ENGINEERING INVENTIONS.

A railroad switch has been patented by Messrs. George Bennett, George Dike, and William W Rich, of Lincoln, Neb. This invention relates to the class of triple or "three-throw" switches, and has but a single spring, being extremely simple and comparatively cheap, while embracing novel features, which assure easy working with little chance of derangement.

MISCELLANEOUS INVENTIONS.

A combined ice pick, chisel, and mallet has been patented by Mr. Henry M. Dixon, of New York city. The invention consists in the construction and combination of the various parts of the implement so that it can be conveniently used in either capacity.

A snap hook has been patented by Mr. George A. Shamberger, of Mound City, Mo. It has a swinging tongue, with notch and arm, in combination with a pawl, and with a thumb piece and spring, and is so made that the tongue cannot be pressed open except by the action of the operator, the tongue, when left free, seating itself and becoming locked.

A hand grenade has been patented by Messrs, Charles W. Fowler and Edward H. Shelman, of Brandenburg, Ky. It is for fire extinguishing purposes, and is adapted to receive a detachable handle, and a handle for holding and applying it for use, so that it may be carried to otherwise inaccessible points, and there broken,

An abdominal bandage has been patent ed by Messrs. Wilhelm and, Julius Teufel, of Stuttgart, Germany. It has an elastic lock girth attached to the front part of an abdominal belt, and the bandage may be closed at the sides of the body instead of the back or front, with various novel features to adapt it for effective use for various maladies.

A scythe fastening has been patented by Messrs. Henry B. Robertson and Charles Danker, of Havensville, Kan. It consists of a snath iron attached to the handle and provided with a wedge shaped opening of a square scythe heel, with set screws to fasten and adjust the scythe blade to the snath iron, by which the operator can adjust the scythe to any desired angle

An illuminated clock hand and dial has been patented by Mr. Alfred Speer, of Passaic, N. J. Combined with each of the hands of the clock is a series of lights to be carried by the hands, together with reflectors, arranged to throw the light outward from the hands, in such way that the position of the hands may be accurately located at a long distance from the clock.

A feed bag for animals has been patented by Mr. Franklin P. Eastman, of New York city. It has an outer compartment for holding and feeding the grain to a central or inner compartment that receives the animal's nose, the arrangement being such that the central part can never be more than partly full of grain, and the animal will have plenty of breathing space.

A miner's candlestick has been patented by Mr. Thomas Cox, of Gloster, Montana Ter. This invention covers improvements on a former patented Invention of the same inventor, bettering the mechanism for preventing the candle from slipping out of its holder; the candlestick has a bar with pointed end, which may be-thrust into the heading, or a hook by means of which it may be suspended when desired.

A die for lead presses has been patented by Mr. John Hooper, of New York city. The die plates are adjustable, being offset at their meetingedges to form, when placed together, a narrow slot, whose length may be increased or diminished by sliding the die plates in opposite directions in the bed plate, so that sheets of lead of different widths may be made with the same set of die plates or keys.

A cylinder printing machine has been patented by Mr. Jacob C. Rairigh, of Brockwayville, Pa. It has a traveling cylinder arranged to roll over the frame and carry the paper over the type supported by the bed, together with novel means for inking and distributing the ink, for operating the paper nippers, and for lowering the bed on the return movement of the cylinder, and raising it afterward.

A motor has been patented by Mr. Isaac St. Clair Goldman, of Pasadena, Cal. It consists of two endless traveling chains or belts and a power wheel held loosely in and engaging both, and adapted to rise and fall in and between the chains or belts, whereby the nower transmitted to one belt by a prime mover will be transmitted through the wheel and the other belt to a driving mechanism.

A wrench has been patented by Mr. Willis H. Bradley, of Rockford, Ill. It is so made as to bereadily adjustable for either a large or small nut, and after the nuts have been removed from the axle they will be retained within the recess of the wrench, so that the whole device may be laid upon the floor or ground

lowered by a cord passing to the hand of the operator, to facilitate cleaning the outside of windows from within an apartment

A metal faced fabric or material for interior decorations has been patented by Messrs. Theophilus and James Millot, of New York city. It is made by precipitating upon a previously prepared glass plate a thin sheet of metal, then applying a thin coating of glue, gelatine, or other sticky substance on the metal or on the material to which the transfer is to be made. in such way that the thin film of metal can readily be stripped off upon the article or fabric to be coated.

Business and Personal.

The charge for Insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in next issue

Metallic Pattern Letters and Figures to put on pat terns of castings. Knight & Son, Seneca Falls, N.Y.

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A clergyman, after years of suffering from that loathson disease, catarrh, and vainly trying every known remedy, at last found a prescription which completely cured and saved him from death. Any sufferer from this dreadful disease sending a self-addressed stamped envelope to Dr. Lawrence, 212 East 9th St., New York, will receive the recipefree of charge.

Fine 10 in. Telescope, \$125. Tydeman, Camden, N.J. A European house wants to acquire the patent of a quilting machine making bed quilts, in plain and fancy patterns. Address offers A. B., P. O. box 775, New York.

Inventors of Buttons and Button Machinery, address Geo. E. Weaver, Providence, R. I.

Manufacturers of specialties in the machinery line, wishing to enlarge, can learn of fine opportunity by addressing P. O. drawer 1150, Providence, R. I.

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Better do neither, but get and take medicine that will relieve pain, which is only an evidence of disease, and thus you may live on in health and happiness. If you have a cold or cough, weak or sore lungs, consumption, chronic nasal catarrh, bronchitis, impure blood, or liver disease, take Dr. Pierce's "Golden Medical Disco -a certain cure for these diseases. By druggists.

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The Knowles Steam Pump Works, 44 Washington St., Boston, and 93 Liberty St., New York, have just issued a new catalogue, in which are many new and improved forms of Pumping Machinery of the single and duplex, steam and power type. This catalogue will be mailed free of charge on application.

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Haswell's Engineer's Pocket-Book. By Charles H. Haswell, Civil, Marine, and Mechanical Engineer. Giving Tables, Rules, and Formulas pertaining to Mechanics, Mathematics, and Physics, Architecture, Masonry, Steam Vessels, Mills, Limes, Mortars, Cements, etc. 900 pages, leather, pocket-book form, \$4.00. For sale by Munn & Co., 361 Broadway, New York.

Iron Planer, Lathe, Drill, and other machine tools of modern design. New Haven Mfg. Co., New Haven, Conn

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Curtis Pressure Regulator a Steam Trap. See p. 142 Best Automatic Planer Knife Grinders, Pat, FacePlate Chuck Jaws. Am. Twist Drill Co., Meredith, N. H.

See Burnham's turbine ad. to mill owners next week Cushman's Chucks can be found in stock in all large

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Scientific American.

[See note at end of list about copies of these patents.]	Electrical resistance, artificial, H. P. & F. H. Brown
Adjustable chair, E. T. Starr	
Advertising optical apparatus, A. Duboce	•
Air tight jar, J. B. Wilson	
Alarm. See Burglar alarm.	Elevator cup or bucket. Seavey & Goodall
Alarm lock, W. P. & J. C. Matson	
Anchor, R. R. Spedden	
Animal releasing device, A. Jacobson	
Animals, ear tag for marking, W. C. Weedon 347,850	
	Equalizing ventilator, G. A. Bell
Awning, S. Lloyd	Eyeglass frame, G. Johnston
	Fan, rotary, P. Murray, Jr
Bag, satchel, etc., J. Wolf 348,085	Farm gate, C. J. Bottentield
Barrel, J. R. Allgire 347,860	Feed bag for horses, H. Fink
Barrel, tumbling, J. Henderson, Jr	Fence, W. E. Bunch 347,865
	Fence post, D. S. Pancoast
	Fence, wire, O. Moseley 348,035
Belt fastener, D. Wilson 347,857	Fertilizer distributer, W. G. Hurley 347,876
Bicycle pedal, D. J. Strickland	
Bird cage screen, A. B. Hendryx	
Blank forms, case for holding, H. J. Hoffman 348,015	File, letter and document, E. E. Baker \$47,762
Board. See Press board.	Fire extinguisher, automatic, D. Rosebush 348,140
Boiler. See Steam boiler.	Fire extingnisher, chemical, R. A. Ballou
Boilers, water heater for, T. Clifford 347,772	Fire extinguishers, faucet for chemical, R. A.
Bolt, J. A. Coultaus 347,996	Ballou
Bolts and shafts, adjustable lock for, C. C. Hig-	Fire pot, G. H. Hess
ham 347,798	Fires in malt and grain mills, mechanism for ex-
Boot and shoe crimping machine, R. Marshall 348,135	
	Folding box, G. Adler 347,761
Brick kiln, W. H. Wickers 347,907	Forge for welding and forging iron, steel, and
Brick machine, P. L. Simpson 348,064	
Bridge, C. F. T. Kandeler 348.020	
Bridle blinder, W. W. Beach 347,862	
	Fruit, fruit pail for gathering, F. A. Brundage 347,918
	Furnace, J. Eppley 348,116
	Garment pattern, C. S. Pusey 347,888
	Garment supporter, W. E. Clarke 347,871
	' Gas engine, G. Daimler (r) 10,759
	Gas pressure regulator. C. Ruprecht 348,172
Buckle, I. H. Osborn 347,955	
Burglar alarm and door fastener, combined, W.	heating, A. W. Wilkinson 348,178
Sprague	
Button for gloves, etc., E. Pringle 347,887	
Cable lifting mechanism, J. J. Endres	
Cable road rail, J. J. Endres	
Calipers, micrometer inside, J. T. Usher	
Can opener, F. Sharp	
Candy shaping machine, automatic, G. C. Snyder 347,971	generator.
Capsule machine, J. Krehbiel	Gold, etc., machine for concentrating, A. D.
Car brake, G. L. Adams	
Car brake, T. Suchland	
	Grain binder, R. W. Maske
Car coupling, F. J. Schupp, 348,061	Grain drill, W. D. Arnett 347,983

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entre & Americe	Car, frèight, A. N. Monteer Car gripping and braking devices, mechanism for operating cable, J. J. Endres Car, railway, Richards & Hale	347,78
Conce Manuel and	Car starter and brake, S. L. Norris Car wheel, G. W. Miltimore	348,169 347,950
HINTS TO CORRESPONDENTS. Names and Address must accompany all letters,	Car wheels and other bodies, machine for dress- ing and hardening, G. W. Miltimore Car wheels, machine for dressing, G. W. Milti-	347,949
or no attention will be paid thereto. This is for our information, and not for publication. References to former articles or answers should	Cars by gas motors, propelling, J. A. Wetmore	347,951
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	Cars, grip for cable, J. J. Endres Cards, automatic grinder for woolen and cotton.	347,78
some answers require not a little research, and, though we endeavor to reply to all, either by letter	J. C. Wall. Carpet lining, J. M. Baker	347,76
or in this department, each must take his turn. Special Written Information on matters of personal rather than general interest cannot be	Carriage seat iron, H. B. Crandall Carriages, top for children's, A. T. Vannerson	
expected without remuneration. Scientific American Supplements referred	Carrier. See Wick carrier. Cart and sugar cane planter, combined, E. & B.	0.47 000
to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price.	Holmes Cartridge, shot, W. E. Boyd Case. See Piano case. Shipping case. Show case.	
Minerals sent for examination should be distinctly marked or labeled.	Violin case. Caster, C. V. Pleukharp	348 059
(1) W. H. K. asks : How many pounds	Casting, material for use in moulds for, K. W. Blackwell.	
pressure to a square inch is required to compress two cubic inches of air (at the sea level) into one cubic	Casting stereotypes, machine for. O. Mergen- thaler	
nch? A. A pressure of fifteen pounds to the square inch in addition to the atmospheric pressure.	Centerer, Deno & Reardon Cereals, machine for making sheets of ground, J.	
(2) S. K. M. asks : 1. How many Grenet	F. Gent. Chair. See Adjustable chair. Surgical chair.	
battery cells, each having two carbon plates exposing a surface 3 by 1 inch, and one zinc of the same size, will	Chair and step ladder, combined, O. J. Marsh Check rower tension device, Ryder & Rosevelt Check rowers, anchor for, A. T. Crow	347,832
work two gallons of nickel plating solution? A. Half a dozen such batteries should give fair results. 2.	Christmas tree candle holder, II. Gehnrich Churn, I. Bogart	347,873
About what proportion, by weight, of nickel salts will water at 60° Fah. dissolve? A. Use for plating 10	Churn, Foreman & Walls. Churn, J. J. Pugh	348,002
parts by weight of distilled water and 1 part by weight of double sulphate of nickel and ammonium. 3. Can	Churn, H. J. Wagner Churn, A. Walters	347,849
nickel plating be done easify and well by amateurs? A. t is far from easy for an amateur to nickel plate satis-	Cider press, J. E. Jones Cleaner. See Tube cleaner.	
actorily. We recommend as text-book, Electrolysis, by Fontaine, which we can send for \$3.50.	Coffins, ornamental nail for, O. McCarthy Collar, horse, P. Sheehan	547,967
(3) J. B. A. asks : 1. If a rifle ball is dis-	Converters, working, B. Bayllss, Jr Cooler and filter, M. McVoy Coupling. See Car coupling. Hose coupling.	
charged perpendicularly, will the ball descend to the earth with the same force that it had when it left the	Thill coupling. See Car coupling. Hose coupling. Crusher and pulverizer, W. L. Card	947 960
gun? A. It will not, owing to the resistance of the air. 2. If a body is dropped from a very great distance (say	Cultivator, wheel, I. J. Hunt Cup. See Dental impression cup. Shaving cup.	
rom a balloon), is there no limit to the velocity of the body? Is it not possible for it to drop so very fast	Cut-offregulator, E. F. Williams Cutter. See Meat cutter. Tobacco cutter.	347,979
that the resistance of the air prevents it going any caster? A. If the body did not burst into fragments	Cutting machine, J. Schlichting Cylinder engine, vibrating, J. S. Barden	
or become otherwise destroyed, there is a maximum of velocity that it could not exceed.	Dam, mill and fish, L. Jones Damper regulator and alarm, thermo electric, A.	
	M. Butz Damper regulator, steam actuated, R. J. Hoffman	347,799
TO INVENTORS. An experience of forty years, and the preparation of	Dental bridge, C. P. Grout Dental drill, S. J. Lea.	345,13
nore than one hundred thousand applications for pa- ents at home and abroad, enable us to understand the	Dental impression cup, E. T. Starr Dental plugger, H. C. Register	347,828
aws and practice on both continents, and to possess un- equaled facilities for procuring patents everywhere. A	Desk or portfolio, lap writing, G. Hood Detector. See Mechanical detector.	
synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons	Dock, dry, J. E., Jr., & A. H. Simpson347,895, Door, T. S. White	347,852
contemplating the securing of patents, either at home or		•
abroad, are invited to write to this office for prices,	Doubletree, E. R. Procter	
which are low, in accordance with the times and our ex- ensive facilities for conducting the business. Address	Dress form, T. R. Fischer Drill. See Dental drill. Grain drill. Rock drill.	
which are low, in accordance with the times and our ex-	Dress form, T. R. Fischer	347,930 347,96
which are low, in accordance with the times and our ex- ensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broad- way, New York.	Dress form, T. R. Fischer Drill. See Dental drill. Grain drill. Rock drill. Seed drill. Drilling machine, D. Slate	347,930 347,969 347,846
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A collar or cuff button or stud has been patented by Mr. Read Benedict, of West New Brighton. N. Y. It is a button with a shank formed with outwardly inclined sides or edges near the head of the button to spread the button hole, so the head of the button may be easily slipped out, the shank being made fiat to permit the button hole to close under the head of the button, with other novel features.

A cultivator bar and cultivator clip has been patented by Messrs. William Zehner and Martin A. Eisenhour, of Plymouth, Ind. The bar is detachable and adjustable, with the clips holding the cultivator teeth bolted to the upper side of the bar and in the line of draught; a universal clip is produced adapted to suit various forms of spring teeth, spike teeth, and cultivator teeth, and it may be secured to either side of the bar.

A window washing machine has been patented by Mr. Richard H. Schenck, of New York city Connected with a standard adapted to be fitted to a raised sash is a combination lever which holds a head block in such way that it can be brought to any desired

If an invention has not been patented in the United States for more than one year, it may still be patented in Canada. Cost for Canadian patent, \$40. Various other foreign patents may also be obtained. For instructions address Munn & Co., SCIENTIFIC AMERICAN patent agency, 361 Broadway, New York.

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