

ELECTRICITY RUNS WORLD.

The Latest Addition to the Marvels of Science.

Sunday News.

WASHINGTON, D. C. March 10.—The phenomena of the earth's rotation, of rain storms, cyclones, water spouts, thunder and lightning are being artificially reproduced in the course of some remarkable experiments at the Elmer Gates Laboratory, at Chevy Chase, near this city. Prof. Gates, the famous physicist, who directs this fascinating work shop, has long been conducting elaborate researches looking to the solution of these enigmas of nature. As a result of this labor he has deduced some surprising theories which, in the opinion of many learned men, will effect a complete revolution in present methods of weather forecasting.

Your correspondent, a day or two, was granted the first newspaper interview concerning these important discoveries, and was requested to state that many were made with the assistance of the late H. A. Hazen, professor of meteorology at the United States Weather Bureau, whose death occurred only a few weeks ago, just as the work was drawing to a close.

THE EARLY EXPERIMENTS

of the two investigators were made for the purpose of ascertaining nature's method of rain-making. The most widely-accepted theory hitherto offered in explanation of this process assumes that when moist air is carried from one region above the earth to another, which is colder, it undergoes condensation and vice versa. Prof. Gates and Prof. Hazen both doubted that heat and moisture were the sole factors concerned in storm production. Prof. Gates had long believed that electricity played the most important role in weather-making and he set about to convince his co-laborer that he was correct.

In the initial experiment a large, fluffy mass of fleece cotton was suspended from the ceiling of the laboratory by a dry silk thread and was electrically charged by one pole of a powerful static machine. The other pole was connected with a similar mass of cotton. As the two tufts were being charged they grew perceptibly larger. Brought nearer, they became smaller. When sufficiently near or sufficiently charged for a spark to pass between them, as a lightning flash passes between two clouds, they twitched at the moment of discharge. The two tufts were afterward filled with smoke puffed into them through a tube. Some of this smoke was ejected by each at the moment a spark passed. When a certain distance apart, the smoke would leave one of the masses and proceed in a straight line to the other. Thus the electricity actually carried the vapor from one to the other. Then steam was injected into one tuft and some of its moisture was similarly conveyed to the interior of the other, as proved by an instrument for measuring humidity. It was noticed that although one piece of cotton would increase in volume when first charged with electricity, it would begin to shrink as soon as it induced an opposite charge in some adjacent mass of matter.

A volume of moisture-saturated air was next enclosed in a rubber toy balloon, suspended by a string. The balloon swelled when highly charged, but shrank when in the presence of a body charged with opposite electricity. When a succession of sparks passed into the balloon it appeared to take a sudden expiration, then an inspiration immediately afterward.

These and other experiments proved to the satisfaction of the two investigators that electrical conditions are capable of increasing and diminishing the density of the air.

IN A LATER EXPERIMENT

a moist current of air was charged with negative electricity as it entered the laboratory through an open window. A similar current, from another source, was charged with positive electricity. At a distance between the two inlets and where the two currents mingled a mist was seen to form. It was this successful attempt at rain-making indoors which is believed to have solved the problem as to how Dame Nature herself aggregates the moisture of the air into mists, rain or snow.

THE SCIENTIFIC EXPLANATION.

To attempt to translate Prof. Gates' technical statement, the fact that bodies charged with the same kind of electricity—either positive or negative—repel each other, has discouraged meteorologists from believing that the moisture particles in any one body of similarly electrified air could be made to come together and collect in the form of rain drops of appreciable size. If the surrounding air was all positive or all negative, these minute particles would be repelled and fly apart, as

would two pith balls charged with the same kind of electricity. It is a well known law of physics that a pith ball or any other object charged with negative electricity, will, on the contrary, be attracted by another charged with positive electricity. Hence, before they can believe that electricity causes the moisture particles to aggregate and form droplets heavy enough to fall, these old-school meteorologists must be convinced that the including region of atmosphere is charged with both positive and negative electricity at the same time. But, according to Prof. Gates, if one locality, or cloud, acquires a charge of electricity, some adjacent locality or cloud must acquire a charge of opposite electricity. Midway between these two oppositely charged clouds, or regions of moist air, there must be one or more secondary regions where their respective particles commingle. Those of one being positive and those of the other being negative, they attract, cohere and form rain drops. One region may be a cloud, or vapor-charged air mass, and the other may be another cloud, or the earth. When disturbances of the electric equilibrium of the atmosphere occur differences in density, pressure, temperature and moisture result.

AN EXPERIMENTAL CYCLONE.

Returning to the cotton tufts, it was discovered that when one was charged with positive, the other with negative electricity, and the former only was saturated with smoke, injected into its centre, the smoke escaped toward the opposite tuft and assumed a conical, cloud-like shape, its particles traveling across the intervening space in the form of a water spout. This was repeated many times, and led Prof. Gates to believe that under vastly more powerful charges of the earth's surface currents of air might be carried from sharp peaks and points upward into the air, or that when such a discharge takes place downward it may carry the upper current down to the lower, thus producing the funnel-shaped appearance of the cyclone clouds.

By connecting one terminal of his static machine with the bottom of a saucer of water, pierced by a wire, and by causing the other terminal to approach the top of the water, Prof. Gates produced a miniature water spout. As soon as the water touched the upper terminal it was thrown laterally outward in a shower of drops. In a later

RAIN-MAKING EXPERIMENT

the professor placed his static machine midway between two windows of his laboratory, while a moisture-laden breeze was blowing through the room. He suspended a mass of cotton from the ceiling by a piece of dry silk. On the floor below he placed masses of different substances having ground connections. He charged the cotton—serving as a cloud—with positive electricity and mist was seen to form about midway between it and the low-conductor—serving as the earth—which was soon covered with moisture particles. This proved to him that the moisture particles not only aggregated into droplets, as a result of the process explained above, but that there was an electric translation of the moisture from the cotton cloud to the floor.

When asked how a complete thunder storm might be produced by such artifice, Prof. Gates replied that this was done by maintaining a layer of moist air in the top of a room and by charging this to a potential different from that of the floor below. If charged to a sufficient height and with sufficient quickness there would result a sudden flash and discharge, accompanied by a fall of rain upon the floor.

Additional experiments to which Prof. Gates gives particular weight, were made in closer collaboration with Prof. Hazen. Their object was to prove more satisfactorily that when two aerial localities are charged with opposite electricities there is a more rapid diffusion of moisture from one to the other than when they are not electrically charged. They employed an oblong glass box with wooden ends, into each of which was fixed a multiplicity of copper wires with points protruding inward. The apparatus was placed upon an insulated stool in front of a static machine having a power of 450,000 volts and capable of producing sparks eighteen inches long. The box was partitioned into halves by a sheet of porous paper. One-half was filled with dry, and the other with wet, air. The wire points at the dry end were charged with positive, those at the moist with negative, electricity. While it ordinarily required from six to twelve hours for the moisture to escape through the porous partition and distribute

itself equally through the entire box, the charging of the two ends caused a transference of the moisture from the moist to the dry end to take place in from eight to ten minutes. The moisture was electrically carried from the negative to the positive pole. When the whole box was equally filled with moisture it was discovered that more collected in the air surrounding the negative pole. Thus it was ascertained that an electric charge in the air will unequally distribute the moisture already present and perhaps uniform.

Describing some remarkable experiments in which he electrically reproduced

THE EARTH'S ROTATION.

Prof. Gates went on to say that he took a shellacked paper globe and held it near the knob of his static machine until it became attracted. Fastening it to the ceiling and floor by threads, and allowing the sunlight to fall on one half, he found that the dark half was constantly drawn to the knob and made to revolve. He similarly mounted upon an axle a soft iron disk and placed at one side, near its outer edge, a magnet exerting a steady pull. A lamp was placed under the disk so as to heat its lower portion. The disk revolved. Its revolution was due to the fact that the lower or heated portion was less attracted than the upper or cool portion, inasmuch as heat diminishes magnetism. The cooler portion was, therefore, drawn around by force of attraction until it became heated in its turn and the part formerly heated had become cooled. The rotation was thus manipulated.

Explaining the significance of these two experiments, Prof. Gates remarked: "Researches of Prof. Bigelow, of the weather bureau, showing variations in the earth's magnetic field, and his other studies relating to solar magnetism, clearly prove the existence of an interplanetary magnetic field. Accepting that proof, I have discovered the cause of the earth's rotation and of its atmospheric electricity. The earth is a magnet, one-half of which is cooler than the other. The sun, also being a magnet, pulls the cooler side of the earth more than the warmer side and thus rotates the earth. The morning side of the earth when it rises toward the sun is cooler and more drawn to the sun than the evening side just disappearing. The latter, having been subjected all day to the sun, is warm and not so much attracted. Hence the rotation in the very direction in which we know the earth to revolve. A body immersed in a static field, with sunlight falling on one-half of it, revolves. The earth is such a body and is in a static field. Lord Kelvin proved that a static body is revolved by a magnetic field. The earth is such a body and is in such a field, if Prof. Bigelow be right, which I believe he is. When an insulated body is revolved in a magnetic field it generates electricity in itself, as proved by dynamos. The earth is such a body and is revolving in a magnetic field. I claim this to be one source of the earth's atmospheric electricity. I revolved a magnetic body in a static field and it generated a current in the magnetic body. The earth is a magnet and it revolves in a static field, and must have a current generated in itself. A comparison of the size of the small magnetic body which I employed and the strength of its field with the size of the earth and the strength of the field in which the latter revolves sufficiently accounts for the enormous electricity of storms."

When asked if he anticipated that his discoveries would effect a complete revolution in weather forecasting, Prof. Gates said: "When the weather bureau can make extended electrostatic observations, simultaneously, over widely distributed areas and can determine times of high and low electrostatic potentials, it can readily predict times of low and high barometer. I feel quite sure that astronomical calculations will also, sooner or later, enable us to predict the times and places of electrostatic and magnetic changes. The wise meteorologist will then no longer ignore these factors. I do not allude to astrological divinations, but to measurable physical conditions."

JOHN ELFRETH WATKINS, JR.

Free Blood Cure—An Offer Proving Faith to Sufferers.

Is your blood pure? Are you sure of it? Do you or scratches heal slowly? Does your skin itch or burn? Have you pimples, eruptions, itching bones or back, eczema, old sores, boils, scrofula, rheumatism, foul breath, catarrh? Are you pale? If so purify your blood at once with B. B. B. (Botanic Blood Balm.) It makes the blood pure and rich, heals every sore and gives a clear, smooth, healthy skin. Deep-seated cases like ulcers, cancer, eating sores, painful swellings, blood poison are quickly cured by B. B. B., made especially for all obstinate blood and skin troubles. B. B. B. is different from other remedies because B. B. B. drains the poison and humors out of the blood and entire system and cannot return. Intelligence readers are advised to give B. B. B. a trial. It cures when all else fails. Thoroughly tested for 30 years. Sold at drug stores and Hill-Orr Drug Co. and Wilbite & Wilbite at \$1 per large bottle, \$6 large bottles (full treatment) \$5. So sufferers may test it a trial bottle given away absolutely free. Write for it. Address Blood Balm Co., 350 Mitchell St., Atlanta, Ga. Write to-day. Describe the trouble and free medical advice given.

It is often evidence of guilt when people become angry at reproof. The innocent can bear reproof much better than the guilty.

We have saved many doctor bills since we began using Chamberlain's Cough Remedy in our home. We keep a bottle open all the time, and whenever any of my family or myself begin to catch a cold we begin to use the Cough Remedy, and as a result we never have to send away for a doctor and incur a large doctor bill, for Chamberlain's Cough Remedy never fails to cure. It is certainly a medicine of great merit and worth.—D. S. McCarle, General Merchant and Farmer, Mattie, Bedford county, Pa. For sale by Hill-Orr Drug Co.

Japanese Hotels.

It is a novel affair, ever to the travelled foreigner. The entrance is usually a little area, which is practically an extension of the street or sidewalk, and defined by a low platform or raised floor. From this modest eminence the proprietor and those about him greet the new guest with profound bows, their foreheads touching the floor repeatedly. There is no showy office, no high desk, no lordly clerk, no big book for the guest's autograph—only a little table about fourteen inches high, with an inkstone, suggesting that here the accounts are made up. But the guest may not yet ascend. His shoes must be left in the area. That explains its shoe shop appearance. Quick servants promptly assist in the correction of his understanding, bringing sandals or slippers if he is unprovided; then, preceded by his traveling effects, he is led to his apartment. He observes that the stairs are without rails, and that the female servants make their steep ascent much as a child would—often using the hands as well as the feet. Ours is a "10-mat" room, that is, it requires ten mats, each three feet by six feet, to cover—or, rather, form the floor. The mat is made of woven straw, overlaid with ordinary matting and finished with a firm border. Being soft and yielding under the foot it is comparatively noiseless.

The furniture? A dainty doll table, twelve inches high, a little lacquer tray with a tiny teapot and two small cups and saucers, two floor cushions and a wall scroll—that is all. The sole heating apparatus is a box of ashes with a nest of coals. Beside the coal is a tea kettle. Between us and the snow storm raging outside there is first a wall of sash filled with translucent paper, then a narrow hallway, then a sliding sash filled with glass. A finger thrust on either of three slides and your every movement is visible from without. Locks! What good? All the doors are paper, and work in slides, and all windows are doors. Everything slides. Do you want the servant? Clap your hands smartly and then comes from somewhere above, below or around, a "H-i-i-i-i-i," and sandaled feet are sliding toward you. At the sound of the sliding door you look only to see him or her approaching you on sliding knees—at least so it seems.

Your commands are received by the polite waiter in that attitude and the disappearing is after the fashion of the approaching. Dispose of yourself as best you can. The little platform at the end of the room, with your roll of rugs, may give you relief from standing or sitting on your heels. I have been fortunate enough thus far to be entertained where a chair could be had for the asking. But when one comes to meals—which are served in one's room—it is quite a condescension from the foreign chair to the little Japanese table. "Foreign food" also is to be found in the best hotels. Beefsteak, chicken, butter, eggs, potatoes—one can get on very well with such "hardships" if they are not spoiled in the cooking.—Bishop Earle Cranston, in the Northwest Christian Advocate.

Woman's Chance of Marrying.

A woman's prospect of marriage is distinctly affected by age. The statistics of all centuries show that the great majority of women marry between the ages of 20 and 30. Before reaching 20 a woman has, of course, a chance of matrimony, but the objections raised by parents or friends to marriage at a tender age frequently outweigh the desire of the young woman to acquire a husband and lead her to defer the wedding day.

All statistics that have been gathered bear out the statement that a woman's best chance to marry is at the age of 25, that over six-tenths of the marriages take place between 20 and 30, and consequently that a woman's chance increases up to 25 and steadily decreases after that age until it reaches the vanishing point somewhere about 60. Out of 1,000 married women 149 marry before the age of 20, 680 between 20 and 30, 111 between 30 and 40, the woman in the thirties having not so good a chance as the girl in her teens; between the ages of 40 and 50 the falling off is enormous, only 41 in 1,000 contracting the alliance in that decade, while past 50 the chances still further diminish, for the woman who has celebrated the semicentennial of her birth has only 19 chances in 1,000.

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We have saved many doctor bills since we began using Chamberlain's Cough Remedy in our home. We keep a bottle open all the time, and whenever any of my family or myself begin to catch a cold we begin to use the Cough Remedy, and as a result we never have to send away for a doctor and incur a large doctor bill, for Chamberlain's Cough Remedy never fails to cure. It is certainly a medicine of great merit and worth.—D. S. McCarle, General Merchant and Farmer, Mattie, Bedford county, Pa. For sale by Hill-Orr Drug Co.

Must Have Them.

The geographical distribution of red-headed girls is, fortunately, wide. They can be found in every inhabited quarter of the world.

The so-called dark races are frequently glorified by glowing locks. The Spaniards are swarthy as a race, but the purest-blooded Castilians frequently show traces of their Visigothic blood by blue eyes and red hair. The Infanta Eulalie, who visited this country in 1893, was red-headed.

Red-headed Italians are fairly numerous in Italy. They are most numerous in the northern provinces, where there is the greatest infusion of German blood.

And there is no girl in the world prettier than a red-headed Italian or Spaniard, except it be a red-headed American.

In Ireland a red-headed girl is made miserable by being called a "Dane." This epithet is a legacy of a thousand years or more—from the time when the Danes did override the coasts of Britain.

In a similar manner the Norsemen, who invaded Sicily centuries ago and intermarried with the inhabitants, left descendants with gleaming brain tatches.

The Turks are a light-haired, blue-eyed race and their children are everywhere scattered about Asia and northern Africa.

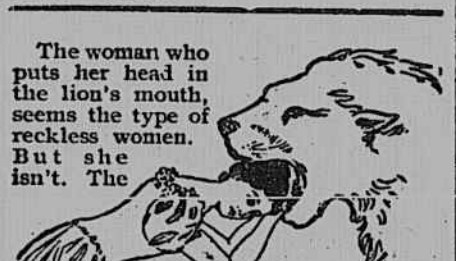
And where there aren't any red-haired girls by nature—as among the Moors and Arabs—the glowing locks are commonest of all. The women all dye their jetty tresses to a most lovely red with henna.

What is Home?

Recently a London Magazine sent out 1,000 inquiries on the question, "What is home?" In selecting the classes to respond to the question it was particular to see that every one was represented. The poorest and the richest were given an equal opportunity to express their sentiment. Out of 800 replies received seven gems were selected as follows:

1. Home—A world of strife shut out, a world of love shut in.
2. Home—The place where the small are great and the great are small.
3. Home—The father's kingdom, the mother's world and the child's paradise.
4. Home—The place where we grumble the most and are treated the best.
5. Home—The center of our affection, round which our heart's best wishes twine.
6. Home—The place where the stomachs get three square meals daily and our hearts a thousand.
7. Home—The only place on earth where the faults and failings of humanity are hidden under the sweet mantle of charity.

Adelbert Hay, United States consul at Pretoria, cables that he is having no trouble in the full exercise of his functions and is on an excellent footing with Boer officials, who give him any information desired as to the condition of the British soldiers prisoners at Pretoria.



The woman who puts her head in the lion's mouth, seems the type of reckless women. But she isn't. The really reckless woman is the one who braves Nature day after day, by neglect of the health of the delicate womanly organs. "Crime and punishment blossom on one stem" says Emerson. When cycle of self-neglect is complete it includes the pains and sufferings which are the inevitable penalties inflicted by outraged Nature. The drain which today is counted an inconvenience, becomes in succeeding days a horrible and offensive stigma. The passing depression of an hour grows into a permanent melancholy.

The timely use of Dr. Pierce's Favorite Prescription will save young women from suffering, as it will cure those who through neglect have become martyrs after marriage. No woman who suffers with backache, pain in the side, bearing-down pains, debilitating drains, ulceration or inflammation, should delay another day the use of "Favorite Prescription." Its use helps every woman and heals ninety-eight per cent. of all who give it a fair trial. It contains no opium, cocaine or other narcotic.

"I was tempted to try your medicines after getting the effect upon my mother," writes Mrs. Flora Ann, of Dallas, Jackson Co., Mo. "At the age of 25, I was married. My life was greatly bothered with painful periods, also a troublesome skin disease which rendered me very weak and unfit for work of any kind. I became so thin there was nothing left of me but skin and bone. My husband became alarmed and got me to take Dr. Pierce's Favorite Prescription. I saw the wonderful effects of that cure before me two more, and after I used those up, there was no more pain, and I began to gain in flesh very rapidly. I believe I weigh twice as much as I did then, and can do all my work. I think I owe all praise to Dr. Pierce and his wonderful medicine."

Doctor Pierce's Pellets are specially adapted to the needs of delicate women.

98 . . .

The above figures tell a remarkable story; they represent almost exactly the per centage of cures made by

RHEUMACIDE

the wonderful new constituent care for RHEUMATISM. The other two per cent were not curable, or failed to take medicine according to directions. Thousands have been cured. In view of the fact that many physicians think that rheumatism is not curable, and that most remedies fail, it must be true that RHEUMACIDE is the greatest medical discovery of the age. Particulars and testimonials begin to raise a host of known people sent free to all applicants. Sold by EVANS PHARMACY

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Will be found in all styles and sizes at

Brock Brothers.

WE have a full line of all sizes of genuine Georgia Steel Plow Shapes, bought before the recent advances, and we are selling them very low. Also, Plow Stocks, (Georgia Ratchet and Haiman Bent Foot.) Boy Dixie Stocks and Boy Carbon Stocks. Two-horse Dixie Stocks and Syracuse Chilled Turn Plows. Cutaway Harrows, (the Thomas and the 24 "Torrent.") Smoothing Harrows, (different kinds.) Cultivators and Cotton Planters, (any kind.) Leather, Shuck and Cotton Horse and Mule Collars. Trace Chains, Log Chains. Stretchers and Tongue and Breast Chains. Collar Pads, Back Bands, Hame Strings. Curry Combs, Bridles, Plow Lines, Whips.

We also have a full line of BLACKSMITH OUTFITS which we are selling at very low prices. When you need an outfit come in and see us. We also have a full and complete line of all kinds of BUILDERS' HARDWARE and MACHINERY SUPPLIES. Anything you need in the Hardware line you will find in our Store, and prices are very reasonable.

Come in to see us when in the city.

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In Patent and Box Calf, Black and Colored Vici, and genuine Cordovans at \$3.00, worth \$3.50 and \$4.00. Men's Hand-sewed Shoes for \$2.20. You have been paying more. All grades of—

COTTON and WOOLEN UNDERWEAR

Have advanced in prices. Our line is complete, and you get the same goods at the old prices. Our stock of—

GROCERIES

Embrace all the good things for the inner man. Every grade of FLOUR and the best of each grade. MAGNOLIA at \$4.00 per barrel has no equal.

McCULLY BROS.

Chatanooga Chilled Plow, the best Plow on the market.

O. D. ANDERSON & BRO.

GROCERY PRICE LIST FOR SPRING TRADE.

CAR Georgia Cane Syrup just from the farm—the only pure Molasses you can get—all in half barrels. Just the thing for every family to buy. N. O. Molasses, all grades, and Sugar Syrups. Will give you 5c. to 10c. per gallon by the barrel or retail.

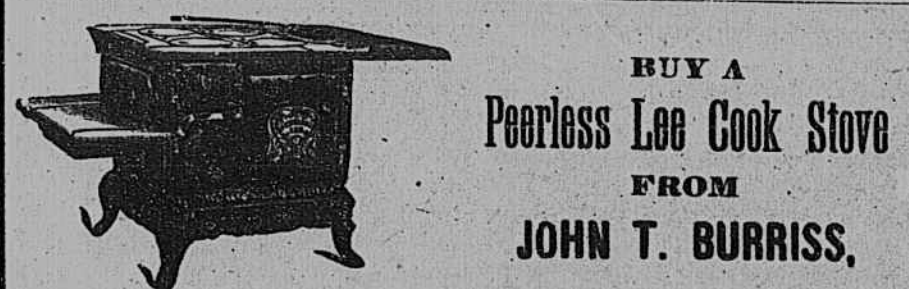
All grades Flour. Try our half patents from \$3.75 to \$4.00 per barrel. Special prices in big lots.

Now is your chance to buy your Tobacco cheap. 500 lbs. Rainbow Tobacco, 9-inch 5's, 26c. per lb.—well worth 33c. 1000 lbs. Farmer's Friend, 6-inch 5's, 10 lb. Caddies, 33c. The best pieces of goods for the price we have ever seen. Should you want a box of Schnapps will sell cheap as six cars good sound Corn just arrived. Will let it slide cheap for the next few days. Buy before it goes up.

We want your business and will treat you honestly. Come and look at our goods—it won't cost you anything, and we will promise to save you money on your bill of goods. CAR LIME and CEMENT on hand at low prices.

Yours for business,

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BUY A Pearlless Lee Cook Stove FROM JOHN T. BURRISS.

IF you want a PERFECT BAKING STOVE, and never burn on the bottom. There is no Stove on the market that can equal it in durability and even baking on top and bottom. Also, full line of—

TINWARE, WOODENWARE, GLASSWARE, LAMP GOODS, & C.

And at prices to beat the band.

Your trade solicited.

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Sells HYNDS' Home-made SHOES—Home-made Leather—Honest Work, Honest Leather, Honest Prices.

THE largest Shoe Factory and Tannery South. The BEST SHOES made in the World. The only combined Shoe Factory and Tannery in the United States.

A Solid, First-class, A No. 1, Best Gainesville Shoes.

If you want cheap, shoddy, paper shoes don't buy these—ours will not suit you, but if you want the best Shoes at popular prices, buy ours, they will please you. The prices range from Fifty cents to Five Dollars a pair, any price you want. They are the cheapest because they are the best; made of our own pure Oak-bark Tanned Leather, "Soft, Elastic and Strong." Nothing equals it for wear, and that is what you want. Try one pair and you will buy them again. Buy our best quality. \$4.00 and \$5.00 Shoes for \$3.00 and \$3.50.