

oil, except perhaps the heavy lubricating petroleum, these dangerous elements are present, in some oils reaching at least 20 per cent.

Some legislation appears to be necessary in regard to this matter for the proper protection of persons and property. We hope the attention of our legislators will speedily be directed to this subject, which must be conceded to be one of the first importance.

PARROTT GUN CASE DECIDED.

U. S. CIRCUIT COURT, SOUTHERN DISTRICT—BEFORE JUDGE NELSON.

The bill is filed by Treadwell against Parrott, maker of the well known Parrott gun, founded on Letters Patent granted Dec. 11, 1855, and reissued Feb. 4, 1862, for improvement in the manufacture of cannon, to restrain him from infringement. The invention claims, first, casting a cannon the walls of which are encased with wrought-iron rings, smaller than the part which they are to surround but enlarged by expansion, and by contraction bringing the particles of said body nearer together. Second, in securing the hoops, a female screw is cut on the inside to fit threads cut on the body of the gun, and are finished to 1-1000th part of the interior diameters less than the male screw to be encircled. The Barlow Law, to which the inventor refers as having furnished him with the principles leading to this invention, showed that "hollow cylinders of the same material, do not increase in strength in the ratio of increased thickness, but the power of resistance diminishes after considerable thickness is obtained." To obviate the elements of weakness, caused as above, and to obtain the strength of wrought instead of cast iron, the plan of construction before described is resorted to, and by this means a gun is made nearly four times stronger than a cast iron gun of the same weight.

The only material and difficult question is, whether or not the patentee is the original and first inventor of the improvement. After an attentive examination, and our best consideration, the conclusion seems clear that he is not.

A combined cast-iron gun and wrought-iron envelope was constructed by Thiery, a French officer, as early as 1834. It is seen from his description, that the hooping of cast-iron guns by wrought-iron bands, much after the manner of the patentee, was then known to add to the power of resistance; that this was increased by the contraction of heated bands; and the difference in diameter was governed by the law of expansion of wrought iron.

In 1843 the Frith gun was patented in England, having a cast-iron barrel, that part most acted upon by the explosion being strengthened by strong wrought iron or steel bands, driven on while hot, so that the contraction thereof in cooling would produce firm adhesion. The question might here arise, whether the information in the description would enable an intelligent mechanic to make the proper difference between the interior diameter of the hoop and the exterior diameter of the gun's body. We are assured that any one having any knowledge in relation to this subject, is qualified to carry into effect in a scientific way the purpose and object of the patentee. This is also affirmed in detail by all the defendant's experts whose attention was called to the subject. The state of the art was familiar to Chambers in 1849, for by his own statements he determined the difference in diameter of the wrought-iron hoops used in his wrought-iron guns of that date, on the principle of the law of expansion of wrought iron. Another point should be noticed. The thickness of the walls of the Frith gun nearly correspond with the thickness of complainant's, and the same is true as to thickness of the hoops. Whether or not this inventor has a knowledge of Barlow's Law, cannot affect the question.

The point of superiority of finish of the defendant's cannon over the old Frith guns is not entitled to consideration. It is owing to the mechanic and not the inventor. Upon the whole, without pursuing the case further, we are compelled to the conclusion: That in view of the state of the art at the time, the improvement in the construction of cast-iron guns with wrought-iron hoops, claimed by the complainant, will be found in a description of the Frith patent, and upon this ground a decree must be entered for the defendant, dismissing the bill.



ISSUED FROM THE U. S. PATENT OFFICE FOR THE WEEK ENDING DEC. 4, 1866.

Reported Officially for the Scientific American.

Patrols containing the Patent Laws and full particulars of the mode of applying for Letters Patent, specifying size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & Co., Publishers of the SCIENTIFIC AMERICAN, New York.

60,112.—RAILROAD RAILS.—Joseph Adams, Fairhaven, Vt.

I claim a railroad rail made in two parts, A A', with their top surfaces so shaped as to form a central longitudinal groove, c, and having said top surfaces highest at the points where the wheels will bear directly over the center of the neck of each half rail, the whole being arranged and constructed substantially in the manner and for the purpose set forth.

60,113.—LATHE CLUTCH.—Richard Allen, Jersey City, N. J.

I claim the carrier clutch, constructed and operating substantially as described.

60,114.—DRILLING MACHINE.—M. M. Ammidown, Boston, Mass.

First, I claim the combination of the collar, E, provided with the projection, e, and the grooved arm, F, substantially as and for the purpose specified.

Second, I also claim the combination of the slotted standard, B, and screw, D, with the collar, E, arm, F, and platen, C, as and for the purpose specified.

Third, I claim the grooved arm or holder, F, as and for the purpose specified.

60,115.—EMBOSSEING MACHINE.—James C. Arms, Northampton, Mass.

First, I claim the embossing machine, constructed and arranged to operate as and for the purpose substantially as set forth.

Second, The heater, D, provided with the removable embossing plate, n, as shown and described.

60,116.—CHUCK.—T. G. Arnold, New York City.

I claim the arrangement of the expanding jaws, E, pivoted to the solid head piece, B, constructed and operating substantially as herein before set forth and for the purposes described.

60,117.—LUBRICATING OIL CAN AND LAMP.—Elias Ashcroft, South Boston, Mass. Antedated Nov. 29, 1866.

I claim the combination of the tube, D, tube, C, plate, B, and can, A, constructed and arranged in the manner and for the purpose herein specified.

60,118.—COOKING STOVE.—Frederick M. Baker, South Reading, Mass. Antedated Nov. 22, 1866.

I claim the combination as well as the arrangement of the flues, m and n, the dampers, D1 D2 and D3, and openings, a2 b2, with the auxiliary oven, G, its flue, F, and the main oven, and its flues, B B1 B2, and C, the whole being substantially as hereinbefore specified.

60,119.—PROCESS FOR MANUFACTURE OF GLASS.—Hayden M. Baker, Rochester, N. Y., assignor to himself and Robert J. Lester.

I claim the application to manufacture of the processes herein described, for the production of "best flint glass" from a mixture of nitrate of potash, nitrate of lead, and silicic acid at elevated temperatures, and the recovery of the nitric acid employed by displacement and distillation in the manner herein described and set forth, or any other process substantially the same, and which produces the same intended effects or results.

69,120.—APPARATUS FOR THE MANUFACTURE OF SALT BLOCK.—Newell Barnard and J. G. Spiller, Saginaw City, Mich.

First, I claim admitting the brine at the forward end, or hottest part of the block, D, substantially as described and for the purpose set forth.

Second, Drawing off the bitter water at the rear end of the block, D, substantially as described and for the purpose set forth.

Third, The combination with the lower vat, c, with the block, D, and with the drying rack, B, of the trough, A, substantially as described and for the purpose set forth.

60,121.—BAG HOLDER.—Chas. J. Barney, Edgarton, Mass.

I claim the frame, A, provided with a platform, B, having an opening, C, made in it to receive the flame or lower part of the hinge hopper, D, and used in combination with a removable platform, E, substantially as and for the purpose specified.

60,122.—SCAFFOLD BRACKET.—Hiram Beckwith, Grass Lake, Mich.

I claim the tie, B, the rail, C, and the brace, D, when constructed and combined substantially as herein shown and described, for the purposes set forth.

60,123.—LANTERN.—John Bellerjeau, Philadelphia, Pa.

I claim the two-part guard, D D, and confining ring, f, when used in combination with projections, h, studs, i, or their equivalent, so as to constitute a means of connecting the cap and base of the lantern, substantially as described.

60,124.—STEAM-GENERATOR HEATERS.—Thomas E. Belton, Buffalo, N. Y.

I claim the heater, F, provided with flues, g, g, and conical discharge ports, O O, arranged in combination with a boiler and furnace, so as to operate substantially as set forth.

I also claim the mud shields, H H, provided with perforations, I, in combination with the pipes, J, for discharging the mud and other sediment, substantially in the manner specified.

I also claim the distributing plate, m, arranged and operated as described.

I also claim, in combination with the heater, F, constructed as described, and leg, c, of the boiler, when the same extends below the level of said heater, the pipe, g, arranged and operating substantially in the manner and for the purpose herein set forth.

60,125.—GRATE BAR FOR FURNACE.—Charles C. Bemis, San Francisco, Cal.

I claim a furnace grate with bridges or barrier plates, b c d e f, placed beneath the said grate at intervals, and increasing in depth to near the flue, the whole arranged and constructed substantially as described and for the purpose set forth.

60,126.—COMMUNICATING MOTION.—William Bicknell, Hartford, Maine.

I claim the new method of transmitting motion, consisting of the arrangement upon fly wheel, A, of cog or friction wheel, c, so constructed that a plane passing through the axis of either of them shall preserve the same angle with the horizon, throughout the revolution of wheel, A, said wheel, c, driving wheel, c', substantially as described.

60,127.—FENCE.—Benjamin Billings, Lyons, Iowa. I claim the arrangement of the post, A, picket, E, cap, D, when constructed, arranged and operating substantially as and for the purpose set forth.

60,128.—REVOLVING FLUE CLEANER.—G. E. Bingham, Milwaukee, Wis.

I claim the revolving flue cleaner formed by the combination and arrangement of the heads, E, wooden bars, F and A, binding bands, Band C, binding rods, G, and shaft, I, substantially as herein described and for the purposes set forth.

60,129.—SOLAR CAMERA.—J. B. Blair, Philadelphia, Pa.

I claim the application of an adjustable piece, E, to the use and purpose substantially as set forth.

60,130.—WICK INSERTER FOR LAMPS.—William Y. A. Boardman, New Haven, Conn.

I claim the herein-described instrument for inserting wicks in lamp tubes as a new article of manufacture.

60,131.—ELASTIC STRAP FOR GARMENTS.—Jno. W. Boughton, Chicago, Ill.

I claim an elastic strap, A, having an attaching plate or its equivalent at each end for application to the garment, substantially as herein shown and described.

60,132.—HEATING STOVE.—Lewis Bridge, York, Pa.

I claim the arrangement of a parlor fireplace heating stove, with a vertical cold air space, D, around the back of the fire chamber, A, in combination with the surrounding hood, h h, for utilizing the heat radiated from the rear of the stove, and conducting it into the room, or to an upper chamber when desired, constructed and operating substantially as and for the purposes herein described.

60,133.—APPARATUS FOR DETACHING BOATS.—S. Brown and Leon Level, New York City.

We claim the standard, C, the bent lever, a, and the shackle hook, b, constructed, combined and operating as a detaching hook, substantially as herein shown and described, for launching boats and for other purposes.

60,134.—FURNACE FOR DESULPHURIZING COAL.—Wm. Bruckner, San Francisco, Cal.

I claim the internal screw ribs or ridges arranged spirally in opposite directions, so as to convey the ore alternately from one end of the cylinder, and heat it uniformly.

60,135.—BUCKLE.—Angeline Button, Administratrix of Charles A. Button, deceased, Pontiac, Mich.

I claim the combination of the clasp, C, and body, or rim, A, constructed and connected substantially as and for the purpose herein specified.

60,136.—INSTRUMENT FOR DESTROYING EMBRYO CATERPILARS.—Aaron Casebeer, Sipesville, Pa.

I claim a knife which is composed of two blades, C C, united to a contracted shank, b, to be used substantially as described.

60,137.—CAR REPLACER.—George Chambers, Ithaca, N. Y.

I claim, first, the truss, trunnion or tool, A, made with two surfaces, one for replacing a wheel from the inside, and the other from the outside of the track, and the duplicating the same in one instrument or trunnion, so as to fit any emergency and either direction of motion of the displaced wheel or wheels, as described.

Second, I claim on either a single or double inclined plane, with a surface or surfaces suited to replacing a wheel off of the track, the placing or combing thereof with an adjustable piece or part which, while it aids in replacing a wheel off on the inside of the track, is also useful in carrying the flange over the rail when the wheel is off on the outside of the track, as described, and all equivalents thereunto.

60,138.—CHUCK.—John C. Chapman, Cambridgeport, Mass., assignor to himself and David W. Weston, Boston.

I claim the beveled keys, A, a, and the prevention pins, c c c, in combination with the collars, B b, operating substantially as above described.

I claim the beveled key, A, and the prevention pins, c, c, in combination with the removable bushing, E, operating substantially as above described.

60,139.—LANTERN.—Richard Chester, Chicago, Ill.

I claim the combination and arrangement with a lantern and its globe, of the globe support, d, perforated jackets, c c', and diaphragm, e, arranged and operating as and for the purposes specified.

60,140.—LANTERN.—Richard Chester, Chicago, Ill.

I claim, first, the arrangement of the perforations in the center of the bottom, E, and the perforated inclosure, F, arranged beneath the platform, C, for the lamp, as and for the purposes described.

Second, The horizontal tubes, H, provided with perforated cups and extending within the lantern top as shown, in combination with the diaphragm, G, having openings at the corners of the range of said tubes, as herein specified and set forth.

60,141.—TOY BUILDING BLOCKS.—George H. Chinnock, New York City.

I claim the building blocks of the form of the half of a cube, having five sides, in combination with letters or numerals on their surfaces, which are whole in themselves or bisected diagonally, substantially as shown and described for the purposes specified.

60,142.—MANUFACTURE OF PARIS WHITE AND WHITING.—William W. Chipman (assignor to the Chipman Mining Company), New York City. Antedated November 22, 1866.

I claim the manufacture as herein described of Paris white and whiting from the earthy material known as marl.

60,143.—ANIMAL TRAP.—Greville E. Clarke, Racine, Wis.

I claim, first, The combination of the pivoted platform, E, and the arm, F, arranged and operating substantially as and for the purposes described.

Second, In combination with said platform, E, and arm, F, the ratchet wheel, G, provided with a finger, I, operating substantially as specified.

Third, In combination with said ratchet wheel, G, I claim the arrangement of the spring, s, to hold the wheel from moving back while the arm, F, recedes, in the manner described.

Fourth, The combination of the spur wheel, G, provided with the arm, I, and the lever, H, arranged and operating substantially in the manner and for the purposes described.

60,144.—VISE.—Emmett Coon, Kalamazoo, Mich.

I claim, first, The adjustable dies, F F, with cavities, b b, and keys, c c, as and for the purpose set forth.

Second, The adjustable die, F, and die, made with the bevel n, horn, d, and keys, c c, when used in combination with a vise.

60,145.—CENTRIFUGAL PUMP.—E. Hall Covel, New York City.

I claim, in pumps, the combination of a water wheel and screw elevator, when arranged substantially as and for the purpose described.

I also claim an angular or irregularly-shaped chamber, in combination with a pump cylinder, in which water or other fluid is elevated by a spiral or vertical motion, substantially as described for the purpose specified.

60,146.—FORCE PUMP.—W. G. Crutchfield (assignor to himself and James O. Atlick), Dayton, Ohio.

I claim the arrangement with the stem, A, of a force pump, of the pipe, C, with its cock and cup, substantially as and for the purpose specified.