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(8524) J. D. Waite asks: Can it be proved that a right angle can be trisected? The trisection of a right angle is a very simple proposition. The radius of a circle is equal to the chord of 60 deg. If the radius be laid off as a chord from one extremity of the arc of a quadrant, or the arc subtending a right angle, and a radius be drawn to the other extremity of the chord, the angle formed on one side will be 60 deg. and on the other side the angle will be 30 deg. or one-third of a right angle.

(8525) A. E. N., Cape Colony, asks: Why do steam boilers explode when, through misfortune, a steamer sinks? A. The explosion of boilers in steamers that are wrecked is probably due to the sudden stopping of the engines and the abandonment of the fireroom by the firemen without the proper precaution to check the fires. It takes but a few minutes in such cases for the steamer to overbalance the outlet of steam from the safety valves, when the rise in pressure ruptures the boilers. When one explodes, others follow by damage fr•m the exploded boiler.

(8526) G. J. R. asks: Can you give me the reason for the vibration in a motor or generator when the armature and shaft are balanced as nearly as possible? I would like to see what your opinion is in regard to it.

A. The slightest excess of weight on one side will cause a perceptible vibration of an armature. As little as one-thousandth of the total weight will cause a very considerable vibra-If an armature is perfectly balanced, it will run so quietly that it is difficult to tell whether it is in motion or not. The process of balancing an armature is described in Crocker's "Electric Lighting," Vol. I., price \$3 by mail.

(8527) C. H. W. asks in reference to the answer to query regarding the attraction of a 5-pound and 15-pound mass upon each other. The mutual attraction between the m m'

masses is given by the formula F. = K -

and to this quantity the larger mass contributes three times as much as the smaller. It is true that this attraction acts upon both masses equally, and will give to each the same quantity of motion. In the case of the earth, when a body falls toward it, the earth also falls with the same quantity of motion toward that body. But the greater portion of the motion comes from the mass of the earth, since is enormously greater than the mass $\bullet f$ any body falling toward it, and therefore the small body moves much farther from this attraction than the larger one does.

(8528) H. L. B. asks: 1. Would you PRICE, bound in Cloth, \$5.00. please tell me what produces the curly effect in bird's eye maple? A. We do not know how the mechanical forces act in the growth of the wood to produce the burls in the bird's eye. A while ago the question would have been answered, "It is the nature of the tree to grow that way." 2. Why is it necessary to only put ten 16 candle power 104-volt lamps on a circuit? A. The amount of current which is allowed to flow through one cutout in a building is regulated by the rules of the Board of Fire Underwriters and is determined by the risk •1 setting fire should a fuse blow.



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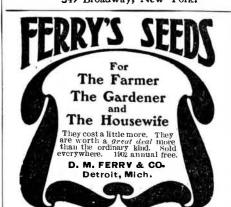
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