

SCIENTIFIC AND SANITARY.

THE ordinary method pursued in colouring leather is first to tan the skins and then dye them, but a German inventor proposes a new process, which saves both time and labour. Instead of first tanning the skins the new system consists in placing them in the colour bath and leaving them there for 24 hours, after which they are treated in the ordinary way with alum and salt. The inventor claims that this plan saves the washing, treating with acid and the various methods adopted for restoring to the skin the suppleness it loses by the washing.

THE chief of the Birmingham fire brigade has constructed a new portable fire alarm and fire aid station. It is contained in a case about 14 feet high, 1½ feet broad and 13 inches deep, and can be easily fixed against a wall or stowed away in a recess. By breaking a small pane of glass a policeman's whistle is at hand and a key which unlocks the door. The action of opening the door rings a bell at the fire station. Inside the box there will be found a telephone, a box of ambulance materials, a sliding ladder which can be made to reach a height of 20 feet and a hand pump.

THERE is at present in use in Italy an ingenious machine for the cutting of stone cornices, mouldings, balustrades, etc. In general features it resembles the ordinary metal planing machine. The stone to be operated upon is firmly clamped on the bed, to which a reciprocating motion is imparted by suitable mechanism. The cutting tools are carried on a saddle plate capable of horizontal movement upon a slide by means of a screw and handle. The slide is, in turn, capable of vertical adjustment on slide pillars by means of bevel gearing and screws. The machine turns out 16 feet of cornice, well finished, in twenty minutes.

A FRESH triumph for the great Lick telescope is recorded by Astronomer Barnard, who announces his discovery of a fifth satellite to Jupiter. The newly-found satellite is very small—not more than a hundred miles in diameter, and therefore eluding discovery except by telescopes of the highest power. Its motion is very swift, its revolution being made in a period of eleven hours and fifty-nine minutes. The sidereal periods of the other four moons vary from forty-two hours to something over sixteen days, and their diameters range from 2,000 to 3,600 miles. Eclipses of Jupiter's satellites have been made use of for the determination of longitude; and until 1849 our only knowledge of the velocity of light was obtained from observations of these satellites.

"German Syrup"

A Farmer at Edom, Texas, says:

"We are six in family. We live in a place where we are subject to violent Colds and Lung Troubles. I have used German Syrup for six years successfully for Sore Throat, Cough, Cold, Hoarseness, Pains in the Chest and Lungs, and spitting-up of Blood. I have tried many different kinds of cough Syrups in my time, but let me say to anyone wanting such a medicine—German Syrup is the best. That has been my experience. If you use it once, you will go back to it whenever you need it. It gives total relief and is a quick cure. My advice to everyone suffering with Lung Troubles is—Try it. You will soon be convinced. In all the families where your German Syrup is used we have no trouble with the Lungs at all. It is the medicine for this country."

G. G. GREEN, Sole Man'fr, Woodbury, N.J.

Minard's Liniment for sale everywhere.

SIR RICHARD OWEN, the eminent anatomist, who lives in a small lodge at Richmond Park, given him by Queen Victoria, is in such poor health as to occasion his friends much anxiety. He is now in his eighty-eighth year. For some time past he has been engaged in arranging his diaries and papers, which are very voluminous, and include documents and letters bearing upon many of the scientific controversies of the last half-century.—*New York Tribune*.

RECENTLY a communication from the Lick Observatory recorded a phenomenon which was thought to be as unique as it was beautiful. Fog filled a valley, and upon its level surface the mountain peaks were mirrored as if from a placid lake. Strangely, in the *Yorkshire Herald* of Sept. 7, "An Early Riser," records a precisely similar phenomenon at 6 a.m. on Sept. 5; it was seen from Leyburn, which overlooks Wensleydale. This lovely Yorkshire valley was half filled with fog, which looked like a mighty flood or lake. Upon it the opposite slopes lit up by the bright sunshine, were reflected with "extraordinary distinctness."—*Science*.

THE whole solar system, astronomers say, is strewn with particles of matter known as star-dust, while larger bodies, known as meteoroids, chase one another about the sun at intervals of a few miles. Usually when these meteoroids encounter the earth's atmosphere they break into small fragments and fall harmlessly to the ground. It is thought that 600 or 700 of these meteoric stones reach the surface of the earth unbroken in the course of a year, while the number of small particles which fall has been estimated at 2,000,000 a day. If the air did not act as a cushion no casualty would be more common than being hit by a meteoric.—*Harper's Young People*.

AN Australian pearl diver says that one of the strange effects of diving is the invariable bad temper felt while working at the bottom of the sea. As this usually passes away as soon as the surface is reached, it is probably due to the pressure of the air affecting the lungs and through them the brain. The exhilaration and *bonhomie* of the mountain climber are a contrary feeling from an opposite cause. A diver becomes so angry at some imaginary wrongdoing on the part of those in the boat above that he gives the signal to be pulled up, "with the intention of knocking the heads off the entire crew," only to forget what he came up for when the surface is reached.

IT is a common belief that if pearls are left unworn for any great length of time that they become sick or lusterless, and paragraphs are not infrequently seen which state that somebody's famous pearls are being soaked in the sea in order that they may recover their lost brilliancy. According to Mr. Geo. F. Kunz, author of "Gems and Precious Stones of North America," this belief has no foundation in fact, and, as for the treatment, he says: "It will not help the pearls, unless they were in a pearl oyster receiving new layers of nacre, otherwise a dish of salt water would do as well as the sea." Pearls frequently become yellow through absorption of grease, from packing in wool or woollen things. Mr. Kunz recommends that such pearls be cleaned with a little carbonate of soda, orris root or by bleaching in the sun.

NOTWITHSTANDING the opinion of scientific men that there are no tides on the great lakes yet every lake-faring man at the city of Green Bay, Wis., will tell you, says a Chicago paper, that there are tides there. The tides come in the morning and evening, and are highest at 7 o'clock a. m. and 7 o'clock p. m. From 3 o'clock until 7 o'clock in the morning the tide gradually comes in. After that time it begins to recede and is at its lowest point between 11 o'clock and 2.30 o'clock. At the latter hour the evening tide begins, and it rises continuously until 7 in the evening, when it begins to recede. The height of the tide varies at times a trifle, but it is never less than five inches and seldom over eight inches under ordinary circumstances. Heavily laden boats of large size are detained frequently at this point during low tide, waiting for the tide to come in. Green Bay is shaped not unlike the bay of Fundy, where the tides on the Atlantic are compressed until they rise to enormous heights, and this may account in part for the phenomenon.

ONLY a few years ago Professor E. E. Barnard, of the Lick Observatory, and the discoverer of Jupiter's fifth satellite, was earning a scanty living as a clerk in a photograph gallery in Nashville, Tenn. He possessed a natural fondness for astronomy, however, and devoted his spare moments to study. His means were so limited that it was long before he could succeed in saving enough money to purchase even a very small telescope. Finally he attracted the attention of Albert Roberts, recently Consul at Hamilton, Canada, and at that time editor of the *Nashville American*. Through Mr. Roberts' influence he was admitted to Vanderbilt University as an assistant instructor in astronomy, and there the budding genius of the young man began to develop. To keep the pot boiling, young Barnard gave up his nights to a search of the heavens for comets, and has probably discovered more than any living astronomer. While at Vanderbilt he received five prizes of \$200 each from the Rochester (Warner) Observatory. When the Lick Observatory was opened he was offered the place of assistant observer and accepted it.—*Pittsburg Chronicle Telegraph*.

A NEW pipette for measuring volumes of liquids was lately exhibited before the Industrial Society of Rouen, France. It was designed to overcome the difficulty found with the present form of pipette, of obtaining the exact volume of fluids. It is made of two parts, the portion containing the measured volume of fluid being of the same shape as the old pipette, but made only large enough to hold the required quantity. The second portion, which is the novel feature of the new instrument, consists of a glass tube with a wide cylinder blown on the end; this cylinder fits over the bulb of the pipette, a tight joint being made by grinding the two contact surfaces. A piece of rubber tubing with a pinch-cock and a finger hole in the side of the covering cylinder completes the instrument. It is used by placing the finger over the side hole, inserting the end of the burette in the liquid of which a known quantity is to be measured, then drawing with the mouth of the other end in the usual way, until the fluid flows over the end of the measuring portion into the cylindrical cover. The pinchcock is then closed, the pipette placed in the vessel into which the liquid has to be delivered, and air admitted through the finger hole in the side, when the liquid in the pipette flows out.

CHARACTERISTICS of Hood's Sarsaparilla: The largest sale, the most merit, the greatest cures. Try it, and realize its benefits.

THE French newspapers are just now testing a novel sort of type made of malleable glass by a new process. The types preserve their cleanliness almost indefinitely, and are said to wear better than those made of metal, while they can be cast with a sharpness of outline that will print more distinctly than is possible with the old style of type.

THREE THINGS TO REMEMBER.

Hood's Sarsaparilla has the most MERIT. Hood's Sarsaparilla has won unequalled SUCCESS.

Hood's Sarsaparilla accomplishes the greatest CURES.

Is it not the medicine for you?

CONSTIPATION is caused by loss of the peristaltic action of the bowels. Hood's Pills restore this action and invigorate the liver.

MESSRS. C. C. RICHARDS & CO.

Gents.—I took a severe cold, which settled in my throat and lungs and caused me to entirely lose my voice. For six weeks I suffered great pain. My wife advised me to try MINARD'S LINIMENT and the effect was magical, for after only three doses and an outward application, my voice returned and I was able to speak in the Army that night, a privilege I had been unable to enjoy for six weeks. Yarmouth. CHARLES PLUMMER.

DAVIS' PAIN-KILLER.—The best and most popular Family Medicine in the world. A blessing to the rich; a friend to the poor; within the reach of all, it has saved more lives and relieved more suffering incidental to travelling than any other medicine. 25c. per bottle, large size.



Mrs. A. A. Williams

Lynn, Mass.

We are pleased to present this from Rev. A. A. Williams, of the Sillsbee Street Christian Church, Lynn, Mass.:

"I see no reason why a clergyman, more than a layman, who knows whereof he speaks, should hesitate to approve an

Article of Merit

and worth, from which he or his family have been significantly benefited. My wife has for many years been a sufferer from severe

Nervous Headache

for which she found little sleep. She has tried many things that promised well but performed little. Last fall a friend gave her a bottle of Hood's Sarsaparilla. It seems surprising what simply one bottle could and did do for her. The attacks of headache decreased in number and were less violent in their intensity, while her general health has been improved. Her appetite has also been better." A. A. WILLIAMS.

HOOD'S PILLS are the best family cathartic.

THE dorking fowl is the only living bird which, in the adult condition, possesses a five-toed foot.—*Popular Science News*.

A PROMINENT banking firm of Lausanne, Switzerland, has made application to the Swiss Federal Council for a concession from the Government for the construction of a railway across the Simplon Pass, the steepest section of the line to be on the cog-wheel system. The total length of the proposed railway, which would extend from Brigue to Domodossola, is nearly 34 miles, and the longest tunnel over five miles. The estimated cost of the undertaking is \$6,000,000.

ONE of the most wonderful facts in recent science, to my way of thinking, is that which concerns the curious nature of the fossil life, which the indefatigable Prof. O. C. Marsh is disinterring from the rocks of the north-west United States. What are we to think of a four-legged beast called the Brontosaurus, sixty feet long, with a long neck, a long tail, a very small head, and its backbone "reduced to a mere shell and honeycombed interior"? Or what of Ticeratops, whose skull (twelve feet long!) was extended behind into a big fan-shaped shield, protecting the first six vertebrae of the neck, and whose length was twenty-five feet by ten feet high? Or what of a huge sea beast, with long hind legs like a frog, which must have been able to wade out to sea in search of seaweeds and like food? Truly the United States Government is to be congratulated on the success which has attended Prof. Marsh's labours.—*Illustrated News of the World*.

ONE of the most wonderful discoveries in science that has been made within a year or two is the discovery that a beam of light produces sound. A beam of sunlight is thrown through a lens on a glass vessel that contains lampblack, coloured silk or worsted or other substances. A disk having slits or openings cut in it is made to revolve swiftly in this beam of light so as to cut it up, thus making alternate flashes of light and shadow. On putting the ear to the glass vessel strange sounds are heard so long as the flashing beam is falling on the vessel. Recently a more wonderful discovery has been made: A beam of sunlight is caused to pass through a prism, so as to produce what is called the solar spectrum, or rainbow. The disk is turned, and the coloured light of the rainbow is made to break through it. Place the ear to the vessel containing the silk, wool or other material. As the coloured lights of the spectrum fall upon it, sounds will be given by different parts of the spectrum, and there will be silence in other parts.—*New York Ledger*.

Minard's Liniment Cures Burns, etc.