

ENGINEERING INVENTIONS.

A car signal has been patented by Mr. Florence P. Day, of Omaha, Neb. A vertical shaft is held at each side of the car, the shafts carrying devices for producing flashes of light, one shaft revolving when the car is running in one direction and the other when the car is running in the opposite direction, the shafts being revolved from a car axle.

A steam boiler and furnace has been patented by Messrs. James D. Randall and William A. King, of Memphis, Tenn. This invention relates to boilers and furnaces designed for burning smoke, atomizing and burning animal and vegetable matters, oils, etc., by commingling steam with hot and cold air and with the oil or gases evolved from the water in the boiler in the process of generating steam.

A car coupling has been patented by William Jasper Hadden, of Danville, Ill. It is designed to work automatically, and to hold the pin set ready to drop, to guide the link into the drawhead, to drop the pin through the link when two drawheads bump together, and to raise the pin when desired, it being possible to set the coupling from either side, so the cars will couple automatically on coming together.

A water tower has been patented by Mr. John B. Logan, of Baltimore, Md. This invention provides a special construction and devices for carrying on a truck a tower which shall support a pipe or nozzle at any angle or elevation and of horizontal rotation, to lengthen the pipe and secure it while under water pressure, to fix the truck on the ground when in use, and to carry the end of the suspended hose while not in use.

A car coupling has been patented by Mr. John W. Fergusson, of Sardis, Miss. This invention consists in particular constructions of the drawhead with a coupling stud fixed to the floor of its link socket, and an opposing stud pendent from a hinged cap plate, with an uncoupling device behind the studs, adapted to lift the upper stud from the lower one, and raise the end of the link to allow the cars to be separated, with other novel features.

MECHANICAL INVENTIONS.

A metal shears has been patented by Mr. Gilbert McDonald, of Augusta, Kan. This invention consists in a special construction and combination of parts to improve that class of hand shears in which a plain and eccentric lever are combined and connected with the movable jaw for acting on the latter with great force.

A machine for rolling axes, spindles, and other metal article, has been patented by Marie E. Shay, of Fordham, N. Y. This invention consists in a novel method of and means for forging metal by subjecting them to the action of a rotating die and a stationary or flat die, one die being adjustable toward the other to give the necessary pressure, and the rotating die preferably having oblique corrugations or grooves on its acting surface.

AGRICULTURAL INVENTIONS.

A plow has been patented by Mr. Thomas A. Blanchard, of Appling, Ga. This invention covers a peculiar construction and arrangement of parts of a plow in which various portions are adjustable in such a way that the plow can be adapted for a great variety of work.

A horse hay fork has been patented by Mr. Robert L. Short, of Janesville, Wis. With a slotted shank and tripping rod are pivoted tines, the tines adapted to enter the hay points downward, and to be reversed by the action of the hay as the fork enters, and then be extended by the hay as the fork is withdrawn.

A land marker has been patented by Mr. William H. King, of Little Silver, N. J. A hub on the shaft at the inner side of a wheel has an arm with roller and keeper to engage with the plow raising lever and catch lever, a lug to receive the brace bar, and the adjusting bar connected with the tongue, and a long bearing to receive the pivot of the marker bar, with other novel features.

A band cutter and grain feeder for thrashers has been patented by Messrs. George Neukomm, Louis Neukomm, and David Neukomm, of Tremont, Ill. This invention consists of special combinations of parts and their construction, its object being to provide a mechanism for cutting the bands of grain bundles and feeding the grain to the thrasher in a regular and uniform manner.

MISCELLANEOUS INVENTIONS.

A time register for seats has been patented by Mr. Charles W. Allen, of Valentine, Neb. This invention consists in a special construction and arrangement of parts, in connection with clockwork, for the purpose of automatically registering the time a seat has been occupied.

A coal chute has been patented by Mr. Moses D. Jones, of Jackson, Ohio. This invention provides for the use of a swinging chute, to be filled with coal while in a nearly level position, and then lowered for the discharge of its load into the car, so the coal will not be broken up, as is so frequently now the case with inclined chutes.

A wire basket has been patented by Mr. William H. Elliott, of Texarkana, Tex. It has a circular bottom and a wire frame bent to form a cylinder, the circular bottom being held in the lower part of the cylinder, so the basket can be taken apart and folded compactly, but is light, strong, and durable, and especially adapted for collecting cotton.

A safety belt has been patented by Mr. Edward J. Claghorn, of New York City. It consists of an outer and inner belt, with various attachments for ropes, straps, suspension hook, etc., to be applied to the person for securing one to a fixed object, or to assist in ascending and descending, and is especially designed for firemen, tourists, telegraph men, etc.

A nut lock has been patented by Mr. William H. Dinsmore, of Connellsville, Pa. This invention relates to gang nut locks for railways, where a plate or bar is adapted to be fitted over the nuts after they are screwed up, and provides a device which shall inclose each of the nuts snugly, and can be easily placed on them.

A gate latch has been patented by Mr. Robert Magruder, of Liberty Hill, Texas. This invention covers a special construction and combination of parts for the purpose of compensating for shrinkage of the gate in dry weather and its swelling in wet weather, so that the bolt or latch may at all times extend the right distance to properly engage the gate post.

A measuring jacket has been patented by Mr. Hermann Lingen, of Wheeling, West Va. This invention covers an improvement on a former patented invention of the same inventor, there being an extensible and adjustable frame held on and between the edges of one of the seams, so enlarging or decreasing the size of the jacket as may be necessary.

A watchmaker's tool has been patented by Mr. Hiram P. Prum, of Grand Haven, Mich. It is a combination tool, with a screw driver and tweezers attached to a ring at a little distance from and nearly at right angles with each other, so that both implements will be in convenient position for use when the ring is placed on the forefinger of the operator's hand.

A thill coupling has been patented by Messrs. Erwin A. Galatian and John B. Taets, of South Westerlo, N. Y. This invention consists principally of jaws having upon their inner sides circular or annular projections, combined with a hook eye having a groove or recess in each end, so the shafts can be coupled and uncoupled rapidly, and to prevent their rattling.

A monocycle has been patented by Mr. Francis E. Mills, of Pittsburg, Pa. It is a vehicle designed to be driven by a person standing erect within the wheel, which should have an outside diameter about eighteen inches greater than the height of the one who is to operate it, the invention also covering novel devices of construction and arrangement of parts.

A scarf, necktie, or cuff holder has been patented by Mr. Lewis F. Ward, of Marathon, N. Y. The invention consists in an open slotted elastic holder or device for use as a detachable appendage to collar and cuff buttons for holding scarfs, cuffs, or ties in proper position, the same device being applicable to each of the articles.

A bridle bit has been patented by Messrs. John R. Brott, of East Medway, and Martin L. Andrews, of Melrose, Mass. It is so made that a connecting bar passing through the mouth is dispensed with, side hooks being used instead, inserted between the teeth and cheeks, and connected and formed integral with a curved bar that passes around the under jaw of the horse.

A jute machine has been patented by Mr. John C. Delavigne, of New Orleans, La. According to this invention, the green stalks are subjected to a heating and fermenting process, and then after drying are run through a specially devised machine, to separate the woody fibers from dry jute and ramie without wetting or soaking the stalks as usual, and thus avoid the objections to working jute or ramie in a green state.

An animal trap has been patented by Mr. Robert Jessee, of Locust Lane, Va. It consists of an upper chamber, with rotary partition and pivoted floor or treadle for controlling it, a cover hinged to the top of the chamber, and a lower chamber hinged to the lower part of the upper chamber, with other novel features, to prevent the escape of animals back to the opening when they have once entered.

A car window shade has been patented by Mr. Gideon B. Massey, of Mount Vernon, N. Y. Combined with the shade roller and shade is a vertically slotted guide standard, into the slots of which the ends of a strip secured on the free end of the curtain pass, cords or wires from the corresponding ends of the strip and roller passing over suitable pulleys, so the shades can easily be held in any desired position.

A filter has been patented by Mr. Alonso Cardoso de los Rios, of New Orleans, La. A large open tank has layers of charcoal, fine and large sand, and stones resting upon a false iron grating bottom, under which is a chamber, and up through which and through the filtering material the water passes, being partially freed from sediment by an agitator wheel in the chamber beneath the false bottom.

A hand propeller for boats has been patented by Mr. Michael Batz, of Brooklyn, N. Y. The propeller shaft carries a pinion or cog wheel, and a sliding transverse shaft carries gear wheels alternately moved into and out of gear with the propeller shaft pinion; there are spring actuated pulleys supported upon fixed gudgeons, and hand levers with strap connection with the pulleys, with other novel features.

An elevator has been patented by Mr. Charles W. Hays, of Orange, N. J. The carriage has a groove in its floor and there is a corresponding groove in the floor of the building to receive the arms of a bar attached to the well door, so the carriage will be locked when the door is opened and released when closed, making it impossible for the door to be left open when the elevator carriage moves away from it, and thus guarding against accident.

A door knob attachment has been patented by Mr. Nathan Hawkes, of Appleton, Me. This invention relates to inside fastenings for knob spindles in which a sliding plate, having a keyhole slot therein, is adapted to be moved in and out of position, for holding the spindle from turning, and adapts such locking plate to be operated by a slight movement of the hand, and to be held in both locking and unlocking positions by either friction or gravity.

A window screen has been patented by Mr. Jay R. Graver, of Lincoln, Neb. The side pieces of the frame are collapsible inward toward the center of the screen, the top bar or piece being rigidly secured to the window frame, while the bottom bar is loose, so the screen may hang like a curtain, and be collapsed toward the center from either side, in order to reach the

window when the side pieces are disengaged from hooks.

A paint distributor has been patented by Mr. Wilbur I. Armstrong, of Belvidere, Ill. It has a spoon-shaped receptacle for receiving the liquid to be distributed, into which a feeder projects formed of two spring strips, between which the liquid is drawn by capillary attraction, and then distributed by a current of air, there being an air receiver through which the compressed air passes, so the air will be moistened to keep the parts of the distributor clean.

A gas machine has been patented by Mr. William C. Strong, of Readfield, Me. This invention relates to machines in which gas is made by carbureting air with a volatile liquid, such as gasoline, the air being driven through the carburetor by the descent of a bell into a water tank, the gasoline receptacle, carburetor, and other parts being jacketed within the bell, and provides a simple, portable machine, to vary in size or capacity as required.

A watch balance has been patented by Mr. Johann E. A. Uhrig, of London, Middlesex County, England. This invention relates to an improved continuous secondary or auxiliary compensation for the balances of chronometers, watches, etc., to eliminate the errors which occur at the extremes of temperature when the balance is adjusted for medium temperatures, so combining curved springs with the rim of the balance as to cause the segments of the compound rim to move in an accelerating ratio toward the center of the balance as the temperature rises, and the increase being capable of regulation.

A fire escape has been patented by Mr. Robert H. Nichols, of Aylesford, Nova Scotia, Canada. The sides of the ladder support are of light but strong framework, and a drum is journaled at each end of the frame, with grooved notched wheel, over which an endless chain ladder passes; if the bottom drum is turned in one direction or the other, the upper part of the ladder will be moved upward or downward, and the lower part in the inverse direction, there being also levers, brake shoes, and other novel combinations of parts, for the purpose of lowering persons, etc., from burning buildings.

NEW BOOKS AND PUBLICATIONS.

LES TORPILLES. Par Lt.-Colonel Hennebert.

This work of 279 pages on the subject of torpedoes is quite profusely illustrated with 82 wood engravings. It treats at the opening of the experiments of Bushnell with the stationary barrel torpedo at the time of our revolution, and also of Fulton's and Colt's early experiments in the same line. The gradual evolution of the torpedo from the small anchored floating buoy to the automatic cigar-shaped submarine propeller is then described, and the subject is elucidated by clear descriptions and artistic drawings. Several chapters at the end of the book are devoted to the service that has been done in recent wars by the use of the torpedo, and considerable prominence is given to the impulse which was given to this system of warfare by our civil war. Librairie Hachette et Cie., 79 Boulevard Saint Germain, Paris, France.

L'ANNEE ELECTRIQUE. Par Ph. Delahaye. Premiere Annee.

So great and wonderful are the discoveries and inventions which have been made in electricity within the past few years that the public have had some difficulty in keeping pace with the progress made, and as a natural consequence the demand for literature upon this almost inexhaustible theme has been very considerable. This work, the title of which is given above, is designed to supply this demand annually by giving a review of the development in the various branches during the preceding year. The work is written in a pleasant, descriptive style, and is comparatively free from technicalities. Besides dwelling at length upon the industrial progress of electric lighting, the telephone, the telegraph, and the application of electricity as a motive power, in connection with railroading and ballooning, a section of the work is given up to experiments made in France in resuscitating dead bodies, in suppressing cholera germs, in employment of electricity as a bait in sea fishing, in its use in mining, astronomy, etc. It is a work of 312 pages, and may be had of Messrs. Baudry et Cie., 15 Rue des Saints-Peres, Paris, France.

ARCHITECTURAL PERSPECTIVE FOR BEGINNERS. By F. A. Wright, architect. William T. Comstock, New York.

This book is intended mainly for draughtsmen who are obliged to educate themselves. It has eleven plates of practical examples, to make clear the application of theoretical principles. How to shade a perspective is also touched upon, and all the minutest details of the architect's work are shown and explained.

SPONSOR'S MECHANIC'S OWN BOOK. A manual for handicraftsmen and amateurs. E. & F. N. Spon, London and New York. \$2.50.

This volume of 700 pages, with numerous illustrations, aims to cover a wide field, the index of subjects referred to covering more than twelve pages of small type. First the raw material is treated of, its characters and variations, and then the tools used in working up such material, the book being intended to form a complete guide to all the ordinary mechanical operations.

THE PHOTOGRAPHIC TIMES, published by the Scovill Manufacturing Company, has now reached its fourteenth volume. The bound copies of the numbers issued in 1884 make a volume of large proportions, giving a general view of the twelve months' work done in this field, from the artistic and technical as well as from the commercial point of observation.

THE YEAR BOOK OF PHOTOGRAPHY, edited by Thomas Bolas, F.C.S., and published by Piper & Carter, London, England, is not only valuable as a guide for the beginner, but has much that is most convenient for reference to the advanced practitioner. Its numerous hints, jottings, and recipes are obviously the results of a wide experience.

Special.

SLEEP FOR THE SLEEPLESS.

It was Coleridge who put in the mouth of that quaint old genius, the "Ancient Mariner," the words:

"O sleep, it is a blessed thing,
Beloved from pole to pole."

The man who regularly enjoys sound and refreshing sleep has no adequate conception of all these words imply. It is to the sufferer who in sleepless weariness tosses on his bed half the night, and toward daylight snatches a little unsatisfactory slumber, that their full meaning is apparent. The man who digests well and sleeps well can stand almost any amount of hard work. It is not work that kills people; it is worry. The work that is followed by restful sleep brings good health and strength; for the daily waste of the body is repaired during the night. But the worry that oppresses the victim of insomnia during a sleepless night is what racks the system, wears out the muscles, torments the nerves, and bewilders the brain, so that life seems hardly worth living.

"Insomnia" is a growing evil. In this busy age, when active men are all the time overworking themselves, there are five times as many people tormented with inability to sleep as there were a generation ago. We are living under higher pressure. "Insomnia" is of different kinds, and proceeds from different mental and physical causes. But most of it may be summed up as to character in the words "can't sleep," and as to cause, in indigestion or overworked brain and nerves.

A most marked case of insomnia and recovery from it is that of Arthur Hagan, Esq., the well known wholesale tobacconist, of Philadelphia. Mr. Hagan is one of the largest dealers in tobacco, and is the Philadelphia representative of the great Baltimore house of G. W. Gail & Ax. In the interest of those who are inquiring the best way to secure sound sleep, and to triumph over the torments of insomnia, one of our editors called on Mr. Hagan at his store, on North Front Street. If he had been looking among a party of gentlemen for one who had been badly run down by dyspepsia and insomnia, Mr. Hagan would not have been the one selected. That gentleman now looks in such excellent physical condition that nobody would suppose him ever to have suffered from a day's illness or a night's loss of rest. In response to questions as to his past and present experience, Mr. Hagan said to our editor:

"My case was one of severe and long continued insomnia, proceeding largely from dyspepsia, the result of too great application to business. My system was very badly run down. Sleep became almost an impossibility. My physical distress during the night from being unable to secure refreshing slumber was dreadful. It weakened and distracted me during the day, and made attention to business a slow martyrdom. For five or six years I was from time to time under the care of different physicians, receiving occasionally some measure of benefit, yet on the whole gaining no material advantage. I was put on very low and simple diet, consisting principally of skimmed milk.

"After passing through a long variety of experiences as to physic and diet, one day happened to pass the office of Drs. Starkey & Palen, and I noticed the sign of 'Compound Oxygen.' As other modes of treatment had failed, I thought this one could do no worse, and it might do better. So I went in at a venture, and made trial of it. For some time I had been enduring the agony of dyspepsia, and for weeks I had not been able to sleep without the aid of chloral or other drugs. The Oxygen did not work an immediate miracle in me. But I soon saw that it was doing me good, and so I resolved to persist in its use and to give it a thorough trial. Before long I began to know the pleasure of real sleep. It was by degrees that my dyspepsia left me, and the power to sleep returned. I was greatly encouraged by my partial improvement, and this stimulated me to go on with great regularity and persistence. If my recovery was slow, it was real. I had the best of home nursing and attention, and that was, of course, a material aid to me. For several months I regularly took the Compound Oxygen Treatment, carefully obeying the directions, and constantly gaining strength and freedom from disease. My system received the vitalizing which it so badly needed.

"About two years ago this took place, and I have enjoyed a prime condition of health since. I have been able to attend with pleasure and satisfaction to my business. I have no need now to resort to the Compound Oxygen Treatment, except occasionally for a cold or for some other temporary disorder. I take an abundance of exercise, and I eat and sleep as well as a man can wish to.

"I have recommended Compound Oxygen to a number of friends, who have tried it with entire satisfaction. My friend, Mr. E. W. Edwards, of this city, is notably one of these. He was badly run down by Bright's Disease and other infirmities, but was brought into good shape by the Compound Oxygen, and is now attending to business with ease and comfort. As a complete vitalizer of the system, the Oxygen is all that can be desired. It drives out disease by restoring vitality and putting the system in such a state of strength that disease has no chance to stay."

The reader will naturally seek more information on this interesting subject. It can be had in a pamphlet which is published by Doctors Starkey & Palen, 1109 and 1111 Girard Street, Philadelphia, and which will be mailed to any address on application.

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in next issue.

Large Size Universal Milling Machine. Especially designed for Steam Engine and Locomotive Builders. Brown & Sharpe Mfg. Co., Box 469, Providence, R. I.

Air Compressors, Rock Drills. Jas. Clayton, B'klyn, N. Y. Inventors having American or Foreign Patents for sale address Chas. Babson, Jr., 24 Congress St., Boston, Mass.

Leggins.—All varieties, shapes, and sizes on one machine. Lamb Knitting Machine Co., Chicopee Falls, Mass.

Extra Heavy Lathes, Planers, Drills; new designs. Pond Machine Tool Co., Worcester, Mass.

A lot of new Chucks of all sizes, slightly damaged, at half price. A. F. Cushman, Hartford, Ct.

The Whittenton Mfg. Co., Taunton, Mass., have 100 H. P. Electric Dynamo, line shafting connected by our Friction Clutches without stopping engine. Volney W. Mason & Co., Providence, R. I.