

**MOP HOLDER.**—George Fliedner, Portland, Oregon.—This invention relates to a new mop holder that can be opened by a quarter turn of the compressing nut and closed by a similar movement of the same; the sponge or rag mop is therefore easily removed, for wringing or washing, and replaced. It consists in the arrangement of an elongated compressing nut, in connection with a slotted or forked lower jaw of the mop head, in such manner that when the nut is crosswise under the jaw it holds it closed, but allows it to be freely opened when turned in line with the slot or opening of the jaw.

**GRAPPLING FORK.**—Gaspar Hunziker, Summit, Miss.—This invention consists of the peculiar construction and arrangements of the parts comprising a cage for grappling a pile of wood or coal in a frame or holder on the ground, holding it while being hoisted and swung over a tender or other vehicle to be loaded, and then discharging it by the opening of the jaws of the grapple by the gravity of the load when the holding devices for the jaws have been tripped.

**SAWING MACHINE.**—Joseph Smith, Woodburn, Oregon.—This invention consists of a table for a cut-off saw which is suspended on pivots above the saw, and of a latch for holding the table in advance of the same while receiving the log or plank to be sawn; they are arranged in such manner that, when the latch is tripped, the gravity of the table and its load feeds the work to the saw.

**WATER WHEEL.**—Orlando D. Wetmore, Claremont, N. H.—This invention furnishes an improved water wheel which is more readily controlled than wheels constructed in the ordinary manner; it consists more particularly in providing a movable chute which is arranged to be worked, watertight, between a fixed chute and the wheel, in such a manner as to serve as a gate for regulating or preventing the ingress of the water.

**COMBINATION RIFLE.**—Marshall Wood, Lewisburg, W. Va.—The invention consists in combining a toggle for reciprocating the breech bolt with a hand operating mechanism; in combining a series of cartridge carriers with the several guns so that they will feed all the guns simultaneously, in a peculiar construction of cartridge carriage with a zigzag chamber, so as to feed by a vibratory movement, in attaching to the carrier a sweep which discharges the spent cartridge in advance of the feed, and in operating a series of connected cartridge carriers by means of rods and cam-slotted levers.

**COMBINED LIFTING JACK AND DERRICK.**—The invention consists in forming a jack with a movable fulcrum, a spring that either retracts or presses forward the detent, and a pawl presser that forces the pawl into and holds it to rack while the lever is taking a new position to let down weights. It consists also in combining a jack with a derrick so that it may be braced in any position. Hiram Senseman and Washington F. Pagett, both of Tremont, Ohio, are the inventors of this improvement.

**MICA WINDOW FOR STOVES.**—Stephen Foote, of Jersey City, N. J.—This invention relates to a new and useful improvement in the mode of adjusting the mica windows of stoves. The mica is secured by wires which are cast in the frame and bent down on to the mica. These wires form stops, which prevent it fitting closely to the stoveplate, thereby leaving an opening equal to the diameter of the wires. By thus allowing a thin current of air to pass between the mica and the stove, the mica is preserved bright and undimmed for any length of time, while windows attached in the ordinary manner soon become dimmed by the smoke and gases from the coal.

**CONFLUENT COOK FOR FILLING SODA BOTTLES.**—Charles G. Ferron, of New York city.—This invention furnishes an improved cook for soda bottling machines, which is so constructed as to discharge the soda and sirup at the same time through the same pipe, and which may be adjusted to admit exactly the required amount of sirup each time.

**FOLDING BOAT.**—John Hegeman, of Vischer's Ferry, N. Y.—This invention consists in improving the construction of the pontoon boat, patented by the present inventor April 23, 1867, so as to make it more convenient in use, and more reliable and serviceable in operation; the improvement consists in the use of certain stay or fastening devices with the hinged parts or sections of the boat, which are so constructed that they can be turned out of the way so as not to obstruct the folding of the boat and yet are always in place ready for use.

**MACHINE FOR POINTING THE EXTREMITIES OF HORSESHOE NAILS.**—Harry A. Wills, of Vergennes, assignor to Julia A. Wills, of same place, and Lucy S. Kingsland, of Burlington, Vt.—This invention relates to machinery for manufacturing horseshoe nails, and in improvements in a machine for shearing or tapering the point of the nail, many features of which are already secured to the present inventor by letters patent. It consists in a sliding finger for filling the die, so as to form a smooth and level surface for the nail to slide on when it is pushed over the die for clipping; the finger being withdrawn when the nail reaches its position.

**CLOTHES WRINGER.**—Micheal Mallon, of Rahway, N. J.—This invention relates to that class of clothes wringers which are arranged to twist the clothes in the manner of wringing them by hand, the clothes being attached at one end to a holder, and at the other to the end of a shaft with a hand crank for turning it; it consists of a novel construction of the case or frame of the wringer, which adapts it for being readily and firmly attached to the wash tub, and insures the escape of the water back into the tub. It also consists of a novel arrangement of the holder, to which the clothes are attached, and the apparatus for adjusting it for clothes of different lengths; and of an arrangement for holding the clothes, after being twisted, to let the water drip off.

**CHILDREN'S CARRIAGE.**—Daniel Troxell, of Newark, N. J.—This invention relates to an attachment to children's carriages or perambulators, whereby the same are prevented moving unless actually handled by the attendant, all possibility of accidents by the rolling of the carriages down hill or into gutters during the momentary absence or inattention of the persons having them in charge being thereby avoided. It consists in the use of spring pawls or arms which bear against projecting ears of the wheel hubs and are, by stringer rods, connected with the handle; so that when, together with the handle, such strings or rods are grasped, the pawls or arms are drawn up clear of the ears on the hubs; but, whenever the handle is released, the pawls or arms fall into the way of the ears on the hubs and prevent the rotation of the wheels.

**VAPOR BURNER.**—Charles Royle, of Brooklyn, N. Y.—This invention relates to burners employed for the combustion of hydrocarbon vapors. The feed pipe is placed at the side of the body of an upright burner, and its internal orifice is formed in a valve seat within the same. A screw passes through a screw hole in the lower end of the body and has a conical valve formed upon its forward end which fits into the valve seat, so that by turning the screw upward the valve is entirely closed, and by turning it less or more downward, less or more of the hydrocarbon is admitted to the burner. Upon this screw, at the lower end of the body, is placed or formed a collar and just below the collar is placed a packing of rubber, leather, or other suitable material. A cap is screwed upon the lower end of the burner which encloses the collar and packing and has a hole in it for the passage of the end of the screw. By this construction, the packing is forced down closely against the cap by the collar when the screw is turned down, and prevents any of the hydrocarbon finding its way out around the thread of the screw and dropping from the lower end of the burner.

**PRUNING SAW.**—Aaron Travis, of Peekskill, N. Y.—This invention furnishes an improved pruning saw which is attached to a long handle in an inclined position, so that when the handle is pulled the saw is drawn across the limb in proper position for sawing. The base or inner end of the saw plate is made inclined, and its rear corner projects in the rear of the handle and serves as a hook for drawing the limbs out of the trees after they have been sawn off. In the rear edge of the saw plate is formed a notch, the straight shoulder of which is sharpened and serves as a chisel for cutting off small limbs.

**SHUTTLE FOR SEWING MACHINE.**—Moses Cook and Moses G. Cook, of Ashfield, Mass.—In this invention, a retaining plate is hinged in and at one end of the shuttle. This is provided with a longitudinal rod which has a side spring. The thread from the spool is first passed under the spring, then coiled around the rod and finally carried out through a hole in the side of the shuttle at some little distance from the spring. By passing around the spring previously to being coiled on the rod, the several coils are prevented from crowding on one another and causing the thread to bind.

**PLOW.**—Francis Poindexter, of Franklin, N. C.—This invention furnishes an improved reversible plow which is simple, convenient, and effective; it is so constructed that it may be readily adjusted for use as a reversible or hillside plow, as a turn and subsoil plow, or as a single turn or cultivating plow, as may be desired.

**THREE HORSE EQUALIZER.**—Edmond K. Parish, of Shelbyville, Ind.—This invention furnishes an improved three horse equalizer, which is so constructed as to enable the draft to be distributed according to the strength of the horses; at the same time it may be so adjusted that the single horse may walk in the furrow, and the team upon the unplowed land, while each horse draws his proper proportion, and the plow takes the proper amount of land. It consists of two cross bars which are pivoted to the plow beam and connected together by the draft chains and rods, to which are attached the whiffletrees. All the parts and all their connections are adjustable.

**FLUID PRESSURE REGULATOR.**—William J. Fay and Thomas A. Cairns, of Denver, Colorado Territory.—This invention consists of a hollow cylinder attached to a globe or other like valve and communicating at one end with the chamber or pipe into which the water flows through the valve; in this cylinder is a piston, whose rod is connected to the valve; a coiled spring is placed behind the piston under such tension as to hold the valve open until the pressure becomes too great for the pipes beyond it, when the water pressure on the piston closes the valve and keeps it closed until the pressure on the piston and in the pipes to be protected falls below the power of the spring, which then opens the valve again.

**COMBINED SLOP PAIL AND COMMODORE.**—David Patteson, of New York city.—The object of this invention is to furnish a cheap and convenient article for the household, which can be used as an ordinary slop pail or as a commode; it consists in constructing a slop pail with a movable seat, and with an annular space to receive water at the top. Into this space a flange attached to the cover, when open, projects, and thereby confines the odor.

**STEAM GOVERNOR.**—Anders Matson, of Quincy, Ill.—This invention relates to a useful improvement in governors for steam engines, and consists in so constructing the parts as to give facilities for the ready lubrication of the steam valve and working parts, and for the admission of oil into the steam chest and cylinder of the engine. A spring, also, is arranged to receive the concussion when the balls of the governor drop suddenly.

#### NEW BOOKS AND PUBLICATIONS.

**THE WORKSHOP.** Published by E. Steiger, 22 & 24 Frankfort Street, New York. Subscription \$4.50.

The number for August presents an elegantly illustrated paper on the "Lion as an Art Subject," and furnishes its usual supply of exquisite designs, both in decorations and furniture, from the pencils of the first European artists.

**THE ATLANTIC MONTHLY.** Boston: James R. Osgood & Co., Publishers. \$4.00 a year.

In its August number, this Monthly continues Hawthorne's pleasing novel; John A. Bolles tells why "Semmes was not Tried;" James Parton contributes a paper on "Jefferson;" and Dr. O. W. Holmes gives another instalment of his fascinating "Poet at the Breakfast Table." Altogether, the number is remarkably entertaining and brilliant.

**LIPPINCOTT'S MAGAZINE.** J. B. Lippincott & Co., Publishers, 715 & 717 Market Street, Philadelphia, Pa. \$4.00 a year.

The number for August is unusually attractive. There are two illustrated papers—"A Switchback Excursion," and "Travels in the Air"—the latter furnishing some curious and valuable facts in aeronautics.

**THE AMERICAN SYSTEM.** Speeches on the Tariff Question, and on Internal Improvements, principally delivered in the House of Representatives of the United States. By Andrew Stewart, late M. C. from Pennsylvania. With a portrait. Philadelphia: Henry Carey Baird, Industrial Publisher, 406 Walnut Street.

This is a collection of speeches made by Mr. Stewart upon the above subjects, and in advocacy of what was called by Mr. Clay "the American System." It contains over 400 pages, and is fully indexed for reference. Free by mail to any part of the United States for \$3.00.

We have also received, from the same publisher, the following:

**GALVANOPLASTIC MANIPULATIONS.** A Practical Guide for the Gold and Silver Electroplater and the Galvanoplastic Operator, with one hundred and twenty-seven Figures in the Text. Translated from the French of Alfred Roseleur, Chemist, by A. A. Fesquet, Chemist and Engineer. Philadelphia: Henry Carey Baird, Industrial Publisher, 406 Walnut Street.

The nature of this work is sufficiently indicated by its title. It is a handsome volume of 500 pages, in which the subject appears to be very fully treated. It is copiously indexed. Price, free by mail, \$6.00.

**THE SCHOOL OF CHEMICAL MANURES; or, Elementary Principles in the Use of Fertilizing Agents.** From the French of M. George Ville, by A. A. Fesquet, Chemist and Engineer. Philadelphia: Henry Carey Baird, Industrial Publisher, 406 Walnut Street.

This little book is a *resumé* of several larger works by the same author. It is intended for popular use, and is written in a familiar dialogue form. Price, by mail, \$1.25.

**TABLES AND DIAGRAMS RELATING TO NON-CONDENSING ENGINES AND BOILERS.** W. P. Trowbridge. New York: John Wiley & Son, 15 Astor Place.

In this work are given the results of a great many experiments and calculations, in the form of tables, showing the power, etc., of non-condensing stationary steam engines and boilers of various dimensions, speeds, and pressures. They are particularly calculated to aid the manufacturer or purchaser in choosing a form of engine and boiler suitable for any special purpose required, ranging from 5 to 300 horse power. The subjects of boiler explosions, the safety valve and other matters, are also treated of. Price, by mail, \$2.50.

#### NEW PATENT LAW IN CANADA.

By the terms of the new patent law of Canada (taking effect September 1st 1872) patents are to be granted in Canada to American citizens on the most favorable terms.

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.

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.

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 pamphlets of instruction free.

Messrs. Munn & Co., have had twenty-five years experience in the business of obtaining American and Foreign Patents for inventors; they have special agencies in nearly all countries where patents are granted. Moderate charges and prompt attention may always be expected.

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## Practical Hints to Inventors.

**MUNN & CO., Publishers of the SCIENTIFIC AMERICAN** have devoted the past twenty-five years to the procuring of Letter Patent in this and foreign countries. More than 50,000 inventors have availed themselves of their services in procuring patents, and many millions of dollars have accrued to the patentees whose specifications and claims they have prepared. No discrimination against foreigners; subjects of all countries obtain patents on the same terms as citizens.

#### How Can I Obtain a Patent?

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.

#### 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.

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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, alcohol-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.

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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.

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