SCIENCE UP TO DATE

CURRENT GLEANINGS FROM FIELDS OF INDUSTRY.

Natural History and Philosophy-The Horsefish-To Succeed the Tandem Whatl-Experiment in Electricity General Notes of Progress.



HE horsefish called also moon fish and monkey fish, is not found often in thes waters; perhaps no more than a dozer are taken from the bay in a year. is a summer visitor here, coming from the warmer

waters southward along the Atlantic coast, and it goes as far northward as Cape Cod. The picture presented herewith shows a horsefish that was caught in Gravesend Bay and is now in the New York Aquarium. This fish is about five inches in length, but some specimens are nearly a fcot long. The horsefish is very thin and deep bodied, with a very long forehead and a mouth low down, giving a fancied resemblance to a horse's head. Its sides ara silvery or pearl-tinted, and when tho sun shines upon the fish at the aquarium its pearly sides reflect light upon the white porcelain side of the tank. The horsefish has a very short spiny dorsal fin and a long soft dorsal the front edge of which is black. Its anal fin is long and low. The ventral fins vary in length with the age of the fizh, becoming very short as the fish becomes old. The young fish has a little black blotch on the side, just behind the head. The horsefish is a quick and powerful swimmer. When in danger it darts through the water with great swiftness.-New York Sun.

Electrical Experiment.

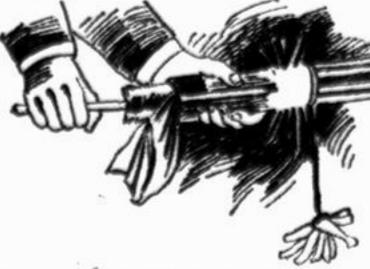
A very pretty electrical experiment may be conveniently made by any boy or girl. Get an ordinary straight lamp chimney, and around the middle of itoutside, of course—put a band of tinfoil, gluing it on with mucilage. Also put a narrow band of the foil along the outer surface of the chimney from one end to within half an inch of the circular band. Be sure that one band does not touch the other. Now take a round bristle brush, such as is used for cleaning lamp chimneys, and around it wrap a dry silk handkerchief. Insert the brush, thus covered with the handkerchief, in the chimney and rub it briskly back and forth, being careful that your hand does not come in contact with the tinfoil. If you do this in the dark, you will see an electric spark leap across the interval between the two bands of tinfoil, which will show that the friction has electrified the chimney. The interest of the experiment may be increased by tying a bit of iron or brass wire around the central band of tinfoil, letting one end of the wire hang down ten or twelve inches from the chimney. To this end attach four or five strips of rice-paper, obtained by cutting up a sheet of cigarette-paper. Then insert the brush in the chimney in the opposite direction from that first indicated, and when you rub it brinkly you will see the strips of paper stand out from each other as if they had life. And so they have, for the time being, since the electricity generated in the glass by the friction has passed from the glass to the tin-foil and thence to the paper. This simple experiment demonstrates three principles of natural philosophy to

1. A bad conductor of electricity. such as glass, becomes electrified by friction.

2. A good conductor, such as tinfoil and metallic wire, will transmit electricity from a charged body-glass-to an uncharged body-paper.

3. Bodies charged with the same kind of electricity—the strips of paper-will repel each other.

Perfect dryness of air and materials is essential to the success of the experiment; therefore you should select a fine, dry day, and air the glass and the



handkerchief before the fire as a pre-

caution.

Injuries from Sudden Changes in Alti-

Some months ago, a congress of Swiss physicians held a meeting to discuss the best means of checking the practice of rushing tourists up by railways to high altitudes. So many persons received injuries that either shortened their lives or caused immediate death that the matter became one of great importance to the profession. In sudden ascents from ordinary levels to the summits of great elevations, the most disastrous results may follow. Persons with affections of the heart should not go the entire length of such a journey continuously. The railway, or what might be called shooting people up, is a thousand times more injurious than the oldfashioned way of climbing. With the latter people gradually became accustomed to the change of air, and the system adapted itself to such conditions. It is now under discussion that ft will be necessary for tourists to be examined previous to making these ascents in this sudden fashion. Already it is proposed to establish at all stathat rheumatic and gouty persons, and | up the summer footgear.

others having special affections of the heart, are likely to die during such journeys, or to have the heart so overtaxed that they may never recover their former conditions. Certain it is that something must be done. The yearly average of such accidents in Switzerland is between forty and fifty. It would be quite worth while for all persons who have ambitions to ascend these great heights to be examined by competent physicians before taking the trip. Last season a man supposed to be in usual health made the ascent and died in the presence of his friends from heart exhaustion. It is suggested that many cases of slipping, falling and similar accidents are caused by the defective heart action and the confusion consequent thereon. It is to be hoped that the board of managers will enforce some stringent rules, thereby compelling people who have not sufficient judgment to refrain from imprudence to wait until they can with safety make the ascent, or to go by easy stages and carefully accustom themselves to the changes incident to these high altitudes.

To Succeed the Tandem. Bicycle manufacturers seem inclined



will take the place of the tandem wheel now in use. The majority appear to favor a wheel on which two riders can ride side by side. Several wheels of this character have been manufactured, but they have been on the bicycle type and not much fancied. Something new on the bicycle market is what is called the Companion, a bicycle, as shown in the accompanying cut. It seats two persons, being of the ordinary type of safety with two wheels. At a glance the construction of the wheel would lead to the inference that this bicycle would upset with two people, but, on the contrary, one person can ride it, and, on account of its lightness and admirable outline, it is becoming very popular.

Japan's Other Army.

Japan's other army is not the victorious army which lately marched like fate toward Pekin, defeating and demoralizing its huge, unwieldy foe, but it is the workers who labor in Japan's factories, and produce the wealth which buys the arms and ammunition, the uniform and the rations of its more widely known brother in the field. Japan has made astonishing developments in her industries, and her workmen are intelligent and diligent. The principal following is the manufacture of cotton goods. Unfortunately the employers abuse the complaisance of their docile and faithful workmen. The usual time to begin work in the factories is 6 a. m., but the workmen often appear earlier. First-class workmen earn fifteen cents a day, so that Japan is not only the land of poetry, but of poverty also.

The government first built the factories, and then handed them over to the companies now owning them. One establishment alone, with the unprocounceable name, Kanegafuchi, emplays 2,100 men and 3,700 women. These are divided into two shifts, day and night, of twelve hours each, and only once in the twelve hours do the laborers pause in their hurried toil for refreshments. All these establishments, of which the above is but one, though one of the largest, have firstrate English machinery, and the production is not equal to the consumption. So Japanese syndicates are rapidly increasing their original plant Thirty-five of these spinneries give work to 16,879 women and only 5,730 men. Little girls from eight to nine years old are forced to work from nine to twelve hours. The law demands that these babies should be in school, but the law is outraged. These industries made Japan financially able to sustain her war with John Chinaman.

The Importance of Clean Streets. There is nothing in city life that is more important than clean streets. This, it is admitted, would remove more sources of disease than any other sanitary measure it is possible to take. It is a fact acknowledged by the best authorities that there is no more fruitful distributor of disease than street dust. which is filled with the expectorations of diseased persons of all classes and conditions. People afflicted with the most loathsome maladies go unmolested about the streets and expectorate everywhere. The wind dries up the material, it mingles with the dust, and may, on the next breeze, be swept into our noses and throats. It is not too much to expect that the time will come when the most stringent measures will be taken on this subject. People have no right thus to risk the health and lives of the community.

Three-Wheel Carriage. A novelty is a three-wheel carriage. It is built somewhat on the principle of a child's tricycle. The advantage claimed for it is that as a lady's carriage it would remove out of the way of rich robes the dusty or muddy wheel that gives so much trouble.

Small Bottles That Do Not Intexicate. What with pipe-clay for the white shoes, russet potish for the tans, black lacquer for the patent leathers and tions emergency depots, with medicines | plain "dressing" for the kids, it takes and physicians within call. It is said | quite an array of small bottles to keep

CURRENT NOTES OF THE MODES AND HOUSEHOLD HINTS.

Wings for Fall and Winter Hats in Demand-Gray in the Lead-Row to Keep a Man's Love-Stuffed Green Peppers.



HE wholesale milliners have extra forces of girls at work preparing the unusual quantity of wings demanded by the retail chan't. The wings, which are seen in fancy shapes, are made on the foundation of

cotton. The cotton is first cut in the shape desired, then lined with buckram and the edges are wired. To this already one or two models in gray frame work tiny birds' feathers pasted until the whole frame is covered. The feathers may be used in their natural color or dyed. The process which an ordinary bird's wing undergoes to obtain the nacre or shaded effect is most interesting. The wing is first soaked in soap and water and then drained. The entire wing is then dyed the color desired for part of the shading. After this one part of it is bleached and then dyed in another color. In this way the shaded effect is produced. steaming. Frequently one girl can com- are made of brilliant plaid. A cape of plete in one day six dozen wings of one the same goods and general scheme of pattern. Again, if the pattern is very ornamentation accompanies this dress difficult, she is unable to finish more and is topped by a big chiffon ruching. than a dozen and a half.

Stuffed Green Peppers. In reply to a request for a receipt for | voted to chiffon, and this material is stuffing green peppers, I send the fol- used in the veil of the hour. In its most

Q cooccoccoccoccoccocco

wide band of silver soutache, over which falls spangled lace. The short coat is of amethyst velvet, lined with rosecolored satin. It fastens doublebreasted, the front being cut low to show the ruffles of lace about throat and bust, and short to show the two little pockets set in the waistcoat just below the waist line. The four buttons of the coat are large amethysts set about with yellow paste, an enormous buckle of yellow paste holds the lace at the throat, and the waistcoat of white satin is covered with waved silver to match the skirt. A yellow felt cocked hat trimmed all over with gray plumes is held in place by amethyst buckles. This costume is described by the dealer as a simple luncheon gown, but there

tions offered in the coming season, and cloth combined with amethyst velvet and pale lilac chiffon are seen. In the accompanying sketch a dress of irongray woolen suiting appears. Its wide

Veils of the Season. This season the summer girl is de-

is a lot of glitter to it. Gray in the Lead. Of the less showy hues grays are in the lead. Gray and amethyst color is to be one of the most artistic combina-

skirt takes the stylish outflare just above the hem in front, and at that point three rows of stitching run around it. Sleeve caps are simulated by like stitching, and the right side of the blouse waist is cut into tabs that fasten across with oxydized silver buttons. This fastening, however, is only ornamental, for the waist fastens beneath The last step in the process is that of it. Collar and belt, both quite plain,

Under a Shield. The natty cape in the sketch is i dahlia red silk velvet, lined with satin of its own shade. The shield front is

of white satin, and the buttons are pearl, set with rhinestones. It is exceedingly smart and an effective adfunct to the natty toilet. With it is worn a chic little hat in turban style, made of dull gold braid interlaced with black, and simply trimmed at one side by two spikey black quills and a gilt ornament.

Loose Fronts.

The pretty loose fronts that have been worn all summer need not be given up. for they will be needed on even the latest of the new model dresses. All the coats and redingotes that are to come will take on beauty and femininity by means of ruffles and tumbles of soft stuff about the throat and down in front. The graceful lines of the figure will at the same time be set off by the masculine exactness of fit of back and sides.

How to Keep a Man's Love. Do not buy his cigars, Do not buy his neckties, Do not buy his suspenders.

Do not crease his trousers. Do not ask him at breakfast what he wants for dinner. Do not insist upon his going to

church simply to please you. Do not tell him that your boy, if you have one, takes his temper from him. Do not insist upon receiving company that is uncongenial to him. Do not wear a bonnet when he

thinks you look better in a hat, and vice versa. Do not ask him when he comes home



lowing: Cut a piece an inch in diamand remove the seeds. Shred fine some tender cabbage and salt as you would for a salad; add one-fourth of the removed seeds, a little grated horseradish and all kinds of whole spices desired, not forgetting white mustard seed. Small whole cucumbers not more than an inch long are a nice addition, if procurable, but if these are used throw them into hot salted water and let stand until cold before using. After thoroughly mixing the filling, stuff the peppers, pressing it well down, and replace the stem pieces, fastening with two toothpicks in each pepper. Place these stuffed peppers in salted water for five hours, or until they taste of the sait, then pack them in jars. Heat sufficient vinegar to cover them. small piece of alum and pour w over the peppers. When cold cover with grape or horseradish leaves, or add sliced horseradish root to vinegar to preserve it. I have found that tying a preserves will serve almost as well as sealing them.

Shades Newly Fashionable.

The woman who didn't rush into corn-flower blue can now congratulate herself on that fact. At its first coming this tint made a good bid for general favor, but a strong new shade never holds its vogue. Now, though all other blues are to be extremely popular, the cornflower is condemned, and that means that its wearers must have discarded it or resorted to the dye-pot and renovation. Brilliant green is to have much favor, and the clear-skinned brunette will count one for her side. Wood-colored satin is in a new shade of brown that has as yet appeared only in that material; indeed, it would hardly adapt itself to less lustrous weaves. It is on the order of the popular string colors and linen shades of the day with more brown in it, and in satin is calcueyes charmingly.

For Louis XVI. Costumes.

Spangles, jewels, and tinsel of all kinds will glitter in the coming Louis XVI. costumes. A model gown is of gray faille open over a rose-colored petwith waving lines of silver cord set to the exaggerated and fashionable puff. from hem to belt of the skirt, and at the foot of the petticoat there is a row of large amethyst stones headed by a | of Toda Island are wage-carners.

black chenille dots, and is warranted to | all day. make even a plain young person good piece of white sheet wadding tightly to look upon. Though white and black over the cover of a jar of pickles or is the popular combination for the chiffon veils, many are sold with the dots in brown or dark blue. Plain chiffon veils are also in demand. They match in color the hats with which they are worn. The sewing silk veil still holds its own for steamer or yachting wear. The calling veil of the summer is an imported affair of black thread lace with a dainty border. Many of the net veils with a fancy mesh show a tiny border of yellow valenciennes lace, but none of these veils in any sense rivals in popularity the one of dotted

Walking Hats. Walking hats in alpine shape show a crown of different color from the brim for instance, one having a crown or bediamoned one made her nervous. yellow straw has a brim of black, and 14 You could see her very toes twitch. At trimmed with a band and knot at the length she leaned over with great poside of black satin ribbon. A novelty liteness. is shown in felt of different colors. black, of course, included, having a lated to set off reddish hair and brown low, broad, flat crown and flaring brim. trimmed with a plain band of ribbon and a "painter's brush" at the side.

Averaton to Exaggeration. The sleeves of all the gowns and coats in the trousseau of Princess Helene of Orleans were only slightly raised, as ticont. The gray is closely covered her royal highness has a great aversion

popular guise it is white, sprinkled with | in the evening what he has been doing Do not persist in his giving you the same attentions he gave you before you got him. Do not cross him in his opinions. For heaven's sake let him think he is smarter than anybody else.

> woman friend has said about her husband's good qualities.

Do not tell him what your dearest

A Brave Little Woman.

It was a Chevy Chase car. She was tall and broad in proportion. Her gown was very tight and her diamond earrings very large and sparkling. She sat near the end of the seat, and she might have moved along to make room for somebody else, but she didn't. She simply sat and stared haughtily ahead. There was a tiny little mouse-colored woman standing, and the sight of the

"Pardon me, madam," she said, "but have you paid for two seats?" The stout woman was speechless.

"Oh," went on the manne-colored one, "I thought you had. Please move along.

And the other moved, but I feel sure she had apoplexy when she got out of the car. You could see it coming on .-Washington Post.

Justice-What is the charge against this princeer? Officer-Having an in- it had person the Forty-two per cent of the population fernal machine in his possession,

THE BATTORS CHICAGO

ATTRACTION FOR COMING WEEK

What the Managers of the Various City Play-Houses Offer Their Patrons Drame, Vaudoville and Operatio Regagements.

M'VICKER'S THEATER.—Comedian William H. Crane enters on the final week of his stay at McVicker's Theater on Monday, Sept. 30. So far his engagement in "His Wife's Father" has been successful both artistically and financially. He has tried very hard to prolong his engagement in Chicago on account of the manner in which he has been received and in this Mr. McVicker has given him every aid. Out of town managers with whom the comedian is booked, refused to cancel his contracts. A good deal of the success of "His

Wife's Father" in Chicago has arisen from the fact that it is a good, clean, wholesome play which may be seen by parents and children and have a salutary effect on both. The play tells a story of a father's excessive love for his only daughter and how by its selfishness it nearly ruins her happiness. The story is consistent and in the working of it much amusement is created. The company is excellent.

Julia Marlowe Tabor will begin her engagement at McVicker's Theater foilowing Mr. Wm. H. Crane, Oct. 7. The first play that she will present will be an elaborate production of "King Henry Fourth." She will be seen in the character of Prince Hal and Mr. Robert Tabor as Hotspur. They have engaged that very thorough actor Mr. W. F. Owen to play the part of Faistaff.

CHICAGO OPERA HOUSE.—The engagement of "The Globe Trotter" with "Old Hoss" Hoey in the cast, proved a veritable success, the only disappointment is that the end of the engagement is so near—the last performance is Saturday night, Sept. 28. Miss Lillian Walrath in "Honor" comes to this theater next Sunday night, and there is every reason to believe that this attraction will prove as entertaining as is the case with all attractions booked by Mr. Henderson.

Other Amusements for Next Week.

Columbia..... De Wolf Hopper in Dr. Syntax. Hooley's Ada Rehan in repertory. Grand..... A Milk White Flag. Haymarket Superba. Alhambra..... The New Boy. Academy of Music..... Human Hearts. Lincoln ---- Cleopatra. Masonic Temple..........Vaudeville. Casino...... Continuous performance. Hopkins' (West Side).....

Continuous performance. Hopkins' (Bouth Bide)

Continuous performance. Olympic..... Continuous performance Tennis......Continuous performance. Havlin's Vaudeville. The Chutes Daily, 2 to 11 p. m. Sam T. Jack's......Burlesque Lyceum..... Vaudeville. Schiller..... The Sphinz.

THE BIG BRIDGE.

The Famous Brooklyn Structure Fresents Some Rather Startling Postures. For nearly five years I have been going over the Brooklyn Bridge night and day, and it seems to me that every few days I see something in the arrangement of the details of the structure that I never saw before. It is a constant delight to watch the bridge under the varying conditions that affect it from day to day. One can see, for example, how carefully the wires for the electric lights are strung. They are almost within reach of any person walking across the structure, and yet there is absolutely no danger from them. It is interesting to watch the bracing of the structure, how the big and little stays slope now this way and that, and to note just where they change in their slanting direction. It is also interesting at the dead of night to see the workmen splice one of the car cables, taking out some broken strand and weaving in another.

I was talking with one of the guards recently, who had been on the bridge since the day it was opened. He said that early one morning, in the first high wind that came after the opening he looked over to the New York side and apparently saw one of the largest chimneys in town bending this way and that, and he stood there transfixed waiting for it to fall. It didn't fall although it bent far over, and he thought it must be wonderful mortar that could hold at many bricks together. Suddenly he noticed that the chimney was exactly in a line with one of the vertical strands from the cables, and he saw at once that it was the bridge and not the chimner that was swaying. The guard was unprepared for such a situation. Of course the bridge was only moving a few inches from side to side, but when this man measured by a chimney a mile away it seemed to move as much as the chimney had apparently been moving

ITEMS OF INTEREST.

milkman at Wissahicken, Pa makes his rounds among his o on a bicycle. The milk-cans are g pended from books attached to the

A one-armed woman in Pa

A French professor line that a rabbit can bear next morning the