

Improved Wall Paper.

Archie W. Paull, Wheeling, West Va.—This invention consists in simply taking a carefully selected and artistic design, prepared on paper, wood or other material, and photographing it directly upon the wall paper. In this manner are secured as many facsimiles as may be desired of a design whose delicacy of tint, exact imitation of nature and elaborate ornamentation are absolutely impossible in the block printing process.

Improved Piano Tuning Key.

Alexander H. Affleck, Marshallville, Ga.—This invention relates to tuning keys for pianos, and consists in one so constructed that, no matter in what position the angular top of pin may be, the key can be quickly rotated so as to give a good purchase and a convenient hold.

Improved Automatic Gate.

Geo. C. Crum, Barr's Store, Ill.—This invention relates to that class of gates which are opened and closed automatically as the vehicles approach, and subsequently closed behind them after the passage of the vehicles therethrough. The invention consists in combining with a gate latch a vibratory lever with arms connected at the lower end with a bar inclined on its subjacent face.

Improved Drop Light Attachment for Chandeliers.

Napoleon W. Williams, Philadelphia, Pa.—This invention consists in attaching the ball which holds the rubber pipe to the bottom of the sliding pipe and making it movable therewith, and also in a peculiar construction of the surfaces of the friction clamp.

Improved Automatic Hatch Closer.

Edward M. Hackett, New York city.—This invention relates to means whereby the door or doors, that cover the openings in floors through which pass elevators, may be automatically closed and opened. It consists in causing a pin on the elevator to move through two spiral grooves and thus vibrate a vertically journaled shaft, which has an arm or arms that actuate the door or doors.

Improved Ribbon Case.

Jos. K. Lanais, Bellevue, O.—The object of this invention is to furnish an improved receptacle or holder for ribbons and other like fabrics, also for threads, yarns, etc., the same being adapted for use in fancy dry goods shops, also, when in smaller dimensions, in families, by milliners, seamstresses, etc. The invention consists of a polygonal revolving case, in each of whose compartments is a series of spools or shafts on which the ribbons are wound, the same passing through slits formed in the outer face of or side of each compartment.

Improved Gas Retort.

Joseph D. Patton, Trevorton, Pa.—This invention consists of a retort protected from direct contact of heat by the brickwork in which it is set, or partly by the same and partly by another retort, in combination with one or more retorts wholly exposed to the heat of the furnace, for gradually heating the substance of which the gas is to be made; the object being to provide an arrangement whereby resin or volatile oil can be successfully treated, in which they are subjected from the beginning to the intense heat of retorts directly exposed to the heat and sufficiently hot to convert them into fixed gas, which they cannot be in the ordinary retorts.

Improved Paper File.

Charles Mason, New York city.—The object of this invention is to furnish to merchants and business men a cheap, durable, and convenient paper file, by which letters, bills, checks, or other papers may be quickly and neatly filed and compactly held together. The invention consists of a device bent of suitable wire or other metal in such a manner that the top part holds, in connection with the spring action of the bottom and side parts, the papers placed on file between them.

Improved Coupling for Elastic Hose.

Thos. J. Trapp, Williamsport, Pa.—This invention consists in a tube provided with a tapered or conical end, terminating in a right angled shoulder. The elastic hose is forced over said conical end, and past the shoulder, with which latter it engages so firmly as to resist all attempts at removal by any tension to which it may be subjected short of that which will destroy, cut through, or tear it.

Improved Furniture Caster.

Cevdra B. Sheldon, New York city.—This invention consists in the peculiar shape of the two similar and half sections, each having its half rim, its inner face, its half hub and its cup, corresponding to like parts in the other.

Improved Combined Walking Planter and Cultivator.

George De Vany, Jr., Darbyville, O.—This invention relates to a combined single and double walking seed planter and cultivator, the component parts of which are so constructed as to permit the planter to be changed either into a three or double shovel cultivator by a simple transposition of said parts.

Improved Chain Harrow.

George Watt, Richmond, Va.—This invention consists in a harrow, pulverizer or cultivator composed of a series of chains connected by loop links and held in position by cross bars, together with a pair of bars attached to a clevis at one end and braced intermediately by a spacer.

Improved Clothes Line Hook and Automatic Fastening.

John G. Ames and Preston A. Ames, Baltimore, Md.—This invention consists of an automatic hook and fastening for clothes lines, consisting of a fence grapple with slot and bearings, and a line hook having journals and rear projection. These may be attached to the top of a paling or fence without nail or rivet, and, when not in use, safely stowed away.

Construction of Iron or Brass Pulleys or Caster Wheels.

Cevdra B. Sheldon, New York city.—This invention consists in making the pulley or caster wheel in two sections, on a plane passing through rim and at right angles to the plane of axis, and in connecting the two sections together by a hollow rivet which also serves as an axle box to take up wear.

Improved Geared Hand Carriage.

Lewis T. McGilvray, Staunton, Va.—This invention consists in combining, with a vehicle having ordinary sustaining wheels and a guide wheel in front, a series of crank shafts and intermediate gear wheels, by which power is easily and conveniently transferred from the hand to the axle.

Improved Paint Brush.

Syranus Standish, Eureka, Nevada.—This invention relates to paint and other brushes, and consists in a novel mode of constructing and combining the handle, bristle compressor and shell, so that the bristles may be adjusted when worn, utilized almost entirely, and then replaced with new bristles, all with but little trouble and by almost any one.

Improved Stationary Spittoon.

Wm. H. Tyrrell, Philadelphia, Pa.—This invention relates to spittoons for cars, steamers, ships or vehicles; and consists in an improved construction which allows the same to be conveniently emptied of its contents at times intermediate between the termini of route and with ease and convenience to the operator.

Improved Mangling or Wringing Machine.

Thomas Hall and James Newton, Lawrence, Mass.—This invention consists of an arrangement of long levers and springs to obtain the pressure on the pressure roller by light and sensitive springs, which are better adapted for obtaining a wide range of movement than the strong heavy springs which are necessary when short levers are used.

Improved Spring Bed.

Stephen Stout, Tremont, Ill.—The object of this invention is to construct a cheap and durable spring bed of simple construction. It consists of grooved lateral supports for double acting spiral springs, which are connected by slats or cane pieces, and held in position by straps passing through the springs.

Improved Sled Brake.

Joseph Slater, Sandy Lake, Pa.—This invention is an improvement in the class of sled brakers, wherein a pivoted bar is caused to take into the snow or ice by means of a hand lever. The improvement relates to arranging a sliding rod, provided with a hook or claw on its free end, in connection with an oscillating lever shaft and a keeper and supporting guide, so that said rod may be easily and powerfully applied as a brake, and raised and supported in a horizontal position beneath the sled beams when not in use.

Improved Ear Protector.

Moritz Isidor, New York city.—The object of this invention is to provide suitable and convenient means for protecting the ears from frost and cold; and it consists in shields or coverings for the ears, connected together by an elastic cord, and with the central fronts or outsides formed partly of cloth and partly of gauze, so that the shield will not interfere with the transmission of sound.

Improved Hoisting and Conveying Apparatus.

George Stancliff, New York city.—The object of this invention is to hoist, convey, and lower heavy goods in an easy and expeditious manner, for the purpose of economizing time and labor. The invention consists of a truck, hoisting and carrying the weight and moving it back and forth on an inclined track by means of a windlass, wire rope, and pulley arrangement. It is intended as an improvement on a similar invention patented by Joseph Green, August 1, 1871, and which may be found illustrated in the SCIENTIFIC AMERICAN, on page 333, December 16, 1871.

Improved Ladies' Work Stand.

Gilbert S. Manning, Danville, Ill.—This invention consists of a stand composed of legs and boxes or trays, and an inclined revolving table top with a cover in two parts opening and closing on pivots at one end, which secure a base plate upon the covers, whereon a revolving inclosed spool stand is provided. The arrangement is calculated to provide a neat, desirable, simple, and inexpensive table.

Improved Car Pusher.

Alva S. Bailey, Paxton, Ill., assignor of one half his right to Edward Little, of same place.—The object of this invention is to furnish to railroad employes and others a car jack, by the use of which cars may be moved on the track without being required to wait for a locomotive, horse, or hands. The invention consists of a main beam, with clutch end placed on the track, a slide lever with rack and hook at the other end being applied to the car and acted upon by a cog wheel at the end of a hand lever, so that by successive applications the car is moved on the track.

Machines for Swaging and Finishing Horseshoe Nails.

Robert Ross, Vergennes, Vt., assignor to National Horse Nail Company, of same place.—The first invention consists of a die on the side of a vertical wall, and a horizontal reciprocating die working toward and from it below a screw feeder, and a bar parallel with it, by which the nails are fed along, points downward, to these dies, to be beveled to the required shape flatwise at the points, the movable die being so timed as to come against the points as they pass in front of it. The feed screw and bar are adjustable vertically to regulate the length of the bevel for the points. The invention also consists of a weighted lever combined with said feed devices and beveling dies to retain the nails between the dies while being acted upon. There are also a vertical stationary die and a movable punch, and a pair of holding dies, in combination with the said feeding devices, for trimming the edges or narrow sides of the nails for about half their length from the point, more or less, the nails being presented to the said trimming dies by dropping, point foremost, from the feed devices in front of the stationary trimming die and being caught at the head by the holding dies, so that the point to be trimmed is suspended in front of the stationary trimming die and held till the movable trimming die comes up and forces it through the other one and out of the holding dies. One of the said holding dies has a slight movement to open and let the nails drop in freely, and then close on them to hold them snugly till the movable trimming die acts. The invention also consists of an arrangement of the stationary beveling and trimming dies on a supporting block, which is pivoted to the frame at one end, and confined by a locking pin at the other end in such manner that by removing the locking pin the block can be readily swung over on its pivot to afford ready access to said dies for repairing them; and an arrangement of the crank shaft is provided which works the movable die stock by a crank or wrist pin, so that it can slide away from the stock readily, to allow of withdrawing the stock to grind the dies without taking them off, and a combination of a latch and collar with the shaft for holding it in connection with the stock. The same inventor has also patented a machine for finishing horseshoe nails which operates as follows: The nail is placed between two threads of a screw, the screw being rotated carries it forward until it reaches a die where the hammer strikes and points it. It then passes to and off the screw end, against which it is held by suitable devices until the pushers carry it through other dies, the head of the nail causing the holder to rise. This effectually trims the nail. If a nail is larger than those previously pointed and trimmed, the screw is drawn back, and vice versa, if smaller; while increased space between the nails, as they approach the die to give room for the handle, is obtained by the increasing width of thread.

Value of Patents, AND HOW TO OBTAIN THEM. Practical Hints to Inventors.

PROBABLY no investment of a small sum of money brings a greater return than the expense incurred in obtaining a patent even when the invention is but a small one. Larger inventions are found to pay correspondingly well. The names of Blanchard, Morse, Bigelow, Colt, Ericsson, Howe, McCormick, Roe, and others, who have amassed immense fortunes from their inventions, are well known. And there are thousands of others who have realized large sums from their patents. More than FIFTY THOUSAND inventors have availed themselves of the services of MUNN & Co. during the TWENTY-SIX years acted as solicitors and Publishers of the SCIENTIFIC AMERICAN. They stand at the head in this class of business; and their large corps of assistants, mostly selected from the ranks of the Patent Office: men capable of rendering the best service to the inventor, from the experience practically obtained while examiners in the Patent Office: enables MUNN & Co. to do everything appertaining to patents BETTER and CHEAPER than any other reliable agency.

HOW TO OBTAIN Patents. This is the closing inquiry in nearly every letter, describing some invention which comes to this office. A positive answer can only be had by presenting a complete application for a patent to the Commissioner of Patents. An application consists of a Model Drawings, Petition, Oath, and full Specification. Various official rules and formalities must also be observed. The efforts of the inventor to do all this business himself are generally without success. After great perplexity and delay, he is usually glad to seek the aid of persons experienced in patent business, and have all the work done over again. The best plan is to solicit proper advice at the beginning. If the parties consulted are honorable men, the inventor may safely confide his ideas to them: they will advise whether the improvement is probably patentable, and will give him all the directions needful to protect his rights.

How Can I Best Secure My Invention? This is an inquiry which one inventor naturally asks another, who has had some experience in obtaining patents. His answer generally is as follows, and correct: Construct a neat model, not over a foot in any dimension—smaller if possible—and send by express, prepaid, addressed to MUNN & Co., 37 Park Row, New York, together with a description of its operation and merits. On receipt thereof, they will examine the invention carefully, and advise you as to its patentability, free of charge. Or, if you have not time, or the means at hand, to construct a model, make as good a pen and ink sketch of the improvement as possible and send by mail. An answer as to the prospect

of a patent will be received, usually, by return of mail. It is sometimes best to have a search made at the Patent Office. Such a measure often saves the cost of an application for a patent.

Preliminary Examination.

In order to have such search, make out a written description of the invention, in your own words, and a pencil, or pen and ink, sketch. Send these, with the fee of \$5, by mail, addressed to MUNN & Co., 37 Park Row, and in due time you will receive an acknowledgment thereof, followed by a written report in regard to the patentability of your improvement. This special search is made with great care, among the models and patents at Washington, to ascertain whether the improvement presented is patentable.

Rejected Cases.

Rejected cases, or defective papers, remodeled for parties who have made applications for themselves, or through other agents. Terms moderate. Address MUNN & Co., stating particulars.

To Make an Application for a Patent.

The applicant for a patent should furnish a model of his invention if susceptible of one, although sometimes it may be dispensed with; or, if the invention be a chemical production, he must furnish samples of the ingredients of which his composition consists. These should be securely packed, the inventor's name marked on them, and sent by express, prepaid. Small models, from a distance, can often be sent cheaper by mail. The safest way to remit money is by a draft, or postal order, on New York, payable to the order of MUNN & Co. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents.

Caveats.

Persons desiring to file a caveat can have the papers prepared in the shortest time, by sending a sketch and description of the invention. The Government fee for a caveat is \$10. A pamphlet of advice regarding applications for patents and caveats is furnished gratis, on application by mail. Address MUNN & Co., 37 Park Row, New York.

Reissues.

A reissue is granted to the original patentee, his heirs, or the assignees of the entire interest, when, by reason of an insufficient or defective specification, the original patent is invalid, provided the error has arisen from inadvertence, accident, or mistake, without any fraudulent or deceptive intention.

A patentee may, at his option, have in his reissue a separate patent for each distinct part of the invention comprehended in his original application by paying the required fee in each case, and complying with the other requirements of the law, as in original applications. Address MUNN & Co., 37 Park Row, for full particulars.

Design Patents.

Foreign designers and manufacturers, who send goods to this country may secure patents here upon their new patterns, and thus prevent others from fabricating or selling the same goods in this market.

A patent for a design may be granted to any person, whether citizen or alien, for any new and original design for a manufacture, bust, statue, alto relievo, or bas relief; any new and original design for the printing of woolen, silk, cotton, or other fabrics; any new and original impression, ornament, pattern, print, or picture, to be printed, painted, cast, or otherwise placed on or worked into any article of manufacture.

Design patents are equally as important to citizens as to foreigners. For full particulars send for pamphlet to MUNN & Co., 37 Park Row, New York.

Foreign Patents.

The population of Great Britain is 31,000,000; of France, 37,000,000; Belgium, 5,000,000; Austria, 38,000,000; Prussia, 40,000,000; and Russia, 70,000,000. Patents may be secured by American citizens in all of these countries. Now is the time, while business is dull at home, to take advantage of these immense foreign fields. Mechanical improvements of all kinds are always in demand in Europe. There will never be a better time than the present to take patents abroad. We have reliable business connections with the principal capitals of Europe. A large share of all the patents secured in foreign countries by Americans are obtained through our Agency. Address MUNN & Co., 37 Park Row, New York. Circulars with full information on foreign patents, furnished free.

Value of Extended Patents.

Did patentees realize the fact that their inventions are likely to be more productive of profit during the seven years of extension than the first full term for which their patents were granted, we think more would avail themselves of the extension privilege. Patents granted prior to 1861 may be extended for seven years, for the benefit of the inventor, or of his heirs in case of the decease of the former, by due application to the Patent Office, ninety days before the termination of the patent. The extended time inures to the benefit of the inventor, the assignees under the first term having no rights under the extension, except by special agreement. The Government fee for an extension is \$100, and it is necessary that good professional service be obtained to conduct the business before the Patent Office. Full information as to extensions may be had by addressing MUNN & Co., 37 Park Row.

Trademarks.

Any person or firm domiciled in the United States, or any firm or corporation residing in any foreign country where similar privileges are extended to citizens of the United States, may register their designs and obtain protection. This is very important to manufacturers in this country, and equally so to foreigners. For full particulars address MUNN & Co., 37 Park Row New York.

Canadian Patents.

On the first of September, 1872, the new patent law of Canada went into force, and patents are now granted to citizens of the United States on the same favorable terms as to citizens of the Dominion.

In order to apply for a patent in Canada, the applicant must furnish a model, specification and duplicate drawings, substantially the same as in applying for an American patent.

The patent may be taken out either for five years (government fee \$20) or for ten years (government fee \$40) or for fifteen years (government fee \$60). The five and ten year patents may be extended to the term of fifteen years. The formalities for extension are simple and not expensive.

American inventions, even if already patented in this country, can be patented in Canada provided the American patent is not more than one year old.

All persons who desire to take out patents in Canada are requested to communicate with MUNN & Co., 37 Park Row, N. Y., who will give prompt attention to the business and furnish full instruction.

Copies of Patents.

Persons desiring any patent issued from 1836 to November 26, 1867, can be supplied with official copies at a reasonable cost, the price depending upon the extent of drawings and length of specification.

Any patent issued since November 27, 1867, at which time the Patent Office commenced printing the drawings and specifications, may be had by remitting to this office \$1.

A copy of the claims of any patent issued since 1836 will be furnished for \$1.

When ordering copies, please remit for the same as above, and state name of patentee, title of invention, and date of patent. Address MUNN & Co., Patent Solicitors, 37 Park Row, New York city.

MUNN & Co. will be happy to see inventors in person, at their office, or to advise them by letter. In all cases, they may expect an honest opinion. For such consultations, opinions and advice, no charge is made. Write plainly do not use pencil, nor pale ink; be brief.

All business committed to our care, and all consultations, are kept secret and strictly confidential.

In all matters pertaining to patents, such as conducting interferences, procuring extensions, drawing assignments, examinations into the validity of patents, etc., special care and attention is given. For information, and for pamphlets of instruction and advice Address

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