

The Devil Fish.

At a meeting of the Chicago Academy of Sciences, Dr. Velie made a report of his explorations along the coast of Florida, in search of natural and archaeological curiosities. On this trip, he was accompanied by his brother, Mr. A. E. Velie, of Aurora, and Dr. Hammond, of Geneseo, Ill. The expedition was rich in results, and the Doctor brought home with him a very large collection of valuable specimens for the museum of the academy. His report was very brief, consisting of little more than a description of his voyage and a list of the curiosities which he had collected.

Not the least of these was a devil fish, which formed the subject of a paper by Professor Peabody, who entered minutely into its character, disposition, and habits. The body of the fish was large, the transverse exceeding the longitudinal diameter; skin rough, but without any evident tubercles or spines; head not distinct from the body, subtruncate in front, slightly convex; mouth subterminal, with very small teeth in seven or eight rows; nostrils small, and placed near the angles of the mouth; eyes prominent, lateral, and placed on eminences at the bases of the frontal appendages: bronchial apertures narrow, linear varying from one to two feet in length, with valvular covering; tail long, slender, subcompressed, terminating in a slender extremity; dorsal fin at base of tail, small and triangular. The dimensions of Dr. Velie's specimen are as follows:

Width at pectorals, 10 feet 2 inches; length, exclusive of tail, 5 feet 5 inches; length of tail, 4 feet 2 inches; thickness of body, 1 foot 6 inches; length of frontal appendages, 1 foot; width of frontal appendages, 6 inches.

The back of the male is black, while the female has a broad, angulated belt of a lighter color crossing the back immediately behind the eyes. The specimen captured by Dr. Velie is a female. It is a comparatively small fish, as those described by Elliott and De Kay were seventeen or eighteen feet in width, and others of equal dimensions have frequently been encountered, though rarely captured.

Professor Peabody related several anecdotes illustrative of the strength of the devil fish. One, eighteen feet broad, towed a thirteen ton schooner, with all sails set, in the face of a brisk wind, until the harpoon drew out and the fish escaped. Dr. Velie experienced great difficulty in making his capture. He harpooned five other fish, but lost them all. The one captured succumbed only after an hour's struggle. Among the means of assault which the fish possesses are its frontal appendages, which are movable, and with which it can seize and hold, as by power of suction, anything coming within reach. In this respect only does it resemble the devil fish known to the readers of Victor Hugo. The food of the devil fish has been supposed to be crustaceans. Some scientists are of opinion that it lives on other fish, but no scales have ever been found in its stomach. The stomach of Dr. Velie's specimen contained a large quantity of a reddish, moss-like substance, which Professor Reinsch of Bavaria, one of the members of the Chicago Academy, identified as seaweed, possibly a new species.—*Chicago Tribune.*

Recent American and Foreign Patents.**Notice to Patentees.**

Inventors who are desirous of disposing of their patents would find it greatly to their advantage to have them illustrated in the SCIENTIFIC AMERICAN. We are prepared to get up first-class WOOD ENGRAVINGS of inventions of merit, and publish them in the SCIENTIFIC AMERICAN on very reasonable terms.

We shall be pleased to make estimates as to cost of engravings on receipt of photographs, sketches, or copies of patents. After publication, the cuts become the property of the person ordering them, and will be found of value for circulars and for publication in other papers.

NEW MECHANICAL AND ENGINEERING INVENTIONS.**IMPROVED LINK-MOTION FOR STEAM ENGINES.**

Frederick Fischer, New York city.—This invention is to provide for locomotive and other engines an improved link-motion, by which the travel of the slide valve may be modified in such a manner as to move at greater speed when closing and opening the ports, so that the steam engine may be worked more effectively for expansion by retaining the steam longer, and also facilitating the entrance and exhaust of the same.

IMPROVED TIRE HEATER.

William E. Stewart, Xenia, O.—This invention consists in a tire heater formed by the combination of a hollow base, a semi-ring trough provided with holes, and a cap, made in sections, hinged to each other, and having flanges formed upon their side edges.

IMPROVED COILED SPRING.

James Ludlum, Pompton, N. J.—This invention consists in the peculiar construction of the ends, whereby an improved bearing is secured and the spring is made stronger and more durable.

IMPROVED GRINDING MACHINE.

Louis Bollmann, Vienna, Austria.—This is an improved machine for grinding by means of emery wheels, and feeding the work by an elastic yielding pressure to the emery wheel, controlling the grinding process, and preventing any danger that may arise from the bursting of the wheel. A reciprocating slide rest feeds the work with yielding pressure, and allows the grinding action of the emery wheel during the forward motion only of the slide rest. The slide rest and its operating mechanism are laterally movable for adjustment in the main frame. A hood mounted on an elastic support over the emery wheel guards against danger from bursting.

IMPROVED ATMOSPHERIC GAS ENGINE.

Joseph Wertheim, Bornheim, Frankfort-on-the-Main, Germany. The principle of this motor is the alternate action of the explosive force of a gas and air mixture and of the pressure of the atmosphere as motive powers. The arrangement consists in the explosion dome, with its main slide valve, igniting apparatus, and appendages for regulating the speed of the engine and admitting the escape of the gases of combustion, of the siphon pipe for the liquid piston, with a paddle chamber and valves at the lower part, in connection with mechanism for transmitting motion, and of a liquid reservoir.

IMPROVED TOOL HANDLE.

Lazare Landeker, San Luis Obispo, Cal.—The end of the handle is tightened in the eye of the head by wedges. A small metallic bar, the edges of which are beveled off, fits into a dovetailed groove formed across the forward side of the head and across the end of the handle. The bar is made of such a length that its ends may be flush with the sides of the head, and of such a thickness that its outer surface may be flush with the forward side of said head. Through the center of the bar is formed a hole to receive a screw, which is screwed into the end of the handle, and the head of which is countersunk into the bar.

IMPROVED DUMPING CAR.

Henry S. Bower, Mulberry Grove, Kan.—This invention relates to an improved dumping car for the more rapid discharging of grain, gravel, and other articles shipped in bulk. It consists of a car body hinged to center posts of the truck frames, so as to swing to either side of the truck, the body being supported by hinged and braced posts at both sides of the center uprights, which posts are swung down at the proper side when dumping. Swinging rack rests at the bottom of the car body lock into a slotted plate to retain the car in dumped position. The side boards of the car are hinged and locked in suitable manner.

IMPROVED HORSE POWER.

Darius K. Hungerford, De Witt, Iowa.—This consists mainly in a double tread power, constructed with the treadles arranged in planes inclining in opposite directions, and geared to a single driving shaft. The device also consists in means applied to the outer or free ends of the treadle frames for giving them any desired degree of inclination, whether the horses be working or at rest.

IMPROVED CAR COUPLING.

Charles D. Norman, Ames, Iowa.—This invention is an improvement in the class of car couplings in which the drawhead is provided with spring jaws, hinged near the front thereof, and inclining inward or toward each other at their rear ends, whereby they are adapted to engage with an arrow-head drawbar. The object of the invention is to simplify and cheapen the construction of this class of coupling and increase their efficiency and value. For details, see patent.

IMPROVED WATER WHEEL.

James J. Bourgeois, St. Cloud, Minn.—The present invention relates to an improvement upon that for which the same party has received letters patent of the United States, No. 171,088, dated December 14th, 1875. In the former invention horizontally sliding gates are arranged over the wheel to regulate and cut off the flow of water to the wheel. When there is a full head of water, the vertical pressure on the gates causes so much friction that it is difficult to operate them. To avoid this result the inventor has devised a hinged gate, and arranged it beneath the wheel. For details, see patent.

IMPROVED STATION INDICATOR.

James W. Graydon, Indianapolis, Ind.—The names of the cross streets or stations (as the case may be) are printed on a transparent apron which is moved intermittently to expose the names successively to view. The means for operating the apron are primarily a chain wheel and pulley, the former being provided with radial arms, with which an intermittently reciprocating pusher comes in contact at the required time, for turning the chain wheel one quarter of a revolution. The said pusher works vertically in suitable guides, and is operated by contact of a shoe, upon which it rests, with an inclined plane attached to the sleepers between or alongside track rails.

NEW MISCELLANEOUS INVENTIONS.**IMPROVED PICTURE FRAME.**

Edward Maux, New York city.—This invention consists of a passe-partout with a backing having a suitable opening for the pictures, and being placed back of face lining of the covering glass.

IMPROVED PAINT PENCIL OR CRAYON.

William J. Holton and James E. Field, Milwaukee, Wis.—The paint is thoroughly intermixed in a body of tallow while warm. A resinous matter is also mixed in. The whole is moulded or pressed into pencils of such a size and shape as may be desired. This paint pencil is not affected by water, and cannot be rubbed off a surface when applied without great difficulty; and furthermore, it marks on a polished surface with equal ease to that of a rough surface, thus forming a substitute for the marking pots and brushes now commonly in use.

IMPROVED APPARATUS FOR ILLUMINATING SCALE BEAMS.

Joshua W. Wood, Loami, Ill.—This consists in the combination of an illuminating device with the sliding loop to which the weight is attached, and also in the combination of reflectors with the loop and with the beam, for the purpose of throwing light upon the side of the scale beam, which would otherwise be dark.

IMPROVED ROLLER RAZOR SHARPENER.

Welmer T. Jahne and Charles H. White, Jersey City, N. J.—Two wooden rollers are covered with leather, and have emery flour applied to them. They are held together to bear against the sides of the blade by U springs. By suitable gearing the said rollers are caused to revolve together and in opposite directions to grind both sides of the blade equally.

IMPROVED INKING APPARATUS.

John G. Kurtz, Milton, Pa.—This invention consists of a fountain for printing ink having a tightly fitting piston fed forward by a screw rod, so as to force the ink through a bottom feeding cloth or screen, the same being placed, after use, into an airtight seat plate holding water to keep the feeding cloth moist.

IMPROVED COMBINED SNAP HOOK AND BUCKLE.

Francis J. Deisz, Pierce City, Mo.—This combined snaphook and buckle is for connecting the ends of the breast strap with the hame ring. It is so constructed as to clamp the strap, and thus take the strain off the tongue of the buckle.

IMPROVED INDEXING.

David A. Roberts, Columbus, O.—The book has one slit in each leaf, each succeeding slit being cut a little lower down than the preceding one. A blade is placed upon the first page of the set, and is moved downward, passing through the notches until it is opposite the name of the party whose account is looked for and the number of the page upon which that account is kept, and the blade is then raised, opening the book.

IMPROVED OIL CAN.

Jacob F. Cappel, Havana, Ill.—This improvement consists in the particular construction and arrangement of a pump with two pipes and two valves or cocks, whereby the one pump which is located upon the tank may, by reversing the valves, be equally as well employed for transferring from the barrels as for dispensing from the can.

IMPROVED HOG ELEVATOR.

George Wheeler, Newark, O.—This invention consists mainly of uprights or standards detachably and adjustably connected to a base, and having adjustable horizontal bars for supporting the carcass, and a windlass for hoisting it. The invention further consists in so constructing the base of the hoisting apparatus that a platform may be detachably connected therewith.

IMPROVED BOX FASTENER.

Jerome C. Millard, Pultneyville, N. Y.—This device is applicable to various uses, but is intended particularly as a fastener for physicians' hand

medicine cases or boxes. It consists of a catch of irregular shape having a projection that engages a notched stud projecting from another plate, the said plates being respectively designed and adapted for attachment to the body and cover of the case or box.

IMPROVED SAFETY STIRRUP.

William B. Conway, Blacksburg, Va.—This invention is an improved safety stirrup designed to prevent the rider from being dragged by the foot if in being thrown from the horse he should get his foot caught in the stirrup. The improvement consists in pivoting, in the sides of the stirrup just above the space for the foot, a protector or guard which is extended above its pivots around the connecting bar at the top of the stirrup in the form of a hooked plate, which passes between the connecting bar and the two higher metallic rods so as to secure the stirrup to the stirrup strap by a metallic loop entered between the two upper bars and caught by the hooked plate of the pivoted guard. Should the rider fall, the toe defects the guard and allows the stirrup to drop with the rider.

NEW WOODWORKING AND HOUSE AND CARRIAGE BUILDING INVENTIONS.**IMPROVED FIRE ESCAPE.**

Richard J. Macdonald, New York city.—This invention consists of a hollow cornice or cap above the top of the window casing, which is provided with a bottom aperture closed by a movable seat, that is raised or lowered by a drum and suspension cord, in connection with a lowering cord and drum and an endless tension cord and pulleys for hoisting or lowering the seat.

IMPROVED LAMP SHADE HOLDER.

Patrick J. Clark and Joseph Kintz, West Meriden, Conn.—This lamp shade holder is so constructed that the shade may be turned back to allow the lamp or lamp chimney to be detached, and enables the shade to be conveniently detached from the holder when desired.

IMPROVED ELLIPTIC SPRING.

Noah J. Tilghman, Tyaskin, Md.—This invention belongs to that class of springs in which the plates are made of a single continuous piece of metal bent around in elliptical form without end joints and placed one within the other. The improvement consists in bringing the ends of the plates together, so that the free ends of each abut, and in riveting said free ends to a lap joint plate which performs the double function of connecting the ends of the plate and of separating and removing anyone spring of the series from the next adjacent ones, so that such springs do not touch each other at this point, and whereby each spring is rendered capable of free, easy, and independent movement without impinging against the others, which to a great extent obviates creaking.

NEW AGRICULTURAL INVENTIONS.**IMPROVED COMBINED POTATO AND CORN PLANTER.**

Joseph Custer, Goshen, O.—This improved seed planter is so constructed that it may be readily adjusted for planting potatoes or corn. To the side of the seed box are attached the ends of the curved guard plate, which incloses the space around the discharge hole through the bottom of said box, and beneath the lower edge of which the dropping plate passes, so that no more seed can be carried out by said dropping plate than is contained in its holes. To the forward part of the guard is attached a knife, which, when planting potatoes, will cut off any parts of potatoes that may protrude above the plate to enable the rest of the potato to be carried within the guard and dropped to the ground. The guard and knife are adjustable, so that they may be adjusted according to the thickness of the dropping plate.

IMPROVED GATE.

Eli Wayland, Salisbury, Mo.—This gate is so constructed that its forward end may be raised and so supported that the gate may be swung open and shut, and may thus swing over snow and ice, and allow small stock to pass beneath it, while preventing the passage of large stock, and which will be simple in construction, strong, and durable.

IMPROVED POST DRIVER.

William Kindermann, Troutville, Pa.—This invention is for the purpose of driving fence posts, etc., and is an improved, powerful yet simple driving machine, that may be readily adapted to any inclination of the ground, and used with horse power to drive the posts in rapid and effective manner.

NEW HOUSEHOLD INVENTIONS.**IMPROVED LAMP REFRACTOR.**

August Schaeffer and Anton Pfrunder, Louisville, Ky.—This invention consists of the combination, with a gas or other lamp, of one or more hinged and adjustable refractors, having pivoted and self-adjusting shades. The refractors are hinged and clamped to a detachable collar, attached to the neck of the lamp or base of the burner.

IMPROVED LAMP CHIMNEY FASTENING.

George Richards, Flatbush, N. Y.—This invention consists in the inwardly projecting notched flange formed around the lower edge of a lamp chimney to receive springs attached to the top plate of the burner; and in the springs attached to the top plate of the lamp burner, and having outwardly projecting lugs formed upon their ends to overlap an inwardly projecting flange of a lamp chimney.

IMPROVED LAMP BURNER.

James Cain, Pittsburg, Pa.—This is a new lamp burner, into which a new wick is inserted with great facility, and which is easily kept clean of gum and burnt wick, the ratchets being also readily reached and kept in order. The burner is split diametrically and lengthwise through the wick tube into two sections, which are hinged and locked together, and have fixed or removable ratchets.

IMPROVED PLAITING MACHINE.

John E. Chapin, New York city.—This consists of a plaiting board with hinged plates and plaiting needles pivoted at one end to the same. A detachable side strip of the plaiting board, with catches or hooks, locks the needles, and releases them simultaneously on being taken off. The tension of the fabric to be plaited is regulated by a tension rod at one end.

IMPROVED FOLDING TOILET SCREEN.

Edward S. Lathrop, Savannah, Ga.—The object of this invention is to provide for use in sleeping apartments an improved screen for protecting the person from observation while bathing, dressing, or performing other operations of the toilet. The frame of the screen is attached to the toilet or washstand, and is made adjustable in order that the curtains pendant therefrom may be extended when required, and at other times drawn back or folded against the wall so as to be out of the way and form an ornamental article of furniture.

IMPROVED BURGLAR ALARM.

James K. Johnston, St. Louis, Mo.—The fastener consists of a toothed plate having a hinged extension to which a bell alarm and sliding trigger are attached in such manner that the latter will trip the alarm in case the door is forced open. The advantages of the device are compactness, portability, simplicity, and cheapness of construction, and the facility with which it can be applied to and removed from a door.