

RECENTLY PATENTED INVENTIONS.
Electrical Devices.

ELECTRIC GAS-LIGHTER.—G. GIORGI, Florence, Italy. This invention has for its object the opening and closing of gas-taps and the lighting and extinguishing of the gas by the means of an electric current; and it comprises an electromagnetic gas-tap, an automatic electrochemical lighter, and an arrangement of cut-out in the electric current.

Of Interest to Farmers.

POTATO-PLOW.—J. M. DRAKE, Shawano, Wis. In this case the invention has reference to improvements in potato-plows, the object being the provision of a device of this character that will be simple in construction, inexpensive, and having a novel means for shaking the dirt from the potatoes.

SUBSOIL-PLOW.—E. BIPPART, Arnstadt, Thuringia, Germany. This invention relates to improvements in subsoil-plows whereby they are enabled to better and more easily cut through or to push aside roots in the soil. The improved subsoil-plows will also be able to work properly in a bouldery soil or in a soil full of stones.

MACHINE FOR WORKING THE SOIL.—L. F. BASSETT, Redding, Cal. One purpose of the present invention is to provide a machine adapted to be drawn over a field and operated automatically to break lumps upon lumpy, cloddy lands or where more than the usual fineness of soil is desired after it has been plowed and perhaps partially harrowed down.

SEEDING DEVICE.—J. M. OPPER, Gresham, Neb. In many devices used for selecting and dropping corn into a hill the seed-plate is operated by means of a clutch, which is thrown into and out of engagement with its adjacent members to start and stop the plate between hills. This constant action of the clutch is a source of great inconvenience and trouble at times and one of the objects of Mr. Opper is to dispense entirely with the use of the clutch.

COTTON-PICKER.—R. W. IVY, New London, N. C. In the present invention toothed belts are caused to reciprocate instead of constantly traveling in one direction, they being suitably connected with a toothed frame which is reciprocated by mechanism actuated from a power-driven shaft located upon the wagon-frame. It is more particularly an improvement upon that forming the subject of Mr. Ivy's former patent.

Of General Interest.

UMBRELLA.—G. A. MANGELSDORF, Houston, Texas. The top of the umbrella may be tilted at any inclination to the body portion of the stick. The supporting stick may also be lengthened by sliding the inner section in or out of the outer. When the upper end of the umbrella is set at an incline to the main portion of the stick, the handle may be rotated to bring it into grasping position without changing the position of the inclined portion. An extensible handle enables the umbrella to be packed for traveling. The same construction may be made use of in a parasol with equal facility.

COPY-HOLDER.—E. DE F. HOLT, Morristown, N. J. The holder consists of rollers journaled in standards between which the copy is passed and carries at one end a cover-plate to obscure the writing on the pad or copy-book. One of these rollers is adapted to be interchanged and an attachment brought into operation which will hold the copy stationary and permit the work to move between the rollers in the opposite direction from which the copy did in the first instance.

BURNER FOR COAL-TAR.—T. COUGHLAN, New York, N. Y. The burner is especially adapted to be constructed of piping, and will operate efficiently. It may be readily cleaned and the mouth is so formed as to produce a flame of desirable form. The invention pertains to burners for liquid or sensitized fuels, such as hydrocarbon, and is intended especially for burning coal-tar.

CONTROLLING DEVICE FOR DOUBLE DOORS.—W. B. REIS, New York, N. Y. In this instance the device is adapted for use particularly in connection with doors of music-cabinets or the like, the object being to provide a simple means whereby companion doors may be swung simultaneously to open position or closed position by the manual manipulation of one door.

BAROMETER.—W. C. PLANK, Las Flores, Mexico. The range of an ordinary mercurial barometer at a fixed level is very small, usually not over two inches. By the use of the inventor's principles his instrument can be made in various forms and conveniently constructed in such a manner as to be readily carried in the pocket, and given a range twice as great as that of ordinary barometers.

DOUBLE CIGAR-CUTTER.—J. L. OBERMAYER, New York, N. Y. The cutter is carried in the pocket, the more particular object of the improvement being to provide the cutter with a large number of cutting edges so disposed as to enable different pairs of them to be used independently of other pairs, the arrangement being such that when the cutter is folded and ready to be carried in the pocket the cutting edges are harmless.

FOLDING HORSE.—L. NOLAN, New York,

N. Y. The object of the invention is to produce a structure which may be folded into compact form when not in use or for transportation and which may be readily opened and set up when desired. It relates to horses or strestles such as are used by artisans and workmen for supporting scaffolds.

LADDER-ROUND.—S. J. LAMORA, Danville, Vt. The round is capable of being quickly attached and detached to or from wire or hemp ropes, bars, chains, or the like whereby a ladder may be built up in a short time and disassembled to pack it in small compass. This construction is especially desirable as a life-saving means for the upper floors of buildings in constructing at short notice a ladder for reaching the ground as in case of fire.

NON-REFILLABLE BOTTLE.—A. C. WAY, Perry Center, N. Y. The bottle is in that class which are provided with one or more internal stoppers having a movable valve for closing an exit-passage. In operation a ball is in a position that closes the lower passage of the stopper against ingress of liquid; but upon tilting the bottle so that the ball rolls forward to the upper end of the pocket, the above named passage is opened, and liquid may then flow around the ball through the angular groove of the stopper and out through the top groove.

Hardware.

CROSSCUT-SAW.—F. W. MCINTOSH, Montevano, Wash. The saw provides clearance in the kerf for the saw-blade to pass easily through, to allow the cutting edges of the cutting-teeth to strike the wood at a more scientific angle for cutting without danger of becoming "timber bound" or likelihood of the tooth-points being broken off in resinous or knotty timber. There is neither necessity for undue physical exertion in the operation of sawing nor need of frequent filings to keep the saw in working order.

Heating and Lighting.

HEATING APPARATUS.—J. H. KOONS, Anderson, Ind. The object of this inventor is to provide a heater in which air under high and low pressure with crude oil or gas are used as fuels that will be simple in construction and by means of which an intense heat may be maintained under a hot blast, a system particularly adapting the device for use in connection with melting-furnaces, tempering or annealing furnaces, blacksmiths' forges, etc.

WATER-HEATING APPARATUS.—J. A. HOSE, Jacksonville, Ill. The apparatus is more especially designed for heating a small quantity of water at a time, such as is required for bathing or other purposes. It is arranged to effectively heat the water in a very short time with an economical expenditure of fuel, such as gas, oil, or the like.

AGITATING SULFUR-BURNER.—J. C. WISE, Watertown, N. Y. Among the general objects of the invention are: a comparatively large capacity for a given area occupied by the burner; the production of a richer and more uniform gas; perfect combustion of the sulfur known as "Louisiana" sulfur, a saving of labor, due to the movement of the sulfur into the pot being to some extent automatic; ease of regulation of the admission of air, and, lastly, uniformity of admission of air into different parts of the burner.

HOT-AIR GENERATOR.—C. L. BOWNE, Keyport, N. J. The apparatus is designed primarily for use in drying brick, but may be used especially for heating drying-rooms. It will economically heat the air to any desired temperature and force it through a duct or tunnel to the place where it is to be used; and it will be impossible for smoke and gas coming from the furnaces to intermingle with the air so heated.

Machines and Mechanical Devices.

FUEL FEEDER OR STOKER FOR FURNACES.—J. T. JENKINS and E. THACKWELL, Massillon, Ohio. This invention relates to improvements in puddling, scrap, and heating furnaces used in iron and steel mills and particularly to a stoker employed in connection therewith, the object being to provide a novel stoker by means of which the coal will be evenly distributed.

GRAIN SHELLING AND HULLING DEVICE.—O. DE A. CAMARGO, Rio Claro, Brazil. In the present patent, the invention has reference more especially to devices for shelling and hulling coffee, although equally applicable to the shelling and hulling of other grains or materials. The device is intended to be economic from a manufacturing standpoint, and is exceedingly simple in construction.

KEYBOARD FOR MONOTYPE PERFORATING-MACHINES.—A. J. WADSWORTH, Washington, D. C. This machine is designed to produce perforated record-strips or controllers which are subsequently used to govern other mechanism, such as type-making machinery in the production of printing-type. The invention is in the nature of a keyboard for monotype perforating-machines of the general character set forth in the patent formerly issued to T. Lanston.

PUNCHING, STAMPING, AND LIKE MACHINE.—A. WILZIN, 4 Rue Huntziger, Clichy, Seine, France. A press for punching, stamping, and the like is provided with means whereby in the event of the tool meeting with

resistance which it is unable to overcome such damage to the machine and its appurtenances as would otherwise result may be avoided. The devices used for the above purpose permit of their introduction into presses already in use or permit of their application to the usual styles of machines without calling for radical modification in their general appearance and proportions.

ROTARY TUMBLER-WASHER.—F. W. WILL, Aurora, Ore. The object of the invention is to provide a device which is adapted to rapidly and thoroughly cleanse both the inside and outside simultaneously of tumblers, glasses, mugs, bottles, etc. The mechanism will automatically adapt itself to the various sizes and shapes of the articles to be washed without any adjustment whatever.

PAPER-GAGE.—W. SMITH, New York, N. Y. The machine designed for use with sheets of paper of one size formed the subject-matter of a patent formerly granted to Mr. Smith. The present invention provides means whereby machines can be operated in connection with sheets of different sizes. For this purpose he provides movable or adjustable paper-guides on the plunger of the machine and locates registering marks on the plunger, stencil-holder, and stencil.

MOLDING MACHINE.—E. L. MARTIN, Woodburn, Iowa. The principal objects of the invention are to so construct a machine, including the mold, as to permit the production of blocks at exceedingly low labor cost and at the same time to make a block that will mature in a shorter time than with ordinary machines on account of permitting the use of a wetter moisture than ordinarily employed. The machine is more especially designed for molding hollow building-blocks.

DIE FOR CUTTING AND PUNCHING LEATHER, ETC.—F. MERTINZ, Schottenfeldgasse 63, Vienna, Austria. The object here is a punching device for right and left hand goods consisting of two-edged blades secured to the circumference of a suitable core in such manner that the cutting edges protrude over the faces of the core. By exerting a pressure or blow upon any point of the core an equal action is borne upon the whole length of the cutting edges, and by merely turning the die right and left hand work-pieces may be cut out in immediate succession.

WASHING-MACHINE.—M. G. ELWELL and W. M. MARTIN, Standish, Maine. Pieces to be washed are secured at one end upon a rough or corrugated cylinder and during its revolutions are engaged by series of independent tension-controlled rubbers carried by a segmental frame, the frame having elastic fastening devices whereby to hold the rubbers in close engagement with cylinder or articles thereon, so that the clothes are subjected to successive rubbing action throughout their length and width and the rubbers automatically accommodate themselves to irregularities in the articles.

NOTE.—Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.

Business and Personal Wants.

READ THIS COLUMN CAREFULLY.—You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you the name and address of the party desiring the information. In every case it is necessary to give the number of the inquiry.

MUNN & CO.

- Marine Iron Works. Chicago. Catalogue free.
- Inquiry No. 8494.—Wanted, machinery for making excelsior.
- "U. S." Metal Polish. Indianapolis. Samples free.
- Inquiry No. 8495.—Wanted, manufacturers of or dealers in lignum vitae or composition spheres, for billiard balls; or complete billiard sets.
- Pattern Letters. Knight & Son, Seneca Falls, N. Y.
- Inquiry No. 8496.—Wanted, an "automatic cigar seller."
- See our Ad. on back page. Star Expansion Bolt Co.
- Inquiry No. 8497.—Wanted, manufacturers of sailing ice boats.
- Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.
- Inquiry No. 8498.—Wanted, makers of a self-register gage, which will register the flow of sewage.
- Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.
- Inquiry No. 8499.—Wanted, a machine for winding spools for small electro-magnets.
- Make Alcohol from Farm Products.—New book, \$1.00. Spon & Chamberlain, 123 S. A. Liberty Street, N. Y.
- Inquiry No. 8500.—Wanted, makers of zinc wire.
- The celebrated "Hornby-Akroyd" safety oil engine. Koerting gas engine and producer. Ice machines. Built by De La Vergne Mch. Co., Ft. E. 138th St. N. Y. C.
- Inquiry No. 8501.—Wanted, manufacturers of mail order novelties.
- Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machine work and special size washers. Quadriga Manufacturing Company, 18 South Canal St., Chicago.
- Inquiry No. 8502.—Wanted, names and addresses of dealers in carved India teak wood brackets, mantels, etc.
- Inquiry No. 8503.—Wanted, electric motors and cars of the gage of steam railroads, to serve as freight and passenger cars; motors to be of high gage and good pullers.
- Inquiry No. 8504.—Wanted, iron sheets for covering trunks.
- Inquiry No. 8505.—Wanted, candle-making machinery.



HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication. References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn. Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. Special Written Information on matters of personal rather than general interest cannot be expected without remuneration. Scientific American Supplements referred to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price. Minerals sent for examination should be distinctly marked or labeled.

(10233) E. J. G. asks: Will you

please answer through the columns of your valuable paper if you know of any machine, meter, or any other apparatus that will give an account of an electric current that has been interfered with? For example, if a wire is charged with (battery or dynamo) current and a person or any other object should touch it, is there any machine that will register or give an account of the interfered current? A. If an electric circuit is tapped and current is stolen it may be known by the increase of current registered by the ammeters at the central station. If a person comes in contact with the wires of a high voltage circuit, the fact may be known by the killing of the person. An accidental falling of a wire across such a circuit is often the cause of a burn out, and blowing of the fuses. All these would "give an account" of the current which would flow when a connection was made by accident or by design with the wire of a circuit. We are not sure that any of these methods is what you refer to in your indefinite inquiry.

(10234) B. E. asks: 1. In your issue

November 3, page 323, it is stated on the subject of the creation of the star that millions of years at least certainly were consumed in the creation of our sun, our earth, the moon and stars. Why, then, do you dispute God's Word? In the first book of Moses and first chapter it says: "In the beginning God created heaven and earth." In the sixteenth verse it says: "And God made two great lights; the greater light to rule the day, and the lesser light to rule the night; he made the stars also." In the second chapter, in the first and second verses, it says the work was finished in six days. A. The "day" in creation has been a subject of much discussion in the past, but we believe that scientific men are in agreement now upon some points regarding the matter, one of which is that they were not our days of twenty-four hours. Our correspondent should note that in the sixteenth verse of the first chapter of Genesis, to which he refers, the sun and the moon are set to rule the day and the night, and that this was done on the fourth of these creative days. In this interpretation of the subject, how could there have been days of twenty-four hours before there was any sun or moon or stars? He should also observe that it is stated in the fourth verse of the second chapter of Genesis that the Lord God created the heavens and the earth in one day. The use of the word "day" in the Scriptures is so varied, as a reference to the concordance will show, that it is not possible to base an argument as to the length of time occupied by the work of creation upon the use of the word in Genesis. We think it harmonizes just as well with the account in the Bible to believe that the earth and the heavens came to their present forms under the slow processes of growth and development according to the action of the known laws of matter which were laid down by Divine wisdom and held fast to their operation by Divine power. The fossils in the rocks and the coal in the bowels of the earth were not made by a word in a moment in the places where we find them, but were once living animals and plants, and they died and were buried deep under the accumulating strata, till in ages of time nature's work on them by heat and pressure brought them to their present mineral form in which they serve us as the Creator intended they should. We think this view honors the Creator more than to believe that He made fossils in the rocks as they now are found, as some have thought. 2. What is the power of a one-horse steam engine? What is the power of a horse? I have asked different engineers, but have not yet been able to find out. A. A horse-power is 550 foot-pounds of work performed in a second. A foot-pound is the work done in lifting a pound one foot. If 550 pounds are raised one foot in one second, one horse-power has been used. This is given in every text-book of physics, and we wonder that any engineer should be ignorant of it.

(10235) F. W. L. asks: In order to

generate a current in a closed coil of wire, is it necessary to alter the number of lines of force passing through the coil, or can a current be generated by simply cutting equal numbers of lines with one part of the coil, with constant speed? A. To generate a current of elec-