Business and Personal.

The Charge for Insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in next issue.

A Human Barometer.

The real relation between the human body and the weather scientifically explained.—One of the most valuable developments of modern science along the line of human necessity is the National Weather Bureau at Washington. Experience has shown that eighty-six per cent of the predictions of the signal service are accurate; and these predictions are unquestionably of the greatest advantage to the seaman, the agriculturist, and the entire commercial world. The service has proven its necessity by its usefulness, for in past times the facilities for foretelling atmospheric changes were meager indeed. The only indications our fathers had of coming changes in the weather were aching limbs, twingeing joints, or painful corns. These "indications,' though crude, were usually correct, and hence naturally suggest the inquiry as to the relation between the human system and the weather. The body is unquestionably an excellent barometer. It foretells changes in the atmosphere long before they occur, and this fact has been taken advantage of by physicians, who, when all other agencies fail, prescribe a change of air, thus hoping the body may find an atmospheric condition better suited to its needs. And yet the real relation between the human body and the weather has never been fully understood, nor has there ever been, until now, a correct explanation of what rheumatism (which seems in league with the atmosphere) really is. It was originally thought by many to be a trouble in the joints, and as such was treated in the most strange, not to say ridiculous, manner. This theory became dispelled when the same trouble attacked the muscles, and the feeling then prevailed that it was purely a muscular disorder. But this idea was found to be too narrow, and now it is universally conceded that rheumatism is a blood disease. And what a terrible disease it is. It often comes without warning and prostrates the system with agony. Again, its beginning is gradual, and its growth slow. In its acute form it manifests itself in every conceivable shape and is always accompanied by intense pain. At one time it is inflammatory, at another neuralgic. Sometimes it assumes the form of gout, and again that of pleurisy or lumbago; but in whatever manner it appears it is terribly painful and always to be dreaded. The pain and annoyance of rheumatism are increased by its great danger, for it is liable to attack the brain or heart at any moment, thereby causing instant death. Indeed, nearly every case of heart disease with all its dreadful suddenness which has ever occurred, can be traced more or less directly to rheumatic causes. In its chronic form it stiffens the joints, contracts the muscles, undermines the health, and ruins the life. It frequently attacks men and women who are apparently in perfect health. Indeed, it is as greatly to be dreaded as any possible form of physical woe.

But, however severe its effects may be, the exact cause of this blood trouble has been an undecided question, and it is only within the past year that any decision upon the subject has been reached. In order to fully determine what the cause of rheumatic disorders really was, certain authorities sent letters of inquiry from Washington to the leading practicing physicians of the land, and these inquiries were responded to quite generally, thus furnishing data of great value to science and mankind. The views held by the doctors are of a varied nature, but so overwhelming a proportion hold to one belief as to leave but little doubt that it is the correct one. This belief, briefly stated, is that uric acid in the blood causes rheumatism, and that it is only by removing this poisonous acid that rheumatic or neuralgic troubles in all their terrible forms can be cured. This being true the important question arises: "How does this poisonous uric acid get into the blood, and how can it best be removed?" Uric acid is found in the blood because the kidneys are weakened and cannot throw it from the system. Restore the kidney and you restore the power that will force the uric acid from the system and thus banish the rheumatic agonies which it causes. This is reason; it is science. No one whose kidneys are in a perfect condition was ever troubled with rheumatism, and no rheumatic sufferer, however slight the pain may be, has perfect kidneys. The conclusion of this truth is inevitable: perfect kidneys mean freedom from rheumatism.

When rheumatism has manifested itself in any special part of the body, attempts have usually been made to treat that part of the body. As a result the pain has departed, but the disease has remained, lying subtly concealed and ready to breakout at some unexpected moment. Checking the pain in any single locality only scatters the disease through the system, when, if the seat of the disorder, which is the blood, were reached, a complete cure would be the result. The way, therefore, to expel this rank and poisonous acid before it assumes an inflammatory or chronic form is by keeping the kidneys in absolute health. This is no easy thing to do, and no means has, until within the past few years, been known which would successfully reach and affect these great organs. At last, however, scientists have discovered that the leaves of a tropical plant, previously but little known to science and unknown to medicine, possessed marvelous qualities adapted for the kidneys. These leaves have been skillfully combined in the remedy now known as Warner's Safe Kidney and Liver Cure. It is up to the present time, the only known preparation that acts so directly upon the kidneys as to remove all uric acid from the blood, and hence the cures it has been the means of performing are really very remarkable. Indeed, there are thousands of persons in America to-day who owe their restoration to health and entire freedom from rheumatism to this simple yet powerful remedy.

This theory as above explained finds its confirmation in the fact that when the kidneys have been cured, rheumatism is completely removed. This is not, of course, always accomplished instantly, for in a disease so subtle, death is often sudden and the cure slow, but under no other plan can any hope of permanent relief ever be found. There are hundreds of cases on record during the present winter of persons afflicted with rheumatic troubles of the worst order who have been entirely cured by following the theory above stated and using the remedy mentioned. Many of these persons had the very worst possible symptoms. Vague aches in different portions of the body were followed by agonies the most intense in some particular spot. Acute and throbbing pains succeeded each other and the coursing poisonous acid inflamed all the veins. Troubles which began with slight disorders increased to derangements the most serious. It is sad to think that all this suffering was endured when it could have been so easily relieved. Acting upon the theory and using the remedy above mentioned the kidneys could have been restored to their usual vigor, the uric poison expelled from the system the inflammation removed, and the pain entirely banished.

These are some of the rea and scientific facts regarding rheumatism, attested by the highest authority, and they are, beyond question, the only correct ones ever brought forth. We are aware they are advanced ideas, but ten years hence they will be the accepted belief and practice of the world. If people suffer from rheumatic troubles in the future, and with these plain truths before them they certainly can blame no one but themselves.

Notes & Queries

HINTS TO CORRESPONDENTS.

No attention will be paid to communications unless accompanied with the full name and address of the writer.

Names and addresses of correspondents will not be given to inquirers.

We renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question.

Correspondents whose inquiries do not appear after a reasonable time should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

Persons desiring special information which is purely of a personal character, and not of general interest, should remit from $1 to $5, according to the subject, as we cannot be expected to spend time and labor to obtain such information without remuneration.

Any numbers of the SCIENTIFIC AMERICAN SUPPLEMENT referred to in these columns may be had at this office. Price 10 cents each.

Correspondents sending samples of minerals, etc., for examination, should be careful to distinctly mark or label their specimens so as to avoid error in their identification.

(1) G. L. K. asks: 1. Can you give receipt for a good secret postal card ink? A. Use a dilute solution of pure cobalt chloride in water. 2. A receipt for ink that disappears in a few days? A. Use an ink prepared from iodide of starch. 3. A receipt for removing old paint from wagons, etc.? A. Use a strong alcoholic solution of potash, followed by a thorough rinsing in water. 4. Is it safe to try the following experiment, and will it work, namely: Light may be obtained instantly without the use of matches, and without the danger of setting things afire, thus: take an oblong vial of the whitest and clearest glass; put into it a piece of phosphorus about the size of a pea, upon which pour some olive oil heated to the boiling point, filling the vial about one-third full, and then seal the vial hermetically. To use it, remove the cork and allow the air to enter the vial and then recork it. The empty space in the bottle will then become luminous, and the light obtained will be equal to that of a lamp. A. Phosphorus should be handled with care, as the slightest friction will sometimes ignite dry phosphorus; the substance sometimes inflames spontaneously when not covered with water. The phosphorescent glow produced by these oil phosphorus lamps is very faint.

(2) W. H. B. says: Can you give me any simple method for granulating zinc for use in a chemical laboratory for reductions, etc.? I have tried melting the zinc which I have in sheets, about three thirty-seconds of an inch thick, and dropping it into water as it melts, but it is not satisfactory. The zinc should be about the size of small shot. A. Make a mixture of equal parts of talc, or soapstone and charcoal, in finest powder, and pour the melted metal, in a thin stream, with a quantity of this, contained in a tray. The tray should be constantly agitated so as to prevent the agglomeration of the metal. Zinc can thus be reduced to the size of small shot.

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined, with the results stated:

W. S. L.—Galena and lead carbonate in quartzose rock. Some of this ore probably contains much silver. An assay would be necessary to determine its value.—A. J. O.—Manganite of medium purity.—J. B. H.—It is a partly altered white siliceous feldspar. Useful for pottery, etc.

English Patents Issued to Americans.

From February 28 to March 10, 1882, inclusive.

Boot lasting machine G. N. Copeland, Boston, Mass.
Bottle stopper. G. D. Dows, Boston, Mass.
Cotton opening and lapping machine, R. Kittson, Lowell, Mass.
Damper regulator V. H. Hallock, Brooklyn, N. Y.
Dynamo-electric machine. W. B. Sheridan, Cleveland, O.
Dynamo-electric machine. T. A. Edison (2), Menlo Park, N. J.
Electric generator, T. A. Edison, Menlo Park, N. J.
Electro magnets, G. Smith, Astoria N. Y.
Fur nap, manufacture of, W. E. Doubleday, N. Y. city.
Gas, manufacture of, T. B. Fogarty, Brooklyn, N. Y.
Hats, manufacture of, G. Yule, Newark, N. J.
Hanger for coats etc., T. M. Donald, Austin, Texas.
Indicator, steam engine G. H. Crosby, Mass.
Lead tubes, manufacture of, E. W. Blatchford & Co., Chicago Ill.
Lock nuts, W. H. Paige, Springfield, Mass.
Locomotive engine. J. Swan *et al*, Montgomery, Ala.
Metal, extracting from ore, N. F. Evans, Philadelphia, Pa.
Motive power, F. Pool, Kanawha, Va.
Motor apparatus, M. Rosenstock, New York city.
Nielo, imitation of, F. Beck, New York city.
Paper, manufacture of from cotton stalks, F. Wheaton, Brooklyn, N. Y.
Preventing shifting of cargoes in ships. E. H. Farrar, New Orleans, La.
Reaping machine, F. F. Kanne, Waterville, Minn.
Reaping machine, H. R. Allen, Indianapolis, Ind.
Reaping machine, Mr. Cochran, Indianapolis, Ind.
Reflectors, W. Wheeler, Mass.
Rock drills, A. Shedlock, New York city.
Rotary engines, Elastic Wheel and Manufacturing Company, Waynesborough, Va.
Safety pins, J. Jenkins, Montclair, N. J.
Sewing machine, Morley Sewing Machine Company, Boston, Mass.
Ships, construction of, A. P. Bliven, New York city.
Staples, G. Smith, Chicago, Ill.
Starch, manufacture of, W. T. Jebb, Buffalo, N. Y.
Stone, artificial, A. Pelletier, Washington, D. C.
Vehicle, propulsion of, P. Collamore, Boston, Mass.
Ventilators, P. Mihan, Mass.
Wheel gearing, J. B. Tibbits, Troy, N. Y.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were Granted in the Week Ending

March 14, 1882,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A printed copy of the specification and drawing of any patent in the annexed list, also of any patent issued since 1866, will be furnished from this office for 25 cents. In ordering please state the number and date of the patent desired and remit to Munn & Co., 261 Broadway, corner of Warren Street, New York city. We also furnish copies of patents granted prior to 1866; but at increased cost, as the specifications not being printed, must be copied by hand.

Air compressor. J. B. Waring 254,851
Air compressor hydraulic, J. Bradley 254,915
Air cooling apparatus. R. S. Jennings 254,981
Alkaline solutions, purification of, Carey, Gaskell, Jr., & Hurter 254,918, 254,919
Animal trap. E. Emmert 254,943
Animal trap, A. W. Walker 255,059
Atomizer. P. Lochmann 254,988
Automatic lubricator. F. H. Barber 254,902
Axle box, car, T. F. Hemmich 254,971
Axle box, car. G. E. Yost 254,857
Axle box, vehicle wheel, J. T. Gardner 255,077
Axles, shafts, and spindles, pedestal, box, and bearing for T. F. Hemmich 254,970
Bag holder. Whitman & Brown 254,893
Baling press, W. F. Smith 255,091
Bar. See Chain cross bar.
Barley bearding machine. J. Sendall 254,846
Bath tub. F. H. Fickett 254,946
Bed bottom, spring. W. J. Lowe 254,881
Belt galvanic, A. A. Baldwin 254,789
Binder, temporary. E. Russ 254,844
Bit. See Bridle bit.
Board. See Electrical switch board. Fluting and plaiting board.
Boat. See Train boat.
Boiler. See Range boiler.
Bolting apparatus. O. M. Morse 255,002
Book sawing machine, E. J. Nolin 254,883
Boot G. C. McCoy 254,993
Boot and shoe piping, C. D. Wood 255,067
Bootjack, K. J. Greenwald 254,816
Bootstrap, J. B. Belcher 254,906
Boots and shoes, lasting G. Hawkes 254,966
Boots and shoes, manufacture of, A. Newton 255,009
Bottle stopper, J. Morschhauser 254,885
Box. See Axle box. Core box. Dredge box. Stuffing box.
Box fastener, B. S. Atwood 254,900
Box pressing clamp, C. W. Woodford 255,069
Braiding machine, N. Jenkins 254,822
Bridge appliance, railway draw, J. Chandler 254,863
Bridge, truss, W. Irelan 254,978
Bridges, guard gate for swing, F. Roehr 255,026
Bridle bit, G. J. Letchworth 254,987
Buffing or polishing machine roll, G. H. P. Flagg 254,811
Buggy, side spring, G. Pennoyer 254,839
Burner. See Vapor burner.
Butter pail covers, fastening for, C. L. Stephens 254,848
Butter pail ear and cover fastening, J. H. Gunn 254,959
Button, B. Block 254,913
Button and button fastening, E. Pflug 254,842
Cable roads, covering the slot of, M. J. Whaley 254,854
Calendar, G. F. Goodell 255,078
Camera. See Photographic camera.
Can. See Sheet metal can.
Can labeling machine, J. F. Chase 254,864
Cans and preserving their contents method of and apparatus for filling, J. C. Winter 254,895
Cane cutting machine, sugar, F. A. Bonnefin 254,914
Canopy frame. C. Wittenberg 255,093
Car coupling, R. M. & J. M. Brooks 255,072
Car coupling, Geese & Sants 254,953
Car coupling, L. King 254,984
Car coupling, J. R. Lawrence 255,082
Car coupling, C. Van Smith 255,057
Car coupling, W. W. Watkins 254,852
Car door fastening, freight, Jackson & Brockway 254,821
Car door hanger. D. F. Van Liew 254,889
Car mover, G. P. Conant 254,801
Car replacer, J. Lafleau 254,828
Car starter, C. B. Underhill 255,054
Car, stock, Franklin & Baggs 254,949
Casting printer's leads, mould for, L. B. Benton 254,792
Castings, machine for cleaning, S. Wier 254,855
Chain cross bar, S. Davidson 254,931
Chain wrench. W. H. Brock 254,862
Chest. See Medicine chest.
Chimney cap, metallic. W. J. Pettingell 255,016
Chopper. See Cotton chopper.
Chuck for turning polygonal bodies, lathe, H. C. Humphrey 255,080
Chuck, lathe, J. N. Skinner 255,039
Chuck, lathe, J. C. Stevens 255,046
Churn, J. L. Blackstock 254,909
Cigarette wrapper. E. A. G. D'Argy 254,929
Clamp. See Box pressing clamp. Rope clamp.
Cleaner. See Grain cleaner.
Clock movement, A. E. Hotchkiss (r) 10,062
Coal, etc., method of and apparatus for breaking down or getting, Smith & Moore 255,042
Collar and cuff, C. O. Kanouse 254,875
Colter, rolling, F. B. Hunt 255,081
Commode and slop jar, combined, S. A. Emery 254,942
Cooler. See Tire cooler.
Cordage and twine designed to be used in binding sheaves of grain, S. A. Skinner 255,040
Core box, C. H. Lewis 254,880
Corset, W. McCabe 254,992