

Improved Medical Compound for Liver Diseases.

Joseph M. Cunningham, Mount Morris, Ill.—The object of this invention is to supply an efficient compound for diseases arising from a deranged condition of the liver and complaints having their origin therein. It consists mainly in extracting with alcohol the bitter part of different roots and herbs, to be mixed, after percolation, with water, sugar, and the oil of saffras.

Improved Railroad Crossing.

Robert J. Hughes, Rynear, Ind.—This invention is an improvement in the class of switches or railroad crossings in which the rails of the side track are elevated to allow the wheels of the cars to pass above the rails of the main track. The cross ties are placed higher than usual to reach the level of the crossing rails, and are placed nearer together at the switch. They are suitably notched for the reception of the main rails, to keep them on the level of the main track. The crossing rails are placed on the elevation of the ties, and are thereby raised above the level of the main rails. Between the rails of the main track is laid the pivoted or spring rail, the end of which is curved from the main rail, and, by suitable means, is prevented from being lifted off the track. The flanges of the wheels pass between the main rail and spring rail by pressing the latter sidewise. A flange plate is placed on a level with the top of the main rail adjacent to end of the spring rail and serves the purpose of conveying the flanges of the car wheels from the spring rail to the raised side rails. The guide rail placed opposite the flange plate, on a level with the crossing rails, assists the wheels to pass over the flange plate to the side track.

Improved Presser Foot for Sewing Machines.

George W. Allerton and Zenas M. Powers, Robinson, Ill.—This invention consists of a glass disk pivoted to the supporting arm in the axis of the needle by a hollow pivot through which the needle works, the object of which is to have the presser turn with the work when curved seams are to be made, so that the work can be turned more accurately and easily than it can be with the ordinary non-turning foot. A rotating presser of this kind is very useful in equalizing the length of the stitches, by the facility it affords for turning the work accurately.

Improved Peach Cutter.

William J. Hill, Fayetteville, Tenn.—The invention consists in the improvement of peach cutters. In using the machine the peaches are laid blossom end downward upon cutters, with one hand, in such a position that the seam of the peach may be in line with the wing or straight cutters, and a lever is operated with the other hand to bring a block down upon the peach. As the block presses upon the peach with sufficient force to hold it in place, the first hand is removed from the peach and the block is pressed down upon the edges of the cutters, the parts of the peach dropping into the spout, and the pit sticking in the cavity of the cutters until it is pushed out by the next pit.

Improved Scaffold.

Daniel Y. Miller, Huntsville, Ill.—The object of this invention is to construct a scaffold for the use of painters, carpenters, and others, which may be easily set up and taken to pieces and readily transported. The invention consists of two main supports resting on standards and composed of several pieces, connected by strong staples, the uppermost pieces suspending, by block and tackle arrangement, an adjustable platform, which may be elevated to the full height of the supports.

Improved Cotton Planter.

George Paterson, Waynesborough, Ga.—This invention consists in the improvement of cotton planters. Behind the plows are the guano hoppers, supported on iron rods or bars, or other supports, adjustable toward or from the frame. Vertical slides are arranged in the hoppers with pockets to fill with the guano as they rise up in the hopper, and carry it down to discharge below. Said slides are pushed down by tappets on the seed-dropping wheels, and they are forced up by a spring, when the tappets escape from projections. The pockets are varied as to capacity by adjustable blocks, held by binding screws so they can be readily loosened, shifted, and fastened again. The relative arrangement of the guano droppers and the seed droppers is such that the seed and the guano will be dropped together. It will be seen that a great economy of labor will be effected by the use of this machine, which combines eight separate and special machines in one, requires only one horse or mule and one attendant, and neither the horse nor the attendant has to walk along the ridges and tramp the earth down, as when separate machines are used. The principal improvement in the device consists in the vertical pocket slide, arranged to reciprocate up and down in the guano dropper.

Improved Cut-off and Regulating Cock for Gas.

Charles E. Seal, Winchester, Va.—This invention consists in a cock or valve, attached on or near the gas meter or on gas-conveying pipes, and having a flexible connection attaching it to valve-lifting mechanism that has been arranged in the room or apartment where the gas is used.

Improved Horse Hay Rake.

Lyman Litchfield and Jay Spencer Corbin, Gouverneur, N. Y.—This invention consists in a novel means whereby the driver can conveniently use both the foot and hand simultaneously in elevating the rake, in novel means whereby the rake may be adjusted by the driver without leaving his seat, to run on the ground or at a slight distance thereabove, and finally in a peculiar construction of rake-tooth head which allows each tooth to be rigidly held and independently moved, or to be raised with the others.

Improved Mode of Splitting Rock.

Patrick Croghan, Cockeysville, Md.—This invention consists in the method of splitting off blocks of stone by boring subadjacently beyond the longitudinal middle line of the block, placing the side pieces across said line and causing the up and down pressure of the wedge to be exerted inside and not on the edge of the rock.

Improved Saponifying Apparatus.

George W. Hatfield, Nashville, Tenn.—This invention relates to means for applying heat, pressure and mobility to the alkali and fatty matter used in the process of saponification, so that the product will be uniform in its character and thus adapted to make a soap of the best and most reliable quality. It consists in arranging spirally upon a common shaft a series of paddles or agitators, which are continually lifting and transferring the fluid matter from one end to the other of a close boiler or mixing chamber.

Improved Plow.

Lewis B. White, Norfolk, Va.—This invention consists in making the land-side of a turn plow reversible by a peculiar construction of ends and bottom flanges, so that two landsides are virtually made of but little more metal than one as now constructed. The invention also consists in applying a slotted adjustable wedge between the beam and handles of turn plows, that they may both be held solid and without a chance to move out of their respective positions under strain.

Improved Process of Preparing Corn for Grinding.

William Standing, Da Quoin, Ill.—The object is to produce a superior article of corn flour and corn meal, by subjecting the corn, before it is manufactured, to a steam drying process with steam of high pressure, and with a thorough ventilation of the grain for the rapid escape of all the moisture that may accumulate in the corn while passing through the drying process. The corn is passed over and through several cleaning machines, similar to those used in the cleaning of wheat, then it is elevated into the dryer, having a capacity of about fifty bushels, more or less. But before the corn is admitted into the dryer, the slide, which is placed at the bottom, is closed until the dryer is filled, then the valve is opened sufficiently to permit it (the grain) to escape only as fast as it becomes thoroughly dried. The valve is adjustable to suit any circumstances which may conduce to a slower or more rapid rate of drying. The passing of the grain through the dryer containing a high pressure of steam, say, from seventy-five to one hundred pounds to the square inch, more or less, with the corresponding temperature, is for the purpose of having the latent heat of the steam penetrate thoroughly the germ, phosphate, dextrin, and starch portion of the corn, as also its oil gluten, and neutralize the strong rank smell and taste peculiar and common to all corn, but more especially in the large starch-bearing kinds. As the corn leaves the dryer it is conveyed to and passed over or through machines for the purpose of cooling thoroughly before grinding. The corn is then ground on the best French burrs, somewhat finer than the ordinary style of grinding.

Improved Lawn Mower.

Theodore Soetbeer, Irvington, N. Y.—This invention has for its object to furnish an improved instrument for shearing the edges of grass plots along the edges of walks, beds, etc., where the grass cannot be cut by the lawn mower. To the lower end of the standard or frame, in an inclined position, is secured the lower or stationary blade of the shears. To the blade, near its rear end, is pivoted the rear end of the upper blade. To the latter, near its rear end, is pivoted the lower end of the connecting rod, the upper end of which is pivoted to the crank. Several holes are formed in the connecting rod to receive the crank to enable the instrument to be adjusted. The crank is attached to the end of a shaft, to which, within the frame, is attached a small grooved pulley around which passes a band which also passes around a larger pulley attached to a wheel, which revolves in the lower part of the frame. The wheel is designed to roll along the ground at the side of the edge to be sheared and carry the machine forward, and at the same time by its revolution to work the movable blade. The standard and frame may be adjusted upon each other to adjust the lower blade to the proper height above the ground.

Improved Match Plane.

James Edwards, New York city.—This invention consists in the improvement of match planes. The face of the tool for cutting the tongue is formed in two parts. An adjustable piece is fitted into a rabbet of the stock, and is made adjustable laterally thereon. By moving this piece out or in, the length of the mouth of the tool is varied so as to correspond with the width of the adjustable iron. A guide is made adjustable on the face of the tool by means of screws and slots, and a gage is provided for regulating the depth of the cut. The iron is made in two parts. By means of this adjustment the space is made broad or narrow to receive the tongue, which is cut of corresponding size. Any ordinary plow iron may be used in the grooving tool, and the tonguing tool may be adjusted to suit the groove. With the adjustable tool and an adjustable grooving tool, the machine is prepared to tongue and groove boards or lumber of all ordinary thicknesses.

Improved Cotton and Rice Chopper.

Joseph B. Underwood, Fayetteville, N. C.—This invention consists in supporting the axle of a cotton cultivator in a U shaped bar hinged at one end and adjustable at the other, so as to regulate the depth at which the plow shall run in the ground. It also consists in horizontal chopping knives arranged to operate in the rear of the cultivator plows. It also consists in a novel arrangement of the plow standard and the chopper bar, so that the choppers will be shielded from the moving soil, or other obstacle. It also consists in means for throwing the choppers out of gear with their operative mechanism.

Improved Soldering Apparatus.

Wm. D. Brooks, Baltimore, Md.—This invention consists in bringing the cans upon a carriage truck or car so as to be centered by the cap holder, and so that the seam which is to be soldered shall come directly under the burners of the soldering apparatus and the pipe. The can is then revolved and quickly heated while the bit of solder that is cut off in the holding tube falls through the lower end thereof and rests with one end on the can, being melted gradually as the can revolves.

Improved Method of Soldering Cans.

George D. Brooks, Baltimore, Md.—This invention has mainly in view to form a tight joint at the junction of a can body with its top and bottom before the solder is applied; otherwise the solder finds its way through, is wasted, and does not form so strong, full, and reliable a joint. The invention consists in the method and in the particular means by which this object is accomplished.

Improved Plow Truck.

John Flanagan, Pawnee City, Neb.—This invention relates generally to gang plows, and particularly to the mode of arranging plows of unequal size in the same gang so that rows may be plowed out deeply, except in close proximity to the plants, where the brace roots would be too much fractured and injured; also, to adapt a single turn plow to be worked without necessitating either horse to tread in the furrow or upon the plowed ground. The invention consists in a triangular wheeled plow truck, in whose front is the clevis, to which the whiffletree is attached, and at whose rear are placed one or more adjustable clevises, to which are attached the plow or plows.

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, Hec, 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, 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, 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 to 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
MUNN & Co.,
PUBLISHERS SCIENTIFIC AMERICAN,
37 Park Row, New York.
OFFICE IN WASHINGTON—Corner F and 7th streets, opposite Patent Office