Utica Nov. 1st 1846

Mr Barnum

Sir

Yours of 30th Ult is at hand
will Say in reply you want by first Canal
Boat Platina I Lent from N. Y. which I Suppose
you — have Lost,

Guild & Lilly you must buy them as
Bill is on Seven Boat and cannot tell how
Long it will be on the way. also acres
for Feet Men,

I do not think it worth while to Send
us the Bill Batting until the new Season is Compl
ed if in the Course of this week,

I know of No way to Send Birds from
flying agent the Wind, at this time, we will Give
them Wire Strong enough Soon,

I was at Troy Yesterday & Some a Man Looking
after the Mens at as he Says 10/ 0 12/ pr Day

The Lengthening of the Boat has been resumed
Joyfully ~~resumed~~ by Some altering the Part Board
Near the Bridge which Brings the Men from
the high Deck down to the Short one so Near
the Bridge or Draw that the Men is not as high
when the Sloops pass which is on the Troy Side
of the Draw as it was before we Sent the Part Down

If at its present Plan. The reasons as you
Observe to Me for its being removed, perhaps
you can Give them,

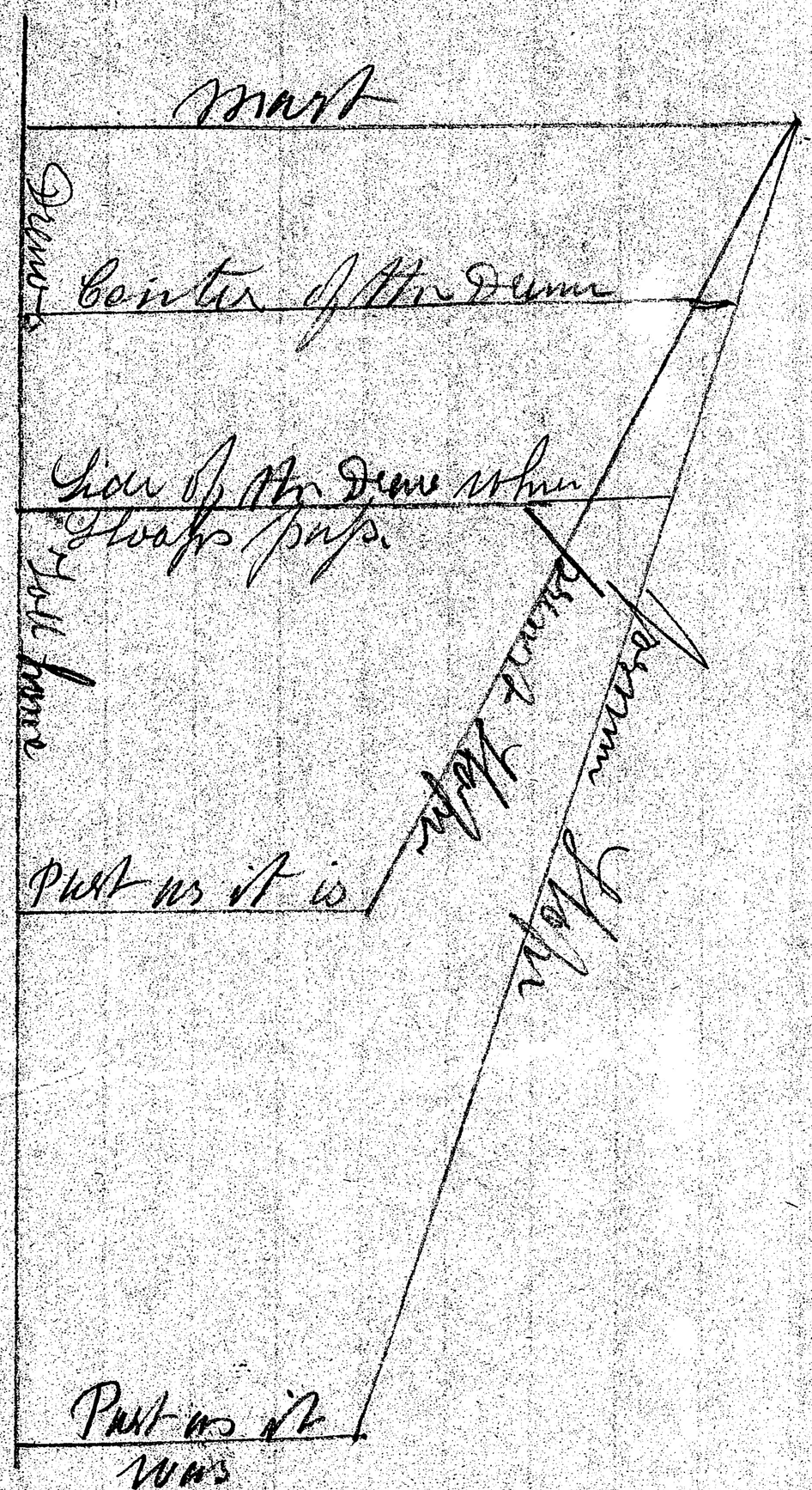
I have asked them to Let Me Remain
without being Put up, as the Duke Non Stands
but I think You have Letting Him it you Authorise
as Soon as Possible, as the Expense & inconvenience of
Watching the Wire is Most Severe we have to pay Long.

I will Give you a Diagram Showing the
Position, Not with any Great degree of Accuracy but
Showing the Main Principles,

If you Could Correct what was the Part Remo=
=ved Per, Sent to Make it more than it was before
I Should be Pleased to have your reasons,

Respectfully Yours

J. Sexton


Mart
Dame
Center of the Dame
Line of the Dame when
Hoops pass.
Part as it is
Part as it
was

New York City 2d Nov 1846

Dear Sir

Enclosed you are find a general discription of certain improvements made by us in the Method of running Magnetic clocks, In which we are desirous of obtaining a patent, We wish to secure your services In this purpose, and Enclose ten dollrs. as part payment therefor. We wish your opinion upon several points which you will more fully understand after Examining the enclosed papers — What we are entitled to patent.y and what drawing or models will be required to obtaining such patent as we may be Entitled to.y You will see by the claim we have made what we consider as new and patentable We believe that all that has been done on the subject of magnetic clocks, is what has been done by Bain in England, and we are not aware that he proposed to apply Electrical action to unlock clocks Moved by weights & springs: but what we principally insist upon as valuable and our

invention, is the two methods of forming side circuit, connecting with the main circuit and yet not essentially a part of it. We wish to cover all the ground that we are entitled to.

Your early attention to this is requested Please direct to us, Care of W. S. Johnson No 29 Wall St. N.Y.

Respectfully
Jr & Co Servts

Chas F Johnson
J J Speidel

Telegraph Office Alton Nov 3. /46

Mr Cornell

Sir

I Send by Express Gentleman all the Materials
you Sent for Except Platina which I Sent from
N.Y. by Express,

30 of the Finest Cups you Sent
me are Distroyed by being broaken on the Road
So that we have no more on hand—

I Expect to be at Home on Wednesday
Night for the purpose of Opening an Office
at that Place, if you can Meet me there on
Thursday I Should Like it, or if Gentlemen
Wishing employment at Buffalo until the
Last of the week I can be there to the
same Effect,

I want Baikers also to assist me
at Home in Getting up the Gold,

We want Some Glass Cups at Home as
we can not have Say 2 Dozen, there must
be a Box of them on the Line not Knowing
Bankers will Know where,

I have this Day been under the
necessity of Lineing a Circular to all
the Offices Giving them Notice to forward
their Morrining Report before Going to

other hearings, there is less reminders on the part of Operators about that thing once it is a regulation which will not be dispensed with once if Sperm Operators will not follow Instructions I shall stop other hearings until I get Lunch on. with,

I wish you to say to all of them that their Reports will be Expected as the Return Office in Each & Every Morning before any other hearings commence,

In Case of a Break in the Line During the Night or other Times so that they cannot communicate with the Office then it will be the first hearings after they are able to communicate with Office

There is Each Colliery on the part of Coal & over Operators and unless more strict attention is given to them hearings I shall be under the necessity of stopping others, I therefore hope you will not fail to impress upon them Miners the importance of More Care & attention to the business,

Respectfully Yours

J. Layton

What is the difficulty with the Buffalo Affair
Mrs Lewis to be a Secret deal of Trim Lest
that we cannot Communicate with Mrs,

To the Hon.ble the Commissioner
of Patents of the United States.

The undersigned Charles
F Johnson of Owego and John James Speed Jr
of Ithaca, both in the State of New York, having
jointly invented certain new and useful
improvements in the method of forming
Galvanic Circuits, and running Magnetic
clocks, and having paid into the treasury
the requisite fees, request that Letters
Patent may be granted them for said
invention, according to the Specification
and claim herewith presented
City of New York
Nov. 4th A.D. 1846

Know all men by these presents that we
Charles F Johnson of Owego and John James
Speed Jr of Ithaca both in the State of
New York, have invented certain new
and useful improvements in the
Method of forming Galvanic Circuits
and running Magnetic Clocks, and
the following is a full and perfect
description thereof.

Suppose a Galvanic
battery of the requisite power. A
circuit is formed of stout iron wire
and carried when required, with the

means providing of breaking and closing said circuit as hereinafter described. This we call the main circuit. Connecting with this main circuit, we form what we call battery or side circuits in the following manner. One end of a copper wire is connected with the main circuit by soldering or otherwise, at any desired point and carried to the place where required to operate or form Electro magnets, it is looped around the magnets in the usual way and brought back to the main circuit, to which it is again soldered or otherwise connected, a short distance from the point of its first connection. We having discovered that electro magnets can be formed or operated in side circuits thus arranged notwithstanding the length of the side circuit may be much greater than that portion of the main circuit between the points at which the side circuit is connected. This proportion depending on the battery in great measure upon the relative conducting power of the two wires. We have thus the means of ~~operating or~~ forming side circuits and operating electro magnets without placing them directly in the main circuit and we can form any required number of such side circuits to operate magnets and the interruption of any one or more of them will not interfere with the operation of the main circuit or with the side circuits which remains uninterrupted

We also purpose to form side circuits of wire of the same conducting power as that of the main circuit by winding the main circuit wire upon a reel, the wire being insulated, so that it shall be of greater length between the points of connection of the side circuit than said side circuit, the ends of the wire of the side circuit being connected with the main circuit, one on each side of the reel. In this case the Galvanic current will follow the shorter side circuit, and operate Magnets placed in it; but if the side circuit be broken or interrupted it will follow the main circuit and the same result be attained as before

The manner we apply Electro magnets thus arranged in side circuits to running magnetic clocks is as follows: We take a clock movement by weights or Springs and adjust a notched or shouldered Spring to lock the pendulum at the extremity of its vibration, attached to this Spring is an armature in common form, under it is placed an Electro magnet, the adjustment and position of the magnet being such, that when the magnet is put in action by closing the main circuit it draws down the armature and Spring and unlocks the pendulum which makes a vibration, and the circuit

being immediately broken leaves the
Spring free to lock the pendulum
on its return, and holds it until
the magnet is again put in action
which is done at regular intervals as
hereinafter described. The gearing
of the clock being so arranged as
to show the time correctly according
to the intervals of the unlocking
The magnets thus formed may also be
applied to run clocks by the adjustment
of a ratchet wheel as proposed by Bain
in England

The manner of closing and
breaking the main circuit. Self supporting
wire divided, one end being connected
with a cup of Mercury. The other end
supported directly over it by being
attached to the end of a lever, the
other end of which lever is operated
on by the pins in wheel connected
with an accurately running time
piece so as to raise the end of the
lever and wire attached and dash
it at regular intervals the momentum
of the lever on falling being such as
to dip the end of the wire into the
cup of Mercury and close the circuit
a light Spring under the lever immediately
raises the wire out of the Mercury
and breaks the circuit until the lever
is again raised and dropped
The intervals of closing the circuit being
such as is required for unlocking the pendulum
as herein before described.

Know all men by these presents that I
Charles E Johnson of Owego and Joseph
Spaulding Otsego both in the state of
New York having invented a new and
useful improvement in Galvanic Circuits
and Ringing Magnetic Clocks, and
for which we now applying for Letters
Patent, and the said C. E. Johnson having
obtained Letters Patent for an improvement
in Tower Clocks granted in June last
in which certain Mechanical arrangements
for locking by means of a Spring, a pendulum
or pendulous body, as particularly described
in said patent: does hereby agree that said
Small

New

Articles of agreement this day made between Chs. F. Johnson of Owego and J. Spaulding of Truxton both of the State of New York and Lorenzo O. J. Smith of

Said Johnson and Spaulding having invented an improvements in the manner of forming Galvanic circuits, and in running magnetic clocks, and for which they are now applying for Letters Patent, do hereby agree to convey to said Smith one undivided half of said Patent when obtained, and the said C & F. Johnson having obtained Letters Patent for an improvement in Tower clocks in July last in which certain arrangements for locking by means of a Spring a pendulum or pendulous body as described in said Patent ~~xxxxx~~ belong to him exclusively, he said Chs & Johnson agrees that the parties to this agreement shall have the right to use said unlocking arrangement, and sell to others to be used in the same manner as if it constituted a part of the new Patent for which said Johnson & Spaulding are now applying. And the said Smith on his part agrees to render his professional services as may be deemed necessary in the defending and sustaining said patents and in rendering them valuable: and also to furnish the necessary Materials, and be at the necessary expense, and Co-operate with his influence for making a trade of said invention in actual practice

Know all men by these presents that we Charles F. Johnson of Auburn and J. J. Speed Jr of Ithaca N.Y. have invented certain new and useful improvements in the Method of running Magnetic clocks, & in the formation of Galvanic Circuits as connected therewith & the following is a full and Perfect description thereof. Reference being had to the accompanying drawings forming part of this specification.

The Magnetic clocks we propose to run are of two descriptions, first those in which the moving power is either weights or Springs and the Magnetic power is applied as hereinafter described, to unlock the same at regular intervals;— and second those in which the magnetic power only is applied at regular intervals as the moving power.

The first description of clocks we propose to run by means of a Spring applied to lock a pendulum at the extremity of its vibration which pendulum is unlocked at regular intervals by means of an Electro Magnet placed under the Spring connected with a Galvanic Circuit as hereinafter described, an armature being attached to the end of said Spring about one fourth of an inch above the poles of the Magnet, so that when the Magnet is put in action by closing the circuit it draws down the armature and Spring and unlocks the pendulum and the circuit being immediately broken leaves the Spring free to lock the pendulum on its return. the gearing of the clock being of course so arranged as to show the time correctly, according to the intervals of the unlocking

The second description of clock, consists simply of a dial with the hour and minute hands and the usual train gear connected with them: Upon the axis of the minute hand is attached a ratchet wheel of the requisite number of teeth. A small spring click takes into these teeth. The armiture of a small Electro magnet is attached to the back part of the clock in such a manner that when the magnet is put in action, by closing the circuit it draws the click towards the magnet by moving the wheel one tooth, on breaking the circuit a spring attached to the click carries it over the next tooth ready to move the wheel another tooth whenever the magnet is again put in action this is done at regular intervals ~~of one minute~~, the magnet being connected with a Galvanic circuit and the circuit broken and closed as hereinafter described.

We come now to the principal part of our invention, Namely, the manner of forming the circuit, and connecting the Electro Magnets with them

1st we have a central Galvanic battery of sufficient power. A circuit is formed of stout wire, one end of the same being connected with one end of the battery and carried over or near the building in which the clocks are to operate. The other end of the wire is brought back and attached to the end of the loop, the end of the wire projecting

downwards and directly over a small
cup basin of mercury connected with the
other pole of the battery. This we call
the main circuit, the lever
is hung near its centre, and is operated
on by pins in a wheel connected with
an accurately running time piece,
in such a manner that the time piece
shall raise the end of the lever, and
wire attached, and let it fall at regular
intervals, the momentum of the lever
falling, dips the end of the wire into
the mercury and closes the circuit.
a slight spring, and the lever, immedi-
ately raises the [redacted] out of the mercury
and breaks the circuit, until the lever
is again raised and dropped.

7

The main circuit being thus formed
and means provided for breaking and
closing it, the purpose (in some instances
to place an magnets directly in the
same, and then we make it of copper
wire: but we purpose more generally to
make it of iron wire and to form
what we call side circuits by means
of smaller copper wire one end of which
is connected by soddering or otherwise with
the wire of the main circuit, and is then
lead to the electro magnet (designed
to operate the clock,) and is then brought
back and its other end soddered or
connected with the main wire about
two feet, more or less from the first con-
nection, it is proper to pack the iron wire
any between the points of connection

by placing on it a glass tube or otherwise having discovered that the electric current will follow a longer circuit of copper wire, rather than continue upon the shorter iron wire (as the proportions are as one hundred to one), but we do not pretend to be precise in these proportions as it may vary with circumstances. We have thus the means of forming side circuits and operating Electro Magnets without placing them directly in the main circuit, and we can form any required, ~~accountable~~ number of side circuits to operate magnets, and the interruption of any one or more of them will not interfere with the operation of the main circuit, nor with the operation of the side circuits which remain uninterrupted. We also propose to form side circuits of (copper) wire when the main circuit (is copper or of the same conducting power, by winding the wire of the main circuit upon a reel, the wire being ~~in quantities~~ so that it shall be of greater length, than the side circuits the two ends of the wire of the side circuits being connected with the main circuit, one on each side of the reel, in this case the current will follow the shorter side circuit, and not perform upon the main circuit, while the side circuit is broken it will follow the main circuit and the same result be attained as before.

Chas F Johnson
J J Speed Jr

We further propose in certain cases to use supplemental batteries, with circuits and Electro magnets connected with them intended to operate clocks as described and to place an Electro magnet in our Main circuit so arranged with its armature as to operate to close the circuit of the supplemental battery whenever the main circuit is closed, and to break it when the latter is broken.

We propose to use a considerable number of main circuits and to close them in succession by suitable arrangements in the manner described,

What we claim as New and desire to secure by Letters Patent is, 1st The application of the Electro Magnet to unlock clocks, moved by weights or Springs - substantially in the manner described and 2d We claim the two Methods of forming Side Circuits as described - Third, ~~we claim the application of the Electro Magnet to close circuits for the purpose specified~~

We do not however intend to confine ourselves to the use of the Electro Magnet for the purposes above mentioned, as it is well known that Permanent Magnets, with a Movable Coil of wire, or other known Electric forces, may be applied

Chas F Johnson
J J Speed Jr

To the Honorable the Commissioner of Patents of the United States—

The undersigned, Charles F. Johnson of Owego, and John J. Steed Jr. of Ithaca, each in the State of Newyork, have jointly invented an Improvement in the application of Electro Magnetism to clock movements, and of clock movements to Electro Magnetism, for marking time, and ringing bells, or either separately, and for which they desire Letters Patent— And having paid into the Treasury the requisite fees therefor, request that Letters Patent may be granted them for said Invention, according to the Specification and claim herewith presented.

City of Newyork, November 4th. 1846—

Know all men by these presents, that we Charles F. Johnson of Owego and John J. Steed Jr. of Ithaca, both in the State of Newyork, have invented an Improvement in the application of Electro Magnetism to clock movements, and clock-movements to Electro Magnetism, for marking time and ringing bells, either separately, which they call the Improved Magnetic Clock and the following is a full and perfect description thereof- to wit:—

The Improvement consists of three parts:—

First, The Specific application, hereinafter or adjustment,
described, of Electro Magnetism, to regulate the locking and unlocking, connecting and disconnecting, at fixed and regular intervals, of the

pendulum of clocks, carried by weights or springs, the pendulum being first adjusted, to be held at the [illegible] so as to the action of a notched or shouldered spring (as particularly described in the specification and drawings of the Letters Patent granted to said Johnson under the Seal of the United States in July last, and to which reference is made for particular description thereof.

Second. The specific arrangement and adjustment of a series of galvanic lateral circuits (formed by metallic conductors (in which, severally, are placed one or more electro magnets adjusted to a corresponding number of clocks, which are severally, yet simultaneously operated by the breaking and closing of one common metallic conductor and current of galvanic electricity to which said lateral circuits are severally attached as to form a part of the . so long as said lateral circuits and conductors are whole, and = said main circuit when whole, and ceases to form or to form any part of the main circuit when they are defective or broken.

Third, the specific application hereinafter described of clock movements for breaking and closing the galvanic currents employed in operating both arrangements of clock movements herein described.

The first part of the invention is accomplished thus:- Suppose an electro-magnet be placed within a galvanic circuit of any desired conductor and length; with an armature of common form affixed to the under side of the spring a- in the notch or detent of which is resting the pendulum, as shown in drawing A annexed hereto; Let prepared, as the adjustment or position of the magnet being such as to act upon the armature, and draw down the spring, whereon and as often as the galvanic circuit is closed and the current in action, and thereby release the pendulum from its rest and confinement in the notch. See magnet B, and armature C. in the drawing; the pendulum then vibrates by its own gravitation and bears to the opposite extreme of its arc; and, in turn, immediately on the breaking of the galvanic circuit, and consequent cessation of said action of the magnet upon

the armature, the spring is released to return by force of its own elasticity into a position to receive into its notch, and hold fast the said pendulum on its vibration back to that point of its arc, and until the galvanic circuit is again formed and the spring again drawn down to release it. The weight of the pendulum is adapted to the concurring of the elasticity of the spring, so as to regulate its regular vibrations and so as to do not to have the vibration obstructed.

The second part of the invention is accomplished, as follows:- Let there be a metallic circuit or conductor provided, which we call the main circuit, containing a galvanic battery in it of the requisite power, as in drawing D. hereto submitted. From every desired point of that main circuit let there be extended a galvanic circuit formed of a metallic or other conductor, which shall be as much more powerful in its conducting elements than the main circuit conductor is, as can be conveniently obtained. See drawing, D. and figures 1. 2. 3. 4. 5. 6. These lateral conductors are attached to the main conductor, at a proper distance by soldering each end soldered thereto firmly. The distance proper for the ends of each lateral circuit to be separated at the points of soldering is believed to be somewhat in proportion to the difference between the conducting elements of the main and the lateral circuits. In each lateral circuit suppose a clock movement to be placed, adjusted by a spring to the action of a magnet in the circuit, as described in the first part of this invention; or, adjusted by a ratchet wheel to a like action of the magnet, as accomplished in the well known invention of Bain, in England; or, by any other known, or to be known adaptation of the magnet to a clock movement. When the galvanic current is brought upon the main circuit, the current will pass through each of the lateral circuits so adjusted, working each magnet therein, instead of following the space of the main conductor that intervenes between the two soldered connections thereto of the lateral circuits respectively; and when the main current of the main circuit is withdrawn, by breaking the same, C. C. C. C. C. C. in drawing D.

the Adapters of the lateral circuits cease their action. Now all the lateral magnets, together with any that may be within the main circuit, and all the clock movements adjusted thereto, will be acted upon simultaneously, ~~[illegible]~~ the time, or rings bells alike and simultaneously, according as the ~~[illegible]~~ and breaking of the galvanic current in the main circuit is arranged & regulated. By this arrangement, in case the conductor of any one or more lateral circuit becomes defective, or broken, or impaired in any way, the remainder are unaffected thereby, as in that case the section of the main circuit between the soldered points opposed of the defective lateral circuit remains entire to complete the galvanic circuit, ~~and closed~~. Drawing E represents another arrangement of the main circuit, by which the lateral circuit in each case is made shorter than the main circuit, to ensure the transit over the lateral circuit of the galvanic current instead of over the part of the main circuit that interposes between the soldered points of the lateral circuit. It is accomplished by having the main circuit form a coil between said points of much greater length than that of the lateral circuit desired to be worked.

The third part of the invention ~~is accomplished~~ consists as follows: by having a metal lever form a section of the galvanic conductor, with a projecting point to be raised from, and fall into a cup of mercury into which the other section of the metallic conductor terminates. The ~~fall~~ and rising of the lever are regulated by the action upon it of the cogs of a wheel so adjusted as to cause a contact with and ~~falling~~ of the lever (assisted by a spring beneath) when the circuit is desired to be closed; and a cessation of such contact, and consequent rising of the lever, assisted by said spring, when the circuit is desired to be opened. This wheel is regulated by the ordinary clock movement, and at such speed as the desired intervals of closing & breaking the galvanic circuit may require.—

What we claim as new and desire to secure by Letters patent is, the three several parts of

The clocks which are for that to run on those
movements weighted springs and the application
of Electro Magnetism ~~[illegible]~~ are
applied as follows

A notched or shouldered Spring
is adjusted so as to

The clock or person to run on those movements by
weights or spring - and on which electro magnetism is applied
in the following manner. A notched or shouldered spring is adjusted
to lock the pendulum at the extremity of its vibration - a Clock

in the formation of Galvanic circuits, and
the winning of Magnetic Clocks -
for

Be form what we call our Main
Circuit of Strong iron wire - extending from
the poles of the battery to any required distance
and forming when closed an entire Metallic circuit.
2.d Be form what we call side or battery
circuit by soldering Copper wire onto the
iron wire at any desired point in the main
Circuit, and extending the Copper wire to the
Clock to be worn or other ~~effect~~ Object to be
effected or acted upon by means of an Electro
magnet in the side circuit, after having
the Copper wire around the Electro magnet
in the side circuit it is carried back
to the main circuit and soldered to it
at a distance of two or more ups from
the first soldering

of the invention, set forth particularly in paragraphs of the first Specification, designated, First, second and Third, and their results when accomplished in the manner detailed in the remaining parts of the Specification.

Marquette City, November fifth, 1846.