

RECENTLY PATENTED INVENTIONS.

Vehicles and Their Appliances.

BICYCLE-SUPPORT.—JAMES NEUBIGGING, JAMES EASTON, and JAMES BELL, Victoria, B. C., Canada. The bicycle-support consists of a head clamped to the lower brace of the bicycle-frame, to which head legs are loosely pivoted so as to be capable of spreading. The legs are provided with extension-arms at their fulcrum ends. A transverse locking member connects the extension-arms; and a retaining device holds the legs. In using the support, the legs are allowed to swing forward and are then firmly engaged with the ground by drawing the bicycle slightly backward. To disengage the legs, the bicycle is pushed ahead and the legs swung rearwardly and upwardly into engagement with the retaining device.

PLATFORM-WAGON.—TIMOTHY B. BENEDICT, La Grange, Mich. This platform farm-wagon is made much lower than the ordinary platform-wagon of the same height of wheels, whereby a load can be conveniently and quickly placed upon the platform. The vehicle is light, yet strong. Ordinary axles, bolster-blocks, bolster-hounds, reach, and sway-bar are dispensed with. The weight of the vehicle is equally distributed at the corners, and is equally supported at the wheels, which are beneath the corner portions of the platform. Each wheel is provided with a separate axle. Between the front axles a coupling is mounted. The tongue or pole permits the vehicle to be turned short with safety, and can be freely moved from side to side or up and down.

BICYCLE-FRAME MEMBER.—JAMES H. SULLIVAN, Cairo, Egypt. This invention provides an improvement in forks for bicycles. Tubular lower members and tubular upper members comprise the fork. The upper members are semi-cylindrical. A clamping-crown or block engages the members at the lower side, and has collars at its ends to embrace the lower members of the forks. A sleeve engages the members at the bend, and has portions extended through the collars and then turned outward. A latch turns outwardly. By the methods of fastening the members in the device as described, no brazing or soldering is necessary.

Mechanical Devices.

AIRSHIP.—ARISTARCHUS F. HUBBARD, Simmler, Cal. The airship has an air-plane adapted to transverse pivots at each end of the ship, each pivot being located at the edge nearest the center of the ship. Between the air-planes is a mast over which a rope extends attached to the outer end edges of both air-planes and then extending beneath the air-planes within the body of the ship. The planes are swung positively and their angular directions are maintained by means of drums to which the ends of the rope are attached. The air-planes control the vertical position of the ship. When it is desired to elevate the ship, the air-planes will be thrown into such a position that their forward edges are higher than their rear edges. When it is desired to descend, the air-planes will be oppositely adjusted.

SCUTTLE-LIFTER.—GEORGE BICKELHAUPT, Manhattan, New York city. The object of this invention is to provide a scuttle-lifter which can be easily opened or closed and automatically and securely locked in closed position. A lever has sliding connection at one end of a guideway on the skylight or scuttle. When a swinging motion is given to the lever a corresponding movement is given to the scuttle. A catch is carried by the lever to engage the guideway and to hold the scuttle in the position to which it has been raised. A latch locks the closed scuttle to its frame, with which latch the catch is operatively connected. A rope operates the latches to unlock the scuttle before it is opened by the lever.

WHEELWRIGHT'S IMPLEMENT.—MICHAEL M. MAY, Rule, Neb. This invention is a novel machine for holding vehicle-wheels during the application of the tire, for permitting the wheels to be submerged in a tank immediately after the tire is placed in position, so as to cool the tire and shrink it on the felly. The machine is also useful for truing wheels and to prevent the dishing of wheels during the application of the tire.

CENTRIFUGAL MACHINE.—ANDREAS FREITAG, Amsterdam, Netherlands. Centrifugal separators are usually driven by belt and pulley. Water turbines and electric motors, however, have been applied directly to the separator shafts, thereby enabling the separators to be arranged in groups. With the driving belt, it is evident the machines must be arranged in rows. But the driving of centrifugal separators by electricity or by turbines is not readily applicable to existing machines, as in most cases the cost is considerable. The present invention attains the end by constructing the rotary bowl with buckets into which stationary nozzles discharge water. A trough receives the water; and a pump removes the water from the trough and discharges it again through the nozzles.

SELF-LOCKING PULLEY-BLOCK.—JOSEPH O. WALTON, 211 East Forsyth Street, Jacksonville, Fla. Mr. Walton has endeavored to secure the advantages of a rolling surface above a cramping pulley by which the rope is freely fed into the cramping groove, and also the advantages of a stationary binding surface to secure a positive lock. To this end his invention consists in combining with the cramping pulley a binding surface which rotates through the first part of the cramping action to allow the

rope to be freely fed into the cramping groove and which locks and becomes stationary at the last part of the cramping movement so as to form a positive lock, thus securing the advantages of both forms of the device without the disadvantages of either.

Miscellaneous Inventions.

CROSS-HEAD FOR MINE-SHAFTS.—JOHN T. SEMMENS, Bald Mountain, Colo. The cross-head is arranged automatically to be locked during its ascent or descent in its guideways to the hoisting cable, and to be automatically unlocked when its lowermost position has been reached so that the hoisting cable and its bucket may descend further into the mine-shaft.

FOLDING-CHAIR.—ADAM COLLIGNON, Westwood, N. J. The chair is a steamer-chair, each side bar of which has a longitudinal slot and one or more recesses in the lower wall of the slots. A back has downwardly extended members provided with pins passed through the slots in the side bars. The pins have heads to engage the outer side of the side bars to prevent their spreading. Legs are pivoted to the forward portions of the side bar. Stops limit the rearward movement of these legs; and arms are pivotally connected with the forward legs and with the back of the chair. By means of the recesses and pins the back of the chair is firmly held in its adjusted position. In folding the chair the front legs are carried up and back, whereupon the arms fall down almost parallel with the seat frame.

TRACER.—HENRY M. ENRIGHT, Manhattan, New York city. The primary purpose of the invention is to provide a means for folding and closing the tracer-wheel so that the entire device may be carried in the pocket without danger of tearing the cloth. The tracer-wheel is journaled in one end of a shank; and at opposite sides of the shank, plates are hinged. These plates are arranged to form a handle and to inclose the shank and tracer-wheel between them.

MAIL AND PACKAGE DRAWER.—PAUL P. I. FYFE, Concord, N. C. The drawer is constructed in two sections adapted to slide one within the other. For the sections of the drawer a casing is provided, which is so located that parcels can be placed in a section of the drawer outside of the building and removed at the inside of the building. The drawer has an outside combination lock connecting the two sections with the casing. If one not familiar with the combination attempts to open the drawer an alarm will be sounded.

EGG-TESTER.—CHARLES S. JEWELL, Rahway, N. J. The egg-tester comprises a casing having openings in its opposite side walls, and a runway extending between the openings. Through these openings the light of a lamp passes. The runway is inclined downward from its inlet to its outlet end, so that the eggs roll in the runway. As the egg passes along the runway it is viewed through one of the openings formed in the end of the casing. It is well known that a good egg is translucent when held to the light; that a bad egg is opaque.

SACK-HOLDER.—FREDERICK D. BLANCHARD, Lewiston, Minn. By means of this improved construction, the holder automatically adjusts itself to the length of the sack. For this reason the sack can be entirely filled, thus avoiding refilling. The holder will support a sack which has no hem. But little space is required for the device. The filling of bags is greatly facilitated.

CURTAIN-POLE RING.—JOHN KROBER, 270 Canal Street, New York city. The curtain-pole ring is split and has a hub to engage the ends. Integral retaining ends shaped as frustums of cones are carried on the ends. The hub has its ends tapered outwardly. The walls of these ends are contracted and reduced upon the ends of the split ring so as tightly to embrace the retaining heads and thereby prevent the split ring from opening. The ends of the split ring are held in position in the hub without the use of solder or other similar fastening means.

BICYCLE-BRUSH.—PEMBERTON DUDLEY, Philadelphia, Pa. In a baseboard, rollers are mounted which receive the bicycle-wheel. In the bottom and side walls of this baseboard, brushes are so mounted that they engage the tread and sides of the tire. Upon rotating the wheel the brushes clean the tire.

Designs.

BRACKET.—WILLIAM M. SCHRADER, Bucyrus, Ohio. The bracket supports a turpentine vessel beneath a hen roost in such a manner that parasitical insects must pass into the turpentine before they can reach the hens, and are, therefore, exterminated.

HALTER RING.—JAN BERGEL, Dawson, N. D. The leading feature of this design consists of a straight member at one side, opposite which are converging straight members. Between these members are opposite inwardly curved members.

HARNES HANGER HOOK.—JOHN STAGG, Paterson, N. J., and ARTHUR H. SPEAR, Manhattan, New York city. The hook consists of an elongated body portion having tongues at the ends inclined in opposite directions. The hook is to be used in fire-engine houses, and by reason of its peculiar construction the harness can be immediately dropped on the horses.

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 your name and address to 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. 97.**—For manufacturers of ice-making machinery.
- Catalogue of ice-making machinery of the latest pattern can be had from the York Mfg. Co., York, Pa.
- Inquiry No. 98.**—For manufacturers of laundry machinery.
- Up-to-date laundry machinery manufactured by the Troy Laundry Machinery Co., Ltd., 233 Broadway, New York.
- Inquiry No. 99.**—For manufacturers of wire crimping rolls.
- "C. S." Metal Polish, Indianapolis. Samples free.
- Inquiry No. 100.**—For channel iron or steel suitable for rails of iron fencing, $\frac{1}{4}$ inch by $\frac{3}{4}$ inch, weighing about 1 1/2 pounds per lineal foot.
- WATER WHEELS.** Alcott & Co., Mt. Holly, N. J.
- Inquiry No. 101.**—For machinery for manufacturing shovels and spades.
- Yankee Notions, Waterbury Button Co., Waterbury, Ct.
- Inquiry No. 102.**—For the address of the "Strowyer Automatic Telephone Exchange."
- For bridge erecting engines, J. S. Mundy, Newark, N. J.
- Inquiry No. 103.**—For deflated toy, rubber, gas balloons.
- Everlasting monuments of white bronze made by the Philadelphia White Bronze Monument Co., Philadelphia, Pa.
- Inquiry No. 104.**—For the manufacturer of the "Painsylvania" high-wheel lawn mower.
- Gear Cutting of every description accurately done. The Garvin Machine Co., Spring and Varick Sts., N. Y.
- Inquiry No. 105.**—For manufacturers of chemical fire engines.
- Ten days' trial given on Daus' Tip Top Duplicate-Felix Daus Duplicate Co., 5 Hanover St., N. Y. city.
- Inquiry No. 106.**—For automatic numbering machines with six wheels.
- Rigs that Run, Hydrocarbon system. Write St. Louis Motor Carriage Co., St. Louis, Mo.
- Inquiry No. 107.**—For manufacturers of twisted wire rods.
- A fine line of coffee mills manufactured by Logan & Strobbridge Iron Company, New Brighton, Pa.
- Inquiry No. 108.**—For typewriter adding machines.
- Palmer Brothers, Mianus, Conn. Gasoline engine catalogue on request.
- Inquiry No. 109.**—For friction clutches, preferably a rim clutch.
- Volney W. Mason & Co., friction pulleys, clutches and elevators, Providence, R. I. Catalogue on request.
- Inquiry No. 110.**—For machinery for mixing and filling cans of baking powder.
- The celebrated "Hornsey-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company, Foot of East 138th Street, New York.
- Inquiry No. 111.**—For machinery for making medicinal tablets by compression.
- The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4. Munn & Co., publishers, 361 Broadway, N. Y.
- Inquiry No. 112.**—For devices to cut up French fried potatoes.
- For woodworking machinery of all kinds, The Fay & Egan Company, Cincinnati, O.
- Inquiry No. 113.**—For manufacturers or patentees of India rubber substitutes.
- Send for catalogue of candle-making machinery. Homan & Co., Cincinnati, Ohio.
- Inquiry No. 114.**—For complete saw-mill outfits.
- Saw-mill machinery and outfits manufactured by the Lane Mfg. Co., Montpelier, Vt.
- Inquiry No. 115.**—For seamless steel tubing $\frac{1}{2}$ to 5-inch bore.
- Turbine Water Wheel catalogues on application to Christiana Machine Co., Christiana, Pa.
- Inquiry No. 116.**—For a buttonhole moistener and opener, preferably Miller Bros.
- Wanted—Revolutionary Documents, Autograph Letters, Journals, Prints, Washington Portraits, Early American Illustrated Magazines. Correspondence Solicited. Address C. A. M., Box 773, New York.
- Inquiry No. 117.**—For manufacturers willing to make wire novelties on order.
- Machinery for twisting wire into all shapes and forms manufactured by Blake & Johnson, P. O. Box 7, Waterbury, Conn.
- Inquiry No. 118.**—For handles for rubber stamps.
- Rushton Boats and Canoes, Morris Canoes, The H. & B. Folsom Arms Co., 314 Broadway, N. Y.
- Inquiry No. 119.**—For meteorological instruments.
- Building plot 41 feet wide for sale; on Greene Street; old buildings; suitable for improvement. E. A. Cruikshank & Co., 143 Broadway, N. Y.
- Inquiry No. 120.**—For foot or hand power emery grinder with attachment for sharpening lawn mower knives, or such an attachment for an ordinary grinder.
- Wanted. Pan Am. Exposition Patent Novelties suitable for souvenirs. Address J. M. B., 330 B'way, N. Y.
- Inquiry No. 121.**—For centrifugal gold-separating machinery.
- Finest quality steam automobiles made in the world. Write Rochester Cycle Mfg. Co., Rochester, N. Y.
- Inquiry No. 122.**—For machinery for making excelsior.
- Inquiry No. 123.**—For manufacturers of small iron chain.
- Shipping, weighing, dressing, quarrying and rafting chains made by the J. B. Carr Co., Troy, N. Y.
- Inquiry No. 124.**—For machinery for powder mills.
- Inquiry No. 125.**—For an automobile lawn mower (gasoline preferred) with detachable roller.
- Inquiry No. 126.**—For manufacturers of cigarette cardboard boxes.
- The Rochester Folding Box Co., Rochester, N. Y., make the daintiest designs in cardboard boxes of all kinds.
- Inquiry No. 127.**—For manufacturers of merry-go-rounds.
- Gillie Engine & Machine Co., Tonawanda, N. Y., steam riding galleries and whirling panoramas. Catalogues on request.
- Inquiry No. 128.**—For flexible steel ladder suitable for portable fire-escapes.

- Inquiry No. 129.**—For machinery for making fire-works.
- Inquiry No. 130.**—For electrically operated tools for lettering, carving and surfacing on granite or other stones.
- Inquiry No. 131.**—For machinery for the manufacture of brooms.
- Inquiry No. 132.**—For electrical, air beer pumps.
- Inquiry No. 133.**—For hand dynamos for experimental purposes.
- Inquiry No. 134.**—For manufacturers of leather link, for link and pin type of the flexible leather-link coupling.
- Inquiry No. 135.**—For machinery to manufacture fine emery cloth.
- Inquiry No. 136.**—For miniature arc lamps for alternating current with about $\frac{1}{4}$ -inch carbon.
- Inquiry No. 137.**—For manufacturers of aluminum boxes.
- Inquiry No. 138.**—For manufacturers of telephone parts and appliances.
- Simplex Interior Telephone Co., 431 Main Street, Cincinnati, O., manufacturers of telephone parts and accessories.
- Inquiry No. 139.**—For spring-hinges, locks and accessories for making show cases.
- Inquiry No. 140.**—For tachometers for giving directly the R. P. M. of a shaft, to be used in dynamometer tests of electric motors.
- Inquiry No. 141.**—For carpet cleaning machinery.
- Inquiry No. 142.**—For manufacturers of woven-wire willing to estimate on 2 1/2 miles of fencing.
- Edward Darby & Sons, 233 Arch Street, Philadelphia, Pa., manufacturers of durable wire fencing.
- Inquiry No. 143.**—For a machine to straighten cold rolled round and square iron and steel shafting $\frac{1}{4}$ inch to $1\frac{1}{2}$ inch.
- Inquiry No. 144.**—For railroad track inspectors' tricycles, operated by gasoline or other motive power.



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.

(8075) C. H. asks: 1. How many accumulators are necessary to give off 30 amperes for 12 hours at 50 volts pressure, and what size? A. A good storage battery of 25 cells, each cell with 11 plates, about 11 inches square, will give about 400 ampere hours of discharge, provided the discharge is not more rapid than 50 amperes per hour. 2. About how many pounds of wire and what number are there on a 50-volt, 50-light generator at 16 candle power? A. Approximately 15 to 20 pounds on armature, and 50 to 60 pounds on field, according to type of machine. The sizes used would also vary, 18 to 20 on field, and 12 to 16 on armature. If you wish more exact information, cut out a bit of the wires and gage them. Measure the resistance of the field and from a wire table get the length by means of the number and resistance. The table will give the feet per ohm for the number. To find the length of wire on the armature, count the number of turns in one coil and determine the length of wire in one coil as closely as possible. From this the quantity of wire on the armature can be calculated.

(8076) E. M. J. asks: Have you any rule or formula for making induction or X-ray coils giving sparks? The rule I want is one by which I can find the size of the core, the amount of primary and secondary wire to be used to get any desired spark. A. There is no recognized rule or formula for finding the dimensions of an induction coil for a given length of spark; or rather every maker of coils has his own formula and does not disclose it. Nor are any two the same. You will find the dimensions of a large number of coils given in Bonney's "Induction Coils," which we can send you by mail for \$1. SUPPLEMENT No. 1124, price 10 cents, gives full plans for a coil giving a 6-inch spark.

(8077) H. G. writes: I would like to know what a pair of hoisting engines will lift, size of the cylinder 20 by 32 inches, with an 80-pound steam pressure. Will you please show me how to work it? A. Find the actual horse power of the engine from the cut-off, mean steam pressure and speed as usual for steam engines. Multiply the horse power by 33,000, which will give the pounds that the engines will lift 1 foot in 1 minute. Divide this by the height in feet for the number of pounds it will lift the height in a minute, from which should be deducted the friction of the hoisting machinery. For example: 100 horse power engine \times 33,000 = 3,300,000 foot pounds. If to be lifted 50 feet in one minute, then $3,300,000 \div 50 = 66,000$ pounds, one-third of which should be deducted for machinery friction, leaving 44,000 pounds or 22 tons lifted 50 feet per minute.

(8078) C. C. asks: A boat using sufficient power to attain a speed of four miles