

**RECENTLY PATENTED INVENTIONS.**

**Agricultural Implements.**

**HEADER-PLATFORM.**—R. L. CAMPBELL, SR., G. W. SCHWARTZ, and C. H. SCHWARTZ, Grass Valley, Ore. This header-platform, which is simple and durable in construction, is arranged to comfortably support the header driver or manipulator, and render his work easier and more accurate than heretofore possible under the jolting motion of the header-wheel going over rough ground.

**FERTILIZER-FEEDER.**—A. L. MINER and S. T. WEST, Kankakee, Ill. This contrivance belongs to the force-feeder class. It is a cheap and substantial device that may be placed on any planter in common use at a nominal cost, and one that will obviate the difficulties experienced in operating planters with fertilizing attachments.

**Engineering Improvements.**

**SAFETY AIR-LOCK.**—W. I. AIMS, New York, N. Y. The object of Mr. Aims is to provide an air-lock arranged to prevent occurrence of "caisson disease" among the workmen in subaqueous engineering construction by mechanically regulating the reducing of the air-pressure in the air-lock and while reducing, furnishing to the lock a constant supply of pure warm dry air at the pressure in the lock itself.

**VALVE-GEAR FOR ENGINES.**—A. D. BAKER, Swanton, Ohio. This invention provides a variable cut-off mechanism so arranged that all wearing parts are adjusted to take up lost motion and they work on a center line relative to each other, thereby obviating side strains and wear. It overcomes crank irregularity and causes the valve to cut off at the same distance from either end of the cylinder, whether the piston moves forward or backward, and also maintains the same lead to early and late points of cut-off.

**STEAM-STOKER.**—E. B. VALENTINE, Oneonta, N. Y. Among the many advantages of this stoker which admits of general use and is peculiarly adapted for service upon locomotives, may be mentioned, the thorough combustion of coal, the minimum of labor in handling coal, the accuracy with which it can be fed to different parts of the fire-box, and the uniformity with which this fuel may be supplied.

**COMBINED EXHAUST-VALVE AND IGNITER.**—J. TRACY, New York, N. Y. The inventor has made an improvement in combined exhaust-valves and igniters for combustion engines, and his object is to furnish an exhaust-valve with a simple, inexpensive, and reliable means for igniting the charge of combustion agent, after the engine has been in operation a very short time.

**ROTARY-ENGINE.**—H. BERGMANN, Berlin, Germany. The counter-rod in this engine has two parts movable with respect to each other, and so arranged that these parts under the influence of screw-shaped surfaces are forced apart, and thus tightly pressed against the inner walls of the side parts of the piston body. A most advantageous and simple packing of the chamber is the result. Furthermore, a decrease of the wear of the working parts is secured, so that the machine is suitable for the highest number of revolutions, with little friction and less of steam.

**Lighting and Heating Apparatus.**

**GENERATING OIL-BURNER.**—P. S. SPILLER, Austin, Texas. This oil-burner is designed for use within a stove or furnace for heating purposes. The pipe may be connected with the coupling, and the gas generated be conducted to a gasometer and thence to a system of pipes, for illuminating or other needs, it being intended to thus utilize surplus gas generated in the use of the burner. This burner belongs to that class using heavy petroleum commonly found in Texas.

**SAFETY GAS-BURNER.**—J. B. LUGHEAD, Elizabeth, N. J. The invention provides a safety gas burner which is arranged to allow convenient turning on and off of the gas in the usual manner, and to automatically turn off the gas in case the flame is accidentally extinguished.

**SMOKE-CONSUMING FURNACE.**—J. B. HARRIS, Nashville, Tenn. Furnaces for use on boilers, stoves, open fire-grates, kitchen stoves and ranges, by this invention are provided with a smoke-consuming furnace, very effective in operation, and arranged to utilize the units of heat in the fuel to insure complete combustion.

**Hardware.**

**CONVERTIBLE PIPE AND BOLT WRENCH AND CUTTER.**—J. J. GUNTHER, Boston, Mass. Comprised in this implement is a wrench of the pivoted-jaw and cutter type with novel features that adapt it for very effective service as a pipe and bolt wrench or a tool for cutting off cylindrical pipes or bolts. The wrench has a considerable range of adjustment between its jaws.

**BRACE.**—S. CLAWSON, Salt Lake City, Utah. Owing to the near impossibility of getting an ordinary brace and bit into working position between close joists, the inventor to overcome the difficulty here provides an extensible brace, which will hold itself between the joists so that with or without the help of a pawl-and-ratchet the brace may drive the bit through the joists.

**NUT-LOCK.**—W. R. YOUNG and G. W. YOUNG, Stockton, Cal. This nut-lock is of that class in which a pawl is connected with the nut and works on a ratchet fastened stationary with respect to the bolt. The device involves novel features of construction, which include an advantageous combination of bolt, ratchet-plate, pawl-collar, a nut, a spring bearing and other parts.

**NEEDLE-AWL.**—B. E. HERVEY, Ritzville, Wash. This needle-awl consists of a detachable handle portion with a socket for receiving the needle portion when forcing the latter through the material, and one or more hooks combined with a needle having an elongated eye which receives the thread and gives a hold for the hook of the handle for pulling the needle through the material after having been started through by a thrust of the handle socket.

**Mechanical Devices.**

**MILL FOR GRINDING.**—J. C. WEGERT, Battlesbridge, Essex, England. This improvement relates to pan-and-roller mills. The crushing action due to the mere weight of the roll is supplemented in this grinder by a powerful tearing action, whereby the efficiency is greatly increased. By positive driving and the relative arrangement of the roll and pan in addition to the usual crushing stress the particles are subjected to a tensile stress, tending to tear particles asunder, the tearing action coacting with crushing action to produce the disruption.

**TRANSMISSION MECHANISM.**—A. E. OSBORN, New York, N. Y. Means for transmitting motion at different speeds and directions are supplied by this mechanism. It comprises a gearing especially adapted for use on motor-vehicles, although it may be used for other purposes. The gearing provides a braking means for the vehicle, as well as means for driving it ahead and backward at various speeds.

**APPARATUS FOR TREATING ROCK-ASPHALT.**—J. S. DOWNARD and B. J. ROLOSON, Lima, Ohio. This apparatus provides means for separating asphalt from the natural rock. It comprises a tank with steam pipes in its bottom and a conveyor for carrying off the "sand" or residue. The crushed rock is fed into the tank at the sides and at the top of the tank between the feeding devices. A skimmer skims the separated asphalt as it rises to the surface of the water in the tank. In the tank bottom an agitator keeps crushed rock in motion during the separating process.

**Railway Improvements.**

**CATTLE-GUARD.**—G. A. PRESTON, Monroe, La. This mechanism is designed to be placed between and on each side the tracks of a railway. It provides an efficient and a secure device to prevent cattle wandering on and across railway-tracks. It can be readily applied, removed or repaired, and will cause no injury to cattle if they come in contact with the guard.

**CLIP FOR DETECTOR BARS.**—G. SMITH, Jersey City, N. J. This design relates to a means for supporting detector-bars; and the object is to furnish a clip lying closely and compactly alongside the rail and adjustable to rails of various sizes. It also meets other conditions liable to arise in railway construction.

**Vehicles and Their Accessories.**

**BICYCLE ATTACHMENT.**—H. R. BLOMBERG, Prentice, Wis. This attachment enables any bicycle of standard make to run upon one of the rails of a railroad-track. It consists of a braced frame adapted to be connected to the parts of the bicycle-frame and having guide-wheels that engage with both rails of the track to keep the bicycle-wheels in alignment with the rails and guide the machine to prevent it tipping or running off.

**VEHICLE DRAFT ATTACHMENT.**—A. P. SPEED, Louisville, Ky. The invention provides a draft attachment for team-drawn vehicles, which enables the team to exert a greater leverage for draft, both for starting the load and also in the normal travel of the vehicle. It is especially useful in climbing hills, or starting or in pulling out of holes.

**Miscellaneous.**

**RACK FOR HOLDING FALSE TEETH.**—O. E. WALL, Honolulu, Oahu, Hawaii. The aim of this invention is to supply a rack for holding false teeth which will serve also as an index to the dentist, to make selection in any work and to show him styles of teeth needed for completing his stock. The rack may be made in shapes and sizes required and compartments arranged for various sets of teeth.

**NASAL DISH.**—H. L. HARRIS, New York, N. Y. The nasal dish is especially designed to be used in applying a wash through the nose in such position that it will not pass down the throat. The dish may be made of glass, china-ware, sheet metal, gutta percha or other suitable material.

**DEVICE FOR EXHIBITING WORKS OF ART.**—W. WOOD, New York, N. Y. The general idea of the inventor is to produce a plurality of scenes from works of art, historic scenery, living pictures, etc., in such a relation as to be readily compared by spectators. His particular aim is to produce a device in which a central movable member is furnished with

these scenes to be witnessed one at a time and closely following in a predetermined order.

**NON-REFILLABLE BOTTLE.**—C. F. HATELY, Rialto, Cal. The object obtained in this new improvement is the provision of simple novel details of construction for a bottle which will effectively prevent a reuse of the receptacle as a mercantile package, and thus prevent the fraudulent sale of a liquid counterfeiting that originally contained in the bottle.

**TABLE ADJUSTABLE ANGULARLY AND VERTICALLY.**—O. C. DORNEY, Allentown, Pa. Artists, architects, and the like, have obtained an improved table for their use by means of this invention. It is readily adjusted as to height and angle and is provided with supporting devices for lamps and tools or instruments, such as brushes, colors, inks, drawing implements, etc.

**MANUFACTURE OF BRUSHES.**—J. J. HAYDEN and J. P. POWERS, Ossining, N. Y. A marked advantage is gained in this improvement for street-brooms and scrubbing-brushes, for use on streets, floors, decks of vessels, etc. The brush is arranged to permit of reversing the back carrying the bristles or fibers, to allow uniform wear without splitting or warping the back.

**COMBINED RULER AND BLOTTER.**—H. C. PROBST, Chicago, Ill. This combination device has for its object the provision of a ruler which will be extremely flexible, so as to be easily used on either flat or rounding surfaces. The ruler is provided with a removable blotter on its lower surface and is proof against the collection of dust and grime particles.

**PAPER-BAG HOLDER.**—L. C. BUNNELL, Paris, Ky. Means are employed in this contrivance for holding paper bags in quantity lapped and clamped in sequence, ready for removal singly or in number. The holder is adapted for very efficient service and to enable the instant removal of one or more bags without disarranging others remaining in the holder.

**ATTACHMENT FOR MEN'S OR BOYS' WAISTS.**—H. SAUM, Brooklyn, N. Y. The attachment perfected here conveniently and quickly connects the waist with the trousers. It is readily detachable from the waist to permit washing of the waist without hindrance by the device or danger of injuring the latter.

**ENVELOP.**—F. P. PRIDGEON, Brooklyn, N. Y. Certain new and useful improvements are provided in this invention, whereby a number of envelopes arranged in continuous length are detachably connected to allow of running the envelopes through a type-writing machine for addressing them in a convenient and quick manner.

**SELF-ACTING FAN FOR HAMMOCKS OR COTS.**—G. D. McELWEE, Gloster, Miss. This mechanism is actuated by the swinging motion of the hammock. Means are furnished for holding the fan out of the way of a person entering the cot and to assist in the actuation of the fan; also for the vertical adjustment of the fan, and to enable the fan mechanism to be applied or removed from the cot or hammock, and also to be fitted lengthwise of the cot to any position.

**SCIENTIFIC TOY.**—W. H. ZIMMERMAN, Halethorpe, Md. This apparatus consists of a mechanism, termed by the inventor "a blow mill," combined with accessory parts, which at the nominal price of a toy, takes the place of expensive laboratory apparatus, and is adapted to win the attention of old and young in demonstrating many important laws of nature in physics, mechanics, optics, composition of light, astronomy, etc.

**COMPUTING-MEASURE.**—F. C. REAM, Butler, Mo. The device is made in two telescopically-sliding sections which may be drawn out to a maximum capacity or forced together to reduce the volume to a fraction of the maximum. Even an uneducated person may readily and accurately measure any fractional part of a commodity at a fixed price without computing, the measure being itself a computer to settle any quantity at a definite price.

**HEATING OR COOKING STOVE.**—P. S. SPILLER, Austin, Texas. Mr. Spiller's invention relates to heating-stoves; and it consists of special details of construction and combination of parts adapted to any heating or cooking stove employing a grate should such stove have double walls suitable to form a heating-space similar to the space or passage encircling the body of the stove.

**DRESS-SHIELD.**—MARY G. TILNEY, Orange, N. J. The object attained in this improvement is the provision of simple means for securing a shield in place so that it may be readily removed and sewing obviated. The fastening devices consist of snap catches which may be readily snapped onto the seamlaps of the sleeve and waist.

**SELF-CLOSING GATE.**—J. W. HENDERSON, Tunica, Miss. This swinging gate is furnished with means whereby it will be automatically closed when opened. In operation the gate is pulled open to position for passage through. The weight being of sufficient heft, when the gate is freed by the person passing through, its strain on the cord will pull toward the fence the free end of an arm secured to the gate, and swing the gate to closed position. Here it is held until again forcibly opened.

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