

## ENGINEERING INVENTION.

A boiler feeding attachment has been patented by Mr. Morris P. Janney, of Easton, Pa. Combined with the pump and a feed pipe connected with it having a cock or valve at one side of its connection with the pump, is an accumulator connected with the throttle of the pump and with the feed pipe, whereby, when the feed pipe valve is closed, the force of water in the feed pipe causes the accumulator, through its connections, to operate the pump throttle.

## MISCELLANEOUS INVENTIONS.

A wagon has been patented by Mr. George S. Conwell, of Booneville, Tenn. This invention covers an improvement in wagon bodies whereby the wagon can be readily fitted with side standards for hauling wood and the like, or may be formed into a box wagon by the addition of suitable side boards.

A pocket book fastening has been patented by Mr. Robert L. Boyd, of New York City. A catch plate is attached to the flap, having a hook-shaped jaw adapted to engage a corresponding jaw on a base plate attached to the body of the pocket book, the base plate having a movable button arranged to be pushed over the engaging jaws to lock them together.

A nut lock has been patented by Messrs. Alvin B. Neiman and Lewis M. Melhorn, of York, Pa. The nut has a tapered screw hole at right angles to the bolt hole, combined with a tapered screw plug cutting the threads of the bolt at right angles until its threads are deeply embedded crosswise into the threads of the bolt.

A combined square, bevel, protractor, and level has been patented by Mr. William Palmer, Jr., of Rincon, New Mexico. It is an improved instrument for measuring the length of rafters and braces, for marking bevels at their ends, and for forming polygonal figures, the invention covering various novel details and combinations of parts.

A nut lock has been patented by Mr. Orlando L. Castle, of Upper Alton, Ill. It is for use in connection with fish plates at the abutting end portions of railroad rails, and is of that kind in which arch shaped spring plates are used to assist in keeping the nuts from working loose or turning, and to compensate for or take up any slack in the nut lock.

An inkstand and frame has been patented by Mr. Charles Vehring, of New York City. The frame is covered with leather or other suitable covering, and is beveled at its front edge, being adapted to be applied to the base of a writing pad, the casing of the ink bottle being made fast to the frame by tongues of metal, with other novel features.

A stock trap and holder has been patented by Mr. Joshua H. Gentry, of Sheldon, Mo. It is a device which can be cheaply made and set in a fence, gateway, or stock chute, and adapted to any sized opening, as a device for catching and temporarily holding a domestic animal driven into it, by means of a hand lever, ratchet and pawl, and sliding bars.

A road grader has been patented by Mr. Alberto Finks, of New Berlin, N. Y. This invention provides a novel construction and arrangement of parts in connection with a reversible scraper, with means for securing it in different positions, and applying the draught for adjusting the scraper vertically or holding it at any suitable angle.

A wagon jack has been patented by Mr. Rozell Harris, of Hackensack, N. J. Combined with the carrying bar is a curved arm attached centrally thereto, upwardly extending supporting bars integral with the extremities of the arm, and steps secured on the arm beneath the supporting bars, whereby one or both wheels of a wagon on the same axle may be raised as desired.

A theatrical appliance has been patented by Mr. Joseph Arthur, of New York City. This invention provides mechanical means for representing the interior of a city fire engine house, wherein the clothes covering the beds and the harness for the horses may be manipulated simultaneously, the former being lifted from the beds and the latter dropped in position upon the horses.

An electro-medical apparatus has been patented by Mr. Peter Horst, of Sioux City, Iowa. It has a hard rubber grooved disk with a small metallic plate on its under side and a large one on its upperside, with conductors held in the disk and connecting its under side with the metallic disk on top, in connection with a collector for frictional electricity held between the top disk and the hard rubber disk.

A gummed paper fastener forms the subject of a patent issued to Mr. Joseph M. Jones, of Paris, Ky. It consists of a strip, divided transversely at suitable distances by rows of perforations, and having gum or adhesive material applied to both of its sides, to secure, upon dampening, separate sheets or pieces of ungummed paper together, in counting houses and elsewhere.

An automatic fire extinguisher for stoves and heaters has been patented by Messrs. Frederick L. Hotchkiss and Pierre A. Raby, of Brooklyn, N. Y. It is designed to be especially applicable for use with car heaters, to automatically act, in case of accident, to extinguish fire in the heater, the invention covering various novel details in construction and the combination of parts.

An embossing machine has been patented by Mr. Michael T. Durkin, of Brooklyn, N. Y. It is a lever press having a follower with variable stroke operated by a lever working on a yielding fulcrum, with an arrangement of movable dies adapted to be readily adjusted for different kinds of work, for forming sheet metal in various designs without the employment of special dies or moulds.

An electric tele-thermoscope has been patented by Mr. Harry W. Hardinge, of Leadville, Col. It has a pulsator consisting of a curved tube with a bulb at each end, additional tubes extending short distances into the bulbs, combined with an air chamber connected with one of the additional tubes, a thermostatic spring and adjusting screws, arranged in an electric circuit, for indicating changes of temperature.

A punching and shearing machine has been patented by Messrs. Claus Weber and Henry Schneider, of Parker, Dakota Ter. The invention consists of a series of different sized punches, and a shear adapted to be engaged alternately at their heads by a link, pivotally connected with a lever fulcrumed on a longitudinally sliding bar held above the punch and shear heads.

A gate has been patented by Mr. Jesse Chandler, of Red Stone, Kansas. Combined with a gate is a three-armed lever on its end bar, a sectional latch, rods pivoted to the opposite arms of the lever and loosely connected to the rear section of the latch, ropes being connected to the other arm of the lever, the object being to facilitate the opening and closing of gates and promote reliability in their action.

A secondary battery has been patented by Mr. Ludwig Epstein, of Martinkensfelde, near Berlin, Prussia, Germany. The electrode consists of a series of composite strips formed of the active material and metallic lead, the strips being arranged at a suitable distance apart, and connected by suitable means to form a grid, which is adapted to permit the free circulation of the electrolyte.

An oven attachment has been patented by Mr. Charles E. Hollingsworth, of Minneapolis, Kansas. It is for use in connection with a gas or gasoline stove, the invention covering a novel construction by which it is designed that baking may be carried on at the time when it is necessary to employ the stove for other culinary purposes, with no additional expenditure for fuel to produce the requisite heat.

A fire escape has been patented by Mr. Henry B. Calkins, of Hydeville, N. Y. It has friction rollers pivoted near the upper end of a frame, combined with aligning curved carrying arms and angle levers, and other novel features, being adapted for use with a rope, to facilitate the safe descent of a person from any height, the rapidity of the descent being under the control of the operator.

Tubular plaited or braided bands form the subject of a patent issued to Mr. Leedham Binns, of Philadelphia, Pa. The improved band is more especially designed for driving the spindles of spinning and twisting frames, and the invention covers a novel construction, in which the tubular band is formed at its ends with disconnected loops of the same thickness at their bends as the body of the band.

A wheel for hand trucks, casters, etc., has been patented by Mr. Michael J. Cummings, of New York City. It is made of two metallic compressing disks, each having a peripheral flange and an annular shoulder, combined with a tire of rubber or similar material, having annular side grooves to receive the flanges on the disks, the construction being such that the tire cannot be slipped off the wheel by hard usage.

A fire escape has been patented by Mr. Thomas Brice, of Sandy Hill, N. Y. The case is made of two long half boxes, in which grooved pulleys are arranged, a rope passing through the case and winding around the pulleys, with means for making more or less frictional engagement, making a simple and efficient device not liable to be disarranged in the excitement of a fire.

A hay derrick has been patented by Messrs. William A. Hooper and Rodney F. Hamblen, of Maryville, Mo. The base frame has an outer guide pulley at its lower end and an inner guide pulley, in connection with a centrally journaled mast carrying a cross beam on whose ends are pulleys, the mast and its cross beam turning in any desired direction, and there being a windlass on the base frame.

A machine for planing stereotype plates has been patented by Mr. Lucius Goss, of New York City. It is for use with plates cast with several spaced columns, and has trimming knives or cutters arranged to enter the spaces between columns and trim the edges, while the bed plate or frame has a straight edge or offset to align the stereotype plate with the bed plate and its line of motion, to insure accurate trimming of the columns.

A belt punch has been patented by Mr. Hugh L. T. Overbey, of Summerville, Ga. It consists of a vertically reciprocating rod mounted in the arms of a metallic frame, the lower end of the rod being threaded to receive a tubular bit, and there being a handle lever pivoted at the top of the rod, and the rod being surrounded between the arms by a coiled spring, which acts to withdraw the punch after a hole has been made.

A moulder's draw iron has been patented by Mr. George A. White, of Sharon, Mass. It is an improved device for the ready and accurate withdrawal of a pattern from the mould, in which ordinary wood screws are employed, so that as one wears out it may be quickly replaced at slight cost, and by means of the attachment of the handle with the screw the latter may be so controlled in entering the pattern as not to depress or jar it and thereby trouble the sand.

An apparatus for detecting leakage in furnace blocks has been patented by Mr. Joseph Bird, of Saxton, Pa. Combined with the water blocks of a furnace and the discharge pipe is a detachably connected faucet, with a valve near the lower end, an upwardly extending branch above the valve, a glass tube supported by the branch and closed at its upper end, a stop cock below the tube, and a sectional collar attaching the faucet to the discharge pipe, making a simple device capable of application by any workman.

A process of reducing iron ores has been patented by Mr. Gustaf M. Westman, of Stockholm, Sweden. In addition to the reducing furnace, regenerating or carburizing furnaces are employed, with a circulating blast engine, affording means for reducing the ores by means of carbonic oxide, by passing the carbonic oxide through a charge of ore, drawing off the gases from the charge and passing them over glowing coke, cooling the gases and then superheating them, after which they are again passed over or through the ore to be reduced, thus saving fuel without injuring the quality of the product.

A process of reducing zinc ores has been patented by the same inventor. It consists in subjecting the zinc ores in mixture with coal to the action of highly heated carbonic oxide, condensing the zinc from the outgoing carbonic oxide, and subsequently reheating and returning the gas through the charge, the gases taking the oxygen from the zinc oxide and the carbon from the fuel, avoiding the admixture of air or oxygen, and constituting a process of reducing the ores at a low cost, with saving of labor and fuel.

A two-wheeled vehicle has been patented by Mr. Charles C. Spencer, of Cortland, N. Y. It is designed to obviate horse motion by the use of a novel form of springs, having a transverse front spring attached to the body and the side bars, in combination with longitudinal side springs having their forward ends attached at the front of the body and their rear ends curved upward, with a U-shaped bend, and secured to a semi-elliptic spring attached to the under side of the seat, each side spring being likewise susceptible of being made in two parts, to vary its form in front of and behind the point of its attachment to the axle.

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BUILDING EDITION.

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