

are many ways of making the photometric comparison between a standard candle and the standard Argand burner, but mostly by the unequal distance of the two lights when their shadow images are alike.

(24) J. M. W. writes: Asay that a No. 10 shot gun, 32 inch barrel, will burn only 4 1/2 drachms first quality powder when loaded in the ordinary way, 1 1/2 ounces shot.

(25) C. W. H. asks: 1. Can you mention any compound or article that could be mixed with charcoal and niter that will on burning (smouldering) emit chlorine for disinfecting?

(26) G. E. K. asks (1) if there is any danger in drinking water filtered through common coke. A. No, provided the charcoal is renewed from time to time.

(27) H. F. R. writes: I made an electric machine as described in SCIENTIFIC AMERICAN SUPPLEMENT, No. 161, and used 2 pounds of No. 18 cotton covered copper wire on magnets, and about 40 feet No. 16 on armature.

(28) McN. desires a recipe for making a good tooth wash, to be made into cakes soft enough for the brush to take it and strong enough to clean on one application, and like it to be pink in color.

(29) I. G. asks: 1. In constructing a wooden trough battery to be powerful enough to strongly magnetize steel bars of 1/2 pound weight, what number and size of cells will be necessary for using zinc and carbon plates 5x6 square?

(30) G. W. B. asks: 1. What kind of battery is used for telephones? A. Generally the Leclanche. 2. Are same sized cells used for long as for short lines?

(31) W. G. G. asks: 1. If a party gives writtenguarantee in purchase of boiler that it shall be tested usual boiler test, and warrants it safe, and has not done so, is he liable? A. Party is liable under the common law for violation of contract.

(32) F. T. writes: I have made dynamo full size as described in SUPPLEMENT, No. 161. Would it make machine of double its power, by placing another pair of field magnets at the other end, and using the same armature? A. It would increase the power somewhat but would not double it.

(33) O. F. McP. asks: 1. If the north and south poles of a permanent magnet be connected by a common copper wire, does the same effect take place as if they were joined by the regular iron armature? If so, why has it no effect on the ordinary coils of a telegraphic sounder? A. The copper wire being non-magnetic is not appreciably affected by the magnet.

(34) H. R. S. asks: 1. Will the telephone employing U magnets, described in SCIENTIFIC AMERICAN SUPPLEMENT, No. 142, work on telegraph wire the distance of six blocks, with ground connections and two Leclanche batteries at each end?

(35) J. E. J., Jr., writes: A man has been going through this city for some time past selling a silver plating preparation in small clear glass bottles. It has the appearance of pure spring water, and is as liquid as the same.

(36) F. E. C. writes: I have a drive well; point down about 35 feet, and in sand. Water was at one time moderately hard, but has in the last two or three years become soft, and in the last few weeks tastes and smells bad.

(37) T. A. J.—To demagnetize a watch place it in a helix formed of about 100 convolutions of No. 16 insulated wire. Connect the helix with a current reversing key, and connect the key with a plunging bichromate battery of about 6 cells.

(38) W. V. L. asks for any cheap substance or material that can be applied to the wires of a fence between the posts to which they are attached, that would effectually prevent the lightning from passing over it, from post to post.

(39) F. I. M. asks (1) why a smaller gravity battery cup is used on a main line circuit than is used on a local circuit. A. From motives of economy; the current required for the line is an intensity current capable of overcoming the resistance of the line.

the copper of the next, and so on throughout the entire series. A battery so connected has a high resistance, and is capable of working over a circuit of high resistance when the battery connected for quantity would not.

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