

The American Voice.

Why is not as much attention paid to the pleasure to be derived by way of the ear as the eye? In this country we treat the ear barbarously. The ear gets the minimum of pleasure, and it retorts by aggravating the nerves. And so it happens that much of the discomforts of our life come through the ear. What the foreigner most notices in this country, until he becomes, as we are, more or less callous to it, is "noise." We are not simply pitched on a high key nationally, but on a discordant key. It is not a gayer or more animated country than some others, but it is noisier. Certainly we do not cultivate harmony or moderation. To begin with, the "American voice" has an unenviable reputation. It is not to be shrill, strident, high-pitched, unmodulated. This quality adds an unnecessary aggravation to social life. It disorganizes the nerves, and increases the tendency to nervous prostration—this and the other unchecked noises. The human voice ought to be a delight; it was meant to give musical pleasure.

There is no good reason why the American voice should not give pleasure. The voices of uncultivated races are often delightful. The negroes set us a good example in agreeable tones. That there is no radical incurable defect in the American voice we know, because we have had orators whose tones were as musical as the organ and the flute; there are communities where we hear for the most part modulated, low, and pleasing speech; and it is getting to be admitted that an American singer is the peer of any in the world. But in general no care is taken about the voice in speech. Girls as well as boys are permitted to make home discordant and school a babel of mere noise by the most vulgar and rasping use of the vocal organs. Mrs. Browning might have written, with us in view, a more pathetic poem on the "Cry of the Children." If children ought ever to be whipped, or, to put a case more in consonance with the tendency of the age, if children ought ever to whip their parents, the castigation should be given for the harsh, piercing, and discordant voice. It is idle to say that this sort of voice is natural to them. Any voice can be cultivated to a degree that it shall not be unpleasant, and this education should go on from infancy in every home and every school. It is a matter of public interest for the public pleasure. Think what a tea party might be!

The voice is, however, only set to the pitch of the other noises. In all thickly settled communities the ears are split and outraged by the steam whistle of the factories and the locomotives. In the depths of the night the startled sleeper has the veil of seclusion torn away from him by the scream of the whistles, the invalid's excited nerves are worn to rags by the barbarous pipe of the locomotive. We skringe and suffer with only faint protest. It is only a part of the universal noise and hubbub. Most of this screaming of the steam demon is absolutely unnecessary in this day of clocks and watches and guarded railway crossings. But if we must have the whistle, why not invent one that is moderately musical instead of being a torture? This is a suggestion of quiet-loving people, who find the noise of our American life every day more intolerable. Perhaps any abatement of it would not suit the majority, who like to go tearing and whooping through the world.

It is fortunate, considering our voices, that we are not Moslems, for then we should substitute for the muezzin's melodious call to prayer a harsh summons that would frighten every sinner back into his bed, and compel him to stop his ears against the rasping invitation to devotion. But is it altogether fortunate? For have we not the church and other jangling bells? These give out noise and nerve-shaking clamor instead of melodious notes. There are few bells in the United States that are agreeable to the ear. The foundries seem to go on the idea that anything in the shape of a bell will answer the purpose, with little or no regard to its tone, and we are called to church with the same metallic anger that invites us to a fire. The manufacturers are probably indifferent because the public are indifferent. Their products are mechanical, and only by chance musical. There is the need of art in the making and ringing of a bell, as in the making and playing of a piano. We appear to be content with any mass of metal cast in the bell shape, and to let a ringer with the instinct of a blacksmith evoke its dissonance with a sledge hammer.—Charles Dudley Warner, in Harper's Magazine.

Work in High Altitudes.

Some curious facts were brought to light on the capabilities of men to labor at high altitudes during the construction of the Peruvian Central Railroad. This line starts at Lima, and proceeding inland, reaches its highest point at the tunnel of Galeria, 15,645 feet above sea level. It is stated that men were able to do a fair "sea level" day's work as long as the altitude did not exceed 8,000 to 10,000 feet above sea level; but beyond this there was a sudden falling off in the work of one-fourth to one-third up to heights of 12,000 feet, and at still higher elevations 100 men were required to do work easily done by 50 at sea level.

A PNEUMATIC BICYCLE BRAKE.

An extremely simple and inexpensive brake, with which pressure may be immediately brought to bear on the wheel by operating a hand bulb, provision being also made for instantly releasing the pressure, is represented in the accompanying illustration. It forms the subject of a patent recently issued to Dr. Wm. B. Wallace, 144 East Sixtieth Street, New York City. A portion of its structure is out of sight in the hollow frame of the machine, its supporting plate being bolted to a flange of the steering fork, in the upper portion of which is held the usual slide tube connecting with the handle bars. To the under side of the supporting plate is hinged a plate carrying a concave shoe adapted to bear against the wheel tire, the hinge plate being normally raised by a spring, connecting it with the

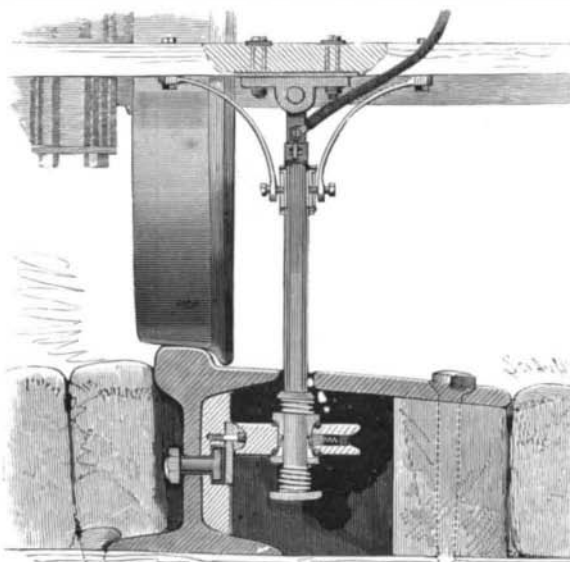


WALLACE'S PNEUMATIC BICYCLE BRAKE.

supporting plate, while between the two plates is an inflatable bag connected by a tube with a bulb which partially encircles one of the handles of the handle bar. The tube is elastic, but has a rigid section, to enable the length of the inflating tube to be adjusted to suit the height of the slide tube. The brake is applied by repeated squeezing of the bulb, producing air pressure in the bag or flexible reservoir above the plate carrying the brake shoe, the air pressure being removed and the brake released by opening an ordinary escape valve at one end of the bulb. The device may also be used as a hydraulic brake, and may be applied on vehicles other than bicycles.

AN ELECTRIC RAILWAY CONDUIT.

In the conduit shown in the engraving one side is formed by one of the rails, and the trolley arm is so arranged that it will have the necessary flexibility and still be sure of making a positive contact with the line conductor. The improvement has been patented by Mr. Albert M. Burgher, Clay City, Ky. The opposite



BURGHER'S CONDUIT ELECTRIC RAILWAY.

side of the conduit is formed by a timber laid parallel to the rail, a guard plate being secured to the top of the timber, leaving a slot between it and the rail for the trolley arm, while a strip of wood coated with insulating paint is bolted to the web of the rail. The heads of the bolts are covered by insulating blocks, against which is secured the line wire, having a flattened face and rounded outer side. The trolley arm is pivoted at the top to have a limited lateral movement in a bracket insulated on and rigidly fastened to the truck frame, the portion of the arm lying adjacent to the conduit top being coated with insulating material held in a casing. On the opposite sides of the casing are recessed wear plates which receive screws in the ends of curved springs rigidly attached to the truck frame, and pressing with equal tension on opposite sides of the trolley arm, holding it perpendicularly, and yet permitting the car and arm to have the necessary movement in

relation to each other. The hub of the trolley wheel is held on the trolley arm between springs, to provide for the up and down movement of the car, the wheel being grooved to fit snugly on the line wire, and provided with ball bearings, while, to insure a perfect contact, it has a radial bore in which is held a copper plunger, the inner end of which is held in close contact with the hub by a spring. In front of the trolley arm is carried a guard, hung in the same way, to brush aside any possible obstruction. The improvement is designed to afford an inexpensive and efficient substitute for the present overhead trolley systems.

The Color of Horses.

Mr. W. H. Hawkes writes to the Australasian as follows on that vexed question, the color of horses:

"It is an old saying among horsey men, 'a good horse was never a bad color,' and yet popular prejudice assigns all sorts of good or evil traits of character to particular colors. I can quite understand this with those who do not know better; but that an expert, like an Indian buyer, should hold to the popular fallacy is almost beyond belief, seeing that we have had innumerable instances, both in the old country and here, to the contrary. It was recently that some four or five races were won in one day upon one of our local courses by chestnuts, and I think the fact was mentioned by one of your contributors, and they are equally good either in saddle or harness. Yet there are numbers who will condemn a chestnut at once for his color only, be he ever so perfect in every other respect. The objection to a gray one can understand from a groom's point of view, seeing that they are so difficult to keep free from stains as age whitens their coats, but for no lack of good constitution or disposition.

"Some will tell you that a roan is the hardest of all horses, and yet I venture to assert that a greater portion of aged roans does not exist.

"Others credit black horses with being allied to the devil himself for temper and untrustworthiness. The only objection to him is that he is very rusty in his winter garb.

"White legs are always a sign of weakness,' you are told by many. But I think three to one would be fair betting against the one white leg out of a set of four, the others being black. What about Odd Stockings and All Fours? Surely if white legs were a sign of weakness, such horses should break down at a very early stage of their career. Most judges prefer bays with black points, and it would be difficult to beat them for general appearance the year through, but I for one should certainly deny to them a monopoly of sound constitutions, tractability, intelligence, and all other virtues. I am quite with Mr. Basil Gray in his general remarks, but even he errs the other way, as he credits white legs with being indicative of some peculiar virtue—or, as he says, they always denote quality.' This I very much doubt. That skillful breaking and future wise education has most to do with the character and usefulness of a horse, as well as a man, irrespective of his color, can, I think, be accepted as a settled fact. Renfrew was a splendid tempered horse until teased to such an extent that he became a man-eater. Many a two-legged brother has had his character spoiled by those who should have helped to make him better. That horses, like men, have their temperaments goes without saying. That an eye for the beautiful leads fanciers to reject piebald, skewbald, and horses with wall eyes and big blazes for hacks or carriage purposes is not to be wondered at. But that any should condemn many of our really beautiful chestnuts is an enigma.

"The objection purely to color is, I think, much akin to the action of one who crosses himself when passing in the street a person with oblique vision."—Bell's London Messenger.

Cheap Street Car Fares in Philadelphia.

The reduction of fare by the trolley cars to Germantown to 5 cents and to Wissahickon and Manayunk to 8 cents furnishes two very practical illustrations of the benefit to the public of the introduction of the new street car motor. One reduction was inspired by competition and the other appears to have been a concession to a popular demand, possibly expedited by a desire to anticipate steam railroad competition. Under the reported traffic agreement between two lines occupying the chief streets lying immediately west of the Delaware, it is probable that with the opening of spring passengers will be carried from any part of the city to any of the principal entrances of the East and West Park for a single fare. It is equally probable that the competition of rival lines will result in single fare transportation to Frankford in the northeast and Darby in the southwest. That many people now residing south of Lehigh Avenue will seek homes farther from the heart of the city may be surely counted on, but the sections abandoned for residence purposes will probably be occupied for business purposes. This was the effect of the introduction of the old street cars. The introduction of the trolley has more than doubled the possible residence area of the city.—Philadelphia Times.

Zinc to Bleach Molasses.

The adulteration of New Orleans molasses with sulphate of zinc is again attracting attention. The same question has been brought before the trade in various forms within the past ten years, but reports from various sections of the country now indicate a more vigorous investigation of the methods being practiced by New Orleans and other shippers. According to a member of the New York trade, nearly 95 per cent of molasses received in this market is adulterated; but, on the other hand, it is explained that it is hard to sell straight goods, and that molasses is brightened so that it will sell more readily. It is denied, however, that the introduction of sulphate of zinc is injurious, and to substantiate this several houses that deal in large quantities of molasses contend that zinc not only brightens the goods, but purifies it. At any rate, the proportion of zinc used, they say, is so small that it is harmless.

It is claimed for the zinc that it has peculiar properties which allow it to precipitate all foreign matter, and rise to the surface as a scum, which is then cleared off and the molasses is left a pure amber color. The fact that molasses is "bleached" in order to compete with New Orleans wholesalers was freely admitted in the local trade.

It was said that the New Orleans Board of Health had prohibited the use of sulphate of zinc in the adulteration of molasses, and for some time the practice ceased. The manufacturers of preserves, etc., declared that the enforcement of such an order would practically ruin their business; but nevertheless it was heeded until recently, when fresh complaints were made to the health authorities that sulphate of zinc was entering into the clarifying process of molasses more largely than ever.

Mr. H. L. Hobart said in reply to inquiries: "There is nothing in the story worth discussing. Zinc is used to purify and brighten molasses, but not in sufficient quantities to harm anybody. It is an old matter often before the trade, and that's about all there is to it."

Mr. Post, of B. H. Howell's Son & Co., replied: "Sulphate of zinc is one of the ingredients used in a formula to clarify molasses, but I don't believe enough of it is used to injure anybody. The adulteration can only be detected by an analysis. There are houses in this market that brighten molasses. I believe that the zinc precipitates any foreign matter which the molasses may contain, and then rises to the surface, where it is

recovered. I don't think enough remains to harm us."

A member of the firm of Gustave Jahn & Co. answered: "Yes; sulphate of zinc enters into the clarifying process of molasses. We have a formula for brightening our goods, but it is a common practice in the trade. Very few straight goods are received from New Orleans, and when we do get straight goods it is difficult to dispose of them when shown with brightened goods. It is a miserable practice, however, and I wish it could be stopped."

A dispatch from Columbus, Ohio, states that a plan of adulterating New Orleans molasses came to the attention of Dairy and Food Commissioner McBall, of Ohio. A very extensive dealer in molasses and preservers sent him two samples of the classes—one bleached and the other unbleached. The manufacturer in question stated that this "bleached" article is the unbleached with sulphate of zinc added. The zinc is poisonous. The manufacturer in question said he had been forced to "bleach" his sirup in this manner in order to compete with the New Orleans wholesalers, who first inaugurated the process.—N. Y. Journal of Commerce.

Four Hundred and Twenty-four Degrees Below Zero.

Four hundred and twenty-four degrees Fahrenheit below zero! Just what this means it is almost impossible to imagine, and, yet, it is one of the temperatures which have been reached and used in laboratory research, and has been made the subject of some highly interesting experiments and explanations by Prof. Dewar before the British Royal Institution. Four hundred degrees below zero is not an everyday temperature, nor can it be reached by more everyday means than the expansion of liquid air, which latter Prof. Dewar has succeeded in producing in comparatively large quantities, and in storing by novel and ingenious methods, to be used as required in the study of matter at abnormally low temperature, exactly as a spirit lamp or a Bunsen burner is used in studying the properties of different bodies at the higher temperatures.

The tensile strength of iron at 400° below zero is just twice what it is at 60° above. It will take a strain of 60 instead of 30 tons to the square inch, and equally curious results have come out as to the elongation of metals under these conditions. It was an idea of Faraday

that the magnetism in a permanent magnet would be increased at very low temperatures, and experiments with comparatively low temperatures had rather negated Faraday's suggestion, but Prof. Dewar has completely verified the opinion of the famous savant, having shown that a magnet at the extremely low temperature made possible by the liquid air had its power increased by about 50 per cent.—Cassier's Magazine.

Work of the Cold Spring Harbor Hatchery During 1894.

The fish hatchery at Cold Spring Harbor, Long Island, has done much good work during the year 1894. This hatchery is probably the most prominent and efficient of the seven stations of the New York Fish Commission. During the past year it has turned out 33,250,000 tom cods and 22,500,000 smelts, which have been liberated in the harbors on the northern shore of Long Island. There have also been some 300,000 trout placed in local streams and in the Adirondacks. About 100,000 salmon and 700,000 shad have been sent to the head waters of the Hudson, and 500,000 lobsters have been freed in Long Island Sound.

At present the propagation of trout engages most of the time of the hatchery. The spawn this year number 1,500,000 eggs. Besides this interest, much is being done to supply adequate quantities of tom cods, and at present there are 60,000,000 tom cod eggs in the hatchery in various stages of incubation. One of the most important results of the year has been the experience gained concerning the propagation of lobsters. The 500,000 lobsters raised last year were from spawn taken from females captured off Sound Beach, Connecticut. Superintendent Mather believes, however, that in a few years lobsters will be cultivated as easily as trout.

A Microscopical Exhibition.

The eighth annual exhibition of the Department of Microscopy of the Brooklyn Institute of Arts and Sciences was held in Art Association Hall, Monday, Jan. 14, 1895. The exhibition was one of the most successful ever held under the auspices of the Institute, eighty-six microscopes being used, the visitors passing from instrument to instrument. The present officers of the department are: H. F. Calef, president; H. S. Woodman, vice president; A. H. Ehrman, secretary; C. P. Abbey, treasurer; James Walker, curator.

RECENTLY PATENTED INVENTIONS.**Engineering.**

INJECTOR.—Benjamin M. Throop, Geneva, Ohio. This injector has a steam inlet and a water inlet connected by a set of lift nozzles with an interior compartment, while forcing nozzles connect the latter with the outlet, there being a double valve arranged in the casing and adapted to connect the steam inlet with the steam nozzle of the set of forcing nozzles, and the interior compartment with the outlet to the boiler. The construction is very simple and inexpensive, and may be easily operated to force water under either normal or increased pressure to the boiler.

BOILER BRACE.—Peter McGregor, Chicago, Ill. The body of this brace is preferably of light, flat metal, having one end slitted to form two members, which are twisted and semicircular in cross section, diverging laterally, and having their ends bent outwardly to form opposite outwardly extending feet. The improvement is intended as an inside brace for the heads or other flat surfaces of the boiler, and is very simple and inexpensive while yet having great strength.

Railway Appliances.

CAR COUPLING.—Carman Frost, Hewlett's, N. Y. This is an improvement on a formerly patented invention of the same inventor, providing a gravity coupling dog which will automatically couple with an opposing drawhead, a spring being applied to the coupling dog to insure its returning to its coupling or normal position and remaining straight. A section is combined with the drawhead section, the two sections being side by side, and so located that the line of draught will be immediately through the center of the drawbar and the center of the coupling proper.

CAR COUPLING.—Edward C. Inderlied, Rock Rift, N. Y. This invention consists principally of a link adapted to engage hooks on the opposing drawbars and means for raising and lowering the link to engage or disengage the link with or from the drawbar hooks. Cars of different heights may be readily coupled with this coupling, the several parts are positively connected with each other, so that none are liable to be lost, and the coupling or uncoupling is easily effected without the trainman going between the cars.

TIE AND RAIL FASTENING.—Ellery C. Davis, Crookston, Minn. This is an improvement in metallic ties and rail fastenings, according to which the tie is channeled and a flanged inverted chair permanently secured to it, both having coincident bolt holes and one of them having lateral slots, flanged and notched clamping bolts being used, engaging a detachable locking device. For use on curves, the bolt holes of the ties and chairs are located at different distances, and the improvement is designed to afford the maximum of simplicity, strength, cheapness, and durability.

Electrical.

CLOSED CONDUIT FOR ELECTRICAL RAILWAYS.—Frank Winkle, Philadelphia, Pa. Spring

plates, to be depressed by the trolley, extend beneath the slot of the conduit, according to this improvement, a conductor in the conduit being insulated from a longitudinal support, while springs in contact with the conductor have upwardly curved arms with which the spring plates engage. The conduit may be very shallow, and the contact strips are held normally out of circuit, but are pressed automatically into circuit by the passage of a car, so that only certain sections of the strips are energized at any one time, thus rendering the system very safe and preventing any great loss of energy.

RAIL FOR ELECTRIC ROADS.—Charles Sill, New York City. This is a rail upon which the cars may travel in the usual manner, while it also affords a housing for the electric conductor and trolley wire. The rail has a base from which extend upward two parallel webs upon which is bolted a top plate forming the rail tread, the rail thus affording a longitudinal duct for the conducting cable, while from the duct lead apertures to a recess in the rail carrying the trolley wire.

Mining, Etc.

APPARATUS FOR TREATING ORES.—Norris H. Cone, Leadville, Col. This is an apparatus more especially designed for roasting and chloridizing gold, silver, copper and other ores. It comprises a revolvable cylinder on the inner face of which are arranged pipes communicating with a main gas or air chamber, a stationary cut-off covering some of the pipes, whereby they will be successively closed on their upward movement and opened on the downward movement, the pipes being held within a fire brick lining, and connected with means of heating and cooling.

SEPARATING PRECIOUS METALS FROM SAND, GRAVEL, ETC.—Pascal P. Cuplin, West Bend, Iowa. This invention relates to dry placer mining, and the separation is provided for without the use of water by means of an apparatus combining a revolving inclined screen with different degrees of fineness of mesh in connection with tubes leading from an air supply, chutes leading from the screens discharging into the tubes, and hinged gates in the chutes. The air pressure is supplied by bellows and a blower, and varies in the different tubes according to the grading of the material by the several sieves, each pan of the separated metals differing from the finest flour gold to grain gold.

Mechanical.

PORTABLE HYDRAULIC PUNCH.—Elijah B. Cornell, Philadelphia, Pa. This punch may be quickly placed in position for effective operation and as readily released from the work, being especially designed to facilitate the punching of the webs of railway rails, metal beams and plates, and structural, architectural or bridge work of all kinds. In connection with the punch piston is a coil spring, whose tension may be regulated, and which facilitates the backward movement of the piston after the punching has been effected, the liquid employed then escaping into the reservoir.

NUT LOCK.—Conrad Hahn, Pittsburg, Pa. This improvement comprises a plate adapted to be supported from the bolts, and having offsets which hold a bar over which is fitted a locking plate held in place by keys which engage the offsets. The device is simple and easily applied, and will positively lock the nut or nuts in place on rail joints, or in other places where it may be applied.

TAP AND REAMER WRENCH.—Elmer J. Nichols, Pawtucket, R. I. This tool comprises a stock with threaded neck on which screws a sleeve, the sleeve being mounted to turn on a handle connected with a movable jaw sliding in the stock. The handle connected with the movable jaw does not turn, but is moved bodily in or out to open or close the jaws.

Agricultural.

HARROW.—Joseph B. Morrison, Fort Madison, Iowa. The tooth holder of this harrow has upper and lower laterally projecting clamps which fit around the tooth, the inner ends of the side arms of the clamps being extended or prolonged over the body, forming flange-like portions separated from the body to form a seat for the rail plates, and separated from each other to avoid any obstruction to clamping the tooth against the rail. This improved tooth holder not only clamps the tooth firmly, but also braces and gives rigidity to the beam.

PLANTER ATTACHMENT.—William L. Stickle, Churchtown, N. Y. This is an attachment for a marker runner or shoe of a planter to form a clean cut bed and without cloths to interfere with the growing plants, the ground at each side of the furrow being left very light. The improvement also provides a furrow attachment for the runners, especially those adapted for marking a field to be planted by hand, and one which may be readily adjusted to run as deeply in the ground as desired.

INCUBATOR.—Archibald Kerr, Carmichael's, Pa. According to this improvement the eggs contained in the incubator may be bodily turned over, being manipulated from the outside of the machine. The eggs are contained in revolvable trays perforated at top and bottom, enabling the hot air to circulate freely through them, the trays having doors or removable sections in one of their sides, permitting the trays to be lifted out singly without removing the tray drawer.

FOLDING COOP, ETC.—Thomas A. Allen, Astor, West Va. This is a coop or crate in which the sides and ends are jointed to the bottom, the sides folding inward and outward between the ends, and links connecting the ends and top and forming stops to limit the outward movement of the sides. It may be easily opened for use or folded into small space, being especially designed to facilitate the shipping of chickens, turkeys, pigs, rabbits, etc.

Miscellaneous.

BICYCLE SUPPORT.—Harry A. Brooks, Rapid City, So. Dakota. A leg member held to swing

parallel with the machine is, according to this invention, pivoted and held by means of a lock lug from a pentagonal pivotal plate, in such manner that it will be held to a supporting position by the weight of the tilted machine standing alone, and will automatically swing up out of the way when such weight is removed. The device can be quickly secured to and removed from the frame of an ordinary bicycle, and when attached does not appear clumsy or otherwise mar the general effect of the machine.

BICYCLE SUPPORT.—Abraham H. Ribbany, Wauseon, Ohio. In guides at the front of the machine, according to this invention, is supported a rod at whose lower end is a fork straddling the front wheel, and links pivotally connect the lower ends of the fork with legs pivoted adjacent to the axle, whereby the legs may be thrown down into contact with the ground to support the wheel in upright position. This device is readily applicable to a new or an old machine, but in applying the improvement when a machine is built, the swinging legs may be pivoted to lugs extended from prongs of the steering fork.

SCALE BEAM COMPUTING ATTACHMENT.—Edward W. Wise, Las Vegas, New Mexico. According to this invention the weight held to slide upon the scale beam actuates a screw shaft and the gear connection of a computing cylinder, whose surface is arranged in columns bearing computed rates, in such way as to indicate both the weight and the price of the article being weighed, the movement of sliding the weight upon the beam causing the computation to be automatically performed, and the beam being capable of use in the ordinary manner at any time.

FINISHING COVERINGS OF BRAIDED MOULDS.—Franz Markgraf, New York City. The bulbous effects in gimp, trimmings, tassels, etc., heretofore principally finished by hand, are provided for by this invention by a new method of and device for finishing the braided ends of covered moulds by a special machine, the braided projecting ends of mould coverings being inserted by a special progressive movement, whereby the work is performed in a superior manner and at greater speed.

SPECTACLE CASE HOLDER.—Robert T. Roberts, La Harpe, Ill. This is a simple device or clasp for fastening a spectacle case to the pocket of a garment. It consists of two lengths of wire, to be passed singly around and looped permanently upon the case, the wire being twisted together at the meeting point, and two hooks forming the terminals of a small length of twisted wire.

INK WELL.—John Werner, Brooklyn, N. Y. A tube is held in this well and a bucket slides in the tube, a stopper closing the tube and the neck of the well. A bail pivotally connected with the bucket is secured on the stopper, the bail having lugs fitting in slots in the tube to guide the bucket in its up and down movement. The construction prevents the writer from dipping the pen too far into the ink, which does not evaporate and become thick, and prevents the spilling of the ink if the well is upset.