# CAMPBELL


MANUFACTURED BY

## CAMPBELL ELECTRIC CO.

*Lynn, Massachusetts, U. S. A.*

Campbell
ELECTRIC CO.
LYNN.MASS.
TRADE MARK REGISTERED

# Campbell X-Ray and High Frequency Apparatus

## IS STANDARD OF THE WORLD

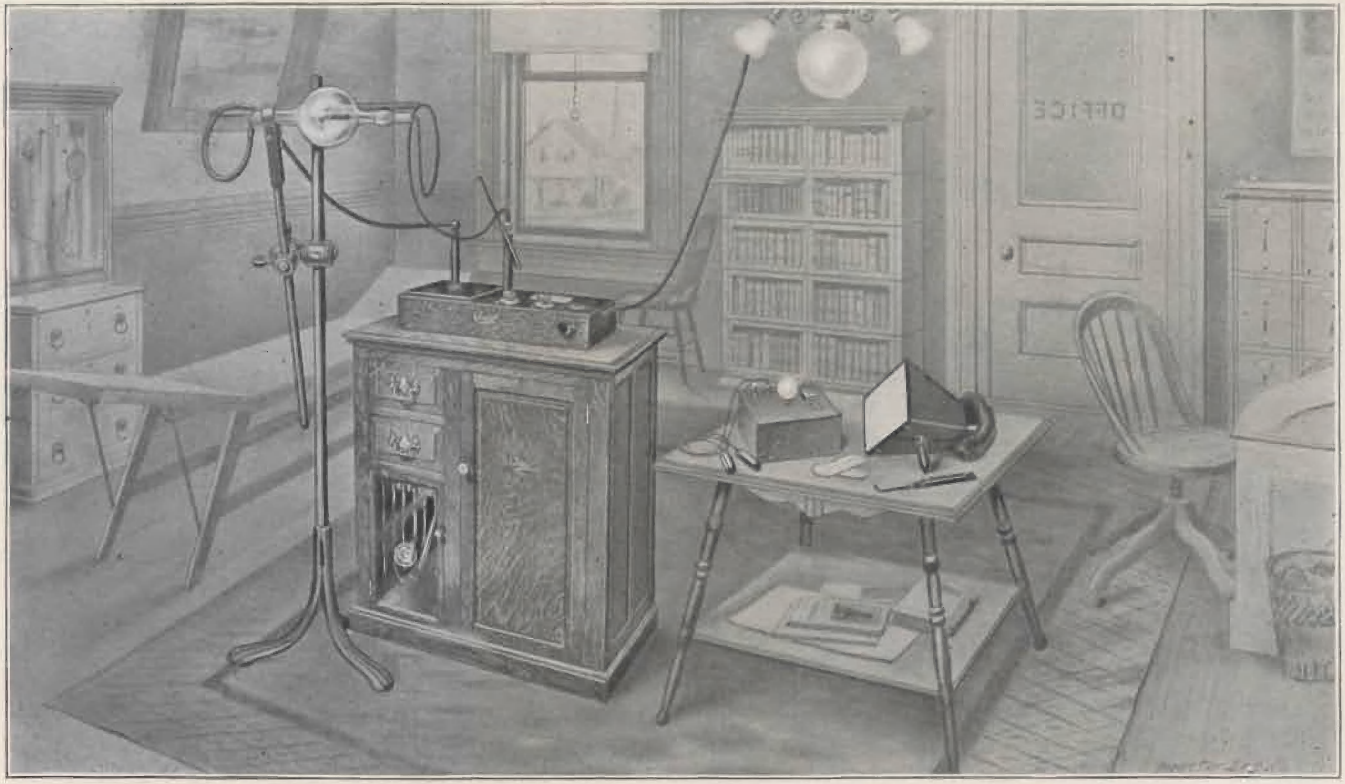
*IT HAS NO PEER*

MANUFACTURED BY

## CAMPBELL ELECTRIC COMPANY

LYNN, MASSACHUSETTS, U. S. A.

*Catalogue No. 29* *July 1, 1908*



MODERN OFFICE EQUIPMENT.

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and our book "Practical Electro-Therapeutics"

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or ask any one of our customers whom you will find in every state in the United States and in foreign countries.

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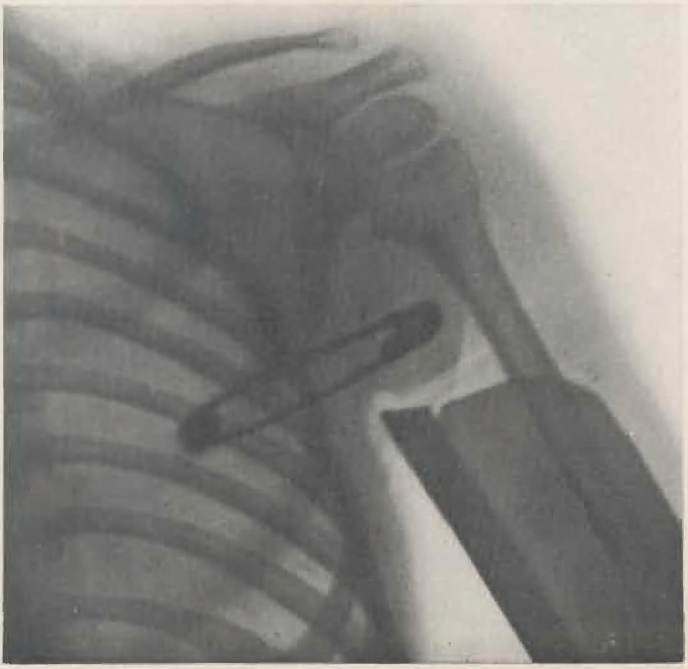
*Campbell Apparatus absolutely guaranteed against inherent defect*

# RADIOGRAPH MADE WITH A CAMPBELL COIL.



**Shows bone through tin splint**

**A prominent Massachusetts surgeon who is using a Campbell Coil says:**

"The Coil is doing splendid work, both in High Frequency and X-Ray. It has been in use nearly five years and to-day is in perfect condition. I freely recommend it to my friends, without reserve, knowing what it will do, and also knowing that your company will do just as they agree."

# THE AGE OF ELECTRICITY

## (READ AND LEARN)

Historians and writers on political economy make an arbitrary division of epochs into certain ages which take their names from the material or force which has played the most important role in the world's development at any given time. Commencing with the stone age, we have gone up through the scale, — Copper, Bronze, Iron, Steel, etc. Within the memory of many of us we have advanced from the age of Steam to the *Age of Electricity*, in which we are now living.

Although electrical energy has been recognized for a long time, it is only within a comparatively short period that it has been commercially useful, but, within the last quarter century especially, it has become the chief servant of man in many of the arts and sciences, and today, were we to be suddenly *deprived* of its use, the world would come to a standstill.

It was *early* surmised that electricity would have an important part in the armamentarium of the physician, and more than a *hundred years* ago Franklin made a number of experiments upon the human subject with the static spark and several of the other static modalities. Following the discovery of the Galvanic and the Faradic currents, they in turn were brought into use within the field of medicine. For various reasons the use of electricity in the practice of medicine *was* limited for a long time to two classes of practitioners, the specialist who had given much time and study to the matter, and the charlatan who had given little or no study, but depended upon the credulity of his victims and the tendency of human nature to regard with veneration, almost superstition, that which is more or less mysterious. As a result the general run of practitioners either openly confessed that they knew little or nothing of the subject, or, "damned it with faint praise," even in cases condemning it. As a proof of this, look within the pages of your standard work on nervous diseases, issued twenty-five years ago.

Such was the status of electricity in medicine *twenty-five* years ago. Suddenly there was published throughout the world the wonderful *discovery of the X-Ray*. This discovery not only opened up a new field of usefulness, but also gave a wonderful impetus to electro-medical science, which otherwise might not have been attained in a century of ordinary progressive development. It was soon discovered that to make the X-Ray of practical value the exciting apparatus must be rendered more powerful, that a generating apparatus of high potential was a prime requisite. This led to the development of the static machine, and within a few years the market, both Continental and American, was flooded with all sorts and descriptions of static machines. At about the same time was developed the use of the static as a producer of therapeutic currents, and a heretofore little used apparatus came into more or less general use. The use of this machine as an exciter of X-radiance, however, soon showed its limitations. A small static machine was totally inadequate and the large expense of a more powerful one was prohibitive as far as its use by the general run of practitioners was

concerned. It soon became evident that in addition to a high *potential* there was needed an increased *volume* of current to bring the use of the X-Ray tube to its highest efficiency. The limit of possibilities in the development of the static was soon reached, and still the production of a radiance sufficient to render possible the making of a plate within a reasonable time of exposure, save in the case of thin portions of the body, or the thicker portions of a thin subject, had not been attained. Following the general law of economics, this necessity stimulated the discovery of the required means, and the result was the *coil*. The constant pressure brought to bear by the demand of operators for more perfect and more powerful apparatus wonderfully stimulated the activity of the manufacturers, and the evolution of the coil to its present state of perfection has been wonderfully rapid.

The direct offspring of the coil was the *high frequency current*, and with its discovery the position of electricity in medicine took an entirely new importance. Advanced thinkers in the field of medical research bent all their energies to the development of perhaps the most important discovery of the century, and the wonderful new remedial agent was soon adapted to the intelligent and effective use of the profession.

High Frequency currents and the X(Roentgen) Ray are now recognized as standard therapeutic agents. Their immediate application is simple and easy. The results approach the miraculous, almost beyond belief; indeed belief would be impossible were the report of wonderful and unexpected results not backed up by the undoubted reputation of the men who are making them the world over.

Many physicians and surgeons have suddenly come into prominence, have found themselves advanced at a leap from comparative mediocrity to a position of authority, and, as a secondary but by no means less gratifying result, have advanced from a condition of more or less precarious *income* to one of competence.

Such successes have been possible because these men have been quick to see the possibilities of Electro-Therapy. They foresaw the trend of the age, —prognosed the case, as it were.

The success of every intelligent physician who adopts Electro-Therapy is just as certain. The great field has been only entered by the pioneers. A wide variety of affections, as diverse as the patients, presents unlimited opportunity for the development of Electro-Therapeutics.

The *trend of the age is electrical* and practical. Electric cars have displaced the horse car because they are more rapid and more practical; in the same manner the telephone has superseded the messenger boy; electric lights the other illuminants; in short, more rapid and precise methods are succeeding the cruder methods of past years. The same is true in the medical field. There is a reaction from the excessive use of drugs, which today play a subordinate rather than a leading part in the daily routine of the physician. Much more thought is being given to the question of sanitation, hygiene, dietetics, suggestive methods of treatment and divers mechanical and physical methods. Among these newer methods of treatment no single means of therapeutic application has received so much attention among the profession, or been so *widely exploited among the laity* as the modern scientific application of the newer and more powerful electrical currents, and the physician

who *ignorantly* or *willfully ignores* this fact is *behind the times*, doing injustice not only to his patient but to himself.

The older forms of electrical treatment by means of the galvanic or faradic current were extremely local in their effect, depending largely for their efficiency upon exact application to definite nerve areas, and when so applied more or less superficial and limited in their effect. Each was capable in unskillful hands of producing not only no relief of existing conditions, but even actual harm to the patient. Their intelligent and effectual use demanded more time and special study than could well be given by the general practitioner and as a result was limited to a comparatively few specialists competent to use them, and we fear to another class, of practitioners in whose hands their chief function was to produce a strong mental impression upon the patient, with little or no knowledge of, or regard to, the actual physical effects.

With the introduction of the *High Frequency Currents* all this became changed. This form of treatment is *real*; it is *definite*, it is *scientific*. It goes immediately to the *seat* of trouble, it reaches the nerve centres, stimulates nutrition, promotes metabolism and puts new life into the patient. Its field of usefulness is apparently limited only by the actual number of abnormal conditions. With this increased field of usefulness the installation of some form of High Frequency Apparatus becomes *not only a convenience* but almost a *necessity* to the general practitioner. He is almost compelled to do this in self protection. In these days people are reading and thinking for themselves. The current literature of the day as well as the lay press is more or less filled with reports of wonderful results obtained by the use of the X-Ray and the H.F. currents. With the usual propensity of the lay writer to mangle and distort all medical topics, many of these articles are more or less amusing to the medical reader, but nevertheless there is in them so much of actual truth that even the medically educated man is fain to put more or less credence in them, and *what must be the impression on the lay mind?* Your patients will read, they will receive the reports of friends, they will desire to try the new treatment and will come to you, if they are loyal, asking for it. You can do one of *three things*, administer the treatment yourself, refer them to some one who will administer it, or talk them out of it. *Which course* will produce the best effect upon your patient and which course is most likely to result favorably to yourself?

Verifying the statement as to the attitude of the press in general, here are a few clippings:

*Here is a report of "X-Ray sure cure for Appendicitis" telegraphed all over the world by the Associated Press:*

New York—By accident Dr. Charles Harvey Archibald of this city has learned that appendicitis yields to the X-ray. He declares he has cured many cases in his private practice, and today publicly announced this discovery and offered to prove its worth before medical experts.

When an appendicitis patient comes into Dr. Archibald's office the physician places the sufferer in front of a Roentgen machine. Then he trains the powerfully penetrating ray upon the sore spot. Soon the swelling is reduced and the pain stopped. Five or six days later, after from four to six "applications," Dr. Archibald says a cure is effected.

"The new cure is so childishly simple that I would have never come upon it except by the merest luck," the physician said. "It is nothing more or less than the process of bombarding the congestion about the appendix with violet electric rays. The treatment causes the blood to return to the central circulating system."

*Another article reprinted from the New York Medical Journal in big Sunday papers in the leading cities of the United States with the alluring headlines "Making New Blood with Electricity":*

Sir James A. Grant, physician to Earl Grey, governor-general of Canada and consulting physician to the Montreal General and St. Luke's Hospitals, announced recently in an article in the New York Medical Journal that blood can be made by electricity, and that persons suffering from anemia can be benefited greatly thereby.

"An important fact, demonstrated clearly," says Sir James in his article, "is that blood can actually be made by electricity, by stimulating through the abdominal walls the ganglia that take part in the process of blood formation."

"For many years," he explains, "I applied electricity in the ordinary way, frequently with beneficial results, without knowing exactly the why or the wherefore. As the body is largely composed of water, holding in solution salts of potash and soda, it becomes an excellent electrolyte. In no part of the human system are the irregularities of life more marked than in the alimentary canal, where the defences of the organism permit the ingress of bacterial toxins. In this tract the blood becomes interrupted. Under such circumstances a perfectly stable nervous system is a rarity. Here particularly electrolysis becomes an important factor, giving new activity by establishing beyond doubt an average neuro-physic equilibrium."

He then introduces the passage quoted above about making blood. Among the cases cited is that of a man 71 years old, who had suffered for a number of years from muscular weakness and general debility.

"Electrolytic treatment through the solar plevus," he says, "given every second day for three weeks, brought about an entire change for the better. The patient now walks with ease and comfort and his face regained its red color."

*"To Keep Young and Feel Young Always" is the heading for a full page article, elaborately illustrated, in a series of Sunday papers including all the large cities of the United States. It was reprinted by such serious papers as the Boston Transcript as follows:*

(*Boston Transcript*)

A method of retarding the approach of old age by treatment with high-frequency electric currents is reported in The Medical Times (New York), by Dr. Samuel G. Tracy of New York. In Dr. Tracy's opinion, senility is a natural process, and should come on gradually and painlessly. Owing to inheritance or predisposition, as well as to the strenuous modern life, it creeps up before we are aware of it, and this is the time for the physician to protect his patient. When a man begins to get old, says Dr. Tracy, much can be accomplished to retard the symptoms. He goes on:

"It is admitted by many of our profession that arteriosclerosis (with loss of elasticity in the walls of the arteries) is really the beginning of old age The changes in the wall of the blood vessel are said to be due to hypertention and vitiated blood. The condition of the blood is due to autoinfection and the floating in the blood-stream of waste material. The waste material found in the blood is due to overeating, excessive drinking of alcohol, and autointoxication. In the latter case the chemistry of the system is unbalanced. . . . There is more waste than repair; the organs which preside over elimination of waste material being overtaxed are unable to efficiently take care of the excess, and consequently some waste material floats in the blood-stream, acting as a poisonous substance, vitiating the 'rivers of life' and degenerating the 'river beds.' . . . When arteriosclerosis has manifested itself by hypertention in the blood vessels, strong emotions, excessive mental excitement or physical strain is likely to endanger life by a sudden rupture of a small vessel in the brain. . . . An artery of the body can be compared with a flexible rubber tube, used for a drop light, and filled with illuminating gas. Continual overpressure of gas within the tube will affect the walls of the tube, and diminish its elasticity. If the tube is slightly damaged or obstructed, increased pressure of gas may cause a fissure in the inner wall of the tube. To make the tube do good practical work it is absolutely necessary to moderate the pressure of the gas. So it is with our arteries. When arteriosclerosis first makes its appearance we must reduce the pressure in the blood vessel. While old age cannot be prevented, we have agencies at our disposal which will materially assist in retarding it, and in making its symptoms more comfortable. These agencies are *high-frequency electric currents*, diet and hygiene. The physiological effects of a high-frequency current are due to the spark, or condenser effect, which produces mechanical effect on the tissue, an increased heat in the body, and the formation of ozone and ultraviolet light. The local action is accomplished by a general reaction, the blood pressure is lowered, and combustion through the lungs is increased. The eliminative processes are generally stimulated."

It is claimed that very interesting results are obtained by the use of such high-frequency treatment, combined with proper diet and hygienic precautions.

**WOULD USE X RAY TO TELL AGE OF CHILDREN**

**Plan is Advocated by Dr Rotch, Who Declares That Chronological Age is Not Modern and Must Disappear**

In the near future, when the child goes to school, the teacher, instead of asking its age, will have the X-Ray turned upon its wrist and then place the little one in one of three class divisions, A, B or C, according to the bone development which is seen there. That at least is the plan which Dr. Thomas Morgan Rotch, a prominent Back Bay physician, wishes to see put into practice when he has finished his investigations on the subject. At the Children's Hospital he has been working on this for six months and has examined about 400 children. "Chronological age," he said in his lecture on 'The Sick Child' at the Harvard Medical School yesterday afternoon, "must disappear. It is not modern.

"Investigations show that we do not know how old children are. Take a child chronologically 10 years old. He may really be anatomically 9 or 11 years old. Which age he is can be told by an X-Ray examination of the wrist. By-and-by when children go to school they will be placed according to their anatomical age discovered by the X-Ray."—*Boston Globe.*

In addition to the lively interest taken by the lay press, note the rapidly growing space given to electricity in the leading medical journals. The foregoing are only a few things that help to prove that, not only in other lines but also in the *medical world,* we are living in the *Age of Electricity.*

RADIOGRAPH MADE WITH A CAMPBELL COIL.

Plate made for fracture of wrist. Needle discovered in hand which patient did not know was there.

## If you have a Campbell Coil, the following currents are at your disposal:

**High Frequency** varying in intensity and volume from a current with frequency of alternation and voltage up to the hundreds of thousands, and of such minute volume that it may be applied to the eyelid without perceptible sensation other than a slight degree of warmth, or may be used on the most sensitive mucous membrane, down to a coarse current of a few thousand alternations that will discharge from the vacuum electrode a bombardment of sparks beyond the requirements of clinical work.

**Sinusoidal** An alternating current with the additional quality of varying strength or pulsations, producing variation of stimulating effects that can be obtained by changing the volume and force of flow of current.

**Thermo-Faradic** So called because by its use the sensations peculiar to the faradic coil are received, but, as it is a high frequency current it is possible to use a much higher voltage, therefore a large amount of current can be applied with a resultant sensation of warmth. This current can be varied between 1000 and 4000 volts.

**D'Arsonval** takes its name from Professor D'Arsonval of the Institute of France who formulated its effects and demonstrated their value in electro-therapeutics. It is like the Thermo-Faradic current, of high frequency and power, but of higher voltage (up to 15,000) giving a very energetic vaso-motor constriction.

**Cautery** The use of the electro-cautery is already so well known that we need only to say, that as a producer of cautery current the Campbell Coil has no superior. This current is of a low voltage and is also very valuable for operating diagnostic lamps.

**X or Roentgen Ray** The wonderful importance of this form of transformed electricity and its varied use, not only in anatomical photography but in therapeutics has been recognized for more than a decade, and to the accurate and scientific use of this potent agent much thought and study has been given on both sides of the ocean. With the advent of the X-Ray the treatment of cutaneous and malignant affections was revolutionized and, although all the early hopes with regard to overcoming of the dread cancer have not been fully realized, enough cures have been reported to make it still the best single means of treatment. Incidentally there has been demonstrated its unequalled value in the treatment of numberless cutaneous and glandular disturbances, certain forms of nervous disturbance and abnormal blood conditions. Its value as a means of physical diagnosis simply needs to be mentioned in passing.

RADIOGRAPH MADE WITH A CAMPBELL COIL.

**Showing normal center of ossification in a 13 year old boy.**

IT is an apparently anomalous statement, nevertheless a true one, that in spite of the infinitely increased potency of the H.F. currents over the other electrical modalities, and, in spite of their more profound and general effects, their administration is a simple affair, readily and quickly acquired by the general practitioner without much previous study. Their use is accompanied by little or no discomfort to the patient, and in spite of their use by thousands of practitioners, necessarily in the first place more or less tentative and experimental, THERE IS YET TO BE REPORTED ANY INJURY DONE THE PATIENT BY THEIR USE. Can as much be said of the galvanic and faradic currents?

Granted that there is a field for the use of X-Ray and H. F. currents, that their use by the profession generally is practicable and feasible, it is our desire to show you that we are putting out an apparatus that will not disappoint you and that will meet your requirements in every way.

With the advent of a comparatively new type of apparatus into any field it is a necessary result that the earlier efforts are more or less crude, and that with use develop defects. The result is, either improvement of apparatus, or the substitution of an entirely new type or principle. Our coil is not in the experimental stage;—in fact it never was, outside of our own laboratory! We put our apparatus on the market years ago as a practical

and simple coil, and more important still, at a moderate price. Hundreds of them have been sold and they are working to-day. This demonstrates two facts, practicability, and durability. Such changes as have been made from time to time in our apparatus are more in the way of increased compactness and convenience of handling rather than any departure from the principles of construction which we adopted in the first place. We *proved* its capabilities and limitations *at our own expense* and *not* at the expense and annoyance of our *patrons*. Perhaps you have helped test out some experiment in the coil line, weighed it and found it wanting. If not you are fortunate. Others have! *We offer you a tested and proven success.*

The Campbell coil is in size a little smaller than an ordinary dress suit case but don't judge its capability by its size. It is all kernel with just enough shell to cover it. We could have spread out its various windings and switches to fill a case as large as an upright piano, thereby doubling the selling price without adding one iota of value to its efficiency. Such coils have been made and sold. Have you seen them? One thing they accomplish. Possibly the impression on the patient is a little more awe inspiring. We have catered to the desire for a more imposing apparatus by designing our cabinet in which the ordinary coil may be set and become an apparent inseparable part of a rather handsome piece of office furniture. But, it retains the portable feature and at a minute's notice, can be removed, covered, put into your buggy, or automobile and taken *to the bedside* of your patient. It was the *first portable coil* capable of doing satisfactory X-Ray work at the home of the patient which could be attached to an ordinary electric light socket on a commercial current. CAMPBELL X-RAY AND HIGH FREQUENCY APPARATUS IS TODAY THE BEST APPARATUS OF THIS TYPE ON THE MARKET.

The majority of High-Frequency Coils are practically useless as a producer of X-Rays sufficiently penetrating to make them available for any but superficial work, and then, with a time of exposure approaching that of the discarded static. Two principal causes contribute to this condition. The H.F. current is an alternating current, while the current producing the X-Ray must be unidirectional; therefore one-half the phase of the alternating current is useless — worse than useless — for it produces in the *ordinary* tube a confusion of radiance which makes the production of a satisfactorily clear image next to impossible. A second cause was the failure to take into consideration a certain simple but important principle of construction upon which the production of efficient X-radiance depends. This principle we embodied in our coil from the start, and our early trouble was not insufficiency of ray producing current but to find a tube that would take the output of our coil at its maximum efficiency. This problem has been solved, and we have today several types of tube that are so constructed that the reverse ray is entirely choked, and of sufficient heat absorbing power to stand our maximum current for an interval of time equivalent to the longest necessary exposure.

With any apparatus, the making of a good radiograph is a matter that requires no little amount of skill and judgment on the part of the operator, and, with the most reliable of standard direct current coils, in the hands of skilled operators not every exposure means a resultant satisfactory plate.

Let us tell you what our coil of standard model, sold from stock some three years ago, has done and is still doing. It has made a plate of an adult hip in three minutes, giving good definition of the head of the femur and the acetabulum, and in the hands of the same operator has made some twenty hip plates in subjects varying from a child to a man of 350 pounds. In no case has there been a failure, and the maximum exposure in any case was six minutes, the average about five. In but two cases was a second trial necessary and these were both over-weight adults. It is making plates of the wrist, clearly showing the medullary canal of the long bones, cancellar structure and the distinct diagnosis of a crack without displacement; this in from ¾ to 1½ minutes. Foot and ankle in from 1 to 2 minutes; knee 1½ to 3 minutes; elbow 1½ to 3 minutes; shoulder 2 to 4 minutes. It has made dental radiographs distinctly showing nerve channel in one minute, and we believe it will do this every time. Much of this work has been done at the home of the patient, and so certain were probable satisfactory results that the entire apparatus has been taken home before development of the plate, and in but one instance was it necessary to repeat the exposure. This is what has been done and what you can do. It is not necessary to state that its efficiency as a producer of radiance for therapeutic purposes is in direct proportion to its radiographic power.

To resume then, in bringing our coil to your attention we offer you a tested and tried apparatus, long past the period of experiment and unknown efficiency, simple and durable in its construction, transformable into its various capacities in a small fraction of a minute, without complicated array of switches, everything for service and nothing for show. Its price is less than that of other types of apparatus which are available for high frequency alone, and you receive with this, absolutely *without cost*, an *X-Ray apparatus* which in definition and clearness of radiographs competes with direct current coils of double its price, avoids the dirt and bother of the mercury jet or electrolytic interrupter, and requires no care outside of dusting, and possibly once in several months a rubbing up of the surface of the spark-gap with a fine emery cloth.

It requires no special wiring or fusing of circuit and at its maximum output draws from the circuit *one-third or less* of the *current* that must be put through an electrolytic interrupter *before there is any current delivered to the coil.* It is absolutely guaranteed against breakdown, and is practically proof against careless or ignorant handling; to speak in the vernacular, "it is fool proof."

IF YOU *HAVE* A SATISFACTORY PRACTICE CAN YOU AFFORD TO BE WITHOUT THIS UP-TO-DATE *ADJUNCT* TO YOUR *EQUIPMENT?* IF YOU HAVE **NOT** A SATISFACTORY PRACTICE **CAN YOU AFFORD TO BE WITHOUT THIS MEANS OF ACQUIRING IT?**

TO SHOW THE WIDE FIELD IN WHICH BOTH THE X-RAY AND HIGH FREQUENCY CURRENTS HAVE BEEN EMPLOYED WITH SUCCESS, SEE OUR BOOKLET ENTITLED "PRACTICAL ELECTRO-THERAPEUTICS" WHICH HAS BEEN COMPILED FROM ACTUAL REPORTS OF CASES. THIS BOOKLET LISTS DISEASES ALPHABETICALLY WITH SUGGESTIONS FOR PROPER METHOD OF CURRENT APPLICATION, ALSO EXPLAINS HOW TO SECURE BEST RESULTS IN RADIOGRAPHY. FREE ON REQUEST.

RADIOGRAPH MADE WITH A CAMPBELL COIL.

Fracture of Wrist.

# SPECIFICATIONS AND PRICE LIST

## Model "D" Coil

### This Coil will give—

**X-Ray** of more than twice the volume of the best static machine. Unlike the latter it is not subject to variations in atmospheric conditions and is *always ready for use* by the simple turn of key on an ordinary lamp socket.

**A High Frequency** current ranging from a few thousand to many million oscillations—low enough to produce powerful muscular contractions, or high enough to fuse a steel wire or light an incandescent lamp through the body without sensation.

**A Thermo-Faradic** current of large volume.

**A Sinusoidal** current of variable strength.

**A D'Arsonval** current of large volume and high frequency for the treatment of defective metabolism, etc., or low frequency for exciting muscular contractions.

**A Cautery** current sufficient for all electro-cautery work.

**The cost of operation is very small** not exceeding four cents per hour for X-Ray work and less than one cent per hour for exciting the vacuum electrodes.

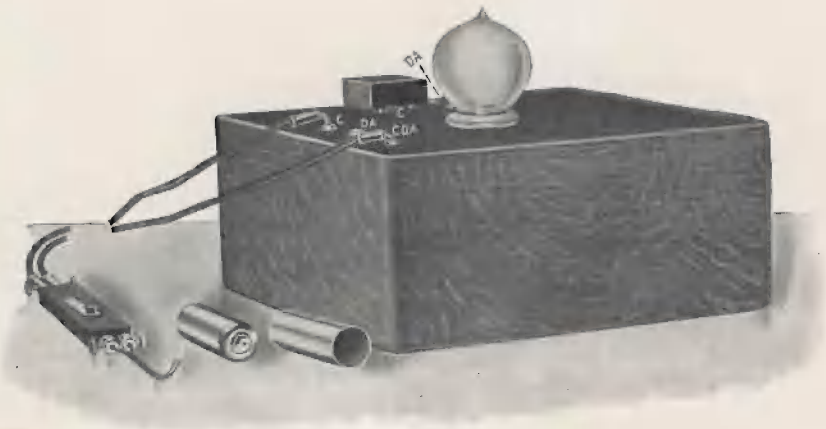
The coil is portable and is carried in a manner similar to a dress suit case. When set up ready for operation the cover, being a separate part, can be laid aside, out of the way, thus giving the apparatus the appearance of a fixture of stability rather than an outfit for temporary use. The finely finished oak case is of strong construction, with dovetailed corners. The carrying handle is of leather. All metal parts are highly finished in brass and nickel and the coil in general is (to use the words of one of our customers) "as near perfection as any one would want an X-Ray and High Frequency coil to be."

**No. 2.** (See cut on page 21) **PRICE $180.00**

## Cabinet

To meet the demand for a more imposing piece of apparatus we have designed the Model "D" Cabinet. It is made of quartered oak, beautifully finished, and makes a very attractive piece of office furniture. Contains two drawers for holding various parts of the equipment, a storage section in which there is a rack for holding X-Ray tubes and a place for fluoroscope. There is also a plate glass paneled door through which may be seen the vacuum electrodes, fluoroscent while coil is in use. The top is recessed to receive the portable coil in such a manner that when the coil and cabinet are combined they have the appearance of being inseparable. All metal parts are highly finished in polished nickel, and as all the quartered oak used in all our cabinet work is selected stock finished with a beautiful piano polish, this cabinet is a very desirable part of the equipment from an ornamental point of view as well as for its usefulness.

**No. 3.** (See cut on page 22) **PRICE $39.00**



## Cautery and D'Arsonval Outfit

This outfit consists of an attachment, interchangeable with the case containing the High Frequency Coil and greatly increases the range of usefulness of the apparatus. Delivers D'Arsonval current suitable for use with the various methods of application, including the auto-condensation couch. Can also be regulated to produce the Cautery current—that may be regulated at will to steadily heat cautery points to any necessary degree of intensity. There is also included with the outfit, black fibre cautery handle with switch, one cautery point, one pair conducting cords, (black silk covered); one pair metal hand electrodes and two block tin electrodes.

**No. 4.** For model D coil . **PRICE $21.00**
**No. 5.** " Standard " . . " **24.00**

## Floor Tube Stand

Constructed entirely of hardwood with exception of the base which consists of three cast iron legs of artistic design, with the greatest weight at the outer extremities, thus making a stand comparatively light in weight but at the same time one that will hold securely and properly balance the large X-Ray tubes. Also allows a range of adjustment at any angle from the floor to a height of over six feet.

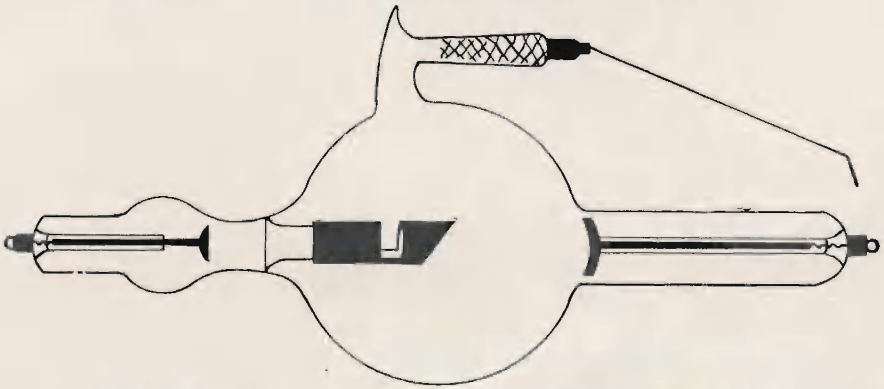
**No. 7.** (See cut on page 22) **PRICE $10.00**

## Fluoroscope

The fluoroscope is fitted with the best quality imported platinum barium cyanide screen, size five by seven inches and gives perfect definition. The frame is light, strong and of a shape and size most convenient to handle.

**No. 8.** (See cut on page 22) **PRICE $12.00**

# HEAVY ANODE X-RAY TUBE



Designed especially for use with the Campbell Coil. Target is very heavy and has a large heat radiating capacity. The discharge from one cathode only is utilized, the other cathode being focussed into a small hole in the rear of the target terminal Unquestionably the best high frequency tube made.

**No. 10. . . . . Price $18.00**

**LIGHT ANODE X-RAY TUBE.** For light work where it is not necessary to operate the coil full force.

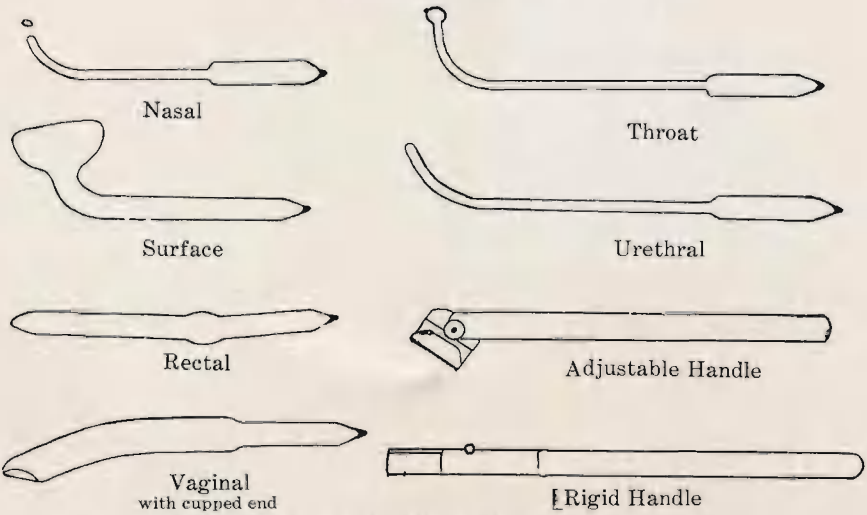
**No. 11. . . . . Price $14.00**

# CARRYING CASE

Designed for use of the physician who has a considerable amount of outside work to do. Arranged to carry Fluoroscope, X-Ray Tube, set of Vacuum Electrodes and small Tube Stand. Made of quartered oak, finished and trimmed to match coil case.

**No.12,** including small tube stand, **PRICE, $12.00**

# VACUUM ELECTRODES




## Set of Electrodes furnished with outfit

The above set is all that is required for ordinary work. It has always been our aim to manufacture only the best electrodes, and in this set, as well as in our other electrodes, tough, heavy glass is used, workmanship is of the best, and the set is durable and trustworthy.

**No. 9. Complete Set of Six, with Handle, $5.00**

# ROTARY CONVERTER

We find that when operating a high frequency coil on direct current a much smoother and better quality of current output is obtained by the use of a rotary converter of the design that we regularly furnish with our outfits. This converter can also be used as a motor. When coil is to be used on direct current add to price of outfit, for converter—

**No. 14. . . . . Price $35.00.**

# SUMMARY

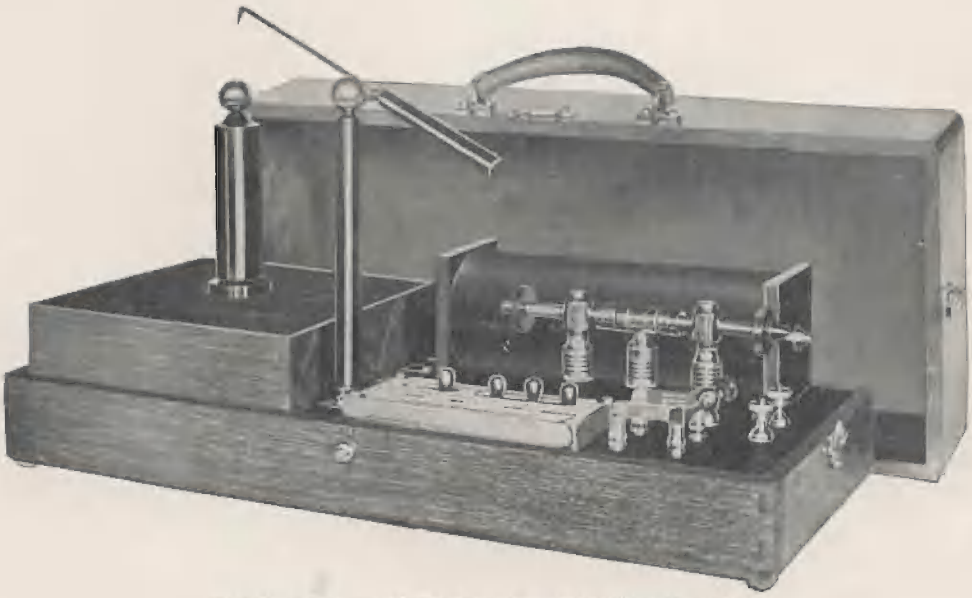
| | Cata. No. | Page | Price |
|---|---|---|---|
| Campbell "Standard" Coil | 1 | 19 | $150.00 |
| Campbell Model "D" Coil | 2 | 15 | 180.00 |
| Cabinet | 3 | 15 | 39.00 |
| Cautery and D'Arsonval Outfit (Model D) | 4 | 16 | 21.00 |
| Cautery and D'Arsonval Outfit (Standard) | 5 | 16 | 24.00 |
| Rheostat (necessary for Standard Coil only) | 6 | 20 | 6.00 |
| Floor Tube Stand | 7 | 16 | 10.00 |
| Fluoroscope | 8 | 16 | 12.00 |
| Set of Six Vacuum Electrodes and Handle | 9 | 18 | 5.00 |
| Heavy Anode X-Ray Tube | 10 | 17 | 18.00 |
| Light Anode X-Ray Tube | 11 | 17 | 14.00 |
| Carrying Case with Small Tube Stand. | 12 | 17 | 12.00 |
| Rotary Converter (necessary only for direct current) | 14 | 18 | 35.00 |

**OUR PRICES are the lowest at which strictly high grade apparatus can be furnished.**

# OUTFIT NUMBER ONE

WILL GIVE

## X-Ray — High Frequency — Cautery — D'Arsonval



CAMPBELL "STANDARD" PORTABLE COIL
Furnished With Outfit Number One

| | Cata. No. | Page | Price |
|---|---|---|---|
| Standard Portable Coil, with cords and plug | 1 | 19 | $150.00 |
| Rheostat | 6 | 20 | 6.00 |
| Cautery and D'Arsonval Outfit | 5 | 16 | 24.00 |
| Heavy Anode X-Ray Tube | 10 | 17 | 18.00 |
| Floor Tube Stand | 7 | 16 | 10.00 |
| Fluoroscope with P. B. C. Screen | 8 | 16 | 12.00 |
| Set of six Vacuum Electrodes | 9 | 18 | 5.00 |
| **Outfit complete boxed ready for shipment** | | | **$225.00** |

Complete instructions for setting up and operating furnished with each outfit.

This outfit is for light X-Ray work and all the high-frequency effects except Sinusoidal and Thermo-Faradic.

# OUTFIT NUMBER TWO

WILL GIVE

X-Ray
High Frequency

Cautery
D'Arsonval

CAMPBELL "STANDARD" COIL WITH CABINET
Furnished with Outfit Number Two

| | Cata. No. | Page | Price |
|---|---|---|---|
| Standard Portable Coil, with cords and plug | 1 | 19 | $150.00 |
| Standard Cabinet | 3 | 15 | 39.00 |
| Rheostat | 6 | 20 | 6.00 |
| Cautery and D'Arsonval Outfit | 5 | 16 | 24.00 |
| Heavy Anode X-Ray Tube | 10 | 17 | 18.00 |
| Floor Tube Stand | 7 | 16 | 10.00 |
| Fluoroscope with P. B. C. Screen | 8 | 16 | 12.00 |
| Set of six Vacuum Electrodes | 9 | 18 | 5.00 |
| **Outfit complete boxed for shipment** | | | **$264.00** |

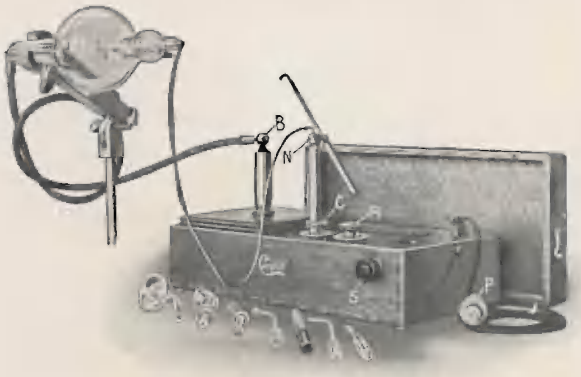
Complete instructions for setting up and operating furnished with each outfit.

Above outfit gives the same effects as outfit No. 1, but makes a more imposing appearance on account of the cabinet, and still retains the portable feature.

# OUTFIT NUMBER THREE

WILL GIVE

## X-Ray — High Frequency — Cautery — D'Arsonval Sinusoidal — Thermo-Faradic




READY FOR USE

PORTABLE

### CAMPBELL "MODEL D" PORTABLE COIL

**Furnished With Outfit Number Three**

Complete Outfit consists of

| | Cata. No. | Page | Price |
|---|---|---|---|
| Model D Portable Coil, with cords and plug | 2 | 15 | $180.00 |
| Cautery and D'Arsonval Outfit | 4 | 16 | 21.00 |
| Heavy Anode X-Ray Tube | 10 | 17 | 18.00 |
| Floor Tube Stand | 7 | 16 | 10.00 |
| Fluoroscope with P. B. C. Screen | 8 | 16 | 12.00 |
| Set of six Vacuum Electrodes | 9 | 18 | 5.00 |
| **Outfit complete boxed ready for shipment** | | | **$246.00** |

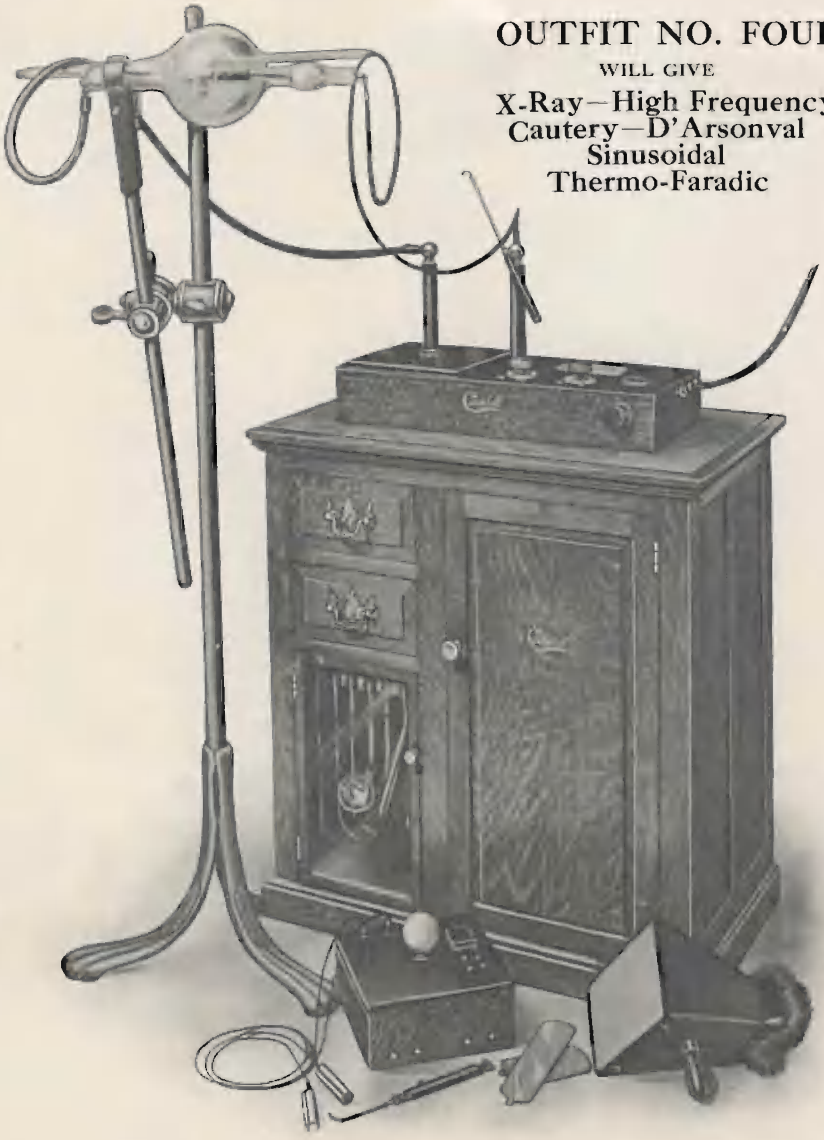
Complete instructions for setting up and operating furnished with each outfit.

With this outfit may be obtained X-Ray suitable for quick radiograph work or fluoroscopic examinations of any part of the body, as well as all the high-frequency effects which may be finely regulated for application with vacuum, metallic, cataphoresis and other electrodes, condensation couch, etc.

# OUTFIT NO. FOUR

WILL GIVE

**X-Ray—High Frequency**
**Cautery—D'Arsonval**
**Sinusoidal**
**Thermo-Faradic**



## CAMPBELL MODEL "D" PORTABLE COIL WITH CABINET, ETC.

Furnished with Outfit Number Four

| | Cata. No. | Page | Price |
|---|---|---|---|
| Model "D" Portable Coil, with cords and plug | 2 | 15 | $180.00 |
| Model "D" Cabinet | 3 | 15 | 39.00 |
| Cautery and D'Arsonval Outfit | 4 | 16 | 21.00 |
| Heavy Anode X-Ray Tube | 10 | 17 | 18.00 |
| Floor Tube Stand | 7 | 16 | 10.00 |
| Fluoroscope with P. B. C. Screen | 8 | 16 | 12.00 |
| Set of six Vacuum Electrodes | 9 | 18 | 5.00 |
| **Outfit complete boxed ready for shipment** | | | **$285.00** |

Complete instructions furnished with each outfit for setting up and operating.

Contains all the features found in the No. 3 Outfit with the addition of the Model "D" Cabinet which gives the outfit a most beautiful and impressive appearance, at the same time retaining the portable feature. Here is the ideal equipment. No physician's office equipment is complete without it.

Concord
May 14-1908

Messrs
Campbell Electric Co
Lynn
Mass.

Gentlemen,

It is now two years since I bought your Coil, and I thought perhaps it was no more than fair that you should know what I have been doing with it during that time.

For the first six months I did not do a great deal with it; but during the last 18 months have added to my income something over $2000.00 all through your Coil. The Coil has been satisfactory in every way, always ready for use & very easy to learn how to manage. About a week ago a question of diagnosis came up in regard to a dislocated elbow. I solved the problem beautifully showing a backward dislocation of both bones. This was shown perfectly. It only took a few minutes to do it, but the glory in this part of the world was great, besides the fee which accompanied it. I am more than pleased with the Coil and take great pleasure in telling you so.

Sincerely Yours.

W A Stemmons M D.

**Added $2,000 to his income in 18 months, by use of a Campbell Coil.**

Campbell Electric Co.
LYNN, MASS.

DR. D. W. SPENCE,
SPRINGFIELD, OHIO

May 4. 1908.

Campbell Electric Co
Lynn Mass

Gentlemen,-

I have been using one of your "Model D" X-ray and Oudin Frequency Coils for two months, and take pleasure in saying it is all and more than you claim for it.
I am using it daily for Oudin Frequency work and in that line alone it has increased my office practice 25% in the short time I have been using it.
For X-ray and Fluoroscopic work it is the equal of any coil or static machine I have ever used, and does not occupy half my office room, being an ornamental and compact piece of apparatus.
You are at liberty to refer any physician who is in doubt about what coil to buy, to me and I will take pleasure in endorsing the Campbell "Model D", as the best.

Very truly yours,
D. W. Spence

**Says our coil is <u>all</u> and <u>more</u> than we claim for it and it has <u>increased his office practice 25% in two months.</u>**

N. B.—Letters of a personal nature asking for advice or consultation of value to the writer, should have a self-addressed, stamped envelope enclosed for reply.


CORRESPONDENCE DEPARTMENT
H. C. BENNETT, M. D., M. E., Ph G., D. P., M Ph., Secretary

LIMA, OHIO, 5 /4, 1908.

Replying to your favor of

Campbell Electric Co.,
56 Central Square,
Lynn, Mass.,

Gentlemen:-

I consider the Campbell Coil combination portable outfit the biggest little thing in this line I have ever seen. It contains the most of value, in the least compass, and at a resonable price, of anything I have ever had offered. Actual test and demonstration has proven to me the value and convenience of this outfit to the doctor who wants an equipment along this line, with little bulk and expense.

Yours very truly,

H. C. Bennett.

Editor "The Electro-Therapeutist."
Secretary.
The National College of Electro-Therapeutics.
Author
"The Electro-Therapeutic Guide"

**Most value in the least compass and at a reasonable price, of anything he has ever had offered.**

F. J. DOUGLAS, M. D.
1 STEUBEN PARK.
UTICA, N.Y.

May. 13 1908

Campbell Electric Co.
Lynn Mass.

Gentlemen;

Having had considerable experience with X-Ray and high frequency apparatus I can safely say that your give me the best of satisfaction and I can unhesitatingly endorse it to any one desiring a Compact and at the same time a powerful machine

Very truly
F. J. Douglas

**Has had considerable experience with X-Ray and High Frequency apparatus and unhesitatingly endorses the Campbell to any one desiring a compact and powerful machine.**

Campbell ELECTRIC CO. LYNN, MASS.

JAMES L. RATHBUN, M D
915 STATE STREET
SCHENECTADY, NEW YORK

May 6th 1908 -

The Campbell Electric Co:-

Gentlemen:- Two months ago I purchased one of your High Frequency Coils and am so well pleased with it that I feel duty bound to express to you my appreciation of its Efficiency & utility, as an X Ray Producer I find the Radio-graphs clear and of Excellent definition, and can produce a graph in from three to twenty seconds depending upon density of part.

As to the Therapeutic utility of high frequency currents of the Campbell coil the field is almost unlimited, and I would not attempt to treat any Skin disease or Constitutional condition due to auto-toxemia without high frequency and the time is near at hand when the public in general will demand this drugless therapy.

Thanking you for past favors I am

Very truly yours -

James L. Rathbun M.D.

**Well pleased with his Campbell Coil, and believes the time near at hand when the public will demand this drugless therapy.**

Campbell ELECTRIC CO. LYNN MASS.

C. H. FESSENDEN M. D.
34 PELHAM ST.
NEWTON CENTRE, MASS.

Campbell Bros.,

May 4 1908.

Lynn, Mass.,

Gentlemen:-

I am in receipt of yours of May 1st, and in reply will say that after nearly three years of use I have found your Coil to be more than satisfactory in every way.

I have had experience with static machines, and several coils of standard make, and the Campbell is the only apparatus that has given me no trouble. I am depending upon it for work at the bedside of the patient, principally radiographic, and find that it meets all requirements.

As a business proposition it pays more than 100% yearly for work outside the office and in the time that I have had it, in spite of unusually rough usage , including dropping to frozen ground from the back seat of a caryall, it has proven itself practically fool proof. Possibly a sledge hammer would put it out of business, but hard work will not.

I have found no apparatus that for radiographic work does such uniformally good work. The slightly lengthened time of exposure over that of direct current coils is a trifle when compared with the fact that Once a tube is tested out on the Campbell and it's capability proven, it can be depended upon to make plate after plate without failure, a most important requisite for a portable Coil.

As a producer of high frequency currents it's range is wide enough to meet all requirements of office practice.

Yours sincerely

C. H. Fessenden

**In three years' use, has found our coil more than satisfactory in every way. Pays 100% yearly. Says hard work will never hurt it, and that it is "fool proof."**