

How to Improve the Appearance of Furniture.

Mr. C. J. Henkels, of Philadelphia, Pa., suggests that when the polish on new furniture becomes dull it can be renewed by the following process: Take a soft sponge, wet with clean cold water, and wash over the article. Then take a soft chamois skin and wipe it clean. Dry the skin as well as you can by wringing it in the hands, and wipe the water off the furniture, being careful to wipe only one way. Never use a dry chamois on varnished work. If the varnish is defaced and shows white marks, take linseed oil and turpentine in equal parts; shake them well in a phial and apply a very small quantity on a soft rag until the color is restored; then with a clean soft rag wipe the mixture entirely off. In deeply carved work, the dust cannot be removed with a sponge. Use a stiff haired paint brush instead of a sponge. The cause of varnished furniture becoming dull, and the reason why oil and turpentine restore its former polish, it will be appropriate to explain. The humidity of the atmosphere and the action of gas cause a bluish white coating to collect on all furniture, and show conspicuously on bright polished surfaces, such as mirrors, pianos, cabinet ware and polished metal. It is easily removed as previously directed. The white scratches on furniture are caused by bruising the gum of which varnish is made. Copal varnish is composed of gum copal, linseed oil, and turpentine or benzine. Copal is not soluble in alcohol as other gums are, but is dissolved by heat. It is the foundation of varnish, as the oil is used only to make the gum tough, and the turpentine is required only to hold the other parts in a liquid state, and it evaporates immediately after its application to furniture. The gum then becomes hard and admits of a fine polish. Thus, when the varnish is bruised, it is the gum that turns white, and the color is restored by applying the oil and turpentine. If the mixture is left on the furniture, it will amalgamate with the varnish and become tough, therefore the necessity of wiping it entirely off at once. To varnish old furniture, it should be rubbed with pulverized pumice stone and water to take off the old surface, and then varnished with varnish reduced, by adding turpentine, to the consistency of cream. Apply with a stiff haired brush. If it does not look well, repeat the rubbing with pumice stone, and when dry, varnish it again.

MOTHS IN FURNITURE.

The same author says: There are two species of moths which infest furniture. One is a large fly of silvery white color; the worm of the same is shaped like a chestnut worm, and is familiarly known. It rarely infests furniture. The other is a small fly of a dark drab color; the worm is about one fourth of an inch long, and tapering from the head to the tail. It was first observed by upholsterers about thirteen years ago. This fly penetrates a sofa or chair, generally between the back and seats of sofas, or under the seats, where the vacancy among the springs affords a safe retreat. It may make a lodgment in one week after the furniture is placed in the house. If such should be the case, in two months the worm will appear; and the continual process of procreation in a few months increases the number to thousands. This moth has no season. It destroys in winter and summer alike, and it is kept in active life by the constant heat of the house. We find at the same time, in the same piece of furniture, the fly, the worm, and the eggs; thus showing that they are breeding and destroying all the time. It does not eat pure curled hair, but fastens its cocoon to it, the elasticity of which prevents its being disturbed. The inside of furniture is used by it only for the purposes of propagation. The worm when ready for food crawls out and destroys the covering, if of woolen or plush material; and falling to the carpet, destroys it. It rarely cuts through plush from the inside, as it is of cotton back, but there are instances where the worms have cut up muslin on the outside back of sofas. There is no protection against them but continual care. New furniture should be removed from the walls at least twice a week at this season of the year, and should be well whisked all round, and particularly under the seats, to prevent the fly from lodging. This is an effectual preventive, and the only one known. Cayenne pepper, Scotch snuff, camphor, turpentine, and all other remedies for protection from the large moth are of little or no avail against the furniture moths. Saturation with alcohol will not destroy them when in a piece of furniture. If the furniture is infested, they may be removed by taking off the muslin from under the seats and off the outside ends and backs, where they congregate most, and exposing to the air as much as possible. Beat well with a whisk or the open hand, and kill all the flies and worms which show themselves. This done often will disturb them, and may make them leave the furniture, in their desire to be left in quiet. When the furniture is free from moths and is to be left during the summer months without attention, it may be protected by camphor in small bags or highly concentrated patchouli. The safest way is to have the furniture well whisked twice a week. If the moths attack the carpet, which they will first do under the sofas and chairs, spread a wet sheet on the carpet and pass a hot flat iron over it quickly; the steam will effectually destroy both worms and eggs. If furniture is delivered in a dwelling free from moths, the upholsterer's responsibility ends there and all rests with the housekeeper, as no tradesman can tell whether the moth will attack it or not. There are cases where the furniture has been in use ten or twelve years before being attacked. It would be as fair to hold the tailor responsible for the safety of clothing from moths as to hold the upholsterer responsible for the safety of furniture.

A STATUE of General Israel Putnam, by J. R. A. Ward, is being cast in Philadelphia, Pa.

DECISIONS OF THE COURTS.

United States Circuit Court--Northern District of New York.

FIRE ARM PATENT.
THE BERDAN FIRE ARMS MANUFACTURING CO. vs. E. REMINGTON & SONS.
WOODRUFF, Judge.

I have very grave doubts whether the so-called device described in and covered by the reissued patent upon which this suit is brought is patentable. The manner of constructing and securing the breech piece for a breech loading gun, which formed the subject of the original patent to Hiram Berdan, was, so far as appears in this case, an original invention. In procuring reissues of that patent the plaintiff, his assignees, have sought to secure to themselves a monopoly of a curved surface on the hinge of the breech piece, which was no feature of the invention in what were its distinguishing features, but which was an obvious mechanical necessity incidental to the application of Berdan's device, or to the application of any similar device, whenever the hinge pin is placed so high as to raise the surface of the hinge above the line of the barrel. Cutting away an obstruction to the introduction of the cartridge did not require invention—it was inevitable.

But my conclusion in this case does not rest on the doubt so expressed. I find as a fact established by the evidence that Berdan was not the inventor of the curve in the hinge, which is the subject of the patent sued upon. His invention neither contained nor contemplated this feature in the breech piece. He did not contemplate placing the hinge pin so high as to render the curve necessary, nor did he give to the mechanics who, under his partial supervision, constructed the model of his actual invention, or the drawings from which his first gun was made, any instruction or suggestion embracing such a curve. The making of the curve in the hinge, when that gun was in fact constructed, resulted from a departure from Berdan's model by the workmen themselves, not by design, but through inadvertence. When the parts of the gun were completed and put together the workmen found that either by a departure in the working drawings (made by one of them) from the model, or by a departure in the gun from the working drawings, the hinge pin was raised so high as to interfere with the insertion of the gun barrel, and also to interfere with the insertion of the cartridge, and they, therefore, as a matter of judgment, cut it away. They did it not to obviate a difficulty necessarily incident to the use of Berdan's invention, but a difficulty created by the workmen themselves through an inadvertent error and departure from Berdan's contemplated position of the hinge pin. In short, he contemplated raising the hinge pin as high as with the hinge in the ordinary or straight surface form, was conveniently practicable, and they made under his direction both model and drawing of his invention in that form; but when they made a gun they placed the pin so high as to create the obstruction above referred to, and they cut it away to cure the apparent defect.

In this Berdan was not consulted. He was not present when its necessity was discovered, nor was he consulted when it was done. Berdan did not invent it. If anything in the nature of invention pertains to it, that was done or made by the workmen without his knowledge. The bill herein must be dismissed with costs.
H. M. Ruggles, for complainant.
Geo. Gifford, for defendant.

United States Circuit Court--Southern District of New York.

BILLIARD TABLE DESIGN PATENT.
HUGH W. COLLENDER vs. WILLIAM H. GRIFFITH.—THE SAME vs. THE SAME.

These two suits were submitted together on the same proofs. The one suit is founded upon a patent for a design for a billiard table; the other upon a copyright of an engraving exhibiting a view of the same billiard table, with the hinge in the ordinary or straight surface form, was conveniently practicable, and they made under his direction both model and drawing of his invention in that form; but when they made a gun they placed the pin so high as to create the obstruction above referred to, and they cut it away to cure the apparent defect.

It being shown that tables with the sides beveled inward from the top have been known before, a patent is void which claims the design of a billiard table thus constructed in order that the player may advance his foot farther under it.

If a patent for a design covers the ornamentation shown in it, it is no infringement to use the principal figure without the ornamentation. A person who publishes, by way of advertisement, an engraving of an article he has on sale cannot by copyrighting it prevent others who have an equal right to sell the article from using a similar engraving in advertising it.

The bills of complaint dismissed with costs.

NEW BOOKS AND PUBLICATIONS.

INDUCTIVE INQUIRIES IN PHYSIOLOGY, ETHICS, AND ETHNOLOGY, relating to subjects of recent research and speculation. By A. H. Dana. Price \$1.25. New York: A. S. Barnes & Co., 111 William Street.

This volume contains fifteen essays, all of which are of much literary merit and show great and varied powers and high mental culture.

PRE-HISTORIC RACES OF THE UNITED STATES OF AMERICA. By J. W. Foster, LL.D., Author of "The Physical Geography of the Mississippi Valley," etc. Price \$3.50. Chicago: S. C. Griggs & Co. New York: Mason, Baker, and Pratt, 142 Grand Street.

The lamented death of Dr. Foster gives a melancholy interest to this volume, which was published just before his decease. Like all his previous writings, it is clear and forcible in style, and bears in every page evidence of learning and research. It is the last contribution to a most interesting branch of study from one of the most capable of the scientific writers of this generation.

Inventions Patented in England by Americans.

- (Compiled from the Commissioners of Patents' Journal.)
From June 27 to July 3, 1873, inclusive.
- CARPET.—T. Crossley, Bridgeport, Conn.
 - CHAMPAGNE TAP, ETC.—W. L. Grant, Boston, Mass.
 - DISTILLING RESIN, ETC.—R. Lloyd, New Orleans, La.
 - ENGINE BRAKE.—O. Grüniger, New York city.
 - FIRE ARM.—W. R. Evans, Lynn, Mass.
 - INHALER.—C. D. Hunter, Marlborough, Mass.
 - LANTERN.—A. H. Cramp (of New York city), Willesden, England.
 - LOOM.—L. E. Ross, Providence, R. I.
 - MAKING MIDDINGS.—G. T. Smith, Minneapolis, Minn.
 - NICKEL PLATING.—H. T. Brownell, Hartford, Conn.
 - PRINTING CARPETS, ETC.—T. Crossley, Bridgeport, Conn. (Two patents.)
 - PROPELLER, ETC.—B. T. Babbitt, New York city.
 - REAPER, ETC.—H. Lee, Beloit, Wis.
 - ROTARY PUMP.—L. Chapman, Collinsville, Conn.
 - SEWING MACHINE, ETC.—J. Ross, Philadelphia, Pa.
 - STEAM BRAKE, ETC.—J. F. Taylor, Charleston, S. C.
 - VALVE GEAR.—J. Tesseyman et al., Dayton, Ohio.
 - WATER COLUMN.—J. N. Poage, Cincinnati, Ohio.

Recent American and Foreign Patents.

Improvement in Attaching Metal Caps to Glass, etc.
Cecil B. Jenkins, New York city.—This invention for attaching caps, lamp tops, covers, etc., to glass and porcelain articles consists of one or more metal disks, having slots from the center hole, forming elastic projections which impinge the glass or porcelain forcibly, by having the hole made in the disk slightly smaller than the object to which the cap or other article is secured, and hold better than the plaster fastenings now in use. This kind of fastening is cheaper than the plaster, and it has the advantage of allowing the taking off the cap or other article and putting it on at any time, without any more labor than is required to put on any ordinary loose metal cap.

Improved Whip Socket.
James H. Young, Newburgh, N. Y.—The object of this invention is to furnish for wagons of all kinds an improved whip socket, which firmly grasps the whip therein, so that the loss of whips and other annoyances arising therefrom may be prevented. Bunches of bristles extend radially from the circumference toward the center of the socket, leaving a suitable space in the center. The whip end enters easily therein and is tightly embraced by the bristles, which spread and offer sufficient resistance against the disconnection of the whip from the socket till taken out by the driver.

Improved Hunting Jacket.
Jean Garaud, New York city.—The object of this invention is to furnish to sportsmen a hunting dress to which a cartridge pouch is attached to the back in such a manner that the cartridges may easily and conveniently be carried and taken out for the purpose of loading the gun. The pouch may also be detached and carried on the shoulder. The invention consists of an additional lining on the back, with side openings and lapels for the attaching of the pouch, which is constructed with a leather strap, so as to be detachable.

Improved Ash Leach.

John W. Kernodle and Adam H. Haun, Lebanon, Ind.—This invention relates to means for the leaching of ashes so as to secure the lye without danger of fire, and consists in a metallic covered cylinder, scalloped at the lower end to allow the lye to flow therefrom, and a metallic inclined trough upon which it rests, and by which the lye is conveyed to a suitable receptacle.

Improved Lamp Chimney Supporter.

William Mears and Henry Davies, Newport, Ky.—The object of this invention is to construct a device by which the globes of side and center lamps of railway passenger cars may be easily changed without disturbing the lamps, for the purpose of cleaning the same or substituting new ones without delay. The invention consists of a cylindrical tube connected by brackets to the sides or top of the car, which tube incloses the sliding metallic chimney resting on the globe, and allows the same to be set to any desired position by means of wedge or spring liquid arrangement.

Apparatus for Burning Liquid Fuel and Generating Steam.

William T. Scheide, Titonoute, Pa.—A cylinder of suitable size and strength has in its center a combustion tube. This tube is open at the bottom, and is partially filled with broken fire brick, or other incombustible material. The annular space between is filled with water. In the combustion tube or chamber, liquid fuel, or any fuel that burns without leaving a solid ash, is used, and is introduced through a tube by means of a force pump. Air is forced in through a tube which surrounds the fuel tube. The fuel and air are forced into the fire chamber together and ignited. The current or currents produced are sufficient to force the entire products of combustion up from the bottom of the combustion tube and through the water, thereby generating steam. By this apparatus it is claimed that the entire heat generated is utilized. The incombustible material placed in the combustion tube tends to break the flame and protect the tube from the effects of heat.

Improved Heating Range.

John Lawlor, New York city.—This invention consists in a certain arrangement of dampers and deflecting plate with relation to compartments at the side of the air heating chambers of the range, whereby the direction of the currents of heated gases and other products of combustion may be controlled so as to increase the temperature either in said air chambers or in the ovens which are supported above the body of the range proper.

Improved Pantaloon.

Frederick T. Hoyt, Brooklyn, N. Y.—It is proposed, in this invention, to employ elastic straps on the pantaloon, at the back, for buttoning them to the jacket, to compensate for the increase in the length of the back when the wearer bends forward, and thus allow of fitting boys' pantaloon as nicely as those worn by older persons.

Improved Truss Bridge.

Daniel C. Bower, Troy, Ohio.—This invention has for its object to furnish an improved bridge. The lower and upper chords are made double treble, or quadruple, according as less or more strength is required. In the spaces between the strands of the chords are placed dovetailed blocks, through which blocks pass the vertical rods to bind the chords to each other. The rods also pass through triangular blocks, against which the ends of the braces rest. The upper ends of the two central braces rest against the central block of the upper chord, and their lower ends rest against the blocks of the lower chord upon the opposite sides of the center of said chord. The braces upon each side of the central braces are placed parallel with said central braces, the upper end of each outer brace being directly above the lower end of the adjacent inner brace. By this construction, the bridge has no counter braces, and the weight is thrown from the center of the bridge from brace to brace to the abutments, so that the bridge cannot sag in the center.

Improved Rotary Stamp Canceled.

William Schacht, Brooklyn, N. Y.—The object of this invention is to furnish to brewers and others a convenient apparatus for canceling internal revenue and other stamps in a quick and expeditious manner, near the central part of the same. To the frame of the rotary stamp canceler is secured an ink receptacle, and below the same the inking roller. Directly above and parallel with the latter is the printing roller. The ink receptacle is provided with a narrow outlet at its lower end, opened more or less by means of a sliding gate. An ink distributor, of suitable material, is hung near to, and in contact with, the inking roller. The printing roller has side shoulders which, in connection with a pressure roller, carry the stamp strips through, so that the stamps will successively be canceled by the rotation of the roller. The lid has a recess slightly conical, from the inside toward the outside, for the insertion and adjustment of the changeable types for dates, etc. No cutting of the paper of the stamps is produced.

Improved Lamp.

Riverius Marsh, Flushing, N. Y.—This invention consists of a metal lamp top so constructed as to form an oil receiver or drip cup at the connection where the burner is attached, also an inverted collar for the attachment of the safety tube, and also a collar for attaching it to the collar or neck on the top of the glass reservoir, by screwing on or otherwise. A vent also is provided for the escape of the gas, all so as to form a strong, ornamental, and protecting detachable metal portion for the lamp.

Improved Binder for Loaded Wagons and Sleighs.

Jacob Paff, Lawrenceburg, Pa.—The object of this invention is to improve the means now in use for binding loads of lumber, logs, rails, and similar loading. The binder is placed on top of the load. The ring of a chain is attached to an arm and passed through the fork of the lever and around the load. A pivoted hook, when the lever is carried forward, now takes hold of the end of the chain. Then the lever is brought back, thus bringing the ends of the chain together and binding the load. If the chain is too long, it is brought within a slot in the hook, which holds it while a new hold is taken by the lever. To unbind the load the arm is raised, which allows the ring of the chain to slip off. When the load is bound, the chain is held by the slotted hook and the arm, so that the lever is reversed, and its small end may be used for raising the arm. This improvement does away with the old binding pole, and may be applied in one fourth of the time.

Improved Cooking Stove.

George McAdams, Vevay, Ind.—The object of this invention is to furnish a cooking stove, constructed in such a manner that the different parts may be easily packed and shipped, to be mounted by any tinsmith, and the parts exposed to the fire easily replaced. The oven is placed below the fire box, and supplied with a steady uniform heat around both sides. The invention consists in the combination of sheet and cast iron parts in such a manner that the front, back, and top plates are of cast iron, the side and bottom plates of sheet iron, the interior parts, also, being of sheet iron and cast iron, and connected by wedge strips of sheet or solid iron. The flues are arranged so that the draft carries the heat from the fire box around the oven and below the bottom of the same up the chimney.

Improved Circulating Valve for Fire Engines.

Charles A. Hague, Hudson, N. Y.—The case is attached to the discharge chamber of a fire engine by a screw, and a pipe is attached with the suction. When the pressure rises in the discharge by the shutting off of the escape, the water, acting on a small valve, lifts it against a spring and acts on the top, thus forcing down another valve and opening a passage through which the water escapes from the discharge to the suction, and thus relieves the pressure in the hose. The valve is held up, when not subject to water pressure, by a spring, and may be adjusted for different pressures or different pumps. This device is claimed to be more instantaneous in action than a relief valve.

Bracing and Reinforcing Legs of Chairs, etc.

George Francis Dawson, Washington, D. C.—This invention consists in a novel mode of bracing and reinforcing the legs of rotary chairs, by forming thereon heads, which are nicely jointed together and held by a flanged plate at top and bottom, together with a nut on the tubular screw socket.

Improved Boot and Shoe Sole.

Wendell Strasser, Taylorsville, O.—This invention relates to wooden sole shoes, for skating or walking purposes, and consists in a peculiar method of applying double nails in fastening the uppers of shoes to the soles so as to form, practically, a metallic thread, which makes the article of manufacture to all intents and purposes a sewn shoe.

Improved Potato Digger.

Henry M. Dowd, Saratoga Springs, and Willis W. Dowd, Jr., North Granville, N. Y.—An endless carrier has teeth or fingers arranged in rows across it, at suitable distances apart, for taking the potatoes from the scraper and carrying them up so as to deliver them into the hopper. The scraper or shovel consists of a straight wide plate of steel extending horizontally between the side pieces and transversely to the longitudinal direction of the machine, with the front edge sharpened and slanting downward considerably. The rear edge of the scraper has parallel bars attached to it, which are for allowing the earth raised up with the potatoes to fall back, while retaining the potatoes to be taken by the fingers of the carrier, which are caused to rise up between these bars. The side pieces, to which the scraper is attached at the ends, are extended rearward and upward so that the carrier works between them to receive all the potatoes forced up on the bars, and the lower edges constitute runners for gaging the scraper and maintaining it in the required position relatively to the carrier. By suitable arrangement of apparatus for raising and lowering the scraper and carrier, the scraper is raised vertically or very nearly so, and maintained horizontally. The truck wheels are made large to support the frame high enough to provide sufficient space under it for the raising of the carrier and scraper and holding them to be transported above the ground, so that the evener, to which the team is hitched, can be suspended below the frame, and yet be high enough to work properly. The draft is applied directly to the scraper and, through it and the suspending devices, to the truck; and a chain connection and the mode of suspending the evener and draft bar allow of the raising and lowering of the scraper and carrier, and also allow the scraper the freedom for swinging required while at work.

Improved Washing Machine.

Edwin S. Bliss, Richburg, N. Y.—This invention has for its object to furnish an improved washing machine of that class in which the clothes are washed by alternately saturating them and passing them between rollers by which the water is pressed out, carrying the dirt with it. The lower rollers revolve in bearings in the standards and the upper pressure roller revolves in bearings which slide up and down in slots in the upper part of the standards. A bar, the ends of which fit into the slots, rests upon the tops of the bearings. Two elastic bars are arranged above the bar and connected with loops, the ends of which are pivoted to the outer sides of the standards. The pressure of the spring is regulated by moving the loops out or in upon the projecting ends of the spring bars. A guide apron or belt passes around the rollers. By suitable devices the machine can be quickly attached to and detached from the tub, and when attached will be firmly and securely held.

Improved Spinning Mule.

Thomas H. Rushton & Robert Touge, Bolton, Eng.—The object of this invention is to simplify the gearing of hand and self acting mules for producing the after stretch and for giving motion to the front roller during the twisting at the head; also, to render self acting mules suitable for spinning fine numbers; secondly, in an improved arrangement of mechanism for locking the fallers and for unlatching the "long lever," forming parts of a self acting mule.

Improvement in Propelling Canal Boats.

William F. Miller, East Walpole, Mass.—This invention is an improvement in the class of canal boat propellers wherein a vertically adjustable wheel is arranged to run on the bottom of the canal, or a rail laid thereon; and consists in the connection of a locally fixed driving gear with the rotary vertically sliding driving shaft of the propelling wheel, and in the arrangement for throwing the mechanism by which the wheel is raised in and out of gear.

Improved Boot Jack.

Horace Arnot, Barclay, Pa., assignor to himself and G. W. Dickey, of same place.—The object of this invention is to furnish a boot jack, which takes hold firmly of the boot at toe and heel, and allows its easy pulling off. This invention consists of two jaws with inclined slotted parts, which grasp the heel by the action of the foot on a pivoted U-shaped rod frame guided therein.

Improved Broom.

John D. Bell, Wattsborough, Va.—This invention relates to the construction of brooms, and consists in a wooden handle with a tapered end, and a tubular socket for holding broom corn, or other material for the brush. In practice, the butts of the broom corn are inserted and closely packed in the socket. The tapered end of the handle is then forced down among them, thus wedging them between itself and the inner sides of the socket. When the brush needs renewal the screws which are used to secure the socket and handle together are removed, the handle withdrawn, and the stumps of the corn extracted. The socket is then refilled as before.

Improved Reversible Harrow Teeth.

George W. Hurst, Avon, O.—This invention consists in providing a harrow tooth with two arms or shanks, which, forming an angle with the tooth, are attached on different sides of the longitudinal bar of harrow frame, and thus brace it in two directions.

Improved Sawing Machine.

George Marshall, New York City.—This invention relates to an improvement in the mechanism for sliding the bearings of the saw mandrel in a ripping and cross cutting machine; and consists in the connection of the sliding carriage and its belt with a powerful foot lever and friction rollers, by which the saw can be moved and operated in both directions, and adjusted rapidly for the different purposes to which the machine is applicable.

Improved Combined Scissors and Tape Line.

Margaret J. Stubbings, Youngstown, O.—The object of this invention is to combine the common scissors or shears with a spring tape measure so that, by the increased convenience in handling and readiness of having both within reach, a very useful and practical instrument is produced. The invention consists in placing the center of the tape line case on the extended screw pivot of the scissors, so that both instruments can be used without interfering with each other.

Improved Kindling Wood Cutter.

Nicolas Sonnichsen, San Francisco, Cal.—This invention consists of a knife with a handle attached to a vertical frame, which is applied to some convenient place in the kitchen or other place, and has several step-like rests supporting the wood, which is split by the pressure of the knife upon it.

Improved Earth Auger.

Andrew Sorg & Samuel C. Bollman, Decatur, Ind.—The object of this invention is to construct an earth borer which serves at the same time as a receptacle for carrying up the ground from the bore hole. The invention consists in a cylindrical body or receptacle, with cutting teeth at the lower end, which is applied to the end of the bore shaft, and composed of two parts, the smaller of which is pivoted to the larger in such a manner that by suitable rope connection the pivoted part acts against the main part, embracing the earth between them, to be lifted out.

Improved Carving Machine.

Henri Thomas, Brooklyn, E. D., N. Y.—In this improved carving machine two centering holders are employed, one for holding the pattern and the other the work, on sliding beds arranged on quarter circular ways on the top of the table, which meet each other at the middle of the back of the table, and diverge therefrom to the front side. Above these are the tool and guide or detector, which hangs vertically from their supports in the free ends of horizontal arms which are pivoted to a block over the table near where the ways of the holders meet, in such an arrangement that they traverse the work and pattern in the longitudinal axes of the center holders. The work and pattern traverse the paths in which the tool and guide swing, so that the requisite motions are obtained for the tools to act on all parts of any surface in the holders. Different sides or surfaces are presented by turning the work and pattern in the holding centers. The block to which the pattern and tool arms are pivoted is made to slide vertically on a support, with a screw under the control of the operator; the arms of the tool and guide are also at the control of the attendant by means of a sliding block to which they are connected, for being swung to move the tools, as required in the progress of the work; and the bed plates of the center holders are caused to swing forward and backward on their ways by a hand screw and a traversing nut, to which they are suitably connected.

Improved Mop Wringer.

James H. Newton, Paxton, Ill.—The object of this invention is to furnish, in connection with the mop in common use, an effective wringer, by which the cloth may be wrung dry without the use of the hands. The invention consists in the arrangement of the mop with rollers having spiral springs in their interior, in connection with a sliding piece and strings, by which the mop is drawn through the rollers and pulled back again for use by the action of the roller springs.

Improved Combined Furnace and Steam Generator.

Oliver W. Ketchum, Toronto, Canada.—This invention consists in a mode of producing a continuous combustion of fuel in the furnace of a steam generator (after ignition) by forcing one or more currents of air upon it. It also consists in conveying the heat and products of combustion (after passing through a horizontal flame chamber) to the water in the boiler by means of a pipe constructed so as to curve upward from the flame chamber above water mark, and return below water line, passing through the boiler horizontally; and discharging into the water through pipe having perforations which increase in size and number toward the end. The invention also consists in providing the boiler on the inside with concave projections running through its length on both sides above the pipes referred to, and above the water line, so that the ebullitions of water above said pipes, and caused by escape of gas, are thrown back into the middle of boiler. It also consists in providing the dome of boiler with concave pieces of iron resting one upon the other, constructed with spaces between each and between the sides of dome, to act as additional deflectors.

Improved Animal Trap.

Jacob Merchen, Brookville, Ind.—The object of this invention is to furnish to farmers and others a mole trap, durable on account of the strong and substantial parts. The invention consists of two legs with a collar at each end, connected by a strong spring of plate metal. A piece of square metal is wedged between the smooth legs, so that the slightest touch will close the legs with strong force, capturing or killing the animal within reach.

Improved Package for Caustic Soda or Alkali.

Henry B. Hall, New York City.—This invention consists of a metallic cup of soft iron, lead foil, or lead and tin, or other alloys of lead, or the metal known as Crooke's patent foil, which is composed of lead and tin in strata, the lead being in the inside and the tin on the outside. In this the caustic alkali is poured in a liquid state, and inclosed and sealed by a cover of melted resin poured in after the alkali has solidified but before it has quite cooled, the resin being tempered to correct its brittleness; any other gummy substance capable of sealing the mouth of the cup airtight will answer as well.

Improved Combined Collar and Cravat.

Frederick D. James, Tamworth, N. H.—This invention has for its object to produce a simple combination of bow, cravat or neck tie, and collar, being more particularly intended for use on paper or part paper collars, though applicable to other kinds. The invention consists in constructing the collar with projecting flaps at the ends of its outer fold, for forming the base of the cravat, and with a projecting T flap at one end of its inner fold for forming the outer part of the collar, the T flap having several button holes to allow its parts to be fastened to the same stand by which the collar is held to the front of the shirt.

Improved Stave Machine.

Benjamin W. Warner, Rome, N. Y., assignor to himself and Albert E. Smith, of Utica, N. Y.—This invention consists of a pair of tapering and beveling cutters for tapering and beveling the edges of the stave, combined with the apparatus for sawing the staves from the bolts, and planing the sides in such manner as to bevel and taper the edges at the same time that the staves are sawed.

Improved Children's Carriage.

Francis Snyder, New York City.—This invention has for its object to furnish a combined perch and spring for a child's carriage, which, should the wheel strike an obstruction, will spring longitudinally, so that the body of the carriage will not be stopped with a sudden shock. The invention consists in bending the ends of the perch upward and inward into the form of the letter C, and pivoting the same to the toe irons attached to the carriage body.

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

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 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 post 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 1839 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

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

OFFICE IN WASHINGTON—Corner F and 7th streets, opposite Patent Office