

DECISIONS OF THE COURTS.

United States Circuit Court--District of Massachusetts.

L. C. CHASE vs. EDWARD WESSON et al.—PATENT HALTER.

The complaint having been long in the enjoyment of his patent, a preliminary injunction was ordered restraining the defendants from infringing it, notwithstanding affidavits were filed showing that articles embodying the alleged invention had been in use before the complainant made it, there being evidence to the contrary, and none of the articles being produced.

SHEPLEY, J.:

Limiting the first claim in this patent to that only which was invented by the patentee—i. e., his device, as described in his specification, of such a mode of attaching a halter dee or other harness ring to a halter or harness strap by means of rivets, in the described mode, passing through holes in the described flanges of the dee or ring without the necessity of sewing, and dispensing with the use of any other material to form the "lap," in the mode and for the purpose described—the patent is for a different invention from that described in the patent to Samuel C. Hawkins, No. 21,674, granted October 5, 1858, which is relied upon to prove want of novelty in complainant's invention.

No exhibit is produced of any such harness ring with two flanges as some of the affiants on the part of respondents testify were in use before the date of the complainant's invention. The affidavits introduced by the complainant throw very grave doubt upon the question of the existence of any such device at the dates indicated. These doubts are greatly confirmed by the omission to produce as exhibits in the case any such harness rings as the witnesses describe, which could easily have been produced if they had existed and been in use for so long a time. It is not, therefore, at this stage of the case, necessary to decide what effect they would have upon the plaintiff's patent if the court were satisfied of their prior use.

As the plaintiff has been long in the enjoyment of his rights under the patent, and there is no doubt upon the question of infringement, the injunction will issue as prayed for in the bill, until the further order of the court.

George E. Betton, for complainant.
George L. Roberts, for defendants.

Recent American and Foreign Patents.

Improved Pen and Pencil Case.

Charles H. Straighton, New York city.—This invention has for its object to furnish an improved pencil case which shall be so constructed as to form a longer handle when the pencil is extended than when constructed in the ordinary manner, and a still longer handle when the pencil is drawn in and a pen extended. The invention consists of the slot of the inner sliding tube, made with an offset in the middle part of said tube, and with its rear part parallel to but not in line with its forward part.

Improved Harness Mounting.

Thomas Fawcett, New York city.—This invention consists in the improvement of terret rings which are covered with leather, the edges of the leather being sewed together on the inner side of the ring. A metallic band is then slipped into the ring to cover the sewing and receive the wear. In putting the coverings on the mountings, the edges of the leather are received into grooves or rabbets in the ring, which hold the edges in place when inner rings are introduced. By this improvement these mountings, it is stated, are greatly improved in appearance, rendered more durable, and can be produced at less expense than by the old method of manufacture.

Improved Ferry Boat for Trains of Cars.

Frank Cass, New Orleans, La.—This invention consists of a truck on a railway car ferry boat, mounted on a series of screws on each side and arranged with vertical guide posts. The screws of each side are geared to a line shaft running the whole length of the truck. At one end, the two line shafts are geared together and connected with a power mechanism, so that the railway track can at any time be adjusted up or down to coincide with the shore tracks, so that the rising and falling of the tide will not interfere with the running of the cars on and off the boat.

Improved Lightning Rod.

Joseph J. White, Julistown, N. J.—The object of this invention is to improve lightning rods, by rendering them more durable and easily made and more permanently joined together; and it consists in the joint, and in such a construction of the rod that the pieces slip together, and the ends lap past each other and form the joint. Two rivets pass through the joint at right angles to each other, thus securely binding the parts together, and making the joint the strongest part of the rod.

Improved Measuring Faucet.

Jacob Schalk, Jr., Guttenberg, N. J.—This self-measuring faucet consists of two faucets combined and a measuring cup. When a hollow plug is turned so that two orifices correspond in position, in whole or in part, the liquid in the can will run down into and fill the cup. When the orifice is closed, the orifice in the plug is brought in communication with an air tube, which subjects the contents of the cup to atmospheric pressure, and allows a free discharge thereof. The plugs of the faucets are connected by means of a gear wheel on each. The receptacle is placed beneath the discharge tube and the plug turned, which, by virtue of the gear wheel, turns the inner plug and closes an aperture. The liquid in the cup (and no more) is consequently discharged. When that quantity is drawn off, the faucet is turned back and the cup immediately fills, and it is ready to be again discharged.

Improved Children's Carriage.

Thomas Galt, of Rock Island, Ill.—This invention consists of the body of a child's perambulator mounted on the frame with rockers, so that it can be used as a cradle as well as a perambulator when it may be required to do so. Hooks are attached to fasten the body, so that it will not rock when it is not desired.

Improved Evaporating Pan.

David Watson, of Mexico, Mexico.—The invention consists in providing the evaporating pan or vessel with a channel or canal surrounding the same at the top, and leading at the ends into a filter, which is in communication with said pan or vessel near the bottom, the object of such arrangement being to receive the overflow caused by ebullition of the saccharine juice and filter or strain the same before it again enters the vessel.

Improved Street Sweeping Machine.

Leslie J. O'Connor, of Chicago, Ill.—This invention is an improvement in street sweeping machines of the class in which a fan is employed to draw the dust away from the rotary brush and into a suitable receptacle. The improvement relates to the arrangement of a train of driving gears for communicating motion from one of the truck wheels to the brush, in combination with vertically adjustable supports for said brush, whereby the raising and lowering of the same does not in any way obstruct or interfere with the train. The invention also relates to the arrangement of a curved sheet metal hood directly over the front upper portion of the rotary brush, and having a pipe leading from the center thereof to carry off the dust. The machine is designed for removing snow from street railways as well as dust, and the broom is extended each side beyond the truck wheels as much as it is desired to remove the snow from each side of the track.

Improved Car Starter.

Benjamin F. Oakes, of Milford, Me.—The object of this invention is to provide means for moving railroad cars by hand and by one man power; and it consists in a lever having a head adapted to be pivoted directly or indirectly to the drawhead of a car at its middle, and provided at each end with an arm, having a gripe so that the lever may be vibrated horizontally to each clamp arm, acting alternately to hold the rail and give purchase to the operator.

Improved Oil Can.

William G. Cowell, of Wallingford, Conn.—The invention consists in using a can to hold oil, a heater pipe to keep it in a melted state, and a pump to discharge it from the can, all being combined to operate together. The pipe may connect at the upper end with the exhaust pipe of a steam engine, or with the hot feed water pipe of a hot air reservoir, so that it can be readily attached at any time to be heated. It may be coiled within or around outside of the can, or a jacket may surround the can wholly or in part, with pipe connections to conduct the heating medium into and out of it. This plan is preferable to the ordinary method of setting the can on a stove to heat the oil.

Improved Seed Planter and Fertilizer Distributer.

Richardson Montfort, of Butler, Ga.—This invention relates to an arrangement of vertically adjustable shoes or supplementary seed distributing hoppers with stationary receiving hoppers, whereby the delivery of seed from the latter to the former may be conveniently and perfectly controlled or stopped altogether, as required.

Improved Flour Bolt.

William Goshorn, of Waterloo, Pa.—The object of this invention is to improve the old reel bolt in such a manner that the flour is cooled in bolting, so as to be fit for immediate packing; that it bolts faster and cleaner, and requires less cloth, which lasts longer time, as no middlings or bran remains in the bolt, offering thereby less opportunity for injury or destruction by insects. The invention consists in arranging the flour bolt in upright position, with stationary cloth, and a fan with straight and curved partitions.

Improved Stove Pipe Thimble.

Thomas D. Slauson, of Havana, N. Y.—The object of the invention is to furnish an improved casing for conducting stove pipes through wooden partitions, which is easily fastened in position, protects the lathing fully against any danger by fire, and leaves no communicating holes between the rooms, being fully covered by the plastering. It consists in a double casing, which is attached suitably to the wooden partition, being provided with bent up face pieces and side perforations, through which the circulation of the air around the inner casing is kept up.

Improved Automatic Gate.

George W. Olbert and William Young, of Barr's Store, Ill.—The improvement consists in a pendent swinging gate, connected by means of cranks and rods with pivoted levers, which are arranged horizontally and parallel to the roadway, so that, when a vehicle wheels run on to one of said levers, the gate will be thrown by the superior weight of the vehicle into a nearly vertical position, leaving the passage way unobstructed.

Improved Children's Carriage.

Albert F. R. Arndt, of Detroit, Mich., assignor to himself and W. Doeltz, of same place.—The object of the invention is to so improve the child's carriage in common use that the handle part may be detached and applied at pleasure either to the front or rear of the body. For storage during the winter months, space is saved by the disconnection of the handle, which, in many cases, a great convenience. The invention consists in attaching, to the front and rear ends of the carriage, sockets for the handle ends, into which the latter lock by means of suitable spring catches.

Improved Check Rein.

George J. Townley, of Parma, Mich.—This invention consists in a check rein attached to the head stall on each side of the horse's head. A pulley is fastened by a frame to this rein. One end of a strap is passed around the pulley coupled with the ordinary check rein, and extends back within reach of the driver. This rein gives the driver complete control of the horse, as, by the purchase which he obtains by means of the pulley, he can draw the check just as tight as he pleases, and stop him or check his speed if he is disposed to be unruly, or attempts to run away.

Improved Mode of Securing Wheel Hubs to Shafts.

Edwin Sanford, of Hartford, Conn.—For fastening pulleys, cog wheels, etc., on the shafts in a way to save the expense of boring the hubs, turning the shafts, and fitting the wheels to the shafts, it is proposed to cast the wheels with their holes a little larger than the shafts, and with three or more grooves in said holes, in which gibs or keys are fitted. On the latter the wheels are secured and trued to the shafts by set screws, screwing through the hubs and clamping the gibs on the shafts.

Improved Apparatus for Cleaning Cesspools, Sinks, etc.

J. P. Florimond Datchy, Brooklyn, N. Y.—The object of this invention is to improve the machines for emptying and cleaning sinks, privies, cesspools, sewers, marshy lands, etc., in a perfectly odorless manner, so that the work can be done in the day time without the least discomfort and annoyance to the occupants of the dwellings, and without the use of separate machines by which the vacuum in the tank is created. The invention consists of a tank of suitable capacity, which is provided with double acting pneumatic pumps and all necessary appurtenances to insure the efficient working of all the parts. The tank is carried on a four wheeled truck of suitable strength, and the vacuum is created by the hind wheels working the air pumps by eccentrics, said action to be discontinued by the application of a regulating gear, which frees the piston from its shaft, according to a gage placed on a cupola connected with the tank, which assists, also, the perfect working of the machine.

Improved Toy Device for Making Soap Bubbles.

Samuel B. Bliss, New York city.—The object of this invention is to furnish, for the amusement of children, a toy instrument by which soap bubbles may be easily and quickly produced, without the spilling of soap water and other inconveniences. The invention consists, mainly, in the arrangement of a double tubular casing for soap and soap water, with an air pipe and exit tube, in which latter the quantity required is regulated by a suitably constructed valve arrangement.

Improved Internal Spring Coupling and Brake.

Léandre Mégy, José de Echeverria and Felix Bazan, Paris, France.—This coupling system is based on the use of one or several blades springs suitably curved, inclosed within a hollow drum or pulley, and working by their own expansive force, which keeps them pressing more or less closely against the internal cylindrical face of the said drum or pulley. This expansive force, independent of any exterior action, causes a close adhesion of the said spring to the hollow pulley, which makes them, as it were, a single piece by preventing their sliding on one another, and this adhesion can only be destroyed by an impulsion from the exterior. It follows, therefore, that, if one of the two mentioned pieces, either the spring or the pulley, is set in motion, it naturally carries along the other one, so long as the resistances which the latter has to overcome are insufficient to produce the sliding of the said pieces on each other, or so long as the adhesion between the spring and drum is not destroyed, either completely or partially, by any exterior action. The self-acting brake is claimed to afford security for the handling of the heaviest loads. The ascending movement being caused by the effect of the adhesion of the spring to the pulley, then if this adhesive force was able to raise the load it will, of course, be able to maintain it in suspension at any period of its ascent. The workman has no ratchet to lift up, no kind of operation to perform in which he could make a mistake; he has only to turn the crank round to cause the load to ascend, to weigh lightly on the same crank in a contrary direction in order to cause the said load to descend; he may, at pleasure, regulate the descending speed and stop it at any moment by only letting go the handle, having no effort to make, no danger to run, since the crank does not revolve when the load moves down, so that he has nothing to preoccupy his mind. The almost instantaneous stoppage which takes place when suddenly letting loose the handle cannot have any hurtful effect on the chain, for the active impulse is employed only to cause the spring to slide till that impulse is annulled by the friction of the latter on the pulley.

Improved Oscillating Gland for Flowing Oil Wells.

George Flinton, Meadville, Pa.—This invention relates to an apparatus which is fastened to the top of the casing to prevent the escape of oil or gas during the process of drilling oil wells; and it consists in a ball and socket gland which permits the rope from which the iron tool is suspended to pass through the gland oil and gas tight, and to move up and down in the act of drilling without permitting either oil or gas to escape, except through proper orifices. If oil escapes, it may be conveyed to an oil tank, and if gas escapes it may be conducted off to a distance, so as to avoid danger.

Improved Method of Propelling Boats.

Abram Beekman, New York city.—To the bar or lever of the paddle are hinged two blades in such a way that when moving forward through the water the pressure of the water will close them. These are kept from closing against each other by one or more stops, interposed between them and attached to the bar, so that as the paddle begins to make the stroke the pressure of the water may open or spread the blades so as to present the greatest possible surface. The upper ends of the bar are designed to be attached to the shafts, which are arranged so as to be operated independently of each other. The shafts are placed in line with each other, and a pintle may be attached to the end of one shaft to enter a socket in the end of the othershaft. Levers are attached to the inner parts of the shafts, extending above and below said shafts, and having handles attached to their upper ends and foot rests attached to their lower ends, so that the operator can apply hand and foot power.

Improved Fastening for Bedsteads.

James M. Baird, Wheeling, W. Va.—The object of this invention is to produce a simple and reliable means for connecting converging rails, boards, or pieces of articles of furniture, so that such converging or joining pieces may be firmly held together, but so that they can be readily taken apart. The invention consists in the application, to such converging pieces, of wedge-shaped or oblique edged blocks, of which one is attached to each piece in such position that the two blocks, when overlapping each other with their oblique faces, hold the pieces to which they are attached properly together.

Improved Shears.

Allen Lapham, Paterson, N. J., assignor to himself and Orville W. Leonard of same place.—This invention consists of a compound lever arrangement of one of the arms or handles of the shears, to increase the leverage. The handle or arm is in two sections, of which one is a part of the blade, terminating a little beyond the pivot by which the two blades are connected together, and is pivoted at said end to the other section a short distance above its lower end. The latter is connected by a link to the handle for a fulcrum. It extends from the pivot which connects the two sections along with the other handle to its end. A wider sweep and more power is thus given to the blades. The improvement is designed more particularly for the "snip" shears used by tanners and others for cutting sheet metal.

Improved Picture Frame.

Felix Reifschneider, New York city.—This invention consists of a round or oval frame, of wood, metal, or other material, covered with velvet or other cloth, and the cover secured at the edges by ornamental spun metal bands, in addition to being glued to the surface of the metal or wood portions.

Improved Mordant for Dyeing.

Gustav A. Hageman, Copenhagen, Denmark.—This invention relates to the mordant chemically known as acetate of alumina. Acetate of soda is calcined to an anhydrous or a monohydrous state, and then pulverized by means of a fine sieve. The finest powder is removed and mixed with a fresh charge of hydrous acetate to be calcined. The coarser powder of average fineness is separated by another sieve, and forms the part prepared for use. Sulphate of alumina is ground and then sifted in a similar manner. The two coarse grained powders thus obtained are then mixed with each other, preferably by sifting both at the same time through an open sieve, and the mixed powder is ready for packing. The sulphate of alumina may be used in the form of crystal alum, concentrated alum, aluminous cake, etc.

Improved Elastic Seat for Railway Rail Joints.

Lewis Scofield, Jr., Atlanta, Ga.—This invention is an improvement in cushioning the joints of railroad rails; and relates more particularly to a socket plate for the rubber cushion, which is provided with end flanges to adapt the cushion for use with wooden sleepers or cross ties.

Improved Boiler Feeder.

Rafael Rafael, Havana, Cuba.—The object of this invention is to furnish an automatic water feeder for steam boilers. There is a many chambered cylinder, the periphery of which is provided with cogs, which engage with a perpetual screw of the driving shaft, by means of which the cylinder is slowly revolved. The cylinder is placed between two plates, which are secured together by bolts. The cylinder revolves watertight between these plates, the contact surfaces being ground so as to make tight joints, and still allow the cylinder to revolve. The feed water descends through a pipe and fills one of the chambers, the air contained in the chamber being forced out through an upper pipe, in which the water rises to a level with that in the tank. Power being applied to the pulley on the worm shaft, the cylinder is slowly revolved, and the full chamber is carried round to the discharge pipe, while other chambers are filling and being moved in the same manner. When the chamber reaches the discharge pipe, the water is subjected to boiler pressure of steam by means of the steam pipe; and if there is a deficiency of water in the boiler, the water in the chamber will fall by its own gravity, and the chamber will move along filled with steam until it reaches orifices in the upper plate, when the steam will be discharged. The cylinder thus keeps revolving, and the chambers constantly discharge water in sufficient quantity to keep the water in the boiler up to the desired level.

Improved Water Wheel.

Eli Overton, Utica, N. Y.—The gages for regulating the capacity of the buckets according to the volume of water to be used consist of horizontal plates, constructed in the form of the cross section of the space between the upper or vertical portions of the buckets. They are attached to the lower end of the curb surrounding the upper portion of the wheel, and extend above it and the upper wall of the chutes as high as the gages may require to be lowered. The gages for the chutes are attached to the curb, which is the gate to be raised and lowered by it, and thus be adjusted as readily as the gate is. The gate being connected by its sleeve with the sleeve to which the wheel gages are connected, both the wheel and the chute gages will be adjusted together and alike, and at the same time that the gate is opened, so that the labor of adjusting the wheel gages separately to the different heights as the stream varies, or as the labor to be performed by the wheel varies, will be avoided.

Improved Ice Cream Freezer.

Miller F. Graves, Sunbury, Pa.—The bucket is made a stationary tube of perforated sheet metal. This is placed at the center, and extends nearly as high as the top of the pail, and is large enough to receive the cream can, which has a non-conducting cover lined with charcoal. The ice is packed in the space between the tube and the shell of the pail, and is, by the curb, prevented from filling up the center of the pail when the cream can is taken out, so that as many cans can be put in and taken out as may be desired, without repacking the ice.

Improved Safety Platform for Railroad Car.

Richard Strode, of Coatesville, Pa.—The invention is designed to prevent persons from falling between the platforms of cars, and fracturing their limbs, or otherwise more seriously injuring themselves. It consists in a relative construction of the platform ends which enables them to come into contact, yet allows the lateral motion required in the attachment to each car of a projection which passes under the opposite one (and this prevents them from telescoping with one another), and finally in pendent supports which are placed on the sides of platform and outside of the rail to prevent cars from readily upsetting and falling over embankments.

Improved Reversible Plow Point.

Robert M. Pattillo, of Cartersville, Ga.—This invention relates to the plow iron now generally used in the cultivation of cotton upon a one horse frame, and attached only to the foot of standard by a bolt, which passes through the plow, and which holds it in a notch upon an inclined surface. These are known through the South as twister plows, the share and mold board being in one piece, somewhat spirally concaved. The invention consists in the peculiar relative construction of the two parts of these twister plow irons, so that the mold board and point become interchangeable, and, wearing at different parts, enable nearly or quite double the service to be obtained out of the same quantity of metal.

Improved Bee Hive.

Joseph R. East, Fincastle, Tenn.—The hive is so constructed that honey can be removed with perfect safety, yet without injury to the bees, and the swarm can be divided, or entirely removed from the hive, with equal facility. The hive is also well ventilated, is provided with means of protection against moths, and adapted for use of a ventilating attachment in the form of a wire gauze basket which allows admission and circulation of air, and forms practically an extension of the hive, which the bees may enter at any time whenever the heat is too great within the hive.

Improved Car Coupling.

Wille D. Pope, Gadsden, Ala.—The bumper heads are alike and made of the usual hopper shape. Pivoted within at its angle, by a transverse pin, is a two armed lever—one arm of which projects toward the mouth of the bumper, and has a hook on its extremity, and the other extends up through a slot in the upper part of the drawhead. The link, entering, is guided by a spring so as to catch under the hook. A cord may be attached to the forward end of the upper arm of the hooks and carried up to the top of the car, so that the hook may be raised for uncoupling from that point.

Improved Plow.

ohn S. Hall, Pittsburgh, Pa.—This invention relates to plows, and consists in a projection plate applied to the rear of the mold board so as to give several useful purposes; in a novel mode of splitting the beam so that the landside is formed out of the same piece of metal; also in placing a hook which connects the mold board and beam at the rear end of an ension of the beam and enabling it to hold by the rear end of the mold board.

Improved Artificial Teeth.

William C. Tracy, Brooklyn, N. Y.—This invention has for its object to attach artificial teeth, single and in blocks, so that they may be more conveniently and firmly secured to the various plates or bases upon which they are set or mounted. It consists in a platinum lining upon the back of the teeth, with or without pins. When the teeth are to be applied singly, or in blocks, to a rubber or vulcanite base or plate, the platinum lining will be ground up and concealed by said plate.

Improved Wood Fence.

Robert F. Ward, Senatobia, Miss.—The stakes are used in pairs, set at an inclination toward each other that they intersect or cross, and are set at the usual distance apart to form a panel of fence. A rider is supplied in the angles formed by the intersection, and an upright is placed between each pair of stakes. These uprights extend to near the top of the section of the stakes, with a rider extending across the top ends of the stakes. Braces are attached to the stakes at one end, while the other end, beneath the lower angle of the latter, on the rider. The uprights are secured with the stakes by slats, and placed at an angle of fifteen degrees to the surface of the ground. Rails rest on these slats, and their ends lap each other by placing them on opposite sides of the uprights. The rails are said to be straight, and proof against unruly stock as well as high winds.

Improved Grave Covering.

Joseph R. Abrams, Greenville, Ala.—This invention relates to mounds over graves, and consists in three arches of stone sunk in the ground so that their upper faces are about level with the surface. On these arches are inwardly inclined plates, which support another plate with an oval top and an angular recess.

Improved Device for Changing the Speed of Machinery.
 Fred Betts, Wilmington, Del.—This invention consists in a mechanical device by which the velocity of a drive shaft may be quickly lessened to greater power, or the reverse, a portion of the former being converted into the latter, or *vice versa*, as may be desired.

Improved Explosive Engine.

John M. Welbourn, Caledonia, Ohio.—The object of this invention is to construct an engine which is driven by the explosive force of powder. The invention consists in the introduction and explosion of powder charges into chambers, which are alternately discharged to act on pistons which turn the driving wheels, and are regulated by suitable mechanism. The base frame on which the engine is placed is of oblong form, and contains two powder chambers arranged parallel to each other in a longitudinal direction at both sides. The driving wheels produce, by alternately completing one half of a revolution on each wheel, rotary motion of a shaft from the reciprocating motion of the pistons. Each powder chamber is closed by an adjustable breech piece, which may be detached and reloaded into the chamber. The closely fitting piston moves in the cylinder, its piston rod connecting, by a cross pin, with a strong spiral spring, which is also applied by cross head and pitman, to the side of a fly wheel. The required quantity of powder is introduced, in cartridge form, into the chamber by means of a vertical casing, which is arranged on rails placed on top of the chamber. A brush of casing serves to guide the cartridge in recess of the sliding piece, which is carried forward and backward in guide rails. On the forward motion of the slide the cartridge is pushed into a chamber, to be carried back toward the breech piece by turning piston, and be discharged by the concussion against the block. The piston is, by the explosion, forced forward again, and, by its action on the pitman, the rotation of the wheel. The smoke escapes through side apertures, admitting the immediate re-ignition of the chambers.

Improved Butter Print Press.

John Coates and Joel T. Criswell, Collamer, Pa.—The object of this invention is to furnish to farmers and dairymen an improved butter print press, by which the butter may be quickly and evenly formed into cakes of uniform weight, with suitable print marks thereon, without previous rolling. It consists in a sliding box, into which the butter is introduced, and pressed on a printing block, by a follower block and lever, into suitable form and weight.

Improved Painted Cloth Cover.

Samuel D. Richardson, Pawtucket, R. I.—The cloth or other material used for ornamenting, is backed before painting with any stiff material, such as pasteboard, wood, metal, rubber, or any combination of the above, provided it is thick and strong enough to fasten permanently and firmly thereon. It is cut out of the exact size required, and bound with metal edges to protect the edges and prevent a disconnection of the cloth from the board. The metal edges serve also as an ornamental finish. If a table cover, it may be glued, tacked, or screwed down, or it may be used as a movable cover, and be made with leather and cloth to be folded up, which, in the case of chess boards and other games is desirable.

Improved Armpit Shield.

John Sibley, New York city.—The object of this invention is to provide a shield or protector for the dresses of ladies from the ruinous effects of perspiration under the arms; and it consists in a shield or protector made of a material known as chamois skin or equivalent material and oiled silk or other material in combination.

Improved Life-Preserving Mattress.

John Woodfine, Hoboken, N. J.—This invention is a life-preserving mattress, made of cork strips or similar buoyant material, having end sections connected with a middle section by straps that interlock, one sliding over the other and both together, allowing the said end sections to turn up on either side of the middle one, so that they can swing up edgewise when the mattress sinks by the weight of a person. Cords are arranged on the middle and end sections for grasping the float by one floating over, and they are provided with the loops, also, for grasping hold for making temporary rowlocks, in which to use paddles for propping the raft.

Improved Taper-Turning Attachment to Lathes.

John Neckermann, Pittsburgh, Pa.—This invention consists of a rack on a lathe frame, and a system of gears on the tool slide, which moves lengthwise of the lathe, combined with the screw which moves the tool slide crosswise in such manner that the tool is fed crosswise while at the same time that it is fed lengthwise, so as to turn tapers. The gears are graduated and the supports contrived so that, by the use of changeable wheels of different sizes and numbers of teeth, tapers of predetermined angles can be produced, and they can be turned in either direction.

Improved Car Coupling.

Griffith and William F. Miller, Adamsburg, Pa., assignors to the American C. D. B. Eisaman, of same place.—The entering coupling bar is struck in such a direction as to strike the pivoted block below its point, swinging the same back and continuing on beneath its lower enlargement is formed in the upper part of the drawhead, to allow for the pivoted block to swing in. The coupling bar is made in its middle part, to adapt it for use in coupling cars of unequal weight. This joint is made with almost straight shoulders, to guard it from being struck down too far. The ends of the coupling bar are rounded off, and the shoulders formed upon their upper sides near their ends, to allow the lower ends of the pivoted blocks, and thus sustain the draft. With this construction, the lower end of the block is free to swing in or out, to allow the cars to be coupled by the entrance of the coupling bar, and to be uncoupled by a key drawn out, which allows the block to swing in either direction.

Improved Vehicle Axle Box.

Oliver P. Rice, New York city.—This invention has for its object to diminish the wear and friction of axle journals and boxes, particularly those of rail car trucks; and it consists in a chambered axle box provided with a flange in which the lubricating material is contained, and from which it is discharged to the frictional surfaces, and on a perforated journal sleeve, which is also provided with discharge orifices by means of which the axle is lubricated. There is a cap nut on the end of the axle, which incloses the ends of the box and sleeve, and comes in contact with the hub of the wheel.

Improved Wheel for Vehicles.

Peter C. Hairston, Crawfordsville, Miss.—The object of this invention is to construct an improved metallic wheel for wagons, carriages, etc. It consists of a hub with projecting central piece and two detachable collars, into which the two dovetailed ends of the spokes are mortised and held by lateral screw connections. The curved spokes bear against the tyre, and are, with their conical outer ends, screwed therein.

Improved Railway Switch.

Joseph G. Rockwell, Shell Rock, Iowa, assignor to himself and Peter C. Wette, of same place.—This invention consists of apparatus arranged in connection with the switch to be actuated by a shaft or wheel on the locomotive coming in contact with a lever alongside of the rail, and caused to unlock the switch and change it, and shift the target before the locomotive runs on to the switch, the said apparatus being arranged so that a locomotive approaching from either direction will shift it.

Improved Miner's Pick.

Richard K. Walton, Clarrington, Ohio.—This invention consists in a movable bit attached to an ordinary pick, provided with two triangular points and prevented from turning by a clamp screw.

Automatic Lubricating Water and Gas Cock.

Edwin F. Brooks, Baltimore, Md.—This invention consists in a water or gas cock provided with a valve having an oil reservoir in one or both ends and connected with the outer surface of the valve by a suitable aperture; also in a spring piston, applied in connection with the screw cap so as to expel the oil.

Improved Children's Carriage.

Lucius Havasy, Hoboken, N. J.—The body is constructed mainly in the form of a covered chair with inclosed sides, and suspended by arms from a rod, which is mounted at the top standards, extending up from the lower portion of the frame about as high as the top of the body, so that it can be swung forward and back whenever it may be desired to do so to quiet the child. For this purpose the wheels are made small and arranged wide apart, to suspend the body as low as possible, and afford a substantial support for the body when swinging. It is proposed to mount the frame on the middle cross bar of the wheel frame by light, flat, semi-elliptical springs, bolted to said bar at the middle, and connected at the ends to the side pieces of the frame by their turned up flanges, which are notched and fitted in notches in the frame.

Improved Sash Fastener.

Edward Burstow, Horsham, Sussex county, England.—This invention relates to the ordinary sash fastener, which prevents the window from being opened, and consists in means whereby the introduction of a blade or instrument between the sashes in order to unlock them may be effectually prevented.

Inventions Patented in England by Americans.

[Compiled from the Commissioners of Patents' Journal.]

From October 30 to November 3, 1873, inclusive.

BOILER FURNACE.—L. Stevens, Washington, D. C.
 BOOT LASTING MACHINE.—G. McKay, Boston, Mass.
 EXCAVATOR.—T. FitzRandolph, Morristown, N. J.
 FURNACE FOR IRON, ETC.—S. Danks (of Cincinnati, Ohio), London, England.
 HORSESHOE MACHINERY.—M. E. Hawes, Somerville, Mass.
 MAKING CANS, ETC.—T. J. Powers, New York city.
 METAL TUBING, ETC.—S. W. Wood, Cornwall, N. Y.
 NAILS AND SPIKES.—B. T. Nichols, Roselle, N. J.
 PEN FINGER GUARD.—S. T. Pomeroy (of New York city), London, England.
 PRESERVING TEETH.—G. H. Chance, Salem, Oregon.
 PUDDLING FURNACE.—S. Danks (of Cincinnati, Ohio), London, England.
 RAILWAY CARRIAGE.—W. B. Rogerson, Paterson, N. J.
 SLIDE REST, ETC.—S. W. Wilson (of Philadelphia, Pa.), London, England.

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, 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, east, 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 \$30) 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 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, or 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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