

add 50 parts shellac, and boil until solution is effected. The stiffening may be applied (to the inside of the hat) by means of a brush.

(27) A. N. asks: Is there any danger of lead poisoning, or other serious consequences, from the use of sugar of lead as a wash for sores?

(28) J. E. K. says: You gave the following recipe for a liquid for mixing rocket stars: Alcohol 3/4 oz., camphor 1/4 oz., isinglass 1/2 oz.

(29) S. B. asks: In crushing highly sulphurous ores with Cornish rollers at 120 revolutions per minute, will the sulphur have any effect on the iron or face of the rolls so as to injure its texture?

(30) A. B. asks: 1. Of what is Indian ink composed? A. Indian or Chinese ink is formed of carefully purified lampblack and size, or animal glue, with the addition of perfumes, not necessary, however, to its use as an ink.

(31) C. K. asks: What metal or alloy expands the most and quickest at a temperature within 300° Fah.?

(32) V. C. T. says: I have a lot of thin malleable iron castings, which I am having ground, polished, and nickel plated, but they all have a dull leaden appearance after being plated.

(33) E. S. T. asks: Why do preserves, that are in perfectly airtight jars, mold?

(34) E. S. H. asks: How can I make colored fires? A. Try the following: For light blue 61 per cent of chlorate of potash, 16 of sulphur, 23 of strongly calcined alum.

(35) T. L. asks: Is a large deposit of soda, such as is generally deposited from soda springs, of any value?

(36) R. S. asks: How should bodies of cellular structure, being saturated with nitrate of silver to become conductors of electricity, be treated with hydrogen gas?

How is the double sulphate of nickel and ammonia prepared?

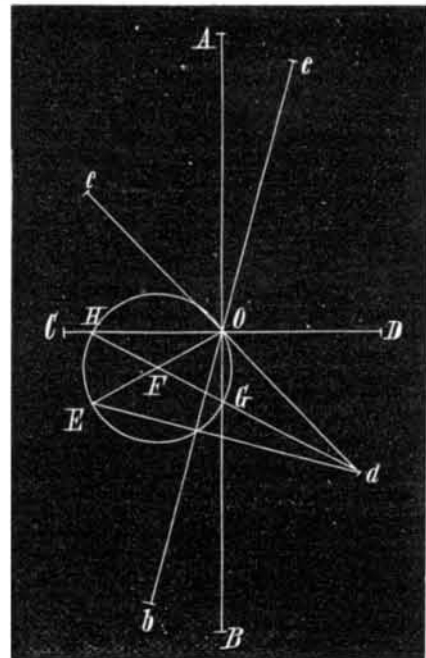
(37) G. S. says: I have a drum head that has lettering on it, done in black. How can I take the marks off without injuring the head?

(38) J. H. B. asks: How can I renovate a sponge mattress that has become hard by use and dampness?

(39) C. & Co. ask: 1. In the manufacture of fluid magnesia, to what pressure would you charge the fountain with carbonic acid gas?

(40) E. B. J. says: I desire to make a musical instrument, the sound being produced by striking wooden strips, of uniform thickness and varying length.

Given a set of conjugate diameters of an ellipse, how can the axes be found so that the curve can be conveniently constructed?



the given conjugate diameters. From d draw a line perpendicular to e b, and make its length, d E, equal to e O.

(41) J. B. asks: How can I produce a gloss on hard rubber? A. Ebonite may be worked, in all respects, like any hard wood.

(42) E. P. J. asks: 1. What is the precise diameter of the piston of a reciprocating engine, presenting 144 square inches of area?

(43) H. E. E. asks: 1. What is squaring the circle? Is it finding a square with an area equal to the area of a circle of given diameter?

(44) H. D. P. asks: How is the bronze made that is used for bronzing statuary, etc.?

(45) T. H. says: I saw in a recent issue of your paper a statement that man appeared on the earth 150,000 or 200,000 years ago.

(46) P. S. says: I saw a meteor in Kansas on December 27, 1875, and I wish to know of what kind of matter such bodies are composed.

(47) J. C. C. asks: What are the ingredients and proportions of the wax used by electrotypers for taking impressions of type?

(48) L. & G. M. Co. ask: What preparation can be applied, with a pen, to mark numbers on the surface of tin plate?

(49) J. H. says: I have a material containing free sulphur. By applying heat I drive the sulphur off in the form of gas.

(50) R. E. says: J. H. P. states on p. 114, current volume, that no chimney burners are safe on account of the shortness of the wick tube.

(51) J. M. S. says: In a recent issue you recommended strips of plank to be used beneath the window sash for the purpose of ventilation.

(52) M. W. L. says, in reply to C., who asks as to the weight of the 20 and 15 inch guns:

(53) J. J. B. says, in answer to a correspondent who complained of heating of millstones: To avoid hot grinding, reduce the speed of your millstones and grind slower;

(54) J. J. B. says: To oil a mill spindle at the bush, bore a 3/8 inch hole through the wood block in bush, next to spindle.

(55) W. L. S. says, in reply to an inquiry as to why a telegraph sounder connected with the bell of an alarm clock does not work:

(56) J. C. says, in reply to L. S. C.'s queries as to the effect of dampness on unused boiler furnaces:

(57) D. F. J. says, in reply to J. A. H., who says that the carrying boards of his reels are flat, and that the flour sticks on them:

(58) J. B. J. says, in reply to H. M.'s query as to the line of the magnetic meridian: Since the latitude and longitude of the place are not given, the question may be considered under two hypotheses: 1. The line may be in Maine or thereabouts, where the declination of the magnetic needle from the meridian has varied from 14° to 17° during the last 40 years.

(59) D. C. R. says: S. H. B. and many others desire information as to building boats. In the first place, make the keel of required length and about 1 1/4 inches thick and 4 inches wide,

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined, with the results stated:

J. M. M.—It is ramie fiber.—T. T. R.—It is sulphide of lead (galena) accompanied by sulphate of baryta (heavy spar).—W. P. T.—It is sulphuret of iron, irised by a superficial oxidation.—J. L.—It is iron pyrites, at present not of much commercial value.—W. A. J.—It is bituminous shale, impregnated with sulphuret of iron,

J. W. S. says: I am taking a carbolate of iodine inhalant for catarrh, and it scents my clothes with an unpleasant odor.

COMMUNICATIONS RECEIVED. The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

- On Thermometrical Tables. By J. B. G.
On the Sargasso Sea, etc. By M.
On Bored Wells. By L. L.
On Windmills. By A. McL.
On a Registering Barometer. By W. A. B.
On Projectiles. By R. H.
On Spacing Circles. By G. B. F.
Also inquiries and answers from the following:
H. C. N.—J. D. M.—O. A.—C. F. E.—E. W.—L. H. Q.
—L. D. D.—A. N. W.—W. M. R.—W. S. R.—J. M.—D. M. H.—A. G.—A. W.—C. M.—F. B.—J. E.—F. W.—C. F. E.

HINTS TO CORRESPONDENTS. Correspondents whose inquiries fail to appear should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them. The address of the writer should always be given.

