

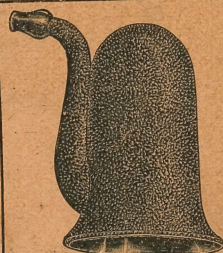
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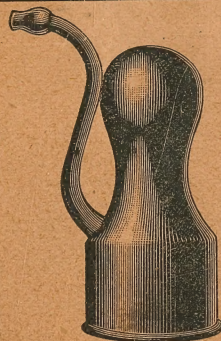
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PHILADELPHIA, PA., U. S. A.

Complete Guide for Domestic Treatment by **ELECTRICITY**



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GEO. P. PILLING & SON, Phila., Pa., U.S.A.

Complete Guide for Domestic Treatment by

ELECTRICITY

Explaining the best treatments in plain language
for the cure of disease by electricity

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G. P. PILLING & SON
Philadelphia, U. S. A.



FOR ILLUSTRATIONS of
BATTERIES SEE
PAGES 28, 29, 30, 31

PREFACE

Of late years there have been issued several pamphlets pertaining to Treatment by Electricity in the household and embellished with all the exaggerations of a Quack Patent Medicine Almanac.

They have been ladled out to the public with the same lavish statements of unwarranted cures and endless lists of diseases conquered by their methods, so exaggerated that it was plain that self-interest was the foremost idea of the writers.

This treatise is written with the object of giving only those treatments by electricity which are known by actual practice to be beneficial, and is exempt from treatments which are worthless and others that are of the hit-or-miss brand, and no effort has been made to manufacture applications.

Nearly a hundred years of personal experience and supervision in the manufacture of surgical instruments and apparatus naturally enable us to prepare finished products, perfect in the line of work for which they are intended, and with the most improved modern methods, latest devised machinery and most improved facilities, are prepared to equip and place on the market Batteries perfect in every detail.

The demand for Pilling Batteries has come to us from all parts of the United States, Canada and Great Britain, and even far-away Australia, and the demand has been met, as have all previous ones, by superior products.

To those who are necessitated to make use of this method of the Household Treatment of diseases to which it is applicable by reason of its simplicity, which is the pervading feature of the Pilling Batteries, this work is respectfully dedicated.

Established
1814.

G. P. PILLING & SON,
Philadelphia, U. S. A.

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ELECTRICITY

Experiments with electricity have proved beyond all doubt that it is a necessary adjunct to life and as necessary to the human system as any other life-giving element. The vital organs of the human body are subjected to excessive waste due to unnatural taxation of the vital energies and thereby causes disarrangements of the human system, resulting in debility of the vital organs which causes a most unhealthy condition in the system. It is impossible for all to avoid the causes which bring on this debility, as in cases of mental grief which cannot be restrained, fevers, etc., contracted without knowledge of their sources. Excessive work, undue physical exertions and the strains of worry often bring on this debilitated condition. Where it is necessary to assist nature, knowledge gained by experiment has shown that electricity is responsible for the life within mankind and that the electric heat generated to the body is conducive to the health of its vital organs. Common sense teaches that the artificial agent to be employed is electricity, and science has developed no agent as successful nor any that can be used by intelligent persons with results so surprising in their beneficial effects.

METHOD OF GENERATING ELECTRICITY FOR MEDICAL USE

Galvanic and Faradic are the names given to the two kinds of current used for this purpose.

The Galvanic Current should only be applied by a physician, and in special cases when only a physician can detect the specific need of this current. We will, therefore, confine ourselves to the Faradic Current and consider it in a manner which can be understood by any person of reason. The mainstays of the Faradic Current are a battery and a coil. A bundle of soft iron

wires known as the core is covered by two distinct windings of insulated copper wire, one being wound on top of the other. A current rapidly interrupted, from the battery passes through the inner coil of the copper wire and is named the primary coil. An automatic circuit breaker or interrupter causes the rapid interruptions. This is an upright post having a horizontal flat spring attached, and the unconnected end of this spring is placed directly opposite an end of the iron wire core. A soft iron knob is attached to this unconnected end and to the upright post one wire from the battery is attached, the other end from the battery connecting with one end of the primary coil. On the other end of this primary coil another upright is attached with a small metal thumb-screw at the top having a small piece of platinum on the point and so placed that it just comes in contact with the flat spring. To make the electrical contact perfect the point of the spring is covered with platinum, and as it is not easily corroded is thus free of the defects of inferior batteries.

By turning on the current from the battery it passes from the point where the wire is connected through the primary coil, and thus forms the soft iron wire into an electro-magnet, and this attracts the soft iron knob on the end of the flat spring and drawing it away from the contact screw and breaking the circuit. The circuit being broken, there is no longer any magnetism in the core, and the spring moves back again in contact with the point on the screw and again creating the electro-magnet and the same result occurs again, and in this way we have the interruptions as long as the current from the battery is turned on. The vibrations can be increased or diminished by turning the thumb-screw and adjusting the tension on the spring. One can detect from the hum made by the interruptions the speed of the interruptions, the more rapid they are the greater the sound. The poles of the Faradic system are positive and negative, and the primary current always passes in one direction,

from the positive to the negative, the latter pole being much stronger than the positive. The induced alternating current is what is known as the secondary current, and is produced from the secondary coil. Having no more direct connection with the battery, it is, therefore, an induced current and alternating by reason of its constantly changing its direction, and is also an interrupted current.

METHOD OF USING THE PILLING BATTERIES

Screw the wooden handles and the metal shells together, attaching them to the ends of the cords. Insert the pins of the other ends of the cords into the socket in the bottom of the case as follows:

STRENGTH OF CURRENTS

Sockets Nos. 1 and 2 produce the primary or mild current.

Sockets Nos. 2 and 3 produce the secondary or strong current.

Sockets Nos. 1 and 3 produce the two currents combined or very strong.

Power of several currents may be increased by gradually drawing out the regulating tube.

TO START BATTERY

The switch is turned until it rests on the metal button; the battery is then in action. Should the battery not start instantly, the vibrator at the left hand of the coil may be slightly tapped.

TO STOP BATTERY

Push the switch off the button as far as it will go. This breaks the current and prevents the cell from being exhausted.

TO REPLACE EXHAUSTED CELLS

The screws which clamp the poles to the flat upright pieces are loosened, when the cell may easily be lifted out. Be particular when placing the new cell that the carbon poles fit the flat upright at the back of the base, and also that the zinc pole fits the upright the same as the one taken out.

The sponge electrodes should be slightly moistened, when ready to use; dry off before putting away.

Do not turn the contact screw so that it will force the vibrating spring against the coils. This screw should be adjusted just so the vibration will give out a continuous and even buzz. The dry cell will last from 3 to 12 months with proper use, of course depending on the length and number of applications.

Extra dry cells for this battery may be purchased from any dealer in surgical or electrical supplies; these supply houses are in every town and city.

GENERAL TREATMENT.—Place the feet in warm water, insert the negative pole with sponge in the water and sponge the complete body below the head with the positive pole and sponge.

TONIC TREATMENT.—The patient is seated on the positive pole, around which a wet sponge has been attached, and then sponge the complete body below the head with the negative pole and sponge. In bed-ridden patients, place the positive pole and sponge under the spine. As the sponging proceeds, wipe and rub the parts treated to avoid chilling the body.

LOCAL TREATMENT.—Place the positive pole to the part affected and the negative pole on the opposite side, so that the current passes in and through the part, as the electrical current flows direct from pole to pole.

These treatments are occasionally recommended in connection with the special case treatments, which will be found elsewhere in this book.

THE SELECTION OF A BATTERY

It is essential that an effective and well made instrument be used, as many of the cheap and flimsy productions are absolutely worthless as an aid to health. Neither should it be an instrument rough and unsightly, that must be consigned to a closet or cellar when not in use; rather one that is an ornament in a room and, therefore, always on hand.

The Pilling Batteries are of the best workmanship, all portions made of the best material, metal parts highly nickel-plated and polished, and all contained in a portable, compact and ornamental polished wood case, with strong nickel-plated handle. The dry cell supplied is a standard cell of a uniform strength, and will last four, six or twelve months, according to the number and length of the treatments. In case of renewals, any cell can be attached, as they are all made to a regular size. Therefore, they are unexcelled for persons travelling, as the cell can be replaced anywhere. The simple construction brings them within the understanding of any one and facilitates their use.

APPROVED METHOD OF TREATING DISEASES

ABSCESSSES.—Suppuration is to be prevented by applying the positive poles to the affected part and the negative pole to the hands. When the swelling is above the shoulders and in case the diseased part is below the shoulders, apply the negative pole to the feet by means of the foot plate which accompanies the battery.

ASTHMA.—Use the secondary current and apply the negative pole over the throat and chest as far down as the waist with the positive pole on the spine, holding it a little above the negative pole. In regular treatment apply during intervals between the attacks several times a week until improved.

INFLAMMATION OF THE BOWELS.—Keep open the bowels with frequent injections of warm water, and at the same time place compresses of hot water on the bowels. Apply to the feet by means of warm water with a little salt dissolved therein and the foot plate with

the negative pole attached. Apply the positive pole with sponge over the bowels thoroughly and then over the whole body, using the secondary current.

LOOSENESS OF THE BOWELS.—Turn on the secondary current and apply the positive pole with sponge at the base of the spine and pass the negative pole with sponge over the bowels.

CONSTIPATION.—Connect the positive pole with the tongue electrode and place on the tongue. Seat the patient on the foot plate attached to the negative pole, use the secondary current and apply for about ten minutes. Then use the positive pole with sponge over the stomach. Do not use cathartics, but chew slippery elm frequently if necessary.

BURNS AND SCALDS.—Use a weak secondary current and apply the positive pole with sponge, being careful not to rub the sore, and this can easily be prevented by covering with moist cheesecloth and applying gently. Exclude the air by frequent dressings of vaseline applied with a camel-hair pencil.

BRONCHITIS.—Apply the negative pole to the face or back and use the positive pole with sponge over the body. Alternate by placing the positive pole with the tongue electrode on the tongue and apply the negative pole to the chest over the bronchial tubes.

CANCER.—To be effective the poles must be placed so that the current will pass through the diseased part by making the contact from opposite sides, or with the negative pole at the extremities whenever possible. In cancer in the breast, moisten a piece of soft cotton cloth with water, place over the part, apply the positive pole with the negative on the back opposite and continue for ten or fifteen minutes daily for a couple of weeks and then two or three times a week. A general treatment should be given occasionally.

CANKER IN THE MOUTH.—The positive pole attached to the tongue electrode covered with a piece of moist linen is held on the tongue, well back, and the negative pole applied to the neck, jaws and chest, using the primary current.

CARBUNCLES.—Attach the sponge disk to the positive pole and apply to the carbuncle, holding the negative electrode in the hand or placing it at the feet, as in the treatment for abscesses, using the primary current.

CATARRH.—In acute cases apply the positive pole to the root of the nose, placing the negative pole between the shoulders and using the secondary current for about five minutes. In chronic cases apply the negative pole to the root of the nose and hold the positive pole between the shoulders, using the primary current not over five minutes. When fever is present sponge the body with the positive pole. Application should be made about four times a week as long as necessary.

CHILBLAIN.—For this treatment a combined primary and secondary current or an alternate current, first the primary and then the secondary for a period of five to ten minutes, applying the positive pole directly to the chilblain and the negative pole to the ankle or other portion of the foot.

CONSTIPATION often follows in the train of dyspepsia, and when this is the case apply the negative pole to the abdomen and the tongue electrode on the tongue or base of the brain, using a weak current and increasing. Dieting is always a necessity in dyspepsia.

CRAMPS.—As cramps is a muscular disease, locate the cramped muscle, apply the negative pole and place the positive pole above the muscles. For cramp in the stomach sponge with the negative pole over the stomach and hold the positive pole on the tongue. For cramps in the leg, seat the patient on the positive pole and rub the negative over the legs.

CROUP.—Moisten the positive pole with sponge in salt water and apply to the throat for about four minutes, passing the negative pole up and down the back between the shoulders and on the back of the neck, and then apply the positive pole to the bridge of the nose and hold the negative on the back between the shoulders. Then, after seating the patient on the foot plate attached to the negative pole, sponge the neck and shoulders and about the ears with the positive pole. A second application should follow the first at once, and if not relieved repeat in an hour. Be cautious to keep the patient warm throughout, and the treatment will succeed.

COLDS.—To procure the best results treatment should begin at once. When there is a swollen throat, fever, headache, etc., attach the tongue electrode to the positive pole and place on the tongue as far back as can be done, the patient closing his mouth to hold it firmly. Apply the negative electrode on the back and chest successively between neck and shoulders, using a weak secondary current. A warm foot bath at the time of operating assists materially.

COLD IN HEAD.—Use practically the same course as advised for acute catarrh, beginning with a primary current and then, if bearable, a mild secondary current.

DEAFNESS.—When this arises from structural disorganization of the ear it is useless to apply electricity. However, if resulting from paralysis or obstruction favorable results are likely to follow. In paralysis use a mild secondary current, place the positive electrode on the back of the head and with the negative sponge electrode, saturated in mild salt solution, sponge over the ear for about five minutes. For obstruction place the negative pole to the back of the neck and hold the positive pole to the mouth, ear and to the root of the nose in succession.

DIPHTHERIA.—This dreaded disease necessitates a call for a doctor immediately, and when the battery is used there must be no delay. Using a strong secondary current, the feet are placed in a salt solution on the foot plate attached to the negative pole and sponging the whole body with the positive pole. If there is a hard full pulse and a flushed countenance, sponge the entire body with the negative pole, holding the positive pole at the base of the spine. If at all possible hold the tongue electrode attached to the positive pole in the mouth and sponge the back, shoulders and upper part of the neck with the negative electrode, using the primary current. If this treatment is not possible, use the positive electrode about the ears and on the sides of the neck, the patient holding the negative pole in the opposite hand. Continue by holding the negative pole between the shoulders and applying the positive pole above the nose.

DIABETES.—Of no value unless in the early stages and a general treatment, using primary and secondary current alternately, the negative pole attached to the foot plate being used with the feet in water and the entire body from the shoulders down being sponged with the positive pole.

DROPSY.—Either give a general treatment with the tongue electrode and positive pole in the mouth or sponging the lower part of the body with the positive electrode and the feet in warm water on the foot plate in connection with the negative pole.

DYSPEPSIA.—Owing to dyspepsia often becoming chronic without the knowledge of the patient, it often requires a considerable time for a cure. If not in the chronic stage, it readily yields to electrical treatment. A general treatment is advised, but if there is soreness in the stomach treat the abdomen with the positive pole, placing the negative pole on the spine opposite and somewhat below and using the secondary current.

FLATULENCE.—Using a mild secondary current, pass the negative pole over the bones and the pit of the stomach, with the positive pole at the base of the spine, though always above the negative. In acute indigestion accompanied by flatulence apply the positive pole to the spine or over the stomach, at the same time having the negative pole inserted into the rectum.

FEVERS.—Specific directions cannot be given for fevers owing to the various types and stages, but general directions are given which may be the means of breaking up and modifying the attacks if utilized in the early stages. Where the attack comes on with the flushes or suddenly, as indicated by an excessive rise in the temperature, place the feet in warm water with the foot plate attached to the negative pole and sponge the whole body with the positive pole, using the secondary current. When typhoid fever is indicated, a general treatment is applicable in addition to the former, remembering at the same time to prevent excitement and keep the patient quiet and cheerful. As we all know, great care should be taken with the diet.

GENERAL DEBILITY.—General treatment should be used in this case, but if the chest, abdomen or back denotes any spinal weakness treat locally with the negative electrode over the chest and abdomen and apply the positive on the back directly opposite, using the secondary current, increasing the strength gradually and continuing for about twenty minutes.

EARACHE.—Hold the negative pole in the hand opposite to the painful ear and rub lightly the positive pole in and above the ear, using a light secondary current with a gradual increase, and continuing the application until relieved.

DISCHARGES OF THE EAR.—This disease is often accompanied by pain in or about the ear, and in such cases apply as for earaches. But when there is a disagreeable discharge from the ears, seat the patient on a foot plate with the positive pole attached, sponging the entire body with the negative electrode, giving the ear special application, alternate on each third day with the positive electrode on the tongue. Should headache follow the application, wet the head and apply the positive electrode to it for a few minutes, the negative electrode being held in the hands of the patient. Syringe the ears with castile soap and warm water frequently.

ENLARGED GLANDS.—Apply the positive pole to the swollen glands, holding the negative above the affected parts, using the primary current and also occasionally give a general treatment.

EYE.—Owing to the delicate organism of the eye, great care must be exercised in treating it. There is assurance in the fact that the application of electricity is not attended by pain except that it may occur during the treatment in the eyes and head. Always use an extremely weak current, otherwise there may be great injury. Attach the eye electrode to the positive pole and apply over the eyelid, using the negative pole over the cheekbone on the same side of the face, keeping the hands and feet warm, the blood in good circulation, and dieting in such manner as to keep bowels and stomach well regulated. Two or three applications a week for a year or more may be necessary where the disease is of long standing, where there is inflammation or granulated lids, but eventually the results are satisfactory.

INFLAMMATION OF THE EYE.—Never rub the eye with the fingers, and if the system is disorganized a general treatment should be taken. Use a mild solution of boracic acid for bathing the eye. Attach the eye electrode to the positive pole, applying it over the lid, holding the negative pole in the hands on the same side and continuing for about twenty minutes. Should a pain arise in the eye or head, apply the positive pole at the seat of pain, holding the negative pole in both hands.

GRANULATED EYELIDS.—Use same treatment as for inflammation of the eye, but with the primary current instead of the secondary. If the patient's system is in poor condition, he may be seated on the foot plate connected with the pole and with a medium secondary current, sponge the whole body with the negative pole. When there are scrofula conditions, give treatment as for that disease.

ULCERS OF THE EYE.—Apply the current similar to the treatment given for granulated eyelids.

BLINDNESS AS A RESULT OF FILM ON THE EYE.—Requires constant treatment, and by absorption can be eventually cured. Using the primary current, the positive pole is applied to the eye, as for inflammation, and the negative held in the hand. The positive pole on the eye and the negative in the hand on the same side or at the back of the neck will assist in absorption.

OBSTRUCTION OF THE LACHRYMAL DUCT.—On alternate days place the positive pole at the corner of the eye over the duct and the negative pole in the opposite hand or at the back of the neck and apply for several minutes, using the primary current.

CATARACT.—Expert treatment is necessary in this disease, and should only be given on the advice and directions of one well versed in electrical treatment.

FELONS.—Place the foot plate in a basin of warm water, connect the positive pole, insert the affected member in the water and turn on the primary current, holding the negative electrode in the other hand or comb.



FALLING OUT OF THE HAIR.—A hair brush electrode is almost a necessity in this treatment, as it is so much more effective than any other method of application, and is a natural method of treating the scalp. Attach the brush or comb to the positive pole in the hand, use a weak secondary current, and use thoroughly every day for about five minutes.

ERUPTIVE FEVERS.—When the eruptions appear on the surface, use the same directions as in the early stages of fever, but with the primary current. If the eruptions are not visible, the eruptions must be brought to the surface. Give a general treatment with negative pole and sponge electrode. Also sponge the upper parts of the body with the negative pole, placing the positive pole in the mouth, and then sponge the lower parts of the body with the negative pole, the positive pole being placed at the base of the spine. Continue every few hours until the eruptions appear and follow with the regular treatment for fevers, as described under fevers. In a very young child there may be difficulty in using the electrode on the tongue, but if possible it should be done. When there is swelling about the throat or ears, or the throat is sensitive to the touch, rub the ears and neck well with the positive pole and sponge electrode, the negative pole being placed in the opposite hand to the side being treated, using the primary current in all cases.

FEVER AND AGUE.—Using a strong secondary current, apply in advance of a chill for ten to fifteen minutes daily or oftener if desired. Attach the sponge disk to the negative pole and apply over the liver, holding the positive pole on the back directly opposite and in addition the tongue electrode on the positive pole may be used. A complete sponging of the body with the negative pole, more so about the spine, the patient sitting on the foot plate connected with the positive pole, is also a very good form of treatment.

GOITRES.—In addition to a general treatment with the negative pole of the entire body occasionally, the proper treatment is to apply the positive pole to the tumor, holding the negative pole in the hand or to the back of the neck below the positive pole, continuing for about fifteen minutes and about three or four times a week. Small tumors will often disappear permanently, but large ones are difficult to treat, and, even though they disappear, will often reappear again.



Tongue Electrode.

HOARSENESS.—Acute and chronic hoarseness require different treatment. In the former, using a primary current, rub the negative pole up and down the back, and apply the tongue electrode, attached to the positive pole, as far back on the tongue as possible. In chronic cases and accompanied by debility give a general treatment to the whole body.

HEADACHE.—Sick headache is one of the most common forms of this disease, and arises from a disordered stomach. In all cases use a primary current, which can slowly be increased if the patient can bear it to a very weak secondary current, but never use a current strong enough to cause pain, and in the treatment of children especially the danger of causing pain must be avoided. In sick headache place the positive pole at the back of the head about the base of the brain and apply the negative pole over the stomach, liver and bowels, using a very light secondary current if patient can stand it. Where there is dizziness, a flushed face and heat in the head, apply the negative pole at the base of the spine or at the feet, and apply the positive pole carefully to the head, previously moistened with weak salt water.

HYSTERIA.—Give a tonic treatment and also apply the positive pole on the tongue and the negative pole to the chest, stomach and bowels, using a mild secondary current.

HERNIA OR RUPTURE.—Using a mild secondary current, increasing slowly, apply the positive pole immediately over the hernia and place the negative pole on the back opposite the diseased part or in the rectum.

HICCUGHS.—A secondary current, slowly increased, should be used, and the positive pole applied on the back of the neck and the negative pole over the pit of the stomach.

HAY FEVER.—Apply the positive pole to the nose between the eyes and apply the negative pole between the shoulders on the back.

INCREASING CIRCULATION OF THE BLOOD.—Use a secondary current and sponge throughout with the negative pole, seating the patient on the positive pole. In case of rush of blood to the head, apply the positive pole with tongue electrode to the tongue, thereby equalizing the circulation.

INDIGESTION.—Stimulation of the digestive organs is indicated in this disease, and can best be promoted by the use of the tongue electrode on the positive pole placed on the tongue, the negative pole over the pit of the stomach and using a weak secondary current, increasing said current slowly. Another application may be made by placing the positive pole on the back of the neck and sponging the abdomen with the negative pole. It is hardly necessary to state that a wholesome diet will assist materially.

INFLAMMATION.—Using a mild secondary current, treat the inflammation in all cases with the positive pole. In cases of inflammation of the lungs special advice should be called for.

INSOMNIA.—As a sedative effect is desired, this is best induced by using a secondary current, a general treatment over the entire body being given, continuing for about twenty minutes and repeated every three hours until effective if necessary.

INFLAMMATION OF THE KIDNEYS.—When this disease is accompanied by fever use the secondary current and give general tonic treatment. In case of no fever place the feet on the foot plate attached to the negative pole and apply the positive pole on the back over the kidneys.

INFLAMMATION OF THE LIVER.—Combining the use of the primary and secondary currents successively, apply the positive electrode over the liver and place the negative pole on the opposite side between the left hip and the spine or at the base of the spine or under the left foot. Where fever is present give a general treatment, applying the secondary current.

LOCOMOTOR ATAXIA.—The treatment is to be utilized according to the affected parts, and owing to the ramifications of the disease no general rule can be made. In paralysis of certain parts, such as the arm or leg, the negative pole should be applied to the part affected and the positive held in the hand when the arm is affected, and connected with the foot plate when the leg is being treated. For spinal treatment apply to the back, using the sponge disk, the positive pole above and the negative pole below. When there is a hard full pulse and flushed countenance, apoplexy, place the patient's feet in a basin of warm water with the foot plate under them, connected to the negative pole, start with a light secondary current and apply the positive pole from the base of the brain down over the spine, increasing the strength gradually and continuing for about ten minutes. Then wet the patient's head thoroughly with a weak salt solution, switch to the primary current, turn on to almost full strength and apply the positive pole to the head for about five minutes. If there is no decided improvement in ten or fifteen minutes the application may be repeated, being careful to keep the patient as quiet as possible.

MEASLES.—A treatment similar to that for eruptive fevers is given, and once the eruptions appear no further trouble is apprehended, and with proper precautions as to ventilation, warmth and light a cure is easily effected.

NEURALGIA.—When accompanied by debility give a tonic treatment, and if the treatment is painful use a very mild secondary current, applying once a day. If the parts are swollen or sore apply the positive pole to the part, using the secondary current, holding the negative pole in the hand.

NOSE BLEED.—Using a mild secondary current, hold the negative pole on the back of the neck and the positive pole on the nose between the eyes.

OVARIAN TUMORS.—Using the primary current, apply the positive pole directly over the tumor and hold the negative pole on the back directly opposite. An additional treatment may occasionally be given by placing the feet in hot water on the foot plate attached to the negative pole and apply the positive pole over the tumor, bowels and back.

PARALYSIS OR PALSY.—Using a medium strong secondary current, hold the positive pole in the hand or placing it at the feet connected with the foot plate and apply the negative pole to the part affected. In cases of an unusual flow of blood to the head or a feeling of fullness in the head, give a general treatment to the body, attaching the tongue electrode to the positive pole and applying to the tongue. When the patient is debilitated sponge the whole body with the negative pole, holding the positive pole at the base of the spine.

PLEURISY.—Give a treatment similar to that presented for inflammation of the lungs, using a secondary current and increasing the strength gradually.

QUINSY IN THE THROAT.—When accompanied by fever, as is generally the case, treat as any case of mild fever, by attaching a small sponge or some cotton flannel over the electrode connected with the positive pole. Place in the mouth as far back as is comfortable, and, in order to secure a good current between the roof of the mouth and the tongue, close the mouth. Using a gradually increasing primary current, pass the pole between the shoulders and the back. A general treatment is effected by applying the positive pole around the shoulders and ears in addition to the body and placing the feet on the foot plate attached to the negative pole. In young patients, when the throat electrode cannot be used, apply the positive pole around the ears and throat externally, treating each side alternately with the negative pole, held in the hand opposite the side which is under treatment.

RHEUMATISM, INFLAMMATORY OR ACUTE.—When the affection is in the neck, shoulders or arms or about the head, place the negative pole and the hands in a basin of water and treat the affected parts with the positive pole. For other parts of the body place the negative pole at the feet. A general treatment with the feet in water in which the negative pole is placed and sponge the entire body with the positive pole. The primary and secondary current should also be used alternately, but when there is enlargement of the joints or swelling use the primary current.

RHEUMATISM, CHRONIC.—In cases of long standing attended by contraction of the muscles or a stiffness of the joints apply the negative pole, alternately using the primary and secondary currents; but if the disease appears to be aggravated after two or three treatments apply the positive pole. A tonic treatment should also be given.

RING WORMS.—Apply the positive pole to the affected parts and hold the negative pole to any part of the body further down.

SCROFULA.—As this disease has various forms wherein there are produced tumors, ulcers, enlarged glands, etc., the application is varied, according to the case. When accompanied by tumors, ulcers, etc., treat as prescribed for the disease, using a primary current and occasionally apply tonic treatment with the secondary current. In ordinary forms place the positive pole in the mouth or at the base of the spine and sponge the entire body except the head with the negative pole. Should the head be affected, it may also be treated, but not otherwise. Occasionally treat the entire body with the positive pole, placing the feet in a basin of warm water in which the negative pole is placed. About three to six treatments a week should be given. A proper diet and plenty of fresh air and sunlight are necessary adjuncts.

SCIATICA.—In addition to a general treatment once a week, place the positive pole on the abdomen and place the negative pole over the back and thighs along the sciatic nerve for about ten or fifteen minutes. The positive pole may also be placed at the base of the spine and the negative pole applied as in the former case, using a combined primary and secondary current.

INFLAMMATION OF THE STOMACH.—Using a secondary current, apply the positive pole to the stomach and place the negative pole in the spine and a little below.

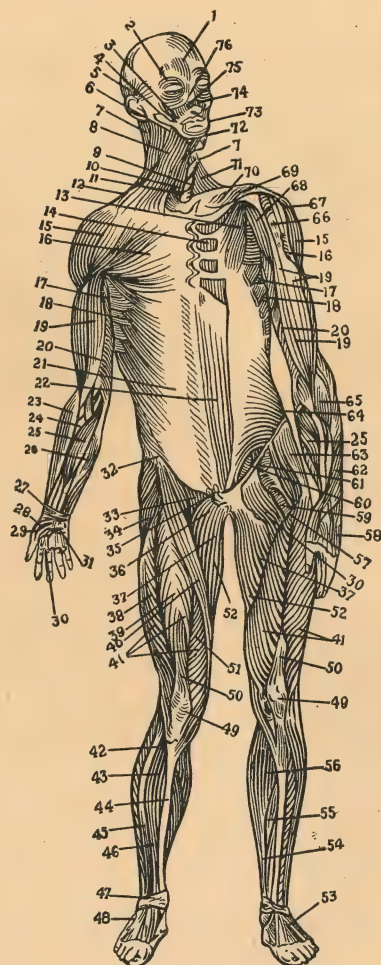
SUNSTROKE.—In cases where there is redness of the face and headache, use a very light primary current, place the feet in a basin of warm water with negative pole therein and apply the positive pole to the head, previously wet thoroughly with water.

TOOTHACHE.—With the tongue electrode attached to the positive pole, apply to the gum or aching tooth, at the same time holding the negative electrode in the hand and using a mild secondary current.

ULCERATED TOOTH.—If taken in time, before ulceration has set in, a quarter of an hour's treatment with the primary current similar to that prescribed for toothache will prevent ulceration. Use an exceedingly mild current at the beginning, slowly increasing.

WEAK ANKLES.—A strengthening of weak ankles can often be effected by using a secondary current as strong as can be given, applying the positive pole at the base of the spine and the negative pole over the limbs, ankles and feet.

INFLAMED WOUNDS.—Begin with a mild secondary current and gradually increase in strength, applying the positive pole to the inflamed parts and keeping the negative pole some distance below it. Before applying rinse a piece of cheesecloth or other soft cloth in clear cold water and place over the inflamed wound before applying the electrode.



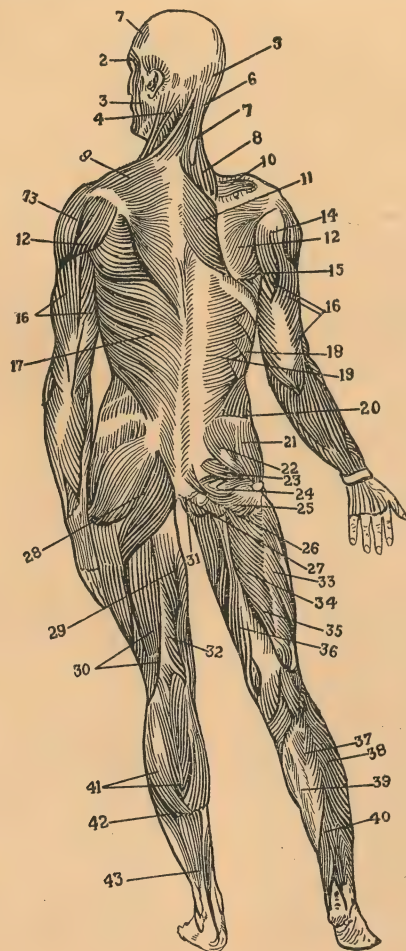
THE HUMAN MUSCULAR SYSTEM
FRONT VIEW

HUMAN MUSCULAR SYSTEM.

FRONT VIEW.

The superficial muscles of the neck, shoulder, forearm and thigh are partially off.

- | | |
|---|--|
| 1. Frontal portion of the Occipito-Frontalis | 43. Tibialis Anticus |
| 2. Orbicularis Palpebrarum | 44. Shin bone |
| 3. Zygomaticus Minor | 45. Extensor Longus Digitorum |
| 4. Temporal | 46. Extensor Proprius Pollicis |
| 5. Buccinator | 47. Annular Ligament |
| 6. Sterno-Mastoideus | 48. Extensor Brevis Digitorum |
| 7. Digastricus | 49. Patella |
| 8. Thyroid Gland | 50. Extensor Tendon |
| 9. Sterno-Hyoid | 51. Vastus Externus Muscle |
| 10. Trachea | 52. Gracilio sive Rectus internus |
| 11. Cucullaris | 53. Extensor Tendons of the Toes |
| 12. Pectoralis Minor | 54. Tendo Achilles |
| 13. Intercostal | 55. Flexor Longus Digitorum |
| 14. Deltoid | 56. Tibialis Posticus |
| 15. Pectoralis Major | 57. Poupart's Ligament |
| 16. Serratus Magnus anticus | 58. Tendon of Extensor Muscle |
| 17. Obliquus Externus | 59. Obturator Externus Muscle |
| 18. Biceps | 60. Inguinal Canal Muscle |
| 19. Triceps | 61. Head of Femur Muscle |
| 20. Sheath of Tendon of Rectus Muscle | 62. Abductor Pollicis Muscle |
| 21. Rectus Muscle | 63. Gluteus Medius Muscle |
| 22. Brachialis Anticus | 64. Obliquus Internus Abdom Muscle |
| 23. Pronator Radii Teres | 65. Flexor Sublimus Digit Muscle |
| 24. Flexor Sublimis Digitorum | 66. Long Tendon of the Biceps Muscle |
| 25. Internal Muscle of the Elbow | 67. Head of the upper arm |
| 26. Anterior Common Ligament of the Wrist Joint | 68. Coracco Brachialis Muscle |
| 27. Abductor Brevis Pollicis | 69. Clavicle |
| 28. Flexor Brevis Pollicis | 70. Sub-clavian Muscle |
| 29. Tendons of the Flexor Digit | 71. Scalenus Muscle |
| 30. Musculus Palmaris Brevis | 72. Depressor of the lower Lip |
| 31. Crest of the Ilium | 73. Sphinctre Muscle of the Mouth |
| 32. Spsoas magnus | 74. Compressor of the Nose |
| 33. Tensor fasciae latae | 75. Levator of the upper Lip and of the wing of the Nose |
| 34. Spermatic cord | 76. Levator of the upper Lip |
| 35. Pectoneus | |
| 36. Adductor Longus | |
| 37. Vastus Externus | |
| 38. Rectus | |
| 39. Sartorius | |
| 40. Gastrocnemius | |
| 41. Tibialis | |



THE HUMAN MUSCULAR SYSTEM
BACK VIEW

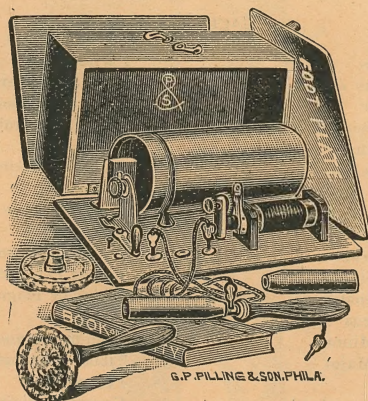
HUMAN MUSCULAR SYSTEM.

BACK VIEW.

- | | |
|-------------------------------|------------------------------|
| 1. Frontalis | 23. Pyriformis |
| 2. Sphincter of the eyelid | 24. Obturator internus |
| 3. Masseter | 25. Quadratus femoris |
| 4. Sternocleido-mastoideus | 26. Ligamentum tuberosacrum |
| 5. Occipitalis | 27. Os coccygis |
| 6. Splenius capitis | 28. Glutaeus maximus |
| 7. " colli | 29. Gracilis |
| 8. Levator anguli | 30. Biceps femoris |
| 9. Cucullaris | 31. Tuber ischii |
| 10. Supraspinatus | 32. Semi-tendinosus |
| 11. Rhomboideus | 33. Vastus externus |
| 12. Infraspinatus | 34. Adductor magnus femoris |
| 13. Deltoideus | 35. Femur |
| 14. Teres Minor | 36. Semi-membranosus |
| 15. " Major | 37. Tibiali posticus |
| 16. Triceps | 38. Peroneus |
| 17. Latissimus dorsi | 39. Extensor digitorum com- |
| 18. Ribs | munis longus |
| 19. Inferior posticus seratus | 40. Extensor hallucis longus |
| 20. Crest of the ileum | 41. Gastrocnemius |
| 21. Glutaeus medius | 42. Soleus |
| 22. " parvus | 43. Tendo Achillis |



THE PHILADELPHIA SINGLE CELL BATTERY



This battery consists of a hand-finished mahogany case, highly polished, with our strong nickel-plated wrought metal handle.

Dimensions, $9 \times 5\frac{1}{4} \times 4\frac{1}{2}$ inches.

Contents, two wooden handles, two metal handles, two sponge electrodes, one foot plate, one pair of cords.

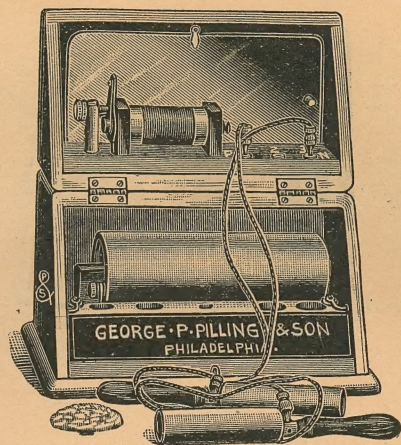
Our book, "Complete Guide for Domestic Treatment by Electricity," accompanies each battery.

PRICE, \$5.00

NO LIQUIDS OR ACIDS



THE LANSDOWNE SINGLE CELL BATTERY



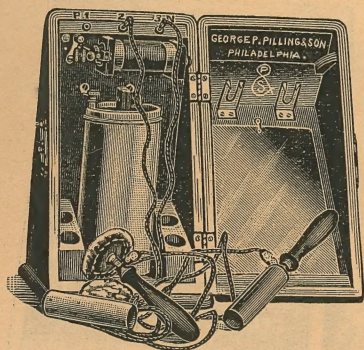
This battery is similar in style to the No. 1 and No. 2 Domestic Battery, except opening horizontally instead of vertically. It contains two metal handles, two sponge electrodes, one foot plate, one pair of cords.

Our book, "Complete Guide for Domestic Treatment by Electricity," accompanies each battery.

PRICE, \$8.00

NO LIQUIDS OR ACIDS

DOMESTIC SINGLE BATTERY, No. 1



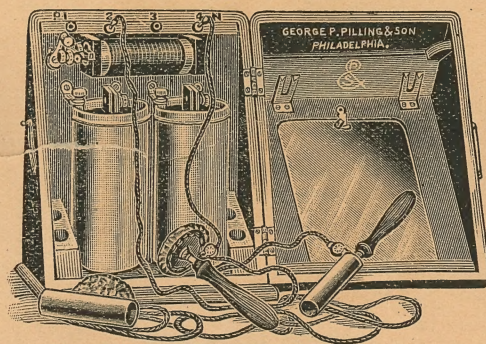
This battery is complete, consisting of one large foot plate, two metal shell electrodes, two silk-covered cords, two sponge-covered discs and two wood handles. The entire equipment is encased in a handsome mahogany case, hand polished.

Our book, "Complete Guide for Domestic Treatment by Electricity," accompanies each battery.

PRICE, \$7.50
NO LIQUIDS OR ACIDS



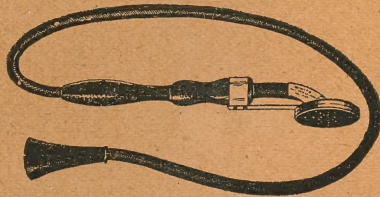
DOMESTIC DOUBLE BATTERY, No. 2



This battery consists of one large foot plate, two metal shell electrodes, two silk-covered cords, two sponge-covered discs and two wood handles. The entire equipment is encased in a hand-polished mahogany case.

Our book, "Complete Guide for Domestic Treatment by Electricity," accompanies each battery.

PRICE, \$10.00
NO LIQUIDS OR ACIDS



HEARING APPLIANCES

The Bowles Audiclare No. 1

The two principal objections to the majority of instruments now in use for the assistance of sufferers from impaired hearing are:

FIRST. *The Sentimental One:* That the form of instrument and the necessitated awkward and trying position of the arm and hand render the user conspicuous.

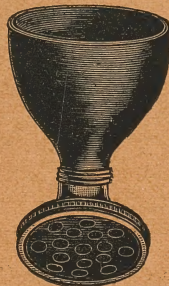
SECOND. *The Practical One:* That of injury to the Aural Organ by the insertion therein of a sound-conducting tube.

These objections are annihilated by the Audiclare.

Among the instruments now in use are several furnished with a vibrating disc or diaphragm, but they all provide for the protection of said diaphragm from contact with the outward ear. The AUDICLARE, on the contrary, insists upon and provides for such contact to a greater or less degree—dependent upon the degree of deafness.

Bowles Audiclare No. 2

Long Distance



This form of the Audiclare is useful for distance hearing, as in church or concert hall. The perforated diaphragm of the instrument is placed against the ear, and the flange end receives and congests the sound waves, the arrangement of the "AUDICLARE" intensifies them, and they are sent in their loudest tones to the interior of the ear.

This form is not as powerful as the No. 1, but when one is slightly deaf it will help wonderfully.

Prices of the Audiclare:

No. 1, net price, \$8.00. No. 2 is \$6.00 net.



SEPARATE PARTS FOR BATTERIES



ELECTRIC HAIR BRUSH

PRICE, \$1.50



ELECTRIC COMB

PRICE, \$1.00



ELECTRIC TONGUE DEPRESSOR

PRICE, \$1.00

Complete Guide for Domestic Treatment by **ELECTRICITY**



PRICE, TWENTY-FIVE CENTS

HEARING APPLIANCES



**London Dome
Ear-Trumpets**

We make these of highly-polished nickel or of acid-blackened metal, in three sizes, the largest being the most powerful.

2 inches in height . \$2.50
3 inches in height . 3.25
4 1/4 inches in height 4.00



**Elite Bell
Dome Trumpet**

This trumpet is bell-shaped, with flange end, and has a jet black polished interior surface. It is covered with black seal leather.

PRICE, \$8.00



**The Akou
Concentrator**

This instrument has been designed by a careful study of sound waves. These enter the base of the resonating chamber and converge through the narrow neck; this causes a rebounding of the waves outward around the dome of the instrument. It is made of bell metal, and measures 2 1/2 inches in width and 5 1/2 inches in height. It is a very clear-toned instrument for distance hearing.

PRICE, \$5.00

Made by
G. P. PILLING & SON
PHILADELPHIA, PA., U. S. A.