

## ENGINEERING INVENTIONS.

A car truck has been patented by Mr. John R. Fish, of Grand Rapids, Mich. The equalizing bars are so arranged that the frames connecting the journal boxes are entirely relieved of all the weight of the car and load, the bars extending entirely over and resting on the springs of the axle bearings.

An improved means of packing, lubricating, and cooling the pistons of air compressors has been patented by Mr. Charles F. Ruff, of Phoenixville, Pa. The piston has annular grooves to receive water, and works in a cylinder with a larger annular groove in which water circulates, the water in the several grooves making a close joint, and packing, cooling, and lubricating the piston.

A reversing and cut-off gear for engines has been patented by Mr. Andrew F. Johnson, of Stillwater, Minn. This invention covers a special construction and arrangement of parts, so that a direct action is established between the load and the engine valve without the intervention of a centrifugal governor operated by the velocity and requiring a certain period of time for its operation.

A feed water heater has been patented by Messrs. Patrick McGivern and William E. Frye, of Crestline, O. A detachably supported water table is located in the fire box with feed water and delivery pipe connections, the heater being supported by the pipe connections and the side sheets of the furnace, and the pipe connections having outside joints back of the fire box, where they can be connected or disconnected at will.

## MECHANICAL INVENTIONS.

A waterproof journal bearing has been patented by Mr. Nicholas V. Godfrey, of Northport, N. Y. The invention covers a novel construction of socket bearing, with lining, flexible packing, and washer, to protect the journals of shafting in excavators and other machinery which requires to be immersed in water, from contact with water or sand.

A flier for spinning machines has been patented by Mr. Leedham Binns, of Paterson, N. J. The object is to overcome the present difficulty of the eye of the flier becoming notched by the wearing of the thread, and this invention provides means for causing the thread to have a lateral traverse along the leg or arm of the flier, so there will not be a single contact point as at present.

A saw mill set works, or improved head block for saw mills, has been patented by Mr. Robert R. Parsons, of Jackson, Miss. The setting shaft is geared with a rack on the under side of the head block, the shaft having its bearings in the block, and there being a spring applied thereto and to the head block, with various special combinations and arrangements of parts.

An improved wrench has been patented by Mr. Dwight M. De Silva, of Corning, N. Y. The jaws are pivoted to a head block, whereon a handle is also pivoted between arms of the jaws, extending back of the pivots, on which cams of the head of the handle act so as to cause the jaws to bite, and to hold with great power, when the handle is turned, on a nut, pipe, or other object.

A thread separator for ring spinning frames has been patented by Mr. Gilman Jaquith, of Maysville, Ky. This invention consists in a continuous construction of separator throughout the whole length of the ring rail, of specially advantageous form, its small columns or supports being arranged back of the center of the ring rail, leaving the front or working side open or clear, so the travelers on the rings are easily reached by the fingers of the operator.

## AGRICULTURAL INVENTIONS.

A thrashing machine has been patented by Mr. John A. Beam, of Baden, Ontario, Canada. In combination with specially devised crank shafts and rakes are perforated plates, the rakes having greater throw than the plates, so the machine operates with small power, has increased capacity, and is capable of excellent work.

A hay stacker has been patented by Mr. James B. Matlock, of Huntsville, Mo. The hay is collected with a rake in the ordinary manner, and the loaded rake is drawn to and upon the bars of a frame, where it may be connected with sliding catches, and elevated by drawing upon ropes, and then automatically released upon the stack.

A potato digger has been patented by Mr. Willis Dodge, of Presque Isle, Me. In combination with a draught beam and scoop is a shaker or screen pivotally suspended, and a specially shaped crank shaft having a lower forward extension engaging a grooved cam disk, the scoop passing the potatoes backward over the screen, which is agitated to separate them from the earth.

## MISCELLANEOUS INVENTIONS.

A cover for water closet seats has been patented by Mr. Dale O. Cowen, of Batavia, O. This invention provides for seat sheets to fit the apertures in water closet seats, and cover or protect the person from contact with any part thereof.

A spring wagon has been patented by Mr. Thomas P. Yates, of Factoryville, N. Y. This is a novel construction for combining the spring and axle in one device, and so calculated to simplify the construction and improve the operation of spring wagons.

A bag holder has been patented by Mr. Percy Cole, of Pipestone, Minn. This invention is an improvement on a former patent issued to the same patentee, and covers an improved means of holding a bag in connection with a hopper while the bag is being filled.

An improvement in supporting belts for absorptive pads, or a catamenial sack, has been patented by Nannette Amla, of Brooklyn, N. Y. The supporting

belt is made of webbing, to which is buckled elastic webbing and elastic hangers, which have loose sliding rings to receive the strings of an absorptive pad.

A pipe stem has been patented by Mr. Jurgen P. Lange, of Butler, N. J. The stem has a spirally grooved core with longitudinal passages and transverse passages, a reservoir for nicotine rising with the smoke, and an aperture which provides for its separation, so as to keep dampness from the bowl.

An improved window and door lock or but- ton has been patented by Mr. Evander B. Newcomb, of Corydon, Iowa. It is simple in construction and no spring is needed, but by it the sashes may be locked when fully closed, or the lower sash supported when raised to its fullest height or only partially raised.

A washing compound has been patented by Annie E. Rhoads, of Baraboo, Wis. It consists of sal soda, saltpeter, and gum camphor, combined in certain proportions, and used in slightly different ways for the varied work of cleaning dirt from clothes, and spots from floors, ceilings, woodwork, carpet, etc.

A street cleaning machine has been patented by Mr. Beekman Van Gaasbeek, of Mount Vernon, N. Y. A truck carries a water tank, a compressed air chamber, and a water and air distributor, pipes from which may be so set as to sweep the dirt to the curbstone or point desired, there being also means for keeping the water and air hot for melting snow and ice.

A measuring device for surveying and other purposes has been patented by Mr. Alfred Atkins, of Wanganui, New Zealand. There is a wire in a series of sections, swivels uniting the sections, tallies, and a chain for connecting the swivel on the inner end with a reel, all furnishing an improved means of measuring in an uneven country.

A sugar dumping wagon has been patented by Messrs. James D. Edwards and Leon F. Hautman, of New Orleans, La. The invention consists in a wagon box provided at one end with a means for linging it, and at the opposite end with means for receiving a rope to lift the latter end of the box and thus dump its contents.

A refrigerator for cooling contents of bottles, cans, etc., has been patented by Mr. Bernhard Moebius, of Cihuahua, Mexico. The invention consists in a fibrous bag or covering to be passed over a bottle or other vessel, part of the covering extending into a liquid which is absorbed by the fibers and is evaporated, thereby cooling the contents of the vessel.

A creaming can has been patented by Mr. John A. Kendall, of Hamilton, Mo. The can has at its lower part a closed annular warm water or air chamber, in combination with a surrounding cold water vessel, to keep the lower portion of the milk warmer than that at the top for a period, during which the cream will rise rapidly.

A drum and cymbal clamp has been patented by Mr. Perry W. Fair, of De Kalb, Ind. The clamp device has a seat and stud screw for attaching the cymbal, and a bottom and flange for seating substantially on the hoop of the drum, forming a simple and quickly adjustable device to make a substantial connection of the cymbal to the drum.

A gate opening and closing apparatus has been patented by Mr. Amon W. Chilcott, of Mattoon, Ill. This invention covers a special construction and combination of parts in mechanism for operating sliding gates, and is an improvement on a former patent issued to the same patentee, whereby the operation is made more easy and convenient.

A bosom board has been patented by Mr. Samuel Maxim, of Wayne, Me. The invention covers a special construction and arrangement of the clamping device for holding shirt bosoms while being ironed, in that class of ironing boards which have a projection to go through the neck and a clamping part to hold the bottom of the shirt.

An improvement in tombstones has been patented by Mr. Solomon R. Miller, of Mount Union, Pa. The invention covers a casing for receiving a picture, and adapted to be secured on a tombstone, the casing having a rubber lining which holds the glass covering the picture air and water tight, and there being a washer or packer between the cover and the casing.

An air cooling refrigerator has been patented by Mr. David Sanderson, of Ottawa, Ill. The ice rack has a curved plate or deflector at the under side of its central upper portion, in combination with a hopper-shaped ice bed with a central oblong air passage in its lower convergent portion, so air will be caused to circulate well around the ice, and thus cool the air in a room.

A trimmer for sewing machines has been patented by Mr. Daniel Maus, of Utica, N. Y. It is rotary, with a periphery which is an eccentric curve, or a curve of constantly varying radius, and with saw teeth serrations in the curved cutting edge, so the trimmer is made to cut positively, without causing the wedging action which antagonizes the feed.

An improved hame clip has been patented by Mr. Edward D. Cole, of Macon, Ill. It is so made that by removing a screw the clip may be detached from the hame, and also from the hame tug, so that either may be changed in the harness if desired without destroying the hame clip, and the clip is cheap, practical, and durable.

An improved horse power has been patented by Mr. August Zastrow, of La Harpe, Ill. The invention covers special constructions of belt casing with guide pulleys or idlers journaled to guide the belt clear of frictional contact with the ground, and permit the belt casing to be depressed where the animals pass over it in working the sweep.

A machine for leveling boot and shoe soles has been patented by Mr. Setb D. Tripp, of Lynn, Mass. The machine is made with a shaft connected with the drive shaft by beveled gear wheels, and with a right and a left worm gearing into worm segments carrying the last and presser foot, so the last and presser foot are made to move in unison.

An earth scraper has been patented by Messrs. John F. O'Connor and Sterling M. Williams, of Davenport, Iowa. This invention covers a special con-

struction and arrangement of parts for effectively operating a scraper, and for readily causing it to dump itself by the preponderance of weight in a certain portion thereof, or for carrying the load if desired.

An elevator bucket has been patented by Mr. Joseph A. Holmes, of Greenland, N. H. This is an improvement on an invention formerly patented by the same inventor, and provides that the bucket shall be attached to the endless band at or near the center of its length, so that when the buckets are large or heavily laden they will not pull away from the band.

A time lock has been patented by Mr. Moses C. Hawkins, of Edinborough, Pa. The invention consists mainly in what is called an "accident lever" with two pawls, one engaging a ratchet on the going barrel and the other a stationary ratchet the lever having an inclined surface for engaging the time catch when the accident lever is thrown forward by the recoil of the going barrel on the breaking of a spring.

A driving mechanism for sewing and other machines has been patented by Mr. Samuel Maxim, of Wayne, Me. There is a driving ring with a face groove, in which the heads of studs held in pivoted plates fitted in recesses of pivoted drive links bite alternately at opposite sides of the drive ring groove on reverse movements of the treadle, to impart continuous rotary motion.

A cheese press or mould has been patented by Mr. Lewis A. Rites, of Chester, N. Y. The invention covers two correspondingly recessed compressing rollers arranged diagonally to each other in the frame, to facilitate the feeding of the curd and the dropping out of the compressed rolls, there being also a hopper of special form in connection with the recessed compressing rollers.

An improved bell has been patented by Mr. Marcus M. Bowers, of Baltimore, Md. The flare of the bell is made with a series of interrupted straight lines, there is a concave form for the bead, and a hammer swell within the inside of the shell, whereby the strength of tone is increased and the bell is less liable to break from shrinkage, tension, or strain of the metal in casting.

An apparatus for painting bobbins has been patented by Mr. Luther C. Baldwin, of Manchester, N. H. This invention is in part the same as that covered by a former patent of the same inventor, where the bobbins have a prolonged travel on an endless moving belt, and there is a novel arrangement of belts whereby the bobbins are carried in a small space, so they are guided, steadied, and rotated while being painted.

A safety catch for elevators has been patented by Messrs. August J. Becker and Joseph B. Young, of Mount Carmel, Pa. Combined with an elevator car is a frame held on the same and supported by springs; the suspension rod of the cage is connected by chains with the frame, so that when the hoisting cable breaks, cams or eccentric disks will be pressed against the guide posts and lock the cage or car in place.

An ash sifter has been patented by Mr. Henry C. Pigneuron, of Spring Lake, N. J. On opposite sides of the sieve are lugs with apertures through which a square rod is passed, the rods not turning in the lugs, so the sieve cannot tilt; the coals and cinders cannot pack between the rod and the screen, and the sieve can be emptied more readily than those in which the rod is passed through the sides.

A stencil plate has been patented by Mr. Romeo E. Ghezzi, of New York city. The invention covers a stencil plate provided upon its face with raised brush guides on each side of the perforations to restrict the color during each application to a single perforated character or device, the plate having also blank spaces to afford facility, when shifting the plate, to space or line succeeding impressions, or observe previous stencils.

A firemen's tower has been patented by Mr. Eugene B. Magnus, of South Norwalk, Conn. This invention consists in a certain combination of ladders and means of connecting them, the whole forming a scaling tower for firemen, which may be set on the ground at a distance from a burning building, whereby convenience is afforded for firemen to stand in different positions, the tower being readily put together and taken apart.

A machine for pulverizing clay has been patented by Mr. Marshall F. Phillips, of Lakeland, La. Two opposite sets of rotary saws are operated in a hopper with an intermediate partition having pins, and a cross partition arranged above the saws, the fineness of the product being regulated by the set and shape of the saw teeth, the distance between the saws, the position of the partitions, and the speed at which the saws are run.

A mail bag has been patented by Messrs. Frederick Michael and Robert Williams, Jr., of Eaton, O. In the edge of each side, at the opening, is a longitudinal pocket, for receiving welts on a sliding cover piece, so the sides of the pouch are drawn together and the pouch closed by passing the cover and welts into the pockets, there being a hasp on the sliding cover adapted to be locked in place by a combined lock and tag holder.

A photographic plate holder and case has been patented by Messrs. Sebastian S. Peckinpuh and George J. White, of Big Rapids, Mich. In combination with a plate holder is a plate or strip with an adjusting screw, so the plate can be adjusted to exert a greater or less pressure against the photographic plate, to press the latter firmly against the front of the plate holder, to facilitate their carrying and transference into the plate holder of the camera without exposure to the light.

A gate hanging and operating apparatus has been patented by Mr. John H. Bradford, of Red Oak, O. Combined with a pivotal hinging rod, the gate has upper and lower hinging brackets and an intermediate arm, the rod passing through brackets and arm, and the arm carrying a pulley or roll, a latch rod, and operating cords, the whole making a simple and substantial gate, easily adjustable when it sags, and readily opened and closed without dismounting from a carriage or vehicle.

## Special.

## MRS. MARY A. LIVERMORE'S TRIP TO EUROPE.

As one of the clearest thinkers on the various social problems of the day, and as a lecturer of rare attractiveness and ability, Mrs. Mary A. Livermore has long been widely known both in this country and in England. Among women who have taken the platform for the discussion of questions particularly affecting their sex, Mrs. Livermore is without doubt the ablest representative, and the most convincing in her arguments and illustrations. A few years ago her health became so much impaired that she was forced to retire from the lecture field. But the interregnum in her work was not of long duration, and her wide circle of friends and admirers soon welcomed her back again. How and by what means she was restored to health is related in the following deeply interesting letter:

MELROSE, MASS., Feb. 1, 1884.

"DRS. STARKEY & PALEN, 1109 and 1111 Girard St., Philadelphia.—Dear Sirs: I am entirely willing to make a statement of the benefit I have received from the Compound Oxygen Treatment, and that you should make such use of it as you please.

"Four years ago this spring, at the end of a very severe and exhausting winter's work, I found myself utterly broken down in health. My superb constitution had hitherto carried me triumphantly through every task I had imposed on myself, and had been equal to every phase of protracted labor that had fallen to my lot. But I was now completely prostrated, with no power of recuperation. I could sleep but two or three hours of the twenty-four, and then only in a semi-sitting position, because of a difficulty of breathing; suffered excruciatingly from sciatica and neuralgia of the stomach; experienced the torment of indigestion and the train of ills that follow, and was harassed by optical illusions that were a source of great discomfort, although I knew them to be illusions. My mental depression was as severe as my physical prostration. I believed the hopeless invalidism which I had most dreaded had come to me, and my chief aim was to hide myself from the friends and acquaintances who were afflicted on my account.

"My physician recommended a trip to Europe, and my husband accompanied me thither. The change brought only palliation of my troubles, but no radical improvement. While in England some American acquaintances told us of the Compound Oxygen Treatment, and they were enthusiastic in their praise of it as the surest remedial agent in cases like mine. They emphasized their statements by narrations of complete cures which had been wrought by it of which they were personally cognizant.

"My husband immediately ordered from London the materials for a home treatment of two months. I used it for a month, punctiliously obeying the directions sent for its use, before I began to rally. Then my return to good health was rapid, and since then I have enjoyed almost uninterrupted perfect health and almost youthful vigor. I resumed work immediately, and have assiduously followed the most laborious vocation ever since, although long past the time of life when it is considered safe to toil severely and unremittingly.

"I have never discontinued the use of the Treatment since I began it. There have been few days in the last three and a half years when I have omitted it. I understand and accept the rationale of the Treatment, and depend on it for vigor and strength, as I do on food. I have recommended it to scores of people suffering from nervous prostration and chronic ailments, some of whom are rejoicing in restoration to health, while others, lacking persistence in the use of the Compound Oxygen, have not been benefited; for patience and persistence in its use are essential, if one would be cured of chronic illnesses or lifted from a depth of physical depression.

Yours truly,

MARY A. LIVERMORE."

In another letter to Drs. Starkey and Palen, Mrs. Livermore says: "I have always and everywhere proclaimed the excellence of the Compound Oxygen Treatment, and have persuaded a great many people to use it. I could not live without it, unless I abandoned all my work, and simply existed, and I would rather die than do that."

Any information in regard to this remarkable treatment will be promptly furnished by Drs. Starkey and Palen, 1109 and 1111 Girard Street, Philadelphia. If you write for their Treatise on Compound Oxygen, they will mail it to your address.

## Business and Personal.

The Charge for Insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office at least as Thursday morning to appear in next issue.

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Munson's Improved Portable Mills, Utica, N. Y.

Drop Forgings. Billings & Spencer Co., Hartford, Conn. Wanted.—Patented articles or machinery to make and introduce. Gaynor & Fitzgerald, Lexington, Ky.

Sewing machine, water closet, & other light castings made to order. Lehigh Stove & Mfg. Co., Lehigh, Pa.

"How to Keep Boilers Clean." Book sent free by James F. Hotchkiss, 86 John St., New York.

Stationary, Marine, Portable, and Locomotive Boilers a specialty. Lake Erie Boiler Works, Buffalo, N. Y.

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