

RECENTLY PATENTED INVENTIONS.

Of General Interest.

SHIELD TUNNEL CONSTRUCTION.—W. I. AIMS, New York, N. Y. The invention relates to tunnel construction in the bed of waterways and other places, the object being to provide a construction arranged to permit of driving the shield readily through sand, gravel, and other loose material, to protect the workmen in the shield in case of a sudden inflow of water or loose material by closing doors in the shield, and to allow of conveniently and quickly placing the sections of metal lining for tunnel in position.

MANUFACTURE OF PLATES FOR PRINTING.—E. A. NEWEN, New York, N. Y. The invention relates to the art of preparing relief-plates for printing typographically therefrom. The object is to provide certain improvements in the manufacture of plates, whereby zinc or copper plates are produced for receiving any desired design in half-tone effects, together with the necessary contrasts of high lights, solids, and shades to allow of using the plates for reproduction of color-work for fine color-printing.

TRUCK.—H. C. HARRINGTON and W. M. TOWERS, Rome, Ga. It is a very difficult matter to handle sacks of grain or heavy casks of merchandise with the ordinary truck from the fact that in loading material the pressure backward is very great, and unless the truck is held in position by an extra hand it will often slip backward, dumping the load and causing re-loading. The improvement seeks to prevent any backward movement of wheels when truck is in position to receive load until the truck is adjusted out of such position toward a position for carrying the load.

Machines and Mechanical Devices.

BREAD-MAKING APPARATUS.—E. D. LYND, Newman, Ill. One object of this invention, among others, is to provide a novel construction for mixing flour and milk, water, or other liquid constituent through the aid of a rapidly-revolving disk, from which the liquid element will be discharged in a finely-divided state into the flour, and thoroughly mixed with the flour in the mixing-chamber.

MUSIC-LEAF TURNER.—N. P. JENSEN, Ephraim, Utah. The object here is to provide a turner for use on pianos, organs, music-racks, and the like, and arranged to permit of conveniently turning the leaves successively over in either direction to permit of operating the device either by hand or foot, and in the latter case to render the device especially serviceable for use on portable racks such as used by band-musicians.

Pertaining to Vehicles.

BRICK-ELEVATING ATTACHMENT FOR TRUCKS.—S. P. HEDGES, Greenport, N. Y. The invention relates to an attachment for trucks, especially trucks for carrying brick and other material to be burned, stacked, stored, or dried. The purpose is to provide stationary uprights and a movable frame mounted between them and adapted to carry pallets on which material is placed and to so construct the truck and carrying-frame that they will be more substantial than ordinary, being built with the least number of posts and posts not liable to bend or get out of shape.

Prime Movers and Their Accessories.

WIND-WHEEL.—E. PAVÓN Y MORALEDA, Madrid, Spain. The object of the inventor is to provide a construction whereby the wheel will not be bound or locked at any time by the action of the wind, as when one blade is in position to receive the pressure of the wind the blade in front will be free to spill the wind, thus preventing the wheel from remaining stationary by reason of the wind blowing in an angular pocket having fixed walls.

Railways and Their Accessories.

CAR-COUPLING.—R. REARDON, Savannah, Ga. This improvement relates to automatic double-knuckle car-couplers. The objects are to provide for insuring the certainty of action of a coupling of the type mentioned, for providing an absolutely secure coupling, and for providing means for quickly and easily uncoupling the device by automatic action when the locking device is operated to unlock the knuckle. The invention is an improvement upon a previous patent granted to Mr. Reardon, and it has been successfully used on the Atlantic Coast Line R. R.

RAIL-JOINT FASTENER.—J. A. GOSSARD, Jr., South Solon, Ohio. The object in this instance is to provide details of construction for a fastener which are adapted to be placed in position for securing together two meeting ends of track-rails under spring tension of parts of the fastener by use of suitable tools or be removed by the same means, as occasion may require, a further object being to provide a fastener that is held in place for connection of the rail ends and their lateral support at joint by spring tension of its parts only and is devoid of bolts and nuts usually employed.

MONORAIL TRACTION.—C. E. FAROUX, 106 Rue de Courcelles, Levallois-Perret, Seine, France. This invention has for its object a method of and means for monorail traction whereby high speeds may be attained under good economical and practical conditions. The device comprises a single rail of suitable section, upon which travels the locomotor-vehicle,

which rests upon a truck. The invention comprises a vehicle including a body, flanged wheels supporting the body, a rail having inclined sides with which the wheel-flanges engage at two points only, guide-wheels bearing on the upper edge of the rail, a track above the vehicle, and wheels carried by the vehicle and engaging the opposite sides of the last-named rail.

Designs.

DESIGN FOR A CULINARY VESSEL.—F. H. GRISWOLD, Springfield, Mass. The design is applied to an open kettle or vessel for cooking fruits, meats, and vegetables. The body enlarges from the bottom up, and on the same near the bottom, is a series of like figures, in low-relief or intaglio, each comprising a series of rays radiating upward from a common point where the capital letter X is located, the whole indicating "X rays."

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.

Business and Personal Wants.

READ THIS COLUMN CAREFULLY.—You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you the name and address of the party desiring the information. In every case it is necessary to give the number of the inquiry.

MUNN & CO.

Marine Iron Works. Chicago. Catalogue free.

Inquiry No. 6242.—For parties of manufacture, on contract, small machines weighing 6 pounds.

AUTOS.—Duryea Power Co., Reading, Pa.

Inquiry No. 6243.—For the address of the manufacturers of the wire-wound wooden pipe, in the United States and Canada.

"U. S." Metal Polish. Indianapolis. Samples free.

Inquiry No. 6244.—For makers of round, woven wire belting or round chain belting, sizes from 1/4 inch to 1/2 inch diameter.

Perforated Metals, Harrington & King Perforating Co., Chicago.

Inquiry No. 6245.—Wanted, to purchase a good patent or novelty suitable for mail order business.

Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.

Inquiry No. 6246.—For information as to process of making rubber stamps without steam heat.

If it is a paper tube we can supply it. Textile Tube Company, Fall River, Mass.

Inquiry No. 6247.—For makers of high-grade tools for school use.

Adding, multiplying and dividing machine, all in one. Felt & Tarrant Mfg. Co., Chicago.

Inquiry No. 6248.—For parties controlling the sale of the Belden trip hammers, or for the makers thereof.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.

Inquiry No. 6249.—For makers of hydraulic presses with surface about 36 x 56 with moving stroke of about 2 inches or 3 inches only.

Thermo-piles for electrolytic assays and direct-current work. \$3 each. Walsh's Sons & Co., Newark, N. J.

Inquiry No. 6250.—For small, simple machines for gluing, spinning and weaving cotton.

Leyden Chemical Works. Sole manufacturers of aluminum preparations. 88 East 132d Street, New York.

Inquiry No. 6251.—For the makers of the Cheeseman roller gin, or any other make of roller gin.

If you wish to buy patents on inventions or sell them, write Chas. A. Scott, 340 Cutler Building, Rochester, N. Y.

Inquiry No. 6252.—For makers of vane cutters and other machinery for manufacturing baskets and berry boxes.

We manufacture tripoli stones of all dimensions, disc, cylinders, etc., samples free. Seneca Filter Co., Seneca, Mo.

Inquiry No. 6253.—For manufacturers of dynamos.

We manufacture anything in metal. Patented articles, metal stamping, dies, screw mach. work, etc. Metal Novelty Works, 43 Canal Street, Chicago.

Inquiry No. 6254.—For makers of simple, up-to-date machines for boring iron pump cylinders.

Patented inventions of brass, bronze, composition or aluminum construction placed on market. Write to American Brass Foundry Co., Hyde Park, Mass.

Inquiry No. 6255.—For parties engaged in all kinds of spring work.

The celebrated "Hornsbly-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Machine Company. Foot of East 138th Street, New York.

Inquiry No. 6256.—For the address of the manufacturers of the Luffield apparatus for treating disease by vacuum.

LIVE MAN WANTED.—If you have \$5,000 and want \$1,000 yearly in manufacturing business. Big demand, no competition. Write Manufacturing, Box 773, N. Y.

Inquiry No. 6257.—For parties making machinery for manufacturing wood alcohol.

Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machinery and tools. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

The SCIENTIFIC AMERICAN SUPPLEMENT is publishing a practical series of illustrated articles on experimental electro-chemistry by N. Monroe Hopkins.

PATENT ON PUZZLE.—Manufactured cheaply, carried in vest-pocket. Wish to place with manufacturer to make and market on liberal terms. Chas. Henry, 3265 16th Street, San Francisco, Cal.

WANTED.—Pattern and model makers by a western manufacturer of hardware specialties. Must be first-class workmen. Young men ambitious to excel preferred. Model Maker, Box 773, New York.

PATENT FOR SALE.—Quick acting safety, double chain car brake, used and endorsed by R. E. Binning, Chief Electrician of the Union Railway Co. of New York. Address Safety Brake, Box 773, New York.



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. Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. 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.

(9486) A. H. S. asks: Theoretically, a rifle ball (or any body) fired vertically should return with exactly the same force. Practically, anyone who has tried, knows that a ball capable of a penetration of say four inches of wood at the muzzle will hardly more than dent the same wood on return. Please explain. A. The resistance of the air, which is very great in a body with a high velocity, prevents a rifle ball from rising as high into the air as it otherwise would, and hence it does not have as far to fall as its velocity on leaving the gun would indicate. The air also retards its fall, hence it does not acquire as great a velocity in falling as the height from which it falls would require. Both in ascending and descending its velocity is reduced, and hence its force on reaching the ground is much less than the velocity with which it left the muzzle of the gun.

(9487) H. H. asks: 1. Is the horse-power of a motor calculated the same as the horse-power of a steam engine? A. The horse-power of an electric motor is calculated by multiplying the volts and amperes together, and dividing the product by 746. 2. We have a circuit carrying 100 volts through 5,000 ohms resistance; if we add 1,000 ohms more to the circuit, how much more voltage will we have to have in order to have the same results at the end of the circuit? A. If you have 100 volts acting through 5,000 ohms resistance, you have 1-50 ampere flowing. To have the same through 6,000 ohms you will require 120 volts pressure. First case: C = E ÷ R; or 100 ÷ 5,000 = 1-50. Second case: E = C R; or 1-50 × 6,000 = 120.

(9488) G. A. B. asks: We should like to get your valued opinion on a discussion with reference to sharp turns made by vehicles in general, and shall feel greatly obliged if you will submit your answer in the next issue of your paper. A contends that when an automobile makes a sharp turn, the outer wheels leave the ground, and the weight is all on the inner wheels; whereas B claims the inner wheels rise, and the weight is on the outer wheels; as proof, he offers as example the toboggan slide, where a person is thrown toward the outer end when it makes many turns. A. The centrifugal force developed by a vehicle in turning a corner causes the wheels to press outward, and the vehicle to overturn if the velocity is sufficient to throw it over. It is inconceivable that a force directed outward should cause the vehicle to be upset inward, or toward the center of the curve. To offset the outward pressure of a train, the outside rail is raised on curves in building railroads, as can be easily seen by looking at the elevated tracks in the city. The elevation is calculated to be sufficient to render the pressure on the inner rail again equal to that upon the outer rail; to tip the train in again, enough to balance the effect of the centrifugal force in tipping the train outward, and tending to upset the cars toward the outside of the curve. In bicycle tracks, where the vehicles often take the curves at high speeds, this elevation of the outer side of the track is very great, and in addition to this the rider finds it necessary to lean in a great deal, to balance the tendency to upset toward the outside.

INDEX OF INVENTIONS For which Letters Patent of the United States were Issued for the Week Ending November 22, 1904

Table with 2 columns: Invention Name and Patent Number. Includes items like Acid, preparing dialkylbarbituric, M. Engelmann (775,809), Agricultural implement, H. H. Herring, Jr. (775,770), Air brake connection pipe joint, S. Feist (775,769), Air brake controlling apparatus, W. J. Schlacks (775,313), Air brake safety device, C. E. Cozzens (775,670), Animal trap, W. H. Harden (775,750), Ash can, J. H. Chidister (775,894), Autocar dust guard, W. H. Brown (775,595), Automatic gate, M. K. Lewis (775,756), Automatic lubricator, J. Farley (775,673)

Table with 2 columns: Invention Name and Patent Number. Includes items like Back and head rest, invalid, L. R. White (775,48), Barium hydrate, manufacture of, F. Jahn (775,752), Barrels, etc., false partition for, E. E. Seacrist (775,610), Battery charging apparatus, H. G. Pape (775,732), Bearing carriage, L. Myers (775,335), Bearing roller, L. Villate (775,875), Beater or movement apparatus, A. Forlander (775,813), Bed, couch, R. J. Wagner (775,876), Bed, invalid, J. W. Crigler (775,520), Belt cutter, punch, and link clencher, combined, L. Goldberger (775,419), Biscuit coating machine, sandwich, G. S. Baker (775,642), Blotter, D. Sarason (775,478), Bodkin, A. W. & I. R. Smith (775,862), Boiler, See Water tube boiler, Boilers, etc., spring clamp or holder for lids or covers of pudding, D. Macfarlane (775,663), Book, manifold, A. Levison (775,833), Boot or shoe filler or form, A. Lewis (775,571), Boring bar, J. Riddell (775,459), Bottle, G. P. 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