

RECENTLY PATENTED INVENTIONS.

Engineering.

PUMPING POWER.—George W. Grimes, Bluffton, Ind. In a mechanism for pumping oil and water wells this inventor has devised a simple and compact construction, with the wearing parts easy of access and a strong frame, with supports of different sizes for connection with pump rods or lines, and easily and quickly regulating the length of throw of the rods or lines. The mechanism comprises a vertical shaft on which is eccentrically mounted a plate having an elongated hub portion engaging with the shaft and also having an outwardly extending angular flange engaged by a rod or line ring. The mechanism runs smoothly, without jerking, or sudden pulls.

GENERATOR.—John J. Marchant, Rio Janeiro, Brazil. This is an apparatus more especially designed for use in boilers, blowpipes and other devices for generating steam and heat inexpensively and insuring a complete combustion of the fuel. A steam nozzle discharges into the front end of a tube, and a heat and flame producing device in the front of the tube causes the heat to be forced into the tube by the steam ejected by the nozzle. A very high heat is developed in the tube, which is utilized for generating steam and also for vaporizing oil for the blowpipe, the steam for the blowpipe being superheated. The desired flame, either pointed or brush-like, is obtained by distributing conveniently the oil or gas supplied by the valves.

STEAM RADIATOR FITTING.—Augustus Eichhorn, Orange, N. J. Improved means of introducing to the radiator the necessary steam, and permitting the return by the same pipe of the water of condensation, form the subject of this patent. In a three way fitting or union, one passage is connected to the single pipe of the steam radiator, while to the two remaining passages are connected the steam supply and water return pipes, the division of the steam and water being effected and maintained by the peculiar form of the fitting, and by curved ribs on its interior which form channels for leading the water to the return pipe and from the direction of the steam supply pipe.

Electrical.

WATER ALARM FOR TANKS OR BOILERS.—George V. Sheffield, New York City. This is a device for automatically sounding an alarm for both high and low water in a steam boiler or in a feed water tank, or in both. It comprises an alarm and electric circuit mechanism adapted to sound an alarm as to the level of water in the feed water tank, the engineer being notified to set the pump at work when the low water line is reached, and also notified when sufficient water has been pumped in, the device also sounding an alarm for high and low water in the boiler through contact wires fused in the glass water gage on the boiler, there being a circuit-closing float in the gage.

Railway Appliances.

CAR FENDER.—Frederic Reeve, Stockton, Cal. Near the front of the car platform, on its under side, according to this invention, are bearings in which is hinged a guard or scoop adapted to pick up a person or obstruction in the path of a moving car, this guard being let down by pressure on a foot lever by the motorman or gripman, and there being on a cross bar of the guard rollers adapted to travel on the rails when the guard is lowered. The guard is designed to be let down only when there is danger of some one being run over by the car, and is raised from engagement with the truck by a lever fulcrumed on the platform. Simultaneously with the letting down of the guard a framed net folded against the dashboard is automatically lowered to prevent any one from rebounding out of the fender net.

HOSE HANGER.—Benjamin S. McClellan, New Orleans, La. This invention applies to air brakes, the inventor having devised a simple and durable hose hanger to automatically hang up the hose and coupling when not in use, and close the coupling opening to render it dust proof, the hose being held in a natural position to prevent it from cracking. A flexible connection is affixed to the hose and positively connected to a spring-pressed drum attached to the car, there being means for automatically winding the drum, while a lever provided with a valve is adapted to close the opening of the coupling member.

Mechanical.

PRESS.—William T. and Ira E. Snowden, Hughesville, Pa. This invention is for an improvement in screw presses, whereby a quick adjustment may be made for different thicknesses of stock while retaining all of the advantages of the ordinary screw press. By means of a quickly applied and simple locking device the column carrying the follower, which is counterbalanced and has a sliding movement in the frame, may be adjusted and held against upward or downward movement, while the final pressure is brought to bear upon the stock by means of a screw. The press is of simple and strong construction.

PULLEY BLOCK.—Gregory M. Mullen, Baltimore, Md. In this block the main frame portion consists of a central plate with head and foot plates, shaft sections projecting oppositely from the central plate, and there being pulleys and balls on the shaft sections. The cap plates have central nuts for the outer ends of the shafts, and are lapped at their ends against the outer ends of the head and foot plates. The loose fitting of the balls in the rabbets of the pulleys forms a simple and compact construction in which the balls can be readily applied and removed, the balls projecting sufficiently from the rabbets to bear against the shaft and the frame.

COMBINATION TOOL.—Henry Hunt and Henry Hunt, Jr., Wilkesbarre, Pa. This is a strong and inexpensive tool, adapted to be carried about in the pocket, and designed to be especially useful to bicyclists, affording in one device an oil can, screw driver, and wrench. The handle portion, which is removable from the shank of the wrench, is hollowed out to form an oil receptacle, its tapering threaded neck fitting in a shank

on which slides the movable jaw of the wrench, a screw driver or equivalent tool projecting from the outer side of the fixed jaw, to which it is removably attached.

Miscellaneous.

INCLINED RAILWAY AND WATER TOBoggAN.—Stephen E. Jackman, Brooklyn, N. Y. This is an apparatus to enable persons to enjoy a continuous ride over an inclined or switchback road, through a tunnel, down a toboggan slide into a lake, and over it to the starting point. The car or boat has both track wheels and runners, with hand rails for the passengers to take hold of and dashboards to protect the passengers from splashing water. The tunnel is preferably covered with glass and illuminated by electric or other lamps, and the chute has a bottom of strips holding plates of colored glass below which are lamps, the water passing down the chute being broken up to form ripples by means of transverse strips. A large number of the vehicles may be sent over the course at one time, safety beams preventing displacement while going down the chute.

ORE SAMPLER.—Samuel I. Hallett, Aspen, Col. To facilitate obtaining accurate samples of ore this inventor has devised a machine in which a hopper feeds the material to a reciprocating or oscillating table from which it is discharged into separating boxes having each a number of compartments, some of which discharge into an outlet for rejected material, while others discharge into a feed pipe for the hopper of a second similar machine, with a series of separating compartments, the operation being continued through a series of machines until the desired sample is obtained.

GRAIN MEASURING DEVICE.—Nels A. Field, Lark, Iowa. This is a device which may be attached to any thrashing machine or wagon loader and placed at sufficient distance to be out of the dust, its position being changed according to circumstances. In combination with an oscillating measuring drum or device applicable to all sorts of grain as well as other loose commodities, is a detachable feed chute having a hinged lid, with a window or opening in its lower end, the lower end of the chute and the measuring device being connected by separable hinge sections and the upper end of the chute having a pivotal support. The capacity of the drum is varied according to the kind of grain to be measured, and the quantities measured are registered.

SELF-REGISTERING LUMBER MEASURE.—Henry W. Congdon, Weeping Water, Neb. To readily measure lumber of varying width and thickness, this measure has one or more driving or measuring wheels to be run over the width of the lumber and a series of length-gaged gear wheels held on the shaft of the other wheels, while a registering device has on its units shaft a series of gear wheels opposite the length-gaged gear wheels and a series of intermediate gear wheels meshing with the corresponding length-gaged gear wheels on the units shaft. The driving or measuring wheels have sharp teeth, and when they are passed across the lumber they revolve the shaft which actuates the gears.

TYPEWRITING MACHINE.—William B. Schwartz, Indianapolis, Ind. This inventor has devised an improvement in that class of visible typewriters in which the ribbon is held in front of the platen, and is stretched and carried close to or in contact with the platen at the moment a type bar strikes upon it. The ribbon is wound on two spools, one beneath the front of the flat top of the machine and the other below the platen, the ribbon passing through a flat tubular guide hinged to the inner edge of the top plate directly in front of the platen, and vibrated vertically by mechanism connected with the key levers. When the guide drops, it uncovers the letters or words printed, except one or more that may be momentarily obscured by the guide as it rises to allow the printing of a letter.

MUSICAL INSTRUMENT.—Louis K. Dathan, Brooklyn, N. Y. This invention relates to citherns, autoharps and similar instruments, and is designed to enable the player to execute with great ease, and facilitate the tuning of the instrument when required. A binding and tuning bridge is adapted to engage the strings between two parallel bridges to permit of tuning the strings belonging to an octave to one note or a single tone, and then applying the binding bridge and tuning all the notes simultaneously according to the scale.

FLOUR SIFTER.—Auguste F. Darras, Paris, France. Within a suitable casing, according to this invention, are arranged rotating vanes, brushes and sieves, the flour or other mealy substance to be purified first falling upon rapidly rotating vanes, by which it is carried into engagement with brushes and distributed upon a sieve, after passing through which it is received upon a sieve of finer mesh, finally falling through the lower ends of the drum and casing into a receptacle below. The invention is designed to facilitate the opening of the cellulose lumps and free the maximum of nutritious substances in the making of bread, pastry, etc.

HITCHING POST.—Isaac W. Lewis, Washington, D. C. This invention comprises a ground tube, to be permanently located in the ground with its upper end at or near the surface, this tube forming a receptacle for a post which may be drawn up and adjusted in stationary position for use as a hitching post, or the post may be pushed down into the ground tube and the top of the latter closed by a top plate and cap plate. The cap of the post has a ring, and just below the cap is an opening through which a rein may be passed. The post may be readily lifted to any desired height for use, when it will be firm and rigid.

TIP FOR WHIP STOCKS.—Thomas W. Bluett, Big Sandy, Montana. This is a metallic tip designed to replace the strip of buckskin or rawhide ordinarily used to attach the lash to the stock, and with this tip a broken stock or a worn-out lash may be readily replaced by a new one. This tip, which is tubular, is adapted to be screwed upon the stock, and has near its outer end two annular ribs which receive loosely a collar in which are secured the ends of a clevis which is preferably made of strong wire. The forward end of the clevis is bent to form a coil or eye, in which the lash is secured.

BUCKLE.—John C. Rosenkranz, Brooklyn, N. Y. This is a buckle for light work, such as suspenders, shoes, and other articles of personal wear. The buckle has a main frame with transverse central dish-shaped plate, and a clamping frame pivoted to one side of the main frame and capable of having the strap passed over it to draw the clamping frame down. The latter frame has a central transverse bar capable of moving over the space between the edge of the plate to clamp the strap.

GLOVE CABINET.—Edward A. Murray, Punxsutawney, Pa. To hold and exhibit gloves and similar articles so that they will be easy of access, this inventor has devised a cabinet which may be suspended from the top of a central post and revolved by slight pressure. It has drawers enough to hold a full retail stock, all the drawers being conveniently reached by the salesman, the drawers opening at one side and on one-half of each of the two other sides of the cabinet, and the walls of the other portions forming exhibition chambers.

CIGAR CLIPPER AND MATCH BOX.—Ysidro del Campo, El Paso, Texas. This is a box from which matches will be delivered with a regular feed, rendering it inconvenient for persons to carry away more than one or two matches. A gravity controlled feed roller communicates with the receptacle for the matches, the roller turning to deliver the matches separately to a receiver open to the customer. The cigar clipping device is operatively connected with the feed roller and moves in unison with it.

COMBINED TABLE AND BATH TUB.—William H. Link, New Richmond, Wis. This is an article of furniture designed to serve two purposes and yet occupy the space of but one article. Hinged to one of the legs of the table is a bath tub arranged to fold under the table, one leg and cross piece of the other end of the table being arranged to swing out of the way when moving the bath tub under or out from the table. The bath tub is supported on caster feet to readily roll over the floor.

BATH TUB.—George F. Butterfield, Stoneham, Mass. This tub has a gate hung on one side near its foot end to close the upper or head portion to the water supply. The bath tub may thus be readily divided to form a foot bath or children's tub, permitting of conveniently bathing children and saving a considerable quantity of water. On the side on which the gate is hinged is arranged a seat for the convenience of one taking a foot bath.

GAME APPARATUS.—Edward F. Buffat, Knoxville, Tenn. A circular box divided into compartments of various sizes has a flanged cover in which are openings to the compartments, a dome-shaped central portion of the cover covering the main compartment, and the dome surface having openings leading into different divisions and being made in two colors, each color embracing a subcompartment. The game to be played is called "politics," the different sized compartments representing ballot boxes and balls being used for ballots. Considerable skill is required to get the balls in some of the compartments, and the points counted are then proportionately higher.

ADVERTISING DEVICE.—Edward T. Gibson, Minneapolis, Minn. This is especially an improved advertising article, to be printed on a press, cut by dies, provided with creased or scored lines for bending, and shipped in flat shape to the party desiring to employ the article. The invention provides not only for bringing cut-out portions in relief against the background, but admits of the natural representation of such objects as a table, chair, box, desk, etc. A miniature theater is also provided, on the stage of which paper figures may be made to appear to act.

Designs.

OVERALLS.—C. E. Lightner, San Antonio, Texas. The leading feature of this design is for a front extension or centrally divided apron for garments of this class.

DISPLAY STAND.—Merritt A. King and Charles E. Mullin, Mount Pleasant, Pa. This stand has a central standard on which revolve a six-sided case, the sides of the body presenting a series of panels, and the shelves presenting an open work figure of radial arms.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 10 cents each. Please send name of the patentee, title of invention, and date of this paper.

NEW BOOKS AND PUBLICATIONS.

PRACTICAL RADIOGRAPHY. A handbook of the applications of the X rays. By H. Snowden Ward, F.R.P.S. London, England: Dawbarn & Ward. 1896. Pp. 80. Price 75 cents.

In preparing this book, Mr. Ward, as editor of the Photogram, has got together in readable shape all of the important facts it is necessary to know to construct a practical X ray apparatus. He was assisted by E. A. Robins and A. E. Livermore, who give chapters on the construction of the electrical apparatus. It begins with a history of the discovery, describes in detail the apparatus, accompanied by several illustrations, and ends with chapters on practical radiology, and applications and probable advances. It is a convenient book for those desiring practical information on this interesting Roentgen discovery.

THE OLD LIGHT AND THE NEW. Chemistry of color and new photography. By William Ackroyd, F.I.C. London, England: Chapman & Hall, Limited. 1896. Pp. 99. Price 75 cents.

Chapters I and II deal briefly on the nature of light, the chemistry and variations of color and their significance, while chapter III relates entirely to a description of the X rays, their numerous properties and characteristics under the title of "The New Photography." There are very good examples of X ray photographs in the book. It is concisely written and gives data and facts in regard to the action of X rays on minerals, etc., that are of much value.

TAXIDERM. How to collect, skin, preserve, and mount birds. The game and fish laws of the commonwealth of Pennsylvania. Illustrated. Pp. 128.

We have to acknowledge the receipt from Dr. B. H. Warren, State Zoologist of Pennsylvania, of his excellent treatise on taxidermy, which is illustrated with samples of the copper mounts and of methods of mounting, and containing full directions on skinning and preservation, with formulae, and to which the game and fish laws of Pennsylvania are appended. It forms Bulletin No. 6 of the Department of Agriculture, Division of Economic Zoology.

ALDEN'S LIVING TOPICS CYCLOPEDIA. A record of recent events and of the world's progress in all departments of knowledge. New York: John B. Alden. Price 50 cents.

We have recently had to review a portion of "Living Topics." The following volume brings out the fact that the editor's idea is to give mainly exclusively later topics and information in all departments of knowledge. It is contemporaneous in its distinctive value as a work, the ground taken by the publisher being that people studying a cyclopedia desire usually to acquire the knowledge of events that are of immediate interest. As soon as the alphabet is used up, it is proposed to begin with the alphabet anew, so that the succession of articles will furnish a thoroughly up-to-date review of all knowledge.

ELECTRIC LIGHTING. A practical exposition of the art for the use of engineers, students, and others interested in the installation or operation of electrical plants. Volume I. The Generating Plant. By Francis B. Crocker, E.M., Ph.D. New York: D. Van Nostrand Company. London: E. & F. N. Spon, 125 Strand, 1896. Pp. 444. Price \$3.

This work is from the pen of Professor Crocker, long identified with the electric engineering industry of this country. He was a well known inventor and constructor years before he assumed the duties of professor of electrical engineering in Columbia College. We have from him the first volume of what promises to be a most excellent treatise on electric lighting. From all aspects, with the numerous illustrations, adequate indexes, and the characteristics of the author, it will, we believe, occupy an individual place of its own, free from all fear of usurpation. Professor Crocker's record at Columbia College has shown the value of placing a practical engineer in the professor's chair, and this work may be estimated a most valuable addition to the resources of the engineer and will still further advance the professor's reputation.

PUMPS AND PUMP MOTORS. A manual for the use of hydraulic engineers. By Philip R. Bjorling. Volume I. Pp. xv, 369. Volume II, Plates cclxi. London: E. & F. N. Spon. New York: Spon & Chamberlain. 1895. Price \$18.

The title page describes the scope of this book. It is a very exhaustive treatise on all the different methods of elevating water, starting from the ancient methods and giving elaborate treatment to the modern approved systems. The text consists partly of a very full description of the numerous cuts, whose number is testified to by the fact that the volume containing the cuts is thicker than the volume of text. All the cuts are of the mechanical order, being liberally lettered, so that the description of each as given in the text can be accurately followed by the reader. Nothing so complete on the subject has, we believe, been recently published. Although from the English standpoint, we do not find America neglected in the text, the honored name of Worthington receiving special consideration in the description of a test applied to one of his high duty pumps.

SPECIFICATIONS. A practical system for writing specifications for buildings. W. Frank Bower. New York: Edward A. MacLean. 1896. Pp. 229, ii. Price \$5.

It is a common experience with those having supervision with contractors and builders that nothing is harder than to produce an adequate specification for complicated work, so that it manifestly is of value to obtain the ideas of others on the subject of similar work. The present volume presents the embodiment of a system of specification writing used by the author in his own practice for many years. The book hardly lends itself to review, but as covering all regular building problems, as well as electric lighting, electric bell hanging and other classes of work, it will be found to be of the greatest use to architects. The author states that it has already received warm appreciation from leading architects in the country. It is indexed and is quite free from anything like padding, and deserves warm commendation.

THE CENTURY ILLUSTRATED MONTHLY MAGAZINE. November, 1895, to April, 1896. New York: The Century Company. London: Macmillan & Company. New Series, Vol. XXIX. Pp. 960.

In an artistic binding, extending even to the fly leaves, with beautifully printed text, elegant paper and woodcuts and illustrations of its own high standard, this volume is an honor to American magazine literature. The Century among American magazines stands alone. It still, to its honor be it said, uses wood engravings and supplements half tone work by the engraver's tool. Its topics are most timely and they are treated entirely regardless of all considerations of expense. The magazine has maintained its price in the face of the low prices of the periodical literature which have occurred in the last few years, so that it rightly and properly occupies a position of its own, and certainly carries out the traditions established by the old time "Scribner," its predecessor. The present volume is particularly interesting, as containing the Napoleon articles which have attained such wide publicity with the authorship of Professor Sloane, of Princeton.