

RECENTLY PATENTED INVENTIONS.

Engineering.

TRACTION ENGINE.—Logan M. Medlin, Latham, Mo. This is an engine of simple and durable construction arranged to impart power to all four wheels simultaneously, at the same time permitting steering of the engine at the front wheels. A compensating gear wheel arrangement is provided between the rear and the front axle, by means of which the power developed by the engine is economically used and compensation is made for any slip difference in the motion of the drive wheels. The engine has a belt pulley for transmitting power to other machinery.

DREDGING APPARATUS.—Joseph E. Kauser, Pensacola, Fla. This apparatus is provided with a conical discharge or ejector pipe having a reciprocating motion, the lower end of the pipe being immersed while at work, and the upper contracted end connected with the discharge, while a blast pipe from a suitable source of air supply is connected with and discharges into the discharge pipe. The pressure upon the discharge pipe is increased or diminished according to the toughness of the soil worked upon, and the dredged matter coming in contact with this pipe only, there is no danger of injury to the working machinery.

Railway Appliances.

CAR COUPLING.—Thornton E. W. Fay, Philadelphia, Pa. The mechanism of this device is entirely concealed within the drawhead, so there is no danger of clogging up with snow or ice, and the device is strong, simple, and easily operated, automatically engaging the draw-bar of an opposing coupling. Combined with the coupling is a bumper plate adapted to receive the thrust of the car, the plate being backed by springs in such a way that when two cars come together the shock is thus absorbed.

CAR COUPLING.—William P. Clark, Elberton, Ga. This invention relates to improvements in automatic couplings of the Janney type, which employ revolving knuckles, and the device has forwardly extending arms, one carrying a revolving knuckle and the other an outside hook to engage the knuckle of an opposing coupling. The two knuckles of the two couplings thus act independently to engage independent arms or hooks, and when one knuckle breaks the other will still hold the cars together. The coupling is of inexpensive and simple construction, and well adapted to withstand the wear and tear of severe service.

SWITCH STAND.—Morris G. Prutzman, Lehigh Gap, Pa. This stand comprises but few parts, and is adapted for either automatic or hand use. It is of that class of stands in which the switch-actuating rod is connected with a spindle of the switchstand, and is adapted to operate in connection with automatic split switches. The improvement provides a more direct automatic action by dispensing with auxiliary parts which are a source of wear and lost motion, and provides for locking the stand direct to the spindle, independent of the hand lever, thus better guarding against tampering, while the parts are so arranged that if any foreign body is caught between the rails to interfere with the working of the switch it will at once be noticed.

RAILROAD FROG.—David Horrie, Kaukauna, Wis. This is an improvement upon a formerly patented invention of a combined frog and switch of the same inventor, in which a swing rail upon a frog is connected in sequence with converged shifting rails of an adjacent switch, operating mechanism being adapted to release a locking device for the swing rail and simultaneously adjust the rail and the switch rail to align with the main track or side track in either direction of travel.

TRAIN ORDER AND SIGNAL.—Leonard T. Crabtree, New London, Wis. This is an improved signaling device to co-operate with a train order annunciator used on railroads employing the block system. The invention provides a novel mechanism for setting and holding a semaphore or other visual signal over a railroad track at a way station, where orders are awaiting an approaching train. The train order annunciator in the way station office to indicate the train to receive orders, and co-acting with the signal device, is similar to one formerly patented by the same inventor.

Electrical.

ELECTRIC MOTOR REGULATOR.—Joseph A. Williams, Canal Dover, Ohio. Combined with the armature shaft is a centrifugal governor having a spindle provided with a pair of friction disks or gears, and the brush-carrying arm having a toothed sector, while a shaft parallel with the drive shaft and geared to the sector is mounted at one end in a sliding frame, in which a transverse shaft is also mounted and geared to the parallel shaft, and carrying at its lower end a friction disk. The improvement affords a simple and effective regulator which will maintain a uniform speed under varying load.

Mechanical.

COMBINATION TOOL.—Benjamin F. Field, Elmira, N. Y. The members of this tool, when assembled as one implement, afford a convenient device for use as a surface gauge, a box square, a level, a tram gauge and a scribing gauge. Some of the component parts when detached are serviceable as separate tools for specific purposes. The combination tool is well adapted for the use of machinists, in the placing and gauging of work in process of execution, on a metal planer or lathe, and also in the erection of various kinds of machinery.

PARALLEL VISE.—Joseph Schwendemann, Reutlingen, Germany. This invention provides an improvement whereby the position of the vise can be conveniently changed relative to the work bench on which it is applied, and by which the vise can be fastened in place after the desired adjustment is made. The vise may be moved farther inward or outward from the front edge of the work bench, or set at an angle thereto, and when the proper adjustment has been made a winged nut is screwed up to clamp the vise in place.

PIPE WRENCH.—George W. Morrill, Alton, N. H. This tool has angular and toothed jaws having oppositely recessed faces to permit them to cross each other, and with shanks of unequal length pivoted one upon the other, a handle being pivoted near its end to the end of the longer jaw shank, while a link connects the end of the handle to the shorter jaw shank. The wrench is of simple construction, having a maximum of strength in but few parts, and it is quickly adjustable to any size of pipe, with which the wrench may be firmly brought to a locking engagement, enabling the pipe to be turned in any direction without danger of slipping.

OIL CUP.—William F. Althoff and John H. Stokesbury, Denver, Col. This oiler is more especially designed for use on loose pulleys and other wheels and parts to lubricate them effectively and only when the part is in action, the flow of the lubricant being then proportioned to the speed of the pulley. On the bottom of the cup is a bored screw-threaded offset, to be screwed in the hub of the wheel to be lubricated, and in this offset fits a pipe extending almost through the body of the cup and close to its inner surface, the oil being forced into the end of this pipe by the centrifugal motion when the wheel is revolved.

Agricultural.

SEED PLANTER.—George A. Stine, Spokane, Washington. Combined with the seed box is a rocking frame operating about a vertical axis and having at its lower end an arm outside the box and its other end bent down inside the box to form a stirrer, with an oscillating feed plate, and other novel features. The device is adapted to plant seed in hills or rows, and in a greater or less quantity, as well as seed of different sizes and also a variable distance apart.

CULTIVATOR.—William A. Wagner, Central City, Iowa. This is a machine more especially adapted for the cultivation of corn, and has one or a series of separators to divide the clods and remove them from over the rows, also removing weeds, rubbish, etc. Each separator has a detachable harrow for cultivating the ground, and there are rollers at the back of and between the separators, which crush the clods and weeds. The frame carrying the separators and harrows may be made in sections, so united that the machine will accommodate itself to the undulations in the ground.

Miscellaneous.

PIPE COVERING.—James L. Covel, Naples, N. Y. This invention provides a composition for treating paper and rendering it suitable for a pipe covering, refrigerator lining, and roofing material, etc. The compound consists of wheat flour, pulverized alum, arsenic, red lead, litharge, and other ingredients, in stated proportions and prepared as described. Paper prepared or coated with this compound may be applied in a succession of sheets or layers, and a series of air spaces can be formed with the paper around the pipe, making the covering more effective.

ELEVATOR DOORS.—Edmond M. T. Boddam, Sydney, New South Wales. An improved device for automatically opening and closing the doors leading to the shafts of hydraulic elevators is provided by this invention. The improvement consists of a hydraulic ram connected with the door, a valve controlling the ram, and a double valve controlling the inlet to the single valves for the several doors, the double valve operating in conjunction with the valve which admits water to the lift or elevator cylinder.

BUCKET DUMPING APPARATUS.—Frank B. Wineland, Breckenridge, Col. This is an improvement in devices for hoisting buckets used to raise water, ore, and other material from a well or mining shaft. Combined with a vertically movable hoisting bucket having projecting trunnions thereon is a swinging door arranged in the path of the bucket and provided with supporting arms adapted to engage the bucket trunnions. The construction is such that the buckets are practically self-dumping, and the door at the top of the shaft is closed as the bucket ascends, preventing the material from dropping back.

HOSE WASHER.—John E. Taber, Fall River, Mass. A casing formed in two compartments has a perforated piping in one and a rotary table or reel for soiled hose journaled removably in the other, and from which the hose may be unwound and passed through into the washing compartment. The improvement is especially adapted for use in a fire department for washing hose after a fire, occupying but little room in an engine house, the hose being placed in one compartment and drawn from the casing thoroughly cleaned.

MUSICAL BLOCK.—Annette S. and Goodridge S. Bowen, New York City. This is a block suitable for children to play with, and a series of such blocks are provided, each bearing on its face the name of a certain note, the note itself, and its position on the staff, while the block is also provided with interior mechanism for sounding or producing the note represented. When eight blocks are thus used, capable of producing all the notes of the natural scale, the invention is designed to afford a most efficient means of teaching children.

SECTIONAL COOKING BOILER.—Charles W. Wynn, Asheville, N. C. This invention relates to sectional steam cookers, and more especially to the means for separating the several sections when it is desired to lift one from the other, obviating the danger of burning the hands or spilling any of the contents of the boilers. The different sections of the boiler have a telescopic connection with each other, and the sections have at their upper ends swinging handles, each formed with an angle member and an upwardly extending lifting finger pivotally connected at its lower end to the free end of the angle member, by which the sections are readily forced apart as the handles are grasped.

STEP LADDER.—William P. Stibbs, Belleville, N. J. This is a ladder which may be folded in small space when not in use, and is constructed in connection with a box or casing in which the ladder folds, the casing being adapted for use as a stool, ottoman, or piece of furniture, and having also a drawer

adapted to contain tools. The box or casing is provided with casters, and means for drawing them up into the box when the ladder is to be used.

TROUSERS PROTECTOR.—Richard T. Matheson, Brooklyn, N. Y. This device consists of a strip of material to which are attached pliable pins, by means of which the strip may be readily and securely fastened as a guard to the bottoms of trousers legs. The strip is formed of leather, rubber, or a stout piece of cloth or felt, and the attaching pins are preferably made of copper, the device being readily attached by the wearer.

BARREL HEADING PRESS.—Bradford S. Miles, Gray's Summit, Mo. This invention is designed to simplify the construction of barrel-heading presses and economize in their manufacture, producing also a machine the follower of which exerts an even tension on the head of a barrel, and insures the head being simultaneously entered into the croze without injury to the articles packed in the barrel. The machine can be quickly and easily applied to a barrel, and, in consequence of the gearing employed, is operated with great speed.

LAMP CHIMNEY ATTACHMENT.—Joseph E. Wenman, East Liverpool, Ohio. This is a device for medical, vaporizing and heating purposes, and consists of a perforated metal tube and attached cap device designed to rest upon an ordinary glass lamp chimney. The cap serves to protect the rubber inhaling or vaporizing tube of a medical vaporizing retort carried by the tube.

CAP FOR CHIMNEYS, FLUES, ETC.—Herman Moeller, Brooklyn, N. Y. This invention provides a device of simple and durable construction designed to afford a perfect draft, no matter where the flue or chimney capped may be located. The body of the device consists of a series of tubes circularly arranged, the construction being such that, should one conduit fail to act, an auxiliary conduit will perform the functions.

FENCE WIRE REEL.—Sylvester Moore, Audubon, Iowa. This is an improvement on a former patented invention of the same inventor, especially in the construction of the spooling bar, wherein one fence wire is carried to or from a reel above the bar and the other beneath the bar, thus equalizing the strain. A clutch is also provided for the driving gears capable of being quickly and easily applied while the device is in operation, the driving wheels being relieved from the frictional contact of the clutch.

MATCH SAFE AND CIGAR CUTTER.—George F. H. Hicks, Chicago, Ill. This is a convenient device which carries the matches in such a way that they can only be taken one by one from the case, having a pick which automatically lifts a single match from the safe, with means for automatically striking the match as it is lifted. The scratcher may be thrown out of use when an unlighted match is desired, and connected with the casing is a cigar-cutting attachment.

DEVICE FOR HANDLING LIQUIDS.—Stuart R. Mace, Moulton, Iowa. This invention consists principally of a receiving vessel provided with a siphon, one leg of which is adapted to pass into the receptacle, while a dipper adapted to pass into the receiving vessel acts as a plunger for starting the siphon, and is adapted to withdraw a measured quantity of liquid from the receiving vessel. The device is especially adapted for handling oils, etc., transferring the liquid from one receptacle to another without loss.

CORK MAT FOR BATH ROOMS.—Andrew Merton, New York City. Combined with a border frame rabbeted on its lower inner edge, with metal angle pieces for corners, and a bottom board, is a tessellated frame within the border, and cork blocks fitted in the interstices of the tessellated frame and in contact with each other edgewise. The soft, slightly elastic and warm surface of the cork facing of the mat causes it to be very agreeable to the naked feet, and a very superior foot mat is thus afforded for use in bath rooms.

SNAP HOOK.—Anthony B. McDowell, Edna, Texas. This is a device adapted particularly as an attachment for riding saddles and harness, as a means of suspension for whips, ropes, or other articles, which may be attached to and detached from the hook without requiring the spring to be depressed by manual pressure.

Designs.

SPOON.—Marshall O. Roberts, Washington, D. C. In the handle of this spoon is a miniature likeness of John Howard Payne, author of "Home, Sweet Home," and in the bowl is a figure of a homestead, intended to represent that of the author.

STOVE.—Isaac De Haven, Allegheny, Pa. This design has several leading features, including ornamental representations on the top, the name plate, the hood, pilasters, base and legs, the blower, and the front.

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.

THE PRACTICAL POLISH AND VARNISH MAKER. A treatise containing 750 practical receipts and formulae. By H. C. Standage. London: E. & F. N. Spon. 1892. Pp. x, 260. Price \$2.50.

The manufacture of varnish has long been considered a trade secret. In the present work we find any number of varnishes described very fully, and it looks as if the art of making varnishes could hardly be considered a full trade secret any longer.

THE HISTORY OF THE BAND SAW. By W. Samuel Worssam, C.E. Manchester, England: Emmott & Co. 1892. 8vo. Pp. 41, 31 illustrations, paper. Price 80 cents.

This is an interesting little work by a man who is well known not only as an author of other treatises on saws, but also as a saw manufacturer. Speaking of the band

saw, Mr. Worssam says: "I may mention that, traveling in the United States in 1860-61, with the object of seeing the kind of wood working machinery in use there, I never came across one of these saws, and the prejudice against them was universal. . . . Since then these jigger and scroll saws have been almost entirely discarded in favor of the band saw." This is indeed a wonderful development and the present work briefly outlines the various steps which have led to the result noted above.

LE THÉ BOTANIQUE ET CULTURE. Par Antoine Bietrix. Paris: Librairie J.-B. Baillière et Fils. 1892. Pp. 160. Price 2 francs.

The cultivation of tea, its botany, its adulteration, and its richness in caffeine in different species, is the subject matter of this little work, and in thus giving the subject matter the outline of its contents is presented. It is all excellently treated, the illustrations of apparatus and discussions of methods of analysis, and the microscopy of its adulterations, are all included, and make it quite a valuable contribution to the subject in question.

HOW TO MAKE A ONE HORSE POWER MOTOR OR DYNAMO. By A. E. Watson. Illustrated. Lynn, Mass.: Bubier Publishing Company. 1893. Pp. 50. Price 25 cents.

THE "NON PLUS ULTRA" SODA FOUNTAIN REQUISITES OF MODERN TIMES. Edited by G. H. Dubelle. New York: Spon & Chamberlain. London: E. & F. N. Spon. 1893. Pp. 160. Price \$2.50.

The soda water business has attained so great a development in the last few years that the above work, containing a very large series of formulae for all kinds of soda water mixtures, is exceedingly timely. In looking over it, it is hard to believe that anything of importance has been omitted. The dispenser who wishes to be well up in the times cannot do better than to use such works as the present with its exhaustive formulae. The author believes that druggists should prepare their own syrups and thereby acquire a reputation for selling fine soda water. He also states that pure fruit juices have almost entirely superseded artificial fruit essence sirup. This, of course, is a result strongly to be wished for, and the author is pronouncedly in favor of the practice.

Any of the above books may be purchased through this office. Send for new book catalogue just published. MUNN & Co., 361 Broadway, New York.

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- Engravings and floor plans of a residence at Greenwich, Conn. A beautiful design in the Colonial style of architecture. Mr. W. S. Knowles, architect, New York.
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