Typical "Roentgen" equipments.

TYPICAL

"Roentgen" Equipments

WE SERVED THE INTERESTS OF OUR CUSTOMERS BEST BY NOT EXHIBITING AT THE LOUISIANA PURCHASE EXPOSITION; AND THEREFORE HAVE NO AWARDS OR MEDALS TO ADVERTISE.

JAMES G. BIDDLE,

1112 and 1114 Chestnut Street,

(SIXTH FLOOR, STAFFORD BUILDING.)

PHILADELPHIA, U. S. A.

EXPLANATORY.

IN this pamphlet we illustrate various styles of mounting X-Ray Apparatus; and also give a partial representative list of coils we have sold, together with extracts from some letters of commendation, the originals of which are on file.

We believe intending buyers of X-Ray Apparatus will be very much interested in what follows; especially in the different methods of arranging coils with reference to accessory appliances.

It will be a pleasure to explain in detail the advantages of any particular style of mounting which may be fancied; as well as to submit an estimate for same, based on the size of coil selected and nature of operating current to be used.

Whenever possible, it is well for interested physicians to call here and inspect our working exhibit of X-Ray and Electro-Medical Apparatus. It is worth a special trip to Philadelphia, should that be necessary; and we are glad to demonstrate results, even though no immediate order is in prospect. To *see* an X-Ray machine "work" means a great deal more than to depend on catalogues or correspondence.

At all times we carry a large stock of *X-Ray tubes* for coils and static machines. A customer who calls here for the purpose may have the privilege of selecting tubes by actual test, without extra charge. Many persons count this of much importance.

"High quality" rather than "low cost" is our constant aim, although it is true that our prices are very reasonable if *quality* receives proper consideration. We mean to supply only the *best* quality of apparatus.

State requirements and write for Catalogue 525.

JAMES G. BIDDLE.
General Sales Agent,
ROENTGEN MFG. CO.

July, 1905.

Typical "Roentgen" Equipments.

Pennsylvania Hospital, ... **Philadelphia.**

Roentgen "Jumbo" Coil with self-starting mechanical and electrolytic interrupters; operated from 110 v. direct current.

Hahnemann Hospital, ... **Philadelphia.**

Roentgen "Jumbo" Coil with self-starting mechanical and electrolytic interrupters; operated from 110 v. direct current.

Chester Co. Hospital, ... **West Chester, Pa.**

Roentgen "Jumbo" Coil with self-starting mechanical and electrolytic interrupters; operated from 110 v. direct current.

March 28, 1905.

"The new 'Jumbo' Coil has exceeded the claims made for it, and Mr. Snook should certainly be congratulated on building such a powerful and efficient coil. Of all the X-Ray apparatus I have used, this coil is certainly the most powerful one; with it a good radiograph can be made of any part of the body in from one-half to ten seconds. I have even succeeded in making a hip joint in one second. The quickest and best radiographs were made with the Roentgen Ammeter reading between 15 and 20 mil-amperes."

Feb. 10, 1905.

"The coil is most satisfactory—far ahead of any one that I have ever seen. The spark length can be regulated to a millimeter—anything from half an inch to 12 inches. This is especially convenient in experimental work."

April 3, 1905.

"The 18-inch coil which I bought from you January, 1904, has been in use on an average of five hours each day, and has given perfect satisfaction."

Dr. Frank E. Peckham, ... **Providence, R. I.**

Roentgen "Jumbo" Coil with self-starting mechanical and electrolytic interrupters; operated from 250 v. direct current.

Dr. Russell H. Boggs, ... **Pittsburgh, Pa.**

Roentgen "Jumbo" Coil without interrupters; used with mercury and electrolytic interrupters on 110 v. direct current

Dr. Preston M. Hickey, ... **Detroit, Mich.**

Roentgen "Jumbo" Coil without interrupters; used with electrolytic interrupter on 220 v. direct current.

"Style A" Mounting.

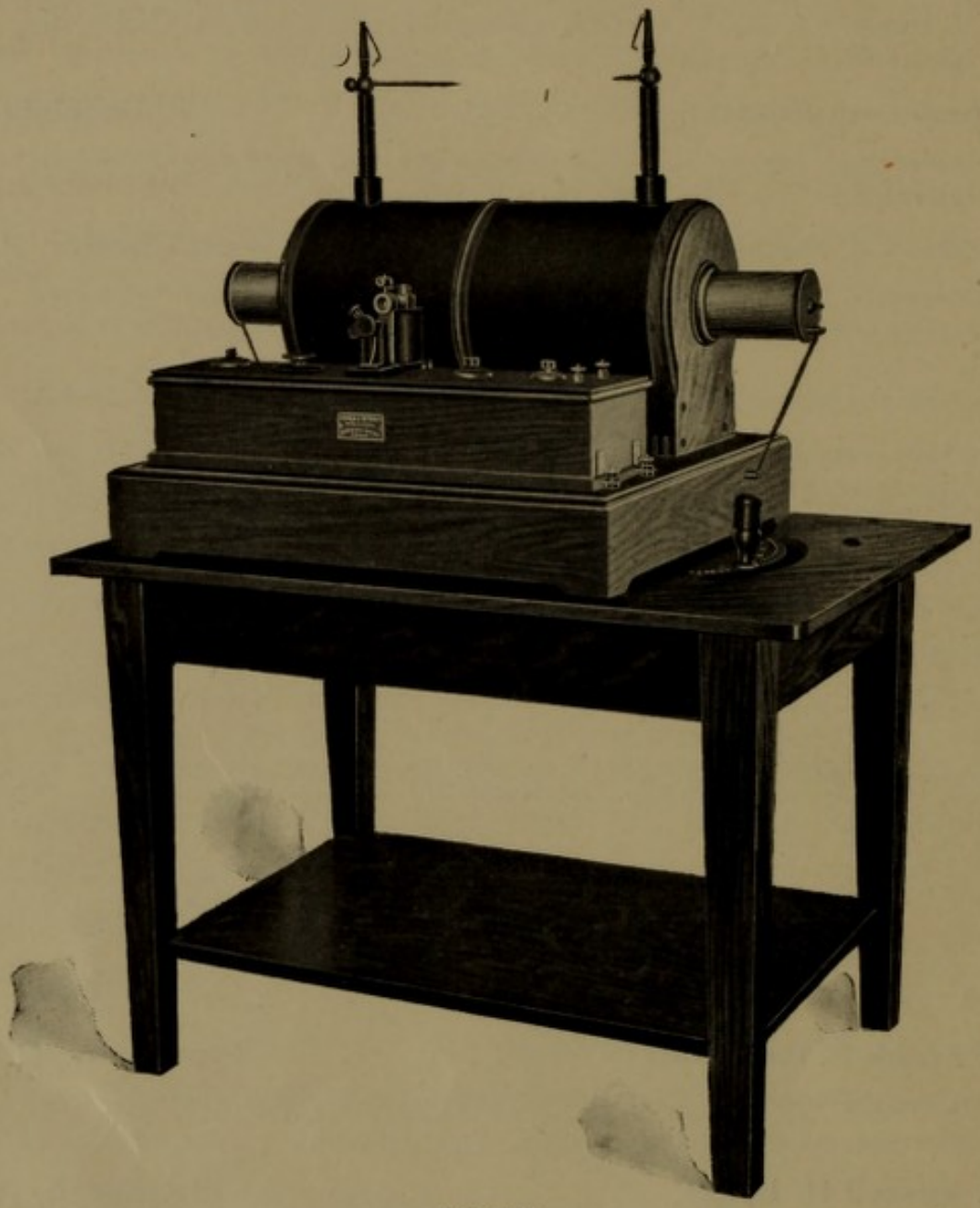

FIGURE 1

Roentgen Coil, with primary of variable inductance, self-starting mechanical interrupter, and adjustable mica condenser for same, mounted on plain table, with 110 volt rheostat beneath. The rheostat handle projects through top of table and moves over a graduated scale. Woodwork, oak or mahogany.

University of Penna. Hospital, ... **Philadelphia.**

24″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated from 110 v. direct current.

Medico-Chirurgical Hospital, ... **Philadelphia.**

20″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated from 110 v. direct current.

German Hospital, ... **Philadelphia.**

20″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated from 110 v. direct current.

University of Penna. (Physical Laboratory) . . **Philadelphia.**

20″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated from 110 v. direct current.

April 4, 1905.

"The Roentgen X-Ray equipment which you placed in my office last June has given perfect satisfaction.

"I believe it to be one of the best on the market, and as such has my unqualified approval. I can most heartily recommend it in every detail."

April 3, 1905.

"During the past eighteen months we have purchased from you for our X-Ray Department one 18-inch and one 24-inch induction coil, with Roentgen mechanical and electrolytic interrupters; one Roentgen milliammeter; one combined Oudin and Tesla high frequency coil and resonator, and numerous other parts of an X-Ray equipment, and have found all these appliances to be perfectly satisfactory in every way. Your attention to furnishing supplies and making repairs has aided us greatly in handling the large amount of skiagraphic and therapeutic work at hand, and we take pleasure in commending your ability to furnish the best quality of X-Ray apparatus."

John B. Stetson Hospital, ... **Philadelphia.**

20″ Roentgen Coil with self-starting mechanical interrupter ; operated from 220 v. direct current.

Orthopædic Hospital, ... **Philadelphia.**

18″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated from 110 v. direct current.

Episcopal Hospital, ... **Philadelphia.**

18″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated from 110 v. direct current.

Dr. Wisner R. Townsend, ... **New York City.**

18″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated from 110 v. direct current.

"Style B" Mounting.

FIGURE 2.

Roentgen Coil, with primary of variable inductance, mounted on handsome cabinet. An electrolytic interrupter is placed within the cabinet. On top at one end is a marble board on which are mounted—Weston Ammeter, controlling rheostat for 110 volts, necessary switches and fuses. Woodwork, oak or mahogany.

University of Penna. Hospital, ... **Philadelphia.**

18″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated from 110 v. direct current.

Mexican Central Railway, ... **Aguiscalantes, Mexico.**

18″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated from 110 v. direct current.

Dr. J. W. Ellenberger, ... **Harrisburg, Pa.**

18″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated from 110 v. direct current.

King's County Hospital, ... **Brooklyn, N. Y.**

18″ Roentgen Coil with electrolytic interrupter ; operated from 110 v. direct current.

April 3, 1905.

"The X-Ray apparatus which you installed in my office over a year ago continues to give the greatest satisfaction, as it always has done since setting it up.

"I have found no defects after running it very hard for radiographic work ; in fact, to cut down the exposure, I have sometimes waited expectantly for 'something to happen' as the full force of the current was thrown through the coil, but it has shown not the slightest inclination to cease giving its maximum spark.

"The thickness and quality of the spark I have never seen on another apparatus listed at the same spark length, and I know that it surpasses many coils rated at much longer spark length.

"The electrolytic interrupter has given no trouble whatever, and runs whenever called upon. It has never 'choked' while running.

"If I were to purchase another coil it would be one of your make."

Dr. G. E. Pfahler, ... **Philadelphia.**

18″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated from 110 v. direct current.

Grace Hospital, ... **New Haven, Conn.**

18″ Roentgen Coil with self-starting mechanical interrupter ; operated from 110 v. direct current.

Dr. F. H. Baetjer, ... **Baltimore, Md.**

18″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated by motor-generator from 220 v. direct current.

St. Joseph's Hospital, ... **Baltimore, Md.**

18″ Roentgen Coil with self-starting mechanical interrupter ; operated by motor-generator from 110 v. alternating current.

Dr. W. G. Erving. . . . . . **Washington, D. C.**

18″ Roentgen Coil with electrolytic interrupter ; operated from 110 v. direct current.

"Style C" Mounting.

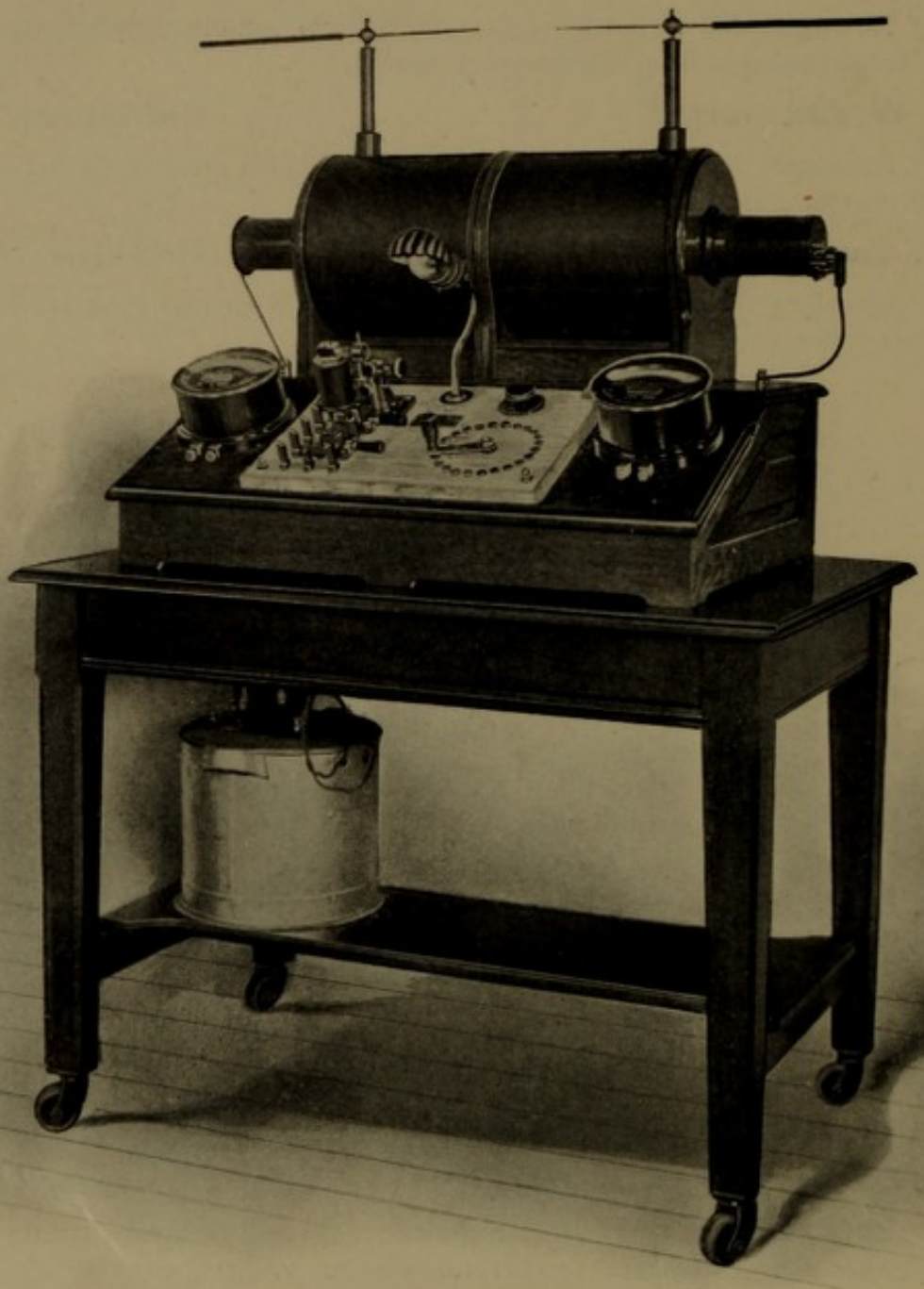

FIGURE 3.

Roentgen Coil, with primary of variable inductance, mounted on desk-form table. Self-starting mechanical and electrolytic interrupters are provided, as well as Weston Ammeter, Weston Voltmeter, controlling rheostat for 110 volts, adjustable mica condenser, switches, fuses, etc. A marble switchboard is used. Woodwork, oak or mahogany.

Pottsville Hospital, ... **Pottsville, Pa.**

18″ Roentgen Coil with self-starting mechanical interrupter ; operated by motor-generator from 110 v. alternating current.

Dr. J. H. Metzerott, ... **Washington, D. C.**

18″ Roentgen Coil with self-starting mechanical interrupter ; operated from 110 v. direct current.

Emergency Hospital, ... **Buffalo, N. Y.**

18″ Roentgen Coil with self-starting mechanical interrupter ; operated by motor-generator from 110 v. alternating current.

Methodist Hospital, ... **Philadelphia.**

18″ Roentgen Coil with electrolytic interrupter ; operated from 220 v. direct current.

April 5, 1905.

"I am willing to testify hereby that all the apparatus made by the Roentgen Mfg. Co. for our Department of Physics is proving to be entirely satisfactory. You may expect a continuance of our patronage from time to time as our needs may require and our resources permit."

April 5, 1905.

"It is with pleasure that I express my complete satisfaction with the X-Ray machine purchased from you.

"I find the Roentgen equipment, including 18-inch coil with mechanical interrupter, capable of doing quicker and better work than any other I have seen.

"I would recommend it both for the therapeutic and diagnostic use, especially to the inexperienced operator, owing to its simplicity."

April 11, 1905.

"It is a pleasure to me to be able to say that the 18-inch coil which you sold to me a year or more ago has been entirely satisfactory in every respect. If I were purchasing a new X-Ray outfit, I do not know where I could find a better."

Dr. Percy Brown, ... **Boston, Mass.**

18″ Roentgen Coil with electrolytic interrupter ; operated from 110 v. direct current.

U. S. Post Hospital, ... **Fort Myer, Va.**

16″ Roentgen Coil with self-starting mechanical and electrolytic interrupters ; operated by motor-generator from 500 v. direct current.

Barnard Sanitarium, ... **Baltimore, Md.**

15″ Roentgen Coil with self-starting mechanical interrupter ; operated by dynamotor from 220 v. direct current.

Dr. Robert P. Cummins, ... **Germantown, Pa.**

15″ Roentgen Coil with self-starting mechanical interrupter ; operated from 110 v. direct current.

"Style D" Mounting.

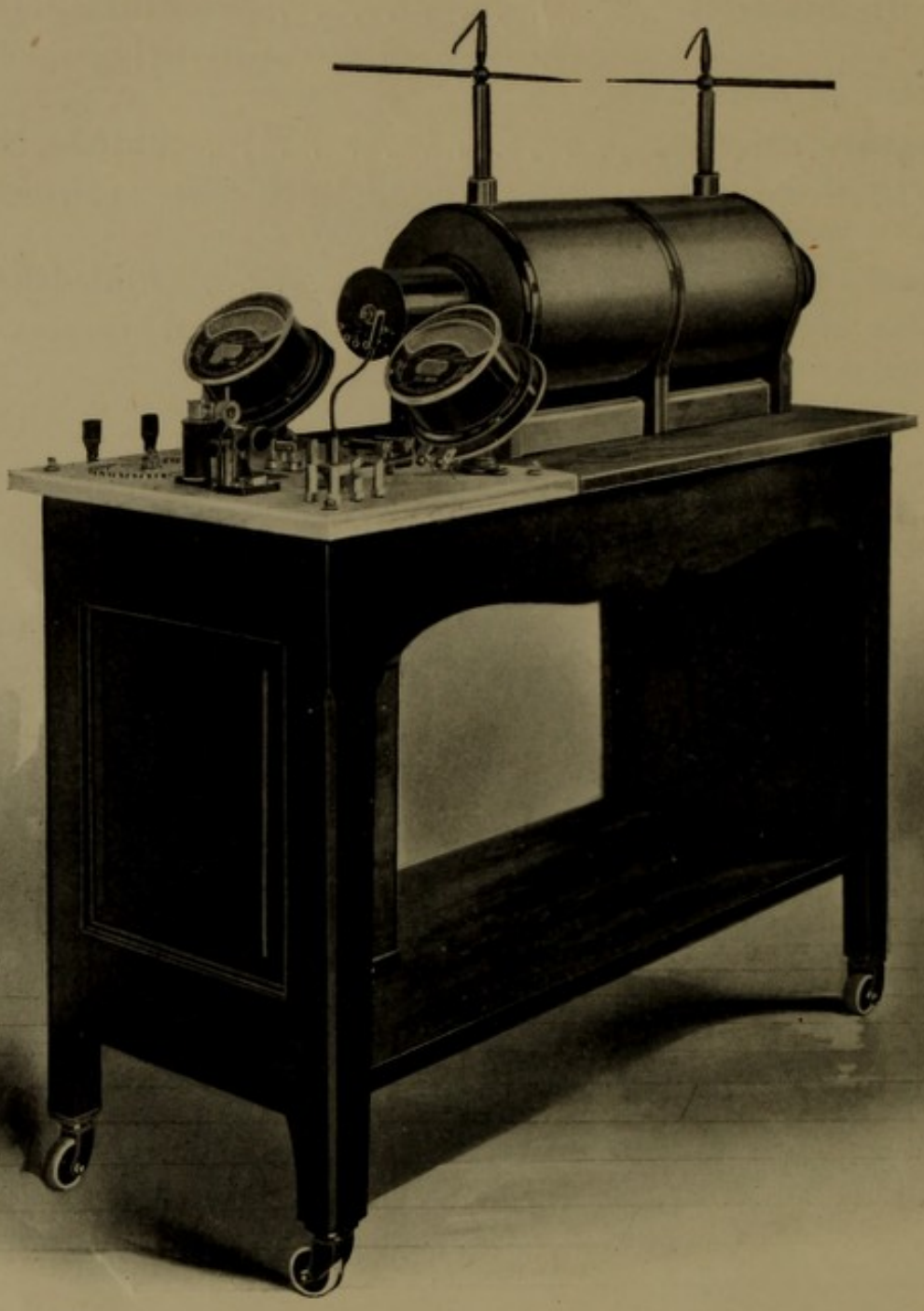

FIGURE 4.

Roentgen Coil, with primary of variable inductance, mounted on handsome open cabinet. Self-starting mechanical and electrolytic interrupters are provided (the latter not shown), as well as Weston Ammeter, Weston Voltmeter, controlling rheostat for 110 volts, adjustable mica condenser, switches and fuses. The regulating parts are placed on a marble switchboard. Woodwork, oak or mahogany.

St. Luke's Hospital, ... **South Bethlehem, Pa.**

15″ Roentgen Coil with three-anode electrolytic interrupter; operated from 110 v. alternating current.

Mr. W. C. Fuchs, ... **Chicago, Ill.**

15″ Roentgen Coil with self-starting mechanical interrupter; operated from 20 v. storage battery.

Dr. Wm. F. Muhlenberg, ... **Reading, Pa.**

15″ Roentgen Coil with self-starting mechanical interrupter; operated from 110 v. direct current.

Miss. A. & M. College, ... **Agricultural Coll., Miss.**

15″ Roentgen Coil with self-starting mechanical interrupter; operated from 110 v. direct current.

February 28, 1905.

"In answer to your letter of the 25th, permit me to say that I am still very much pleased with the 'Jumbo' coil. In regard to the reading of the milliammeter on the two machines, the 'Jumbo' coil will read 15 milamperes when the tube is backing up a parallel spark of 4 inches, while the other coil will read between eight and nine, backing up the same parallel spark. In regard to the speed, I have not made sufficient number of pictures up to the present time to give anything very definite in comparison to speed. However, there is no question that the coil, giving a larger output, will certainly do quicker work. I have made a chest picture in one second, a hip joint in five seconds, and a kidney stone picture in ten seconds with the 'Jumbo' coil.

"I also like the apparatus very much for treatment when working on the mercury interrupter."

Dr. W. B. Ewing, ... **Pittsburgh, Pa.**

15″ Roentgen Coil with self-starting mechanical, mercury and electrolytic interrupters; operated from 110 v. direct current.

Dr. Frank C. Moyer, ... **Baltimore, Md.**

15″ Roentgen Coil with self-starting mechanical and electrolytic interrupters; operated from 220 v. direct current.

Cottage State Hospital, ... **Phillipsburg, Pa.**

15″ Roentgen Coil with self-starting mechanical interrupter; operated by motor-generator from 500 v. direct current.

Dr. Homer E. Smith, ... **Norwich, N. Y.**

15″ Roentgen Coil with self-starting mechanical interrupter; operated by storage batteries.

University of Penna. Hospital, ... **Philadelphia.**

12″ Roentgen Coil with self-starting mechanical interrupter; operated from 110 v. direct current.

"Style E" Mounting.

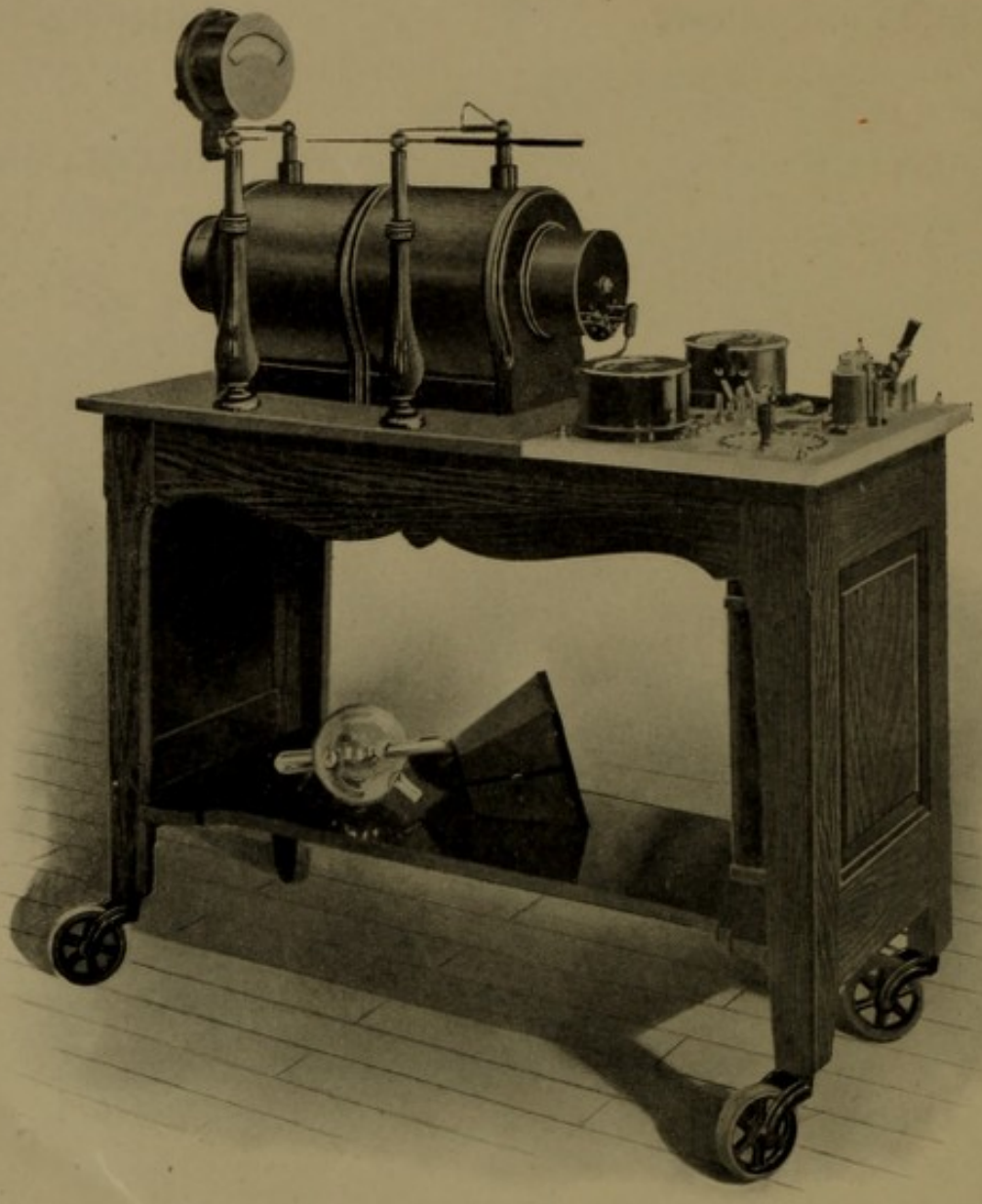

FIGURE 5.

Roentgen "*Jumbo*" Coil, with primary of variable inductance, mounted on handsome open cabinet. Self-starting mechanical and electrolytic interrupters are provided (the latter not shown), as well as Weston Ammeter, Weston Voltmeter, controlling rheostat for 110 volts, adjustable mica condenser, switches and fuses. A marble switchboard is used and a Roentgen Ammeter for the tube circuit is attached to the coil. Woodwork, oak or mahogany.

Rensselaer Poly. Institute, ... **Troy, N. Y.**

12″ Roentgen Coil with self-starting mechanical interrupter ; operated from 110 v. direct current.

Dr. Robert C. Parrish, ... **Youngstown, O.**

12″ Roentgen Coil with electrolytic interrupter ; operated from 110 v. alternating current.

Dr. E. S. Gifford, ... **Philadelphia.**

12″ Roentgen Coil with electrolytic interrupter ; operated from 110 v. alternating current.

Dr. J. Williams Lord, ... **Baltimore, Md.**

12″ Roentgen Coil with self-starting mechanical interrupter ; operated by dynamotor from 220 v. direct current.

April 8, 1905.

"In answer to your inquiry of recent date, would say that the X-Ray apparatus, made by Roentgen Mfg. Co. and purchased from you some two years ago, has been in use pretty constantly in the treatment of various pathological conditions and in skiagraphing all parts of the body, and that it has been thoroughly satisfactory for all purposes."

April 25, 1905.

"I am making a lot of beautiful abdominal plates in from six to fifteen seconds."

April 6, 1905.

"I have always refrained from advertising work, and have never given a testimonial since I graduated in medicine, or would gladly comply with your request.

"Shall be glad to show the machine any time to any one you may send here, and also show what has been done with it."

Drs. McCalla & Maxey, ... **Boise, Idaho.**

12″ Roentgen Coil with self-starting mechanical interrupter ; operated by motor-generator from 110 v. alternating current.

Hillhouse High School, ... **New Haven, Conn.**

12″ Roentgen Coil with self-starting mechanical interrupter ; operated from 110 v. direct current.

Dr. A. Samuels, ... **Baltimore, Md.**

12″ Roentgen Coil with self-starting mechanical interrupter ; operated by motor-generator from 110 v. alternating current.

University Hospital, ... **Charlottesville, Va.**

12″ Roentgen Coil, to be used with electrolytic interrupter on 110 v. direct current.

"Style F" Mounting.

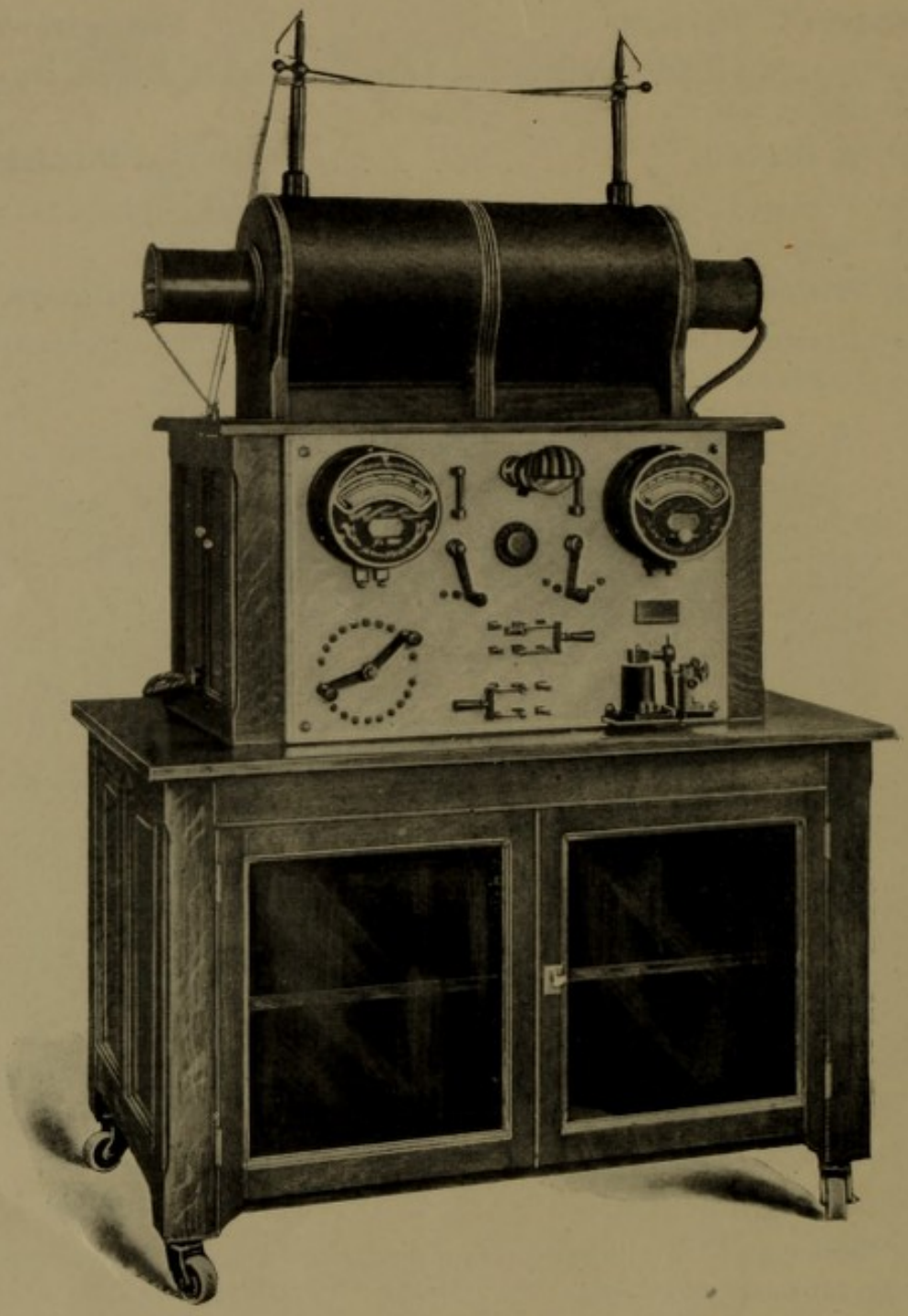

FIGURE 6.

Roentgen Coil, with primary of variable inductance, mounted on handsome cabinet with glass doors. Self-starting mechanical and electrolytic interrupters are provided (the latter not shown), as well as Weston Ammeter, Weston Voltmeter, controlling rheostat for 110 volts, adjustable mica condenser, switches, fuses and pilot lamp. The regulating parts are mounted on a vertical marble switchboard. Woodwork, oak or mahogany.

Dr. N. J. Gehring, ... **Portland, Me.**

12″ Roentgen Coil with self-starting mechanical interrupter ; operated from 110 v. direct current.

Dr. Wm. M. Cowles, ... **Ayer, Mass.**

12″ Roentgen Coil with self-starting mechanical interrupter ; operated by motor-generator from 110 v. alternating current.

Johns Hopkins University, ... **Baltimore, Md.**

12″ Roentgen Coil with self-starting mechanical interrupter ; operated from storage battery.

Chestnut Hill Hospital, ... **Philadelphia.**

12″ Roentgen Coil with self-starting mechanical interrupter; operated from storage battery.

April 12, 1905.

"The machine which you installed for me last autumn has been working in a perfectly satisfactory manner, and the time element has been reduced appreciably since I have tried putting the rheostat handle around further. Some difficult cases of coxitis and of renal calculus have been very successfully negotiated of late; in fact, I have had no failures in that line so far. As for the smaller joints, my radiographs have been very successful, even when taken through plaster casts. As a diagnostic aid I find it invaluable. As you know, I do no therapeutic work whatever."

April 17, 1905.

"Some nine months ago we installed in our office one of your 12-inch coils, mechanical interrupter, with which we have done very satisfactory work. Our radiographs of the chest are particularly satisfactory."

Dr. Albertus Cotton, ... **Baltimore, Md.**

12″ Roentgen Coil with self-starting mechanical interrupter ; operated from 220 v. direct current.

U. S. Dept. of Agriculture, ... **Washington, D. C.**

12″ Roentgen Coil without interrupter ; used with electrolytic interrupter on 110 v. direct current.

Dr. Frank C. Parker, ... **Norristown, Pa.**

12″ Roentgen Coil with electrolytic interrupter ; operated from 110 v. direct current.

Dr. Christian Deetjen, ... **Baltimore, Md.**

9″ Roentgen Portable Coil with self-starting mechanical interrupter ; operated from storage battery.

"Style G" Mounting.

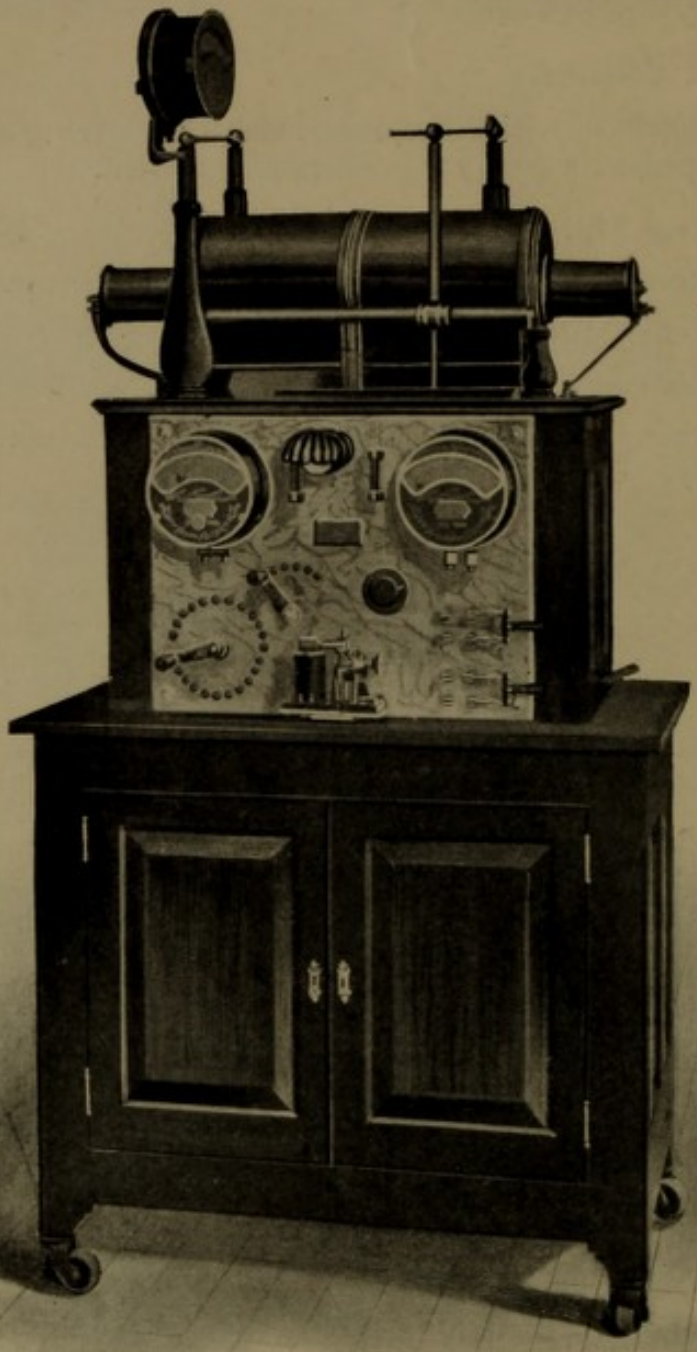

FIGURE 7.

Roentgen Coil, with primary of variable inductance, mounted on handsome cabinet with solid doors. Self-starting mechanical and electrolytic interrupters are provided (the latter not shown); also Weston Ammeter, Weston Voltmeter, controlling rheostat for 110 volts, adjustable mica condenser, switches, fuses and pilot lamp. A vertical marble switchboard is used, and a Roentgen Ammeter for the tube circuit is attached to the coil. Woodwork, oak or mahogany.

University of Penna. (Physical Laboratory), . . Philadelphia.

9″ Roentgen Portable Coil with self-starting mechanical interrupter; operated from storage battery.

Dr. F. H. Baetjer, ... Baltimore, Md.

9″ Roentgen Portable Coil with self-starting mechanical interrupter; operated from storage battery.

Dr. Percy Brown, ... Boston, Mass.

9″ Roentgen Portable Coil with self-starting mechanical interrupter; operated from storage battery.

Dr. A. P. Good, ... Philadelphia.

9″ Roentgen Portable Coil with self-starting mechanical interrupter; operated from storage battery.

April 13, 1905.

"The 18-inch X-Ray outfit purchased from you for the Presbyterian Hospital has, I am informed by those who have charge of it, proven entirely satisfactory in every respect. Before buying it, I made extended inquiries in regard to the merits of the various machines, and have every reason to be satisfied with our purchase."

April 4, 1905.

"The X-Ray outfit, consisting of 18-inch coil with variable inductance, mechanical and electrolytic interrupters, and an operating switchboard, supplied and installed by the Roentgen Co., has proven perfectly satisfactory.

"After two years' constant use I can unhesitatingly commend it as being simple in operation, durable in construction, and having the highest efficiency in X-Ray work."

Dr. J. F. Schamberg, ... Philadelphia.

9″ Roentgen Portable Coil with self-starting mechanical interrupter; operated from storage battery.

Howard Hospital, ... Philadelphia.

9″ Roentgen Portable Coil with self-starting mechanical interrupter; operated from storage battery.

Dr. Cephas Whitney, ... Georgetown, Demerara.

9″ Roentgen Portable Coil with self-starting mechanical interrupter; operated from storage battery.

Dr. John B. Shober, ... Philadelphia.

9″ Roentgen Portable Coil with self-starting mechanical interrupter; operated from storage battery.

"Style H" Mounting.

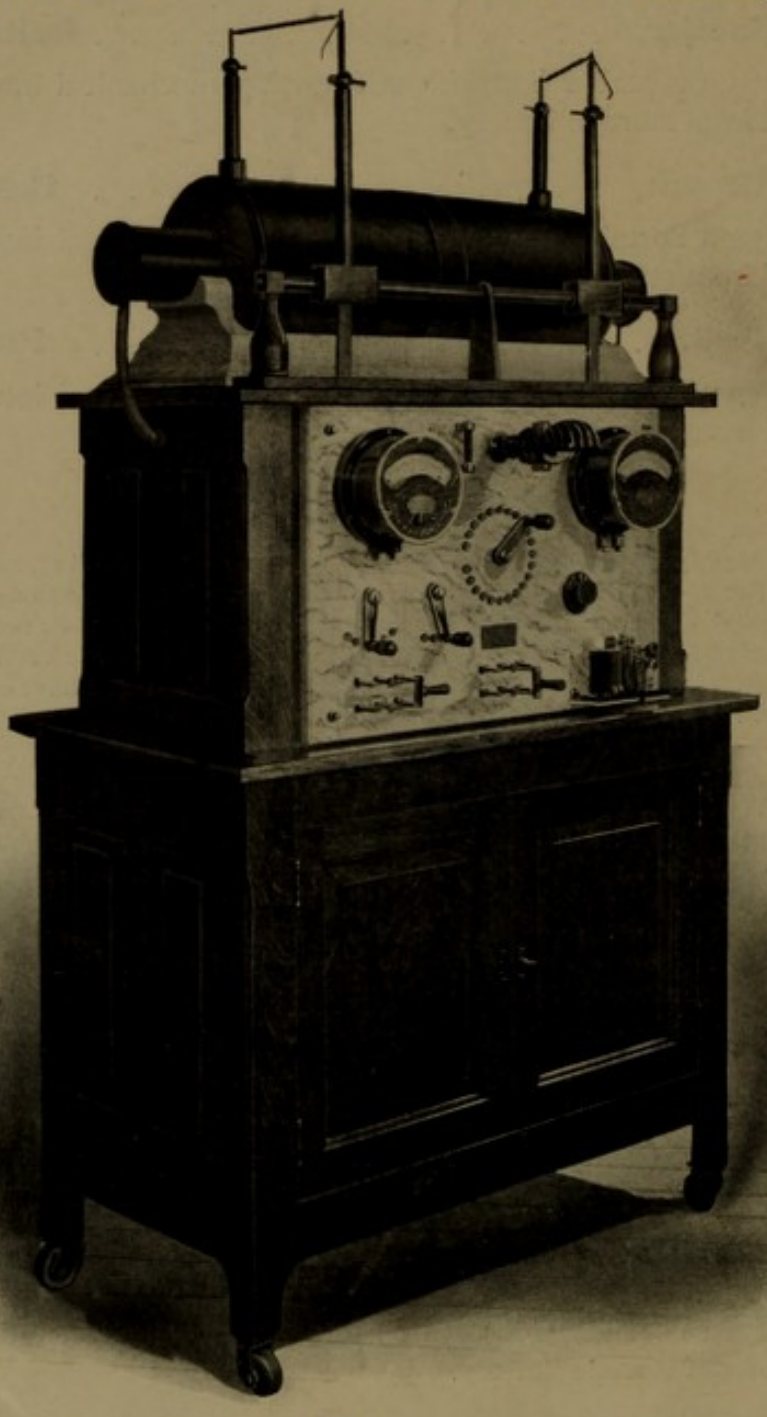

FIGURE 8.

Roentgen *24-Inch* Coil, with primary of variable inductance, mounted on handsome cabinet with solid doors. Self-starting mechanical and electrolytic interrupters are provided (the latter not shown) ; also Weston Ammeter, Weston Voltmeter, controlling rheostat for 110 volts, adjustable mica condenser, switches, fuses and pilot lamp. A vertical marble switchboard is used, and the coil itself is placed on a special porcelain base. Woodwork, oak or mahogany.

"Style K" Mounting.

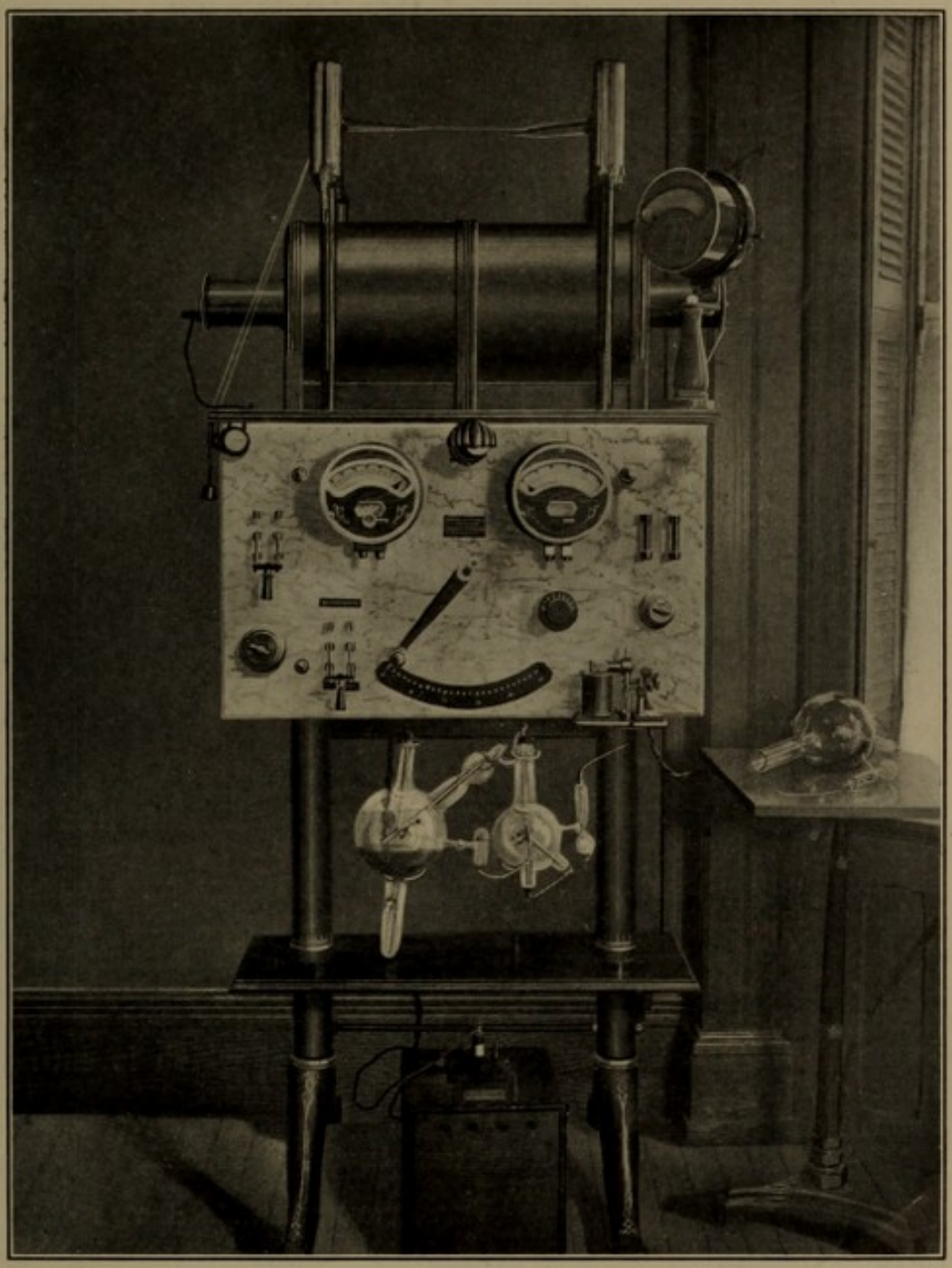

FIGURE 9.

Roentgen Coil, with primary of variable inductance, mounted on iron standards. Self-starting mechanical and electrolytic interrupters are provided; also Weston Ammeter, Weston Voltmeter, controlling rheostat for 110 volts, adjustable mica condenser, switches, fuses and pilot lamp. A vertical marble switchboard is used, and a Roentgen Ammeter for the tube circuit is attached to the coil. There is very little woodwork.

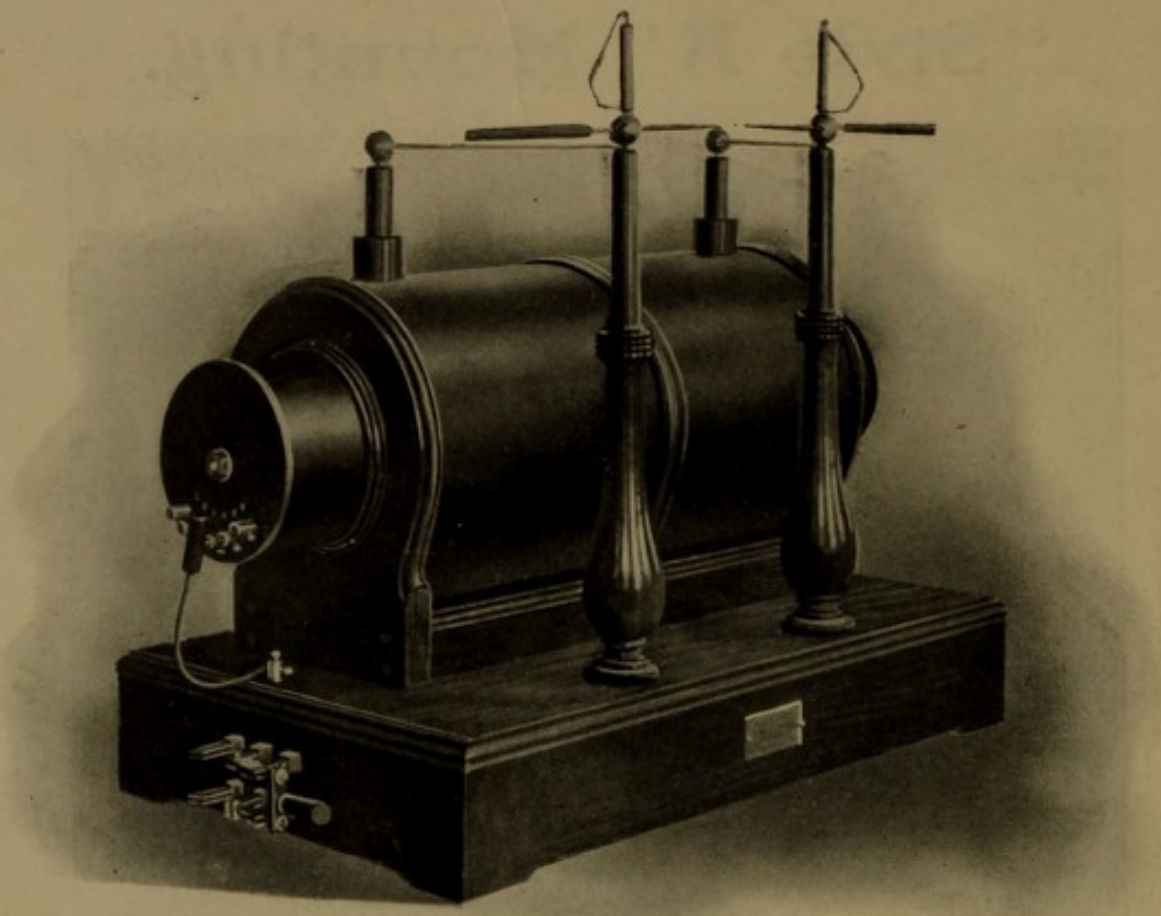

FIGURE 10.

Our new Jumbo Coil is built on the plan of a thick iron core with heavy wire for both primary and secondary. The parts are so proportioned and insulated that much higher efficiency than usual is secured; in fact, when run on 110 V. direct current, the effective energy push through an X-Ray tube is about *50% more* than can be obtained from a standard type 20″ coil of any good make. When operated on 220 V. direct current the output is greater still. A very small amount of "inverse discharge" is developed which is entirely eliminated by proper use of spark gaps or ventril tubes.

Prominent experts who have seen or used the "Jumbo" coil pronounce it the best X-Ray machine on the market to-day. Here is what one of them says:—

PITTSBURGH, PA., March 28, 1905.

MR. JAMES G. BIDDLE, Philadelphia, Pa.

DEAR SIR:—The new "Jumbo" coil has exceeded the claims made for it, and Mr. Snook should certainly be congratulated on building such a powerful and efficient coil.

Of all the X-Ray apparatus I have used, this coil is certainly the most powerful one. With it a good radiograph can be made of any part of the body in from one-half to ten seconds. I have even succeeded in making a hip-joint in one second.

The quickest and best radiographs were made with the Roentgen Ammeter, reading between 15 and 20 mil-amperes.

Yours very truly,
(Signed) RUSSELL H. BOGGS.

The "Jumbo" coil is mounted in various ways and with different interrupters, to meet the special needs of each case.