

A NEW VELOCIPEDE.

We give herewith an engraving of a new velocipede recently patented by Mr. S. P. Ruggles, of 1209 Washington street, Boston, Mass. It is designed especially for the use of young girls and misses as a means of out-door exercise and amusement, and for developing the muscles of the lower limbs, and in fact of the entire body.

The velocipede is provided with two seats, one for the operator and the other for the passenger. These seats, which resemble a part of an ordinary cane chair, are mounted, one in front of the other, on a frame that is supported at the rear by a caster wheel, and in front by the axle of the drive wheels. Below the axle there are two levers or pedals, which are pivoted to the main frame below the rear seat, and are provided with stirrups for receiving the feet of the operator.

Two cranks, formed in the main axle diametrically opposite each other, are provided with thimbles, around which pass the straps connecting the cranks with the pedals. The caster wheel is provided with a transverse arm, which is connected with two guiding levers placed on opposite sides of the main frame.

The operator, sitting in the front seat, takes one of the guiding levers in each hand, and presses first one pedal and then the other in alternation with the feet.

The movement is easy, and the sport is healthful and enjoyable.

The Induction Coil.

Reviewing the new edition of "Noad's Text Book," the *Journal of the Telegraph* says: "The invention of the induction coil is credited to MM. Masson and Breguet, in 1842." As a matter of fact, the first induction coils were made by Professor C. G. Page, then of Salem, Mass., in 1837-8, consisting of a long secondary wound over a short primary coil, having a bundle of iron wires for its core, and provided with an automatic circuit breaker. They were capable of giving sparks in free air, as well as shocks and other indications of high potential. The fact that descriptions of this apparatus were published in the scientific journals of the day leaves no adequate excuse for the persistent omission of many European authors to give the credit of this apparatus to the American inventor to whom it rightfully belongs.

NEW FOUNDATION PLATE FOR ELEVATED RAILWAYS.

In a recent article on the progress of the elevated railway we gave an illustration of the foundation plates used in connection with the latticed columns on a portion of the structure. We give herewith an engraving of the combined bed plate and spherical bearing used on that part of the railway built by Clarke, Reeves & Co., of Phoenixville, Pa. It will be seen by reference to the engraving that the socket which receives the lower end of the iron column is concaved at the bottom to receive a convex bearing piece upon which the column rests. Fig. 1 in the engraving shows the iron socket plate—partly in section—in its position on the brick foundation. Fig. 2 is a detail perspective view of the bearing piece, and Fig. 3 is a vertical section of the bearing piece. The object in using a foundation plate of this kind is to secure a full bearing of the column on the bed plate under all circumstances. Without this device the column would, in many cases, rest upon one of its edges only. This may occur when the foundation plates are not exactly level, or when they are inaccurately placed and the column has to be tipped a little in one direction or the other to bring it into the required position at the top. The spherical socket and bearing piece admit of moving the column one way or the other without affecting its bearing in the base plate.

Messrs. Clarke, Reeves & Co. inform us that they have used this device in the construction of more than 120,000,000 lb. of elevated railway for New York city.

The Best Goods Always Pay the Best.

The truth of this statement is simply verified by the experience of every observing merchant. It is not the poor and trashy stuff, put up in a cheap and nasty style, even with a very wide margin of profit, that pays the best. There may be done in some of these catch-penny goods for a short time a money-making business. That we do not deny. We have seen it in novelty articles of various descriptions. We have seen it in largely adulterated coffees and spices; in honey and sirups; in candies, and canned goods. But the end has come, over and over again, to all these meretricious methods of money making on merchandise. Sometimes the inevitable is

averted for a long time by factitious plans of selling by prizes of clocks and spoons, by rapidly changing from one brand to another, by constantly shifting the field of operations, and by a hundred and one ways that will not stand the test of legitimate business methods. Call to mind the goods in the market, however, that have become established and staple, and in every case they will be found to be the products of manufacturers who have made it a cardinal principle in their business to make only the best goods, and while the margin of profits is necessarily small, the sta-

the vessel, which reverses by its own gravity, empties the grain, and turns the empty compartment up under the spout, and at the same time the pawl moves the index on the register.

An improvement in folding mirrors has been patented by Mr. Nicholas F. McEvoy (Catherine McEvoy, administratrix), of Millbury, Mass. Two or more mirrors are mounted upon a standard and adapted to be placed in different positions or at different angles to each other.

An improved adjustable pillow-sham holder has been patented by Mary E. Smith and George B. Fay, of Brooklyn, N. Y. It consists of a tube provided with slots and spiral spring, and made adjustable as to length so that it may fit any bed. It is attached to the head board, and is designed to hold the pillow shams in the proper position.

Mr. Jacob Weart, of Jersey City, N. J., has patented an air forcing and carbureting apparatus for illuminating railway cars. A carbureter is placed on the car and suitably connected with the burners. A blower is connected with the carbureter, and a steam pipe leads from the boiler and connects with a coil located on the car, beneath or contiguous to a coil of the air pipe.

Mr. Isaac D. Fegely, of Shamrock (Long Swamp P. O.), Pa., has patented an improved hand pump of cheap and simple construction that, it is said, can easily raise water from a depth of one hundred feet or more.

Mr. Henry F. R. F. Somerset, of Badminton, county of Gloucester, England, has patented an improvement in loops for connecting stirrup straps to the saddles, the object being to provide for automatic disconnection of the strap in case of accident. The invention consists in a stirrup loop formed with two sides hinged or pivoted, and retained in position by spring pressure under ordinary circumstances, the hinged sides being held in such

manner that the parts are released and the loop thrown open by the draught caused by the rider being thrown.

Mr. J. Theodor Schultz, of Uhlenhorst, near Hamburg, Germany, has patented an improved machine for cleaning and polishing boots and shoes. It is so constructed as to do its work rapidly and well, and it is simple in construction and convenient.

An improved mining-drill has been patented by Mr. Fred. B. Parrish, of Wilkesbarre, Penn. The invention consists in combining, with a drill-shaft arm having slotted recessed jaws, and a crank-screw on the auger, a pivoted nut having pins on opposite sides and made solid.

Messrs. Richard Hudson, of Chorlton cum Hardy, Henry Grimshaw, of Manchester, and Christopher Cronshaw (executor of John Briggs, deceased), of Bolton, County of Lancaster, England, have patented an improvement in ornamenting or transferring patterns to fabrics, printing the patterns with any bituminous substance or varnish of any color on the pattern paper, and transferring them to the fabric by the application of heat.

Mr. Mott G. Gillette, of New York city, has patented an improved tap valve for barrels which will effectually close up the tap hole and prevent the entrance of air, but at the same time does not interfere with the insertion of the faucet. It consists of an annular collar placed around the tap hole on the inside, which forms a seat for a flap valve (opening inwardly) hinged thereto and governed by a spring.

An improvement in ornamental hat bands has been patented by Marcus Goldberg, of New York city. The invention consists in a hat band formed of two or more spiral springs, placed one upon the other, and held in place by metal clasps, and also in the combination, with the springs and clasps, of tapes or cords, so that the band can be placed upon different sized hats, but cannot be expanded so much as to injure the elasticity of the springs.

An improvement in combined fire alarm and fire extinguisher, invented by Mr. John W. Smith, of Brooklyn (E. D.), N. Y., is designed to furnish an improved device, to be connected with a system of water pipes in a building. It is so constructed that should a fire occur the fire itself will open a vent for the water where the fire is, and in no other place, and at the same time will sound an alarm.

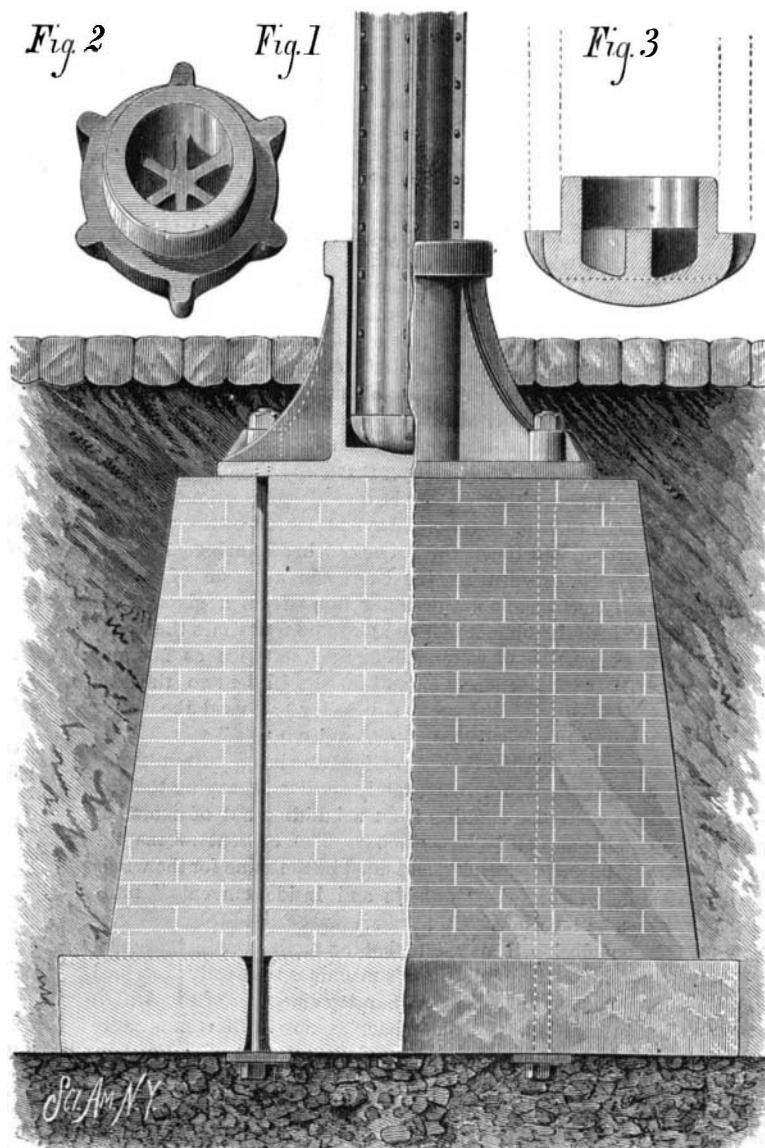
Mr. Harrison T. Rook, of Hot Springs, Ark., has invented an improved car coupling having a drawhead composed of two parts, forming what may be called a pair of jaws, of which the one is movable and the other fixed. The movable jaw is pivoted on a pin in the fixed jaw, so that when the connecting pin, which has a conical head on each end, is thrust into the opening of the draw head, the movable jaw lifts to receive the connecting pin.

**RUGGLES' VELOCIPEDE.**

ability of the market and the permanency of the demand enable their proprietors to rely upon them for an income as regular and steady as if they were government bonds.—*New York Grocer.*

MISCELLANEOUS INVENTIONS.

An improvement in grain meters has been patented by Mr. Joseph Nurnberger, of St. Albans, West Va. It consists of a double-ended vessel pivoted to the scale beam under the grain spout, a pawl and ratchet connected with the scale beam, a register, and a stop device for holding the vessel, whereby, when the quantity to be weighed and registered each time is admitted to the vessel, it turns the beam, releases

**ELEVATED RAILWAY FOUNDATION PLATE.**