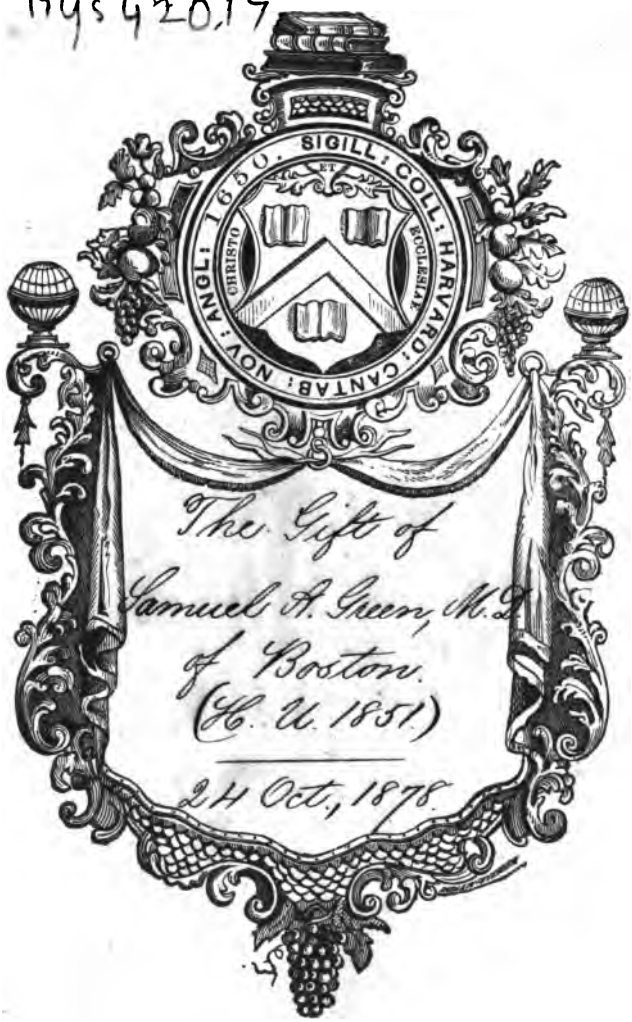

THE PHONOGRAPH

AND

ITS INVENTOR,

THOMAS ALVAH EDISON.

BEING A

DESCRIPTION OF THE INVENTION

AND A

MEMOIR OF ITS INVENTOR.

By FREDERICK F. GARBIT, M. D., Ph. D.

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THOMAS ALVAH EDISON.

MEMOIR OF T. A. EDISON.

THOMAS ALVAH EDISON was born in Milan, Erie County, Ohio, on the 11th of February, 1847. His father's ancestors emigrated from Holland and settled near Newark, N. J., but were an ancient family of English descent. When young Edison was about eight years of age his parents removed to Port Huron, Michigan, from which time he began to earn his own living. He made his first appearance in public life as a newsboy; and, before he had reached the age of twelve years, obtained the exclusive contract for the sale of newspapers on the Detroit division of the Grand Trunk Railway. Here his energy and determination to excel began to distinguish itself. He employed several boys to aid him, and continued to travel and sell newspapers until seventeen years of age. Meanwhile, he purchased a small printing outfit, which he carried on the train, and with which he printed a small weekly paper called the "Grand Trunk Herald." In this office he was editor, manager, compositor, and devil,—all by and all within himself. It was no sinecure post, you may rest assured. Articles were contributed by the employes of the railroad. The printing was done by hand pressure, and the paper was issued with regularity. Its subscription list contained 450 names. The son of Robert Stephenson, who accompanied a Board of Inspectors sent from England to inspect the Grand Trunk Railway, seeing an edition of the paper being worked off while the train was in motion, purchased 200 copies and sent them to England as samples of American newspaper enterprise, and the only newspaper in the world printed on a railway train.

Mr. Edison finally abandoned the printing business and set up instead a traveling chemical laboratory, consisting of innumerable bottles and packages of chemicals and drugs, which he carried in a large chest on the train,

experimenting with them during his leisure hours. This enterprise came to sudden grief by the spontaneous combustion of several ounces of phosphorus, and the consequent firing of the baggage car in which they were carried. Upon the breaking out of the war in the South, the enormous increase in newspaper traffic confined his attention solely to that branch of industry and offered opportunities for the exercise of his original genius to meet the eager demand for news—a demand which Mr. Edison noticed could ill brook the tedious movement of the trains. He conceived the idea, and had constructed large bulletin boards, one of which he placed at each station along the line. Upon these boards, he caused to be chalked, by telegraph operators and station agents, the news headings of his papers, which he telegraphed in advance of the train. This device was noticed, and characterized by the press as a "thoughtful idea for a newsboy," and was speedily adopted on other roads. The relations young Edison thus formed with the telegraph awakened a desire to understand it, which he gratified by very soon learning to operate it. Not content with the ordinary opportunities offered by the railway telegraph stations, he, in conjunction with a neighbor having similar inclinations, built a line of their own, one mile long, through a wood dividing their houses. Edison constructed the instruments, but having no battery and doubtless no money to purchase one, was at a loss to know what to do. A novel expedient soon occurred to him, but its application resulted in total failure. Having noticed that by rubbing a cat's back electric sparks were generated in the fur, he tried the experiment of fastening the wire to the cat's legs, and, rubbing tabby briskly, waited for an effect upon the instrument, but none followed. His failure, he doubtless attributed at that time, to the crudely constructed instruments. It is proper to call particular attention to this incident here, as it is perfectly characteristic of the man. He will to-day undertake elaborate experiments and conduct them with great care and marvellous patience and perseverance, although his reason clearly points to their utter futility. It is this peculiar trait, however, which has led him into lines of original discovery and observation unattempted by others.

Edison now became absorbed with the telegraph, and speedily very proficient as an operator. He took charge of the telegraph office at Port Huron, but soon quitting the railway telegraph service for the higher branch of commercial telegraphy, we find him occupying positions successively at Indianapolis, Cincinnati, Louisville, Memphis and Boston. While at Cincinnati, in 1867, he conceived the idea of transmitting two messages over

one wire at the same time; this had been attempted by electricians many years before, but of this fact Edison was totally ignorant, and he continued to make experiments in every branch of telegraphy, attending to his office duties at night, and experimenting in the day-time. It was this compulsory division of labor which founded the habit, now too strong to be shaken off, even by the combined pressure of family and health considerations, and which is commented upon as an eccentricity by those who do not appreciate the power of a long-established habit in the division of one's mental labor. It is unquestionably a fact that Mr. Edison finds his brain more active in the small hours of the night than at any other time, for nearly all his most valuable and brilliant conceptions have been made just before the break of day, when a general discussion of their merits would be had with his assistants, and drawings made for his workmen to use the next day.

In his earlier, as well as his later days, Mr. Edison's entire earnings were spent in these experiments, he having few personal wants, and no vicious extravagances of any kind. In Louisville, Cincinnati and Boston, he always had a laboratory of greater or less magnitude. In 1869, he left the operator's chair entirely, and went from Boston to New York with a duplex and a printing telegraph, the latter being the basis of nearly all the Gold and Stock Exchange reporting telegraph instruments. In New York he soon formed an alliance with electricians and manufacturers, and after years of varied experience with partners in the laboratory and in the shop, has finally and firmly established himself upon an independent footing in an extensive way, at Menlo Park, N. J., where he is surrounded with everything which can contribute to domestic comfort or facilitate future invention and research. His property consists of a well-constructed and furnished laboratory, with chemicals, telegraph instruments of every description, &c., &c., in its comprehensiveness being second to no other establishment of the kind in the United States, having a factory with steam power, for the construction of models; a foundry for casting iron and brass; a handsome villa, with stables and outbuildings, and comfortable cottages for his assistants and workmen. Among Mr. Edison's contributions to the telegraphic art, we find sixty patents and caveats assigned to the Gold and Stock Telegraph Company, of New York, fifty to the Automatic Telegraph Company, and some thirty patents and numerous caveats for miscellaneous inventions; in all, a total of one hundred and thirty-nine patents and sixty-seven caveats,—all taken out since 1870; and every week this vast number receives an augmen-

tation. He is joint inventor with E. A. Callahan, of the American District Telegraph instruments (the modern messenger service); inventor of the main features in the Gold and Stock Reporting Telegraph; inventor of the Domestic Telegraph System (another messenger service); inventor of the American Automatic (chemical recording) System; inventor of a Chemical Recording Automatic Roman Letter Printing Telegraph; inventor of the celebrated quadruplex system, now so extensively used by the Western Union Telegraph Company; inventor of numerous forms of duplex telegraphy; inventor of the electric pen, which is fast becoming popular as a substitute for circular printing; inventor of the electro-motograph, for which he received the *eighth* patent issued by the United States for original discovery,—besides other inventions of more or less value, which it would occupy volumes to describe; and, *last and greatest of all,*

THE PHONOGRAPH,

OR TALKING MACHINE,

of which a brief description is here appended.

DESCRIPTION.

It is seldom that poet, novelist or inventor, ever obtains honor or fame, or even emolument while he is yet in a condition to be benefited by it. As a rule, if they ask bread they get a *stone*, and even that recognition is delayed until they are dead, and then it is in the shape of a *grave-stone* or a *monument*. The inventor of the Phonograph, THOMAS ALVAH EDISON, of Menlo Park, N. J., is, however, a notable exception to this rule, for he is not only THE GREAT INVENTOR OF THE AGE, but his claim to that proud title (though he is far too modest to assert his right thereto) has been universally awarded and acknowledged by citizens and *savants*, scientists and artisans, in every habitable portion of the earth. He will have no need of monuments or cenotraphs to sound his praises or record his benefactions; for, on the great highway of waters, to the utmost limits of America's rock-bound coast, and Albion's chalky cliffs, his Phonograph will speak to generations yet unborn, and tell of thousands rescued from shipwreck, and of nationalities made wealthy and powerful by the miraculous emanations from his fertile brain; and we shall be enabled *literally* to assert of Mr. Edison that, "He, being dead, yet *speaketh*," through his inventions. His great master-piece, the Phonograph, is neither costly, cumbersome, nor complicated; the essence of its unspeakable value to the world at large, is its perfect simplicity, its compactness, its cheapness and its universal utility. As a *recorder*, it is unerring and accurate; as a warning signal, it is reliable, ever on the alert, and *outspoken;* no opposing forces can restrain or overwhelm it; and as a confidential auxiliary, an infallible, untiring coadjutor in all matters of commercial, social, political and private import, it is simply unsurpassable and unapproachable.

As you will perceive, on entering the hall, it is a very unpretending and almost insignificant little instrument. You search in vain for the elaborate system of wheels, weights, pulleys, levers and bands, which its wonderful properties would naturally lead you to expect. It is a single small-sized iron cylinder, mounted upon a shaft, at one end of which is a crank for turning it, the whole being supported by two iron uprights. In front of this cylinder is a movable bar or arm, which supports a mouth-piece of gutta-percha, on the under side of which is a disk of thin metal (tin-plate, $\frac{1}{64}$ in.) such as is ordinarily used for taking tin-type portraits. Against the centre of the lower

side of this disk, a fine steel point is held by a spring attached to the rim of the mouth-piece. An india-rubber cushion between the point and the disk controls the vibrations of the spring. The cylinder is covered with a fine spiral groove running continuously from end to end. In using the Phonograph, the first operation is to wrap a sheet of tin foil closely around the cylinder. The mouth-piece is then adjusted against the left-hand end of the cylinder so closely that the vibrations of the voice on the disk will cause the point to press the tin-foil into the groove, making minute indentations, (proportionately to the sharpness, softness or strength of the tone) resembling on a very small scale, the characters of the Morse telegraph. The cylinder is moved from right to left by the screw crank, so nicely adjusted that the steel point is always against the centre of the spiral groove. While turning the crank, the operator talks into the mouth-piece in a voice slightly elevated above the tone of ordinary conversation. Every vibration of his voice is faithfully recorded on the foil by the steel point, the cylinder making about one revolution to a word.

In order to reproduce the words — that is, to make the machine talk — the cylinder is turned back, so that the steel point may go over the indentations made by speaking into the mouth-piece. Now, it is optional with the operator whether he uses the funnel or not, for, like the ladies, *it will speak anyhow*, the funnel only being used to *concentrate the sounds* as they issue forth. This funnel is shaped like a speaking-trumpet, and on putting it to the mouth-piece and turning the crank again, every word which has been spoken into the mouth-piece is exactly reproduced with the utmost distinctness.

Thus the disk is either a tympanum or diaphragm, as the case may be,— the first when it listens, and the second when it talks. Herein it seems to have got ahead of that other marvellous construction, the human body. In our anatomical economy, the contrivances by which we are enabled to hear and talk, are not only separate and distinct, but are also much more complicated than the method by which the Phonograph accomplishes the same results.

The Phonograph sets an admirable example to many of us; for it never speaks until it has first been spoken to. It has no original ideas to advance; or else, like its ingenious inventor, it is possessed with that innate sense of modesty and retirement that precludes the possibility of its annoying the public with the utterance of unrife fancies and crude speculations. The Phonograph only consents to astonish the world at the instance of some dominant and controlling mind. When it is about to exhibit itself, an operator must be on hand to put it through its paces. It is, unlike many persons, tractable, teachable and humble (not the "Uriah Heep" sort of humility, however, for it will keep no secrets, but will ever be faithful, outspoken and devoid of all treachery).

HOW TO ADDRESS THE PHONOGRAPH.

As, doubtless, ere long, every one — merchant, statesman, tradesman and private citizen — will be the owner of a Phonograph, it is advisable to know how to address this powerful little instrument. The speaker should place his mouth fairly over the mouth-piece, but not touching it; he should distinctly enunciate every word and syllable, *not* in a strained, stilted tone of voice, but clear and resonant, with the natural inflexions and intonations, a *little louder* than in ordinary conversation. It will then faithfully *record* and *reproduce* every syllable you have uttered, with all the defects of vocalization, all the failures, all the emphases and pauses, and all the incidental interruptions which may have occured during your address. It will whistle, sneeze, cough, sigh, echo or rather duplicate the agonized yelp of the unfortunate cur outside; render in the most exquisite manner possible (that is, if the *performer* sustains his part well), the last new *morceaux*, vocal or instrumental. In a word, it will register and accurately re-produce every sound coming within the scope of its *ear*. Nor is its capacity confined to *one voice at a time*; it will, with equal ease and accuracy, produce a duet, trio, quartette or chorus; and render the warblings of each person as clearly and distinctly, in the most perfect harmony, as they were originally produced. It would be useless to trouble our readers with a repetition of *what it has done, or what it can do.* It is now waiting to do your bidding, and will successfully sustain any test you may think fit to apply.

We will now speak of

THE PHONOGRAPH OF THE FUTURE.

That is, the numberless uses to which, in the *immediate future*, the Phonograph will be (and has even already been) put by Mr. Edison, its inventor. Up to the present moment, Mr. Edison has had issued to him more than 170 different patents; in the preliminary experimenting and production of these 170 patents he has spent over $1,000,000 of *his own money* (not other people's), and he has kept a staff of upwards of 300 scientists and skilled artisans in constant employment at one time during the last two or three years. This large amount, obtained by Mr. Edison from his numerous inventions, he has conscientiously expended in *further experimental researches*, as, personally, he cares nothing for money or high living. His staff and his expenditure in promoting and bringing to a practical use in every-day life these improvements on the original Phonograph, are daily receiving large augmentations. What their ultimate limit will be no one can tell. But to our subject. The inventor himself writes, in a communication to the *North American Review*, that "there are certain stages in the development of the Phonograph which have actually been reached; others positively in progress

and clearly within reach, and still others which, though to-day only classed as possibilities or probabilities, will, doubtless, before another year or two has elapsed, become actual achievements. We will, however, confine ourselves to the actual and the immediately probable, in order that some idea may be formed of what the Phonograph of the year 1878 is and will be. The Phonograph may honestly be said to have reached a stage of development, demonstrating and possessing the following features :

1. The captivity of all manner of sound waves heretofore designated as "fugitive," and their permanent retention.

2. Their reproduction, with all their original characteristics, at will, without the presence or consent of the original source, and after the lapse of any period of time.

3. The transmission of such captive sounds through the ordinary channels of commercial intercourse and trade in material form, for purposes of communication, or as merchantable goods.

4. Indefinite multiplication and preservation of such sounds, without regard to the existence or non-existence of the original source.

5. The captivation of sounds, with or without the knowledge or consent of the source of their origin.

The application of these properties of the Phonograph and the various branches of commercial and scientific industry presently indicated, will require the exercise of more or less mechanical ingenuity. Conceding that the apparatus is practically perfected in so far as the faithful reproduction of sound is concerned, many of the following applications will be made the moment the new form of apparatus, which is now in course of completion, is finished. These, then, may be classed as *actualities*, but they so closely trench upon other applications, which will immediately follow, that it is impossible to separate them. Among the more important may be mentioned : letter-writing and other forms of dictation, books, education, public or private readings, music, family record ; such electrotype applications as books, musical boxes, toys, clocks, advertising and signaling apparatus, speeches, &c., &c.

LETTER-WRITING. — The apparatus constructed for this purpose will, in reality, be the "Standard Phonograph"— and may be used for every other purpose which we have named, except such as toys, clocks, &c., which require a special matrix, in order to render the power or repetition indefinite and illimitable. From 150 to 200 words per minute can be received and faithfully recorded by the instrument in this special form, "for commercial and social purposes." The sheet of tin-foil is ten inches square, and is capable of containing 42,000 words on that space of surface. Of course, it would be much better, for the purpose of letter-writing or dictation, to confine the record to 200 or 300 words on each sheet, for convenience of transport and preservation.

[We would here remark that, in future, every form of the Phonograph will be impelled by *clock-work* or *machinery* suited to the special purpose to which it is to be put, thereby insuring perfect uniformity and accuracy of pitch, intonation and regularity of utterance.]

By this means dictation on any subject can be given without any further effort than that necessary in dictating to a stenographer. It can then be removed from the cylinder, placed in a suitable form of envelope, and sent through the ordinary channels to the persons for whom designed. They, on receipt thereof, place it on *their* Phonograph, start the clock-work and *listen* to what their correspondent has to say. Inasmuch as it gives the exact tone of voice of his correspondent, it can at once be *identified.* It may then be filed away with the other letters, retained as a *permanent record*, and be reproduced at any time, and as many times as occasion may require. As two sheets of tin-foil can be indented at one impression as readily and accurately as a single one, a *duplicate* copy can always be kept. The merchant may thus be enabled to *dispense with the services of a confidential clerk*, and at the same time *ensure perfect privacy.* These letters may be dictated at home, or in the office of a friend; and the dictation as rapid as the thoughts can be formed or the lips utter them. *Alterations*, *additions*, interjections, emphases, &c., &c., can be thrown into the instrument *ad libitum*, and be recorded with the same accuracy as the original letters.

As a media for recording evidence of witnesses, arguments of counsel and decisions of Judges, the Phonograph will be invaluable, for no *exceptions* or *allegations of errors* can possibly be laid to the charge of this instrument. In the same way it will be available for use in immortalizing lucubrations of our public speakers.

Books. — These may be read by the *professional* or amateur reader employed for the purpose, and kept on record in blind asylums, hospitals, the sick chamber, and public institutions generally, and even in the domestic circle, to be produced on any occasion when it may be required to while away an idle or weary hour. The ordinary record-sheet, repeating this book from fifty to a hundred times, as it will, would command a price that would pay the original reader well for the slightly increased difficulty in reading it aloud in the Phonograph.

For Educational Purposes. — In this respect it will prove one of the greatest benefactions to the community generally, and to the children and youth particularly, that this or any past age has ever known. By its aid the Primary and Grammar school teachers, and the private governess, will be able to render the intonations and inflexions with the most perfect accuracy and intelligibility to the dullest child, and relieve themselves of by far the greater portion of the tedium and constant reiteration which they are now compelled to practice. The scholar will be able to pronounce and spell words understandingly, and pursue his elocutionary studies with due regard

to emphasis, exclamation, pathos and vehemence suited to his theme. Furthermore, his music-lessons (rudimentary as well as advanced) will be divested of three-fourths of the labor and difficulty which now environ them. The sublime strains of a Patti or Kellogg, and a Cary, will be produced in all the native purity and exquisite taste of their gifted originals. The scholars' taste will be elevated and refined, their ideas will be developed, and their mind enlightened far beyond the powers of the present educational facilities (with all their advantages) to achieve; *and all this will be accomplished by the teacher executing his task* BUT ONCE; the Phonograph will faithfully repeat it, time and time again, as often as it is called upon to do so. It may well be termed the *Instructor's Saviour* and the *Youth's best Friend.*

MUSIC. — The Phonograph will, undoubtedly, be largely devoted to musical purposes. A song sung into the Phonograph will be re-produced with marvellous accuracy and power. By its means the last new composition (vocal or instrumental) can be transported by the usual postal channels, to thousands of homes within twenty-four or forty-eight hours, and thus a new and inexhaustible source of pleasure and amusement be brought within the reach of every domestic circle in town or country. Not only solos, but duets, trios, quartettes and chorusses, can be produced in perfect harmony and time. As a musical teacher it will prove invaluable.

FAMILY RECORDS. — As a means of preserving the last words, the words of wisdom, the best thoughts of our nearest and dearest friends; of retaining and reproducing the oratorical and literary gems of our great statesmen, philosophers, poets and philantropists, it will outvie in economy, accuracy and safety, all previous contrivances. Phonographic books and sheets may then be multiplied indefinitely and circulated broadcast over the land, and we shall, at our own will and pleasure, be enabled to recall those familiar tones which in our youth we heard, from rostrum, from pulpit and from the legislative halls, with the same thrill of rapture and intellectual enjoyment we felt when they were first uttered. As we before remarked, a single sheet of tin-foil ten inches square, can be made to contain 42,000 words (equal to one of Dickens' or Bulwer's novels).

MUSICAL BOXES, TOYS, &C.—The musical box, or cabinet of the present, will be entirely superseded by the Phonographic Cabinet, which will give the actual voice of the newest *prima donna*, or the exquisite melodies of a Liszt, a Mozart, or a Beethoven, will be rendered in all their beauty. The doll will cry, laugh, sing or speak in natural tones; and the animal or mechanical boy will be supplied with its proper and characteristic sounds, so that the *identity* of the thing or animal the boy is supposed to represent, may be at once recognized by the child.

CLOCKS, ADVERTISING, &C.—The Phonograph suited to these uses is so nearly allied to toys, that definite description is unnecessary.

THE TELEPHONE AND THE PRESENT SYSTEMS OF TELEGRAPHY, which

now simply *transmit* sounds and words, but leave no record of them, will be made *entirely perfect*, and furnish an imperishable record—thus becoming one of the most valuable, commercial and social auxilaries which science has yet conferred on the community.

Among the most useful, practical, and important of the numerous inventions recently projected from the prolific genius of Mr. Edison, are the following,—each of which are doubtless destined to effect a thorough revolution in the several departments of science, commerce, or domestic life, in which they will take an active part. These are selected from nearly one hundred and fifty other inventions now actually in operation, and which are constantly receiving large additions.

THE PHONOMOTOR,

is a curious little instrument, invented by Mr. Edison, in practical reply to a jocular challenge from a friend, who asked him, "Why don't you invent a machine to talk a hole through a board?" He thought a moment, and replied, "I guess I can?" The practical result is a kind of steam *drill* or *augur*, which is rotated at an extremely rapid rate, but can *only* be set and kept in motion by the human voice.

THE MOTOPHONE,

or *Sound Engine*, is an invention in which electricity, chemistry, and sound vibrations are equally employed in producing a modernized edition of the æolian harp. As a scientific toy, it will be one of the most interesting productions of the day, and will be a welcome visitant to drawing-room or parlor in city or country. It is, in fact, a harp, connected with a wheel covered with chemically prepared paper by means of a steel bar, which communicates with a telephone at the other end, whereby the *musical tones* of any air sung into the telephone at a distance, may be reproduced in perfect harmony.

THE TELEPHONOSCOPE

is to the ear what the telescope is to the eye. As the eyes receive and transmit the vibrations or waves of light, so the ear receives and transmits the vibrations of the air, set in motion by the human voice at a distance. On this principle, Mr. Edison has constructed his little instrument for the *use of deaf persons*, so that, without any perceptible apparatus, *such as an ear trumpet*, the softest whisper may be heard. The telephonoscope may easily be concealed within the outer lobe of the ear, the spiral wire within the tube rendering the slightest motion or speech distinctly audible at a distance of from one to two miles. Mr. Edison is now engaged in perfecting this instrument to practical every day uses.

THE THERMOPILE

is intended to act as an accurate *heat measurer*,—and will be found an invaluable auxiliary to telegraph operators, constructors of scientific instruments, and in all departments of science in which the gradation of heat (natural or artificial), is essentially a party by its use. Astronomers, meteorologists, and professors of the sciences of chemistry and telegraphy will find it a reliable and invaluable coadjutor, as it is capable of measuring the heat of a star or other body, regardless of distance or other surroundings.

THE HARMONIC ENGINE

is one of the most powerful, and will speedily become one of the most popular of Mr. Edison's numerous inventions. It is simply a bent bar of iron, four and a half feet long (a horse-shoe magnet), with thirty-five pounds weight attached to either end. Connected with a *battery of four cells* (at a cost of three cents a day), it can be used as a pumping machine to convey water up a three or four-storied house, or it may be employed as a motor-engine to drive any number of *sewing machines*, or other mechanical appliance. It has all the force and power of a one-horse power engine, and can be brought into service, either to set in motion a small fluting or sewing machine, or to do all the *heavy work of a small factory*. Mr. Edison quaintly remarked in reference to it, that it was too simple to get out of order, the magnet opening and closing its own circuit. It is the very acme of simplicity and power, of reliability, durability and compactness. In all electrical machines hitherto produced, nine-tenths of the power is lost; in the Harmonic Engine, only one-tenth is expended.

The following

CONTRACTS AND PROPOSITIONS

in relation to Mr. Edison's Phonograph, are now actually under consideration, or in process of construction:

AT THE CAPITOL AT WASHINGTON.—Huge Phonographs are in course of construction for the use of the several Governmental Departments; for the Minister of State; the Senate and the House of Representatives. They are so constructed that the speaker's words may be faithfully recorded at a distance of one hundred feet from the mouth of the instrument. It is anticipated that these instruments will be in use at the commencement of the session for 1879.

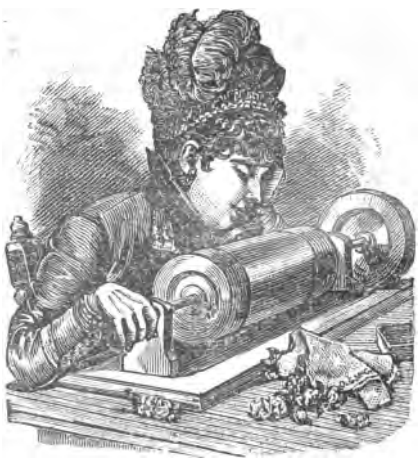
It is also proposed to *lease out and issue Phonographs* for the use of merchants, commercial men, hotels, &c., and at the homes of private citizens, in the same manner as pianos, sewing machines, &c., &c., are now disposed of.

Negotiations are also pending, and will speedily be concluded, for the establishment of *Ærophones*, or *Long-distance Phonographs*, at every signal station and light-house on the oceans, seas and bays within the limits of the United States,—by means of which, the words of warning may be distinctly heard, far above the roar of winds and waves, for a distance of from four to eight miles.

Lastly, propositions have been made to construct a *monster Disc* (or rather series of Discs), to be placed in the interior of *Bartholdi's colossal Statue of Liberty*, now in course of erection at the mouth of New York Harbor,—the sounds from which may he heard, not only by all the foreign and other ships in the bay, but easily distinguished from one end of the Island of Manhattan (or New York City), to the other.

We feel assured that, after an unbiassed and deliberate perusal of this brief but strictly truthful description of the *Phonograph of the Future* and the Phonograph of the Present, our readers will heartily and readily accord to it its rightful position as

THE TENTH WONDER OF THE WORLD!



EDISON'S SPEAKING PHONOGRAPH.