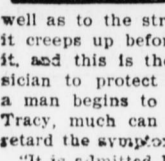


# THE ELECTRICAL WORLD

## CONQUERING OLD AGE.

Keeping Young by High-Frequency Electric Currents.

A method of retarding the approach of old age by treatment with high frequency electric currents is reported in the Medical Times by Dr. Samuel 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 hypertension and to vitiated blood. The condition of the blood is due to autoinfection and the floating in the bloodstream of waste materials.

"The waste material found in the blood is due to overeating, excessive drinking of alcohol, and autoinfection. 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 hypertension 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.

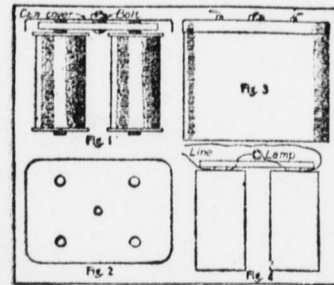
"While old age cannot be prevented, we have agencies at our disposal which will materially assist in retarding it, and in making its symptoms more comfortable. These agencies are high-frequency electric currents, diet, and hygiene. The physiological effects of high-frequency current are due to the spark, 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.

## FOR AMATEUR ELECTRICIAN.

How to Make a 110-Volt Transformer That Will Work.

Secure two magnets from a telephone bell, or a set of magnets wound for 2,000 ohms. Mount them on a bar



Parts of the Transformer.

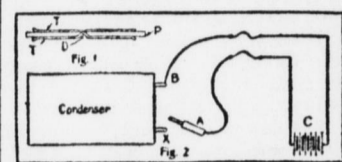
of brass or steel as shown in Fig. 1. Get an empty cocoa can and clean it good to remove all particles of cocoa and punch five holes in the cover, as shown in Fig. 2. The middle hole is to be used to fasten the cover to the brass bar with a bolt. The other four holes are for wire terminals. A piece of rubber tubing must be placed over the wire terminals before inserting them in the holes. Fill the can with crude oil, or with any kind of oil except kerosene oil, and immerse the magnets in it by fitting the cover on tight (Fig. 3). The connections are made as shown in the diagram, Fig. 5, says Popular Mechanics. This device may be used on 110-volt current for electroplating and small battery lamps, provided the magnets are wound with wire no larger than No. 40.

## SHORT-CIRCUITED CONDENSER.

How It Can Easily Be Cleared and Restored to Perfect Order.

The accompanying diagram shows how to apply the electric current to a condenser that may have become short-circuited by the tinfoil, through a defect in the paper insulation, making a contact one sheet with the other, as shown in Fig. 1.

Connect the contact point, A, Fig. 2, to one side of the source of current and the wire, B, to the other side, connecting this wire to the condenser as shown. Then by means of attaching the contact point, A, to the condenser



Cleaning Out a Condenser.

terminal, X, you will succeed in burning out the short-circuited portion of the condenser, says Telephony. Be sure to insert a fuse wire between the contact point and the source of current, which will blow out at about five amperes, and it is well to simply make passing contacts between A and X until you have observed that the short-circuited portion has been cleared. C represents the source of electric current, which may be the regular 20 or 40-volt storage battery or it may be a 110-volt lighting circuit. Either system will serve so long as it is a source of direct current.

In Fig. 1 is shown the tinfoil, T, and the paper insulation, P. D shows the defect in the paper where the tinfoil has forced itself through in contact with another sheet. It is this contact point which is burnt out when you "flash" the condenser in the manner described.

## WHOLESALE TELEPHONY.

Talking to Thirty-Five at Once Over the Same Wire.

Dependent for many years on an antiquated system by which it was necessary to call up each station house separately, thus losing much valuable time, the Philadelphia department of public safety, which has charge of the city's police, recently installed a system of simultaneous telephony by which a message may be sent from a single transmitter to 35 points at once.

The wires are so connected that, by throwing a single switch, all the stations are brought into the circuit and the words spoken by the operator at the central station are heard at each of the outlying stations simultaneously. The operators are provided with a harness holding both transmitter and receiver to their head so that their hands may be left free to operate typewriters to take down messages.

When the switch at the central station is not thrown into the circuit the telephones may be used to converse with a single station as usual without necessitating the use of another telephone. Similarly it also is possible to have a message come from any one station and go to all the others simultaneously without waiting to be repeated at the central office.

The system, says the Technical World Magazine, has been perfected by a Philadelphian, after ten years' experimenting. It is said that a Vienna newspaper has a somewhat similar apparatus by means of which it sends out news by telephone to upward of 800 subscribers.

## NICKEL PLATING.

How the Process Can Be Managed Without an Electric Current.

A light coat of nickel may be deposited upon brass and copper articles without the use of the electric current. The deposit is hardly sufficient to stand heavy buffing, but it may be lightly treated without cutting through.

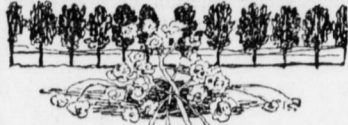
A solution is made up as follows: Water ..... gal. 1 Double Nickel Salts ..... oz. 8 Sal-ammoniac ..... oz. 8 The salts are dissolved in the water, and the whole is then heated nearly to boiling, says the Brass World. The brass or copper articles are immersed in the solution and some piece of aluminum are placed in it so that they come in contact with the brass or copper. The aluminum may be in the form of sheet scrap or granulated. A few pieces only are necessary.

Gas is given off from the aluminum and within a minute the article will become covered with a white coat of nickel. In a few minutes a fairly heavy deposit will have been produced. The nickel deposit is not quite as white as that obtained by electro-deposition from a good nickel solution, but it is the equal of an ordinary grade. It has a dark shade resembling the nickel obtained in an alkaline plating solution.

## Violins Aged by Electricity.

A noted violinist and violin maker believes he has discovered a method for giving, by the aid of an electrical machine, the same quality of tone to a violin that age has been credited with providing. The theory of the violinist is that it is not the age of the violin which really gives it its superior tone, but the amount of "bowing" or vibration it has received. By the use of the electrical machine the violin is expected to get as much "bowing" in 30 days as the same instrument would receive in 50 years of ordinary use. The details of the machine, which works the bow across the strings with almost human touch, are as yet a secret.

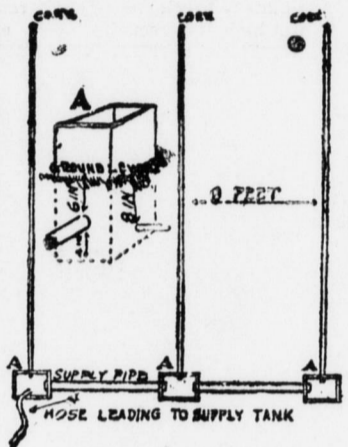
# HORTICULTURE



## IRRIGATING A GARDEN.

Cheap Sub-Irrigation Plant Which the Gardener Can Install Himself.

The garden plot should be nearly level, and near enough to the force pump or supply tank to be supplied from a hose. The pipes used come in eight-foot lengths, are of galvanized iron and one inch in diameter. They are not soldered, so have an open seam the entire length. These lengths are fitted together like stove pipe, so you can add as many as you need. The supply pipes are two inches in diameter and soldered. I have three boxes, explains the writer in Farmers' Mail and Breeze, made of one by six fencing 16 inches deep, tight at bottom, but loose cover on top.



Showing Pipe System.

Where the supply pipe enters bore a two-inch hole four inches from bottom and let the pipe fit in closely. Where the small pipe enters boxes bore a one-inch hole two inches from bottom and fit pipe. Dig your trench for supply pipe 11 inches deep, so that when in place only six inches of your box will be above the ground. Dig the long trenches eight inches deep and leave open until you connect the entire system, being sure that the open seam is at the bottom of long pipes. Put corks in the end of long pipes (not in the box), then drop the end of your hose in one of the boxes.

If your pipes are level the water will trickle out evenly from the bottom of all three long pipes, and you can then fill up your trenches, turn off the hose and plant your seeds. Then turn on the water until you see damp spots on the surface of the ground, then turn it off. The long pipes cost one cent per foot and the two-inch two cents. I bought mine of our dealer, but think it is made at Oakley, Kan.

Each long pipe waters the ground for four feet on each side, making irrigated plot 24 feet wide.

If you want to shut off one long pipe, put a cork in it at the supply box.

This plant is cheap, a ten-year-old boy can make it. It does not cause the top of the ground to bake, and produces excellent results in every way.

## HILLSIDE APPLE ORCHARD.

An Ideal Place for the Setting of Fruit Trees.

If possible, select a hillside for the new apple orchard.

Have it on the side of the hill that gets fewest of the heavy windstorms. This will often save the apple crop.

Plow the land deeply, running the furrows across the hill to prevent washing. If the soil is very light, leave an unplowed strip here and there to further act as a check to washing.

If the trees are to be set out this spring, manure heavily in the furrows. This will secure the full benefits of the manure and prevent some of it being washed away.

If the supply of barnyard manure is short put in phosphorus, potassium and nitrogen in some form or other. Give the trees a good start so they can make good roots the first year.

Use varieties that have been demonstrated to be the best for the locality and go slow on the kinds that have not been sufficiently tried.

Head the trees low, says the Farmers' Review. This is the more necessary if they are on high locations exposed to the winds. Low headed trees lose fewer apples than high headed ones.

On the hillside do not plant other crops except grass, if the land is very sloping. The ground should be encouraged to grass over and form a good sod as quickly as possible.

## GARDEN NOTES.

Much of the fruit shipped to market is picked when too immature.

The tomatoes need to be started early, so that the plants will have obtained good size by the time they can safely be set out in the spring.

Remember, the currant and gooseberry worms can easily be killed by spraying the bushes promptly with one ounce of white hellebore dissolved in three gallons of water.

Pick off all the blossoms from newly-set strawberry beds, thus you seed all the plants' strength back into themselves—into growth. It is unwise to let plants fruit the first season.

## ASPARAGUS CULTURE.

Some Valuable Hints from One Who Has Grown the Vegetable.

In a recent letter, Mrs. E. E. Grimes, one of the most successful asparagus growers in the nation, has the following to say of the culture of that excellent plant:

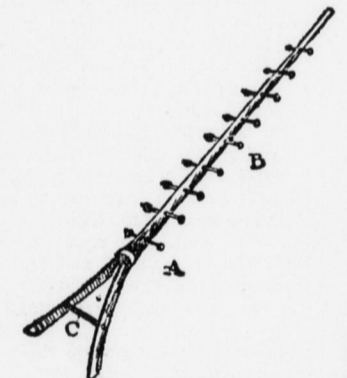
"There are two methods by which plants can be secured—from seed and from roots. If the roots can be obtained from a reliable firm, this is the quickest way to start a bed, and the earlier returns will more than pay for the plants; but roots should not be over two years old. Stunted roots and two-year-old-roots are so nearly alike in appearance that an unreliable firm will sometimes palm the former off for the latter. Some time ago the writer ordered 250 of the two-year-old roots, and, at the same time, planted roots grown from seed from the home garden. Those from the nursery did not show a spear above the ground, while home grown plants have formed a thrifty body, but roots can be purchased from reliable firms with good results. The writer has had good success taking up the young plants that had grown from a fallen seed in an old bed. These plants should be taken up after a rain, being careful to take up enough soil so as not to disturb the young plants. If plants form a clump, leave them together; dig a hole large enough to set the roots in as if they had grown there; place in rows or beds in a shady place, where the ground is cultivated. These plants should not be disturbed till two years old.

"If one cannot secure plants from an old bed, buy seed from a reliable firm. The seed should be sown early in the spring and when plants are two years old transplant into a bed where the roots can remain permanently. If properly cared for the bed will be profitable for 25 years. The selection of the ground is quite important. If for early use, or for market, and if rapid growth is desired, the soil should be a little sandy and should lie where it can have the direct rays of the sun. The ground should be as free from rock, rubbish and weeds as possible. This soil should be heavily covered with well rotted manure. The ground plowed deeply and well pulverized. The rows should be marked out with a row, making a furrow six inches deep in which to set the roots. The rows should be four feet apart. Asparagus should not be cut till the second year after planting, and the season's cutting should not be prolonged later than the middle of June, as this would be injurious to the life and vitality of the roots."

## A POLE LADDER.

For Many Uses, Especially in Orchard, It Can't Be Beat.

Here is a plan for making a ladder from a pole. The accompanying illustration shows how it is made. I used one like it 40 years ago, says a writer in Prairie Farmer and I thought it a "daisy." It is not original



A Single Pole Ladder.

with me. I took the idea from one of the agricultural papers at the time.

The pole is sawed to A where an iron band is slipped on from the top. At C is a wooden step which keeps the foot spread. The rungs, B, 16 inches apart, are one-half inch iron. I used machine bolts.

My plan for testing the safety strength of any ladder of which I am in doubt, is to lay it horizontal with both ends off the ground, stand on the middle, and if it will hold me, it will hold in any other position.

## Ireland Needs Reforesting.

Ireland pays \$5,000,000 a year for timber imported from other countries. Only 1 1/2 per cent. of its land is in timber and much of this is of little value. A popular objection to reforestation has been that forest plantations offer less employment to labor than equal areas of agricultural land. It was shown, however, that a certain 50-year-old forest, although planted on poor soil not valuable for agriculture, had employed four times as much labor as has been employed upon equal area of agricultural land and was more profitable to the owner. Within the past year \$50,000 worth of timber has been sold from this plantation, and much remains to be cut.

## Fruit Commerce.

It is only within recent years that fresh fruits have become important in commerce. Formerly only lemons, oranges and apples were sent far. Most of the export fruits were dried prunes, dates, raisins and figs. The coming of the demand for transportation brought into existence the great cold storage arrangements in our ocean steamers, by which it is now possible to send even perishable fruits from one part of the world to the other. Both market and competition have been enlarged.

## DAD AND HIS MEMORY.

Old Gentleman Really Had Very Little to Brag About.

It was a severe trial to Mr. Harding that his only son's memory was not all that could be desired. "Where in the world he got such a forgetful streak from is beyond me," said the exasperated father to his wife on one occasion.

"What has he forgotten now?" asked Mrs. Harding, with eyes downcast and a demure expression.

"The figures of the last return from the election on the bulletin-board," and Mr. Harding inserted a finger in his collar as if to loosen it, and shook his head vehemently. "Looked at 'em as he came past not half an hour ago, and now can't tell me."

"As I said to him: 'If you're so stupid you can't keep a few simple figures in your head, why don't you write 'em down on a piece of paper, as I do, and have done all my life, long before I was your age?'" Youth's Companion.

## \$100 Reward, \$100.

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages, and that is Catarrh. Hall's Catarrh Cure is the only positive cure now known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers that they offer One Hundred Dollars for any case that it fails to cure. Send for list of testimonials. Address F. J. CHENEY & CO., Toledo, O. Sold by all Druggists, 75c.

Take Hall's Family Pills for constipation.

## Might Miss Something.

Edyth—I told him there was no use wasting his time, as I didn't intend to marry him and that if he wrote to me I would return his letters unopened.

Mayme—Oh you shouldn't have done that. He might have inclosed matinee tickets in some of them.

## In a Pinch, Use ALLEN'S FOOT-EASE.

A powder. It cures painful, smarting, nervous feet and ingrowing nails. It's the greatest comfort discovery of the age. Makes new shoes easy. A certain cure for sweating feet. Sold by all Druggists, 25c. Accept no substitute. Trial package, FREE. Address A. S. Olmsted, Le Roy, N. Y.

## Looking Forward.

"Don't you get tired of being referred to as the representative of mediocrity?"

"Sure, I do," answered Ananias. "I'd rather be something profitable, such as a malefactor of great wealth."—Washington Star.

## Important to Mothers.

Examine carefully every bottle of CASTORIA a safe and sure remedy for infants and children, and see that it bears the Signature of *Wm. C. Little* In Use For Over 30 Years. The Kind You Have Always Bought.

Brought Humble Flower into Favor. Lord Beaconsfield's love for the humble primrose has been perpetuated by the foundation of the Primrose League.

For Any Disease or Injury to the eye, use PETTIT'S EYE SALVE, absolutely harmless, acts quickly. 25c. All druggists or Howard Bros., Buffalo, N. Y.

Nature is sometimes kind. Occasionally a red-headed man gets bald.

Mrs. Winslow's Soothing Syrup. For children teething, softens the gums, reduces inflammation, allays pain, cures wind colic. 25c a bottle.

It's a wise wife who knows her own husband.

**DODD'S KIDNEY PILLS**  
FOR ALL KIDNEY DISEASES  
RHEUMATISM  
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DIABETES, BACKACHE  
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## SICK HEADACHE

Positively cured by these Little Pills.

They also relieve Distress from Dyspepsia, Indigestion and Too Hearty Eating. A perfect remedy for Dizziness, Nausea, Drowsiness, Bad Taste in the Mouth, Coated Tongue, Pain in the Side, TORPID LIVER. They regulate the Bowels. Purely Vegetable. SMALL PILL. SMALL DOSE. SMALL PRICE.

**CARTER'S LITTLE LIVER PILLS.**

Genuine Must Bear Fac-Simile Signature

REFUSE SUBSTITUTES.

**MALARIATONE** For Coughs, Colds and Malarial Fevers

Have you the blues? Tone up your system and everything will brighten up. Mailed on receipt of price, 25 cents.

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May be permanently overcome by proper personal efforts with the assistance of the one truly beneficial laxative remedy, Syrup of Figs and Elixir of Senna, which enables one to form regular habits daily so that assistance to nature may be gradually dispensed with when no longer needed as the best of remedies, when required, are to assist nature and not to supplant the natural functions, which must depend ultimately upon proper nourishment, proper efforts, and right living generally. To get its beneficial effects, always buy the genuine

Syrup of Figs and Elixir of Senna  
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**CALIFORNIA FIG SYRUP CO. ONLY**  
SOLD BY ALL LEADING DRUGGISTS  
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## Peerless Dried Beef

Unlike the ordinary dried beef—that sold in bulk—Libby's Peerless Dried Beef comes in a sealed glass jar in which it is packed the moment it is sliced into those delicious thin wafers.

None of the rich natural flavor or goodness escapes or dries out. It reaches you fresh and with all the nutriment retained.

Libby's Peerless Dried Beef is only one of a Great number of high-grade, ready to serve, pure food products that are prepared in Libby's Great White Kitchen.

Just try a package of any of these, such as Ox Tongue, Vienna Sausage, Pickles, Olives, etc., and see how delightfully different they are from others you have eaten.

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**160 Acre FARMS in Western Canada FREE**

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## Revised Homestead Regulations

Entry may now be made by proxy (on certain conditions), by the father, mother, son, daughter, brother or sister of an intending homesteader. Thousands of homesteads of 160 acres each are thus now easily available in these great grain-growing, stock-raising and mixed farming sections.

There you will find healthful climate, good neighbors, churches for family worship, schools for your children, good laws, splendid crops, and railroads convenient to market.

Entry fee in each case is \$10.00. For pamphlet, "Last Best West," particulars as to routes, routes, best time to go and where to locate, apply to

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Cleanses and beautifies the hair. Promotes a luxuriant growth. Never Falls to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 50c and \$1.00 at Druggists.

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Tetter, Itching Piles, Erysipelas, Cuts, Burns, Old or Scalded Sores and all Skin Diseases positively cured by the use of Boy's Ointment. At your druggist or 50 cents by mail. BOY-OINTMENT COMPANY, Kittinging, Pa.

## PATENTS

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