

## ENGINEERING INVENTIONS.

An automatic station indicator has been patented by Mr. Charles W. May, of Omaha, Neb. The invention covers a novel construction and arrangement of parts for a device to be actuated by the motion of a car, to automatically indicate the streets, stations, and other prominent points on the route.

A boiler cleaner has been patented by Messrs. Robert S. Smith and John Meiklejohn, of St. Thomas, Ontario, Canada. It is a flue cleaner attached to a cleaner plate or carrier, with rods by means of which the plate and its cutters may be moved along the tubes, and clean the latter of accumulations and sediment.

A rail joint has been patented by Mr. George J. Ferguson, of Greenville, Texas. It is a device designed to make the joints equally strong with other parts of the rails, providing for modifications and variations in structure, the improvement being also applicable to close joints at switches, frogs, and guard rails.

An automatic railway station indicator has been patented by Messrs. William B. Bradby and Edward W. Hagee, of Greenville, Ill. It is for displaying to passengers on cars the names of successive stations along the route, and working automatically, the invention consisting of novel features of construction and the combination of parts.

A car coupling has been patented by Messrs. Thomas Kirby and Abram Singer, of Petoskey, Mich. The invention covers certain novel features of construction and the combinations of parts in a coupler designed to be perfectly automatic, and which can be conveniently used in connection with the ordinary drawhead and link coupling.

A dredging machine has been patented by Mr. Cornelius C. Sullivan, of Roorkee, India. It consists essentially in a pair of jaws or cutters, forming when closed a scoop or bucket, and an oscillating hammer for driving the jaws or cutters into the soil by percussion, the jaws and hammer being pivoted on a common axis, with a hoisting chain and subsidiary parts for working the hammer, opening and closing and hoisting and lowering the bucket.

## AGRICULTURAL INVENTION.

A forcing frame has been patented by Mr. Jacob Siem, of Homburg-vor-der-Höhe, Germany. It is an arrangement for producing and maintaining the heat of hot beds for horticultural purposes by means of hot water, a hot water reservoir being arranged below the bed, in which the inlet and outlet pipes are so located that the water heated in a boiler outside continually circulates to maintain a uniform temperature.

## MISCELLANEOUS INVENTIONS.

John S. Moore, of Corvallis, Oregon. It is made of a decoction of tea in water, salt, borax, aqua ammonia, glycerine, bay rum, tincture of cantharides, musk and other perfume, compounded in certain proportions and manner specified.

A shoe sole plate has been patented by Mr. Charles Williams, of Blenheim, Marlborough, New Zealand. It is a metal toe plate, having on its ground bearing surface inner and outer grooves, with apertured countersunk portions to receive screws or other fastenings for attaching the plate to the sole.

A scaffolding has been patented by Mr. William S. Welch, of Westfield, N. J. It is for use on sloping roofs where the gutter cannot be utilized, and in connection with ordinary ladders to make a swinging scaffold, the invention covering various novel features of construction and the combination of parts.

A paper file has been patented by Mr. John M. D. France, of St. Joseph, Mo. It has a base or main plate, ratchet arms secured thereto having their rack teeth provided with beveled upper surfaces, with a slide plate and locking bar, making a convenient device for filing bills and papers.

A salt cellar has been patented by Mr. Metellus Thomson, of Kenton, Ohio. Its top is provided with a slot or slots, with a disk or disks operating therein, sockets receiving the salt when in the cellar and discharging the salt when the disk is turned to bring the sockets out of the top.

An axle skein has been patented by Mr. Edmund N. Hatcher, of Columbus, Ohio. The invention consists in forming an axle skein of a single piece of metal, and in cutting the blank in such manner that angular recesses in the edges are avoided, and also in novel details of construction.

An oil cup has been patented by Mr. Samuel D. Mershon, of Rahway, N. J. It is adapted for use on moving bearings, as crank pins, cross heads, and eccentrics, and is of a novel construction, calculated to feed an ample quantity of oil when the machinery is in motion, but none when it is stationary.

A post hole digger has been patented by Mr. James H. Humphrey, of Platte City, Mo. This invention relates to a device with plungers for removing the earth from the cylinder when filled, and also for packing the earth in the cylinder to retain it therein when being raised out of the hole, there being various novel features of construction and arrangement.

A harness pad has been patented by Mr. William S. Webster, of Newark, N. J. The back pad is formed without a jockey, the skirt on each side being made continuous from the saddle to the lower end and an opening being formed therein for the back band to pass under the skirt at a point somewhat below the terret.

A calf weaner has been patented by Mr. Robert L. Rickman, of Graham, Texas. It consists of a simple arrangement of pivoted plates, which can be readily adjusted upon the nostrils of a calf so that it will breathe without difficulty, with projecting points

that will prick the cow when the calf attempts to draw milk.

An electric door opener has been patented by Mr. Albert C. Woehrl, of New York City. Besides a special construction of the door opener, the invention consists principally in so arranging the electrical connections that the circuit will be broken when the door stands open, also when closed and the button has been once pressed.

A galvanic battery has been patented by Mr. Frank J. Crouch, of Eugene City, Oregon. It is of that form in which one of the elements is revolved to constantly bring new portions of the same into contact with the exciting fluid, the invention covering novel features of construction and arrangement of parts.

A stove has been patented by Mr. Richard A. Rew, of Pomeroy, Washington Ter. The invention covers a peculiar construction of the supply pipe, and the combination of the pipe and stove, whereby the air will be taken from the lower stratum in the room, thus withdrawing the foul air, at the same time preventing danger from sparks.

A door check has been patented by Messrs. James P. and James H. Swift, of Evansville, Ind. The invention provides for the ready adjustment of a curved locking bar for variously hinged doors, furnishing a latch for working the check bolt, with arrangement for locking the latch, locking the door, and sounding an alarm by the turning of the door knob.

A thermotic valve controlling device has been patented by Mr. Henry Deymann, of Toledo, Ohio. One of the connected pipes has an air chamber at its upper end, a tube extending into the pipe and into the air chamber and connecting with a diaphragm upon which is supported a rod or stem, the upper end of which fits into the flame passage of the burner.

A process of waxing paper has been patented by Messrs. Charles A. Wilkinson, of East Somerville, and William S. McDonald, of Boston, Mass. It is a process wherein the web of paper is drawn over a blanket saturated with heated wax or paraffine, the wax being distributed upon a web in contradistinction to being distributed upon a sheet of paper.

A car starter and brake has been patented by Mr. Charles Merckelbagh, of Brussels, Belgium. By the ordinary brake shaft and handle an apparatus is set in motion whereby the car may be stopped, while the momentum is taken up by springs, which, when released, operate upon the axles to give the car a forward impetus.

A folding anchor has been patented by Mr. Thomas G. Edmondson, of Tarpon Springs, Fla. It has a slotted shank, with an eye near the crown, and is so made that the stock may be readily folded along the sides of the flukes to render the anchor compact when stowed, while it may be readily cleared when the flukes become fouled by obstructions.

A ladder has been patented by Mr. William Horsefield, of Morristown, N. J. Combined with the ladder is a screw rod to pass through the side pieces of the ladder and enter the side of the building to hold the ladder in upright position, there being also side projections to space the ladder from the side of the building, particularly adapting it for painters' use.

An animal trap has been patented by Mr. Evans Wood, of Lyons, Texas. A spear is fitted to slide in a frame, there being a spring to force the spear down, a pivoted trigger, and other novel features, the trap being designed to catch burrowing animals, of simple construction, and one which will operate equally well when set vertically or at an angle.

A stirrup has been patented by Mr. John P. Walker, of Grand Forks, Dakota Ter. It has lower and upper rollers journaled on its main frame, the frame and its lower rollers being swiveled to the stirrup strap loop, with other novel features, the construction being such that, should the rider be thrown, his feet would slip readily from the stirrups.

An electric gas lighter has been patented by Mr. Justus B. Entz, of New York City. This invention relates to burners in which the gas is automatically turned on and a spark produced at the burner tip to ignite on closing the lighting circuit, and on closing the extinguishing circuit the gas is turned off, the device being compact, efficient, and economical.

The cleansing, disinfecting, and testing of drain pipes in dwellings and other structures forms the subject of a patent issued to Mr. William D. Schuyler, of New York City. The drain pipe common to all the receptacles has independent discharge connections, with valves between the receptacles and the drain pipe, with independent hand valves in the drain pipe below, and other novel features.

A templet for use in gaining stair stringers has been patented by Mr. William H. Parry, of New York City. The plate is formed with slots meeting at an angle bounded on either side edges and having rounded extremities, with other novel features, making a convenient device for gaining stair stringers for the reception of treads and risers, and readily adjustable for stairs and winders of different pitches.

A wagon brake has been patented by Mr. Charles W. Loomis, of Otisville, N. Y. An arched shaft forms the main crank or lever of the brake, and the brake blocks upon the ends of this shaft are each acted upon by a spring coiled about the shaft and connected to the blocks in such a way as to normally hold the upper end of each block away from the wheel, the brake being very powerful.

A shell capper and extractor has been patented by Mr. Peyton A. Lee, of Coushatta, La. Combined with a shell holder having a capper is a magazine at right angles to the holder and having a cap-receiving track, its delivery end terminating in a space in the path of the capper, with a spring-impelled follower to automatically force the caps out of the magazine into the path of the capper.

A coin operated induction coil has been patented by Mr. William R. Pope, of Baltimore,

Md. It is a device for administering electricity, so constructed that the circuit will be broken except just at the time when made operative by the insertion of a coin or other detached article, so that the instrument may be set up in public places to care for itself and make its own collection.

A velocipede has been patented by Mr. David Horn, of Carterville, Ill. It is designed to make the main wheels seven to eight feet in diameter and the steering wheel four to five feet in diameter, the weight of the rider being carried from a point below the axles of the main wheels, making a vehicle which can be propelled at high speed on ordinary roads and readily steered in any direction.

A fishing reel has been patented by Mr. Elbert B. Porter, of Penn Yan, N. Y. It has a fixed spring barrel and friction spring therein, in combination with a driving spring, a reel inclosing the barrel, planetary gearing between the barrel and reel, and a system of gearing for winding the spring, whereby perfect control of the line and the fish may be secured, and the tension of the line accurately regulated.

A corkscrew has been patented by Mr. Ernest D. Williams, of Boston, Mass. The handle has a socket carrying a spring pawl, in combination with a pointed screw or worm which carries a ratchet and is formed with a squared portion just below the ratchet, being operated with a rotary reciprocating motion to advance the screw into the cork, while the turning of the handle to the left withdraws the cork.

A sash fastener has been patented by Messrs. Nicholas B. McGrath and John H. Pierce, of Plantsville, Conn. It is adapted to be attached to either the upper or lower sash, or to either the right or left hand side of the sash, the construction being cheap and simple, and such that the main parts can be cast without cores and put together without boring or extra fitting.

## SCIENTIFIC AMERICAN BUILDING EDITION.

## DECEMBER NUMBER.

## TABLE OF CONTENTS.

1. Elegant Plate in Colors of a Suburban Dwelling costing about Nine Thousand Two Hundred and Fifty Dollars, with floor plans, specifications, sheet of details, etc.
2. Plate in Colors of a Dwelling erected near Wareham, Mass., at a cost of Twenty-eight Hundred Dollars, with full specifications, floor plans, sheet of details, etc.
3. The Shakespeare Memorial at Stratford-upon-Avon.
4. Perspective view and floor plans of a Residence to cost Eight Thousand Dollars.
5. Engravings of Five Tasteful Residences recently erected at Glenridge, N. J., varying in cost from Four Thousand to Six Thousand Five Hundred Dollars.
6. Perspective view, detail drawings, specifications, roof, and floor plans of a Two Thousand Five Hundred Dollar California House.
7. Engravings showing interior and front view of Chateau of Castelnaudary. M. Aubry, Architect.
8. Lea Hurst, Derbyshire, the home of Miss Florence Nightingale.
9. Elevations and floor plans of Homes of Factory Operatives at Willimantic, Conn.
10. Bathing House and Saloon at Vittef. Built by Charles Garnier, Architect, of Paris.
11. Floor plans and perspective sketch for a Cottage costing about Five Thousand Five Hundred Dollars.
12. Perspective view and floor plans of a Cottage costing Four Thousand Two Hundred Dollars.
13. Front and rear perspectives, with plans for a Handsome Stable being erected in Brooklyn, N. Y. Cost, Five Thousand Five Hundred Dollars.
14. Perspective view and floor plans of a Residence for Five Thousand Dollars.
15. Perspective view and plans of a Neat Dwelling costing Four Thousand Two Hundred Dollars.
16. Half page engraving of the John Crouse Memorial College for Women, Syracuse University, Syracuse, New York.
17. Plans for a French Cottage, Hotel de Peintre, Meudon.
18. Miscellaneous Contents: Optical Refinements in Architecture.—Testing Pile Protecting Compounds.—Our Forestry Problem.—Bamboo Tree.—Fire-proof Structures, illustrated.—Construction of Chimney Flues.—Roadside Plantations of Trees in Belgium.—An Egyptian Temple.—The White Ash.—Ornamental Keystones, three illustrations.—Sawdust, how Utilized.—Fire Bricks.—Improvements in Making Portland Cement.—Typhoid Fever Carried by Well Water.—An Unsafe Church.—Cedar Pavements.—Hemlock for Paving Purposes.—Collapse of Walls of Burning Buildings.—Relative Value of Wire and Cut Nails.—How to Build an Ice House.—Look to your Drain Pipes and Wells.—Arch Construction.—New Form of Chimes for Churches, illustrated.—Painting.—Removal of Chimneys.—The Back Yard.—Pine Woods.—Sketch of Thomas Ustick Walter.—Roburite, a New Explosive, with illustrations.—Iron Beams in Place of Wood.—Gangways v. Staircases.—How we have Grown.—A Great Building.—Proportions of Rooms.—How a Marble Statue is Made.—The Wainwright Horizontal Feed Water Heater, illustrated.—An Improved Double Surface Planer, illustrated.—How to Make a Cheerful Fireplace, illustrated.—The Sounding Board in St. Paul's Cathedral.—Gleason's Double Surface Planer, illustrated.—The Popular "Fortune" Hot Air Furnace, illustrated.—An Improved Hand and Foot Power Band Saw, illustrated.—Plants for Room Decoration.

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