators, and assigns, or such others as I, the said Miles Berry, my executors, administrators, or assigns, should at any time agree with, and no others, from time to time and at all times during the term of years
15 within England, Wales, the Town of Berwick-upon-Tweed, and in all the Colonies and Plantations abroad, an Invention of "A CERTAIN IMPROVEMENT, OR CERTAIN IMPROVEMENTS, IN OBTAINING MOTIVE POWER FOR PROPELLING OR WORKING MACHINERY," being a communication from a Foreigner residing abroad; in which said Letters Patent is contained a proviso obliging me,
20 the said Miles Berry, by an instrument in writing under my hand and seal, particularly to describe and ascertain the nature of the said Invention, and in

Berry's Improvements in Obtaining Motive Power.

what manner the same is to be performed, and to cause the same to be inrolled in His Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference being thereunto had, will more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said Miles Berry, do hereby declare that the nature of the said Invention, and the manner in which the same is to be performed, is particularly described and ascertained in and by the following description thereof, reference being had to the Drawings hereunto annexed, and to the Letters and Figures marked thereon (that is to say):—

The Invention I am now about to describe was communicated to me by Mr. Edwin Williams, of Broadway, New York, in the United States of America, Merchant, on behalf of Mr. Thomas Davenport, of Brandon, near Rutland, in the State of Vermont, in the same Country, Gentleman, or his Representatives, for whom I hold the above-named Letters Patent.

I shall now proceed to describe the said apparatus or mechanism, referring to the Drawings hereunto annexed the better to illustrate the same, and to the Letters and Figures marked thereon (that is to say):—

This Invention is a peculiar mode of obtaining a rotary motive power from the known force of attraction and repulsion exerted by the dissimilar poles of magnets, either by such as are commonly called "permanent magnets," consisting of magnetized steel bars or those obtained by electro-magnetism, as iron magnetized by means of a galvanic battery. The electro-magnets are mounted upon a vertical shaft turning in suitable bearings, and are set in rotatory motion by the before-mentioned force of attraction and repulsion exerted by the poles of other magnets, which are made stationary and placed near to them for the purpose of acting in conjunction with the rotatory magnet. The shaft of the electro-magnetic bars being thus kept revolving at a great velocity, acquires a motive power capable of turning or setting in rotatory motion other shafts or machinery by means of toothed gear or rigger bands, and which power or force is intended to be used for actuating machinery in general as a motive power or first mover. Fig. 1 is a side elevation of a model apparatus or machine which will fully serve to explain and illustrate this Invention. Fig. 2 is a plan or top view, and Fig. 3 is a vertical section of the same; and Fig. 4 is a horizontal section taken in the line *a, b*, in Fig. 1. The frame-work is to be of a size and strength adapted for the purpose intended, and may be made of a circular or any other convenient form, divided into two or more platforms or stages B and C, upon which the apparatus is mounted. The galvanic

Berry's Improvements in Obtaining Motive Power.

battery D is constructed by placing any convenient shaped plates of copper and zinc E and F alternately in a vessel G containing diluted acid, after the usual manner of forming galvanic batteries. From each vessel or galvanic battery proceed two conductors H and I, one from the copper plates and the
5 other from the zinc plates. These conductors H and I lead to and are in contact with the copper plates K and L placed upon the lower platform C. These plates K and L act as conductors, and are made in the form of a segment of a circle, and correspond in number and position with the "artificial" or "permanent magnets" S, T, herein-after described. The plates K, L,
10 are placed around the shaft R, detached from one another and from the shaft, as seen best in Fig. 4. The conductor H leads from the copper plate of the galvanic battery to one of the said plates, say K, and the other conductor, I, leads from the zinc plate of the battery to the other plate L, (and so on alternately if there be more than two plates placed on the lower platform
15 around the shaft). The galvanic magnets M, N, O, P, are constructed of arms or pieces of soft iron in the shape of a straight bar, horse shoe, or any other convenient figure wound round with copper wire Q, first insulated by means of a non-conducting material placed between the coils. These galvanic arms project in radial lines from the centre of the vertical shaft R, turning on
20 a point or pivot, and resting in a cup *a* on the lower platform, and in a proper guide or bearing *b* above the upper platform. The ends *c, d, e, f*, of the copper wire Q extend from the electro-magnets in parallel lines with the shaft R down to the copper plates K and L. These ends *c, d, e, f*, are furnished or tipped with silver, and are in contact with the inner edges of two silver plates
25 *g* and *h* within the semi-circular plates K, L, as shewn in Figure 4. The galvanic magnets are placed upon and secured to a horizontal disc of wood V attached to the shaft R. The artificial, or what are called permanent magnets S and T, are made of steel; and in the usual manner of making common or permanent magnets; they may be of any number and degree of strength, and
30 fixed on the upper platform in any convenient manner. Those shewn in the Drawings are segments of a circle of nearly the same diameter as the inside of the platform, or if galvanic magnets are used (which may be done) they may be made in the form of a crescent or horse shoe, or any other convenient figure, with their poles pointing to the shaft. Having properly
35 arranged these artificial or "permanent" magnets on the top of the upper platform, there will be a corresponding number of magnetic poles, the north being marked No. 5, and the south No. 6. Now, we will suppose the machine to be in a quiescent state, the galvanic or "changable" magnet No. 1 being opposite the north pole of the artificial or "permanent" magnets No. 5. The

Berry's Improvements in Obtaining Motive Power.

galvanic or "changable" magnet No. 3 will of course be opposite the south pole No. 6 of the permanent magnets, and the other galvanic magnets Nos. 2 and 4 will be at points opposite each other, between the poles just mentioned. From the circumstance of there being a corresponding number of conductors *c, d, e, f*, of the ends of the copper wire which are placed around the shaft R, 5 below the artificial magnets M, N, O, P, but detached from the shaft as well as from each other, and further from these wires or conductors leading from the galvanic magnets to the plates K, L, and being in contact with them as before described, the conductors *c, d, e, f*, will stand in the same position in relation to the copper plates that the galvanic magnets stand relative to the 10 artificial or permanent magnets, but with this difference, that the conductors *c, d, e, f*, are in contact with the plates K, L, whereas the magnets are not in contact with each other. Now, in order to put the machine in motion, the galvanic magnets Nos. 2 and 4 being charged by the galvanic current passing through the various conductors and plates above described, from the copper 15 plates (or positive side) of the galvanic battery along the conducting wires (or whatever material is employed to the zinc plate (or negative side) of the same battery, the galvanic current passing around the galvanic magnet No. 2 and 4 produces magnetism therein with a north and south polarity, No. 2 having north, and No. 4 south polarity; of course the south pole of the artificial 20 magnet No. 6 will attract the north pole of the galvanic magnet No. 2, and will move it a quarter of a revolution, (see the diagram Fig. 5, which I have drawn the better to illustrate this operation,) the south pole of the galvanic magnet No. 4 being at the same time attracted by the north pole No. 5 causes the magnet No. 4 also to perform a quarter of a revolution; the 25 momentum of the galvanic arms or magnets will carry them past the space between the poles No. 5 and 6, at which time the several conductors *c, d, e, f*, on the ends of the coiled wires of the galvanic magnets will have changed their positions relatively to the plates K and L, and also consequently in relation to the positive and negative sides of the battery, causing the "galvanic current" to 30 flow in a different direction around the galvanic magnets, thereby changing the poles of Nos. 2 and 4, No. 2 now having south and No. 4 north polarity. The poles of the galvanic magnets are of course now repelled by the poles that before attracted them, and in this manner the operation is continued producing a rotary motion to the shaft R, which motion may be communicated to any 35 machinery for the purpose of propelling the same.

The discovery here claimed and desired to be secured by the above recited Letters Patent consists in applying the force obtained by magnetism and electro-magnetism as a power for moving or actuating machinery in the

Berry's Improvements in Obtaining Motive Power.

manner above described, or in any other modification which is substantially the same in principle and effect.

In witness whereof, I, the said Miles Berry, have hereunto set my hand and seal, this Sixth day of December, One thousand eight hundred and thirty-seven.

5

MILES (L.S.) BERRY.

AND BE IT REMEMBERED, that on the Sixth day of December, in the first year of the reign of Her Majesty Queen Victoria, the said Miles Berry came before our said Lady the Queen in Her Chancery, and acknowledged 10 the Instrument aforesaid, and all and every thing therein contained and specified, in form above written. And also the Instrument aforesaid was stamped according to the tenor of the Statute made in the Fifty-fifth year of the reign of His late Majesty King George the Third.

WINGFIELD.

Inrolled the Sixth day of December, One thousand eight hundred and 15 thirty-seven.

 LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1856.

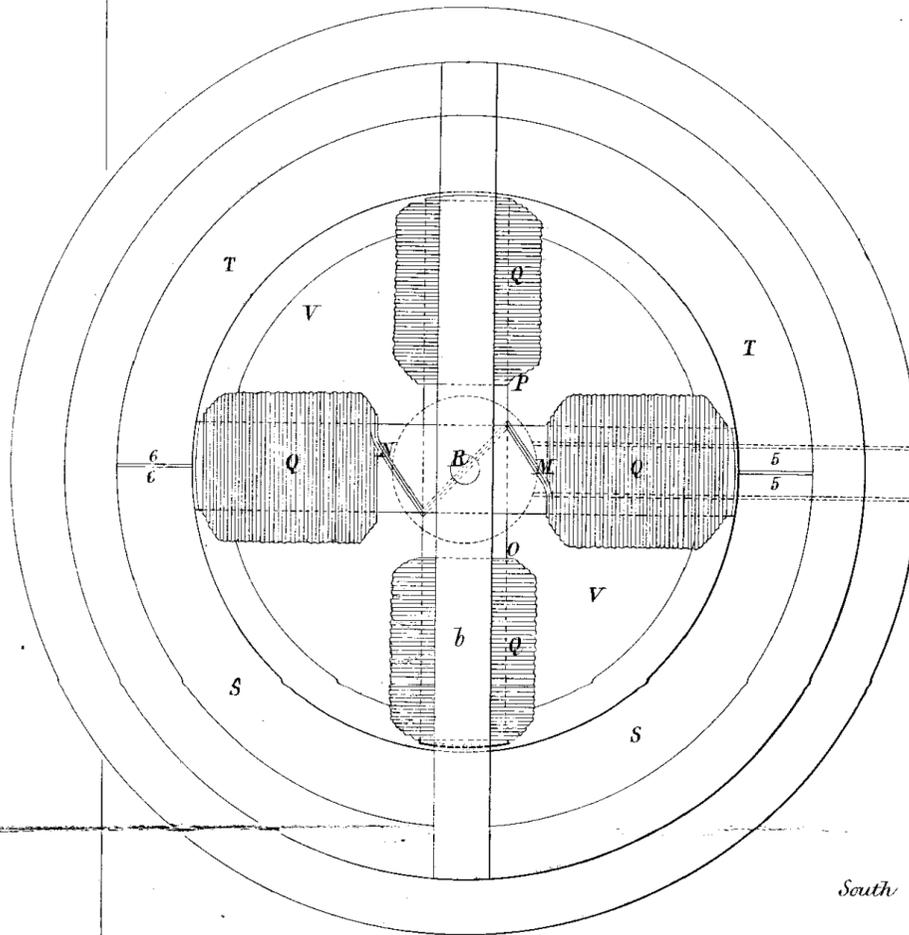


FIG. 2.

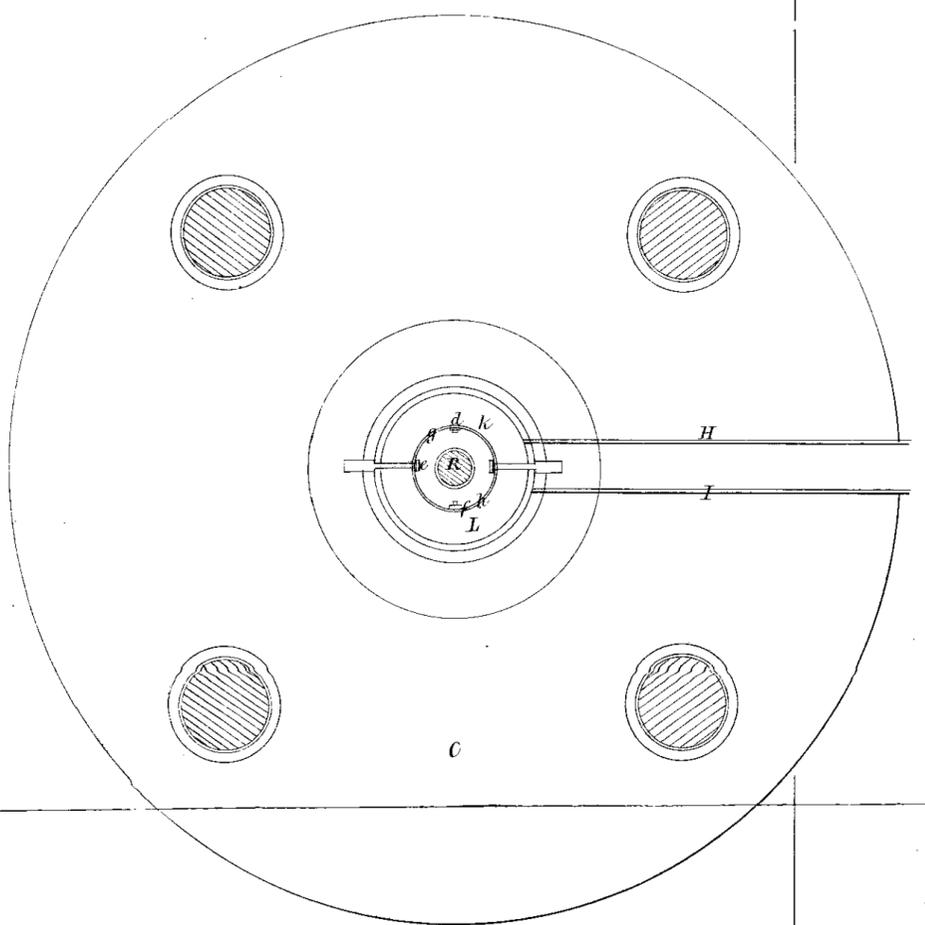


FIG. 4.

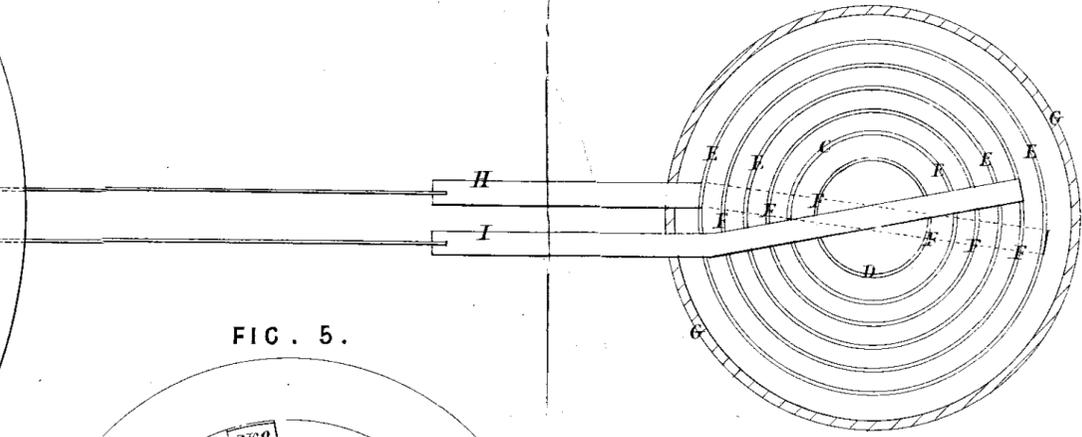


FIG. 5.

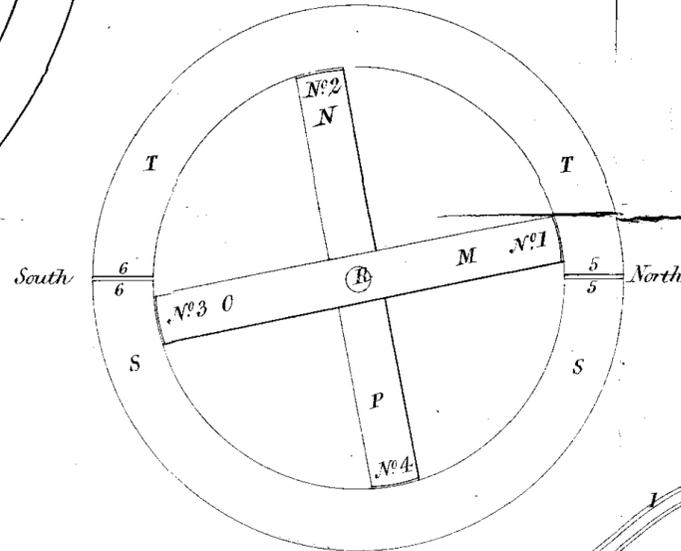


FIG. 3.

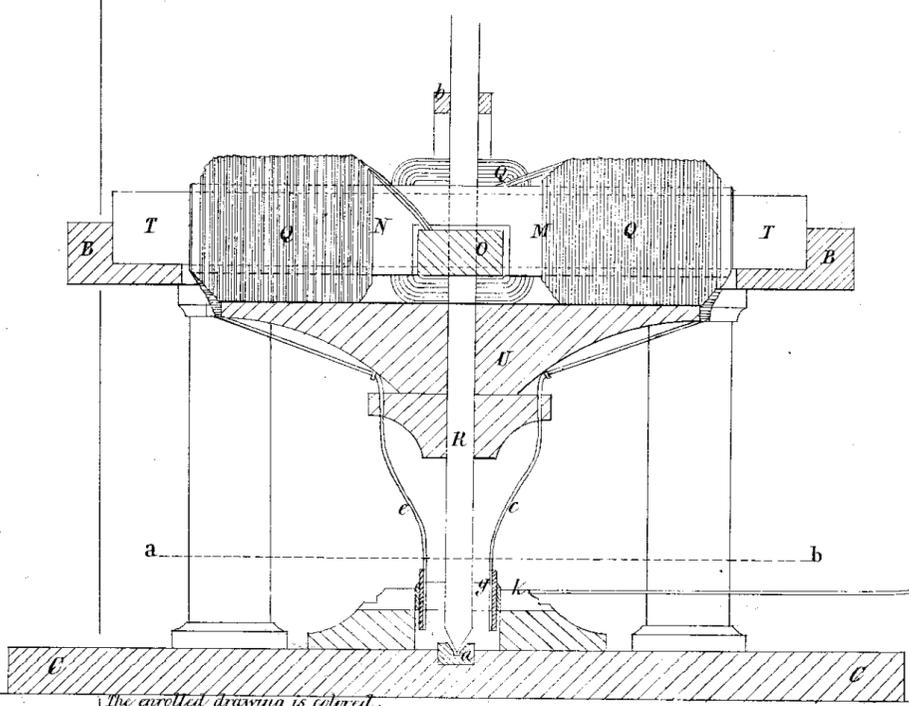
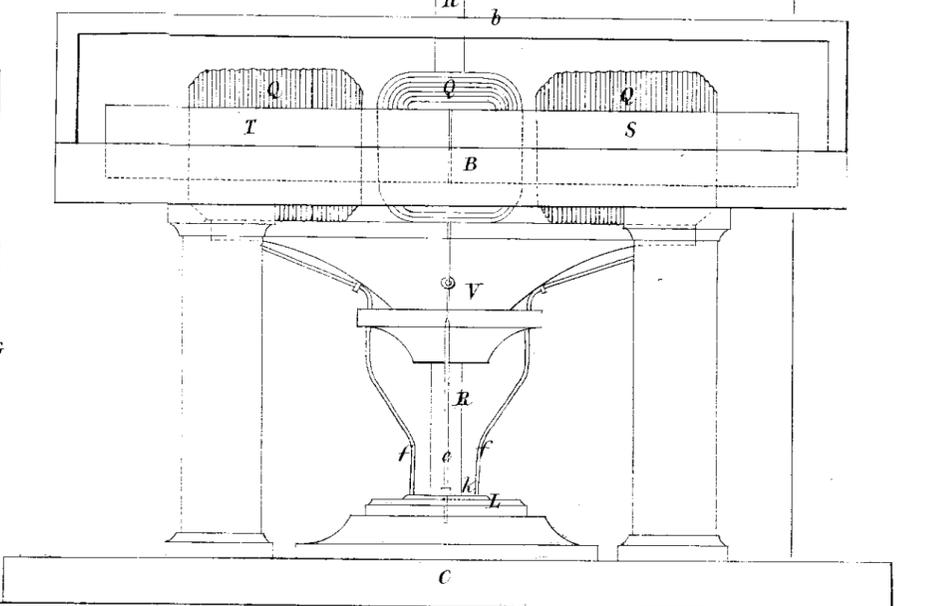


FIG. 1.



The encolled drawing is colored.