

RECENTLY PATENTED INVENTIONS. Pertaining to Apparel.

DRESSING-SACK.—L. M. ANDERSON, New York, N. Y. The invention relates to women's wearing apparel, and its object is to provide a new and improved dressing sack, which is simple in construction, ornamental in appearance and easily put on or removed whenever desired. It will fit nicely on the body, and the wearer has perfect freedom of the arms for use in any manipulations.

Electrical Devices.

GENERATOR.—K. KISHI, 1 Shiba-Kanasugi-Shinhamacho, Shiba-Ku, Tokyo, and M. NAKAMURA, 3 Shiba-Kita-Shimmonzencho, Azabu-Ku, Tokyo, Japan. The present invention relates to an electric generator, especially to an alternating current generator. Since the revolving part of high speed electric generator, such as directly coupled to steam-turbine shaft, revolves with enormous velocity, the invention pays such particular attention to the construction of coil securing device as well as field magnet of such machines, as to make them strong enough to resist the centrifugal force of these revolving parts.

SPARK-PLUG.—C. T. VAN WOERT, New York, N. Y. By means of the construction in this case it is practically impossible for oil to accumulate at the terminals of the electrodes, as both of them are so constructed as to bring about an immediate shedding or draining of the oil or liquid. Any drops which may accumulate at the annular drip edge or at the lower or bowed portion cannot in any way interfere with the passage of the spark.

DISTURBANCE-OPERATED CIRCUIT-BREAKER.—L. D. HASS and E. G. DERBIDGE, San Jose, Cal. The improvement refers to circuit-breakers, and the more particular object is to produce a type of circuit-breaker in which action while not automatic is brought about by some unusual disturbance, such, for instance, as an earthquake, a cyclone, or violent shock of an exceptional character.

Of Interest to Farmers.

CULTIVATOR.—A. C. LODWIG, Oxnard, Cal. One object of this invention is to provide a cultivator adapted for use in tilling the soil in agricultural operations, in which the knives or blades can be adjusted to adapt the cultivator for use under different conditions and in which the operator can control the knives to prevent injury to the vegetation when the cultivator is used upon fields of growing crops.

Of General Interest.

MEANS FOR VENTILATING AND EXPELLING WATER FROM MINES.—P. H. DURACK, El Paso, Tex. This inventor provides a system by means of a circulating body of fresh air, and air locks so arranged as to permit the work to be progressively carried on without interruption, allowing the mine to be developed and worked with greater safety than with the appliances heretofore used, eliminating the danger of explosion from foul air, gases, or dust, and protecting the miner day and night while the work is carried on continuously without the delays incident to blasting, etc.

SURGICAL APPLIANCE.—L. G. SCARPA, Via della Zecca N. 37, Turin, Italy. The mode of working of the devices of this appliance for the treatment of pulmonary troubles is understood when one considers that by means of the inflation of the pneumatic cushion which is maintained in contact with one of the two thoracic halves or of the basilar part of the whole thorax, in consequence of the inextensibility of the lining forming the exterior surface, the space which is occupied by the air may be gained only at expense of a depression on the whole part of the thorax which must necessarily take its position of expiration.

EYE GUARD AND SHIELD FOR SPECTACLES.—W. C. BAYLESS, Jefferson City, Tenn. The object of the invention is to provide a device which may be quickly attached to the rim of a spectacle frame that supports a lens for spectacles, be readily removed therefrom, and when in position afford a lateral guard for the eye, or if desired, a non-transparent or colored disk for covering the eye, and co-acting with the lateral guard to screen it from the light when necessary and also to protect it from dust, cold, or wind.

VENTILATOR.—A. M. H. DE BRUYCKER, New York, N. Y. The aim of this inventor is to provide a new and improved ventilator, more especially designed for use on chimneys, and arranged to insure a proper draft at all times by causing a suction in the chimney, irrespective of the wind blowing up or down in the ventilator.

ORE-CONCENTRATOR.—G. H. DAVIDSON, Morenci, Ariz. Ter. In this concentrator the material carried on an endless traveling apron is subjected intermittently to sheets of water, to allow the concentrator to move forward in a sheet undisturbed, to permit them to pass the impact line of the water undisturbed, the concentrator being washed forward by the water, and the latter being free to flow back smoothly, to produce an effective washing of the onward moving material, and hence the very fine material is not disturbed or washed away with the tailings, thus insuring a complete saving of concentrates.

ADJUSTABLE MIRROR.—B. L. HARRIS, Los Angeles, Cal. This invention pertains more particularly to mirrors such as are adapted to be

supported upon the body of the user, so that the mirror will always be in position. It is adapted to be hung around the neck of the user. The device has means for adjustably holding the mirror upon the body in front of the face, so that it can be used in shaving or other similar operations.

STAMP.—B. KIAM, New Orleans, La. This invention is particularly useful in connection with hand printing stamps. The printing stamp is manually operated and has means whereby it can be identified instantly without necessitating the examination of the printing face thereof. It has a resilient body which renders the making of an impression with the stamp, easy and positive, and which carries a removable identifying card so held that both sides of the card are visible.

AQUARIUM ATTACHMENT.—H. A. ROGERS, Pagosa Junction, Col. The attachment will act to revitalize the water whereby to add to the comfort and lifetime of the occupant, rendering it practicable to keep more fish in a healthy condition in a given quantity of water than if they were compelled to subsist only upon the oxygen thrown out by the plant life employed.

Hardware.

LEVEL.—W. G. FUESSEL and F. W. FUESSEL, Hicksville, N. Y. The invention relates more particularly to levels used for determining the inclination of the horizontal, of different surfaces, and comprising a plurality of spirit tubes, one of which is annular and which encompasses a plurality of radially disposed spirit tubes, and a scale graduated in annular degrees and arranged to co-operate with the annular tube for the determination of the inclination in degrees.

WRENCH.—J. M. BOTT, Leadville, Col. The invention relates to wrenches having fixed and slidable jaws, and its object is to provide a new and improved wrench, to allow a quick and accurate adjustment of the movable jaw relative to the fixed jaw, and to securely hold the movable jaw in adjusted gripping position.

HANGER.—J. J. RONAN and J. F. BARRY, Jersey City, N. J. Although designed for general use the hanger is adapted to be used in public places, such as clubs, hotels, restaurants, and shops, and the object of the inventors is to provide a coat and hat hanger, with means for detachably holding other articles, such as canes and umbrellas.

Heating and Lighting.

HEATING AND VENTILATING SYSTEM.—H. A. WERNECKE, Manitowoc, Wis. The invention refers to certain improvements in heating and ventilating systems adapted for use in school-rooms and the like, and relates more particularly to the means for automatically establishing the desired circulation of the air, the withdrawal of the foul air, and the supplying of fresh air.

HEAT AND PRESSURE REGULATOR.—E. J. RYAN, Danville, Ill. By means of the improvement, the pressure of the water in the boiler may be maintained constantly at a predetermined amount; the pressure being restored automatically when it passes above this predetermined point or below it. The arrangement of the spiral blades on the valves provides for a turning movement of the valves whereby to provide a constant renewal of the valve surface and to prevent the lodgment of foreign surfaces between the valve and its seat.

Household Utilities.

ROUND EXTENSION-TABLE.—L. PONET, New York, N. Y. The invention has reference to furniture and the purpose is to provide a table having a top formed of a fixed center-piece, and segmental sections, capable of being folded under the fixed center or extended flush with the latter, to increase the size of the table top.

Machines and Mechanical Devices.

BOOK TOOLING AND LETTERING PRESS.—M. KALABA, New Rochelle, N. Y. The object of this invention is to provide a machine that is adapted to readily print entire panels or combinations of characters or lettering on the rounded backs of books at a single operation, and to make the impressions even and uniform, at the same time avoiding the expense and disadvantage arising from the small tools operated by hand.

CHECK-ROW ATTACHMENT.—W. B. HAMPTON, Fremont, Mo. The invention relates to planting machinery, the more particular object being to produce a check row attachment for use in connection with a planter for the purpose of paying out or taking in a wire, as the case may be, as the planter moves along. The application is a division of one filed formerly and resulting in a patent granted to Mr. Hampton.

PIN-HOLDER.—E. W. FORNEY, Galena, Kan. In carrying out the invention a paper roll or strip in which pins are inserted and held in the usual way is coiled within a holder that is hinged, and supported by a spring in such manner that it may be depressed manually, which movement operates mechanism that advances the pin strip step by step and simultaneously projects a single pin from the top of the holder, where it may be conveniently seized and removed.

RECORDER FOR SAWMILLS.—J. W. P. BURDINE, Lake Arthur, La. The invention re-

lates to sawmills, and its purpose is the provision of a recorder, forming a permanent feature of a sawmill, and arranged to form a permanent recorder of the amount of board measure contained in the logs sawed by the saw mill.

MACHINE FOR MAKING WOOD-CARPET SQUARES.—C. M. KREBS, New Albany, Ind. Each square is composed of wood laid edge to edge and glued onto a web of fabric, the slats for each square being formed from a single strip; and the machine being arranged to successively feed such strips to saws for cutting each strip into a plurality of slats, to stack the slats cut from one strip, to trim the side edges of the stacked slats, to feed them to an assembling device for arranging slats edgewise one alongside the other, to glue the uniting web to the assembled slats for forming a continuous piece of wood carpet, to cut the web to form individual squares, and stack them.

FEED-GEARING.—J. B. HART, Clarksburg, W. Va. In a patent formerly granted to Mr. Hart, he employed in connection with an operating rocker, an intermediate rocker arranged for operation by the operating rocker through the aid of an arm extending from the operating rocker over the intermediate rocker which carries an intermediate friction pulley operated by the operating rocker. In the present the intermediate friction pulley is carried by a rocker which is operated directly instead of through the aid of the rocker carrying the first or main friction pulley.

CONTROLLABLE POWER-TRANSMITTING MECHANISM.—E. F. JEWETT, Newtown, Ohio. This improved mechanism is adapted for use in connection with machinery of any kind in which it is desired to transmit power from a prime mover to a drive shaft, and in which it is desired to control the speed of the shaft in respect to the speed of the engine and reverse the direction of rotation of the shaft. It relates more particularly to a combined transmission gear, reversing apparatus, brakes and clutch.

Railways and Their Accessories.

MAIL-BAG CATCHER AND DELIVERER.—J. BUBB, Estabatchie, Miss. The improvement refers to the handling of mail bags, the more particular object being to provide a construction whereby mail bags may be readily delivered to or from a moving car, or in other words, exchanging mail with the car. It may be used, however, for other purposes.

RAILWAY-TIE AND CONNECTION.—G. H. SHANE and R. E. FORESMAN, Denver, Col. The object in view in this case is the provision of a metal tie possessing strength without being unduly heavy and having the requisite amount of elasticity; together with means for assembling the rails with the tie in such a manner that the gage of the track is correctly arrived at in the assemblage of parts and will permanently remain.

TRACK-RAIL FASTENER FOR RAILROADS.—J. T. WEST, Bowling Green, Ky. The purpose of the improvement is to provide for a fastener, that is readily applied for construction of a new railroad, or for repairing a track as may be required, it being adapted for quick application, and in service is very reliable and effective as a means for holding track rails secured upon cross ties of the railroad.

SWITCH.—J. L. BAILEY, St. Augustine, Fla. An object of the invention is to provide a switch for use in connection with railway lines and the like, which has movable switch points, and a swinging switch rail or frog which can be locked in a plurality of positions from the switch stand. The swinging rail or frog can be locked or closed in position to avoid pounding, hammering, and excessive wear when a train is passing over the switch.

METALLIC RAILWAY-TIE.—A. MILLER, Cape Girardeau, Mo. The object of the invention is to provide a tie, which is simple and durable in construction, cheap to manufacture, and arranged to permit of quickly and securely fastening the rails in place, and to allow convenient removal of the same whenever it is desirable to do so.

Pertaining to Vehicles.

VEHICLE.—W. N. SNOW, Snowville, N. H. One object of the inventor is to provide an efficient vehicle in which the body is resiliently mounted upon supports constituting runners, wheels, and the like, and in which the body is constantly maintained parallel to the supports, regardless of the point of the body at which the load is applied.

DUMPING-WAGON.—J. W. HOBSON, Bayonne, N. J. The invention is an improvement in dumping wagons, and the vehicle may in general respects be of ordinary construction, the novelty consisting in the construction of the body whereby to secure the dumping operation, and in the means for operating the dumping parts.

VEHICLE RUNNING-GEAR.—L. B. HART and C. I. DUPONT, Plaquemine, La. The aim of the invention is to provide details of construction for the running gear of wheeled vehicles, which will adapt the vehicle to be turned in an arc or circle of very short radius, in a perfectly safe manner, and avoid excessive friction between working parts of the running gear.

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.



HINTS TO CORRESPONDENTS.

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Queries from this vicinity not answered within fourteen days should be repeated in full. Queries from points more remote will require a longer time.

We do not make chemical analyses; but we are always pleased to give the names of minerals which are submitted to us, when it is possible for us to do so. The minerals should be sent marked distinctly with the name of the sender, and should be sent fully prepaid.

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(10822) K. W. says: What is the composition of the compound used for making oxygen without heat, simply by pouring water on it? A. The chemical which evolves oxygen by putting water upon it is sodium peroxide. It is sold under several fancy names, but it can be bought from any dealer in chemicals. The manipulation of this process is described in Benedict's "Chemical Lecture Experiments," which we will send for \$2.

(10823) E. M. H. asks: An empty 10-gallon metal air tank weighs 10 pounds. How much dead weight will be required to sink it in fresh water? Charge the same tank with 100 pounds of air, would it hold up more weight than if not charged? Could you pump the air out of the tank so that it would sink of its own weight? A. A tank of 10 gallons capacity will hold about 1 1-3 cubic feet, and when this is sunk in fresh water it will be buoyed up by a force equal to the weight of 1 1-3 cubic feet of water. This is very nearly 83 1-3 pounds. Since the tank weighs 10 pounds, an addition of 73 1-3 pounds in the tank will sink it. If 100 pounds weight of air are pumped into it, it will sink the same as if 100 pounds of lead were put into the tank. We have now 110 pounds total weight of tank and air, and 83 1-3 pounds buoyant force of water. The difference, or 26 2-3 pounds, will be the force with which it will sink. Pumping air out of the tank will make it lighter, and so it will float better. You cannot make a thing sink by pumping air out of it. Air weighs under ordinary pressure about 1 1-4 ounces per cubic foot, and 1 1-3 cubic feet will weigh 1 2-3 ounces. The tank will weigh 1 2-3 ounces less when the air is pumped out of it than it did when full of air. You cannot pump 100 pounds of air into such a tank. The pressure would be about 9,000 pounds per square inch, and no tank of this size and weight could withstand any such pressure.

(10824) A. W. D. asks: For some time I have been trying to find out what the temperature of the oxyhydrogen flame is, but have been unable to do so. Also, could you tell me if there is any other way, as by the use of a furnace, whereby a person could in the laboratory get a heat equivalent to that of the oxyhydrogen flame? A. The temperature of the oxyhydrogen flame has been variously given by different investigators, from 3,600 deg. F. to 4,400 deg. F. A recent writer gives the latter figure. The temperature of the electric arc is much higher than this, possibly reaching 7,000 deg. F. A valuable book upon this general subject is "High-Temperature Measurements," which we send for \$3. The material "thermit" is considered to give a higher temperature than the oxyhydrogen flame.

(10825) W. F. asks: Would you please tell me what the liquid is, that is used in the instrument described in your issue of December 31, 1904, SCIENTIFIC AMERICAN, for detecting positive or negative poles in any source? Would the receipt in Query No. 7,484 be all right to use in the tube? A. The solution given in Query 7,484 would work in a tube for a polarity indicator; but the following is better, and is used in all the indicators on the market now: Dissolve 15 grains of phenolphthalein in 1 ounce alcohol. Dissolve 20 grains of sodium sulphate in a pint of water, and add the alcohol solution to this. You will have enough to fill hundreds of tubes. The negative pole turns red with this indicator, and upon shaking up the liquid the color disappears, and the tube may be used indefinitely.