

## ENGINEERING INVENTION.

A station indicator has been patented by Messrs. James W. Duffee and Charles Weston, of Washington Court House, Ohio. The invention provides for placing an indicator at each end of each car of a train, all the indicators being connected by pipes with a reservoir on the locomotive or tender, from which compressed air or other fluid is made to operate the indicators simultaneously at the will of the engineer.

## MECHANICAL INVENTIONS.

A machine for cutting metal has been patented by Mr. Loring L. Hazen, of Arcola, Ill. It is made mainly of cast iron, with a working or cutting lever operated by an eccentric, and is mainly designed for use in blacksmiths' shops, and to be secured to a bench or post for operation by hand, having also a peculiarly fitted and operating punch.

A ratchet drill has been patented by Mr. Charles Davy, of Sheffield, York County, Eng. It consists of a friction clutch for transmitting motion from the handle to the spindle, consisting of a screw thread of rapid pitch upon the spindle, a nut screwing thereon and of conical form externally, an eye attached to the handle and fitting on the nut and free to rotate, with a spring to force the nut more tightly into the eye.

## AGRICULTURAL INVENTIONS.

A lime distributor has been patented by Mr. John Hotham, of Hillside, Pa. Combined with a hopper are two independently geared distributing wheels and a double inclined apron, with other novel features, the machine being calculated to evenly and widely distribute lime or other fertilizer, either fine or lumpy, and to hold a large load.

A harvester cutter bar has been patented by Mr. Daniel B. Detweiler, of Berlin, Ontario, Canada. This invention provides a construction in which the ledger plates of a cutting apparatus are so mounted that they may all be removed at once, without removing the guard fingers or loosening any of their connections or fastenings on the finger bar whereto the guard fingers are secured.

A band cutter and feeder for thrashing machines has been patented by Mr. John H. Spurgin, of Carthage, Mo. It is so constructed that as the bound bundles are fed they are guided beneath knives which cut the bands and then spread by a novel arrangement of tines as delivered to the thrasher, the construction being applicable for use in connection with any of the ordinary forms of thrashing machines and increasing their general utility.

## MISCELLANEOUS INVENTIONS.

A stirrup has been patented by Mr. William S. Cardell, of Fred, Chickasaw Nation, Indian Ter. The foot portion has holes formed through its sides in which are incased springs, capable of yielding to the weight of the horseman, and thus take up part of the jarring and jolting caused in riding.

A flying toy has been patented by Mr. John M. Richard, of Newark, N. J. It consists of a bladed wheel and pendent guiding shaft, a handle for the shaft being made with an adjustable spindle, the toy being caused to rise in the air by pulling a string, effecting a rapid rotation of the shaft and its blades.

A bed room sanitary closet has been patented by Mr. Charles Memmert, of Washington, D. C. It is designed to set in the fire board or wall, to extend into and communicate with the chimney or flue, thus forming such a receptacle for the chamber vessel that it will be out of sight, and all odors therefrom will pass up the chimney.

A fifth wheel has been patented by Mr. William C. Engel, of Ashland, Pa. This invention consists mainly in a ball having a connected head or flange plate to which the vehicle spring may be clipped, and a socket connected to a base plate or bar clipped to the axle, the ball fitting in the socket after the manner of a ball and socket joint.

A stump puller has been patented by Mr. John H. Schindly, of Luthersburg, Pa. It has three posts held together at their upper ends, in connection with links, wedge, clevises, and a pulling lever, arranged in such relation to each other that a powerful pull may be effected, and which may be readily regulated according to the resistance offered.

A bean cutter has been patented by Henry A. Grotholtman, of Fort Wayne, Ind. It is for slicing beans for pickling and other purposes, and has a cutting disk revolved by a crank arm and bevel gear, with cutter blades revolving parallel and closely to the lower ends of inclined guide tubes, which receive the beans fed through openings in a circular head.

A washing machine has been patented by Mr. Martin V. B. Watson, of Altamont, Kansas. It has rubbing bars in the bottom of the tub, in which a hollow corrugated cylinder is journaled, the clothes being placed in the cylinder and attached thereto from loops on the outside, when they will be washed by the revolution of the cylinder and by rubbing on the bars.

A device for operating awnings has been patented by Mr. Theophile Charron, of Kankakee, Ill. This invention provides a construction whereby an awning may be readily raised and lowered, and when raised will be wound upon a suitable roller, and thereby protected from the weather and prevented from creasing, while it will be securely held in open position.

A speculum syringe has been patented by Mr. John P. Schenck, of Matteawan, N. Y. The invention consists of movable fingers each carrying a perforated tube, the object being to combine a syringe with a speculum.

A hat wire has been patented by Mr. Herman H. Kellner, of Danbury, Conn. It is of a peculiar triangular shape in cross section, with two straight or flat diverging sides and one convex side uniting the straight sides at the points of their greatest divergency, whereby it will possess considerable strength in the hat rim, and not tend to jump out of place.

A collar stud and necktie holder has been patented by Mr. David Stone, of New York City. It is a stud or button proper provided with a folding shank or back, so arranged that it is designed to facilitate the operation of dressing, and at the same time be comfortable and prevent all chance of the shifting of the cravat.

A frame for pocket books, satchels, etc., has been patented by Mr. Louis B. Prahar, of New York City. It is composed of two jaws, each struck from a single piece of sheet metal, with a narrow portion at one half and a flange at the other half made flush or on the same curve with the narrow portion of the jaw, the jaws being pivoted to brace and protect each other.

A nutshell cutting machine has been patented by Mr. Charles Pecht, of Austin, Texas. It is principally for the use of bakers, confectioners, and others, to release the kernels better than by cracking, and consists in a metallic ring with a series of cutters extending inward radially, and easily adjustable, with a follower adapted to push the nuts through between the cutters.

A curtain pole and fixtures have been patented by Mr. Frank C. Schastey, of New York City. The construction is such that the curtains are opened and closed, and the curtain rings moved along the pole, by the contact of the cord tubes with each other, these tubes being fixed in the lower part of each curtain ring, whereby the curtains will be moved with very little noise and friction.

The construction of vessels forms the subject of a patent issued to Mr. Thomas J. Hanlen, of Macon, Ga. The hull of the vessel is broad, but with a central U-shaped bottom, making a channel from stem to stern for free passage of water, this channel having a casing extending up into the hull, and the propeller shaft and propellers being located therein and operated after a novel manner.

A vehicle wheel lock has been patented by Mr. George N. Adams, of Olean, N. Y. It is more particularly designed for children's carriages, and is of the kind where a bolt or catch is combined with the axle, engaging with a plate on the inner face of the hub of the wheel, which, when free, turns loosely on the axle, the invention covering novel features and combinations of parts.

A combination lock has been patented by Mr. Joseph G. O'Neill, of Nevada City, Cal. The invention consists of a sliding bolt frame operated by a lever, a locking frame actuated by the outside knob and the lever, and pivoted tumblers operated by spring keys, the construction being simple and durable, and the lock being adapted to be changed to any desired combination for unlocking.

A station indicator and calendar has been patented by Mr. Francis C. Jones, of Ouachita Parish, La. Combined with an apertured casing are rollers, a belt or band, knobs with notches in their hubs connected to the rollers, and certain other novel features, whereby, when the operator turns the proper roller, the name of the next station will be made to appear, the device carrying also a calendar.

A folding tracing slate has been patented by Mr. William D. Heyer, of Elizabeth, N. J. By this invention a translucent slate is held between hinged opaque slates, whereby a slate pencil may be used upon the roughened surface of the translucent slate and the white lines made will be rendered clearly visible by the dark background, making a desirable surface for tracing and copying.

A ratchet brace has been patented by Mr. George M. Laforge, of Billings, Montana Ter. The invention provides means for converting the device into a double or single armed brace, for locking the ratchet and thus making the brace rigid, and for adjusting the jaws to fit angular portions of different sizes, being generally adapted for use with augers and drills, or as a nut wrench, and for other purposes.

A process of making bread has been patented by Mr. Joseph D. Cox, of Rochester, N. Y. The mixing pan has a cover of some height, whose down projecting rim sits in an annular trough containing water, preventing access of air to the dough, but allowing the escape of gases generated by the dough through the water, whereby the fermentation process in the raising of the bread will be facilitated.

A dust trunk cleaner for cotton openers has been patented by Mr. Horatio W. Fairbanks, of Atlanta, Ga. It is for use with the trunks through which cotton is drawn before delivery to the opener, the invention providing the trunk with cross slats, doors carrying segmental toothed racks, and endless chains having teeth and carrying brushes, to relieve the trunk of sand, dirt, dust, etc.

A manual motor has been patented by Mr. Adam M. Friend, of Rawlins, Wyoming Ter. Combined with a freely vibrating hand lever and a treadle with pawls and toothed wheel is a rotatable shaft on which the toothed wheel is fixed, with other novel features, whereby the weight and strength of the operator may be utilized for propulsive effect in driving machinery and propelling vehicles.

A heat regulator has been patented by Mr. Edward Zickwolf, of Saarbrücken, Germany. It is an apparatus in which a volatile liquid vaporizing at the ordinary temperature is used, the vapors, expanding under a higher temperature, acting upon a column of mercury to operate a device for opening and closing the inlet valve for the heat, thus automatically regulating the admission of heat to a room.

A clothes washer has been patented by Mr. John J. Turner, of Hunter's Point, Long Island City, N. Y. It has a perforated plunger and a mechanism for imparting a reciprocating motion thereto, a central cylinder within which the plunger is reciprocated being entirely or partially surrounded by auxiliary washing chambers, whereby the water will be thoroughly forced through all the interstices of the fabric.

A glass tube cutter has been patented by Mr. Laurence P. Lindgren, of Doniphan, Neb. It consists of a tube cut away upon one side, stopped in one end, and having a central rod supported axially, carrying near its free end a roller glass cutter capable of engaging the inner surface of the tube to be cut, being particularly designed for cutting water gauge tubes of steam boilers to adapt them to their fittings.

An adjustable bulletin board has been patented by Messrs. Hugh C. Cannon and Arthur E. McGrath, of McArthur, O. It consists of a pivotal post and rotary adjustable shaft mounted therein, with guide strips, in combination with a bulletin having interchangeable letters and a drum with ratchet, pulley, and rope for raising and lowering the bulletin, whereby the bulletin may be easily adjusted to any point desired on its post.

A combined land roller and clod crusher has been patented by Mr. Friedrich Twick, of Sheboygan, Wis. This invention covers an improvement on a former patented invention of the same inventor, whereby the scrapers can be more readily adjusted, the colters readily raised and lowered and their bearings oiled, with other novel features, the machine being thus made more convenient in use and reliable in operation.

Waxing paper forms the subject of a patent issued to Mr. Charles A. Wilkinson, of East Somerville, Mass. A box provided with steam pipes has an upper depressed and corrugated surface, with gutters fed by a funnel, in connection with a perforated plate, felt sheets, and a roller; the felt is first thoroughly saturated with melted wax or paraffine, the temperature raised, and the paper waxed by placing the sheets simply on the felt bed, and passing the roller over.

SCIENTIFIC AMERICAN  
BUILDING EDITION.

## JULY NUMBER.

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