

O A., of Ind.—If you employ a half-inch or even a quarter-inch iron rod, extend it ten feet above your chimney, connect it perfectly by sockets, and carry it into the moist ground, you need not have any apprehensions of danger. If your house is large, use a rod at each end, and connect the two by a lateral branch. Be sure and allow no large mass of metal to be near the rods, and make them fast with cleats of dry varnished wood. Copper is the best conductor. Any mechanic or farmer can put up his own lighting rod by following the above directions, of course, the thicker the rod the better the conductor.

W. G. R., of Mass.—We have no reliable data as to the use of zinc-coated iron pipes being superior to lead pipe, for conveying water to be used for domestic purposes. Pure zinc is a very oxidizable metal and is more readily decomposed with water than iron; but when combined with iron by the galvanizing method, it may resist the action of water in a very superior manner. Experience alone can settle this question, and some of our readers may be able to solve it.

H. C. F., of Mass.—French polish is made by dissolving 5 pounds of pale shellac and 1/2 pound of mastic in alcohol.

F. T. W., of Ala.—Asphalt dissolved in hot linseed oil and thinned with turpentine makes a good cement for painting a leaky tin roof, without injuriously affecting the water that may fall upon it. White lead thinned with oil and made into the consistency of soft putty, with fine sand or ground glass, makes a most enduring cement for leaks in roofs, but before it becomes perfectly dry, it is liable to affect the rain-water injuriously, if used for coating.

W. B. G., of N. Y.—Be pleased to give us your ideas on the best form of ships. There are so many different opinions among nautical men on this point that it appears to us they have no recognized principles to guide them.

T. S. H., of N. C.—The article on balancing machinery was credited to the London "Journal of Arts." Pulleys may be balanced by removing the surplus metal from the heavy part. Although an iron or wooden pulley may be turned perfectly true, some parts of it may be more dense than others, and of course it will be unbalanced. All pulleys or wheels should be spun on a free spindle, to ascertain if they are truly balanced, before they are put on.

T. S. B., of N. Y.—There is an engine operated by compressed air which has been working in a coal mine near Glasgow, Scotland, for several years. The air is compressed by a steam engine at the top of the pit, and forced down through a tube. The object of this arrangement is to obviate the use of fire in the mine. If you can render your method of operating an Ericsson engine with compressed air economically practicable, you should do it as soon as possible.

T. F. C., of Mass.—We have frequently heard of sulphur being found on the surface of the ground in Virginia and other places after thunder-storms, but we cannot account for its presence. In the case at Amesbury, Mass., it seems to have been deposited from the rain; in other cases, it is supposed to have been brought from the interior of the earth to the surface of the ground by lightning.

F. S., of C. W.—A colored person might obtain a patent for his invention, but it is a matter of doubt about his being able to sustain it against infringers, in view of the Dred Scott decision. We are not prepared to answer the question fully, as there is no adjudicated case which settles this exact question. We suppose the Commissioner of Patents, if addressed upon the subject, would give the advice you seek.

MONEY RECEIVED

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, July 7, 1860:—

- S. B. L., of Pa., \$25; S. W. M., of N. Y., \$110; J. S. B. R. of N. J., \$25; J. H., of Mich., \$30; L. & L., of N. Y., \$25; A. J. K., of Iowa, \$30; F. M., of Miss., \$30; L. A. F. De C., of N. Y., \$35; C. B. M., of Wis., \$25; L. C. H., of N. Y., \$30; H. & S. of N. Y., \$30; H. P. C., of Mich., \$15; N. S., of Ill., \$30; J. W. of N. Y., \$25; M. L. C., of N. Y., \$25; J. L. N., of N. Y., \$30; J. H., of Pa., \$30; J. B. C., of Ohio, \$30; G. K. P., of Mass., \$25; E. D., of Mass., \$35; J. P. M., of Ill., \$25; F. Z. N., of Conn., \$30; T. H. B., of N. Y., \$15; J. S. S., of N. Y., \$30; J. W., of N. Y., \$25; R. C. B., of N. Y., \$43; W. T., of N. Y., \$25; J. C. G., of Mass., \$55; C. & B., of Mass., \$30; M. B., of N. Y., \$30; P. K., of R. I., \$30; J. B. T., of Ill., \$45; I. G., of Pa., \$30; O. F. B., of N. Y., \$10; W. H. R., of N. Y., \$20; W. E. McL., of Mass., \$25; B. R., of Ga., \$30; J. R. McD., of Mo., \$25; E. E., of Ill., \$35; W. & F., of Tenn., \$100; L. W. N., of N. Y., \$25; F. S. B., of N. Y., \$30 A. & J. L., of Va., \$30; M. B., of Ohio, \$25; J. R. H., of Maine, \$30; S. G., of Ill., \$25; L. S. & J. E., of N. Y., \$25; D. C. T., of N. Y., \$25; A. P. C., of Ill., \$30; D. & C. of N. Y., \$30; R. H., of N. Y., \$250; L. V. N., of N. Y., \$25; F. W., of N. Y., \$25; J. R., of N. J., \$30; J. W. T., of Vt., \$30; J. C. L., of Ill., \$30; J. S., of N. Y., \$25; H. P. F., of Maine, \$30; E. J. F., of Mo., \$30; J. B. D., of N. Y., \$50; C. D., of Mass., \$30; E. C., of La., \$30; G. L. T., of N. Y., \$10; J. C. R., of Pa., \$25; C. V. S., of Ill., \$25; W. S. L., of Ohio, \$14; W. T., of N. Y., \$25; J. H. W., of N. J., \$30; S. & O. P., of Mich., \$30; I. N., of N. Y., \$25; J. B. L., of Conn., \$35; W. W. S., of Iowa, \$25; F. G., of Mich., \$30; M. & C., of Ill., \$30; W. F. J., of Pa., \$40; W. H. R., of N. Y., \$12; D. S. H., of N. Y., \$25.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, July 7, 1860:—

- J. W., of N. Y.; W. R., of N. Y.; C. B. M., of Wis.; W. T., of N. Y.; J. C. G., of Mass.; F. S. B., of N. Y.; H. P. C., of Mich.; J. C. R., of Pa.; H. N., of Ky.; E. D., of Mass.; J. P. M., of Ill.; W. H. P., of N. Y.; D. S. H., of N. Y.; S. B. L., of Pa.; J. S. B. R., of N. J.; C. D., of Mass.; J. S., of N. Y.; L. & L., of N. Y.; W. S. L., of Mich.; J. R. McD., of Mo.; L. S. & J. E., of N. Y.; J. B. L., of Conn.; W. W. S., of Iowa; R. C. B., of N. Y.; W. T., of N. Y.; L. W. N., of N. Y.; M. C., of Mass.; W. E. McL., of Mass.; M. L. C., of N. Y.; P. K., of R. I.; M. B., of Ohio; E. E., of Mich.; C. V. S., of Ill.; G. K. P., of Mass.; M. A. W., of Cal.; D. C. T., of Wis.; F. W., of N. Y.

NEW BOOKS AND PERIODICALS RECEIVED.

MILCH COWS AND DAIRY FARMING: Comprising the Breeds, Breeding and Management in health and disease of dairy and other stock, the selection of milch cows, with a full explanation of Guenon's Method, &c.; the production of milk, butter, and cheese. with a treatise upon the dairy husbandry of Holland; to which is added Horsfall's system of dairy management, by Charles L. Flint, &c. Liberally illustrated. Crosby, Nichols, Lee & Co., Boston; W. J. Pooley & Co., New York.

GRASSES AND FORAGE PLANTS: A Practical Treatise, comprising their Natural History, comparative value, methods of cultivating, cutting and curing, &c. By Charles L. Flint, Secretary of the Massachusetts Board of Agriculture, &c., with 170 illustrations. Fifth edition, revised and enlarged. Crosby, Nichols, Lee & Co., Boston; W. J. Pooley & Co., New York.

The above two works are thoroughly practical, and worthy of all praise. We heartily commend them to the attention of all those who feel interested in those subjects.

THE YOUNG FARMER'S MANUAL. Published by C. M. Sexton, Barker & Co., No. 25 Park-row, New York.

This volume details the manipulations of the farm in a plain and intelligible manner, with practical directions for laying out a farm and erecting buildings, fences, and farm gates; embracing also the "Young Farmer's Workshop," a division of the subject in which full directions are given for the selection of good farm and shop tools, their uses and manufacture; the whole work is adorned by numerous engravings of fences, gates and tools for performing nearly every branch of farming operations; and the volume forms a most excellent book of reference which we can earnestly recommend. The author is S. Edwards Todd.

USEFUL HINTS TO OUR READERS.

BOUND VOLUMES.—Persons desiring the first volume of the New Series of the SCIENTIFIC AMERICAN can be supplied at the office of publication, and by all the periodical dealers; price, \$1.50; by mail, \$2, which includes postage. The volume, in sheets, complete, can be furnished by mail; price \$1. Vol. II is now bound and ready for delivery. The price for this volume is the same as that charged for Vol. I.

BINDING.—We are prepared to bind volumes, in handsome covers, with illuminated sides, and to furnish covers for other binders. Price for binding, 50 cents. Price for covers by mail, 50 cents; by express, or delivered at the office, 40 cents.

SUBSCRIBERS TO THE SCIENTIFIC AMERICAN who fail to get their papers regularly will oblige the publishers by stating their complaints in writing. Those who may have missed certain numbers can have them supplied by addressing a note to the office of publication.

RATES OF ADVERTISING.

THIRTY 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 ten 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 sent for publication.

IMPORTANT TO INVENTORS.

THE GREAT AMERICAN AND FOREIGN PATENT AGENCY.—Messrs. MUNN & CO., Proprietors of the SCIENTIFIC AMERICAN, are happy to announce the engagement of Hon. CHARLES MASON, formerly Commissioner of Patents, as associate counsel with them in the prosecution of their extensive patent business. This connection renders their facilities still more ample than they have ever previously been for procuring Letters Patent, and attending to the various other departments of business pertaining to patents, such as Extensions, Appeals before the United States Court, Interferences, Opinions relative to Infringements, &c., &c. The long experience Messrs. MUNN & Co. have had in preparing Specifications and Drawings, extending over a period of fifteen years, has rendered them perfectly conversant with the mode of doing business at the United States Patent Office, and with the greater part of the inventions which have been patented. Information concerning the patentability of inventions is freely given, without charge, on sending a model or drawing and description to this office.

Consultation may be had with the firm, between nine and four o'clock, daily, at their Principal Office, No. 37 PARK ROW, NEW YORK. We have also established a BRANCH OFFICE in the CITY OF WASHINGTON, on the CORNER OF F AND SEVENTH STREETS, opposite the United States Patent Office. This office is under the general superintendence of one of the firm, and is in daily communication with the Principal Office in New York, and personal attention will be given at the Patent Office to all such cases as may require it. Inventors and others who may visit Washington, having business at the Patent Office, are cordially invited to call at their office. They are very extensively engaged in the preparation and securing of Patents in the various European countries. For the transaction of this business they have Offices at Nos. 66 Chancery Lane, London; 29 Boulevard St. Martin, Paris, and 26 Rue des Eperonniers, Brussels. We think we may safely say that three-fourths of all the European Patents secured to American citizens are procured through our Agency.

Inventors will do well to bear in mind that the English law does not limit the issue of patents to inventors. Any one can take out a patent there.

A pamphlet of information concerning the proper course to be pursued in obtaining patents through their Agency, the requirements of the Patent Office, &c., may be had gratis upon application at the Principal Office or either of the Branches. They also furnish a Circular of Information about Foreign Patents.

The annexed letters, from the last three Commissioners of Patents, we commend to the perusal of all persons interested in obtaining Patents:—

Messrs. MUNN & Co.—It takes pleasure in stating that while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR HANDS. I have no doubt that the public confidence thus indicated has been fully deserved as I have always observed, in all your intercourse with the Office, a marked degree of promptness, skill and fidelity to the interests of your employers. Yours, very truly,

CHAS. MASON.

Immediately after the appointment of Mr. Holt to the office of Postmaster-General of the United States, he addressed to us the following very gratifying testimonial:—

Messrs. MUNN & Co.—It affords me much pleasure to bear testimony to the able and efficient manner in which you have discharged your duties of Solicitors of Patents while I had the honor of holding the office of Commissioner. Your business was very large, and you sustained (and, I doubt not, justly deserved) the reputation of energy, marked ability and uncompromising fidelity in performing your professional engagements. Very respectfully, Your obedient servant, J. HOLT.

Messrs. MUNN & Co.—Gentlemen: It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency, and that I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy. Very respectfully, Your obedient servant, WM. D. BISHOP.

Communications and remittances should be addressed to MUNN & CO.

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STEAM HAMMERS — THE UNDERSIGNED,

Makers of the celebrated Naemyth hammers, having a full assortment of patterns, continue to furnish them at reduced prices, and of any size, from 5 cwt. upwards. The large number hitherto made by them, and in successful operation, precludes the necessity of presenting any recommendations. They are also patentees and exclusive makers, for this country, of what is generally known as the "Condie," or inverted hammer, one of which of six tons, falling six feet, has been in operation at the Franklin Forge, New York, since 1848. [1 cwt.] MERRICK & SONS, Philadelphia.

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PATENT CORK-CUTTING MACHINES.—State rights for several States for sale to use our new patent machines. With one machine a gross of corks of different sizes can be made in one minute. Call and see them in successful operation at the Cork Factory, No. 43 Center-street, New York. S. W. SMITH & CO.

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TWO NEW INVENTIONS.—A CHEAP AND impervious covering, deodorizing and anti-putriferous patent compound for the better preservation of hams and other meats for home or exportation. Also a new drier for zinc paint and raw oil alone, that will receive a second coat on the following day. For purchase or interest in the above apply personally by appointment, or by letter, to T. HODGSON, No. 7 Beach-place, Brooklyn, N. Y. 1*

FOR SALE—TWO LARGE TRIP HAMMERS; one new and one second-hand (as good as new). For full description see advertisement in SCIENTIFIC AMERICAN. 3 12* J. C. HOADLEY, Lawrence, Mass.

FOR SALE—A STATIONARY STEAM ENGINE, 7x15, 10-horse power, with boiler and all appurtenances; has been in use three months; in perfect order. An excellent engine. Particulars on application. J. C. HOADLEY, Lawrence, Mass. 3 13*

FOR SALE—A SECOND-HAND SHOP CRANE; very convenient. J. C. HOADLEY, Lawrence, Mass. 3 3*

FOR SALE—SMALL VERTICAL HAND drillers to fasten to benches; very cheap and convenient. J. C. HOADLEY, Lawrence, Mass. 3 3*

FOR SALE—A GROOVING MACHINE FOR working wood; second-hand; in perfect order. J. C. HOADLEY, Lawrence, Mass. 3 3*

FOR SALE—STEEL TURNING AND PLANING tools; cheap and good as new. J. C. HOADLEY, Lawrence, Mass. 3 3*

FOR SALE—A DOUBLE HORIZONTAL STEAM engine, 18x36, 100-horse power; has been in use one year; in perfect order. Three boilers and all appurtenances. Particulars on application. [3 15*] J. C. HOADLEY, Lawrence, Mass.

FOR SALE—TWO LARGE TRIP HAMMERS; one new and one second-hand, as good as new; whole weight, 7,245 lbs.; weight of head, without die, 1,610 lbs.; weight of die, 12 lbs.; full speed, 200 strokes per minute; ordinary speed, 150 strokes per minute; four tappets, speed of tappet shaft, 50 revolutions per minute; lift of ordinary press, 9 to 10 inches; belt wheel, 42 inch diameter 1/2 inch face; length from center of tappet shaft to center of dies, 45 1/2 inches; length from center of fulcrum to center of die, 60 inches. [1*] J. C. HOADLEY, Lawrence, Mass.

FOR SALE—ONE SECOND-HAND NO. 3 punch press, Fowler pattern; one drop hammer, 1,200 lb. bed, Fowler pattern; a complete set of upright steam engine patterns, modern style; a complete set of Morse machine patterns (see SCIENTIFIC AMERICAN, Vol. III., page 202). One Smees' electro-plating battery; size of plates, 4x7; all the apparatus complete. All of the above, with various other useful patterns, will be sold very low, and will pay any one wanting either of the above articles for his journey in purchasing. Address J. W. B., Box 186, Hartford, Conn. 1*

MODELS—IN EITHER WOOD OR METAL, for the Patent Office. HENRY J. BEHRENS, No. 170 Chatham-street, in the rear. 3 5*

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TENNESSEE STATE FAIR OPENS AT NASHVILLE, Sept. 10, 1860.—\$500 each is offered for the best blood stallion, harness stallion, Durham bull and jack, besides large premiums on fat cattle and all other domestic animals, and on all manufactured articles in every useful department of human industry. Competition is invited from the whole Union, and no entry fee is charged. Programmes may be had free on application to L. P. Williams, Secretary, at Nashville. THOMAS B. JOHNSON, Treasurer Tennessee State Fair. 3 2*

SECOND-HAND MACHINE TOOLS.—ONE geared turning engine, 10 foot slides; one good gear-cutting engine; one iron planer, slides 6 feet 9 inches; one geared lathe, with screw chuck and slide rest—will swing 30 inches, and take in 14 feet shaft; for sale low at Arnold's machine-shop. Models—operating or for the Patent Office, made of either wood, glass or metal by BENJAMIN ARNOLD, East Greenwich, R. I. 1*

A NEW SCIENTIFIC CATALOGUE.—D. APPLETON & CO., Nos. 443 and 445 Broadway, New York, have just published a new catalogue of the latest works in every department of science and art, making 76 pages 8vo. It will be sent to any address on receipt of a 3-cent stamp.

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