

TESLA CAN MAKE LIGHT TO ORDER

His New System Solves the Problem of
Making Sunlight.

A New York dispatch says: Nikola Tesla, the wizard, has solved the problem of making sunlight to order. His new electric lamps are so many "baby suns." Without wire, or carbon filament they flood a room with the light of day. The radiance is soft, diffusive and soothing to the eye. Ordinary incandescent lamps pain the eye after using one of the baby suns.

This is the crowning triumph of ten years of experimenting. Tesla was able to produce the light years ago, and exhibited it in public, but it cost too much to produce it in commercial competition with the incandescent lamps. That difficulty has now been overcome, and the system of artificial lighting may be revolutionized. Not only is the "artificial sunlight" better, but it will be more economical. It will not be necessary to change the wiring of buildings already fitted up for the incandescent system. The supply wire will be attached to one of Tesla's transformers and the fixtures will be equipped with new lamp globes. The change will be relatively inexpensive.

This imitation sunlight is produced primarily by the oscillator transformer, of which the public has heard for years. This oscillator, which promises to produce other wonders than daylight, sets up electrical vibrations of inconceivable rapidity. It causes the millions of atoms in the gases in the lamp to become brilliant comets, flying hither and thither with great speed and throwing out a radiance that rivals the effulgence of old Sol himself.

The other instrument employed by Tesla is the lamp, which is a glass tube of the size of a finger and twenty feet or more long. It may be made on various forms, but the inventor has used a rectangular spiral tube with twelve to fourteen convolutions and an illuminating surface of 300 to 400 square inches. The tubes are filled with certain rarefied gases and the ends are covered with a metallic coating.

The inventor makes the following statement concerning the "baby suns": "The street current is passed through a machine which is an electrical oscillator of peculiar construction, which transforms the supply current, be it direct or alternating, into electrical oscillations of a very high frequency.

"These oscillations, coming to the metallic coating of the glass tube, produce in the interior corresponding electrical oscillations, which set the molecules and atoms of the incandescent in the ordinary sense, for were it so they would be hot, like an incandescent filament. As a matter of fact, there is very little heat noticeable, which speaks well for the economy of the light, since all heat would be lost.

"The lamps need not be renewed like the ordinary ones, as there is nothing in them to consume. Some of these lamps I have had for years, and they are now in just as good a condition as they were.

"The illuminating power of each of these lamps is, measured by the photometric method, about 50 candle power, but I can make them of any power desired up to that of several arc lights. It is a remarkable feature of the light that during the day it can scarcely be seen, whereas at night the whole room is brilliantly illuminated.

"When the eye becomes used to the light of these tubes an ordinary incandescent lamp or gas burner pro-

duces a violent pain in the eye when it is turned on, showing in a striking manner to what degree these concentrated sources of light which we now use are detrimental to the eye.

"The lamps are very cheap to manufacture, and by the fact that they need not be exchanged like ordinary lamps or burners they are rendered still less expensive. The chief consideration is, of course, in commercial introduction, the energy consumption. While I am not yet prepared to give exact figures, I can say that, given a certain quantity of electrical energy from the mains, I can produce more light than can be produced by the ordinary methods.

"In introducing this system of lighting, my transformer, or oscillator, will be usually located at some convenient place in the basement, and from there the transformed currents will be led as usual through the building.

"The lamps can be run with one wire alone, as I have shown in my early demonstrations, and in some cases I can dispense entirely with the wires.

"I hope that ultimately we shall get to this ideal form of illumination, and that we shall have in our rooms light which will be set aglow, no matter where they are placed, just as an object is heated by heat rays emanating from a stove. The lamps will then be handled like kerosene lamps, with this difference, however, that the energy will be conveyed through space.

"The ultimate perfection of apparatus for the production of electrical oscillation will probably bring us to this great realization, and then we shall finally have the light without heat, or 'cold' light. I have no difficulty now in illuminating the room with such wireless lamps, but a number of improvements must be made yet before it can be generally introduced."

QUICK RELIEF! QUICK RELIEF!

Wills' English Pills, the prescription of an eminent English doctor, are guaranteed by over 3,000 druggists as a positive cure for Constipation. 25 cents a box at all druggists. The Wells & Richardson Co., Limited, Montreal.

Questions Answered.

MILL.—Is a man obliged by law to leave a part of his property to each of his family? Ans.—No; he need not leave it to any of them, and he may leave it to one or two of them.

KINGVILLE.—B rented a store from A. B's clerk, in dressing window, hung a large valve on a look, which gave way, and in falling broke the plate glass window. Whose loss is the window, B's or A's. Ans.—B's.

COLLECTION.—A borrowed money from B, for which he gave his note to B. A refuses to pay to B. A is now living in Michigan. A owns a farm in Ontario, which he is about selling to C. How will B have to proceed in order to recover the value of said note before the money paid for said farm by C is sent over to A? Ans.—It depends upon how soon the money is sent. Get judgment and issue execution against this land if you have time. If not, issue a garnishee summons against C and get leave to serve B in Michigan. This can only be done if amount of note is less than \$200. Consult a lawyer.

HE WOULDN'T QUITE DO. "I would like," she said, marching up to the counter with a swing, "to be calculated both to attract attention and inspire awe. 'To see the manager of this department.'"

The clerk, seeing that she was beautiful, smiled at her in his blandest way, felt that he ought to avail himself of any opportunity there might be to explain things to her, and sweetly replied:

"I don't see him anywhere around just now. Won't I do?"

She looked up and down him a few

times, permitted an expression that he didn't quite understand to overtake her features, and then replied: "No, I don't think you will. I'm his wife, and—"

But the clerk had gone to hunt for him.—Chicago Herald.

The Beet Sugar Industry.

The beet sugar industry was born in Germany just one hundred years ago, when very few had any faith in the enterprise, or considered it at all feasible to extract sugar from beets in paying quantities. As sugar then was worth from \$1.50 to \$2 a pound it was a luxury in which very few could indulge. At that time beets only yielded from 2 to 3 per cent of sugar, and many tried to kill the industry in its infancy; but in France, under the patronage of Napoleon, it made rapid strides. Owing to the advanced chemical processes of extracting sugar from the beet, and the improved cultivation of it, by 1838 the percentage of sugar extracted from the beet amounted to between 5 and 6 per cent, but the high price of sugar, and the high protective tariff which was at the time placed on foreign sugar, seemed a further incentive to the growth of the industry. Germany at once took the lead in Europe in making sugar from beets, and has retained first place ever since. In 1896 there were 400 beet sugar factories in operation in Germany, turning out about 2,000,000 tons of sugar a year, while all the rest of Europe only turned out about 5,000,000 tons of beet sugar. 10,589,413 tons of beet sugar were received from 300,245 acres of land, an average of over thirteen tons to the acre. The price paid for beets was \$4.64 per ton, and they yielded 13 per cent of raw sugar. The industry in the beginning was fostered and encouraged by the government, but it is now paying over \$32,000,000 annually in taxes to the state, and this sum is nothing compared to the wealth it has brought to the nation.

In 1830 the beet sugar industry was first introduced into the United States, but without success. Again in 1838 about 1,500 pounds of sugar was manufactured from sugar beets, but the speculation proved a failure, and nothing was done until the year 1863 when a sugar factory was started in Illinois, about 100 miles south of Chicago, but the undertaking proved a failure after being in operation for a few years, and the plant was moved to Black Hawk, Wisconsin, but soon became a thing of the past. Shortly afterwards a successful small factory was started, by two Germans, at Fond du Lac, Wisconsin, which they operated for two years, and then removed to Santa Cruz, California, where they remained until 1879, when the company was reorganized, and a factory started at Alvarado, California, which has been in successful operation ever since, establishing the fact that sugar beets could be successfully grown in that state. By 1896 there were three other factories in the same state, two in Nebraska, and one in New Mexico. In 1897 the government of the United States passed a law to protect and foster the sugar beet, and beet sugar industries, which have been firmly established, and there are now some 37 beet sugar factories in operation in our neighboring republic, and they claim they can beat the world in raising sugar beets, with a higher percentage of sugar, and a greater percentage of purity than any other country in the world; but I propose showing, in the weekly series of articles I intend to write for our city papers this winter, that the country of Middlesex, and this western peninsula, need not play second fiddle to any country in the world in growing a high quality of sugar beets, and that the city of London should in the near future become the hub of the beet sugar industry of North America, if not of the world.

H. C. GREEN.

THE BABY'S COLD



Vapo-Cresolene

CURES WHILE YOU SLEEP

Vapo-Cresolene is sold by druggists everywhere. A Vapo-Cresolene outfit, including the Vaporizer and Lamp, which should last a lifetime, and a bottle of Cresolene complete, \$1.50; extra supplies of Cresolene 25 cents and 50 cents. Illustrated booklet containing physicians' testimonials free upon request. VAPOR-CRESOLENE CO., 120 Fulton St., New York, U.S.A.

What is to be done? Upset the stomach with syrups and home mixtures, and make a bad matter much worse? No, for there is a better, a far better way.

It's by using Vapo-Cresolene.

Just put the Vapo-Cresolene in the vaporizer, and light the lamp beneath. Soon the healing, soothing, penetrating vapor is given off.

Put it on the table near the baby's crib where he can breathe in the vapor as he sleeps. You see this vapor passes right over the inflamed membranes in the nose and throat, then it goes down into the bronchial tubes, destroying all germs and quieting all inflammation.

For whooping-cough, croup, asthma, hard colds, diphtheria, influenza and hay fever, it is the one certain and safe remedy.

For a number of years a Vapo-Cresolene apparatus has been under my observation. I have found it of such great value in cases of whooping-cough, croup and other spasmodic coughs, that I have instructed every family under my direction to secure one. Children suffering from such diseases can sometimes be relieved by the use of the above apparatus, and thus save being awakened and disturbed by the administration of internal medicines. A family once possessed of one will never be without it.

L. N. LOVE, M.D., St. Louis, Mo.

A Kernel of Corn.

I am the resurrection and the life.—St. John, xli, 25.

The relation of this life to the next is a mystery very difficult to understand. Why it should be necessary for us to pass a certain length of time in this preliminary stage of existence before we are transferred to a larger and wider sphere is a very puzzling question.

Some good and thoughtful people are of the opinion that there are various planes of work and experience, and that this earthly life is only one in the long series which ends in "the third heaven" of which St. Paul speaks, or the "heaven of heavens" to which the Old Testament refers. Of this, however, I say nothing. Whatever else there may be in store for us besides this immediate life and the life which is close at hand, it becomes ours, and I am too busy with my present preparation for an indefinite future to be disturbed by the various theories of various scholars. I am satisfied that I am getting ready for something which God will give me by-and-by, and so my mind and heart are quite at rest.

There must be a special meaning in the words of the text, and if we can discover it we shall bear the ills to which death and resurrection are subject, the more fortitude and resignation. Christ is the source of spiritual resurrection! Without some close relation to his revelation of law we cannot reach the higher nature, and bring us in to harmony with God's great universe. Let me illustrate. I place a kernel of corn in the ground. That kernel contains possibilities which are beyond computation. We wonder why it is important to thus bury it, and wonder more when told that by doing so we are really giving it a new and better life. We have learned, however, that if it is not planted it will remain a simple and single kernel forever, while if we do bury it it will in the autumn present us with a stalk bearing full ears of corn.

The moment we bury that kernel it begins to absorb something. It throbs with ambitious hopes and feels within itself the power of indefinite growth. It puts forth its energy, sends down its roots, sends up its shoots, drinks in what the soil so freely gives, uses the energizing mystery of sunshine and dew, and by dying to its existence as a kernel enters on another existence, larger and better.

The sun could look down on that buried kernel and say, "I am your resurrection and your life. Without me you would be nothing and could do nothing." Every word of that statement would be literally true. There is nothing figurative about it. It contains no metaphor, but an actual fact. Without the sun the kernel would be so chilled that growth would be impossible. The warm rays kindle its inner and dormant life, fill it with the hope to achieve its mission, tell it what its destiny is, and encourage it to achieve that destiny. The very storms which beat on the stalk when it is coming to maturity force it to send its roots deeper in order to keep itself unbroken, and the showers of rain which so gratefully quench its thirst and make it vigorous are all secondary. If the cornstalk is conscious of its origin and mission, if it obeys the law of its being, it absorbs what is necessary to make it strong and rejects what will make it weak, and in doing so becomes mature, bearing in its arms such abundance that the farmer is repaid for his toil during the cool spring months.

So with the soul of man. It is planted in this life amid many disagreeable contingencies, but they are all necessary to its development. The soil is in many respects repulsive, and we wonder why things are as they are. Our

CAMERA

FREE CAMERA and OUTFIT for selling 15 beautiful photographs. The camera is a simple, reliable, and easy to use. It is a perfect model for the amateur. The outfit includes a box of 12 prints, a camera, and a complete set of accessories. The camera is a perfect model for the amateur. The outfit includes a box of 12 prints, a camera, and a complete set of accessories. The camera is a perfect model for the amateur. The outfit includes a box of 12 prints, a camera, and a complete set of accessories.

ignorance cannot grasp the wisdom of God, and we ask, "Why?" a thousand and a thousand times. But the Christ above us is the sunshine that warms our experiences until they give us of their hidden energy. Our tears are the falling dew; our struggles are the storms which send our roots deeper. He, the Sun, is our resurrection, bringing to the surface of character the strongest elements that lie hidden within us. He, the Sun, is also the life of our life, for he tells us how to grow, what to absorb, and what to reject. The soul that lives in him has a kind of life that is fruitful, and when that soul has produced its crop of good deeds and holy thoughts, the God of all the earth will lift it into nobler life and give it a grander task and a wider opportunity. GEO. H. HEPWORTH.

SUPERFINE.

In Worldly Ways and Byways Mr. Eliot Gregory has narrated a story of a complacently tactless and snobbish person, of a type happily unfamiliar even in the most fashionable society. She, for it was a lady, importuned a painter for a sketch. After many delays and renewed demands he pre-sented her one day, when she and some friends were visiting his studio, with a delightful open-air study simply framed. She seemed confused at the offering, to his astonishment, as she had not lacked assurance in asking for the sketch. After much blushing and fumbling she succeeded in getting the painting loose, and handing back the frame, remarked, "I will take the painting, but you must keep the frame. My husband would never allow me to accept anything of value from you."

Then she smiled on the speechless painter, doubtless pleased with her own tact.

CONSTIPATION

Permanently Cured and all its Ill Effects Removed by

Burdock Blood Bitters.

If you've suffered from constipation for years, tried all the remedies you ever heard of, and without getting more than the relief the one dose of this medicine afforded—if you've been subject to all the miseries associated with constipation, such as sick headache, nausea, biliousness, pimples, eruptions, blood humors, blotches, piles, etc., wouldn't you consider it a blessing to be cured of your constipation so that it would stay cured?

Burdock Blood Bitters can cure you—sure so that the cure will be permanent. It has done so in thousands of cases during the past twenty years.

Just one statement to prove what we say is right.

Mrs. G. Gasby, Portage La Prairie, Man., writes: "For over two years I was troubled with sick headache and constipation. I tried many different pills and patent medicines, but they only gave me slight, temporary relief."

"A lady friend of mine induced me to try Burdock Blood Bitters, and sent me half a bottle of it to start with. I derived so much benefit from that that I continued to use it, and took in all three bottles, which completely cured me."

"That was ten months ago, and as my health has been splendid ever since I have only my kind friend to thank who advised me to take B.B.B."

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No matter how serious your case may be, or how long you may have had it, our NEW METHOD TREATMENT will cure it. The "wormy veins" return to their normal condition and hence the sexual organs receive proper nourishment. The organs become vitalized and manly powers return. No temporary benefit, but a permanent cure assured. NO CURE, NO PAY. NO OPERATION NECESSARY. NO DETENTION FROM BUSINESS.

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Thousands of young and middle-aged men are troubled with this disease—many unconsciously. They may have a smarting sensation, sharp, cutting pains at times, weak organs, and all the symptoms of nervous debility—they have STRICTURE. Don't let doctors experiment on you by cutting, stretching or tearing you. This will not cure you, as it will return. Our NEW METHOD TREATMENT absorbs the stricture tissue, hence removes the stricture permanently. It can never return. No pain, no suffering, no detention from business by our method. The sexual organs are strengthened, the nerves are invigorated, and the bliss of manhood returns.

Cures Guaranteed

We treat and cure BLOOD POISON, NERVOUS DEBILITY, IMPOTENCY, STRICTURE, VARICOCELE, SEMINAL LOSSES, BLADDER AND KIDNEY DISEASES. CONSULTATION FREE. BOOKS FREE. CHARGES MODERATE. If unable to call, write for a QUESTION BLANK for HOME Treatment. DRS.

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FOR ATHLETES

Now. See Here a Minute, MY FRIEND!

You ought to know that you can't cure pains in the head or heartburn and shooting pains in the stomach with headache powders and liniments. That stuff you rub on doesn't remove the cause. You have got to go down where the trouble is. What you want to do is to get your bowels to work. Take three Hutch to-night. Take one after each meal. It takes out these pains by stopping the fermentation of the food. It is easily taken, and doesn't contain any injurious substances. It's a hundred times better than elixirs, sarsaparillas, iron, and acid preparations. Don't lose time fooling with such things, but start using Hutch as quickly as you can. It's a doctor for 10 cents.

Hutch cures sour stomach, indigestion, and pain after eating. There never was anything put into a bottle that gave such relief as these amazing little brown tablets—200 for \$1.

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