RECENTLY PATENTED INVENTIONS.

Engineering.

LOCOMOTIVE BOILER.—Jos. S. Newlin, Fairfax, S. C. A portion of the boiler flues passing the hot currents from the fire box to the smokestack have, according to this invention, return ends, made thick and heavy to permit hammering without damage, by which the currents are returned backward and then forward again through other flues to the smokestack, thus securing a much longer travel of the hot currents through the boiler and a better utilization of the heat. A novel means is provided of putting in the return ends firmly, in a simple and inexpensive way.

STEADYING PORTABLE ENGINES.—Edward C. Emde, Tacoma, Washington. To prevent undue shaking of the machinery this invention provides a steadying device with a base, on which are adjustably held two legs adapted to engage the axle or wheel of the engine, one of the legs being made in sections fitted to slide one on the other. The device is applied preferably on the hub or axle of each rear wheel of the portable engine, when it securely and firmly steadies the entire machine, preventing undue shaking and holding the engine in position to prevent slack of the driving belt, etc.

Railway Appliances.

SIGNAL LANTERN.—Willey J. Fellhemer, New York City. This is a simply constructed, durable, and inexpensive lantern, especially adapted for use on railroads or on shipboard. It normally shows a white light, but surrounding the globe or chimney are screens of flexible material, transparent, translucent, or semi-translucent, and colored as the code of signals may require. Means are provided whereby the screens may be independently manipulated, to conveniently carry any one of them in line with the rays of light to display a light of its special color.

CAR COUPLING.—Joseph B. Hulett and Louis J. Beers, Middletown, N. Y. According to this invention the link is held in substantially horizontal position, to be automatically guided into an opposing drawhead, the link having also a limited up and down and lateral movement, while a hook-shaped pin maintains the link in place, a weight being arranged to hold the pin normally in coupling position, when it will automatically engage a link entering the drawhead. The hook-like pin may be readily removed, and the coupling may then be used as the ordinary link and pin coupling.

Electrical.

LAMP HANGER.—Charles S. Hume, Detroit, Minn. This is a simple device to facilitate the raising or lowering of an electric lamp in a room or other location, and holding it in desired position. The light wire, having on its lower end the lamp, extends from a ceiling support, and to it is tied a string, connected with a pendent rod and supporting frame, in which is a spring-controlled pulley, around which the string is wound. The tying of the string at different points on the light wire controls the limit of raising and lowering the lamp, which is simply pulled down to the desired position, when the parts counterbalance the tension of the spring so that the lamp remains in place until pushed up.

ELECTRIC RAILWAY CONDUIT.—Chas. A. Stark, Duluth, Minn. This improvement comprises a surface conductor, arranged adjacent to which and adapted to connect an electric current is a circuit closer, a compressible track rail, and means for operating the circuit closer by means of the rail. By this means the trolley conductor is carried upon the surface of the ground, the line conductor beneath the surface, and the circuit is closed through the trolley conductor only at the points opposite the car, the construction enabling the line conductor to be safely carried without danger of grounding and reducing the liability to accidents, as under ordinary circumstances the trolley wire or conductor will carry no electricity.

GALVANIC BATTERY.—Wm. R. Reud, New York City. This is a battery to be worn upon or applied to the person to send a mild current through certain diseased parts to stimulate and strengthen them. It has an outer perforated cylindrical copper shell forming one pole, an inner zinc cylinder forming the opposite pole, an insulating base or plug secured to the two poles, and a button secured to the outer end of the plug and connected by a conductor with the inner pole. The battery is held in the hand to any affected part, when the perspiration and acids of the body acting on the battery poles are designed to produce a mild current, a stronger current being obtained by dipping the battery in vinegar or other acid before applying it to the body.

Mechanical Appliances.

VALVE.—Thomas P. Ford, Brooklyn, N. Y. This is a valve more especially designed for use on hydraulic elevators and other machinery to insure the perfect seating of the valve. On the extreme upper end of the valve stem is a piston sliding in a cylinder, in the cap of which is a port leading to another cylinder with a valveseat for an auxiliary valve normally held on its seat by a spring, and controlled by a fluid under pressure, the main valve being automatically controlled by the fluid.

KNITTING MACHINE.—Julius Frelloehr, New York City. This machine is designed to form very fancy trimmings in a simple and effective manner. It has reciprocating needles and binding thread guide bar to guide the binding threads to the knitting needles, while pattern thread guide bars slide longitudinally to carry the pattern threads across the binding threads, one of the pattern thread guide bars being also mounted to swing or turn, to move its pattern threads above or below the threads carried by the other pattern thread guide bar.

ROLLER COTTON GIN.—Wiley E. McCall, Jasper, Fla. This is a simple, durable, and effective machine, designed to be run by foot power. The mechanism for separating the cotton from the seed is not new, but the improvement provides for conveniently operating the machine, while the operator may at the same time feed the necessary quantity of cotton. Heavy flywheels give the machine a uniform and steady motion.

Agricultural.

CULTIVATOR.—Alexander J. Bolster, York, Neb. This is an arch cultivator, in which the gangs are located forward of the arch, so that their operation may be readily viewed by the rider, provision being also made for readily elevating the cultivators and locating them near the wheels of the machine. The axles are also so located upon the arch and the cultivator gangs upon the axles that they will move together, while the wheels may be turned to the right or left to reduce the width of the machine, the gangs sustaining the same relation to the wheels at all times. The gangs are brought close to the forward portion of the wheels as well as close to the team, thereby lessening the draught.

DISK CULTIVATOR.—This is a further invention of the same inventor, covering an improvement according to which the disks may be run forward of the arch of the cultivator, and are so located that the driver may observe their action on the ground, stopping to uncover a covered up hill if desired. The disks thus located are designed to form a perfect balance under all conditions, their weight when raised out of the ground being forward of the arch, and preventing the pole or tongue from being lifted up.

COTTON CHOPPER AND CULTIVATOR.—Eugene M. Nolan, Jacksonville, Fla. The construction of this implement is such that the hoes are carried in connection with cultivator blades, and both the hoes and blades may be raised and lowered either independently or collectively. Novel means are also provided whereby two hoes may be made to operate conjunctively transversely of the implement, a diagonal cut being made on the ground as the implement advances, while after the first cut the rear hoe will cross diagonally the cut made by the forward hoe, thus producing a series of closely grouped diamond-like spaces in which the cotton is left. The hoes may be entirely removed when the cotton has been properly thinned, and the cultivator only used for working the cotton.

MILK CAN.—Emile Plancon, Brooklyn, N. Y. This can has at the top of the vertical portion of the can, where the diameter is of full size, an annular pendent exterior fold, which is elastic to such a degree as to serve in the capacity of a cushion, strengthening the can against any strain or force that may be exerted upon it. The can is also adapted for general uses, and as no soldering or extra pieces are located at the flange, the expense of manufacturing is materially reduced. The flange is made by bending the metal upon itself to form an outer, downwardly extending, cylindrical fold upon that portion of the breast of the can which engages its body.

CHURN.—Silas J. Saxon, Colfax, Washington. This churn has an upright cylindrical body, and is adapted to be actuated by an operator turning a crank shaft, which sets in rapid motion a dasher which generates rotary currents, these being obstructed and checked by fixed abutments or wings, so that the cream is quickly churned and butter rapidly produced. When the butter is to be removed, the cover, center shaft, and dasher are lifted out, and the churn and dasher may both be very quickly cleaned.

MANUFACTURE OF BUTTER.—David W. Hudson, Frank La Strong, and George D. Bunch, Los Angeles, Cal. This invention provides for the manufacture of a composition butter, of milk, cocoanut oil, and pure butter, after a described process, to largely increase the bulk or weight of the butter without destroying its original virtues.

Miscellaneous.

VENDING MACHINE.—Joseph A. Poff, Lawrence, Kansas. This is a coin-operated machine for automatically selling postage stamps, envelopes, and similar articles. A draw slides in a casing to carry outside the article, while a coin-receiving lever movable back and forth with the drawer locks it normally in position, the lever being moved to unlock the drawer on the deposit of a coin. The construction is simple and durable, and is designed to prevent tampering with the contents of the casing.

TYPE SETTING MACHINE.—Hayden C. and Samuel D. Snoddy, Greenville, Ky. In this machine a series of channels or magazines hold the type until they are dislodged by ejectors operated by keys, an intermediate carrier frame receiving the type until the number necessary for a line is accumulated, when the type is moved up into a row at one end of the carrier and dropped into the galley by the same operation which sets up the type in the carrier for the next row. Type of the ordinary kind is used without mutilation or injury, and means are provided for spacing and justifying the lines automatically as they are set.

HOT WATER HEATER.—Micheal E. Herbert, St. Joseph, Mo. The boiler of this heater has a hollow top section with a depending water leg, longitudinal circulating bottom pipes being connected with the top by vertical tubes, while a tubular grate section communicates with the water leg. The construction is quite inexpensive, and the boiler is designed to be a positive, rapid, and economical heater for any grade of fuel.

BRICK KILN.—John B. Griswold, Zanesville, O. This is an improvement on a formerly patented invention of the same inventor, the flues being so arranged that the kiln is operated on a combined up and down draught, the intense or direct heat being driven against the lower sides and under the floor of the kiln, to produce radiated heat, and then up into the center of the kiln through flue openings in the bottom, and providing for a complete and even distribution of the intense heat to the ware most in need of it. Simple means are provided for deflecting the heat, to cause a greater or less heat to travel up the side flues into the kiln or under the floor, or more to one portion thereof, as may be desired.

BUILDING BRICK.—This is a further patent of the same inventor for a rock-face brick, its exposed face being formed with smooth outer edges, and a central smooth-faced rib connecting the upper and lower edges. The rock-faced portions of the brick thus formed are depressed panels, produced by a suitable mould against which the edge of the brick is pressed by hydraulic or other pressure preparatory to its being burned. The central ridge enables the brick to be cut to advantage for finishing out the ends of courses or becoming a corner brick, avoiding the necessity of breaking joints, and giving a beautiful and finished appearance.

BASE HEATING STOVE.—Richard L. Ball, Terre Haute, Ind. This improvement is especially applicable to stoves using gas for fuel, affording a cheap and simple stove designed to generate and radiate a large quantity of heat in proportion to the amount of fuel consumed. The combustion chamber has an open front and an inclined double wall at the back, and a hollow radiator is arranged upon the case top and connected with the combustion chamber, a damper-controlled passage leading from the radiator to the smoke pipe, while air pipes lead upward through the double wall of the combustion chamber and deliver into the receptacle of the radiator and through the case top.

CALCIMINING MACHINE.—Wm. Peterson, Sheboygan, Wis. A tank with a handle and having journaled at its ends wheels adapted to run upon a ceiling is connected with yielding distributing rollers, adjacent to which are brushes, while there is an operative connection between the brush mechanism and the rollers, so that the rotation of the latter drives the pump. The tank holds a large amount of calcimine, whitewash, or other liquid, and by pushing the machine over a ceiling or wall the liquid is nicely and evenly applied, with great rapidity, none of the liquid being spilled.

CONVEYER.—Charles W. Renau, Meridian, Miss. This improvement embraces especially the couplings for conveyer sections, the tubes and their flights being of ordinary construction, and the coupling sections and journal sections being detachably connected. The coupling section has for the tube end a seat formed of a corrugated space or groove into which the conveyer tube may be pressed, and the journal section has a head fitted to a socket, in which it may be inserted laterally, while it cannot be moved in or out in the direction of the length of the journal and coupling sections.

VEHICLE SEAT.—John Ruch, Mount Eaton, Ohio. This is a seat especially adapted for two-wheeled vehicles, such as road carts, and has a hinged back and novel connections between the seat and the vehicle body. Means are provided for shifting the position of the seat back, to render the seat easy, and that it may also be adjusted to bring the weight of the load in the right position in relation to the wheels, enabling the vehicle to be properly balanced to ride and draw easily.

WAGON BOLSTER STANDARD.—Anthony Miller, Cape Girardeau, Mo. This is a combined ferrule and standard, the ferrule fitting upon the bolster and having parallel wings upon its outer end, the wings connected at the top and outer edge by a rib, while pivoted between the wings is the standard, having a depending shank to strike the end of the bolster, its back striking the rib connecting the wings. The device is very strong and simple, and is adapted to be secured to wagon or sled bolsters to strengthen them and form convenient stays for the load.

VEHICLE BRAKE MECHANISM.—James B. Upton, Coalfield, Tenn. A spring attachment is, according to this invention, connected with the vehicle in such a way that when the brake is applied in going down hill the spring is wound up and held wound, means being also provided for releasing the spring at any necessary time, so that its stored power can be utilized to start the vehicle or help carry it over a hill.

BOUTONNIERE.—Henry W. Fishel, New York City. The buttonhole stud has at its outer end a perforated socket in which is held an artificial flower, a split pin extending through the leaves or petals of the flower and through the perforations in the socket. The device is readily attached to or detached from the buttonhole of a garment, and it is so made that only the flower is visible on the exterior of the garment.

GARMENT FITTING PATTERN.—Simon Christiansen, New York City. This pattern is formed of a series of plates of leather, fabric, paper or other suitable material, which readily conforms to the shape of a person to be measured for a dress. It is conveniently applicable to the person to be measured, and arranged to permit of cutting the material directly from the pattern after adjustment of the latter according to the wearer's body. The device can be used by dress and cloak makers, tailors and others, for measuring all kinds of garments and cutting the cloth to form a perfect fit.

COMBINED CANE AND SEAT.—Carl Eframson, 304 Fourth st. S., Minneapolis, Minn. Combined with hollow pivoted body sections adapted to open and close, and forming seat-supporting legs, are seat sections fitting snugly together and connected by a web or seat, a fastening device securing the closed seat sections to the tops of the pivoted sections, while an attached third leg braces the pivoted sections. In its most compact shape the device is substantially like an ordinary cane, but it may be quickly opened and spread out to form a convenient stool or seat.

BLOTTER.—William Meyer, New York City. This is a simple device or fastening for securing together two or more sheets of blotting paper, so that the sheets can be quickly inserted or removed. It consists of a spring metal blank having at one end inwardly bent spurs for fixed engagement with the upper side of the blotter and at the other end spring tongues bent reversely and projecting underneath.

Designs.

BUCKLE.—Dora Harrison, Lansing, Mich. A wire bent at its middle to form a rectangular loop has its ends extended as shanks forming the buckle points, while pivoted on the loop at the sides of the shanks is a U-shaped frame, on the outer portion of which the points rest.

INFLATED CUSHION.—Robert T. Varnum, New York City. This is a cushion with open center and inner and outer margins simulating the contour of an egg.

BADGE.—James R. Lee, Baltimore, Md. This is a mourning badge, having a central emblem-receiving panel bordered at the top and bottom by contrasting panels, the whole forming an ornamental framing for an emblem.

SPOON HANDLE.—Austin F. Jackson, Taunton, Mass. The leading feature of this design is a volute spiral scroll resembling a closely coiled feather, while just below it is a smooth panel having upon each side a scrolled border.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

NEW BOOKS AND PUBLICATIONS.

COALS AND COKES IN WEST VIRGINIA. By William Seymour Edwards. Cincinnati: Robert Clarke & Co. 1892. Pp. 162. Price 75 cents.

The wonderfully pure coals of this region seem, in this pamphlet, to receive at last adequate attention. There is little question that the importance of this region as a coal-producing center is growing. This monograph will receive considerable appreciation from those interested in industrial fuel and gas coal.

ADVANCED BUILDING CONSTRUCTION. By the author of "Notes on Building Construction." London and New York: Longmans, Green & Co. 1892. Pp. ix, 239. Price $1.50.

In this work we again have a book adapted for students in the English University course. It presents, therefore, a very English view of structural features of buildings, and is, of course, confined in scope to the South Kensington examination.