

(4035) V. L. C. asks: 1. How to make a perfectly smooth dead black varnish for brass, etc.?

(4036) J. B. says: Kindly answer through SCIENTIFIC AMERICAN what causes clicking in pipes when steam is turned on?

(4037) W. L. asks: 1. Would a bar magnet be as strong magnetically if tempered hard only at the ends?

(4038) E. D. asks: 1. Will an ammeter register equally as well on the positive as on the negative wire?

(4039) E. E. W. asks: Will you please answer the following question: Is there anything (about 1-32 inch thick) I could place between a staple shaped magnet and a flat piece of steel to keep it from drawing?

(4040) C. H. F. asks: 1. Is light light before it reaches the atmosphere, or is it produced by transmission through the air?

(4041) E. F. L. asks: What is black manganese? For what purpose is it used, and what is its value?

(4042) A. B. C. asks (1) from what Glauber salt is obtained. A. By treating salt with sulphuric acid and distilling off the hydrochloric acid.

(4043) F. T. K. writes: 1. I made a battery of the Chaperon-Lalande type, by plugging a piece of two inch gas pipe in one end and fitting a cap to the other, through which I put the zinc (a 3/4 inch x 6 inch rod) insulated from the pipe.

wrong? A. Your trouble is due to the use of cupric hydrate instead of oxide. Make the oxide by heating thin copper plates to red heat in the air, and after cooling beat off the oxide and reheat until it is all oxidized.

(4044) T. H. B. H. says: We have a 20 horse engine, 30 horse boiler, run two 60 saw gins, jet and pump, and until recently a friction pulley press. We have put in instead a "direct steam press," 30 inch cylinder.

(4045) E. E. B. asks: If a man with a rifle and one with a cannon are placed any distance apart within range, and both fire at the same time toward each other, the cannon ball to travel twice as fast as the rifle ball, the rifle ball penetrating the cannon ball all the time until it is brought back to the place it started from, does the rifle ball at any time come to a dead stop?

(4046) H. M. asks: 1. What pressure per square inch is exerted by illuminating gas compressed to one-tenth its original bulk?

(4047) V. M. asks: 1. Are engineers licensed as to grade?—for instance, a man might be capable of tending boiler and the common slide valve engines, but not the high grade of Corliss.

(4048) B. R. W. asks the construction of a battery in which salt-peter is used for the depolarizer. Is it a good closed circuit battery, or is it only suited for open circuit?

(4049) L. S. G. says: Would like to know if you could let me know of some way to give small steel wire springs a good spring temper?

red and tip the springs into the water. Dry and spread them on a wire sieve and dip in boiling linseed oil for 2 or 3 seconds and again cool in water.

A. Y. O. asks how to fine wine.—L. B. K. asks how to color brass a fine blue.—S. L. A. asks for a hair tonic or hair invigorator.—J. W. wants an iron paint.—Old Sub. asks: Will you oblige by giving the receipt for making the beautiful gloss that is found on collars and cuffs?

Answers to all of the above queries will be found in the "Scientific American Cyclopaedia of Receipts, Notes and Queries," to which our correspondents are referred.

TO INVENTORS. An experience of forty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequalled facilities for procuring patents everywhere.

INDEX OF INVENTIONS For which Letters Patent of the United States were Granted

February 9, 1892, AND EACH BEARING THAT DATE.

(See note at end of list about copies of these patents.)

Table listing inventions with names and patent numbers. Includes entries like: Adjustable clamp for securing stands to various objects, C. E. Hudson, 468,450; Aging and rectifying alcoholic liquors by ozone, apparatus for, Broyer & Petit, 468,326; Air brake, J. B. Knudsen, 468,387; Air brake, automatic, A. Silcock, 468,701; Alarm, See Burglar alarm. Low water alarm, 468,690; Annealing, S. H. Brown, 468,747; Annunciators, resetting device for, H. A. Schoenberg, 468,630; Arc light globe holder, C. A. Pfueger, 468,412; Arc light hanger for inside use, C. A. Pfueger, 468,413; Armature, ring, J. G. Pool, 468,690; Bag, See Mail bag; Bait, A. B. Robinson, 468,467; Bale tie machine, W. S. Livengood, 468,687; Baling press, Brown & Gehrt, 468,638; Bar, See Cutter bar; Barrel press, W. Ludwig, 468,463; Basin cover, catch, W. M. Whitten, 468,714; Bearing plate for vehicles, center, D. L. Barnes, 468,471; Bedstead, washrobe, W. D. Snyder, 468,308; Bell, door, J. W. Ross, 468,403; Belt, safety, J. C. Moore, 468,574; Belt shifting apparatus, S. Barrett, 468,478; Bending roll, E. Heyde, 468,659; Bovel, A. & J. L. Kershaw, 468,596; Bicycle, F. Clement, 468,643; Bicycle luggage carrier, A. B. Barkman, 468,757; Bicycle saddle, L. A. Sherman, 468,388; Bicycles, spring fork, J. McCain, 468,750; Block, See Pulley block; Bobbin, sheet metal, H. Krantz, 468,567; Boiler, See Steam boiler. Water tube boiler, 468,383; Bolt header, S. Blenkhorn, 468,441; Book, coupon, W. F. Beck, 468,636; Book or case cover, E. A. Stange, 468,732; Books, means for locking, J. I. Covington, 468,512; Boot cleaner, J. B. Prickett, 468,364; Bottle, nursing, G. A. Bobrick, 468,759; Bottles, etc., apparatus for capsuling, F. S. Pichler, 468,389; Box, See Letter box. Musical box. Paper box, 468,687; Brace, See Shoulder brace. Vehicle spring brace, 468,771; Braze, G. Larson, 468,649; Braiding machine, A. Fornander, 468,432; Braiding machine, Winchester & Hood, 468,432; Brake, See Air brake. Car brake, 468,400;

Table listing inventions with names and patent numbers. Includes entries like: Brake beam, J. M. Shook, 468,491; Brake hose support, air, E. M. Roberts, 468,623; Brake shoe, W. D. Sargent, 468,681; Bread and pastry cabinet, E. Jackson, 468,623; Breast strap attachment, B. Lukens, 468,623; Brick, coloring, J. C. Anderson, 468,321; Brick machine, J. H. Mowry, 468,534; Brick or tile machine, E. M. Fresse, 468,404; Bricks, composition for, W. Wade, 468,404; Brick, manufacture of vitreous, J. C. Anderson, 468,320; Brushes, bridge for paint, F. W. H. Weisbaupt, 468,405; Buggy top, J. C. Cross, 468,460; Building, system and apparatus for heating, building, and ventilating, W. M. Decker, 468,645; Bulletin board, W. P. Rankin, 468,550; Bung for bottlers, A. M. Donally, 468,437; Burglar alarm, I. L. Silverberg et al., 468,444; Burglar's device for preventing, Andrews & Fitzpatrick, 468,557; Burner, See Gas burner. 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