

oxide of manganese and granulated carbon, equal parts mixed. It can be used in a Leclanche battery. 3. What can I put in a kettle to keep it from rusting? A. Try a solution of soda.

(5142) M. B. P. asks: 1. With a dynamo storage battery and motor, what percentage of the power put into the dynamo can be delivered by the motor? A. 75 per cent. 2. What percentage could be delivered by the motor a week after the battery had been charged? A. In a good battery the percentage of loss would be small. Probably not more than 2 or 3 per cent. 3. What are the limits of the capacity of storage batteries in amperes and volts and how determined? Are storage batteries made capable of storing the electrical current developed by 30 actual horse power? If so, for how long a time could they store such a current constantly running into the battery? A. The size and number of the plates limits the current capacity, and the number of cells in series controls the voltage, each cell being equivalent practically to 2 volts. The voltage is determined by a voltmeter. There is no difficulty in storing current equivalent to 30 horse power. The batteries will contain a working charge for two or three months with a slight loss.

(5143) E. E. W. asks how to color lantern globes green, also blue and red, and what to use for colors. A. The simplest way to accomplish this is to purchase the colored lacquers from dealers in painters' supplies. If you find this inefficient, you might use rather thin shellac varnish, colored with aniline dyes. For additional information see our Cyclopaedia of Receipts.

(5144) O. D., J. E. Z., and others ask for a remedy for freckles. A. We reprint a note from the SCIENTIFIC AMERICAN for February 13, 1892, in regard to freckles: Some people are born freckled and others have freckles thrust upon them. The former class might as well accept their freckles as a dispensation of Providence, for nothing can be done for them. The latter can always get rid of their affliction by using a couple of drachms of sal ammoniac with an ounce of German cologne, the solution mixed with a pint of distilled water. Applied two or three times a day, states one of our contemporaries, it will cure the worst case of acquired freckles on record. Freckles are caused by the action of sunlight on the coloring matter in the skin.

(5145) R. T. K. asks: Will you kindly let me know, through the columns of your paper, something of the difference in the power required to tow a barge when drawn close to stern (so as to almost touch) of tug, or when let out with cable so as to be considerable distance apart? That is, what are the effects of the currents caused by the propeller of tug (and hull also) on the barge when the barge is close up? Also when side wheels are used instead of screw? A. While no exact figures can be given, the fact is well known in the towing business that the current set back by the wheel of a tug boat directly against the bow of a barge close behind somewhat neutralizes the power of towage. Hence all stern towing is done with long hawsers, or alongside. With sidewheel tow boats, the back thrust of water from the wheels to a single barge directly astern is not so great as with a propeller; yet it is enough to prevent the practice, except where necessary by narrow and crooked channels.

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INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

June 6, 1893

AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

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