



W. B. H., of N. Y.—We find that the errors you mention in your rule for cutting screws, given on page 93, current volume, were committed by you in your MS. It was very plainly written as you state, and was revised with the greatest care. The errors were in the examples given however, and not in the printed rules, so that they will have no effect on the several formulae.

H. H., of Ind.—You ask us to tell you how to turn a piece of round iron perfectly square. We answer, put it in a planer; that is the quickest way to "turn" it square. You can make a rod any shape in a lathe if you have a rest properly made, and a "former" or pattern to move the rest in and out, but that is an operation which requires special tools. If you cannot understand the rules for change gears we are sorry; they seem simple to us. Try this one, for a compound or four-gear lathe. Guess at any three wheels you like; say the wheel and pinion on the stud and the driver on the spindle; then multiply the number of teeth in the driver on the spindle by the ratio of the lead screw to that you desire to cut and again by the teeth in the wheel on the stud which meshes in the gear on the screw; divide the product by the stud wheel in contact with the first driver on the spindle, and that will give the number of teeth on the lead screw, or the last wheel driven.

W. L. B., of Mass.—We have no recollection of the water wheel which was to be driven by water forced by a steam engine, but it needs no knowledge of the result to answer your question. It did not "amount to anything." It would manifestly be more economical to apply the steam engine directly to the machinery, as there would be considerable loss of power in applying the water to a wheel.

W. L. B., of Cal.—Your plan for protecting iron ships from fouling, by means of copper sheathing, with gutta-percha between the iron and copper, we believe is not new. Should there be any metallic connection between the two metals the copper would be protected at the expense of the iron, which would be very rapidly corroded.

J. F., of N. Y.—To make water-proof cloth take two pounds four ounces of alum, and dissolve it in ten gallons of water; in like manner dissolve the same quantity of sugar of lead in a similar quantity of water, and mix the two together. The cloth is immersed for one hour in the solution, and stirred occasionally, when it is taken out dried in the shade, washed in clean water, and dried again. This preparation enables the cloth to repel water like the feathers of a duck's back, and yet allows the perspiration to pass somewhat freely through it, which is not the case with gutta-percha or india-rubber cloth.

C. H. W., of Mass.—The temperature at which steam will condense in an airtight vessel depends entirely upon the quantity of steam contained in the vessel; the greater the quantity the higher the temperature at which condensation will take place. Omein says that if all pressure, including that of their own atmospheres, were removed, all bodies would take the gaseous form at all temperatures, but Rankine says that the zero of gaseous tension is 493° F. below the freezing point of water.

J. McD. and J. D. D., of N. Y., and E. W. G., of Mass.—We are not able to give you the information sought.

M. G. T., of Mich.—Address H. C. Baird, No. 406 Walnut street, Philadelphia, for Bourne's Catechism, which is the book you require.

J. E., of N. Y.—King's Notes on the Steam Engine.

N. C., of Pa.—You say that you are using a machine which is an infringement of a patent held by another party, as recently re-issued, but which was not an infringement of the original patent, and you inquire whether you are liable for such infringement. We answer unhesitatingly that you are liable for continuing the use of the machine after the re-issue, although it was put in operation before the re-issue. The re-issue goes back to the date of the original patent, and is granted upon the ground that the whole invention was intended to be covered by the original patent, but through accident or mistake the patentee omitted fully and properly to state and claim his full invention. In such case the law grants him a re-issue whereby he corrects the mistakes, and it relates back to the date of the original patent; but the patentee cannot recover for any infringement committed before the date of the re-issue.

D. J. S., of N. Y.—The sewing-machine patent of Elias Howe, Jr., was issued Sept. 10, 1810, and was extended for seven years from Sept. 10, 1846. A second extension can only be obtained by a special act of Congress. Of this probability you can judge as well as ourselves.

R. D. B., of Md.—Zinc is the most susceptible metal to heat. Platinum is the least so.

NOTICE TO SUBSCRIBERS.

The first five numbers of the present volume of the SCIENTIFIC AMERICAN being out of print, we shall commence the time of each new number from the date of receipt of the order, unless the writer states specifically that he wishes such back numbers as can be furnished.

SPECIAL NOTICE TO INVENTORS.

The money receipts on account of patent business, which have heretofore been published in this column, and the notification of cases sent to the Patent Office, will for the present be discontinued. The receipt of specifications and money from inventors will be acknowledged promptly by mail.

RATES OF ADVERTISING.

TWENTY-FIVE CENTS per line for each and every insertion, payable in advance. To enable all to understand how to calculate the amount they must send when they wish advertisements published we will explain that eight words average one line. Engravings will not be admitted into our advertising columns, and, as heretofore, the publishers reserve to themselves the right to reject any advertisement they may deem objectionable.

CHIEF QUARTERMAS-TER'S OFFICE.

No. 1189 Girard street, Philadelphia Depot, March 9, 1865. PROPOSALS FOR LEATHER.—SEALED PROPOSALS will be received at this office till THURSDAY, March 23, 1865, at 12 o'clock M., for delivering at the Schuylkill Arsenal:— 1/2 War upper leather, best quality, oak tanned, from slaughter hides, well finished and staked, to weigh not less than six and three-quarters (6 3/4) ounces to the square foot. Sole leather, best quality, oak tanned, from Buenos Ayres or La Plata hides, to weigh not less than fourteen (14) pounds per side. Welt leather, best quality, oak tanned, slaughter leather, to average about sixteen (16) pounds (original weight). Each side to weigh not less than fourteen (14) nor more than twenty (20) pounds, to be taken at the heaviest weight. Sample to be seen at this office. All leather to be subject to measurement, weight and inspection at the Arsenal.

Bidders are requested to submit samples of the leather they propose to furnish, which must be of suitable quality and substance for making army boots and booties.

Each proposal must state when the deliveries will commence, the quantity to be ordered each week, the price (which should be written both in words and figures), and conform to the terms of the advertisement, a copy of which should accompany each proposal.

Bids will be opened on Thursday, March 23, at 12 o'clock M., and bidders are requested to be present.

The right is reserved to reject any bid deemed unreasonable, and no bid from a defaulting contractor will be received.

Each bid must be guaranteed by two responsible persons whose signatures must be appended to the guaranty, and certified to as being good and sufficient security for the amount involved, by some public functionary of the United States.

All proposals should be made out on the regular forms, which will be furnished on application at this office.

Indorse envelope "Proposals for (here state the kind) leather," and address Col. WILLIAM W. MCKIM, and Chief Quartermaster, Philadelphia Depot.

CHIEF QUARTERMAS-TER'S OFFICE.

No. 1189 Girard street, Philadelphia Depot, March 15, 1865. SEALED PROPOSALS will be received at this office till TUESDAY, March 28, 1865, at 12 o'clock M., for delivery at the Schuylkill Arsenal:—

- 1/2 or 3/4 Blue Wool Flannel, indigo wool-dye, to weigh 5 1/2 ounce to the yard, 2 1/2 width, for sea coats, Army Standard. 1/2 Gray Wool Flannel for Shirts, Army Standard. Red, White, and Blue Bunting, Army Standard. 1/2-inch Yellow Silk Lace, Army Standard. 1/2-inch Sky-blue Silk Lace, Army Standard. 1/2-inch Scarlet Lace, Army Standard. 1/2-inch Brown Thread, No. 36. Bidders to furnish sample. 1/2 Red Spool Cotton, No. 40. Bidders to furnish sample. 4-4 Black Glesia. Bidders to furnish sample. Straw Wrapping Paper, 36x40, to weigh about 95 pounds per ream.

Parties offering goods should make separate proposals for each article offered, and must distinctly state in their bids when they will commence their deliveries, the quantity they propose to furnish each week, the price (which should be written both in words and figures), and conform to the terms of this advertisement, a copy of which should accompany each proposal.

Standard samples of the articles required may be seen at this office. Samples when submitted must be marked and numbered to correspond with the proposals; and the parties thereto must guarantee that the goods shall be in every respect equal to army standard, otherwise no proposal will be considered.

Bids will be opened on Tuesday, March 28, 1865, at 12 o'clock M., and bidders are requested to be present.

Each bid must be guaranteed by two responsible persons, whose signatures must be appended to the guaranty, and certified to as being good and sufficient security for the amount involved, by some public functionary of the United States.

All proposals should be made out on the regular forms, which will be furnished on application at this office.

The right is reserved to reject any bid deemed unreasonable, and no bid from a defaulting contractor will be received.

Indorse envelope, "Proposals for (here insert the name of the article offered)," and address Colonel WILLIAM W. MCKIM, Chief Quartermaster, Philadelphia Depot.

PACKER'S PATENT ELECTRIC SOAP.—PREVIOUS to bringing this soap into market I thought it well to prepare the mind that something "new under the sun" has at last been discovered that will drive out of use many villainous compounds that destroy our clothes and injure the hands of the washerwomen; and it will be borne in mind the Electric Soap has neither salt, rosoli, clay, ashes, soapstone, potash, or any other adulteration or substance that can stain or injure the finest fabric, and yet, in the truest sense of the word, electric in removing grease, dirt, tobacco stains, printing ink, smoke, and the worst blue-water stains, and imparting brilliancy to marble, glassware, plate jewelry, enameled paintings, paper and patent leather, immediately, and for cleaning floor tiles, has no equal, and yet again for the bath, and particularly for shampooing, the Electric Soap is a perfect luxury.

The Electric Soap is a perfect luxury. The manufacture of the Electric Soap are among the most reliable in the city, sanguine and determined to give the public one of the purest, whitest and best soaps, and not the least of its many virtues will be its price, so that every body, and their neighbors, can test its superiority.

Prior to my application for a patent many competent judges put the Electric Soap to severe trials, and testified that it accomplished all I claimed, and considered it one of the most useful discoveries of the age.

Notice will be given in the leading papers, and otherwise, of the Electric Soap as soon as the company finish their works.

DANIEL F. PACKER, (Care Loudback & Gilbert,) No. 23 Park Row, N. Y.

ASSIS-ANT QUAR-TERMASTER'S OFFICE.

No. 451 EIGHTH AVENUE, NEW YORK, March 9, 1865. CAVALRY AND ARTILLERY HORSES WANTED.—I will purchase in open market all horses that may be presented and pass inspection at the Government stables on Thirty-fifth street, near Tenth avenue, until further notice, as follows:— Cavalry horses, 5 to 10 years old, 15 to 16 hands high. Artillery horses, 6 to 10 years old, 15 1/2 hands high, and over 1,100 pounds, and dark color.

Price for cavalry horses, \$165. Price for artillery horses, \$180. Payable in such funds as may be furnished by the Government.

L. L. MOORE, Capt. and A. Q. M.

STEAMSHIP OWNERS, ENGINE BUILDERS, MANUFACTURERS having engines of any description, will do well to examine Abbe's Universal Piston, with which any inexperienced person can expand the packing of cylinders 100 in. diameter in ten minutes. Patented June 7, 1864. Illustrated Vol. XI., No. 4. SCIENTIFIC AMERICAN. Send for circular. J. R. ABBE, Providence, R. I.

WANT D—A SMALL SLIDE LATHE, TO SWING six or eight inches diameter; shears about four feet long. Any person having one to dispose of will please address box 1281, P. O., Buffalo, N. Y.

ERICSSON'S CALORIC ENGINES.

Of greatly improved construction. For all light work a perfect motor. Safe, economical, durable. 100 Pumps of all kinds. Hoisting Gear. Steam Engines for Oil Wells, and Machinery of every description, at ERICSSON'S CALORIC ENGINE AGENCY, No. 164 Duane street, New York.

BOARD—\$2 60 to \$3 PER DAY.—AT DUPONT HOUSE, Hudson st., opposite St. John's Park, next street to Canal, and a few minutes' walk from Broadway. Also convenient to the California and Albany Steamers and Hudson River Railroad Depot. Night Porter in attendance.

IMPORTANT TO METAL WORKERS.—THE STANDARD Twist Drills sold by us cannot be made by individuals at anything like the price we sell them for. A trial will convince all they are now used in the U. S. Navy Yard, and in the largest machine shops. All sizes from 1/32 to 1 1/2 inch; straight and taper shanks. Small sizes sent by mail. Also sockets to match. Address 153 MANHATTAN FIRE ARMS CO., Newark, N. J.

FRICTION MATCHES.—WANTED TO CORRESPOND with parties who manufacture hand and power machines for splitting match splints in the block—western style. Address A. HENRY, care of Owens & Brophy, Corner of University and Eleventh street, N. Y.

THE BUCKEYE HORSE MAKES LABOR LIGHT. Inclose stamp for Perpetual Almanac, with cut, price, etc. HEMAN B. HAMMON, Patentee and Manufacturer, Bristolville, Trumbull Co., Ohio.

FOR SALE—A HOT-AIR ENGINE—ROPER'S PATENT—almost new, and in excellent order. Also five Gri ding Mills and Frames for Glass Cutters' use. Address Box 149, Jersey City Post Office.

SCOTCH GLASS TUBES, STEAM AND WATER GAGES FOR SALE. E. BROWN, No. 311 Walnut street, Philadelphia, Pa.

WANTED—A SITUATION TO LEARN THE MACHINIST TRADE—the manufacture of steam engines preferred. Address F. L. STONE, Stoughton, Mass.

FOR SALE—A WROUGHT-IRON SHAFT—BEST quality—hammered; whole length twenty and one-half feet; eleven and one-half inches diameter. Bearings at each end four teen 1/2 chos long, ten inches diameter, with pillar blocks and boxes. PEABLEE & CARPENTER, Copake Iron-works, N. Y.

SOLID EMERY WHEELS, SILICATE OR VULCANITE of every size, promptly made or shipped from stock. N. Y. EMERY WHEEL CO., No. 94 Beekman street, New York.

PARTNER WANTED—WITH ABOUT \$10,000 CAPITAL, in a Machine and Machinists' Tool Shop, in Baltimore, doing a good business, and having full set of tools in very best condition. Object, to enlarge the business. Best of New York and Baltimore references given. Address S. H. JANNEY, Box 1476 Post Office, Baltimore, Md.

RECIPE FOR SAFETY MATCHES, WHICH ARE not equalled by anything yet made. Burn sure, without smoke or odor, and contain neither phosphorus nor sulphur. Will sell the recipe or join a company. A. W. SPRAGUE, Chemist, No. 59 Washington street, Boston.

THOMAS & CO., PATTERN AND MODEL MAKERS and Machine Jobbers. Have Planer Centers for sale. Worcester, Mass.

FAN BLOWERS.—DIMPFL'S, ALDEN'S, POTTER'S and others, of all sizes, on hand, for sale, by LEACH BROTHERS, No. 86 Liberty street, New York.

WANTED—CURIOSITIES OF NATURE AND ART. Address MUSEUM, 3-8 Fulton st., Brooklyn, N. Y. Give prices and full particulars or communications will not be noticed.

FOR SALE.—ENGINES AND BOILERS OF ALL kinds on hand or furnished at the shortest notice; four gears for sawing marble, complete, for sale cheap. Stone cars and track iron on hand. Engines and Factories of all descriptions bought and sold. Call or address DAVIS MACHINERY YARD, Nos. 17 and 19 Morris street, Jersey City.

MALLEABLE CASTINGS, GREY IRON CASTINGS, Galvanized Castings of every description on order. JAMES L. HAVEN & CO., Cincinnati, Ohio.

2,000 BOLTS PER DAY CAN BE MADE ON our PATENT MACHINES. Also Rivets and Spikes of all kinds. HARDWAY & SONS, St. Louis.

REFERENCES: Chouteau, Harrison & Valle, Laclede Rolling Mill. Collins and Holliday, Broadway Foundry. Marshall & Co., Western Foundry. John McCarty, Boggy Nail Mill.

PARTIES IN AMERICA HAVING VALID LETTERS Patent for Great Britain, and wishing to dispose of the same, or negotiate for royalty, may address CHARLES POMEROY BUT- TON, Nos. 142 and 143 Chesapeake, London, England. N. B. The object of this advertisement is to obtain control of a few meritorious inventions already patented in Great Britain, and no application from inventors will be entertained except their inven- tion shall have been provisionally protected prior to the publication of the Invention in America. For references apply to any Mercantile Association or Trade Pro- tective Society in Great Britain.

WANTED—TO CORRESPOND WITH SOME PERSON or Manufacturer who has for sale or manufactures Rivet- making machines, which can be used to make rivets from 3/16ths to 3/8th inch. Address R. H. W., P. O. Box 132, Reading, Pa.

BOILER CRUSTS REMOVED AND PREVENTED BY Winan's Incrustation Powder. Nine years in successful opera- tion and without injurious effects. References everywhere.

\$150 A MONTH MADE BY DISCHARGED SOL- DIERS and others with Stencil Tools. Don't fail to send for our free catalogue, containing full particulars. Address S. M. SPENCER, Brattleboro, Vt.

FOR SALE.—ONE ENGINE LATHE, 22 FT. BED, 30 in. swing; one Engine Lathe, 12 ft. bed, 24 in. swing; two Engine Lathes, 13 ft. bed, 30 in. swing; one Engine Lathe, 8 ft. bed, 16 in. swing; one Engine Lathe, 7 ft. bed, 19 in. swing—all first class, and complete with screw-cutting gears, etc.; one large Drill, hack gear iron; one large and one small Drill, without back gears; also, two Iron Planers—Plane 7 ft. by 24 in. and 5 ft. by 24 in.

WELLS CHASE & GEHRMANN, No. 6 S. Howard street, Baltimore, Md.

WANTED.—A POWER PUNCH OF SUFFICIENT capacity to punch a hole one inch diameter through half-inch iron, either new or second hand. Address GEORGE MILBURN & CO., Michawaka, Ind.

WANTED.—A BOILER MAKER, TO START A Boiler Yard. To a good man will furnish capital and give half the profits. Address, with reference, O'FERRALL, DANIELS & CO., Piqua, Miami Co., Ohio.

N. C. STILES'S PATENT POWER FOOT AND DROP PRESSER.—Dies of every description made to order. Send for a circular. N. C. STILES & CO., West Meriden, Conn.