

## ENGINEERING INVENTIONS.

Messrs. John A. Lesourd and James Lotan, of Portland, Oregon, have patented an improvement in hydraulic elevators of the telescopic kind, in which a fluid under pressure, or which is supplied from a higher head or level than that to which it is necessary to raise the cage or platform of the elevator, is made to act upon a series of rams or tubes arranged to work one within the other. The invention, however, differs from other telescopic hydraulic elevators in its mode of action, valve gear, and mechanism, whereby are produced what the inventors term a "multiple hydraulic elevator," in which each telescoping section is controlled by independent valves, and may be raised or lowered independently of the other sections, thus making each section a complete elevating device within itself, and so that the working fluid may be introduced to either telescoping section to operate the platform of the elevator a given distance, or all of the telescopic sections may be simultaneously operated, as desired.

## MECHANICAL INVENTIONS.

Mr. William Cowles, of Newburg, N. Y., has obtained a patent for an improved machine for rapidly and thoroughly cleansing and washing bottles, and rinsing them out before they are removed from the machine.

Messrs. Lewis Emery and Frank B. Stebbins, of Galion, Ohio, have patented a cutter head for producing raised panels from integral portions of the same with mouldings, and to round or bevel the edges of the panels to fit the grooves of the stiles of the door or other frame at the same time. This improvement claims to obviate all necessity for hand work.

A millstone dressing machine has been patented by Mr. Thomas C. Barnes, of Logansport, Ind. The invention relates to the dressing of millstones by means of a diamond cutter, and provides means for the adjustment of the cutter at any required angle, its feed at any proper speed, and its entire control in either direction by the operator. The entire arrangement may be made automatic at will.

Among the recent patents issued is one for an improved and simple steam whistle granted to Mr. J. E. Gause, of Brownsville, Tenn. In combination with the bell of a steam whistle a movable valve is fitted for operation by the engineer, so that the tone of the whistle can be changed readily at the will of the engineer. Means are also provided for adjusting the bell to the steam outlet so as to obtain a clear tone.

Mr. Arthur Grundy, of New York city, is the patentee of an improved freight car which can be loaded very rapidly and easily with large and bulky material. A section of the top of the car is readily removed to admit of the loading of hay, cotton, or any other material upon the platform, when the top can be restored to its place again without much trouble.

Mr. Louis Baumann, of Offenbourg, Germany, has obtained a United States patent for a rag cutting machine by which a great saving in the power is claimed and a superior result is obtained. A reciprocating knife is connected to the frame by a pivoted link which gives an oscillating reciprocating movement to the knife, giving the latter a drawing cut.

A new universal joint has been patented by Mr. George Carlisle, of Attleboro, Mass., consisting of a U-shaped projection from a rigid collar on the end of each shaft, or spindle, connected by a link or ring, the U-shaped staples having each a projection in line with its shaft, beveled or coned to correspond to the angle at which the shafts are to be run in relation to each other. These projections serve to keep the ends of the shaft apart and prevent noise in operation.

Messrs. T. R. Ellerbeck and A. C. Young, of Salt Lake City, Utah, have recently secured letters patent for an improved hose and rope reel containing a spring which is coiled by the unwinding of the rope or hose, which spring winds up the hose or rope as soon as it is released. To prevent overwinding of this spring or unwinding it too far, a drum is arranged to travel on its axis and strike against checks, after making sufficient revolutions to tighten the spring as much as may be necessary.

Mr. George B. French, of New York city, has patented two methods of coloring the outside of finished cigars; one that of carrying the cigars on an endless apron under another apron containing coloring material, the arrangement of the apron being such that the tips as well as the body of the cigars are evenly colored. The other method colors the cigars by means of brushes, and a soft felt material in an annular channel outside a horizontal revolving plate.

An improved fire extinguisher has recently been patented, so constructed as not to be charged and put under pressure except at the moment that it is required for use, and this can be accomplished in a few seconds and without previous knowledge. This extinguisher is filled with water in which has been dissolved an alkaline powder. By a rod at the top of the extinguisher is held suspended a sealed bottle containing a preparation which will disengage carbonic acid. In case it becomes necessary from fire to charge the apparatus, by turning a handle at the top of the extinguisher the bottle will be dropped and its contents discharged into the alkaline solution; the gas being at same time disengaged and a pressure established. The inventor of this device is Pierre C. E. Tabouet, of Paris, France.

## AGRICULTURAL INVENTIONS.

Mr. James A. Ehle, of St. Cloud, Wis., has invented an improved hay tedder. The invention consists in connected mechanism by which the forks will be vibrated by the advance of the machine, and the forks will be made to pass forward over the hay when a windrow is formed. The driver can readily dump the gathered hay or can raise the rake to avoid an obstruction.

A corn planter has recently been patented by Mr. Thomas A. Rasmuson, of Forest City, Iowa, the object of which is not only to facilitate the accurate planting of corn and other seeds in hills, but to produce

a convenient and easily controlled mechanical planter. The amount of seed dropped, the spaces at which they should be dropped, and the intervals, if any, are entirely under the control of the driver of the machine.

Mr. Peter Rodenbour, of Quincy, Ill., has invented a corn planter intended for planting corn or other easily deposited seed in hills, at equal distances apart, and adapted to any convenient or desired distances. The machine is adjustable to the amount of seed or the size of grains to be used, as well as to the distances.

Mr. Elijah Mickman, of Red Bluff, Cal., has patented an improved grain heading machine, the cutter or sickle bar of which may be adjusted at will to the varying height of the heads of the grain, independent of the general movement of the machine over the surface of the ground. The improvement combines a means of forcing the heads of the grain against the sickle blade, and the center of gravity is brought nearer the center of the machine than in ordinary headers.

An improved panel fence has been recently patented by Mr. James W. Riggs, of Mount Carmel Precinct, Ill., which has no permanent security to the ground but a pin used to secure a diagonal brace, but which may readily be withdrawn and re-driven with very slight exertion. The panels are of light construction, can be easily handled, are self-interlocking, and their posts rest on surface blocks, so that the fence can be easily taken up, be reset, and moved from place to place.

Mr. W. C. Henderson, of Sulphur Springs, Texas, has patented a sulky plow constructed with the sliding block carrying the adjustable wheel locked in place by a sliding spring-pressed bolt and withdrawn by means of an elbow lever. The sliding wheel carrying block is provided with rack teeth engaging with the teeth of a double gear wheel placed loosely upon the journal of the plow crank, and connected with the plow crank lever by a pawl, whereby the machine can be leveled and the plow adjusted by means of the same lever.

## MISCELLANEOUS INVENTIONS.

Mr. H. S. Lockwood, of South Norwalk, Conn., has recently patented a very simple toy pistol, which he claims is perfectly safe and harmless, the explosion of the paper cap taking place in front of a plate or cut.

A convenient salt box for table use, with a shaft having stirring arms or a screw propeller disk, for loosening the salt, has been patented by Mr. Robert E. Caine, of Battle Creek, Mich. The same contrivance for keeping the contents of a salt box from caking may also be used for ginger, pepper, or other spices.

Mr. John Zerr, of Keokuk, Iowa, has patented a fire escape in which scaling ladders are secured to the building, and belts are raised by means of ropes passing over pulleys at the upper ends of the uppermost ladders, by means of which the rope or belt or basket can be secured for lowering persons.

Mr. Wiley D. Coffey, of Pangburn, Ark., has obtained a patent on a horseshoeing rest for holding the feet of horses, mules, or other animals while undergoing the operation of shoeing, whereby the work is facilitated, the shoeer relieved of supporting the weight of the animal's limb, and much danger to the blacksmith is avoided.

An electrical fire alarm for hotels and other buildings has recently been patented by Mr. F. A. Copeland, of La Crosse, Wis. A composition is used which melts at about 150 degrees Fahrenheit, and allows a weighted sleeve to swing around against a button on the wall, closing the circuit, and rings a bell in the office.

Mr. J. B. Jonis, of Olympia, Wash. Ter., has recently patented an improved toggle for boom chains which should recommend itself to lumbermen generally. It consists of a boom chain toggle formed of a metallic bar having a median eye projecting down from its under side, and fits into a hole in the boom stick, the bar being provided with right angle points which stick in the log.

Mr. C. W. Vetter, of Ukiah, Cal., has recently patented an improved fruit drier which consists of a stove provided with a heating chamber adapted to receive the fruit holding drawers, which consist of a frame holding a perforated metal plate, and provided with two hinged covers of perforated metal plates or wire netting, whereby fruits can be held between both surfaces of the perforated plate and the hinged covers.

A mechanical puzzle is the subject of a patent by Mr. William J. Decker, of New York city, who has contrived a board or block grooved to receive sliding blocks, each bearing a distinctive number, letter, or character of a symbolic nature, the movements of which by means of a single switch that guides into all the grooves, lateral and transverse, may be made to form legible combinations.

A simple and effective safety attachment for dampers has been patented by Mr. J. M. Dolen, of Wilkesboro, Pa. The object of this invention is to provide for closing dampers of stove pipes automatically when the heat becomes excessive. A friction device is provided, so arranged as to hold the damper open, and made fusible, so as to give way when the pipe becomes highly heated, permitting the damper to close by its own weight.

A non-freezing hydrant is the subject of a patent obtained by Messrs. William Vadersen and Frank L. Trader, of Elizabeth, N. J. The invention consists in a packed upper section of a street hydrant, and a valve lower section by which the water in the upper section may be allowed to run off to prevent freezing in severely cold weather, and by which, also, water can be readily drawn from the main or service pipe in any weather.

A method of making buildings fireproof, or non destructible, in all their parts, has been patented by Mr. William H. Dolman, of St. Helen, Oregon. He proposes to sheath all the ceilings of wooden buildings with sheet iron, and fill the interstices of stringers and

floorings with fire ashes or dry earth, or other non-combustible material—in short, to make the present hollow walls and ceilings solid, or at least non-combustible, and to destroy the draughts that make inviting chimneys to sittings and partitions.

An improved two wheel vehicle, so arranged that the body of the vehicle will always maintain a level position without reference to the position or amount of the load, has been patented by Mr. Benjamin S. Porter, of Red Oak, Iowa. The invention also consists in the use of horizontally arranged Y-shaped springs, the upper and lower members of which are attached, respectively, to the body and axle of the vehicle, the trunks of the springs being attached to the thills or to a front cross bar of the vehicle.

Messrs. James Smith and David E. Blake, of St. Louis, Mo., have patented a plan for a refrigerator by which they claim to effect a great saving in the consumption of ice and insure a constant circulation of the air in the safe by its refrigeration after having taken up heat in the cooling of the contained provisions. A peculiarity in this refrigerator is the existence of dampers or doors, by which the amount of cold air and its circulation can be governed from the outside.

An apparatus for the manufacture of glycerine is the subject of a patent recently granted to Mr. Otto Laist, of Cincinnati, O. The invention relates to the method of refining glycerine, whereby the glycerine is rendered inodorous and colorless. The improved process consists in the employment of a jet of superheated steam introduced into a glycerine retort or still to facilitate the distillation of the glycerine, which, without the aid of the steam, condenses quickly from the volatile state. A previous patent of Mr. Laist covers a good many features embraced in the new patent; the latter covers, however, certain improvements in the distilling process not heretofore achieved.

An improved hydraulic motor for vessels has recently been patented by Mr. Simon O'Brien, of Bristol, R. I. The invention consists in a motor formed of a series of pipes and a cock so connected that water can be drawn in at the bottom of the vessel and forced out at the rear end of it, to the effect that the vessel will be moved forward. Water also can be drawn in at the rear end of the vessel and forced out at the bottom toward the front end, thus moving the vessel backward. The invention also consists in attaching a hose or flexible pipe to the end of the pipe projecting from the stern, and attaching the hose to the rudder, whereby the water issuing from the hose will assist in steering the vessel.

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