

## ENGINEERING INVENTIONS.

A steam boiler has been patented by Mr. George Kingsley, of Leavenworth, Kansas. This invention covers improvements on a former patented invention of the same inventor, the boiler having an outer and inner shell with flattened crown piece and drop tubes communicating with the water space and descending into the fire space of the inner shell, with various other novel features.

A piston for steam engines has been patented by Messrs. William Dixon, of Sheffield, York County, and Samuel Thompson, of Trent, Stafford County, Eng. It has packing rings in a peripheral groove, a reversely beveled ring behind and bearing against the packing rings, with spring-pressed blocks behind the beveled ring, and other novel features, thus providing for the automatic expansion of the packing rings to compensate for wear.

## MISCELLANEOUS INVENTIONS.

A belt buckle has been patented by Mr. Louis Sanders, of New York City. It is of that class known as ladies' belt buckles, and is of simple construction, readily and quickly adjusted, and capable of attachment to any belt having eyelets.

A process of dyeing has been patented by Mr. Thomas Holliday, of Huddersfield, York County, Eng. This invention covers the dyeing of wool and other fibers by alternately treating them with chrome, iron, copper, or lead salts to form mordants, and with the nitroso compounds derived from the naphthols.

An illuminated floral piece has been patented by Ruth E. Wilson, of Brooklyn, N. Y. This invention consists in providing a floral piece with a reflector in keeping with the design, with jets of light introduced before the reflector, in such way that air chambers intervene between the flame and the flowers.

A pedal cover for organs has been patented by Mr. James S. Foley, of Chicago, Ill. It is a hinged folding cover adapted to close the case opening over the pedals, and has a novel mechanism connecting the pedal cover with the key board cover, whereby both will be opened simultaneously.

A breeching for harness has been patented by Mr. Edwin S. Carpenter, of Corinth, Vt. It is held high upon the buttocks, at or above the portions that have alternate backward movements in the locomotion of the horse, the breeching being held in such position by attachment to the crupper by a short strap.

A label cabinet has been patented by Mr. Uriah D. Mihills, of Fond du Lac, Wis. The invention covers a curved label receptacle carried by arms pivoted in a suitable cabinet, combined with a lever for tilting the receptacle and projecting it from the cabinet, the cabinet being divided into compartments and its top inclined at an angle of about thirty-five degrees.

A folding seat has been patented by Mr. Ulysses L. Collins, of Sparta, Ill. It is for attachment to any vertical standard, wall, or stationary device, and more especially for use in connection with church pews, or with plain standards secured to the flooring of a hall or other auditorium, for which the invention provides various novel combinations of parts.

A kitchen cabinet has been patented by Mr. Orren Bates, of Wetmore, Kansas. This invention covers an article of kitchen furniture that is simple in construction, but which can be readily adjusted for different purposes, as a clothes drier, an ordinary table, a table for working dough upon, and various other uses.

A carpet fastener has been patented by Mr. Thomas W. M. Worley, of New York City. It is a plate formed with upwardly and forwardly extending spurs and a retaining shank and socket, easily attachable to the body of the carpet, so that all wrinkling and furling of the carpet between the fasteners may be avoided.

A clasp for pocket books and similar articles has been patented by Mr. Louis B. Prahaz, of Brooklyn, N. Y. The hinge piece or eye is formed as part of the blank that forms the plate of the clasp, thus improving the hinge in durability and strength, and avoiding the expense and labor of soldering a separate hinge piece to the plate.

A grate has been patented by Mr. Fred C. Peslin, of Van Dyne, Wis. This invention relates to the grates of coking chambers, and is designed to facilitate the dumping of the coke from the coking chamber into the main combustion chamber, providing therefor a novel construction, combination, and arrangement of parts.

A razor has been patented by Mr. Peter Wahl, of North Vernon, Ind. It has a relatively broad back, a shank of reduced thickness, a concave blade having between its back and its edge a swell or rib for strengthening the thin blade, and rounded ends, and is designed to wear uniformly, maintain its shape, and keep a sharp edge.

A gate has been patented by Mr. Thomas J. Groas, of Maple, Mo. Its construction is such that it is not liable to be blocked by snow and ice, while it may be opened and closed from either side by means of handles as one would naturally walk, ride, or drive, being accomplished simultaneously with the approach to or departure from the gate.

A bustle has been patented by Mr. George Eckles, of Eyota, Minn. In and outer spiral spring coils are connected by clips, and have braces or stays and horizontal springs, all dependent from the waistband, in such manner as to be thoroughly elastic and easily adjustable to meet the requirements of the wearer.

Wrapping paper forms the subject of a patent issued to Mr. William H. H. Childs, of Brooklyn, N. Y. The invention consists in cementing together two or more thicknesses of paper with a paste in which is incorporated naphthalene or camphor, thus making a wrapping calculated to keep away moths from woolen cloths, furs, and articles of such description.

A toy has been patented by Mr. Samuel Pinnell, of Brooklyn, N. Y. The invention covers a novel construction and combination of parts constituting a toy railway, in which the wheeled figure is guided in its path by a radially projecting arm loosely pivoted at its inner end to the center of the track bed, and operated by a handle on the under side at the center.

A hedge fence has been patented by Mr. Hezekiah Taylor, of Shadwell, Va. The invention covers a method of using wire and bracing, in connection with one or more rows of canes trained in the required direction, so that the brace wires are connected to form a chain extending between anchor points, and the fence making can be easily and expeditiously effected.

A folding stool has been patented by Mr. Hiram F. Henry, of Gowanda, N. Y. The inside legs are pivoted to the outside legs, and the thickness of the top and of the inside legs together does not exceed that of the outside legs, whereby the stool will fold within the space occupied by the latter, making a flat stool with firm top, which can be folded in very small space.

A buggy seat has been patented by Mr. George G. Harris, of Martinsville, Ohio. The invention consists in a series of springs on a frame adapted to the buggy seat, a frame being attached to and supported by the springs, a spring-supporting back frame hinged to the seat back, with a perforated covering for the seat bottom and back, affording ventilating apertures.

A self-closing faucet has been patented by Mr. Eugene Homan, of New York City. It is for wash basins and similar uses, and the invention covers a novel construction and combination of parts in a faucet designed to be closed automatically by the pressure of the water, the valve requiring no packing, not depending on springs or screws for its action, and the parts being readily accessible for repairs.

A metallic joint for felt and other roofing has been patented by Mr. Joseph D. Brown, Jr., of Camden, N. J. The metal strips are so shaped and applied that the nails pass through them and through the roofing material at the joints between the sheets and prepared folds in the body of the sheets, the nails and strip being covered by the roofing material to conceal them and protect both from the weather.

A machine for cutting off the soiled butts of grain stalks has been patented by Mr. Lothar Becker, of Galveston, Texas. A slotted and recessed table has parallel endless bundle-carrying chains working in the slots, in connection with a circular saw, for taking off the bottoms of grain stalks which have become coated or spattered with soil so much as to interfere with ordinary threshing and separating.

A sawing machine has been patented by Mr. Alexis F. Gillet, of Burlington Junction, Mo. It is especially adapted for cross cutting sticks of timber into stove wood, and may be operated by hand or power, its construction being such that two cuts are made through the stick at once, the operator doing the sawing by turning a crank, when it is worked by hand, much easier and quicker than with saw and buck.

A hand operating attachment for sewing machines has been patented by Lois Waite McClung, of Pueblo, Col. Combined with an adjustable supporting bar arranged for attachment to the frame of the machine a lever is pivotally connected, with a link connected to the inner end of the lever and with the pitman of the machine, the arrangement being such as not to interfere with the ordinary foot driving mechanism.

A machine for making perforated glass has been patented by Messrs. Leon and Adrien Appert, of Paris, France. In combination with a bed plate for receiving fluid or semi-fluid glass is a pressure plate or roller, with a number of conical or tapered projections or prominences on the bed plate or on the pressure plate or roller, for forming glass plate with perforations as desired.

A harness has been patented by Mr. Levi Walker, of Delhi, Ontario, Canada. This invention relates to improvements in double harness when the draught evener is suspended from ordinary back pads and carried beneath the bodies of the horses, there being connected to the center of the main evener a short evener adapted to be connected at its ends by short traces to the inner hame of each horse.

An apparatus for disinfecting sewage has been patented by Mr. James J. Powers, of Brooklyn, N. Y. This invention covers a tank or receptacle supplied with sulphuric acid or other chemical, to be discharged into a generator holding a suitable salt to give off a disinfecting or precipitating gas, to be discharged into the sewage by proper connections with distributing pipes.

A watch chain attachment has been patented by Mr. Frederick W. Brueckner, of Jersey City, N. J. It consists of a light ornamental body adapted for attachment to the vest outside the pocket, the device to be made in form to represent animals, birds, or any suitable design, and to obviate the necessity of passing the chain through or connecting with a button hole.

A girth buckle for saddles has been patented by Mr. Peter J. Pefley, of Boise City, Idaho. This invention covers a double buckle, consisting of two independent ones, with means for detachably securing them together, being specially adapted for buckling the double girths of Spanish saddles, while either can be used separately for a single girth in the usual manner.

A baling press has been patented by Mr. William B. Bradsby, of Greenville, Ill. It is of the class of presses known as "continuous balers," and adapted especially to take straw directly from a thrashing machine and bale it, pressing the bales to proper density with economy of time and labor, avoiding the necessity of stacking or otherwise handling the straw, and providing a novel method of tying out the bales.

A baling press has also been patented by Mr. George Ertel, of Quincy, Ill. This invention

covers novel features of construction and combinations of parts to allow easy operation of the plunger, and insuring a folding of the balable material at the rear end of the baling box feed opening, providing also for automatic adjustment of the press case walls to accommodate varying conditions of the material being baled and a variable feed of it to the press.

A loop insulator has been patented by Mr. Horace Van Sands, of New York City. The coupling piece of the insulator, together with the guard and overlapping shield, are made entirely of non-conducting material, so that the adjacent edges of the shield and guard can be brought into close proximity to prevent entrance of moisture, without danger of the electric current leaping from one to the other.

An instrument for treating piles has been patented by Mr. Sylvanus B. Payne, of Ridgeville, Ind. It is a tapered cylindrical hollow bulb, with perforations in its sides, combined with a stem which has a cylindrical base piece to rest upon the exterior of the body when the instrument is in position, the instrument being calculated to facilitate the application of ointments, liquids, etc.

A game carrier has been patented by Mr. Peter Cunningham, of Brightwater, Ark. It is made of webbing, canvas, or thin leather, or other light narrow fabric, and adapted to be worn across the shoulder, suspended from a belt or carried in the hand, making a light carrier for small game or fish, the construction being such that when not in use it can be compactly folded and placed in the pocket.

A book holder has been patented by Mr. Theodor Hansen, of Brooklyn, N. Y. It is made with a base, two posts supported thereby, and adapted to support the opposite sides of an open book, one post being fixed to the base and the other to a slide movable on the base, with other novel features, making a holder which can be quickly adjusted for holding a large or small or a thick or thin book for reading or reference.

An improvement in overalls has been patented by Mr. Adolph Bookman, of Brooklyn, N. Y. They have an elastic waistband, and reversible and adjustable elastic shoulder straps, the front part of the garment being cut in one length with front fly, the braces having buckle and short buckle straps, and only needing one strapping for the desired length, while the garment may be used in hot weather, or at the option of the owner, with a single strap around the neck.

A cotton or hay press has been patented by Messrs. Alexander and Frank T. McGowen, of Houston, Texas. The head of the screw shaft is bolted to the follower, which works in a vertical press box, by means of a rotary worm wheel, whose elongated hub is threaded internally corresponding to the screw, making a combined worm wheel and nut, which sustains the weight of screw and follower and the load imposed on the latter in the act of pressing.

A knife cleaning machine has been patented by Messrs. Thomas S. Evans and Franklin R. Jackes, of Winnipeg, Manitoba, Canada. It consists in concentrically arranged cylinders having an annular space between, to whose opposite surfaces are affixed a series of spirally arranged cleaners, the lower series the reverse of the upper, adapted to revolve in an outer cylindrical casing, the knife blades remaining stationary while the cylinders are revolved.

A photographic camera has been patented by Messrs. Robert D. Gray and Henry E. Stammers, of New York City. It is a light-tight box with an adjustable lens tube and a support for holding the paper in a curved position while the picture is being taken, to compensate for the spherical aberration of the lens, there being also rollers for holding and feeding the paper and a graduated stop for stopping when desired, with other novel features.

A toy water motor has been patented by Mr. Frank E. Buddington, of Chicago, Ill. Two small reservoirs are so connected upon a plate that when one is filled, and the device placed in a vertical position, water will flow therefrom upon the paddles of a wheel between the two reservoirs, turning the wheel and then collecting in the other reservoir, after which the device may be reversed, and the former lower reservoir be made to turn the wheel.

A pin attachment for brooches, etc., has been patented by Mr. Otis G. Fisher, of Owosso, Mich. The pin is formed with a locking plate or head held in a cavity formed by the pin attachment, the pin portion being passed through an orifice made in the attachment, so that the head takes the place of the joint pin or rivet ordinarily used, and the attachment operates to facilitate the withdrawal of the pin from the garment, and also its insertion.

A hose coupling has been patented by Messrs. William H. Albee and William H. Pettys, of New York City. The coupling section has a tubular projection with a series of longitudinal wedge-shaped countersinks, so that when the end of the hose is received and clamped thereon the rubber of the hose will be crowded into the depressions, and an increased strain on the joint will compress the rubber to tighten the joint.

An apparatus for making and transferring pig metal has been patented by Messrs. John R. and Leroy A. Sell, of Johnstown, Pa. The invention covers a means, in connection with the making of pig iron, of transferring the mould or chill carrier and its moulds, chills, or troughs bodily to a point adjacent to a track, and then dumping the mould or carrier to cause the hardened pig metal to fall into a car on the track.

A bunk for railway cars has been patented by Cornelia C. Wood, of Sibley, Iowa. It is an attachment to be used as a substitute for a crib or cradle in passenger railway cars, consisting of a crane with hollow vertical post journaled in bearings attached to the side of the car, carrying a bunk in such way that a swinging motion will be given thereto by the car, but so that when not in use it will occupy the place of the usual baggage rack.

A cotton seed mill has been patented by Mr. Samuel McLean, of Mineral Springs, S. C.

This invention covers a millstone with a dress formed with a series of straight furrows extending from the eye outward to within a short distance of the periphery, the remainder of the face being formed with short inclined furrows arranged in concentric circles, whereby the seed will meet with continued interruptions in its passage to the discharge spout, the mill being also adapted for grinding corn.

A clock winding mechanism has been patented by Mr. Abe Robinson, of Brooklyn, N. Y. The invention consists of a wind wheel operating a train of gear wheels connected with a sprocket wheel, a weight being hung by a pulley on an endless chain passing over the sprocket wheel, with a device for locking the wind wheel automatically, the clock being wound automatically by the wind wheel, and the running of the clock mechanism not being disturbed when the weight is wound up.

A knapsack has been patented by Henry C. Merriam, of U. S. Army. The invention covers improvements on former patented inventions, to improve and simplify the form of pack, and render the equipment adjustable to all sizes and forms of men, the knapsack having side braces held by straps, an adjustable hip strap carrying sockets in which the side braces are stepped, shoulder straps connected to the forward ends of the hip strap and to the pack, with other novel features.

A baling press has been patented by Messrs. William R. and Newton J. Green, of Kingston, Texas. The frame and case have aligned baling chambers at opposite ends, a follower with two head block working in them and a shaft journaled between them with two ropes connected at one end to the shaft and at their other ends to the opposite head blocks, giving a double purchase, with other novel features, the press being designed for baling hay, straw, cotton, and similar material.

## SCIENTIFIC AMERICAN

## BUILDING EDITION.

MAY NUMBER.

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