

RECENT ENGLISH PATENTS.

Some recent English inventions are here appended:—

Rotary Engines.—The cylinder of this improved rotary engine is made in two halves, each of which is turned inside to a template, so as to be exact counterparts of each other, and then the two halves are fixed together with accuracy. In the interior of the cylinder there is a central plate or disk acting as an arm, and forming a central boss, which is fitted conically into glands connected to both sides of the cylinder. The arm extends to the piston part of the cylinder, and works between two rings provided with springs. The piston is fixed to the arm, and works in a circular space or bore at the outer circumference of the cylinder. The box of the arm has an oblong hole, into which is loosely fitted the main shaft of the engine, so that there shall be no friction on the arm and glands. The side is enclosed in a box or case having a stuffing-box, and to the outer end of the slide-rod is connected a roller, which is placed in an elliptic or cam groove, cut or formed in a drum fixed to the main shaft, so that as the drum revolves the slide shall move out to allow the traverse of the piston, and then close up quickly. When there is a double engine having two cylinders, the grooved drum is placed between, and the grooves arranged accordingly. For regulating the supply and exhaust of the cylinder there is a slide valve worked by a loose eccentric on the main shaft, there being stops for working the engine forwards or backwards; and air-pumps, feed-pumps, and other apparatus can be worked by eccentrics on the main shaft or otherwise.

Steam Boilers, etc.—These improvements consist, first, in dispensing entirely with the use of straight or flat plates or bars, in the preparation of hoops or rings, or other continuous forms, thereby avoiding the necessity of any seams or joinings in such hoops or rings or other forms, by which they are very considerably strengthened; and instead of such straight or flat plates or bars the patentee uses ingots or blooms of iron or other materials, from which the hoops, or rings, or other continuous forms are to be made, such ingots or blooms being of comparatively small diameter or sizes, and of considerable thickness, but sufficient in quantities of material to form the hoops or rings; or other forms, of the sizes desired; and, subsequently, by the operations of pressing, hammering, and rolling, or either or any of such operations, from such ingots or blooms into hoops or rings, or other forms as desired, and without any joinings or seams whatever.

RECENT AMERICAN PATENTS.

Pumps for Compressing Air, Etc.—The object of this invention is to compress atmospheric air, vapor or gases and store them in a proper reservoir, which must be of great strength and thickness, for use in oil and other wells, including those called artesian, for the purpose of obtaining a flow of liquid from such wells upon the principle of the oil ejectors. It consists in placing oil, water or saline solutions in the chambers and passages of an air pump, or in other words, immersing the piston of an air pump in a liquid comparatively incompressible in lieu of air, whereby the efficiency of the pump is greatly increased. George M. Mowbray, of Titusville, Pa., is the inventor.

Machine for Cutting Out Gloves.—This invention relates to a new and improved device or machine for cutting out gloves preparatory to sewing the same for market or for use. The invention consists in a peculiar construction and arrangement of the cutters and their attachment to a bed-plate, and also in the manner of connecting the latter to the cross-head of a press, whereby several advantages are obtained over the machines hitherto used for the purpose. Henry J. Dickerson, Groversville, N. Y., is the inventor.

Traction Engine.—The object of this invention is to render the driving mechanism of a traction engine entirely independent of the truck, so that said driving mechanism is free to follow the sinuosities of the ground. The invention consists in the employment or use, in combination with the truck, of a hinged frame, which carries the steam boiler and cylinder and the driving gear, and which forms the bearing for the axle of the driving wheel in such a

manner that said driving wheel is free to follow the sinuosities of the ground, and to act with its full power, assisted by the weight of the boiler and driving gear, and independent of the position of the wheels supporting the truck frame. G. W. Barrett, of Urbana, Ohio, is the inventor.

An American Steamer Building for an English Company.

Daniel Westervelt, of this city, is building for the Pacific Steam Navigation Company, of Liverpool, England, a beautiful side-wheel steamer, to be called the *Favorita*, and from present appearances she will probably be the fastest steamer of her length in the world; she is intended to be so at least. The *Favorita* is intended for the route of this company on the west coast of South America, extending to the isthmus down to the lower parts of Chili. As the route is cut up into divisions, it is not known at present what division she will be attached to. Capt. James Hall, one of the company's officers, is here superintending the construction of the vessel.

The *Favorita* is 200 feet in length, 300 feet beam, and 19 feet depth of hold; she is building of the best materials, and will be in every respect a first class passenger and light freight boat. The Atlantic Works are building the engine, which has a 56-inch cylinder and 11 feet stroke, and the power that can be developed will certainly tend, with her fine model, to make her a very fast vessel. No pains or expense will be spared to make her the most attractive, comfortable and staunch vessel on the Pacific coast. All the new improved labor-saving machines will be placed on board, among them will be the Ericsson windlass; this is deemed the best for a vessel which is constantly using her anchors and desires to weigh them quick and with a small crew, as is the case in the Pacific trade, and these vessels are only a few hours at sea when they run in, anchor, land their passengers and freight, up anchor and are off for another port.

The *Favorita* will be superior in many respects to the *Peruvian*, which was built here by Mr. Westervelt in 1860-1. It is gratifying to us as a nation, and creditable to our ship builders that England must come to us to have passenger steamers for the use of her navigation companies in foreign waters. Nothing but American built ships seem to please and satisfy the people of Peru and Chili, who support the Pacific Steam Navigation Company's line. Capt. Hall went to England to have a vessel built there, but none of the builders could guarantee to build such a vessel as would make the speed, possess the accommodations, and come up to the requirements of the superintendent as well as the demand of the patrons of the line. The rapidity with which the work on the *Favorita* progresses gives promise that it will not be many weeks before she will be launched.

Diamonds for Boring Artesian Wells.

Mr. Lorenzo Dow, No. 170 Broadway, N. Y., recently brought to this office a core of compact sandstone, about two feet in length and 3 1/2 inches in diameter, which was taken out on the Funk farm, Pennsylvania, by his peculiar cutter. This instrument was originally patented in France, by M. Rudolph Leschand, and subsequently in the United States, through the Scientific American Patent Agency. The most novel feature in the tool is the employment of diamonds for cutters in the place of steel. These diamonds are set in the end of a tube driven by machinery, the same as an ordinary drill, and work with astonishing rapidity. Five feet per hour is a fair rate of its progress through hard sandstone. The drill leaves a core standing which is broken off and drawn upon convenient lengths. In the cutter under notice, 15 diamonds are used, and the cost of them is about \$500, but they last a long time, and are practically durable. Miners and well-borers who have seen it speak highly of its efficiency.

TRUNK hardware is almost entirely an American product, and a distinct branch of the hardware business. It consists of locks, rivets, nails, rollers, silvered, gilt and japanned ornaments of various kinds, bag frames, steel and brass bands, buckles and hinges. One Connecticut establishment furnishes nearly all the locks used in the trade.



ISSUED FROM THE UNITED STATES PATENT-OFFICE

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Pamphlets 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.

45,128.—Combined Time and Concussion Fuze for Shells. —Clifford Arick, St. Clairsville, Ohio:

I claim, first, The construction of a soft metal fuze case having an annular chamber or groove for the reception of an annular time fuze, and a vertical or other independent chamber or tube, for the reception of a concussion or percussion fuze.

Second, The union in a single magazine to an annular fuze, of the two ends of the fuze, by independent vents, one operated in the usual way on time, and the other by concussion or percussion.

45,129.—Knob Latch.—John H. Barnes, Brooklyn, N. Y.:

I claim the construction of the latch-head, D, having three beveled surfaces, substantially as and for the purposes set forth.

I also claim the beveling of the outside ends, g, g, of the keeper or striker, E, substantially as and for the purposes set forth.

I also claim the arrangement of the inner inclines, k k, of the keeper or striker, E, substantially as and for the purposes set forth.

I also claim the combination of the beveled latch head, D, and keeper or striker, E, for the purposes set forth.

45,130.—Steam Carriage.—G. W. Barnett, Urbana, Ohio:

I claim the driving wheel, F, steam boiler, H, and cylinders, G, mounted upon the hinged frame, D, in combination with the truck frame, A, all constructed and operating substantially as and for the purposes set forth.

45,131.—Device for Measuring Cloth in the Piece or Roll.—Wm. Beaton, Grinnell, Iowa:

I claim, first, A cloth measure for measuring cloth and other materials, in the roll or folds, substantially as described.

Second, I also claim the hollow bill for inserting the tape in the folds of the goods to be measured in the roll, in combination with the reel of the tape, substantially as described.

[This invention consists in the construction of an implement by means of which cloth and other materials put up in rolls, can be measured in the roll, thereby saving the necessity of opening or unrolling a package or roll in order to measure its contents.]

45,132.—Gate.—Asa Blood, Sr., Janesville, Wis.:

I claim a gate and door when constructed and supported substantially as and for the purpose described.

45,133.—Screw.—Wm. G. A. Bonwill, Dover, Del.:

I claim as a new article of manufacture, a wood screw, constructed as herein specified.

[In these screws longitudinal grooves intersect the threads and extend through the plain part near the head and also into the beveled side of the head. A screw thus constructed may be inserted into a piece of wood without the necessity of previously boring, cuts clean and does not splinter the wood, takes a firmer hold and may be inserted into the most delicate article without splitting it. It is also adapted to countersink itself.]

45,134.—Soldering Furnace.—Lewis Boore, Buffalo, N. Y.:

I claim the relative arrangement and combination of the coal chamber, A, draft opening, F, hearth, E, for the soldering irons and smoke flue, H, as that the air for combustion will enter above and draw down on to the soldering irons, for the purpose and substantially as described.

45,135.—Water Closet Valve.—John Brower, Newark, N. J.:

I claim a water closet valve held to its place by a bar secured by a hemispherical connection and rendered water-tight by means of a V-shaped joint, all substantially as shown and described.

45,136.—Mode of Lubricating Packing of Pistons, etc.—Daniel J. Browne & Cyrus W. Baldwin, Boston, Mass.:

We claim to coat over or infuse into raw hide, leather, paper, and canvas, or cloth, employed for the packing of caloric engines and pumps, as well as the parts of machines subjected to abrasion or wear, with a good adhesive varnish or paint and when said packing and part of machines are partially stiffened or dry, to dust and further coat them over with finely pulverized plumbago, stearite or talc immediately afterwards, rubbing or burnishing them to the desired degree of smoothness or firmness required, substantially as and for the purposes herein described.

Among the advantages claimed by this invention, are durability, protection from abrasion, moisture, and a considerable degree of heat, when applicable to the packing of caloric engines and pumps, as well as to various parts of machines.

45,137.—Cork Screw.—Joseph Linus Clark, Chester, Conn.:

I claim the increased pitch of the thread when used for the purpose herein described, and operating in combination with the pin, P, and catch, K, or their equivalent.

45,138.—Boots, etc.—Frederick Closs, New Haven, Conn.:

I claim sewing (by machinery) the soles to the uppers of boots and shoes, substantially as herein described.

45,139.—Seed Planter.—Aaron Crisman & Michael Whitmer, Sugar Creek, Iowa:

We claim the combination of a hinged lever, C, cross bar, K, rocker shaft, H, short arms, I, and tie d b locks, K K, or their equivalents with the running gear and seed box of a seeding machine for the purpose of effecting and controlling the discharge of seed therefrom, when a regular vibratory movement is imparted to the lever, G, and its attachments by means of an annular plate, a, and pins, b b, operating upon a cam, g, substantially in the manner herein set forth.

45,140.—Safety Fuze.—J. E. Chase & Joseph Toy, Simsbury, Conn.:

I claim enclosing the body of the fuze within a covering of loose fibers in the condition of shiver or its equivalent, substantially as and for the purpose above described.

[This invention consists in covering the body of fuze, in making waterproof safety fuze, with a covering made of fiber when it is in the condition known as "shiver."]

45,141.—Soap Composition.—Edwin De Mortimer, Cincinnati, Ohio:

I claim the compound of materials in the proportions and manner and for the purpose set forth.