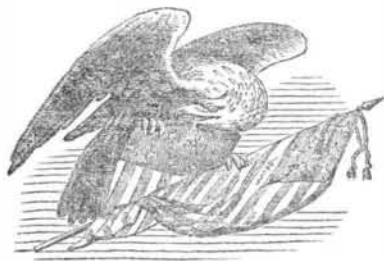


THE RISE AND PROGRESS OF INVENTIONS



During the period of Fourteen Years which has elapsed since the business of procuring patents for inventors was commenced by MUNN & Co., in connection with the publication of this paper, the number of applications for patents in this country and abroad has yearly increased until the number of patents issued at the United States Patent Office last year (1859) amounted to 4,568; while the number granted in the year 1845—fourteen years ago—numbered 502—only about one-third as many as were granted to our own clients last year; there being patented, through the Scientific American Patent Agency, 1,440 during the year 1859. The increasing activity among inventors has largely augmented the number of applications for transacting such business.

In this profession, the publishers of this paper have become identified with the universal brotherhood of Inventors and Patentees at home and abroad, at the North and the South; and with the increased activity of these men of genius we have kept pace up to this time, when we find ourselves transacting a larger business in this profession than any other firm in the world.

We may safely assert that no concern has the combined talent and facilities that we possess for preparing carefully and correctly applications for patents, and attending to all business pertaining thereto.

FREE EXAMINATION OF INVENTIONS.

Persons having conceived an idea which they think may be patentable are advised to make a sketch or model of their invention, and submit to us, with a full description, for advice. The points of novelty are carefully examined, and a reply written corresponding with the facts, free of charge. Address MUNN & CO., No. 37 Park-row, New York.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE

The advice we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there, but is an opinion based upon what knowledge we may acquire of a similar invention from our long experience, and the records in our Home Office. But for a fee of \$3, accompanied with a model or drawing and description, we have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, &c., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through our Branch Office, corner of F and Seventh streets, Washington, by experienced and competent persons. Over 1,500 of these examinations were made last year through this office, and as a measure of prudence and economy, we usually advise inventors to have a preliminary examination made. Address MUNN & CO., No. 37 Park-row, New York.

CAVEATS.

Persons desiring to file a caveat can have the papers prepared on reasonable terms, by sending a sketch and description of the invention. The government fee for a caveat is \$20. A pamphlet of advice regarding applications for patents and caveats furnished gratis on application by mail. Address MUNN & CO., No. 37 Park-row, New York.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention, if susceptible of one; or if the invention is a chemical production, he must furnish samples of the ingredients of which his composition is composed for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the government fee, by express. The express charges should be prepaid. Small models, from a distance, can often be sent cheaper by mail. The safest way to remit money is by draft on New York, payable to Munn & Co. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but if not convenient to do so, there is but little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & CO., No. 37 Park-row, New York.

REJECTED APPLICATIONS.

We are prepared to undertake the investigation and prosecution of rejected cases, on reasonable terms. The close proximity of our Washington Agency to the Patent Office affords us rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Our success in the prosecution of rejected cases has been very great. The principal portion of our charge is generally left dependent upon the final result.

All persons having rejected cases which they desire to have prosecuted are invited to correspond with us on the subject, giving a brief history of their case, enclosing the official letters, &c.

FOREIGN PATENTS.

We are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business we have offices at Nos. 66 Chancery Lane, London; 29 Boulevard St. Martin, Paris; and 36 Rue des Eperonniers, Brussels. We think we can 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 term of patents to inventors. Any one can take out a patent there.

Obtainers of information concerning the proper course to be pursued in securing patents in foreign countries through our Agency, the requirements of the different Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park-row, New York, or either of our branch offices.

CAUTION TO INVENTORS.

Messrs. MUNN & CO. wish it to be distinctly understood that they neither buy nor sell patents. They regard it as inconsistent with a

proper management of their interests and claims of inventors, to participate in the least apparent speculation in the rights of patentees. They would also advise patentees to be extremely cautious into whose hands they entrust the power to dispose of their inventions. Nearly fifteen years' observation has convinced us that the selling of patents cannot be conducted by the same parties who solicit them for others, without causing distrust.

BUSINESS CONDUCTED CONFIDENTIALLY.

We would inform inventors that their communications are treated with the utmost confidence, and that the secrets of inventors confided to us are never divulged, without an order from the inventor or his acknowledged representative.

TESTIMONIALS.

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 affords me much 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 subjoined 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.



R. C. B., of Ill.—You do not seem to understand yet what is meant by friction being independent of velocity. It is that the aggregate power expended in overcoming the friction of sliding one body over another a given distance is the same whatever the velocity. Not that the power expended per minute is the same. All of your inferences are based on the latter idea, and not on the former.

A. F. W., of C. W.—Brass is fully as strong when heated to 212° as when cold at 60° Fah. Hard silver solder is composed of four parts silver to one of copper; a softer solder is composed of two parts silver to one of brass. The latter is generally employed to solder with the lamp and blow-pipe.

T. J. L., of Pa.—The woolen factories with which we are acquainted felt their goods with the "stocks," or old reciprocating pounders.

G. S., of N. Y.—We think the guiding of balloons by any power whatever entirely impracticable, in consequence of their great bulk and enormous resistance to motion in the air. By pouring out ballast they may be raised, and by allowing the escape of the gas through a valve in the top they may be lowered; and by thus taking them into a higher or lower stratum of air, their course may sometimes be altered. We have already said that an Ericsson air engine is too heavy in proportion to its power to drive a flying machine, and that a yoke of oxen would be better adapted to the purpose.

F. R., of Cal.—We agree with you in regard to the absurdity of the several theories which you mention that have been advanced to account for the formation of the gold deposits. Before writing for the press on geology, it would certainly be well to read at least some elementary treatise on the subject.

J. W., of N. Y.—You can obtain adjustable packing rings for pistons of Charles W. Copeland, of this city.

J. P. M., of Ills.—We did read your communication with great care. You promised a series of experiments to prove that horse hairs turn into snakes, and we advised you that, in order to have your conclusions accepted, it would be necessary to conduct your experiments in a very careful manner. The conversion of reciprocating rectilinear motion into rotary by a spiral thread is an old device. There is no loss of power by the crank motion on the dead points except that which results from increase of friction.

M. S., of Va.—You will find a description of paints for painting tin roofs on page 165, Vol. I. (a new series), of the SCIENTIFIC AMERICAN.

E. M. G., of La.—The Patent Office employs its own draughtsmen. They are appointed by the Commissioner the same as other offices. The Office does not prepare drawings for applicants; these must be furnished.

C. H. J., of Texas, and J. H. G., of Fla.—Since the publication of Mr. Hyatt's proposition in reference to a flying machine, we have received a large number of communications and suggestions on the subject; but candor compels us to say that not a single practical hint of any value has been offered. The scheme is just where it was years ago—a mere plaything for fool-hardy adventurers.

N. P., of N. Y.—We have read your communication upon the subject of retardation of currents in submarine cables, and we do not think your suggestions upon the subject will meet any of the difficulties at present experienced.

H. D. J., of Ohio.—We do not know where you can obtain a large circular saw with adjustable teeth. We do not think such saws are made in this section.

F. G., of Ky.—Whenever your diagrams are ready for examination send them on by mail. Your remarks in reference to the "transcendental excellencies" of this journal are duly appreciated. When you speak of it as a "beautiful palladium," your language is eloquent and touching. We cannot, however, make room for the letter to the exclusion of other matter.

J. G., of Pa.—Saucepans of cast iron are tinned upon the inside by scouring the surface bright with sand and dilute sulphuric acid, then washing and drying the surface thoroughly. Grain tin is then poured into the pan, which is heated on a fire and rolled about until the surface is covered, when the extra tin is poured out and the inside rubbed with cloth. Powdered rosin is also sprinkled upon the iron surface to prevent the formation of oxyd, which would keep the tin from uniting and adhering to the iron.

W. L., of La.—We cannot tell how long the oil wells in Pennsylvania will continue to yield, but recent reports from the principal greasy districts repress at the supply as gradually diminishing in all the wells, thus involving the necessity of sinking new ones to keep up the supply. There is a tract of country in Pennsylvania, we are informed, about 300 miles long and 30 wide, in which oil can be obtained anywhere by sinking wells.

L. C. S. & Co. and A. R. B., of Conn.—We have inquired for tungsten steel, but cannot find that any has been as yet imported into this city.

E. W. E., of Ala.—You can stain black walnut or pine in imitation of rosewood by mixing some carmine with lac varnish for the red streaks, and using a little coppers and logwood in solution for the black streaks. You can make a cheap red stain for wood with a strong solution of red Brazilwood mixed with lac varnish.

G. B. H., of Pa.—The link motion in common use is an old English invention, and is not the subject of any existing patent.

J. R., of Va.—The "pepper and salt" color of your cotton cloth cannot be made permanent so as to stand sun, wind and rain, by either salt, alum or any kind of lye whatever. The color is fugitive, and cannot be made fast.

MONEY RECEIVED

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, Nov. 3, 1860:—

- A. M., of N. Y., \$30; W. H. & M., of Ga., \$30; F. W. R., of Ind., \$25; H. T. P., of Mass., \$30; P. P. W., of N. Y., \$30; J. M. W., of N. Y., \$30; H. B. B., of England, \$362; J. M. R., of Tenn., \$30; G. E. W., of S. C., \$10; P. R., of Ill., \$40; L. B., of Texas, \$100; T. E. B., of Fla., \$25; P. H. T., of Va., \$30; W. W. H., of Mo., \$30; C. J. S., of N. Y., \$30; S. K. W., of Pa., \$10; C. R. A., of Conn., \$30; J. C. H., of N. Y., \$30; C. A., of Ill., \$30; P. & M., of Mass., \$30; T. F. B., of Va., \$35; H. N., of N. Y., \$25; W. C., of N. Y., \$25; B. & D., of Ill., \$30; A. R. T., of La., \$30; W. C. W., of N. Y., \$30; A. L. F., of Pa., \$35; N. R. B., of N. Y., \$120; C. W. F., of Ill., \$25; R. B. B., of N. Y., \$30; H. C. A., of Ill., \$25; C. & N., of Oregon, \$250; J. W. B., of N. Y., \$10; M. & S., of Ky., \$25; C. & S., of Pa., \$25; H. M. C., of N. Y., \$30; J. H., of Ind., \$35; W. H. S., of Ill., \$30; P. H., of Mass., \$30; J. T. P., of N. Y., \$58; G. I. M., of Conn., \$25; I. S. & J. W. H., of Ill., \$30; C. C. F., of Mass., \$30; T. S. D., of N. J., \$30; E. H. B., of N. Y., \$25; J. P. H., of N. Y., \$15; A. J. B., of Mich., \$30; J. T. P., of Conn., \$25; J. G., of Ga., \$35; C. S., of N. J., \$30; J. R. J., of Ky., \$30; W. & F., of —, \$350; R. C. B., of N. C., \$25; J. H., of Cal., \$30; J. Y., of Ohio, \$55; P. M., of Mich., \$25; M. K., of N. Y., \$35; G. B. P., of N. Y., \$100; M. D., of Ind., \$35; M. R. F., of N. Y., \$40; J. McN., of Pa., \$55; P. J. A., of N. J., \$55; J. W. L., of N. Y., \$45; E. B. B., of N. Y., \$30; R. & H., of Iowa, \$30; H. & H., of Va., \$30; J. L., of N. Y., \$35; B. T. B., of N. Y., \$30.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, Nov. 3, 1860:—

- P. C., of N. Y.; F. W. R., of Ind.; H. C. A., of Ill.; R. C. B., of N. C.; C. W. F., of Ill.; P. M., of Mich.; M. & S., of Ky.; S. M., of N. Y.; G. I. M., of Conn.; E. P., of Mass.; J. G., of Ga.; J. T. P., of N. Y.; E. H. B., of N. Y.; J. R. J., of Ky.; C. & S., of Pa.; T. E. B., of Fla.; M. D., of Ind.; J. P. H., of N. Y.; H. N., of N. Y.; J. T. P., of Conn.; R. C., of Texas (3 cases); C. R. A., of Conn.; T. G., of Miss.; G. W. C., of Texas; J. L., of N. Y.; A. L. F., of Pa.; W. C., of N. Y.; S. L. F., of Ohio.

A GOOD ADVERTISING MEDIUM.—DIRECTORIES of large Cities and of States are cheap, durable and effective mediums of advertising; cuts of Machinery are always admitted. We notice that the annual edition of "Johnston's Detroit Directory and Advertising Gazetteer of Michigan," to the number of Sixteen Hundred Copies, is now in print for the year 1861. The publisher liberally forwards, as a bonus to advertisers in this work, 1,000 large, handsomely gotten up Advertising Papers, to be posted in the public houses and post offices throughout the State of Michigan. Advertisements from importers, jobbers, manufacturers inventors and others will be received at established moderate rates until the 30th of December. The rates are—One square (one-fourth page), Eight Dollars; whole page, Twenty-five Dollars; and for Special Notices in addition, Five Dollars extra. We commend the opportunity to those to whom advertising in Michigan would prove advantageous. Certainly, it is a cheap and efficacious means of spreading abroad so large a quantity of well displayed business cards throughout a large and prosperous Western community. Address, postpaid, JAMES DALE JOHNSTON, Publisher Detroit Directory, &c., Detroit, Mich.

MEND YOUR OWN TINWARE—AS EVERY one can do (even the ladies themselves) when furnished with Root's Improved Portable Soldering Implements. Also, suitable for mending brass and copper kettles and broken metal of any kind with a neatness and dispatch that any tinsmith might envy. Full instructions given for mending kettles, tins, &c. Implements and Materials, with full printed instructions, mailed to any address (postpaid) on receipt of 25 cents; four packages for \$1. Agents (postpaid) Address A. L. ROOT & CO., Manufacturers, Medina, Ohio.

\$1.00 COPYING PRESS—WITH BOOK FOR copying business letters instantly and perfectly, is sent, postpaid, for \$1.25. For satisfactory testimonials, references, &c., address, with stamp, the manufacturer, P. B.—Agents wanted. J. H. ATWATER, Providence, R. I.

THE GRAEFENBERG THEORY AND PRACTICE OF MEDICINE.—On the 1st day of May, 1890, the Graefenberg Company's Sales-rooms, Consulting Offices and Medical Institute were removed from No. 34 Park-row to—

No. 2 Bond-street, New York. (first door from Broadway.) in order to afford greater facilities and a more central location, due to the rapid increase of confidence in the Graefenberg Theory and Practice. The Graefenberg Theory and Practice, and the use of their medicines, together with complete symptoms of all diseases incident to this country and climate, the best method for their prevention and cure, will be found in the "Graefenberg Manual of Health."

This valuable family medical work, containing 300 pages, has been revised and improved, and elegantly illustrated with beautifully colored engravings of the human system. Sent by mail to any part of the country, on receipt of 25 cents. It is a complete guide to all diseases and their cure. Address

JOSIUA F. BRIDGE, M. D., Resident and Consulting Physician Graefenberg Co., No. 2 Bond-street, New York.

One of the leading journals says of the Graefenberg Manual of Health: "This is the only medical book for family and general use ever published. It is written in plain language, free from scientific terms, and contains more practical medical information than can be obtained anywhere else, unless a regular medical course of education is undergone. The popularity of this admirable and commendable work is well shown by this being the twenty-fourth edition. It contains a number of colored anatomical plates, and is a complete family physician. It is at once simple, popular, plain and explicit; and the mother, with such an adviser, is prepared at once to apply the proper remedies in case of sudden sickness in the family. In the country, a copy of the 'Manual of Health' is indispensable, and every family should possess one. It will save a hundred times its cost in doctors' bills, and what is far better, will be the means of preserving many valuable lives to their families and relatives." [contd]

NOTICE TO CAPITALISTS.—A new discovery (patented in France and the United States), for the prevention of railroad accidents, is presented for public approval by A. MORTERA, Engineer. Models have been submitted to the inspection of and approved by leading railroad men throughout the country—especially H. Uhry, Esq., Superintendent of Locomotive Works, and J. P. Dougherty, Esq., at Danforth, Cooke & Co.'s, at Paterson, N. J.—and the inventor desires to enter into relations with a capitalist who will assist in bringing this important invention into general use. Mr. Mortera will be happy to give particulars and exhibit his models any day, from 10 to 3 o'clock P. M. at his office, No. 20 Crosby-street, New York. P. S.—Messrs. Couduat, Brodard, Advocates of Mr. Mortera, No. 43 Wall-street.

WANTED—A SITUATION AS SUPERINTENDENT in an Iron Foundry, by a man of steady habits, who has an over 30 years' experience as molder. Good references can be given, if required. Address J. N., Providence (R. I.) Post Office.

WANTED—A PARTNER, WITH SEVERAL thousand dollars, in a well-established Foundry and Machinery concern; or I will sell or exchange for an improved Farm said Foundry, Tools, Patterns, &c., with a good run of custom. Location should be open in the United States, especially for Steamboat Machinery. Address F. SIMON, P. O. Box No. 178, Paducah, Ky., or C. SIMON, Agent.

POCO METALLIC PAINT—POSSESSING ADVANTAGES over all others—viz: varieties of color, finer ground and cheaper. STRATTON & CO., Agents, No. 1 Pine-street, New York.

A RETIRED STENCIL CUTTER'S OUTFIT for Sale.—For particulars, send postage-stamp to S. W. ROBINSON, Ann Arbor, Mich.

IT COSTS 10 CENTS, AND WILL SAVE ANY family \$35 per year.—Something new; everybody wants it. Sent free for One Dime; it sells readily. Agents wanted. Address EXCELSIOR CO., New York.

FOR SALE—THREE PIN MACHINES (FOWLER'S pattern) for making solid head pins—makes Nos. 3, 4 and 5 pins; all new and in good order. Also, one sticker to stick the pins in the paper. Also, one hair-pin machine, capable of making 100 perfect hair-pins per minute, wire straighteners; all the fixtures complete for starting the business. For further particulars address E. IVINS, corner of Fifth-street and Columbus-avenue, Philadelphia, Pa.

500 AGENTS WANTED—TO ENGAGE IN AN honorable business which pays from \$3 to \$7 per day. For particulars, address M. M. SANBORN, Brasher Falls, N. Y.

LABORATORY OF CHEMISTRY.—CONSULTATIONS and advices on chemistry applied to arts and manufactures, agriculture, metallurgy, mining surveys. Information on chemical fabrications, with drawings, such as colors, varnishes, coal oils, paper, cas, candles, soaps, dyes, animal black, manures, acids, alkalis, salts, india-rubber, gutta-serena, &c. Address Professor H. DUBSAUCQ, chemist (from the Conservatoire Imperial of Arts and Manufactures, Paris), New Lebanon, N. Y.

SOMETHING NEW—JUST OUT, GENTLEMEN'S Water-proof Cloth Coats, Sporting Coats and Leggings, and a variety of new styles of Water-proof Clothing, from the new factory of the N. Harvard Company. For sale by the New York agent, at No. 181 Broadway. [181] SAM. C. BISHOP.

HOUSEHOLD ARTICLE FOR EVERYDAY use.—Patent for sale.—A self-soaping Scrubbing Bath or Nail Brush. Can be got cheaply; an excellent opportunity to make money. Patent granted May 22, 1890. Address WM. TUSCH, Box No. 773 New York Post Office.

NEW AND PERFECT BARREL MACHINERY, consisting of a Head-Runner, Stave-dresser, Jointer and Crozer, and especially adapted for dressing sugar and molasses hogsheads, and to tight or slack work of every description. They are the simplest, cheapest and most efficient. Machines made. Liberal terms offered to agents and others to sell. Machines and Rights. For full descriptive circulars, address C. B. HUTCHINSON, Amherst, N. Y.

CHARLES A. SEELY, CHEMIST, NO. 424 Broadway, New York.—Analyses of ores, minerals, articles of commerce, &c. Advice and instruction in chemical processes generally; advice on chemical patents.

A FINE LATHE FOR SALE—5 1/2 FOOT BED, 6-inch swing; made by Stewart, and never used. Cost over \$300, and will be sold for \$150. Apply at No. 113 East Forty-second street, New York.

LUBRICATING COAL OIL—FOR RAILROADS. Cotton and Woolen Factories, Steamboats, &c. free of chemicals and odor. Price—60 cents per gallon. No. 100 Canal-street, New York. CALVIN DICKEY, Newark, Ohio.

PORTER'S IMPROVED GOVERNOR.

The reputation of these governors is well established. Parties troubled with unsteady power may send for them in entire confidence. They never fail.

The numerous valves in use are all equally good, if well made; the form of the opening is immaterial. The governors are warranted to work perfectly with any and all valves, which move freely and close tolerably tight.

A style is made expressly adapted to waterwheels, to which they will give a perfectly uniform motion, under any variation of resistance.

I have long done with troubling my customers for certificates; but am able to refer to a large number of parties now using this governor in a majority of the States of the Union.

I will send a governor to any responsible party for trial. If it does not operate perfectly it may be returned.

A liberal discount to the trade, whose orders will always be promptly filled.

CHARLES T. PORTER, No. 235 West Thirtieth-street, corner of Ninth-avenue, New York City.

FOR SALE.—AN 8-HORSE (MONTGOMERY patent) Boiler; all in perfect order except the tubes; will be sold or traded for machinery or hardware, at \$75—cost new, \$750. Address Post Office box No. 187, Harrisburg, Pa.

THE WEAVER'S GUIDE.—TWO HUNDRED samples of different kinds of weaving, from 2 harness upwards to 16, with drafts and explanations. Price \$5 per copy. Address for particulars or copies, E. KELLERMANN, Mooreup, Conn. 17 4

SWISS MATHEMATICAL DRAWING INSTRUMENTS of the finest finish, in large quantities, constantly on hand, for sale by JAMES W. QUINN & CO., No. 224 Chestnut-street, Philadelphia. N. B.—An illustrated sheet of the instruments in full size, with priced list, sent by mail free on application. 17 4

5,000 AGENTS WANTED—TO SELL FIVE new inventions—one very recent, and of great value to families. All pay great profits to agents. Send four stamps and get 50 pages particulars. EPHRAIM BROWN, Lowell, Mass. 17 3

THE BLANDY PORTABLE STEAM SAW MILL, after a fierce contest with numerous competitors, having more powerful machinery, was awarded the first premium at the United States Fair, at Cincinnati, Ohio, 1880, as the smoothest working, easiest handled and fastest cutting mill. We cut, in the presence of the awarding committee and thousands of spectators, 675 1/2 feet of lumber, out of two logs, in 8 minutes 14 seconds. All the machinery worked by two hands. Also the first premium at Ohio State Fairs for 1887, 1888 and 1889, and is the national premium and champion mill. The Blandy Patented Portable Steam Engine was described and illustrated on page 278, Vol. II. (new series), of the SCIENTIFIC AMERICAN. Send for circulars. 17 4c

INVENTORS' MODELS MADE BY P. L. SLAYTON, corner of White and Center-streets, New York. 18 3

STENCIL CUTTERS, READ, AND SEND FOR our samples of Stencil Tools:— W. K. LANPHEAR & Co.—Gents.—As you are aware, I suppose, that I am one of the pioneer Stencil Cutters in this country, having worked at the business for over 21 years, which, I believe, will allow me to know something about the business. I have no hesitation in saying that the tools made by you for cutting small Stencils are the best I have ever seen, and far superior to those made by any other concern. I do not compare yours with those made by machinery, as they are the poorest in the market. Wishing you that success which a good article is always sure to attain over a bad one, I remain, yours sincerely, A. W. MORGAN, Stencil Engraver, Cleveland, Ohio, Sept. 31, 1890. Address W. K. LANPHEAR & CO., Cincinnati, Ohio. 1

STEEL DIE SINKER.—WANTED, A GOOD Steel Die Sinker, to work on our first-class Stencil Tools. Address W. K. LANPHEAR & CO., Cincinnati, Ohio. 1

BROWN & GARRISON'S AGENCY FOR THE sale of Patent Rights and all Labor-saving Articles, No. 128 Randolph-street (P. O. Box No. 1,319), Chicago, Ill. 20 3

SWISS DRAWING INSTRUMENTS.—CATALOGUE (seventh edition), containing over 250 illustrations of Mathematical, Optical and Philosophical Instruments, with attachment of a large sheet representing the genuine Swiss Instruments in their actual size and shape, will be delivered on application to all parts of the United States, gratis, by C. T. AMSLER, No. 655 Chestnut-street, Philadelphia, Pa., established agency for the Swiss Drawing Instruments since 1848. 20 6csw

SAVE YOUR STEAM.—HOARD & WIGGIN'S Improved Steam Trap Valve, for relieving steam pipes, cylinders, &c., of condensed water. By its use the boiler pressure is kept up the full heat maintained, and a large saving in fuel made. Several thousand of these trap valves are in successful use, and we offer them with entire confidence that they will accomplish all that we claim for them. For an illustrated circular or a trial machine, address— J. W. HOARD, Providence, R. I. GEO. B. WIGGIN, Providence, R. I. 14 15

MACHINISTS' TOOLS FOR SALE.—TWO double-gear screw-cutting slide lathes, swiveling from 20 to 24 inches and shears 19 to 16 feet long; one double-gear slide lathe, 4 feet diameter and 30 feet in length; four planing machines, various sizes; three card wheel boring machines, three cast axle lathes, three shop cranes, &c. All second hand; in good order. Apply to CHAS. W. COPELAND, No. 123 Broadway, New York. 14 8

CHESTER GUILD & SONS, MANUFACTURERS OF BELT AND LEATHER, 16 Blackstone-street, Boston, Mass. 14 15

BACK NUMBERS AND BOUND VOLUMES OF the NEW SERIES of the SCIENTIFIC AMERICAN can always be had of A. WINCH, No. 230 Chestnut-street, Philadelphia, Pa. 11 12

GALVANIZED IRON PIPE—CHEAPER AND better than lead for water. It is used in the cities of Brooklyn and Hartford for water pipes in dwelling houses. Sold at wholesale by JAMES O. MORSE & CO., No. 78 John-street, New York. 10 1f

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