

**Improved Corn Planter Runner Bending Machine.**

Smith W. Kimble, Springfield, Ill.—This invention relates to means whereby the runners of corn planters may be cheaply, conveniently and effectually bent into the desired shape; and consists in a vibratory segment provided with slotted arms, between which are placed side rolls and a reciprocating top roll, combined with a curved former and a superposed bar the subjacent surface of the latter gradually approaching the top of the former from front to rear.

**Improved Tanning Compound.**

Michael W. Fry, Guyandotte, W. Va.—This invention relates to a method of neutralizing the acid which remains in hides after they have been tanned, and which are calculated greatly to damage the leather. It consists in removing the acid from previously tanned hides by immersing them in a bath or solution of salt and soda, according to a formula fully set forth in the specification of the patent.

**Improved Hoe.**

Harrison Parkman, Philadelphia, Pa.—This invention is an improvement in that class of hoes which are double bladed, that is, pointed on one side or edge and straight on the other or opposite one, to adapt them for different kinds of work. The invention consists in bending or striking up the hoe blade, so as to form a central rib on the inner side or surface thereof and a corresponding groove on the other side, the same extending from the center to the termination of the pointed end. The object of this construction is twofold: to strengthen the hoe blade and adapt it to work easily in the earth, and to form a suitable recess to receive the end of the handle socket or other devices by which the blade is secured to the handle. The remaining feature of the invention relates to the construction of the handle socket whereby it is adapted for firm and durable connection with the hoe blade and for other purposes.

**Improved Blowpipe.**

John E. McClure, San Francisco, Cal., and Danforth H. Ainsworth, Salinas, Cal.—This invention relates to a peculiar construction of that class of blowpipes which are used in connection with a lamp, whose flame is expected both to vaporize the liquid in vessel and to be forced upon and melt metals or solder. The invention consists in a blowpipe of two connected chambers, having front convexities with intermediate air space, the ejection being located upon the upper convexity while the lower receives the flame that is to generate the vapor.

**Improved Thrashing Machine.**

Willard Verill, Elwood, N. J.—The grain is fed to an endless apron by which it is carried beneath the beaters, which are attached, to a shaft, and which are bent at a little distance therefrom, so that, as the said shaft rocks, the said beaters may strike squarely upon the endless apron and platform beneath. The extreme ends of the beaters are bent upward to prevent them from catching upon the endless apron.

**Improved Harness Trace Buckle.**

Hillery H. Hartzell, Holden, Mo.—The object of this invention is to produce a trace buckle, which forms a strong and more effective connection of the straps the greater strains applied to them, being perfectly free from friction by cutting, or breaking a trace off. The frame of the buckle is provided with an inclined loop at one end, and a loop at the other end, toward the hames. At the turning point is an indentation. A central lateral connecting piece carries the upright tongue of about the height of the end loops, which admit the heaviest and thickest traces in use. The trace is suitably perforated to fit over the tongue. Another loop consists of two parts, of which one connects with the hame strap, and has a side expansion to embrace the curved loop of the frame. A lateral bar divides the double loop centrally, and bears against the indentation, producing thereby a twofold connection of frame with the loop. A strain exerted on the trace and hame strap causes an upward gliding of the bar, and thereby a tightening of the hold on the trace.

**Improved Harvester Rake.**

John L. Owens, Cambria, Wis.—A tubular standard supports a beveled wheel which turns loosely thereon and carries a horizontal rim turned by the driving wheel. The rake arms are pivoted on the upper side of this rim, and arranged so that the inner ends work upon a stationary cam as they are carried along, which allows the arms to rise at the inner ends and fall at the outer ends to bring the rakes down to the apron. Suitable degrees are provided in order that this cam may allow some of the rakes to pass above the grain on the apron of the machine when the grain is so light that a quantity sufficient for a gavel does not accumulate as each succeeding arm passes. For intercepting some of the rakes, there is a tappet wheel with, say, three rows of tappets on its face, and capable of sliding lengthwise to bring either set of its tappets into action according as demanded by the volume of grain, the said sets each being arranged for having a different effect in throwing out the rakes—that is, varying the order of throwing them out. It is shifted by suitable mechanism arranged in a place where it can be reached conveniently by the operator to shift it at will, and provided with a holder by which it can be held in either of three positions corresponding to three sets of tappets.

**Improved Saw Set.**

Benjamin S. Castle, Johnstown, O.—In the groove of a bench is arranged a setting plate over which is a setting clamp and setting tool. The clamp consists of a strong bar extending over the setting plate nearly its whole length, then binding horizontally beyond the edge, and then down through the frame to levers, which are forced down by a screw to press the clamp down on the saw, which is laid on the plate. The levers are forced up by a spring. The tool is forced down on the saw teeth by the blows of a hammer, and it is forced up by another spring.

**Improved Cotton Gin.**

Beall Hempstead, Little Rock, Ark.—The brushes consist of two flanges, in halves, and bolted together around the shaft, with brushes attached to the sides and projecting obliquely forward, or in the direction in which they turn, and meeting together at the middle of the space between the flanges. There are, also, bristles attached to the shaft, between the flanges, and projecting radially from it. The object of having the bristles project forward is to have them impinge with greater force against the sides of the saws than they otherwise would, and prevent them from being sprung backward away from it. A wide, endless carrier of canvas is arranged under the saws to receive the seeds and other droppings, and carry them out through the gin case. There is an endless chain carrier in the hopper, with teeth to convey the cotton along from the place of receiving it to the passage through the top of the gin case. This works in connection with an open wire bottom above the chains, an open wood bottom below them, or other alone, and a gage to spread and equalize the cotton, regulate the quantity supplied to the gin, open the bolls, and remove them and other coarse matters, which are arrested by the teeth of the gage or regulator, and caused to fall, through the open bottoms, to the gin case, from which they are carried, by teeth, into the drawer, which is removed from time to time and emptied.

**Improved Machine for Making Chains.**

Louis Souther, Springfield, Ill.—This invention has for its object to furnish a machine which shall be so constructed as to bend the iron into link form, weld its ends, and make a complete chain by a continuous operation. Using the machine, the parts being in position, a bar is laid upon the tched upper ends of fingers. As the machine moves forward the former thrown into place and the fingers move upward, bending the bar around a former. Lips descend upon each side of the upper ends of the bent bar, a die comes down, bending the ends of the bar down upon the upper of the former. The die rises slightly, and the lips are forced toward each other, welding the ends of the bar between the lips, the former, and the die. The movement of the lips toward each other allows the lock or bar to drop, confining the lips in position. The former is then withdrawn from the link, and the sleeve, the lips, and the link make a quarter rotation, coming into such a position that another bar may be thrust through the link and laid upon the ends of the fingers. A locking bar now descends, bringing its bend in contact with a block, which releases the lips, allowing them to spring apart and the link to drop upon the bar. The lips now return to their former position, the former is thrust forward, so on. The chain, as completed, passes down through a hollow bar.

**Improved Wind Wheel.**

Nicholas Sheplar and Daniel Sheplar, Murrayville, Ill.—To the upper part of the wheel shaft are rigidly attached four or more short wings, to the outer edges of which are hinged other wings, which are all connected and held in the same relative position by a rope secured to each, and which allows them to move freely upon their hinges. A weight is so arranged as to hold the other wings against the wind in ordinary circumstances, but, should the wind increase in force, it will turn them back upon their hinges into a position more or less oblique according to the force of the wind. As the wind decreases in force the weight draws the wings back into their former position. A hood, made in the form of a half drum, and is designed to cover about one half of the wheel and protect the returning wings from the action of the wind.

**NEW BOOKS AND PUBLICATIONS.**

**ILLUSTRATED BOOK AND DESCRIPTION OF LEFFEL'S IMPROVED DOUBLE TURBINE WATER WHEEL, FOR 1873.** Springfield, Ohio: James Leffel & Co.

The authors of this work give not only copious illustrations of their celebrated wheel in this handsomely printed pamphlet, but also a great deal of general information in water power, the best mode of utilizing it, etc., which is important to mill owners generally.

**THE PRACTICAL MAGAZINE: an Illustrated Cyclopædia of Industrial News, Inventions, and Improvements.** London: 7 Printing House Square. Boston: J. R. Osgood & Co.

This periodical maintains the high reputation which, since its first issue, it has enjoyed in this country and in Europe. It is one of the handsomest of all the journals which reach us, and is edited with great judgment and taste.

**PROPORTIONS OF PINS USED IN BRIDGES.** By Charles Bender, C. E.

**VENTILATION OF BUILDINGS.** By W. F. Butler.

These two handy books are Nos. 4 and 5 of Mr. Van Nostrand's Science Series.

**ILLUSTRATED CATALOGUE OF THE BALDWIN LOCOMOTIVE WORKS, Philadelphia, Pa.**

Messrs. M. Baird & Co., the proprietors of the world-renowned Baldwin Works, have published a very handsome catalogue, containing a succinct history of locomotive construction in America, and detailed descriptions of the numerous forms of engine built by them. The latter are illustrated by well executed photographs. The typography and binding are of the highest order, and do credit to the printers, Messrs. J. B. Lippincott & Co.

**THE DAILY RECORD, OR EVERYBODY'S DIARY, FOR 1874.** Price \$1.50. New York: Hastings & Co., 202 Broadway.

This is a convenient form of diary for commercial use. The space allotted to each day is one third of a page, which shows a week's record in each opening. Its convenience for use is enhanced by it being interleaved with blotting paper.

**LOCKWOOD'S DIRECTORY OF THE PAPER MANUFACTURERS in the United States and Canada.** Price \$5. New York: H. Lockwood, 14 Park Place.

Mr. Lockwood has evidently spent much time and labor on the compilation of this work, which gives a full description of the locality, capacity and special product of each mill.

**Inventions Patented in England by Americans.**

(Compiled from the Commissioners of Patents' Journal.)  
From October 10 to October 23, 1873, inclusive.

**ARTIFICIAL FUEL.**—E. F. Loiseau, Mauch Chunk, Pa.  
**BOAT TENT.**—J. R. Adams, Oakland, Cal.  
**CUTTING CARDS.**—V. E. Mauger, New York city.  
**ELECTRIC SIGNAL.**—T. S. Hall, West Meriden, Conn., et al.  
**FOLDING FABRICS, ETC.**—W. F. Jobbins, New York city.  
**METAL NUTS, ETC.**—S. Vanstone et al., Providence, R. I.  
**ORDNANCE, ETC.**—W. M. Arnold, New York city.  
**STOVE POLISH.**—J. Birch, New York city.  
**TELEGRAPH.**—W. E. Sawyer, Washington, D. C., et al.  
**TUCKING ATTACHMENT.**—F. W. Brown, Cincinnati, O.  
**TWISTING MACHINERY.**—W. Cockcroft et al., Chester, Pa.

# 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. Larger inventions are found to pay correspondingly well. The names of Blanchard, Morse, Bigelow, Colt, Ericsson, 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, Drawing, 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.

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