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Patent on a powerful popular Microscope for Sale.

Brass Gear Wheel's, for models, &c, made to order.

For Sale, or to be manufactured on Royalty, an Improvement in Drag Saws.

Wanted—A situation by an Engineer to run a Stationary Engine.

Builders of Ditching Machines, please send address, with description and prices.

Wanted—Scientific Americans from Jan. to July, 1870, and from July, 1871, to Jan., 1873.

"A Combined Hand and Power Planer," for Machinists.

Pattern Letters and Figures, to put on patterns of castings.

Notice of Removal—The American Photo Relief Printing Co.

Stationary and Portable Steam Engines and Boilers.

Superior to all others—Limet & Co.'s French Files.

For Sale—Second hand Planer, nearly new.

Telegraph and Electrical Inst's—Cheap inst's for learners.

No inconvenience is ever felt in wearing the New Elastic Truss.

Buy Wood Working Machinery of Gear, Boston, Mass.

Something for Inventors. See Ad. page 317.

Lane's Monitor Turbine Water Wheel at the Fair of the American Institute.

See the Barnes Foot and Steam Power Scroll Saw, at Fairs American Institute.

Buy Gear's Improved Variety Moulding Machine.

For Sale, cheap—A vertical resawing machine, in good order.

Brown's Coal Yard Quarry & Contractors' Apparatus for hoisting and conveying materials.

English Roof Paint, all mixed in oil ready for use.

Patent Petroleum Linseed Oil works in all paints as Boiled Linseed Oil.

Tool Chests, with best tools only.

Patent Chemical Metallic Paint—All shades ground in oil.

Belting—Best Philadelphia Oak Tanned.

Mercurial Steam Blast & Hydraulic Gauges of all pressures.

Root's Wrought Iron Sectional Safety Boiler, 1,000 in use.

For patent Electric Watch clocks, address Jerome R. Dilling & Co.

Mining, Wrecking, Pumping, Drainage, or Irrigating Machinery.

Lathes, Planers, Drills, Milling and Index Machines.

For Solid Emery Wheels and Machinery, send to the Union Stone Co.

All Fruit-can Tools, Ferracute, Bridgeton, N.J.

For best Presses, Dies and Fruit Can Tools.

Drawings, Models, Machines—All kinds made to order.

Five different sizes of Gatling Guns are now manufactured at Colt's Armory.

Machinists—Price List of small Tools free; Gear Wheels for Models.

For Solid Wrought Iron Beams, etc., see advertisement.

2 to 8 H.P. Engines, Twiss Bros. N. Haven, Ct.

Hydraulic Presses and Jacks, new and second hand.

Damper Regulators and Gage Cocks—For the best.

Steam Fire Engines, R. J. Gould, Newark, N.J.

Peck's Patent Drop Press. For circulars, address M. Peck & Co.

At American Institute and Chicago Exposition—Bault's Unrivaled Panelling.

Sure cure for Slipping Belts—Sutton's patent Pulley Cover.

We sell all Chemicals, Metallic Oxides, and Imported Drugs.

Mechanical Engineer and Draftsman.—An active and energetic man, with good address and education.

\$10—A County Right, New Invention; Model, \$1.25, by Express.

Workman's Hand Book—Indispensable to all engaged in Manufacturing pursuits.

Notes & Queries

J. K. asks: How can I obtain a varnish or other liquid, that would be perfectly oil proof.

G. W. B. asks: What is the best preparation for dyeing felt to a glossy black?

L. W. asks: How can brass be made of a permanent dark brown color without the use of paint?

G. W. C. asks: If two locomotives were placed at the summit of an incline and allowed to descend of their own gravity.

H. M. H. asks: How can I prepare test lead for assayer's use?

C. E. R. asks: How can I make ink which, if used on blue writing paper, will take the color out.

C. C. says: I wish to make a small specimen for a reflecting telescope.

C. A. C. asks: 1. How can I bleach or whiten sponge? 2. How can I make a silver-coating solution?

W. H. W. M. asks: What vegetable or mineral substance does the grape vine absorb from the earth in order to color the grape skins purple?

J. S. asks: What ingredients are used to render neutral to each other two or any number of different colors of oil paint.

J. G. D. T. asks: Does confined gunpowder, when ignited, expand gradually until it breaks its enclosure, or does it create an explosion without any gradual expansion?

S. B. L. asks: How can I temper small tools? Answer: You should heat the articles to a straw color, and plunge them into water which has the chill taken off.

W. M. asks: What will take the stains of pears and apples out of linen and cotton? Answer: Wash the articles thoroughly in hot soap and water.

C. N. asks: Does not the use of a bucket pump, instead of a double acting one, involve the loss of over 1/2 of the power that would be available by the use of the latter?

W. F. S. asks: 1. Is it safe to blow off at 60 or 70 lbs., the certificate allowing me to carry 80 lbs.?

W. C. C. asks: Why do railroad men continually grumble about cast iron wheels, and yet cannot be prevailed upon to use any other?

D. asks: If a patent is granted for an article of product in the United States, can a party put up the same article in Canada, and export it across the water or ship it into the United States for sale on paying duty?

E. W. C. asks: 1. What is the greatest horse power obtainable by a turbine water wheel? 2. What is soluble glass, and how is it manufactured?

A. R. asks: Is it true that a locomotive engine, when towed for a short distance, would fill the boiler (by suction) full of air, taking the supply through the exhaust nozzles.

M. H. S. asks: What is used for bronzing small cast iron pieces, so that the bronzing does not corrode or wear off?

D. asks: What will destroy cutch brown on silk or wool, and not injure the goods, so that a good black can be dyed on it?

D. J. J. says: 1. I have a blue flannel shirt with a white flannel bosom; the latter cannot be taken off, and I would like to know how to clean the white flannel without injuring the blue flannel.

G. H. asks: 1. Is there any chemical compound which will give to dark hair a permanent, natural gray color? In other words, can you destroy the vitality of the hair without injuring its growth?

S. T. W. asks: What is the American standard for a horse power, and what difference is there between the American and the English standards?

S. P. asks: If a rope has a horse hitched to each end, the horses pulling in opposite directions with a force of 500 lbs. each, what is the strain on the rope?

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1. If you are in doubt about your boiler, the best plan would be to test it. A convenient method was given in our answers to correspondents, a short time ago.

W. W. J. asks: How can I temper malleable iron, or convert it into steel? Answer: We suppose you refer to the case-hardening of iron.

R. M. says: I have a steam engine, 14 inches cylinder and 20 inches stroke, making from 100 to 120 strokes per minute, running without governor.

J. says: In riding in the bed of a creek, I came across a spot that sounded hollow; no outlet could be seen; the bottom was sand and gravel.

F. X. M. says: Our men in the shop use soft soap to remove the grease and dirt from their hands when they quit work.

D. F. asks: Will carbureted air burn in an atmosphere of its own carbonic acid, under a pressure of 60 lbs. to the inch?

S. R. asks: What can be done to make gas-oil gas burn steadily when a draft of air or gust of wind strikes the flame?

M. asks: What should be the form and size of the fire box for a vertical boiler (without flues) 3 feet by 1 1/2 feet, made of No. 14 iron?

E. E. H. asks for an explanation of our recipe for preserving cider. Answer: Read 1/2 pail of sugar instead of 1/2 part.

J. R. asks: When an electric battery is applied to a person for some time, and he keeps shaking afterwards as if he still had hold of the handles, is it right to apply the battery to take it off him again, or to let the electricity remain in till it goes of itself?

J. T. asks: How is it that steam taken from a boiler will force water into same boiler, that is, force it against itself?

G. W. asks: 1. What is Javelle water? 2. What is the easiest and most economical way of procuring oxygen gas? 3. How is soda water made?

C. A. D. asks: When, where, and by whom were spectacles invented, and what first suggested their use? Answer: Spectacles were first invented in the thirteenth century.