RECENTLY PATENTED INVENTIONS.

Railway Appliances.

CAR COUPLING. — David Altman, Macon, Ga. This invention provides a device whereby an automatic coupling is effected, and an improved mechanism for releasing the link, the coupling pin passing centrally through a lever arranged on top of the drawhead the lever being adapted to be rocked on the drawhead to elevate the pin, and the coupler consisting of few parts, of simple and durable construction

PLATE METAL TIE. — Walter H. Dutton, East Bethany, N. Y. This tie is made of two plates bent near each end to form box-like enlargements supported by plate metal bases, lateral recesses thereon forming rail seats and integral ears on the top edges to receive and retain the rails, with clamping blocks resting on the top edges of the boxes to wedge the rails laterally and hold them to the tie when the blocks are bolted thereto.

Mechanical.

NUT LOCK.—Charles J. Hill, Pavilion, N. Y. This is a nut with radial grooves upon its inner face, to be used with a washer having a groove whose back wall will engage a corresponding groove in the wood or metal to which it is applied, a wire spring projecting from the groove to engage the grooves of the nut and prevent it from turning, the washer also having a suitable catch which may engage the lock spring and prevent it from engaging the nut.

FORGING DIE. — Timothy O'Leary, New York City. This is a die for forming the heads of rock drill pistons and simultaneously shaping the rod, the upper and lower die each having a shaping cavity with beveled sides, the lower die having a vent aperture and a pivoted handle, and the upper die a fixed handle, the metal being formed when placed in the shaping cavities by alternately striking and lifting the upper die and turning the bar.

ENVELOPE MACHINE.—John D. Flammer, New York City. This is a machine to be operated by foot power for automatically and expeditiously folding, pressing and perforating an envelope blank, the machine being of simple and durable construction and one which can be readily transported and conveniently manipulated, and one which can be built at a minimum cost.

FORMING ENVELOPE BLANKS WITH OPENING THREADS.—This is another patent of the same inventor for a machine for securing ribs upon paper, and whereby a thread or a series of threads may be attached to the web as it is delivered from a roll, and the paper at the same time punched or punctured, gummed, and cut to any desired shape.

SOLDERING CAN BODIES. — Mathias Jensen, Astoria, Oregon. This invention covers a method by which the solder is prevented from entering the insides of the bodies during the process of soldering, to prevent spoiling the goods packed and save solder, the ends of the seam of the can body being first bent inward and the seam passed through the flux and solder baths with its bent ends above their level, the bent ends being afterward straightened.

Agricultural.

CULTIVATOR AND SEED DROPPER.—James S. Hickman, Hickman, Ill. This is a combination machine which may be quickly fitted with either cultivating or seeding frames, by lifting either of which by the aid of levers the machine may be conveniently turned at the end of a row, while in the seed-dropping arrangement the drop bar is intended to be sectional and hinged with ball and socket joint.

CULTIVATOR AND SEEDER. — This is another patent of the same inventor for a machine in which a series of cultivators arranged in gangs are employed, and with which the operator can cultivate four, three, or two rows, or one row, as desired, by simply elevating or detaching such cultivators as he may see fit, while shovels, flukes, concave or convex disks, teeth, or horizontal shovel blades, may be employed in connection with the seed-dropping devices for stirring the ground.

THRASHING MACHINE FEEDER.—Cyrille J. Goulette, Ellendale, North Dakota. This invention provides a machine designed to automatically feed the grain and cut the bands, or to feed both bundles and loose grain, and to feed the grain very evenly thus constituting a machine especially desirable in thrashing flax, which is apt to be passed through the machine without being properly thrashed.

Miscellaneous.

MAGAZINE GUN. — Simon B. Shaffer, Ekalaka, Montana. This invention relates to guns wherein a horizontally sliding breech block is operated by a lever that swings downward beneath the frame, with a tubular magazine beneath the barrel, the main objects of the invention being to firmly lock the breech block in position at the time of firing, to obviate the throwing of the breech block to the rear of the hammer when the breech is opened, and to improve the extractor mechanism.

SUBMARINE VESSEL.—Francis W. Pool, Norwich, Conn. This invention is designed to provide means whereby an essentially elliptical bull, having a passenger and an air or gas compartment, may be steered vertically as well as horizontally, and whereby the propeller may be rapidly revolved with a minimum degree of friction through the medium of light and simple machinery.

PADDLE WHEEL. — Maurice Richter, Williamstown, West Va. This invention provides a construction designed for side wheel or stern wheel steamboats, consisting of a wheel having at the edges of its blades nearest the center forwardly projecting extensions of main portions and inclined portions, the latter inclining outwardly from the rear edges of the main portions to the inner edges of the blades, causing the wheel to displace a great deal of water and give great propulsive force for the power used.

LOADER FOR DUMP CARTS. — Gustave Haag, Flushing, N. Y. This is an attachment for any cart to facilitate the loading therein of street sweepings, etc., and consists of an elevator having an endless series of buckets delivering into it, and scooping the dirt directly from the ground, in combination with a stationary curved brush adjacent to and inclosing the rear side of the lower end of the elevator.

WATCH CROWN PIECES. — Allan C. Dalzell, Jr., Sag Harbor, N. Y. This invention relates to the manufacture of watch crown pieces and the crown cores therefor, and the manner of attaching the crown shells to the cores, providing an improved crown piece and a cheap and efficient process of manufacturing the cores and attaching the shells thereto.

PUSH BUTTON.—George H. Streichenberg, Pueblo, Col. This is an attachment for alarm and signaling push buttons, and consists of a suitable clamp on which is pivoted a lever having a flexible connection with the point it is desired to signal from, so that by pulling a cord or wire the push button will be actuated.

NECKTIE. — Philip Hess, New York City. This invention provides a means of changing the worn or soiled upper portion of a necktie having a shield to bring into service the parts that are in an uninjured condition, also affording a pendent scarf portion that is movable and adapted to receive a Teck bow, puffed band, or keeper ring, to hold the scarf longitudinally adjusted.

BRUSH.—Charles D. Hughes, Brooklyn, N. Y. This is a new article of manufacture, the bristles of the brush being formed integral with a block of wood, from which the bristles are cut by suitable machinery, the bristles or splints being cut on the block and arranged in concentric circles.

BASKET CLOSURE. — George Gorton, Racine, Wis. A means for hinging and locking the covers of baskets, hampers, etc., is provided by this invention, and one which will be very neat and durable, and not interfere with the packing of the basket when the cover is detached therefrom, the hinge, locking device and handles being so made that the latter will act with both the former and constitute a portion thereof.

WEATHER STRIP. — John E. Jones, New York City. A strip of spring metal, according to this invention, is bent longitudinally to a U-shaped cross section and applied to the edge of the sash, so that the outer part of the strip will press constantly against the window frame, similar strips being applied at the top and bottom of the sash and at the meeting rails, one of the members of each strip being inserted in a slot formed in the sash.

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Notes & Queries

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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.
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Books referred to promptly supplied on receipt of price.
Minerals sent for examination should be distinctly marked or labeled.

(2427) G. W. L., A. H., and others.—1. To make printers' rollers, for ordinarily fast presses on book work, the following will be found a good composition: 10½ pounds best glue, 2½ gallons black molasses or honey, 2 ounces Venice turpentine, 12 ounces glycerine. A little larger proportion of glue should be used in summer than in winter. If French glue is used, it should soak overnight to take up the right quantity of water, but most domestic glue will take up sufficient water in about two hours. The turpentine and glycerine should be added and well mixed with the composition just before pouring. 2. The manufacturers of printing inks furnish a prepared drier which will work better than any addition which a printer can ordinarily make, but litharge or boiled linseed oil may sometimes be added to a slow-drying ink, although it is hardly necessary to say that they do not improve the color.

(2428) A. G. asks (1) for the solution of the following problem: A specimen of the U. S. pharmac. hydrochloric acid contains 31·8 per cent by weight of the gas, and its specific gravity is 1·16; what volume of it will be required, theoretically, to mix with black oxide of manganese for the production of one gallon of chlorine water, one fluid ounce of which contains 2·66 grains of chlorine? A. Take 128 fluid ounces to the gallon. Then 128×2·66=340·48 grains of chlorine are wanted. To reduce to grains of hydrochloric acid this must be multiplied by 36·5-35·5, giving 350·07 grains. One fluid ounce standard weight weighs 455·72 grains. Of the given acid (sp. gr. 1·16) a fluid ounce will weigh 528·63 grains and contains 528·63×·318=168·10 grains of hydrochloric acid gas. Therefore the fluid ounces required are 350·07-168·10=2·08 fluid ounces. 2. Please inform me how to remove brown spots on the face resulting from neglected sunburns. The person is afflicted with it since three years, but has done nothing for it yet. The spots are rather different from freckles. His face is covered brown, and his natural skin looks out between the spots. A. We can only recommend an aqueous infusion of the rinds of cashew nuts. The following is a formula for a complete lotion based on the above:

White soft soap	3 oz.
Mucilage, thick	4 "
Best pale honey	4 "

Mix thoroughly in a mortar, add the yolks of 5 eggs previously beaten and strained through gauze, add slowly oil of almonds, scented to taste, 2¼ pounds. When perfectly mixed add cashew nut milk, made by beating up fresh cashew nuts with rose water ¼ pint, and rub until completely mixed.

(2429) C. M. S. writes: 1. Please give me directions how to melt brass so I can mould things and make castings. A. We recommend you the "Brass Founder's Manual," which we can supply for 80 cents by mail. 2. How to make a brown stain for violin. A. The stain for best results should be mixed with the spirit varnish. For reds, dragon's blood or sanders wood; for yellows, aloes, annatto, gamboge, turmeric or saffron is used. Mix to suit taste. The following is a simple spirit varnish: Mastic 1 drachm, sandarac 1 drachm, lac 6½ drachms, alcohol 5 fluid ounces. If you desire, you may stain the wood with an alcoholic infusion of any of the above colors, shaking them frequently in alcohol and pouring off the clear solution after twenty-four hours. 3. How to ebonize pine wood or any other wood. A. Boil 40 parts gall nuts, 4 parts rasped logwood, and 5 parts each sulphate of iron and verdigris with water, strain and apply warm. Then give it three coats of acetate of iron, which may be made by dissolving 10 parts of iron filings in 75 parts strong vinegar. Pine will not give good results. Cherry, pear, or walnut should be used. 4. What books to read to study electricity. A. There are a number of excellent works. We mention more particularly "Practical Electricity," by W. E. Ayrton, price $2.50, also "Electricity in the Service of Man," price $6.

(2430) H. L. H. writes: I want to make good glossy red paint to dry quick. How can I get it? I have been using Chinese vermilion and gum arabic water. A. Dissolve the best red sealing wax in strong alcohol. Or simply make a strong solution of shellac in alcohol and stir in enough of Chinese vermilion to give a good color and body.

(2431) F. & T. Manufacturing Co. write: We have been using benzine as a cleaner by having a dish of it large enough to dip a machine in, but owing to the danger from explosion and fire we are very desirous of using something else, and would like to know if you know of anything to take its place. A. We cannot suggest any substitute. Strong ammonia is recommended as an extinguisher of oil fires, and might be kept on hand in glass-stoppered bottles to be used as fire grenades in case of trouble.

(2432) A. B. S. writes: Will you advise me if there are any two or three kinds of metal that when brought in contact will form an electric circuit? And if there is, please state what they are. A. Theoretically, any dissimilar metals will do this if we adopt the contact theory of electricity. Practically, they will not, as the discharge is not perceptible externally.

(2433) J. D. asks how xanthate of potash is made. A. Alcohol of 0·800 sp. gr. is saturated while boiling with caustic potash. Into this carbon disulphide is dropped until it ceases to dissolve or until the liquid is no longer alkaline. On cooling to 40° Fah., the potassium xanthate separates as crystals. These are pressed between blotting paper and dried in a vacuum. Exposure to the air spoils them. The salt may be dissolved in water or alcohol. The proportions for preserving food must be ascertained by experiment. Probably 1 part in 10,000 would have some effect.

(2434) A. S. asks: 1. What is put in beer to make it ferment? A. Yeast. 2. How brewer's yeast is made. A. The following is a good formula: Ground malt 2 pounds, hops 2 ounces, add 1 gal on water at 170° Fah. Soak for six hours, strain, and add two or three boiled potatoes mashed up. Then put in two or three dry yeast cakes crumbled fine, having liquid milk warm, keep warm until the liquid ferments. If a little meal is mixed in warm water, it will ferment in time and be the basis for starting a yeast mixture.

(2435) F. S. M. asks: 1. Is it possible to photograph distant objects by combining camera and telescope? If so, how should the two be arranged? A. Yes. We refer you to our SUPPLEMENT, No. 335. 2. What is the best way to keep glass jars from breaking when filling with hot preserves? A. Bring the jars gradually to the heat of the preserves by immersing them in cold water and heating it.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

September 9, 1890,

AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

Alarm. See Burglar or automatic alarm.
Album, W. Bergner 436,117
Album clasp, A. C. Hafely 436,182
Album, easel, T. Kelly 436,243
Animal trap, M. S. Crismore 436,217
Artist's easel and case, combined, J. A. Crandall 436,303
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Axle box lids, die for making car, W. Pennock 436,187
Bag lock, A. W. Scheuber 436,269