

quer and Prussian blue or aniline blue to a thin white shellac varnish.

(7042) E. S. asks for a receipt for cement or paste which will be invisible, for transferring lithographs on to glass without showing any blemish. A first coat the glass with dammar varnish or else with Canada balsam mixed with an equal volume of oil of turpentine, and let it dry until it is very sticky, which takes half a day or more. The printed paper to be transferred should be well soaked in soft water and carefully laid upon the prepared glass, after removing surplus water with blotting paper, and pressed upon it so that no air bubbles or drops of water are seen underneath. This should dry a whole day before it is touched; then with wetted fingers begin to rub off the paper at the back. If this be skillfully done, almost the whole of the paper can be removed, leaving simply the ink upon the varnish. When the paper has been removed, another coat of varnish will serve to make the whole more transparent.

(7043) W. C. P. says: 1. Will you please advise me as to the best and safest way of removing the top of a carboy? I was thinking of taking a narrow and thin piece of wood just long enough to go around the carboy and fasten it by means of a wire at the proper height as a guide for my glass cutter, then cut it around with the cutter, then use a hot iron or a cone soaked in alcohol. If there is a better way of doing it, please advise me. A method consists in the use of what in German is called sprengkohle—cracking coal. The sprengkohle is made of finely ground limewood charcoal. The coal powder is made by means of sufficient gum tragacanth and water into a dough or paste, out of which small cylinders of the size of a pencil are made by rolling between two small pieces of board. Such a cylinder of sprengkohle, ignited at one end, glows slowly. Such sprengkohle may be bought at stores for chemical and physical supplies. It is used as follows: Put a drop of water on the spot where the crack is to begin. Make a short incision with a three-edged file. Wipe the water away. Touch the incision with the glowing sprengkohle, blowing on it if required. After a few seconds the glass will crack for a length of 3/4 to 1 inch. If now you move slowly the sprengkohle, the crack follows it. 2. Is there any place I could get a glass vessel about the size of a carboy and the same shape after the top is removed? A. We do not know where you can get such a vessel as you describe.

(7044) M. J. S. says: Will you please explain the formula for making gelatin or glass cards in your Notes and Queries? A. Swell gelatin in cold water for several hours, pouring off the excess. Pour it hot on a plate of glass (previously warmed with steam and slightly greased) fitted in a metallic frame whose edges are just as high as the wafer should be thick. Lay on the surface a second glass plate, also hot and greased, so as to touch every point of the gelatin while resting on the edges of the frame. By its pressure the thin cake is rendered uniform. When the glass plates have cooled, the gelatin will be solid and may be removed. It can then be cut into disks by punches, etc. It can, of course, be colored by adding suitable coloring material, aniline colors for instance.

(7045) W. H. M. asks: 1. Will the Edison-Lalande battery type Q run a two or three candle power lamp? A. A three candle power lamp needs 5.5 to 7 volts E.M.F. For this E.M.F. about ten cells in series would be needed. The resistance of the Q battery is 0.070 ohm. As the lamp has 3 to 4.5 ohms resistance and needs a current of 1 to 1.5 amperes, twelve cells in series should answer for the work. 2. About what voltage are the different types of Edison-Lalande battery? A. Mean working E.M.F. 0.867 per couple. As type X includes two couples its E.M.F. is put at 1.733. 3. Would 4 cells dry battery giving 1.5 volts each run the same lamp? A. No; the battery would become polarized too quickly.

TO INVENTORS

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INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted November 17, 1896, AND EACH BEARING THAT DATE.

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

Table listing inventions with names and page numbers. Includes entries like 'Acid, obtaining tetra-alkyl uric, E. Fischer', 'Advertising device, J. H. Golding', 'Agricultural boiler, F. C. & W. J. Zundahl', etc.

Table listing inventions with names and page numbers. Includes entries like 'Boiler, See Agricultural boiler. Steam boiler', 'Boiler, C. Kellogg', 'Boiler, G. P. Washburn', 'Bolt cutting machine, H. A. Ferguson', etc.

Table listing inventions with names and page numbers. Includes entries like 'Hydraulic jack, J. Weeks', 'Hydraulic press, J. S. Miller', 'Ice shaving machine, J. V. Bobannan', 'Indicator, F. R. Brown', 'Indicator, F. R. Brown', etc.

Table listing inventions with names and page numbers. Includes entries like 'Switch, See Overhead switch. Railway switch', 'Trolley switch', 'Switch conductor, electrical, W. H. Sawyer', etc.

DESIGNS.

Table listing designs with names and page numbers. Includes entries like 'Advertising card, T. S. Ingraham', 'Badge, campaign, W. Walker', 'Bottle stopper, W. M. Graham', etc.

TRADE MARKS.

Table listing trade marks with names and page numbers. Includes entries like 'Baking and yeast powders, F. W. Young', 'Bicycles, H. England', 'Bicycles, Tom Manufacturing Company', etc.

PRINTS.

Table listing prints with names and page numbers. Includes entries like 'Crans Playing Cards,' United States Playing Card Company', 'Fairy Boots' (for boots and shoes), L. Candee & Co., etc.