RECENTLY PATENTED INVENTIONS.

Mechanical.

SPRING MOTOR. — Ludwig Melchior and George Haas, Wilmington, Del. In a suitable framing is a gear train having a power shaft, spring arms being secured at one end to the framing and extended down on opposite sides of the gear train, while there are cords or connections between the free ends of the spring arms and the power shaft, and guides for the cords, the spring arms being multiplied as desired to increase the power.

MOTOR. — Evander B. Newcomb, Parsons, Kansas. In a suitably constructed frame is a transverse shaft, to which is secured one end of a coiled spring fastened by its outer end to the inside of a barrel mounted to rotate loosely on the shaft, the device being simple and durable, and especially designed to operate light machinery, such as sewing machines, jewelers' lathes, churns, etc.

CIRCULAR KNITTING MACHINE. — Charles E. Bean, Scranton, Pa. This invention covers a machine for controlling a plurality of threads or yarns of different colors, and constructed to automatically supply the different yarns to the needles in a manner to form any desired pattern, in stripes or other styles, in the knitted web, the machine involving a novel construction, combination, and arrangement of parts.

PLUMBERS' SAW.—Robert and Charles McAlpine, Trenton, N. J. This is a saw in which a reciprocating saw blade is held to the stock by an adjustable stop for regulating the extent of movement of the blade beyond the stock, with other special features, whereby pipe connections may be severed quickly and accurately within the narrow space usually available for such work in a plumber's trade.

Electrical.

PUBLIC CLOCK.—Alfred Speer, Passaic, N. J. This is a clock with large dial and mechanism for driving the hands by power applied to their outer extremities, to overcome the resistance of wind, ice, snow, etc., the mechanism being electrically operated by a step by step movement through pawl and ratchet devices acting upon pinions meshing into stationary circular racks.

Agricultural.

CORN OR SORGHUM HARVESTER. — Joseph J. Singley, El Dorado, Kansas. This is a machine to be drawn along the ground when the stalks are guided by adjustable fingers to be cut by the knife and fall upon the bed of the machine, the knife being detachably held between the lower finger and bed, and the stalks being conveniently delivered to the ground at any time when the desired quantity has been cut.

Miscellaneous.

PIPE COUPLING.—William M. Brown, Jr., Sacramento, Cal. This coupling is formed with hollow sections secured to the main steam supply pipes, preferably by a shouldered end projecting into the main pipe, and held by ring clamps having their ends riveted together, being intended mainly for use with railway passenger cars, being adapted for automatic coupling and ready uncoupling.

CAN FILLING MACHINE.—Francis M. Nichols, Chillicothe, Ohio. This machine has a measure carrier with disks, each having tubes or cylinders open at both ends, the tubes of one disk sliding within those of the other, the apparatus providing means for filling cans with measured quantities of corn, tomatoes, etc., the cans being automatically fed forward to receive their intended contents.

TESTING DEVICE FOR COUNTING MECHANISMS.—Paul C. Illgen, Leipsic, Saxony, Germany. Numbered counting disks are operated by a rotating shaft, in connection with a supplementary disk, whereby the accuracy of the number shown on the counting disks may be determined, when, if the figures do not agree, the counting mechanism is proved to be out of order.

REFUSE EJECTOR.—John S. Wallace, Nelsonville, Ohio. This device is specially designed to remove refuse from ocean steamers, coal mines, etc., and consists of a discharge pipe into which projects a steam pipe carrying superheated steam, a refuse feed pipe discharging into the discharge pipe, and a gas pipe also opening therein, by means of which the smoke and gases from the furnace combine with the superheated steam.

PURIFYING IRON.—Nathaniel Booth, Hollidaysburg, Pa. This invention covers a compound for purifying iron in blast and puddling furnaces, the compound consisting of red prussiate of potash, bichromate of potash, bicarbonate of soda, black oxide of manganese, etc., in stated proportions, being designed to eliminate phosphorus, silicon, sulphur, etc., from the metal, and especially applicable to red-short iron, reducing its crystalline character to a fibrous condition.

DOUBLE SULPHATE OF ANTIMONY.—Carl J. E. De Haen, List, near Hanover, Prussia, Germany. This is a process of manufacturing the double salt of fluoride of antimony, consisting in mixing fluoride of antimony and sulphate of ammonia and then evaporating the mixture, for the industrial application of the compound in the dyeing art in lieu of the more expensive tartar emetic.

CRACKER CUTTING DIE. — Carl Herrmann, New York City. This is a die provided with a face built up of removable sections which may be easily renewed when broken by an ordinary workman, and the die may be quickly repaired or partially refaced should it be broken by contact with hard substances in the dough or otherwise.

BICYCLE.—Louis A. Hill, Philadelphia, Pa. This invention relates to spring forks to be used in connection with the wheels of a bicycle or similar machine, and provides means whereby the jolting motion of the wheels when passing over obstructions or a rough road will not be communicated to the rider or to the steering arms or handles.

COVER FOR MILK CANS. — Joseph C. Vail, Maple's Mill, Ill. This cover is made of an upper plate and an under apertured plate separated from the upper plate by spacing strips, the space between the two plates being ventilated, thus providing for the ventilation of the vessel while excluding dust, insects, etc.

KALEIDOSCOPE.—Joseph W. Lovibund, Salisbury, Wilts County, England. In this device, instead of the usual irregularly shaped and variously colored pieces of glass, disks are employed, independently movable by a rolling motion in the field of view, to separately or conjointly produce designs of great variety, which may be infinitely varied and repeated or reproduced at will.

TOY RACE TRACK. — William N. McManus, New York City. In this toy track a real race is simulated by a number of miniature figures carried about a circular race course, and after a number of times round the figures are projected forward by an impulse to the finish line, the invention being an improvement on a former patented invention of the same inventor.

NECKTIE. — Miner W. Bruce, Knox Center, Neb. This tie has two retaining tapes extending from opposite ends of the shield partly encircling the collar, one of the tapes being permanently secured to the shield and the other detachable, both tapes carrying hooks adapted to engage apertures arranged in the sides of the collar.

HOSE SUPPORTER.—Miner W. Bruce, Knox Center, Neb. This supporter consists of an elastic divided band having hooks attached to its ends, a clasp for attachment to the hose also having a hook, while an endless cord is passed around all the hooks and slides freely thereon, any slack in the elastic band of the supporter being automatically taken up by the clasp-carrying cord.

GARTER. — Jacob Katzenberg, New York City. This garter consists of an elastic tape having its ends united by a metal clasp applied to the tape a short distance from its extremities, the ends being left free to form the bow pieces which cover the clasp at the front.

SYRINGE.—Jay W. Kirkwood, Silver Mountain, Idaho. This is a medical syringe having inner and outer chambers connected with each other at or near their rear ends and both having openings through the forward end of the syringe, a piston working within the inner chamber, whereby the syringe operates simultaneously to discharge a medicated fluid and to remove by suction foreign matter.

NEW BOOKS AND PUBLICATIONS.

INCANDESCENT WIRING HAND BOOK. By F. B. Badt. Electrician Publishing Company, Chicago, Ill. 1889. Pp. 66. Price $1.

The practical side of electric wiring, with the electrical arithmetic necessary for "house engineering" is treated of by the author in a clear and succinct style. Numerous illustrations are embodied in the text, and the manual is one that will, we doubt not, be well received by the profession generally. It is a hand book, a code to be always at hand, as well as in the library. The need for a practical discussion of electrical problems is a growing one, and all worthy accessories to the literature of the subject are to be welcomed.

ACADEMY ARCHITECTURE AND ARCHITECTURAL REVIEW. Quarto pamphlet. Pp. 102. Edited and published by Alex. Koch and C. W. English, Chancery Lane, W. C., London, England. Wm. Mueller, New York. Price $2.50.

We are informed that the European edition met with so much success that the London publishers decided to issue an American edition. Every page contains one or more plates of buildings, bits of detail or architectural sketches from an English point of view without any descriptive text. The work is arranged in two parts, the first containing miniature reproductions of designs, studies and sketches of architectural work that were exhibited at this year's academy exhibition, and the second part, designs of notable buildings executed within the last five years, confined however to European work. The most notable work at the Academy is reproduced, particularly an interior view of Mr. E. R. Robson's People's Palace reading room. Mr. D'Oyly Carte's new theater in Cambridge Circus by T. E. Colcutt, the famous Hotel Metropole at Brighton, in Mr. Waterhouse's best style, also a chapel in Duke Street, Mayfair, by him, interesting from the massive yet graceful treatment of the spire. The most charming bit in the whole work is a water color sketch of a Norman gateway and library at Windsor Castle, by Phene Spiers, the famous teacher of drawing. The frontispiece is the chef d'œuvre of the English work, viz., the Brownlow Street front of University College, Liverpool, by Mr. Waterhouse. Sir Arthur Blomfield contributes a beautiful sketch of a reredos for new Church of St. Mary, Portsea. The chief works of interest in the second part are the several drawings of the Hofburg Theater, Vienna. A study of the various features of the design is full of interest. It marks the monumental feeling better than any other design exhibited. The point of view taken for the perspective does not do the noble front justice. The horizon line is too high. The elevations are much more satisfactory to one accustomed to interpret them. The publishers announce their intention to continue this work by an annual number. We wish them every possible success. The plates are excellent. More than that, there is not a poorly drawn sketch in the collection, and for one who desires to carefully study English work, no better opportunity could be found. The only regret we have to record is the evident lack of space for more sketches of plans, bits of detail, and reproductions of water color studies, such as the beautiful work shown by Messrs. Blomfield and Phene Spiers. If English plans could have American elevations and groupings, or American elevations and feeling for contrasts could have English planning, modern architecture would be worthy of the closest study and highest praise.

L'ART D'EMPAILLER LES PETITS ANIMAUX. By Paul Combes. Librairie de la Science en Famille. No. 118 Rue d'Askes, Paris, France. This is a little pamphlet of 32 pages on the methods of mounting animals.

LA PHOTOGRAPHIE ET SES APPLICATION. I. LA FERROTYPIE. Obtention directe des positifs a la chambre noire. By F. Drouin. Librairie de la Science en Famille. Paris, France. Pamphlet of 36 pages.

CONSEILS PRATIQUES AUX AMATEURS D'ELECTRICITE. Piles, sonneries, accumulateurs, allumoirs, appareils de secrete, etc. Par Drouin et Huche. Pamphlet of 46 pages. Librarie de la Science en Famille. Paris, France.

CE QU'ON PEUT FAIRE AVEC LES OEUFS. Collection complete et variee des experience faciles et amusantes pouvant etre executee par tout le monde avec des oeufs. Par Prof. Abel Cepak. Ch. Mendel, Paris, France. Thisis an illustrated paper-covered book of 175 pages on the various tricks and experiments that may be made with eggs.

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Notes & Queries

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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.
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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.

(1141) A. G. D.—The outside of a galvanized iron roof has a zinc surface which, being in contact with moist air, is slowly oxidized. The oxide shows as a light white powder which sticks to the hand as you brush it over the surface. Rains wash the oxide into the tank and the water absorbs it to a large degree. This is very noticeable wherever plumbing is done with galvanized pipe. The first water that is drawn after the pipe has been closed over night tastes strongly of zinc. Hence housekeepers are cautioned to always waste as much water as has lain in a galvanized pipe over night. The oxide of zinc is poisonous. The oxide of iron is not poisonous. For this reason we recommend the painting of zinc or galvanized roofs with oxide of iron paint or paint made from pulverized slate or mica. Even a coat of boiled linseed oil will protect the roof from oxidizing. A physician or druggist should be able to advise you as to the effect of using the water from a galvanized roof. Any person using spring water should be able to detect the zinc taste in the water from your roof.

(1142) J. S.—The rule of your council in regard to kind of pipe and fittings is very absurd. The universal practice in the United States for gas fitting is to use black iron pipe, malleable iron fittings,