

EVERY DAY SCIENCE.

An Attachment for Tombstones Which Displays Photographs. ACCURACY OF WEIGHING SCALES. Expert Discussion as to the Usefulness of Lightning Rods. EXTRACTING IRON FROM SEA SAND

Prepared for the Dispatch. A singular device has been brought out in England, to wit, an attachment for application to gravestones, vaults, etc., for displaying photographs, and for holding visiting, mourning, or memorial cards, flowers and similar articles. Photographs of the deceased, or suitable mottoes, are attached to a disc, revolving by means of a button projecting from the face of the apparatus at the back of the device, which is fixed on to the headstone or vault. A small lock-up box with a glassed front is also attached to the face of the disc, the said box being provided with a longitudinal slit for the reception of visiting, mourning, or memorial cards, and with a shade or canopy or hinged slatted roof over the slit to prevent the rain, snow, etc., from entering the box through the slit. Double vases are secured to brackets on the face of the device, the inner vase being water-tight for the purpose of holding cut flowers, the outer vase being provided with a double trailing plants to grow over the sides, and thus to mitigate the plainness of the tombstone. A hook is fixed just above the top of the ring for the purpose of hanging a wreath upon. There are people in the world whose tastes run to this kind of thing, and to such this new device will be acceptable.

Weighing scales. A somewhat remarkable pair of scales for weighing large parcels of silver bullion have just been completed in England, to the order of the Indian Government, or use in the Bombay mints. The beam of the instrument is a plain forging in wrought iron 11 inches deep in the center and 3 1/2 inches at the springing of the end boxes which carry the knife edges for supporting the pans, the thickness being also tapered from 1 1/2 inches in the center to 3/4 inch at the end of the arms. The total length of the beam between the points of suspension of the pans is six feet. The pans are square platforms covered with copper, their weight being about one hundred pounds each, and that of the beam four hundred pounds. When tested empty the addition of one-sixteenth of an avoirdupois ounce was sufficient to deflect the index through the whole range of the powerful scale, and when loaded with five hundred and fifty pounds on each scale, under which condition the load on the central knife edge is about fourteen hundred pounds, a deflection of one division is produced by one gramme, which corresponds approximately to 1,280,000 of the load to be determined, a degree of sensibility that is very remarkable in a machine of such size and power.

Lightning Rods. The question of the degree to which lightning rods can be relied on to afford protection has just been discussed before the London Institution. The climatology arrived at seems to be that in all cases of steady rain in which a charged cloud descending from the upper regions of the air, or approaching from a distance, might inflict serious injury upon an unprotected building, a well-designed and properly earth-connected lightning rod is an infallible safeguard. In a case of "impulsive rain" the rod may be of use in bearing the brunt of the discharge, though sometimes the lightning will take no notice whatever of it, striking the building and altogether neglecting the rod, and it is even possible that a high rod might attract a destructive discharge which otherwise would not have occurred at all. Although, therefore, a lightning rod is in many cases, probably in a very large majority, of the greatest service, it cannot be depended upon as affording perfect immunity from risk, and the assumption which has universally been made by the older electricians that damage by lightning is in itself conclusive evidence of some imperfection in the conductor is an unfounded one.

Statistics on Railways. Some valuable statistics of the railways of the United States have been given by the statisticians of the Inter-State Commission in his report for the year ending June 30, 1890. Under the caption of "Men Employed on Railways," are some very interesting figures, showing that the railroads in this country give direct employment to 704,745 workers, averaging 450 to each 100 miles of road. Another table is presented, showing in contrast that the number of employes on English railways amounts to 3,748 per 100 miles of road, or about four to one, as compared with this country. In this connection the statistician makes a significant reference to the number of railway accidents from all causes for the year, the number of persons killed and injured being respectively 2,833 and 26,309. The tables presented emphasize with tremendous force the necessity for immediate and stringent legislation in the way of safety appliances.

Iron From Sea Sand. Among the numerous magnetic separators which have lately been put before the public one of the most remarkable is that for the extraction of iron from sea sand. It is stated that ordinary sea sand contains from 5 to 7 per cent of iron, enough, in fact, to give a large excess over cost of extraction. The machine is very simple, consisting of a cylinder, whose surface is covered with a series of magnets, revolving on the inside of an endless canvas belt. The sand is fed to the belt, and a spray of water separate the particles, the iron being retained by the powerful electro-magnets, and carried off on the belt to a receptacle at the other end, while the sand falls into the trough below. It is claimed that the iron can be so extracted for about one-eighth of its value.

Improved Ironing Machine. Many of the leading firms of collar and cuff manufacturers in England are using an improved machine for the ironing and polishing of all shapes of linen cuffs, collars, and fronts, as well as fronts with collars attached. The top roller is of highly polished steel, and is heated internally with gas and air. In the front end of the heated roller is inserted a perforated plate which admits air and allows the surplus heat to escape. The rollers turn on a surface padded, and is brought by a lever in contact with the heated roller, a hand wheel underneath being used for varying the pressure on the article under operation.

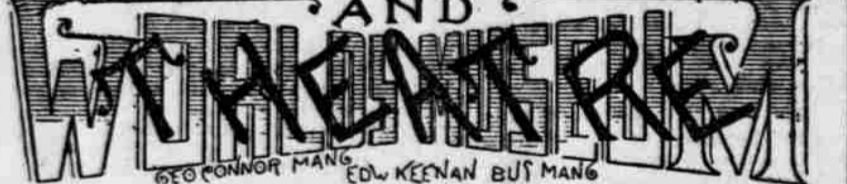
Barothermometers. The invention of an instrument to which the name barothermometer has been given is announced. Its purpose is to enable observers to take readings as often as desired, and by a single wire, from barometers and thermometers placed at great heights or distances, without the necessity of the observer being resident where the instruments are placed, thereby saving much expense, and enabling observations to be taken at points where residence might be impossible.

Excavator Grebs. A useful addition to a dredging plant is in use in California. Excavator "grebs" are slung on "booms" or spars, more than 100 feet long and operated entirely by steam power, making trips in from one and half to two minutes' time, and raising at each operation more than two tons of gravel.

1890. First Annual Tarentum 1890. FAIR WILL BE HELD AT TARENTUM, PA., September 2 and 5.

FRESH ATTRACTIONS! THE EXHIBITION WILL POSSESS A HIGH ORDER OF MERIT BEST OF RACING! NEW FEATURES WILL PREDOMINATE. LOW FARES ON ALL RAILROADS EVERYBODY INVITED TO ATTEND. H. M. BRACKENRIDGE, President.

W. H. McCULLOUGH, Secretary.



THEATER: DIXON & LANG'S VAUDEVILLE COMPANY. The Animated Rubber Woman, MISS ETIA LAKE. Only Elastic Skin Woman in the World. THE LADY HERULES, MISS LILLIAN DE LAND. The Performer of the Great Trunk Mystery, MISS LILLIAN DE LAND. This lady is 5 feet 5 inches in height, and weighs 150 pounds. An ordinary trunk, 18x25 inches, is placed on two chairs, and after removing over 100 miscellaneous articles, such as tin cans, caps, bottles, etc., the lady herself emerges from the trunk in full view of the audience.

GRAND OPERA HOUSE. Mr. E. D. WILLIAMS, Lessee and Manager. One Week, Commencing Monday Evening, September 1. MATINEES WEDNESDAY AND SATURDAY. Engagement of the distinguished tragedian, LOUIS JAMES, and an excellent company in repertoire.

HARRY WILLIAMS' ACADEMY. MONDAY AFTERNOON, SEPT. 1. LABOR DAY MATINEE. MONDAY EVENING AND REGULAR MATINEES TUESDAY, THURSDAY AND SATURDAY.

THE HENRY BURLESQUE CO. THE GON-DO-LIARS. SEPT. 3 - GREYER'S BURLESQUES.

HARRIS' THEATER. Week Commencing Monday, Sept. 1. Every Afternoon and Evening. Special Engagement of W. J. FLEMING'S CO. Original Copyrighted and Only Authorized Version of Jules Verne's 'Around the World in 80 Days.'

Bijou THEATRE UNDER THE DIRECTION OF R. M. GULICK & CO. WEEK OF SEPTEMBER 1, Matinee, Wednesday and Saturday.

RUSSELL'S COMEDIANS In Paul M. Potter's Musical Absurdity, MUSIC BY W. S. MULLALY,

THE CITY DIRECTORY. 154 NIGHTS BIJOU THEATER, NEW YORK.

THE BEST COMPANY OF COMEDIANS IN AMERICA. Charles Reed, Wm. Collier, Ignacio Martinetti, Wm. F. Mack, Alf. Hampton, Burt Haverly, Chas. V. Seaman, Joseph Jackson, Miss May Irwin, Miss Flora Irwin, Miss Rosa France, Miss Bessie Cleveland, Miss Maym Kelso, Miss Josie Sadler, Lillian Pendergrass, (The Little Fawn) Amelia Glover.

BIJOU PRICES: 75, 50 and 25c. RESERVED SEATS. September 8 - Frank Daniels in "Little Puck."

GRAND OPENING. NEW CLIPPER THEATER! Corner Seventh Avenue and New Grant Street. JAMES P. PEET, Manager. MONDAY AFTERNOON, September 1, and Every Night. Matinee Monday, Wednesday and Saturday.

McCAFFREY-DEMPSEY ATHLETIC AND BURLESQUE CO. 30-BEAUTIFUL LADIES-30 20-ATHLETES AND SPECIALTY ARTISTS-20 Great Boxing Contest. Dominick F. McCaffrey, James Ryan, THE VEILED PROPHET! FAUST, JR., LOUISE DEMPSEY, Miss Evalina Dougherty.

THE SECOND ANNUAL EXHIBITION. PITTSBURG EXPOSITION Will Positively Open WEDNESDAY, SEPT. 3, AT 8 P. M. Closes Saturday, Oct. 18, at 11 P. M. Grandest display in all departments ever brought together in this country.

HARRY DAVIS' NEW FIFTH AVENUE MUSEUM, ROOF GARDEN AND THEATER! MONDAY, SEPT. 1 AT 7 O'CLOCK. PERFECT IN EVERY DETAIL! BEAUTIFUL IN DESIGN! Constructed at an outlay of \$40,000, Presenting Entertainment, NOVEL, WEIRD, WONDERFUL.

CARD TO THE PUBLIC. The Fifth Avenue Museum is intended as a Family Resort in every sense of the word. It will be conducted in a manner to command the patronage of all who desire in amusement pure in tone and elevated in character. It will be a house that ladies and children can visit at all times unattended. The features that will appear in rapid succession, while they will be in the main new to the people of Allegheny county, will at all times be of a nature refined and free from all that is offensive to good taste. On this platform I become a candidate for public favor. Respectfully, HARRY DAVIS, Proprietor.

THE ROOF GARDEN, LISTON. IN THE HALL OF WONDER. STEUDELL, STEUDELL. THE BRAHAMS, MADAM MYERS, MISS LOU WELLES, PROF. WALLACE. 100-NEW WONDERS-100. A FULL ORCHESTRA UNDER THE LEADERSHIP OF PROF. WILLIAM J. DAVIS. 10 CENTS! ADMISSION TO ALL TEN CENTS! Next Week - First time in America, the Lady Venetian Troubadours, ten in number.

LIBERAL INDUCEMENTS TO THE PEOPLE WHO PATRONIZE THE Household Credit Co., 723 and 725 LIBERTY STREET, Cor. of Eighth, Head of Wood Street.

OUR NEW FEATURE For this Month Only. All carpets purchased at our store we will MAKE, SEW AND LAY Free of any charge to you. Residents outside of the two cities are requested to bring their measures with them. We will attend to the rest.



OUR PARLOR FURNITURE. There is positively no end to our variety of Parlor Suits, embracing as it does every suitable material, every stylish shape, and the most serviceable and stylish colors. Easy chairs and Rockers in every style and shape that the ingenuity of man can suggest. Prices from \$28 to \$250 per suit.

CHAMBER SUITS. This year we shall revolutionize the trade in Chamber Suits. Our house for many years has been the leader in this branch, but this season we have simply outdone ourselves, and you may look for novelties that will be a genuine surprise to you. Prices from \$16.50 to \$225.



OUR WAREROOMS. Comprise five floors of space, size 32x125 feet; elevators to every floor; the entire space being devoted to the showing of goods alone, the warehouse being entirely separate. No where in the universe is there a larger display, and we can show anything in the Furniture or Carpet Line That can be asked for.

BEDDING. If there is one thing more than another that every good house-keeper looks after it is the bedding, and the next important thing is where to buy it. Our facilities for the manufacturing of mattresses, makes us stand Without a Peer In this line, and as for Springs we laugh at the so-called competition.



Folding Beds. In these days of limited space, families have to resort to the saving of room, and in no way can this be utilized as well as by the use of this very ingenious invention. We have everything that is reliable in this line, and you Must Not Fail To see the largest and most complete line in the city.

Household Credit Co., 723 and 725 LIBERTY STREET, Cor. Eighth head of Wood Street, where all these coupons can be cashed.