

## RECENTLY PATENTED INVENTIONS.

## Agricultural Implements.

**ATTACHMENT FOR DISK PLOWS.**—J. P. MULRONY, Plaza, Wash. The attachment is especially adapted for use with a disk plow of the type wherein a horizontal cutter-blade is employed which will effectually pulverize the soil as it is plowed, will separate surface soil from the sub-soil, and spread the latter on top of the plowed ground, and also that will thoroughly separate the roots or tubers from the soil, as it undergoes the plowing operation, and dispose such material at the rear upon the surface of the plowed ground.

**HARVESTER.**—E. A. MAINGUET, Evangeline, La. Mr. Mainguet's invention has for its object among others, to provide a novel construction of framing, whereby the team may operate in the rear of the cutting apparatus of a harvester. A simple means is also provided for raising and lowering the cutting and binding apparatus.

## Electrical Devices.

**OVERHEAD TROLLEY.**—J. J. BOUCHARD, Bradford, Pa. Provision is made in this invention for mounting the wheel-carrying fork on the trolley-pole in such a way as to enable the wheel to change its position when passing around curves and under cross-overs in the line of the overhead conductor, thereby minimizing the tendency of the wheel to "jump" this conductor.

**TELEGRAPHIC SYSTEM.**—J. DOYLE, Norwood, N. J. The system invented by Mr. Doyle is such that no circuit closers are employed, and the normal position of the key keeps the line closed. It is only when the key is depressed that the line is opened, so that business cannot be suspended upon the line by accidentally moving the circuit-closer.

**ELECTRICAL VEHICLE-BRAKE.**—C. J. SRECHT and C. R. KRUEGER, New York, N. Y. The present invention is especially adapted for use on electrically-driven street cars and it comprises a shoe which forms the pole of an electro-magnet, and which upon the energization of the magnet attaches itself to the wheel, thus tending to retard its revolution. The magnetism is communicated to the wheel also which adheres to the rail, so that a double braking power is obtained.

## Engineering Improvements.

**ROTARY ENGINE.**—H. NIELSEN, Brooklyn, N. Y. The object of the present invention is to provide an improved rotary engine of simple construction, which utilizes the motive agent to the fullest advantage, permits convenient reversing, and allows of cutting off the steam at any desired point of the piston stroke to use the steam expansively.

## Hardware.

**MICROMETER-CALIPERS.**—R. MILLER, Chambersburg, Pa. Mr. Miller's invention provides a pair of calipers having several nice adjustments for the purpose of increasing the precision of the instrument. The instrument admits of all the uses of ordinary calipers and can be used as rapidly as the same, but offers the additional advantages of fine adjustments when desired.

**TACKLE-BLOCK.**—A. H. F. STRAUB, Portland, Ore. This tackle-block relates more particularly to the type used for hoisting or pulling rigging. The invention embodies novel details of construction which afford a light, strong and durable sheave-block, that is adapted for a general service. Provision is made for the convenient lubrication of the working parts as well as their disconnection from each other when repairs are necessary.

## Mechanical Devices.

**SAW-OPERATING MECHANISM.**—J. MEIKLEJOHN, Sedro Woolley, Wash. The present invention relates to improvements in mechanism for operating cross-cut saws, the object being to provide in connection with a saw, steam or other pressure actuated pistons that operate to draw the saw through the work in both directions instead of with a pushing motion, which might cause a buckling or breaking of the saw.

**AMALGAMATOR.**—O. H. BURDEN and T. F. ADAMS, Kaslo, Canada. Gold or other precious metals may be thoroughly and economically collected and separated from sand, gravel and other earthy substances by means of this improved amalgamator. The apparatus is provided with means by which the stream of ore-bearing sand and gravel may easily be reduced to a thin layer during its passage through the sluice-box, at which time it is impregnated with mercury and the metallic particles are thoroughly amalgamated.

**FIRE-ESCAPE.**—T. B. BARBER, Norwich, Conn. The invention provides a simple construction which can be supported upon the top of a building and will include a ladder which can be lowered automatically by means of devices operated by an occupant of the building whenever the ladder is required. The device will automatically sound a signal to the fire and police departments which would prevent a burglar or other wrong doer from using the apparatus as a means of escape.

**FEEDING-MECHANISM FOR PICTURE-BEARING STRIPS.**—C. H. KAYSER, West Orange, N. J. Mr. Kayser's improvement is

applicable to feeding-mechanism for kinetoscopic and projecting machines and provides means for preventing the vibratory movement of the picture-strip as it is passed by lens. The dazzling effect which forms such an objectionable feature of all such machines is thus avoided.

## Railway Contrivances.

**SIGNALING APPARATUS.**—H. S. HOOVER, Silvercreek, Neb. A simple signal is provided in this invention which will be automatically operated to indicate to the engineer of a passing train how long it has been since a previous train has passed. The device automatically returns to its normal position after a predetermined time, ready to be operated upon by the next train.

## Vehicles and Their Accessories.

**DRIVING-GEAR FOR AUTOMOBILES.**—E. RAWSON, Moscow, Idaho. An improved driving gear for automobiles is herein provided. The mechanism is arranged to allow the chauffeur to readily throw the driving gear in or out of action, to change the speed of the vehicle, and to reverse and brake the vehicle without changing the speed of the motor or stopping the same.

**TIRE-TIGHTENER.**—O. R. GOULD, Marion, Ia. Mr. Gould is the inventor of a device whereby the felly of a wheel can be tightened within the tire, by spreading the felly-sections. This is done by operating upon the spokes to spread the felly, thus providing an opening between the adjacent ends of the felly sections which can be filled to tighten the wheel within the tire.

**KNEE FOR SLEIGH-RUNNERS.**—H. BLOW, Elliston, Mont. The purpose of this invention is to provide a sleigh-runner so constructed that the splitting of the bunk will be obviated and an oscillation of the runner is permitted of at least five inches at either end, thus preventing any twisting action on the bunk; for one end of the runner may drop freely while the other end rises without straining any portion of the structure above.

## Miscellaneous Inventions.

**NUT-LOCK.**—B. TUCKER, Moncton, New Brunswick, Canada. Provision is made in this invention for a lock that may be readily applied upon the threaded end of a screw-bolt and that will hold a nut that is screwed upon the bolt from removal until the nut-lock is purposely released.

**DEVICE FOR WASHING AND DRYING FILMS.**—E. W. NEWCOMB, New York, N. Y. This washer and drier is adapted to accommodate any desired length or width of films to wash and to speedily dry the films without marring them. Two or more adjustable posts may be used as guides for the films and the post supports may be adjusted in many ways relative to each other, so that the film in band form can be held in the most convenient manner.

**SILO.**—E. W. GILBERT, Philadelphia, Pa. Mr. Gilbert's invention relates particularly to the construction of doors and doorways of silos. A special construction of brace is employed for holding the door posts apart. These braces do not interfere with free access to the ensilage through the doorway and will efficiently hold the doorposts apart. They will also constitute a ladder leading to the top of the silo.

**FISH SKINNING AND SCALING DEVICE.**—W. KADLETZ, Lemhi Agency, Idaho, and W. J. FULLER, Crowcreek, S. D. These inventors have made improvements in devices for scaling and skinning fish. The improved device embodies a means for slitting the skin of the fish, together with a clamping device which may be attached to the skin and by which the skin may be drawn from the fish with one hand while the other hand holds the fish.

**AUXILIARY IRONING-BOARD.**—R. H. JACKSON, Rochester, N. Y. Mr. Jackson herein provides an auxiliary ironing-board arranged for convenient attachment to an ordinary ironing-board to allow of ironing shirt-sleeves, shirt-waists, skirts, and the like. The construction permits of swinging the auxiliary ironing-board into an inactive position to leave the main ironing-board unobstructed for its legitimate use.

**SOAP-LOCK.**—J. C. COREY, Minneapolis, Minn. Mr. Corey's invention provides an improvement in soap-locks whereby a cake may be suspended by a chain so that it can be conveniently used and cannot be taken away. The device comprises two interlocking sections, which are to be inserted into the soap-bar from either end and cannot be removed until the soap has been entirely worn away.

**SHADE AND CURTAIN-POLE BRACKET.**—E. H. B. LINDHORST, Sacramento, Cal. The shade support is adapted for convenient adjustment horizontally and vertically, so that it may be readily secured at windows having different widths and by which windows of corresponding width may be held in operative position thereat. The combined fixture is also arranged to support wooden curtain poles or metal curtain rods of various lengths.

**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. 3865.**—For the present address of the American Computing Scale Co.

**AUTOS.**—Duryea Power Co., Reading, Pa.

**Inquiry No. 3866.**—For makers of nickel-in-the-slot cigar machines.

For mining engines. J. S. Mundy, Newark, N. J.

**Inquiry No. 3867.**—For makers of rotary steam engines or turbine engines.

"U. S." Metal Polish, Indianapolis. Samples free.

**Inquiry No. 3868.**—For manufacturers of small steam or water heating plants.

Coin-operated machines, Willard, 284 Clarkson St., Brooklyn.

**Inquiry No. 3869.**—For makers of chemical fire engines.

Dies, stampings, specialties. L. B. Baker Mfg. Co., Racine, Wis.

**Inquiry No. 3870.**—For dealers in small furnishings or model parts, cams, small springs, gearing, etc.

Blowers and exhausters. Exeter Machine Works, Exeter, N. H.

**Inquiry No. 3871.**—For parties engaged in making steel stirrups of original design.

Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.

**Inquiry No. 3872.**—For makers of oil pumps for gasoline motors.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.

**Inquiry No. 3873.**—For makers of felt swabs for axle boxes of electric tramways, etc.

Let me sell your patent. I have buyers waiting. Charles A. Scott, Granite Building, Rochester, N. Y.

**Inquiry No. 3874.**—For makers of copper and steel cylinders suitable for use for fire extinguishers, etc.

SAW MILLS.—With variable friction feed. Send for Catalogue B. Geo. S. Comstock, Mechanicsburg, Pa.

**Inquiry No. 3875.**—For the present address of the American Vacuum Company.

Special and Automatic Machines built to drawings on contract. The Garvin Machine Co., 149 Varick, cor. Spring Streets, N. Y.

**Inquiry No. 3876.**—For the manufacturers of the Missouri Steam Washer.

Manufacturers' Advertising Bureau, New York. Trade mediums a specialty. Lowest known rates. References. Correspondence solicited.

**Inquiry No. 3877.**—For makers of small furnaces such as are used by manufacturing jewelers.

Manufacturers of patent articles, dies, stamping tools, light machinery. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

**Inquiry No. 3878.**—For manufacturers of water motors.

Crude oil burners for heating and cooking. Simple, efficient and cheap. Fully guaranteed. C. F. Jenkins Co., 1103 Harvard Street, Washington, D. C.

**Inquiry No. 3879.**—For manufacturers of horseless vehicles to be used in the storage and van business.

The largest manufacturer in the world of merry-go-rounds, shooting galleries and hand organs. For prices and terms write to C. W. Parker, Abilene, Kan.

**Inquiry No. 3880.**—For dealers in straight grained hardwood marble blocks of special dimensions.

The celebrated "Hernby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Feet of East 138th Street, New York.

**Inquiry No. 3881.**—For parties to make the Toilet Package Cabinet.

A New York Commission House, represented by a traveling agent (commercial engineer), will represent specialties in England, France and Germany. Address A. B. Box 773, N. Y.

**Inquiry No. 3882.**—For makers of seamless aluminum tubing one inch in diameter.

FOR SALE.—Patent rights and tools for the manufacture of a Practical Pocket Cigarette Maker, now selling freely by mail orders and giving satisfaction. Address X. Y., P. O. Box 1117, New York.

**Inquiry No. 3883.**—For manufacturers of fiber pails.

PATENT FOR SALE.—Automatic envelope sealing and feeding machine, 250 office envelopes per minute. Great labor saver. Recently patented. See half page notice, this paper, October, 25, 1902. W. W. Gavitt & Co., Bankers and Brokers, Topeka, Kansas.

**Inquiry No. 3884.**—For a power knitting machine for knitting woollen stockings.

Wanted—Revolutionary Documents, Autograph Letters, Journals, Prints, Washington Portraits, Early American Illustrated Magazines, Early Patents signed by Presidents of the United States, Valentine's Manuals of the early 40's. Correspondence solicited. Address C. A. M., Box 773, New York.

**Inquiry No. 3885.**—For a machine for cutting down buggy spindles and for cutting threads on ends of spindles.

INTERESTING to manufacturers of agricultural implements and to grain seed merchants. There is to take place at the city of Buenos Aires, Argentine Republic, under the management of the Argentine Rural Society, an Exposition of Agriculture, which will be opened on the 20th of May and closed on the 10th of June, 1903. Foreign products will be admitted in competition; there will be exhibited agricultural products and those that come from them in the first transformations. There will be also a horse fair and a show of all kinds of animals bred for slaughter. The exposition will also comprise vegetable, mineral and chemical manures; grains for seed, agricultural implements of all kinds, as well as agricultural machinery, and also the utensils and machines for industries, such as viticulture, wine culture, silk worm culture, gristmills, breweries, textiles, sugar, fisheries, apiaries, hunting and other kindred industries. All products, implements and machinery will be entered free of duty; duty demanded only when entered for sale. The parties wishing to exhibit at the exposition, who need further information upon the matter, will please address themselves to R. A. de Toledo, Argentine Consul General, Room 124, Produce Exchange Building, New York.

**Inquiry No. 3886.**—For makers of knit cotton mop cloths.

**Inquiry No. 3887.**—For makers of machines for embossing leather and fiber chair ends, also dies for same.

**Inquiry No. 3888.**—For a second-hand "Star" foot power lathe, 11-inch swing.



## 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.

(8858) W. H. P. writes: Would you please tell me what is the best way to keep the boilers clean and from rusting when they are out of service? At the plant where I am engineer we have three boilers, but only two in use at a time, and the third one is what we call out. Now what I would like to know is the following: Is it best, when the boiler is not in use, to keep the water in the same or shut the water out as soon as possible and keep boiler dry? We use boiler compound, and have no scale in boilers, but what I would like to know is the best way to preserve the boiler when not in use. The boiler generally stays out for four months. A boiler to be laid up for a time should be filled with water to the safety valve at boiling heat, to discharge all air from the water. The boiler should then be closed up, to keep out air, outside and inside. Pure water does not rust the iron.

(8859) J. A. C. writes: I have a room 8 x 20 feet with one 32 candle power lamp. Can I warm the room with a heater by connecting the current to it? Also would it consume any more current than the lamp? And could you tell me how to construct one? I can put more lamps in if need be. The current is 110 volts. A. You can make a heater to carry one ampere, the same current as a 32 candle power lamp on 110-volt circuit, and it will do something toward heating your room; much depends upon the difference of temperature between the air outside and inside. A heater to carry one ampere on a 110-volt circuit must have 110 ohms. This will require of No. 24 wire, B. & S., 330 feet of German silver, or 715 feet of iron wire. Coil the wire into a spiral by winding it around a rod about 3/8 inch in diameter. Then wind the spiral around a frame of iron which has been carefully covered with asbestos. This must be done with care, as a short circuit would be dangerous. The use of a heater would require the consent of the insurance company insuring the premises, since its installation is especially covered by their rules.

(8860) S. B. P. writes: For the purpose of using water economically to cool the jacket of a 10 horse power gas engine, what method is preferable? We are now using a wooden cask holding about 110 gallons, but we find that the water becomes very warm, and probably too much so for the purpose. If we should expose the outlet pipe at the outlet instead of being submerged, thereby allowing the water to flow over an exposed surface to cool, would the circuit be impaired or cease to act? The writer thinks he saw a device of this kind at the Ohio State Fair on a portable engine, but did not make a very close examination at the time. We tried a system of this kind, but it did not work, owing probably to improper elevations, the outlet or warm water pipe being about six feet above the engine at the outlet. A. An iron tank is generally used for cooling the jacket water of gas engines. The iron is a better radiator than wood. Discharging the hot water over a plate will tend to liberate a large amount of vapor, which will carry off the heat. Using large pipe connections will also facilitate radiation of the heat. This should not obstruct the water circulation if the plate is close to the surface in the cask.

(8861) J. S. wants to know whether it is possible to change the alternating current of a Ruhmkorff inductor into a direct current, so that it can be used for one or more electric incandescent lamps (16 candle power). In short, can I use one or more Ruhmkorff inductors instead of a dynamo or accumulator, to get a direct current for incandescent lamps? A. If the secondary of an induction coil were wound to give 110 volts, it would be possible to use the current it would give for lighting 110-volt lamps. There would be no need to change the current to direct, since an alternating current will light an incandescent lamp as well as a direct current will light it. Indeed, such a current cannot usually be transformed into a direct current, except by means of a motor and a second generator. There seems to be no reason for making all these transformations when the original current can be used just as well to light the lamps directly. Each transformation is made at a loss, and as the voltage is raised the amperes are lowered in the same proportion. There is no cell or battery which could be transformed in this way, so far as we know.

(8862) W. N. C. presents the following problem: Supposing that on the rear end of

