

RECENTLY PATENTED INVENTIONS.

Electrical Devices.

**SOUND-MAGNIFIER FOR RELAYS.**—M. A. HACKER, Irvine, Ky. In this patent the invention relates to that form of device which is designed to do away with the local-battery circuit and sounder as ordinarily employed on telegraph-lines and which comprehends means for amplifying the sound of the relay as operated directly on the relatively weak electrical current on the line.

Hardware.

**SASH-CORD SUPPORT.**—J. KRIMMER, Piqua, Kan. The invention refers to means for supporting sash-cords and counterbalancing-weights for window-sashes, and its object is to provide a sash-cord support that is adapted for convenient and quick application, and that may be firmly but detachably secured in the window-casement jamb, and that will afford a reliable support for the sash-cord, sash, and weight when applied for service.

**JOURNAL-BEARING FOR TRUCK WHEELS AND CASTERS.**—G. P. CLARK, Windsor Locks, Conn. The object of the invention is to provide a bearing for truck wheels and casters for hand and platform trucks used in stores, banks, offices, and the like and arranged to prevent the axle from running dry in its bearings and to allow of conveniently and readily taking up the wear of the parts to prevent rattling, thus rendering the device noiseless.

Machines and Mechanical Devices.

**FRICITION-GEAR.**—S. C. SPANGLER, Clyde, Oklahoma Ter. Briefly stated, the apparatus comprises a driving-shaft having two spaced gear-disks fast thereon, the driven element or elements having gears set between the gear-disks and means for moving the gears of the driven elements into engagement with either of the disks, whereby to drive the driven elements in either direction.

**PRINTING BY MEANS OF ELASTIC ROLLERS OR PLATES.**—E. SCHÖENING, Berlin, Germany. In this invention the invention relates to printing-machines, and more particularly to that class of machines employed for grounding wall-paper, and has for its object to produce an ornamental ground on the paper. A ground is produced on the paper having two shades of the same color at one and the same operation and by the same printing-surface. The invention utilizes the pattern-surface and the color removed from the printing-surface in producing the pattern on a printing-surface to print a second web, thus producing a duplex machine.

**METHOD OF PRINTING.**—E. SCHÖENING, Berlin, Germany. The invention consists in producing a pattern in the color or ink on a printing-surface and transferring the pattern thus produced on the printing-surface to a sheet, web, or the like. Also it consists in subjecting the colored or inked surface of a printing-surface to impressions of a pattern-surface to wholly or partially remove the color or ink from portions of the printing-surface to produce a pattern in the color thereon, which when transferred to a sheet or web will be in two shades of the same color.

**THREAD-CUTTING MACHINE.**—G. A. ENGLISH, Defiance, Ohio. This machine is more especially designed for cutting threads on wooden articles—such as insulator-pins, brackets, spools, bobbins, handles, barrels, etc.—and arranged to cut any desired number of threads per inch for a desired distance of the same or different diameters and irrespective of the shape of the work and to produce threads exceedingly smooth, clean, and true.

**HANGER-BOX.**—M. H. DETTE, New York, N. Y. In carrying out this invention Mr. Dette has in view the construction of a box which will have the body portion thereof varying in thickness—that is to say, more material will be placed in the shell or body of the box at certain points to add to the strength of the same. Also an object is to construct a box in which the shaft may be easily hung, the portions of box being so correlated and arranged that the shaft may be thoroughly lubricated at all times.

**ROLLER FOR LAUNDRY MACHINES.**—W. E. CUMBACK, San Francisco, Cal. This roller employs an air cushion between a comparatively solid core or roller-shell and a fibrous jacket or cover, the cushion preferably formed by a layer of hollow tubing wound spirally around the core and presenting an external smooth surface for the reception of an inclosing casing. Provision is made to maintain air in the cushion in order to secure uniform elasticity throughout the length and peripheral surface of the roller, and this cushion may be maintained by inflating the cushion under pressure or permitting atmospheric air to circulate freely through the coils of the cushion.

**NEEDLE-THREADING ATTACHMENT FOR SEWING-MACHINES.**—L. BERNARD, New York, N. Y. In this patent the invention has for its object the provision of an attachment for sewing-machines that will afford means for guiding the end of a thread into the eye of the sewing-needle, a further object being to adapt the improvement for a secured connection with the presser-foot on different kinds of sewing-machines.

Of Interest to Farmers.

**SPEED-PLANTER.**—F. W. STANLEY, McComb, Miss. In this instance the object is to provide details of construction for a seed-planting device which afford means for dropping a desired number of seeds properly spaced apart in hills and expose the seed selected for each hill at the moment it is being dropped, thus enabling the operator to see that a proper number is planted in each hill as the work progresses.

**LAND-EVENER.**—F. W. ARNDT, Platte Center, Neb. The purpose of the invention is to furnish a machine for evening the ground so constructed that the finger of front and rear bars can be adjusted to more or less forcibly touch the ground at an inclination and be held in adjusted position until released and wherein when the evener-bars are adjusted from engagement with the ground adjustably-mounted supporting-wheels will be brought into position to form roller-supports for the device, enabling it to be readily drawn to or from the field.

Railways and Their Accessories.

**AUTOMATIC LOCOMOTIVE-ALARM.**—C. D. KING, Olympia, Wash. This mechanism sounds an alarm upon locomotives when two are oppositely approaching each other on the same track. A spring-gong placed in the cab, to the stop-pin of which is attached a cord conveyed through the cab side and stretched across the space between two horizontal bars projecting from the cab side one above the other so that when the cord contacts with an arm attached to a tower by the side of the railroad-track it withdraws the stop-pin and sounds the gong. The arm in the tower is held in place by pneumatic pressure created by the opposite approaching locomotive.

**RAILWAY-SWITCH.**—J. J. HOOPER, Chillicothe, Ohio. This switch is adapted to be opened and closed manually, but which will close automatically after a train has passed some distance on the siding or will be closed automatically by a train approaching from either direction on the main line. In carrying out this improvement two locking mechanisms are employed which may be released by means connected with the main line and the siding and which are so connected as to coast.

Pertaining to Vehicles.

**FIFTH-WHEEL.**—J. SOMMER, Kearney, Neb. Mr. Sommer's invention relates to fifth-wheels for vehicles, and his object more particularly being to produce a strong and compact wheel provided with both ball and slide bearings and having the advantages of being unable to readily come apart, of doing away with several parts ordinarily used, and also preventing rattling and entrance of dust.

**ATTACHMENT FOR VEHICLE STEERING-GEAR.**—G. D. SMITH, Montclair, N. J. In this improvement the inventor provides a clip which fastens to the free end of the steering-handle and which carries a fork, this fork being arranged to embrace the knee of the driver and being mounted in the clip, so that it may be swung into vertical or horizontal position, the latter being the inactive position, the vertical the active. The fork is also made adjustable as respects the distance between its limbs, so as to fit it to any sized person within the range of the fork adjustment.

**FOLDING VEHICLE.**—C. E. FANNING, Davenport, Iowa. This invention refers to folding carriages, shown and described in the Letters Patent formerly granted to Mr. Fanning. The object of the present invention is to provide improvements in folding baby-carriages whereby the carriage can be readily changed from a folded to an extended or set-up position, and vice versa; and when set up for use is not liable to accidentally close or collapse.

Miscellaneous.

**NECKTIE.**—C. NOLLENBERGER, Leadville, Col. The purpose of the invention is to so construct the tie that it can be quickly and readily attached to or detached from the neck-band, shield, or other support and reversed, carrying the former front soiled face to the back and the rear unsoiled face to the front, and to provide manipulating fastening devices whereby to adjustably secure the bow to the support provided for it. Mr. Nollenberger has invented another necktie, the purpose of which is to provide a bow of any description and so made that it may be worn with either face presented to the front, and when both become worn whereby the tie, which is in adjustably-connected sections, may be manipulated to bring the former intermediate faces outward, thereby presenting a fresh front and rear surface, the tie under such adjustment being reversible, whereby to use both front and back surfaces.

**SEWING-AWL.**—T. O'SHAUGHNESSY, San Jose, Cal. This invention relates to improvements in awls designed particularly for use in repairing leather goods—such as harness, shoes, gloves, etc.—an object being to provide a sewing-awl adapted to be operated manually in making repairs and that shall be simple in construction and convenient to handle.

**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. 5153.**—For makers of strong four-wheeled carriages for one or more horses.
- AUTOS.**—Duryea Power Co., Reading, Pa.
- Inquiry No. 5154.**—For makers of street lamps.
- "U. S." Metal Polish. Indianapolis. Samples free.
- Inquiry No. 5155.**—For manufacturers of gang plows.
- For bridge erecting engines. J. S. Mundy, Newark, N. J.
- Inquiry No. 5156.**—Wanted, a high Columbia bicycle or Star wheel.
- Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.
- Inquiry No. 5157.**—For a power machine for weaving wire.
- Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.
- Inquiry No. 5158.**—For makers of agricultural implements.
- American inventions negotiated in Europe, Felix Hamburger, Equitable Building, Berlin, Germany.
- Inquiry No. 5159.**—For makers of lighting rods.
- Non-refillable bottle. Simple, practical and non-refillable. Address R. T. McKenzie, Spring Hill, Miss.
- Inquiry No. 5160.**—For makers of electric welding machines.
- WANTED.**—Manufacturer on royalty for a patented machinists' tool. Address Profitable, Box 773, N. Y.
- Inquiry No. 5161.**—For machines for making paper tubes similar to shotgun shells.
- Edmonds-Metzel Mfg. Co., Chicago. Contract manufacturers of hardware specialties, dies, stampings, etc.
- Inquiry No. 5162.**—For manufacturers of hand warmers.
- Machine Work of every description. Jobbing and repairing. The Garvin Machine Co., 149 Varick, cor. Spring Sts., N. Y.
- Inquiry No. 5163.**—Wanted, producer gas system using coal.
- Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway New York. Free on application.
- Inquiry No. 5164.**—For the address of Pomeroy, manufacturer of small saws, patterns, supplies for sawing, etc.
- 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. 5165.**—For manufacturers of glass paper weights for advertising purposes.
- We manufacture anything in metal. Patented articles, metal stamping, dies, screw mach. work, etc., Metal Novelty Works, 43 Canal Street, Chicago.
- Inquiry No. 5166.**—For machinery for making school slates and frames for the same.
- Empire Brass Works, 106 E. 129th Street, New York, N. Y., have exceptional facilities for manufacturing any article requiring machine shop and plating room.
- Inquiry No. 5167.**—For manufacturers of awning hardware.
- The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York.
- Inquiry No. 5168.**—For makers of foot power lathes for buffing and polishing.
- In buying or selling patents money may be saved and time gained by writing Chas. A. Scott, 705 Granite Building, Rochester, New York.
- Highest references.
- Inquiry No. 5169.**—For apparatus to distill wood alcohol and save the by-products.
- Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machinery and tools. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.
- Inquiry No. 5170.**—For a machine for converting rice into a powder of a fineness to warrant its use as a cosmetic.
- Territorial rights for sale, side rail burglar proof fastener and ventilator, Patent No. 750,420. Meets a great demand. Full information by addressing Joseph Anderson, Seattle, Wash.
- Inquiry No. 5171.**—For machinery for weaving the Agave and for all the operations done with the plant.
- 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. 5172.**—For makers of metal goods, such as hinges for pocket books, and knobs for covers, etc.
- An estate, holding a controlling interest in a corporation manufacturing patent devices for use in the equipment of power plants, will sell its entire holdings to enable it to adjust estate matters. An excellent opportunity for any one who can take an active part in the management of the company. Net over \$15,000 necessary. Full particulars furnished and names of inquirers disclosed. Elliott, Box 773, New York.
- Inquiry No. 5173.**—For automatic machinery for turning spools, knobs, handles, etc.
- Cash paid for second hand material, gas mantle clippings and dust, metallic bismuth, mercury, platina, bronze powder, etc.
- Josef Radnai, 331 E. 80th St., New York.
- Inquiry No. 5174.**—For manufacturers of machinery for making chewing gum.
- Inquiry No. 5175.**—For manufacturers of briquettes for use in carriage heaters.
- Inquiry No. 5176.**—For makers of statuettes and small novelties in plaster, bisque, papier maché and white metal.
- Inquiry No. 5177.**—For makers of hand or foot power machines for grinding lawn mowers.
- Inquiry No. 5178.**—For manufacturers of coal mining machinery.
- Inquiry No. 5179.**—For manufacturers of tobacco-cutting machines.
- Inquiry No. 5180.**—For manufacturers of cigarette-making machinery.
- Inquiry No. 5181.**—For the address of the maker of or dealer in the "Wonder-Working World."
- Inquiry No. 5182.**—For makers of laundering machinery.



HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters. 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.

(9319) E. N. asks: How many pounds will a fan pull, 5 feet in diameter with four blades, the size of the blades at end to the shaft being 3 1/4 inches and 20 1/4 long by 2 1/4 at the wide end, at a speed of 1,000 R. P. M.? Also state horse power required to run a fan that size and speed. A. The draft of a fan varies with the speed nearly as the square of the number of revolutions per minute; and also with the angle of the blades. We estimate that the fan you describe will pull a force of 9 ounces per square inch, and will require 10 horse power to run it at 1,000 revolutions per minute.

(9320) D. E. S. says: In reference to query 9286 by F. B. in issue of January 23, 1904, you have repeatedly, in back numbers of the SCIENTIFIC AMERICAN, answered in the hunter and squirrel puzzle that the hunter did not go around the squirrel (which is correct). You turn back now, and say he did. If he did, why didn't the hunter shoot the squirrel when he came in sight of it, which he logically must do to pass it, and save all these years of misery? At what point of the circle did the hunter first see the squirrel? May I be allowed to add a dog to the circus, which also passes around the tree with the hunter, but on a circle slightly less in diameter than the hunter. Does the hunter go around the dog too? The circles made by the squirrel and dog do not enter into the question. A. We have answered the squirrel question perhaps a dozen times within a year, and always the same way. No other answer has been given for the last seven years, since the present editor has been in charge, and we do not expect to reverse our opinion. It is simple nonsense to say that the man must see the squirrel if he goes around it. Suppose the tree to be hollow and the squirrel were in the inside of the tree, how would the man see it? Nor does a dog make any difference, except to confuse the thinking in regard to the squirrel.

(9321) H. W. F. writes: Some time ago I visited a factory in which large thin pieces of crucible steel were heated in a molten metal for tempering. I presumed the metal to be lead, but upon trying molten lead for the same purpose, I find that so much dross accumulates on the surface, and so quickly, that it is almost impossible to get any of the pieces of steel to come away from the bath quite free from dross. I believe now that the bath which I saw was not lead, but some other metal or mixture. Can you suggest a metal or a mixture of metals that in the molten state would remain free from dross on surface? A. Melted lead is the only metal that is used for the hardening bath. The lead should be skimmed clear and powdered charcoal spread on the surface of the lead. Sometimes carbonate of soda is sprinkled on the surface; it gathers the lead oxide. If the soda slag sticks to the articles, it is thrown off when the articles are dipped in the water.

(9322) C. T. asks: Please answer in your Notes and Queries columns the following questions: Do you think that telephones will ever take the place of the telegraph in rail-roading? Can light be seen? If so, how? A. It seems very unlikely that the telephone will ever drive out the telegraph. The telegraph gives a copy which is a permanent record of what has been sent. The telephone does not. The telephone is limited in distance more than the telegraph.—Light is invisible. We see objects, not the light which makes the object visible; the flame of a lamp, not the light which the flame gives to render things in the room visible.

(9323) F. F. asks: It would be a favor if you would let me know how to make and use the dip solution that is used to make old brass articles look new. The color desired is the same color as a new movement of a clock, and is of a yellow green. I understand that the articles are lacquered after the dip. A. The bright luster on brass articles by the dipping process is made by first cleaning the articles from grease or dirt by dipping in a hot and strong solution of soda or lye. Rinse in hot water and dry in clean sawdust. Then dip in