329,219

Crane, traveling, E. Samuel.....

crusher.

- (2) G. H. B. asks a receipt for cheap, substantial gold plate, to use on nickel plated roller skates for exhibition, to apply without the aid of any machine. A. Do not know of any other method than electro-plating that will bear polishing or add to the beauty of nickel plate. A dip solution will be dull, and look more like brass than gold.
- (3) H. R. asks: Will you be kind enough to give me a receipt for making soft yellow solder, as I have a number of joints to make, and common soft solder shows too plain, and cannot use hard solder, for the work will not stand to be heated hot enough to melt hard solder? A. We know of no method of making yellow soft solder; you can color the solder, after it has been applied, by means of the colored
- (4) W. K. L. asks: Of what and how are grindstones made? A. Grindstones are made from natural sandstone, the stones being cut roughly into shape and afterward turned.
- (5) W. A. P. writes: 1. I am making the dynamo described in Supplement. No. 161, and I have been at a loss to know how to make the armature. Should it (the cast iron part) be like the letter H, and the brass heads fastened to the side pieces? A. The armature should be of very soft gray cast iron of H form, as iudicated in your sketch, and shown in the drawings in SUPPLEMENT, No. 161. The brass heads are fast-ened to the projecting ends of the side piece. 2. Also, what number of Supplement has the best working drawings for an electric motor, one about the size of the dynamo in No. 161 Supplement? A. You can make the motor from the same drawings, using No. 16 wire on the armature, and fewer layers of wire upon the field magnet, say three or four instead of seven.
- (6) W. B. asks: If I take two carbon plates 3x4, and place them in a jar containing a solution of sulphuric acid and bichromate of potash, with a zinc plate of similar size between them, would I get electricity of sufficient electromotive force to run an incandescent lamp, and if so, what number of candle power lamp would six similar cells run? A. Six cells of such a battery as you describe would run a 5 or 6 candle power lamp for a short time. 2. Could I increase the power of the battery by a different relative size of plates? A. You can increase the quantity of current by this means. 3. Would the batteries be constant? A. No; this form of battery, although very powerful and efficient for experimental purposes, is not adapted to continual use, as it soon polarizes. 4. Are magnets made of hardened steel better than those made of common bar steel? A. The steel for magnets must be hardened to render them permanent.
- (7) J. C. S.—The affection indicated (pimples on the face) is known in medical works as acne. It is not of the slightest consequence, except that its presence on the face causes annoyance as a dis figurement. It is no indication of ill health, and needs uo mediciue, unless the digestion be impaired from other causes. Sulphur ointment applied at hight and washed away in the morning with abundance of soft soap and warm water helps to improve the looks. The pimples commonly disappear by the age of 20 to 22,
- (8) H. L. G. asks: 1. If a supply steam pipe is at the end of a boiler, would it cause the water in the boiler to foam? A. Not necessarily. 2. If the foaming is caused by soap or oil, would I be right to pump soda in the boiler or blow off? A, Yes; pump in a little dissolved soda and blow off, and repeat until the boiler is clean.
- (9) A. W. M. asks (1) how to make a Leyden jar. A. Take a thin wide mouthed jar; varnish it with shellac inside and outside; allow the varnish to dry; then take some sheets of tin foil and varnish them with shellac. and as soon as the varnish becomes tacky, apply the varnished surface of the leaf to the varnished surface of the jar, rubbing it down thoroughly over every part to insure perfect adhesion. The jar should be coated over both its inner and outer sur faces to within about one-third of its height from the top. 2. Can a Leyden jar be charged with one of the small magneto-electric machines costing \$10.00, or only by frictional electricity developed by a Holtz machine something similar? Would a frictional machine be difficult to make, and where could I find instructions? A. No; only static or frictional electricity can be used in charging a Leyden jar. A frictional electric machine is easily made, but we advise you to make a Holtz ma-chine or a Wimshurst machine. For a full description of the construction of the Holtz electrical machine consult Supplement, Nos. 278, 279, and 282. For a description of the Wimshurst machine consult Supple MENT, No. 359.
- (10) M. L. asks: 1. Can a battery of Leclanche cells that have been run out on closed circuit be renewed by being repacked with fresh oxide of manganese, or are the carbons injured as well as the manganese that the cells polarized? A. The oxide of manganese should be renewed, and the porous cells, and the carbon should be soaked in warm water for some time previous to refilling the cells with the oxide of manganese. 2. If by polarization is meant that the fluid next to the carbon is impoverished, and prevents the stronger solution from acting on the carbons, can I not remedy that by punching a hole in the pitch on top of the porous cup, and let all the fluid out (which is chlor, zinc, I believe), and would not a new lot of fluid filter through the cups, and thus renew their strength, provided I strengthened the solution in the outer jars? Or is the manganese useless, or are the pores of the porous cups filled with anything to prevent the passage of the fluid? A. Your remedy would not cure the difficulty. The manganese is rendered worthless by long use in the battery.
- (11) M. E. R. desires a method of dyeing fur without injuring the fur or skin. A. Experience is very important in dyeing valuable furs. For brown, tincture of logwood is used. For black, logwood and copperas. For red, ground Brazil wood 1/4 pound, water 11/2 quarts, cochineal 1/2 ounce; boil the Brazil wood in the water one hour, strain, and add the cochineal; boil

- (12) E. P. M. asks: What preparation r salt of mercury is known as the protosulphate? What other name is it known by? A. It is also known as mercurous sulphate. It is prepared by adding sulphuric acid to a solution of mercurous nitrate. It forms a white crystalline powder, and is but slightly soluble in water.
- (13) E. G. asks: Will a turpentine bath soften or bring the surface of carbon paper to life again? If not, what will do it, and how applied? A. It will not. It is probable that you are using a poor quality of paper. It may perhaps be improved by lay ing between oil sheets.
- (14) E. H. C.—There are stringent laws in most of the States prohibiting the sale of kerosene unless it be of proper grade. There is no danger from kerosene if properly handled.
- (15) E. F. B.—The attraction of gravitation is greatest at the earth's surface. It is nothing at the center
- (16) H. S. asks what the word antipy rine means. A. Antipyrine is the name given to a re cent derivative from coal tar. On account of its simi larity to quinine, and its like properties, it has been sold as a substitute for this well known febrifuge.
- (17) M. J. desires (1) something that will keep the hair curly, that is, the bangs. A. Use the liquid obtained by boiling, for ten minutes, 1 drachn quince seeds in 1/2 pint water and straining, or steep 6 ounces gum tragacanth for 30 hours in 1 gallon ros water, stirring frequently; strain through a cloth, and let stand for a few days; then strain again, and work into it 4 drachms oil of rose. 2. Will wearing specta cles that are fastened on the nose reduce the size of the nose? A. They may somewhat modify the form of the nose, but it is improbable that the size will be changed
- (18) J. R. M. writes: The top of the cold air pipe which supplies the air to my furnace is one foot below the level of the floor where the first registers are; and I would like to extend the pipe higher, so as to avoid getting the air so near the surface of the ground. How high can I make it, so as to avoid any danger of the draught carrying the air out of the house instead of into it? A. If the cold air box terminates a the bottom of the hot air chamber of the furnace, there will be no danger of a back draught up the cold air box. You may extend it up as far as required fo fresh air.
- (19) L. V. would like (1) some simple process of purifying skunk's oil. A. Agitation with charcoal and filtration are the only simple means that we can suggest. 2. Which is best and cheapest as ar anodyne for a liniment—chloroform or laudanum? A Chloroform is probably the cheaper article to use, bu laudauum is more satisfactory in its action, and is easy
- (20) E. C. asks why slate forms between the layers of coal. Also, why hydrogen contains more latent heat or produces more intense heat in its flame than any other gas? A. Coal has been formed by the growth and decay of vegetation, in the presence of water, as in our present peat swamps. It was therefore accumulat ed at the mouths of rivers or in localities subject to floods. These alternations covered long periods of time and while the swamp or bog was sufficiently above water to support vegetation, coal, or rather the pear from which it is formed, accumulated, and in times o submergence, mechanical sediments, such as sandstone and slates, were deposited on top of the former peat When the subsidence was greater than usual, and the ea invaded the swamp, limestones were formed. In this manner we account for the immense masses of limestone and sandstone in the coal measures, as well as for the thinner partings of clay and slate. The transition from swamp to lagoon is marked by the coaly shales, mixtures of carbonaceous matter, and mineral sediment. The same process on a smaller scale is now to be seen in several localities in the South -The heat produced by the chemical combination of two elements is due to the fact that by the impact of the combining molecules, the molecular motion is converted into a rotary or vibratory motion of the molecules of the resulting body, and becomes manifest to us as heat or light. In the combustion of hydrogen, by which two atoms unite with one atom of oxygen to form water, the greatest heat is produced, because the energy of chemical combination, or the immense velocity of molecular impact, produces a corresponding motion of the molecule of water. The energy of the chemical combination between these elements is due to their extreme positions in the electro chemical series, which produces a strong chemical affinity.

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Weaver Lifter. See Stone lifter.	329,245	Screw machine, E. A. Marsh		Washing machine, H. Hassenpflug	329,938 329,183
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e of, S. M. Hotch-		A. Maxfield	328,956
lson		C. A. Maxfield	
f. Stevenson, 829,233,		Textile fabrics with waterproofing, etc., apparatus for treating, C. A. Maxfield	
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