

RECENTLY PATENTED INVENTIONS.

Engineering.

THROTTLE VALVE.—John Tonge, Minneapolis, Minn. This is a valve formed of two parts connected together by an adjustable connection, so that when used as a throttle valve on a locomotive, a spring allows one-half of the valve to yield when the slide valve is reversed, allowing the valve to act as a relief valve to the steam chest at the moment of reversal of the link.

TRANSMITTING POWER.—Timothy W. Lemieux, Duluth, Minn. This is a device especially adapted for cable railways, as a means for reversing the moving direction of the car, while also acting as a simple and positive grip, one movement of an adjusting lever releasing a brake from one band wheel and applying it to the other band wheel, which may be effected either gradually or suddenly.

COVERING FOR BOILERS, ETC.—William H. Suhr, New York City. This covering is also adapted for steam or water pipes, or as a non-conductor on hot or cold surfaces, having an inner wall of fireproof material, gauze and waterproof material, and an outer wall for similar purpose, with a filling of mineral or like material, the invention being an improvement on a former patented invention of the same inventor.

Mechanical.

BRICK PRESS.—James H. Steele, Butte City, Montana Ter. Attached to the frame of the press is a steam pipe with perforations for diverting jets of steam into the mould, to prevent the clay from sticking, the moulds being vertically reciprocating and having openings at one side, in combination with vertically reciprocating followers.

REVERSING GEAR.—Samuel J. White, Bearden, Ark. A shifting pulley is arranged parallel to a metal disk having flat sides, the pulley having a laterally projecting annular flange and friction ring, to bear against the side of the disk when the pulley is shifted, with other novel features, the device being adapted for use with sawmill feeds and other reciprocating mechanism.

DRIVING MECHANISM.—Thomas L. Butler, Blackstone, Mass. This invention provides for rotating the spindles of a spinning machine, each spindle having two whirls and a single continuous belt passing around both whirls of each spindle and a pair of grooved driving drums, each having several parallel grooves, around which the belt passes sufficiently to transmit through a single belt by friction the power necessary to drive all the spindles.

Railway Appliances.

STATION INDICATOR.—Julius Tullius, New York City. Curtain-carrying drums on which the names of stations are printed are journaled in a casing secured near the car roof, and having sight openings, the drums being manipulated by a rotary shaft journaled in the ends of the car, and having a pull bar within convenient reach of the conductor or brakeman, whereby the curtain drums may be made to display the names of the various stations.

HOSE PIPE COUPLING.—David Hennessy, New York City. This coupling is especially adapted for railroad cars, to form a continuous pipe connection, and is a peculiar construction of hooking and unhooking coupling, which may be automatic in its closing action, forming a perfect closing joint and secure lock, while readily unfastening itself in case of derailment of a car or the breaking up of a train.

STREET CAR MOTOR.—Burchell R. Moore and Charles D. Montanye, Kansas City, Kansas. This is a motor adapted to be operated by a gas engine to propel a street car, a friction wheel mounted on a shaft revolving in bearings on the car bottom communicating motion to another friction wheel on the car axle, and the invention covering various novel features.

Miscellaneous.

LEVELING INSTRUMENT.—Charles A. Karr, Green Elm, Kansas. This is an improved hydrostatic leveling instrument designed to be simple and durable, compact in form, and easily adapted for a wide range of work, the invention being an improvement on a former patented invention of the same inventor.

FILTER PUMP.—Orson H. Woodworth, Columbia City, Ind. The filter is connected both with the bore of the pump and with the spout, valves being provided to direct the water either into the filter or to the spout, whereby water may be filtered by the act of pumping it from the well, cistern, or other source of supply, or unfiltered water may be readily drawn when desired.

ROAD GRADER.—James M. Holland, Mount Pleasant, Iowa. This is a machine of simple construction, wherein the scraping blade may be adjusted to any desired angle, being so mounted that it will be automatically raised from the ground to a position to allow the front wheels to pass beneath the supporting frame when the vehicle is turned sharply around.

WINDOW VENTILATOR.—Alfred C. Stevenson, Oakdale Station, Pa. Combined with the window frame are two spring rollers provided with perforated diaphragms arranged to be pulled down across the opening of the sash to form a space between, with a support arranged between the diaphragms to receive volatile substances for modifying the air admitted, with other novel features.

PHOTOGRAPHIC CAMERA.—John J. Higgins, New York City. (Two patents.) These inventions cover novel lens-carrying and focusing devices, with shutter and mechanism for operating it, the finder, and means for controlling the opening and closing of the lens aperture in relation with the opening and closing of the exposing aperture of the finder, the

whole instrument being so constructed that it presents little or no mechanism on its exterior to attract special attention as to its character, whereby it is particularly fitted for a detective camera; a lid or cover at the back of the camera body has special locking means, with swinging plate holder frame, the body of the instrument affording special facilities for storing away in a compact manner additional plate holders out of the line of vision or field of view.

VEHICLE SPRING.—Edwin Jarrell, Harper, Kansas. This invention covers novel features of construction and combinations of parts designed to furnish a neat, light, and durable torsion spring which will support the occupants of a vehicle easily, and by which pitching and rocking of the vehicle will be avoided.

BARREL.—Isaac J. W. Adams, Laurel, Del. This barrel is formed of two or more layers of splints crossing each other diagonally, the splints being securely nailed to each other and to supporting hoops, making a strong barrel, in which the material carried will be thoroughly ventilated.

MUSIC LEAF TURNER.—Frank H. Loughlin, Syracuse, N. Y. This invention covers a device designed to be readily attached to or detached from a musical instrument or music stand, whereby the leaves of sheet music may be independently turned expeditiously and conveniently.

POCKET BOOK FASTENING.—Louis B. Prahar, Brooklyn, N. Y. This device is also designed for use with purse or satchel frames, and consists essentially of a two part frame, a spring strip being secured at each end to one of the frame members and arranged to engage the other frame member.

BURIAL APPARATUS.—George L. Gehring, Rapid City, Dakota Ter. This invention is designed to furnish a bier of simple construction adapted to receive a coffin, and capable of propulsion, so that, when the device is located over the grave, the coffin may be readily lowered by the undertaker or his assistant.

SCIENTIFIC AMERICAN BUILDING EDITION.

FEBRUARY NUMBER.—(No. 40.)

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2. Plate in colors showing perspective and plans, with details, for a comfortable country dwelling. Cost three thousand five hundred dollars. Designed by Munn & Co., architects, New York.
3. View of the Jay Gould tomb at Woodlawn cemetery, near New York city. A most classical specimen of mortuary architecture.
4. A residence at Rutherford, N. J. Perspective elevation and floor plans.
5. A Queen Anne cottage at Flatbush, Long Island. Cost complete, eight thousand dollars. Plans and perspective.
6. A carriage house for one thousand dollars, lately built at Flatbush, Long Island. Perspective and floor plan.
7. A house for three thousand dollars lately erected at Bridgeport, Conn. Perspective elevation and floor plans.
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only one of its kind in the United States, and he possesses not merely the highest personal qualifications for the work, but, by reason of his position, the greatest possible advantage for it.

The Century Magazine for March has its usual variety of beautiful illustrations and interesting reading matter. George Kennan describes a visit to the Grand Lama of the Trans-Baikal. George De Kay gives some sketches touching the establishment of Christianity in Ireland, and M. G. Van Rensselaer has a richly illustrated article on York Cathedral, the views covering many different points of view, and being extremely fine specimens of engraving.

Notes & Queries

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.

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.

(406) N. D. asks: How is it that clouds float in the sky in winter, in the coldest weather, the mercury many degrees below zero? How is it that the vapors of which they consist are not condensed before they accumulate? In fact, they float far above the earth, where the temperature is much colder than at the surface. They remain for days suspended there. Is it by a miraculous interposition of Providence, or is it by some known natural cause? I should like to know about it. A. We can find nothing miraculous in the floating of clouds at any temperature. Clouds float for the same reason that dust floats, because of the smallness of the particles, whether liquid or frozen, that compose them. The clouds are constantly changing. We cannot say that the same cloud floats for any length of time.

(407) H. R. asks: 1. How are electric motors reversed? A. By having a duplicate set of brushes heading in the reverse direction; by shifting from one set to the other the motor is reversed. The position of the brushes on the commutator effects the direction of rotation. 2. How do you find the horse power of a motor? A. By testing its pull with a brake, and determining the number of rotations. From these data foot pounds are deduced, 33,000 of which per minute equal one horse power. 3. Can the motor described in SCIENTIFIC AMERICAN SUPPLEMENT, No. 641, be used as a dynamo, and if so, how many lights (16 candles) will it run? A. Any motor can be used as a dynamo; the one in question might supply one or two low voltage 16 C. P. lamps.

(408) W. C. G. asks for a receipt to be used on the hands and face that will keep off the mosquito and black fly that infest the North Woods during the fishing season. A. Mix sweet oil and oil of pennyroyal, or oil of pennyroyal and oil of tar. These are more or less efficacious.

(409) W. H. asks: What is the formula for making ink used for making duplicate copies with Edison mimeograph, also cyclostyle. A. Copying inks, for type writer and similar work in general, are made of aniline color dissolved in alcohol, thickened with glycerine and mixed with enough water to give proper consistency. The cyclostyle and mimeograph should be worked with fine printer's ink. Copying ink is not required, as they give many copies from one stencil.

(410) C. B. H. writes: Can I make paper caps, like those used in toy pistols, except that I want them to ignite without detonation, to ignite with the friction produced in piercing them with a pointed instrument roughened on the sides. A rough bradawl for instance? Ignition to be instantaneous. A. Dissolve the composition of sulphur matches by heating in water, and when thick enough, use it on your paper, or try following formula; it will, we think, give good results: Gum arabic 6 parts, red phosphorus 9 parts, niter 14 parts, binoxide manganese 16 parts, water a sufficiency. It is dangerous to manipulate and should be heated over a water bath.

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Burners, shade for, J. & W. J. Stratton.....	397,688	Gas regulator, volumetric, M. G. Wilder.....	397,573	Planing machine, Woods & Thomas.....	397,549	Valves, automatic pressure regulating, W. S. Johnson.....	397,565
Button, J. McNeerney.....	397,508	Gate. See End gate. Railway gate.		Planter, D. W. Hoshall.....	397,549	Valves, means for raising and lowering, W. Hunt-ing, Jr.....	397,829
Cable grip, F. Schelp, Jr.....	397,755	Gate, W. R. White.....	397,572	Planter, corn, L. A. Aspinwall.....	397,771	Vaporizer, R. B. Carsley.....	397,631
Cables, tension appliance for traction, W. Phenix et al.....	397,611	Gear, reversing, S. J. White.....	397,676	Planter, corn, J. Brady.....	397,690	Vehicle seat, J. F. Goodrich.....	397,590
Can. See Milk can.		Goods rack, N. D. Phinney.....	397,750	Plow, mole, J. C. Allen.....	397,682	Vehicle, two-wheeled, J. G. Parsons.....	397,515
Can fastener, Keeler & Lewis.....	397,555	Governor, gas engine, D. S. Regan.....	397,753	Plow point, J. Hawke.....	397,855	Vehicle wheel, J. E. Fisher.....	397,711
Car brake and starter, P. Weilbach.....	397,765	Grading and ditching machine, G. B. Durkee.....	397,841	Plow, walking, D. W. Cheney.....	397,582	Wagon bolster spring, J. Cliff.....	397,832
Car coupling, A. McLean.....	397,600	Grain scourer, A. Heine.....	397,720	Pocketbooks or other articles, frame for, M. Koenig.....	397,862	Wagon, butcher's, G. R. Kent.....	397,725
Car coupling, W. C. Watson.....	397,673, 397,674	Granular or lumpy substances, apparatus for handling and distributing, E. J. Wood.....	397,679	Pole for plants, machine for distributing, G. R. & J. W. Brown.....	397,626	Wall paper cutter, J. Marks.....	397,736
Car coupling, O. Wells.....	397,675	Graters, die for forming teeth in vegetable, W. Marx.....	397,559	Pole for vehicles, metallic, F. H. Wells.....	397,767	Walls, material for the treatment of, G. H. Wooster.....	397,529
Car motor, street, Moore & Montanye.....	397,658	Grinding mill, G. & A. Raymond.....	397,818	Pot. See Coffee or tea pot.		Washboard, H. C. Hall.....	397,591
Car wheel and bearing, J. S. Williams.....	397,677	Gun hand protector, R. O. Heikes.....	397,719	Power, transmitting, T. W. Lemieux.....	397,506	Washer. See Dish washer. Ore washer.	
Cars by electricity, apparatus for heating, R. M. Hunter.....	397,867	Hame, H. Latshaw.....	397,734	Press. See Brick press.		Watch mainspring, E. Karthaus.....	397,504
Cars, hose pipe coupling for railway, D. Hennessy.....	397,645	Handle. See Saw handle.		Printer's gauge, C. L. Storrs.....	397,876	Watch movement box, C. T. Graham.....	397,553
Cars, starting and draught mechanism for street, F. C. McDonald.....	397,740	Hanger. See Hat hanger.		Printing machines, sheet delivery apparatus for, W. Scott.....	397,662	Water closet, H. H. Craigie.....	397,781
Carding engines, driving apparatus for, E. Tweed-ale et al.....	397,581	Harmonica holder, A. H. Gaertner.....	397,541	Protector. See Ear protector. Gun hand pro- tector. Pants protector.		Water closet, P. White.....	397,571
Cards, machine for lacing Jacquard, W. P. Uhlinger.....	397,763	Harrow, H. A. Murphy.....	397,605	Pulley, split, J. R. Mackinnon.....	397,654	Water closet cistern, J. L. Mott, Jr.....	397,659
Carpet fastener, C. L. McCleary.....	397,598	Harrow, G. A. Paddock.....	397,514	Pump, air, A. Conacher.....	397,750	Water closet, plunger, H. H. Craigie.....	397,782
Carriage jack, wrench, and bit stock, combined, Hickok & Lambie.....	397,499	Harvester, corn, J. McKivett.....	397,656	Pump, sprout, L. A. Brigel.....	397,532	Water sprinkler, hand, G. W. Trahan.....	397,762
Cart, road, W. S. Bulett.....	397,776	Hat hanger, T. R. McDonald.....	397,599	Pump, steam, J. Maslin.....	397,738	Weeding machine, J. B. Mansfield.....	397,735
Cart, road, A. Z. Bulger.....	397,777	Hat mark, H. H. Wright.....	397,768	Pumps, plunger rod for, W. C. Westaway.....	397,882	Weighing and registering machine, grain, W. H. H. Branton.....	397,628
Cash indicator and register, C. H. Kahler.....	397,554	Hay or grain unloader, W. G. Hunter.....	397,554	Rack. See Broom rack. Goods rack.		Wheel. See Car wheel. Fifth wheel. Vehicle wheel.	
Chair. See Children's adjustable chair.		Hay stacker, J. Morris.....	397,512	Radiator, steam or hot water, Tompkins & Wil-liams.....	397,527	Window bead stop, M. A. Cutter.....	397,837
Chairs, attachment for rocking, W. I. Bunker.....	397,828	Heater. See Feed water heater. Steam heater.		Railway, elevated, R. F. Robison.....	397,519	Wire support, R. C. Caughey.....	397,830
Child's adjustable chair, C. P. Gifford.....	397,851	Hoisting machine, G. J. Anderson.....	397,621	Railway gate, electrical, M. Toulmin.....	397,880	Wire tightener, L. S. Flatau.....	397,655
Chimney cowl, D. Teets.....	397,669	Holder. See Flour holder. Harmonica holder. Music or book holder.		Railway signal, Yarrington & Shanklin.....	397,884	Wrench. See Pipe wrench.	
Chip breaker, F. H. Crafts.....	397,834	Hopple, T. Herrin.....	397,722	Railway tie, J. M. Davis.....	397,785	Wrenches, manufacture of, A. D. Gates.....	397,794
Chopper. See Cotton chopper.		Horse detacher, H. Latshaw.....	397,733	Railway tie, train signaling, electric coupling for, W. C. Johnston, Jr.....	397,553	Yarn beam or spool, A. Dahlgren.....	397,539
Chuck, pneumatic, G. Cuthbert.....	397,835	Hot air furnace, B. F. Price.....	397,690	Railways, automatic switch for cable, W. Phenix.....	397,610		
Cigar bunch wrapping machine, H. C. Myers.....	397,510	Hub boring machine, D. M. Parry.....	397,816	Railways, overhead line for electric, F. J. Sprague.....	397,875		
Cleaner. See Flue cleaner.		Hydrocarbon burner, J. Darby.....	397,784	Reamer, W. W. Swan.....	397,525		
Clock, alarm, R. F. Gaylord.....	397,850	Hydrocarbon burner, J. Patten.....	397,749	Refrigerator, W. T. Forbes.....	397,791		
Closet. See Water closet.		Ice and for cooling purposes, machine for manu-facturing, J. C. Rossi.....	397,820	Register. See Fare register.			
Clutch, friction, Jones & Rogers.....	397,859	Ice, machine for manufacturing, J. C. Rossi.....	397,819	Regulator. See Engine regulator. Gas regulator. Speed regulator.			
Clutch mechanism, pawl and ratchet, J. W. Hob-son.....	397,802	Incrustation preventive, B. M. Henney.....	397,547	Rock drills, carriage for direct-acting, G. A. Barth.....	397,623, 397,627		
Coffee or tea pot, L. S. Wright.....	397,883	Indicator. See Cash indicator. Station indi-cator.		Roll, D. B. Oliver.....	397,563		
Column, plate metal, F. Mesker.....	397,868	Ink bottles, adjustable bracket for, W. Lumley.....	397,558	Rolling metal strips, E. L. Clark.....	337,693		
Composition for making articles of commerce and art, F. S. Randall.....	397,612	Iron or steel, manufacturing, E. H. Cowles.....	397,491	Rolling seamless tubing, machine for, C. Kellogg.....	397,724		
Conveyer, stone or ore, P. W. Gates.....	397,849	Ironing machine, Crevert & Claus.....	397,700	Roofing, gable end finish for, J. E. Carroll.....	397,534		
Cooker, steam, W. E. Beveridge.....	397,687	Ironing or calendering machine, R. Crawford.....	397,586	Roofing, hip covering and corner finish for, J. E. Carroll.....	397,535		
Cooking apparatus, steam, W. H. Filer.....	397,709	Jack. See Carriage jack.		Sail, W. P. Cutler.....	397,589		
Cooking utensil, J. H. Fredericks.....	397,847	Journal boxes, die for the manufacture of lids for, N. H. Davis.....	397,798	Sand, etc., transporting, A. McDougall.....	397,741		
Corset waist, C. W. Higby.....	397,801	Keys, etc., device for opening and closing the apertures of, W. Duncan.....	397,787	Sash cord fastener, E. W. Abbe.....	397,680		
Cotton chopper, W. H. Howell.....	397,804	Kiln. See Brick kiln.		Saw, G. H. Holmes.....	397,646		
Coupling. See Car coupling. Hose pipe coupling. Thill coupling.		Kiln for firing decorated china, glass, etc., por-table, F. E. Hall.....	397,642	Saw handle, crosscut, M. Bennett.....	397,580		
Covering, W. M. Suhr.....	397,822	Kiln for firing decorated china, glass, etc., por-table, F. E. Hall.....	397,642	Sawmill dog, J. Flesher.....	397,636		
Cultivator, C. E. Atkinson.....	397,484	Knife blade, A. L. Clark.....	397,692	Sawing machine, wood, T. J. Baldwin.....	397,622		
Cultivator, Dutton & Meek.....	397,842	Knitting machines, electrical stop motion mech-anism for, E. G. Conner.....	397,537	Scale for surface measurements, G. H. Benedict.....	397,686		
Cultivator and harrow, T. E. Carter.....	397,632	Lamp attachment, Schenkel & Magruder.....	397,569	Scale, electro-magnetic grain, Holly & Malin.....	397,594		
Currents, regulating and motive device for alter-nating, E. Thomson.....	397,616	Lamp, carbureting, W. W. Austin.....	397,485	Screen frame, H. F. Hall.....	397,797		
Cutter. See Sod cutter. Wall paper cutter.		Lamp, oil spray or vapor, Neilson & Taylor.....	397,745	Seat. See Vehicle seat.			
Danger signal, automatic, J. Hahn.....	397,546	Lamps, automatic switch for electric arc, E. R. Knowles.....	397,729	Secondary battery, W. Kingsland.....	397,650		
Dental engine, J. H. Kidder.....	397,536	Lamps, etc., suspension device for, Rhind & Cooper.....	397,518	Separator. See Ore separator.			
Dish washer, W. Butts.....	397,533	Lantern, L. F. Betts.....	397,624	Separator and concentrator, combined, J. D. Cop-len.....	397,585		
Dishes, etc., machine for washing, G. W. B. Crees.....	397,783	Lantern, tubular, L. F. Betts.....	397,625	Sewing machine, Bartlett & Wiggin.....	397,579		
Divider shoe, C. W. Love.....	397,809	Lathe, A. D. Waymoth.....	397,528	Sewing machine, W. C. Foster.....	397,496		
Door check and alarm, combination, C. R. King.....	397,726	Lathe attachment, Clarke & Bassett.....	397,694	Sewing machine, C. F. Littlejohn.....	397,508		