

SCIENTIFIC AND SANITARY.

THE general aspect of the interior of a converting-house at night is at once startling and grandly impressive. Here heat, flame and liquid metal are ever present; locomotives whistle and puff, dragging with clatter and clang huge ladles of molten iron; the lurid light, flashing and flaming, that illuminates the scene, throws shadows so intensely black that they suggest the "black fire" of Milton, for in such a place it is impossible for a shadow to be cool; half naked, muscular men, begrimed with sweat and dust, flit about; clouds of steam arise from attempts to cool in some degree the roasting earth of the floor; converters roar, vibrate, and vomit flames mingled with splashes of metal from their white-hot throats; at intervals the scorching air is filled with a rain of coruscating burning iron; ingot moulds lift mouths parched with a thirst that can only be appeased for a short time by streams of liquid steel that run gurgling into them; the stalwart cranes rise, swing and fall, loading scores of tons of red-hot steel upon cars of iron; all these conditions and circumstances combine to make an igneous total more suggestive of the realms of Pluto than any other in the whole range of the metallurgic arts.—From "The Manufacture of Steel," by W. F. Durfee, in *The Popular Science Monthly* for November.

BEES, the common go-betweens of the loves of the plants, cease to range about a thousand or fifteen hundred feet below snow-level. And why? Because it's too cold for them? Oh, dear, no; on sunny days in early English spring, when the thermometer doesn't rise above freezing in the shade, you will see both the honey-bees and the great black bumble as busy as their conventional character demands of them among the golden cups of the first timid crocuses. Give the bee sunshine, indeed, with a temperature just above freezing-point, and he'll flit about joyously on his communistic errand. But bees, one must remember, have heavy bodies and relatively small wings; in the rarefied air of mountain heights they can't manage to support themselves in the most literal sense. Hence their place in these high stations of the world is taken by the gay and airy butterflies, which have lighter bodies and a much bigger expanse of wing-area to buoy them up. In the valleys and plains the bee competes at an advantage with the butterflies for all the sweets of life, but in this broad subglacial belt on the mountain-sides the butterflies in turn have things all their own way. They flit about like monarchs of all they survey, without a rival in the world to dispute their supremacy.—From *High Life*, in the *Popular Science Monthly* for November.

"August Flower"

The Hon. J. W. Fennimore is the Sheriff of Kent Co., Del., and lives at Dover, the County Seat and Capital of the State. The sheriff is a gentleman fifty-nine years of age, and this is what he says: "I have used your August Flower for several years in my family and for my own use, and found it does me more good than any other remedy. I have been troubled with what I call Sick Headache. A pain comes in the back part of my head first, and then soon a general headache until I become sick and vomit. At times, too, I have a fullness after eating, a pressure after eating at the pit of the stomach, and sourness, when food seemed to rise up in my throat and mouth. When I feel this coming on if I take a little August Flower it relieves me, and is the best remedy I have ever taken for it. For this reason I take it and recommend it to others as a great remedy for Dyspepsia, &c."

G. G. GREEN, Sole Manufacturer,
Woodbury, New Jersey, U. S. A.

In the bacteriological museum in connection with the recent Congress of Hygiene in London the following collections of bacteria were exhibited: The Bacteriological Laboratory of Oxford showed sixty different species of bacteria, some of them harmless and some of dangerous varieties, among the latter being the germ of Asiatic cholera. Sir Henry Boscoe and Mr. Joseph Lunt showed bacteria cultivated from sewage, most of which presented pleasing hues when viewed under the microscope. The germ which produces distemper in dogs was shown by Mr. Millais; while M. Nocard enabled one to compare the bacilli of tuberculosis in man, the horse, pig, pheasant and pigeon. Professor Kral, of Prague, had a collection of all the microbes at present known, cultivated, according to character, on potato, agar, or turnip. The bacillus producing decay in teeth was shown by Mr. Sewell in the process of causing the same effect on sound teeth on which it had been cultivated. Dr. Washbourne, of Guy's Hospital, showed the microbes of anthrax, pneumonia and tuberculosis in various stages of existence. Mr. Hunter exhibited chemical poisons of ptomaines produced by germs. Mr. Sheridan Delepine had a collection of sections of skin displaying the bacteria of leprosy. It is found that bacteria thrive best—and they do thrive so as to multiply in a very short space of time by the millionfold—on agar, a jelly formed by boiling an Indian weed.—*Canada Health Journal*.

HERR FLEITMANN's experiments in soldering iron with nickel have yielded some important results with regard to the volatility and atomic penetration of the former metal, says *Iron*. The adhesion of the two metals was so intense that it became impossible to separate them by mechanical action, and chemical analysis proved a perfect assimilation, although the soldering had been effected at a temperature of from 500° to 600° below the fusing point. Other tests established the volatility of iron when heated to cherry redness. Two plates of iron and nickel, superposed, were submitted to the same degree of heat; the iron passed into the nickel to a notable extent without soldering or adhesion of the surfaces resulting. On the whole surface of the sheet of nickel an alloy with the iron was formed, which, in the case of one-millimetre sheets, penetrated to five one-hundredths of their thickness, and contained on the average twenty-four per cent. of that metal, the proportion being naturally stronger on the surface. An important fact is that the passage of the iron to the nickel is not reciprocal. While the combination disclosed itself on the surface of the nickel plate by the argenterous lustre of an alloy of iron with fifty per cent. of nickel, the iron plate remained intact, and preserved the sombre appearance which it had received from the scaling.—*Science*.

THE number of amateur astronomers is considerable, and it is safe to say that of all the sciences this is the one that can boast the most adepts among private persons. Among 1,160 astronomers now living, whose works have gained a footing in science, about half are amateurs with private observatories. In England, including official establishments and those attached to the universities, there are 34 observatories; in America more than 80; in France, 17; in Austria, 24; in Italy, 21; in Russia, 15, and in Belgium, 5. We may say that an amateur, armed with a telescope, is to be found at every point on our planet, ready to observe a celestial phenomenon. In Chili, Honduras, Peru, New Zealand, Tunisia and Tasmania we can meet astronomical amateurs provided with instruments, who devote their night hours to contemplating the beauties of the starry vault and to collecting observations which shall be useful for the advancement of science. Most of the discoveries of comets, small planets, variable stars and star-clusters are the fruit of individual researches. Were not all those amateur astronomers who, in the first ages of history, in Caldea and Egypt, China and Mexico, drew from nature the first explanations of celestial phenomena? From the beginning of historic time down to near our period, astronomical science has advanced only by the labours of philosophers, who pursued it as a matter of taste and not officially.—*L. Niesten*, in *The Popular Science Monthly*.

Minard's Liniment for Rheumatism.

A SUCCESSFUL trial has recently been made of a new form of lamp for bicycles, the vibrations of the machine in no way affecting the brilliancy of the light. The invention has been secured by an English syndicate, which proposes to place the lamp on the market. In its construction it somewhat resembles an ordinary incandescent lamp, but has two glass bulbs, one inside the other, inclosed in a tube four inches long, with a small reflector at one end and a series of lenses at the other. At the side of the lamp are two lenses which throw a light at an angle behind the rider, so as to enable any rider coming behind to tell the exact position of the one in front of him; while by a slight movement it is possible to project a volume of light a considerable distance ahead or to disperse the light around the machine. The generator of the lamp is entirely original, and is in no way connected with the motive power of the machine, nor does it depend on acids or other chemicals for its power. On the handle bar there is arranged a handle, similar to the brake lever, the moving of which for about thirty seconds stores enough energy to run the lamp for about four miles, after which the operation must be repeated. This is done, however, without stopping or dismounting. The inventor considers that the advantages of the lamp are sufficient to lead to its general adoption since it uses no oil, acids or chemicals; requires no cleaning, is unaffected by wind or rain, can be sold at the price of an ordinary oil lamp, weighs only about twenty-three ounces, is instantly lighted without getting off the machine, and, with proper care, will last many years.

THE dangers arising from the use of colours in which arsenic enters as a constituent can hardly be overrated. A very lamentable example is recorded in the *British Bee Journal*. Mr. Clement, a bee-keeper, of Walburton, Sussex, has succumbed to arsenical poisoning, the result of the use of a bright crimson drugget. This was put down two years ago. Previous to its use the whole family enjoyed good health, the sanitary condition of the premises being perfect. After this drugget had been in the house for some short time, sickness occurred amongst its inmates, who, however, recovered when absent from home. After his last return Mr. Clement was ill only a few days, and called in his medical attendant; the symptoms were pronounced to be those of arsenical poisoning, a daughter and a servant being also ill from the same cause. The illness in Mr. Clement's case was fatal, and the other inmates were removed at once from the house. There can be no doubt that the crimson drugget had been dyed with that peculiar aniline dye which contains a proportion of arsenic. The same colour was recently noticed as producing injurious results on the skin when used for socks and stockings. It is difficult to imagine any more injurious mode in which it can be employed than in dyeing a carpet or drugget, the dust from which, each time it was swept, was disseminated through the atmosphere, and in this case even to a fatal extent. When we consider that the amount of arsenic given off by wall papers stained with arsenical colours is sufficient to produce the most injurious effects on the health of the inmates of the rooms lined with them, it is not surprising that when applied in the quantity required to dye a carpet, it would be much more rapidly fatal, as it would be constantly disseminated through the air by walking and brushing. It is greatly to be lamented that the "laissez faire" policy which characterizes our sanitary arrangements should allow the use of arsenical poison to go unpunished; but as it appears to be within the legal rights of the manufacturers to sell such carpets, it behoves the purchaser to be most particular in getting a warranty from the retailer that the crimson carpets and brightly coloured wall papers that he sells are free from arsenical poisoning.—*The Queen*.

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CATARRH is not a local but a constitutional disease, and requires a constitutional remedy like Hood's Sarsaparilla to effect a cure.

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IT IS A MISTAKE to try to cure catarrh by using local applications. Catarrh is not a local but a constitutional disease. It is not a disease of the man's nose, but of the man. Therefore, to effect a cure, requires a constitutional remedy like Hood's Sarsaparilla which, acting through the blood, reaches every part of the system, expelling the taint which causes the disease, and imparting health.

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In London the electric mains are placed beneath the sidewalks, and to avoid accidents the manholes are provided with two covers, each connected with earth. The outer cover is thus rendered harmless.

Catarrh

Is a constitutional and not a local disease, and therefore cannot be cured by local applications. It requires a constitutional remedy like Hood's Sarsaparilla, which, working through the blood effects a permanent cure of catarrh by eradicating the impurity which causes and promotes the disease. Thousands of people testify to the success of Hood's Sarsaparilla as a remedy for catarrh when other preparations had failed. Hood's Sarsaparilla also builds up the whole system, and makes you feel renewed in health and strength. All who suffer from catarrh or debility should certainly try Hood's Sarsaparilla.

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