

E. R. McC. asks: Can a patent be attached or a debt of the inventor? A. No. An injunction might be granted in a proper case, preventing its transfer except to a receiver appointed by the court.

C. R. M. says: Kainit, as usually sold, consists of 28 to 30 per cent of sulphate of potassa, 14 to 16 per cent sulphate of magnesia, 4 to 5 per cent chloride of magnesia, 35 to 40 per cent chloride of sodium, and 10 to 12 per cent sulphate of lime. I want to use it as a substitute for ashes (which I cannot get), as a manure for onions. What is its probable efficacy? The potash and salt are good, but is the sulphate of magnesia likely to be injurious? A. The large proportion of potash in kainit should render it superior to ashes as a fertilizing agent, and we do not believe that the other salts will materially affect it in this respect.

H. A. S. says: 1. On page 27, current volume, in your answer to M. W. H., you say that 9,000 feet per minute is recommended as the proper speed for the rims of circular saws of all sizes. I think that, other things being equal, the speed of the rim should be in proportion to the power. I should figure the speed of the little foot power saw by compound proportion, thus: If a saw with teeth one inch apart, running with six horse power, cutting nine inch lumber, requires a speed of 9,000 feet per minute, what should be the speed of a saw with teeth half an inch apart, cutting one inch lumber and running with one eighth horse power?

6: 1/8 :: 9,000 : 648. I do not say 648 feet per minute is just the right speed for a foot power saw, but I think it would be correct if 9,000 is just right for the supposed six horse power saw. The smaller saw might, however, be made to saw smoothly by running at a higher speed, but I think only by a loss in the amount of work done. I think the reason that your correspondent's saw did less work at the higher speed was that more power was required to cut the sawdust finer, and more was lost in economizing friction. A. Your theory does not agree with the results obtained by experiment. 2. Not long since I heard a man say that kerosene oil would destroy the temper of steel. Is it true? As the temper depends on the internal structure of the steel, and the oil can reach only the surface, I do not see why the temper should be injured throughout. A. You are right. 3. At what speed should a power drill run? A. In wrought iron, the speed of the drill should be about 12 feet a minute.

R. C. says, in reply to S. G. F., who asked about filtering water: If he can dig a trench, parallel with the stream, arrange a filtering gallery and filter the water through the bottom of his gallery, perhaps it would help him out and give no further trouble.

W. S. D. says, in reply to J. M., who asked if a check wall under the back end of a steam boiler will save fuel: Build a bridge wall just 1 foot forward

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined with the results stated:

G. L. E.—Your specimen consists of dark colored tourmaline in quartz. Tourmaline is a silicate of alumina, containing also oxide of iron and potash.

N. M.—These specimens are iron pyrites, and are of little value at the present time.

A.—The mineral sent is graphite or plumbago: which, you know, is composed of carbon. The specimen shows traces of iron.

COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

- On Death Statistics. By S. B.
On Ventilation. By S. W. and by W. S. Jr.
On the Art of Tanning. By D. S.
On the Duration of Brain Impressions and the Memory. By D. S. T.
On the Use of Petroleum in Steam Boilers. By J. B. W.
On Canal Navigation in Winter. By C. P.
On the Cow Milk Tree. By C. L.

Also enquiries from the following:

- H. W.—N. T. W.—C. A. M.—F. L. R.—J. H.
Correspondents in different parts of the country ask: Who makes ditching plows, to be drawn by horse power? Who furnishes small castings of a low grade of steel? Where can infusorial silica be obtained in large quantities? Who makes feed water heaters? Who makes electric gas lighters? Who constructs boilers which will not explode when the water gets low? Where is a boring machine, suitable for hubs for setting boxes, sold? Where can asbestos be obtained? Makers of the above articles will probably promote their interests by advertising, in reply, in the SCIENTIFIC AMERICAN.

Correspondents who write to ask the address of certain manufacturers, or where specified articles are to be had, also those having goods for sale, or who want to find partners, should send with their communications an amount sufficient to cover the cost of publication under the head of "Business and Personal," which is specially devoted to such enquiries.

[OFFICIAL.]

Index of Inventions

FOR WHICH

Letters Patent of the United States WERE GRANTED IN THE WEEK ENDING

February 3, 1874,

AND EACH BEARING THAT DATE.

(Those marked (r) are reissued patents.)

Table listing various inventions and their patent numbers, including items like Alignment instrument, Artist's kit, Awning, Bale tie, Bale tie, O. R. McClean, Bale tie, C. H. Schnell, Barrel roller, Barrels and kegs, washing, Bedstead, wardrobe, Beehive, Bobo & Johnson, Beehive, A. Canniff, Bell, call, J. A. Everts, Bench and step ladder, combined, Blacking box, Boa and muff combined, Boiler feed and regulator, L. Ring, Boiler, wash, C. H. Strain, Bootjack, Sawyer & Sarnborn, Boot pac, Weaver & Hawkins, Boot and shoe inner sole, J. P. Doty, Boot sole, polishing, L. Graf, Boot soles, stamping figures on, L. G. Sweet, Boot turned seam, S. W. Shorey, Boot heel stiffener, A. H. Willoughby, Bottle stopper, P. Hayes, Box packing, W. D. Woodruff, Bracelet fastening, H. Stone, Broom, J. Shipman, Buckle, S. S. Hartshorn, Building, fireproof, P. H. Jackson, Button hole cutter guide, A. W. Webster, Caisson, portable, J. Brown, Cakes, making, D. B. Fuller, Car air brake, M. Champton, Car brake, G. Westinghouse, Jr., Car coupling, Gates & Root, Car coupling, O. and W. Rochford, Car coupling, C. P. Russell, Car door, street, J. Stephenson, Car door, street, J. Stephenson, Car, refrigerator, J. J. Bate, Car, safety, J. T. Worley, Car seat, head rest for, W. H. Peirson, Car sleeping, J. R. Reniff, Car spring, G. F. Godley, Car starter, E. Ames, Car starter, D. Warren, Cars, pedestal for railroad, J. Stephenson, Carpet cleaner, H. S. Allison, Carpet fastener, G. Gerardin, Carriage door, G. Kellner, Carriage spring, E. Wright, Casting mold board, J. Oliver, Casting mold board, J. Oliver, Ceiling, center piece for, W. Warren, Chain, P. Kaufmann, Chain for necklaces, etc., S. Cottle, Chair, folding, Little & Prindle, Chandeller, G. Petry, Clothes line attachment, D. W. Smith, Clothes wringer, roller for, S. Ellis, Column, wrought iron, C. H. Kellogg, Condensing steam, etc., E. Korting, Corn cutter, green, B. Merritt, Cornices, etc., composition for, W. E. Brock, Corset, J. W. Askie, Cotton lapp, making, T. C. Craven, Cradles, apparatus for rocking, D. Nash, Cultivator, Risley & Rogers, Curtain fixture, Buckley & Sawyer, Curtain fixture, C. Fisher.

Table listing various inventions and their patent numbers, including items like Dental apparatus, Derrick, Selton & Jones, Dispensing effervescent liquids, T. Warker, Door check, Dennuth & Willis, Dredgers, grappier for, A. T. Morris, Dyeing cotton, A. Keller, Egg and fruit carrier, W. D. Taber, Electric gas lighting, frictional, J. P. Putnam, Engine, rotary reciprocating, T. A. Risher, Engine feed water heater, J. Vandevelde, Engine variable exhaust, S. J. Dampman, Equalizer, draft, B. D. Morton, Evaporator in vacuo, F. O. Matthieson, Eye glass, L. A. Berteling, Faucet, Malmström & Dummer, Faucet, pumping, J. G. L. Boettcher, Feather duster, J. L. Little, Fertilizing compound, R. Birdsall, Felt fabrics, finishing, J. E. Pollard, Felted fabric, J. E. Pollard, Files, etc., tempering, C. Engel, Fruit jar fastening, J. Koerberle, Furnace fix, Nelson & McNeill, Furnace, reverberatory, E. Heiligendorfer, Furnace for steam boilers, D. T. Casement, Furnace, reverberatory, J. Ostrander, Furnace air distributing pipe, A. Rawson, Furnace, combustion in, D. Casement, Gage and ruler, marking, E. Church, Gate, farm, W. Bowman, Gear, pawl and ratchet, J. M. Rosebrook, Grain decorticator, J. Hollingsworth, Grate, J. D. Slichter, Hair picking machine, J. Doyle, Halter fastener and cattle tie, G. Russell, Hammer, soft metal, J. C. Coburn, Harness hame, P. Hayden, Harness pad, J. Engelke, Harness saddle, P. Burns, Harvester, J. W. Webster, Harvester rake, O. A. Storle, Heater, feed water, I. P. Magoon, Heater, feed water, I. P. Magoon, Heater, feed water, J. Vandevelde, Hoe, Smith & Carden, Hoop machine, J. Penney, Horses, detaching, I. L. Landis, Horses, detaching, I. L. Landis, Horses, detaching, I. L. Landis, Hose coupling, Bannister & Perkins, Inkstand, H. P. Andrews, Ironing board, J. B. & D. H. Horne, Ironing board, J. B. & D. H. Horne, Jack, lifting, J. N. Crosby, Jack, lifting, J. T. Guthrie, Jeweler's ring gage, F. E. Allen, Jewelry, etc., joints for, G. H. Fuller, Journal box, R. S. Cathcart, Knife, fork, and spoon, S. W. Francis, Lamp fonts, collar for, W. N. Weeden, Lamp, hanging, J. Reinhold, Lantern, pocket, J. J. & W. M. Walton, Lathe center, A. F. Cushman, Lathe for turning wood, J. Beaudry, Lathe feed adjusting device, L. P. Sherman, Leather, splitting, G. Reynolds, Leather, etc., cutter for, A. Dewes, Level, grading, J. Thornley, Loading lumber, etc., J. D. Smith, Lock, seal, H. Ahrendt, Lock, cap securing, B. Erbe, Locomotive draft, G. Wingate, Loom shuttle, E. G. Spalding, Loom shuttle, W. Murkland, Loom, pile fabric, Crompton & Wyman, Loom let off, J. B. Fuller, Loom weft stop, S. Scholfield, Mail bag catch, M. White, Marble, etc., molding, R. Ardrey, Marble, rotary cutter for, R. Ardrey, Match boxes, catch for, C. Buckley, Medical compound, E. C. Jurgensen, Mixing and grinding machine, C. W. Bendernagel, Mold facing compound, B. Kane, Molding composition, W. E. Brock, Moldings, gluing, J. H. Brown, Movement, throttle valve, E. Nicholson, Mowing machine, J. Carman, Nail driving machine, C. H. Smith, Nut lock, W. M. Spacht, Oil, paint, A. B. Lagshore, Oiler, hand, A. W. Elmer, Organ, reed, C. W. Vogel, Organ stop action, reed, C. W. Vogel, Packing, piston, A. J. Isler, Panels, etc., composition for, W. E. Brock, Paper folding machine, S. C. Forsaith, Pavement, C. C. F. Otto, Perfuming upholstered furniture, A. Pitman, Photographic head rest, G. B. Ayres, Pipe coupling, J. Dohmer, Pitman, L. Dederick, Planter, corn, S. B. Davis, Planter, hand corn, W. C. Kemp, Planter, seed, G. Owen, Plated ware, base for, J. Gepson, Plow, H. Blue, Plow, double furrow, L. Chapman, Plow, sulky, R. Newton, Plow, wheel, S. Neff, Pocket book, J. G. Albert, Press, Y. F. Wright, Projectile for ordnance, A. Wright, Propulsion of canal boats, W. A. Kirby, Pruning shears, W. H. Collings, Pump, double acting force, D. F. Casey, Pump rod attachment, D. Bly, Pump valve, W. D. Hooker, Pumping apparatus, B. Dutton, Railway signal, C. Sammons, Railway switch, J. B. Stamour, Railway switch stand, R. A. Rash, Railway time signal, D. S. Neal, Rake, horse hay, E. W. Tucker, Range, A. Dederick, Registers, frame for hot air, E. A. Tuttle, Registering the course of ships, W. H. Rankin, Roofing tile, S. S. Perry, Roofing tile, G. Manvel, Sash fastener, W. H. Jones, Sash holder, R. B. Huginlin, Saw frame buck, T. S. Diaston, Saw gumming machine, D. Boyd, Saw mill dog, I. W. Pool, Saw mills, log turner for, G. H. Shearer, Saw sharpening machine, D. H. Ieminger, Saw teeth blanks, etc., rolling, N. Johnson, Screw caps, scoring, F. W. Perry, Screw driver, G. P. Loomis, Sewing machine, W. Muir, Sewing machine, W. Muir.

Table listing various inventions and their patent numbers, including items like Sewing machine, W. Muir, Sewing machine bobbin holder, R. T. Gillespie, Sewing machine caster, G. W. Eddy, Sewing machine table, Marchand & Hutchinson, Sewing machine lamp, Church & Driscoll, Sewing machine treadle, N. & C. Dubrul, Shoe fore part iron, R. S. Babbitt, Skate, J. Forbes, Skirt, felt, J. E. Pollard, Skylight, G. Hayes, Skylight bar, G. Hayes, Slate frames, dressing, T. W. Parry, Spading machine, J. Giles, Spinning wheel, F. Voegtlin, Spring door, A. A. Stimson, Spring, furniture, W. T. Doremus, Squares, marking carpenters', H. K. Jones, Stage machinery, W. Hyland, Steel, manufacture of, T. Brooks, Stove heater, wood, J. C. Frazier, Stove leg, J. Blegler, Stove and hot air furnace, T. J. Whitehead, Telegraph insulator, P. Eby, Telegraph register, Morse, J. E. Smith, Telegraph, printing, J. E. Smith, Tbill tug, D. C. Bassett, Tool, N. K. Ellsworth, Top prop block, W. N. Barnett, Track lifter, W. H. Penrose, Toy whistle, H. J. Wade, Trap, animal cage, Beach & Johnson, Trap, insect, F. DeFranceschini, Truck, J. M. & J. L. Jones, Truck, A. V. Smith, Trunk lid support, R. W. Vanneman, Tunneling, art of, D. C. Haskins, Twine box, O. F. Fogelstrand, Valve, balance slide, E. Heyde, Valve, globe, R. Nutty, Vehicle head block, P. M. Gatches, Ventilator, F. Brenzinger, Wagon brake, Brown & Groze, Wagons, running gear of skeleton, E. P. Carter, Wall protector and toilet rack, H. Borchardt, Washing machine, N. Denny, Washing machine, J. B. Stoner, Well tube clamp, Shaw & Beatty, Whiffletree, L. H. Webb, Windmill, L. C. Ray, Windmill, P. A. Spicer, Windmill, W. H. Wheeler, Window caps, forming, R. A. Smith, Window sash, H. C. Burke, Winnower, rotary, T. H. Drury, Wire wheel, G. D. Dudley.

APPLICATIONS FOR EXTENSIONS.

Applications have been duly filed, and are now pending for the extension of the following Letters Patent. Hearings upon the respective applications are appointed for the days hereinafter mentioned:

- 28,108.—LEATHER FINISHING MACHINE.—W. P. Martin, April 15.
28,130.—SEWING MACHINE.—G. B. Arnold, April 22.
28,174.—PICTURE HANGING MOLDING.—H. Hochstrasser, April 22.
28,181.—BURNISHING BOOT SOLES.—E. T. Ingalls, April 22.
28,184.—CEMENT PIPE MOLD.—H. Knight, April 22.
28,189.—SCARF DRYING MACHINE.—A. W. J. Mason, Ap. 22.
28,198.—CULTIVATOR TEETH.—D. B. Rogers, April 22.
28,214.—RUFFLE.—G. B. Arnold, April 22.
28,314.—WATER WHEEL.—A. M. Swain, April 22.
28,470.—SLIVER MACHINE.—F. T. Grant, May 13.

EXTENSIONS GRANTED.

- 27,034.—HARVESTER.—J. Butter.
27,043.—UMBRELLA STAND LOCK.—A. M. Foote.
27,065.—COFFEE MILL.—J. & E. Parker.

DESIGNS PATENTED.

- 7,148.—SHIELD.—G. W. Dauth, Reading, Pa.
7,149.—SIRUP CUP PLATE.—J. Jepson, West Meriden, Ct.
7,150.—SLEIGH.—F. D. Kennedy, Albany, N. Y.
7,151.—SLEIGH.—J. Lodewick, Troy, N. Y.
7,152.—COMB.—W. Pauly, College Point, N. Y.
7,153.—BRACKET.—J. B. Sargent, New Haven, Conn.
7,154.—TYPE.—R. Smith, Philadelphia, Pa.
7,155 & 7,156.—CARPETS.—T. J. Stearns, Boston, Mass.
7,157.—LABELS.—S. Ward, Boston, Mass.

TRADE MARKS REGISTERED.

- 1,611.—CIGARS.—J. H. Batts, Salem, Mass.
1,612.—OILS.—J. A. Bostwick & Co., New York city.
1,613.—SMOKED MEATS.—J. Grubb & Co., Cincinnati, O.
1,614.—PRINTED PUBLICATION.—J. Gruber, Hagerstown, Md.
1,615 & 1,616.—IRISH LINENS.—Paton & Co., N. Y. city.
1,617.—PLASTER.—J. McI. Smith, New York city.
1,618.—FLOUR.—J. Stabler, Baltimore, Md.
1,619.—BISCUIT.—Thurston & Co., Cambridgeport, Mass.
1,620.—SAWS.—The Wheeler & Co. Manufacturing Company, Middletown, N. Y.

SCHEDULE OF PATENT FEES.

Table listing patent fees: On each Caveat \$10, On each Trade Mark \$25, On filing each application for a Patent (17 years) \$15, On issuing each original Patent \$20, On appeal to Examiners-in-Chief \$10, On appeal to Commissioner of Patents \$20, On application for Reissue \$30, On application for Extension of Patent \$50, On granting the Extension \$50, On filing a Disclaimer \$10, On an application for Design (3 1/2 years) \$10, On application for Design (7 years) \$15, On application for Design (14 years) \$30.

[Specially reported for the Scientific American.]

CANADIAN PATENTS.

LIST OF PATENTS GRANTED IN CANADA, FEBRUARY 11, 1874.

- 8,095.—J. P. Manton, G. H. Remington and B. D. Thayer Providence, R. I., U. S. Improvements on ship's windlasses, called "Improved Pump Brake Windlasses for Vessels." Feb. 11, 1874.
8,096.—H. Hills, G. W. Mills and Wm. Mc. Lockwood, Highland, Oakland county, Mich., U. S. Improvements on pruning shears, called "Hill's Pruning Shears." Feb. 11, 1874.
8,097.—F. W. Rhinelander, N. Y., U. S. Improvements on boot and shoe tips, called "Rhinelander's Enamelled Shoe Tip." Feb. 11, 1874.
8,098.—W. H. Lunt, Cambridge, Mass., U. S. Improvement in filters, called "The Lunt Filter." Feb. 11, 1874.

- 3,099.—E. Smart, Brockville, Leeds county, Ontario. Improvements on oil gates, called "Suart's Improved Molasses and Oil Gate." Feb. 11, 1874.
- 3,100.—E. P. Hannaford, Montreal, P. Q. Improvements on a signal lamp, called "Hannaford's Stationary Signal Lamp." Feb. 11, 1874.
- 3,101.—H. A. Holmes, Epsom, Merrimack county, N. H., U. S. Improvement on machines for sawing clap boards, called "Holmes' Clapboard Machine." Feb. 11, 1874.
- 3,102.—Wm. Fuller, Montreal, P. Q. Composition of plastic material, called "Fuller's Plastic Compound." Feb. 11, 1874.
- 3,103.—Wm. X. Stevens, Brookfield, Worcester county, Mass., U. S. Improvements on shears for cutting bars and rods of iron or other metal or material, "called "Stevens' Improved Bar Shears." Feb. 11, 1874.
- 3,104.—C. E. Blake, San Francisco, San Francisco county, Cal., U. S. Improvements on dentistry, the same consisting in a means of disguising the bright color of gold filling for teeth, whereby said filling is also rendered more durable, and also of an improved metallic foil for dental purposes, called "Blake's Improved Filling for Teeth." Feb. 11, 1874.
- 3,105.—G. J. Wilson, Ottawa, Ontario. Improvement on a machine for drying clothes, called "Wilson's Eureka Clothes Rack." Feb. 11, 1874.
- 3,106.—G. Young, Oshawa, Ontario county, Ontario. Improvements on shuttles for sewing machines, called "Young's Improved Shuttle." Feb. 11, 1874.
- 3,107.—F. Culham, Widdar Station, Bosanquet, Lambton county, Ontario. Improvements on nut fasteners of railroad rails, called "Culham's Patent Nut Fastener of Railroad Rails." Feb. 11, 1874.
- 3,108.—P. Munsinger, Mitchell, Perth county, Ontario. Improvements on pumps, called "Munsinger's Improved Pump." Feb. 11, 1874.
- 3,109.—W. H. Cutler, Buffalo, Erie county, N. Y., U. S. Improvements in portable inhaling tubes, called "Cutler's Inhaling Tube." Feb. 11, 1874.
- 3,110.—R. B. Tait, Oakville, Halton county, Ontario. Improvements in car couplings, called "Tait's Improved Car Coupler." Feb. 11, 1874.
- 3,111.—H. McKenzie, Marquette, Marquette county, Mich., U. S. Improvements on apparatus for leaching, called "McKenzie's Perpetual Leach." Feb. 11, 1874.
- 3,112.—A. Halon, Quebec. Une cheminee portative, called "Cheminee Portative." A portable chimney. Feb. 11, 1874.
- 3,113.—A. Anderson, London, Middlesex county, Ontario. Improvements on coupling for railroad cars, called "Anderson's Safety Railroad Coupling and Buffer Combined." Feb. 11, 1874.

## HOW TO OBTAIN Patents and Caveats IN CANADA.

**P**ATENTS are now granted to inventors in Canada, without distinction as to the nationality of the applicant. The proceedings to obtain patents in Canada are nearly the same as in the United States. The applicant is required to furnish a model, with specification and drawings in duplicate. It is also necessary for him to sign and make affidavit to the originality of the invention.

The total expense, in ordinary cases, to apply for a Canadian patent, is \$75, U. S. currency. This includes the government fees for the first five years, and also our (Munn & Co.'s) charges for preparing drawings, specifications and papers, and attending to the entire business. The holder of the patent is entitled to two extensions of the patent, each for five years, making fifteen years in all.

If the inventor assigns the patent, the assignee enjoys all the rights of the inventor. A small working model must be furnished, made to any convenient scale. The dimensions of the model should not exceed twelve inches.

If the invention consists of a composition of matter, samples of the composition, and also of the several ingredients, must be furnished.

Persons who desire to apply for patents in Canada are requested to send to us (Munn & Co.), by express, a model with a description, in their own language, showing the merits and operation of the invention, remitting also the fees as above for such term for the patent as they may elect. We will then immediately prepare the drawings and specification, and send the latter to the applicant for his examination, signature, and affidavit. It requires from four to six weeks' time, after completion of the papers, to obtain the decision of the Canadian Patent Office. Remit the fees by check, draft, or Postal order. Do not send the money in the box with model. Give us your name in full, middle name included.

Inventions that have already been patented in the United States for not more than one year may also be patented in Canada.

On filing an application for a Canadian patent, the Commissioner causes an examination as to the novelty and utility of the invention. If found lacking in either of these particulars, the application will be rejected, in which case no portion of the fees paid will be returned to the applicant.

Inventors may temporarily secure their improvements in Canada by filing *caveats*; expense thereof, \$35 in full.

For further information about Canadian patents, assignments, etc., address

MUNN & CO.,  
37 Park Row,  
New York.

## VALUE OF PATENTS, And How to Obtain Them.

### Practical Hints to Inventors.

**P**ROBABLY 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. Large inventions are found to pay correspondingly well. The names of Blanchard, Morse, Bigelow, Colt, Ericson, Howe, McCormick, Hoe, 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 they have 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.

### 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.

### 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, 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.

### Foreign Patents.

The population of Great Britain is 31,000,000; of France, 37,000,000; Belgium, 5,000,000; Austria, 36,000,000; 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, when 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.

### 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.

### 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 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, New York.

### 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.

### Design Patents.

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