

ENGINEERING INVENTIONS.

A car starter has been patented by Mr. Jacob J. Anthony, of Sharon Springs, N. Y. The invention consists of a compound lever and ratchet mechanism, that can be operated by hand or foot for the development of power, by which street cars may be started or stopped, or the device may be used with steam cars for making up trains, thereby dispensing with locomotives for this purpose.

AGRICULTURAL INVENTIONS.

A check row corn planter has been patented by Mr. Joel Kirkwood, of Mauzy, Ind. This invention covers a special construction and arrangement of parts to make a simple, efficient, and durable machine for planting corn or other seeds in accurate check rows.

A hand cultivator has been patented by Mr. Judson B. Hurd, of Hardin, Texas. It is made with a plow plate having wings bent to destroy the grass and weeds and leave the soil level, while with the plow beam and winged plow are connected two or more rotary cutters, whereby the soil, roots, grass, and weeds will be cut in parallel lines in front of the plow plate.

A plow standard has been patented by Mr. John R. Sampson, of Bennettsville, S. C. It is made with a ground bar and a beam plate arranged with the forward parts at a greater distance apart than their rear parts, and connected at their forward ends by a front bar, so the plow plate can be moved up and down to vary the angle at which its cutting edge enters the ground, as the work and the character of the soil may require.

MISCELLANEOUS INVENTIONS.

A churn has been patented by Mr. James H. Taylor, of Westfield, Mass. This invention covers a special arrangement and construction of parts for making churn barrels or cylinders whereby the parts thereof may be conveniently set up and tightened or loosened as desired.

A chimney cowl has been patented by Messrs. Martin Ludwig, James S. Barber, and John S. Barber, of Beloit, Kansas. This invention covers a novel construction whereby a stationary cowl is adapted to prevent downward currents of air in the chimney when the wind is blowing from any direction.

A pegging machine has been patented by Mr. Hans Schurhuber, of Vienna, Austria. This invention covers a new and improved pegging machine for fastening the soles to shoes of all kinds, being especially designed to do the work thoroughly, rapidly, and with a superior finish.

A peg wood sharpener has been patented by Mr. William G. Scott, of Batesville, Miss. This invention provides a simple and convenient implement for the use of jewelers and others for sharpening rods of peg wood employed in cleaning the pivot holes of watches, clocks, and other small machines.

A coal cleaner has been patented by Mr. William H. Shepherd, of Pittston, Pa. This invention provides a new and improved machine for separating slate and rocks from coal by means of screens and a current of air, and is an improvement on a former patented invention of the same inventor.

A vessel for dispensing fluids has been patented by Mr. Peter Harmaun, of Brooklyn, N. Y. This invention provides a vessel in which volatile liquids may be kept from air, and yet sufficient may be supplied for use as desired, the main body of the liquid, by this novel construction, being protected from exposure.

A pyrethrum soap has been patented by Mr. Johann Zacherl, Jr., of Unter Döbling, near Vienna, Austria-Hungary. It contains an addition of the soft resin which forms an ingredient of pyrethra plants and contains the insect killing stuff, the soap being especially designed for destroying insects and other parasites.

A casing for pipes has been patented by Messrs. James F. Wood and John F. Wood, of Wilmington, Del. In combination with disks adapted to surround a pipe are open tubular casing sections surrounding the disks, each having at one longitudinal edge and at one end a pocket, the free edges of the sections being held together by nails, pins, etc.

A mail bag fastener has been patented by Mr. Charles W. Jefferson, of Rugby, Tenn. Steel strips are fastened on the sides of the mouth of the bag, one side being adapted to overlap the other, and the overlapping part being provided with a staple projecting from its inner surface and adapted to be passed through the strips and the closed top of the bag.

A whip has been patented by Mr. Ephraim M. Turner, of Fort Worth, Texas. In combination with a spring wire core and rubber compound covering of the body of the whip is a metallic coupling and a detachable screw whip handle, made to form a clasp knife, such whip being more especially designed for stock farmers or those of like calling.

A safety attachment for elevators has been patented by Messrs. John D. Phyl, of Demarest, and James J. Harold, of Tenafly, N. J. It consists in the application of revolving wheels or cylinders, with studs arranged to come in contact with suitable fixed detents, in case the elevator rope should break, furnishing a positive lock to the falling of the elevator cage.

A lock faucet has been patented by Messrs. Richard W. Howard and Charles B. Locke, of Appoanang, R. I. Its construction is such that a barrel may be connected by pipe with a room above, and liquid may also be drawn from the barrel through the lower end of the cock without disconnecting said pipe, while by suitably turning the cock egress either way may be shut off.

A fruit jar has been patented by Mr. Nathaniel W. Kruse, of Haysville, Pa. The construction is such that, when both cover and jar are of glass, the

contents can only be exposed to contact with glass, and the jar, besides complete locking arrangement, has a bail of peculiar construction, which helps press down the seal and also forms a convenient means for carrying or handling the jar.

A crucible or casting ladle has been patented by Messrs. Jacob F. and Ernest G. Zimmerman, of Hanau, Germany. It has an inner and an outer triangular vessel, the inner one with its angles crossing those of the outer vessel, and with downward sloping sides and an apertured bottom, so constructed as to retain the slag and prevent its being poured out with the molten metal.

A stop watch has been patented by Mr. Eugene J. A. Dupuis, of New York city. This invention covers a modification of the levers for operating the fly backs, and the pawls for operating the ratchet wheels that start and stop the chronograph mechanism are made of a single piece of spring metal, thereby being simpler and occupying less space, with other novel features of construction and arrangement of parts.

A hot air furnace has been patented by Mr. Nathaniel A. Boynton, of New York city. It affords a novel construction of the dome and radiator and their flues or passages, and arrangement of the dome within the radiator, insuring compactness and a more effective circulation of the products of combustion, with enlarged heating and radiating surface, the flues being caused to clear themselves of soot.

A watch case has been patented by Mr. Jacob Macher, of New York city. By this improvement the key, or combined key and push pin, can be withdrawn sufficiently from the pendant to clear the inner edge of the center, thus permitting the works to be passed into the case, but the push pin or push pin and key cannot be withdrawn entirely from the pendant.

A can holder has been patented by Mr. John W. Edwards, of Seattle, Washington Territory. A basket, or cage, adapted to hold a can or carboy, is made to swing easily between two specially devised brackets, so it can be tilted very easily to draw off the contents of the can or carboy, the device being also especially designed to facilitate drawing off the contents of heavy vessels.

A machine for making and inserting umbrella frame rivets has been patented by Mr. Daniel M. Redmond, of Philadelphia, Pa. The wire is forced through tubes and clamped, and the rib and brace being brought into position, the wire is cut off and headed therein, the operation being performed with great rapidity and ease, and the machine being adapted to different sizes of wires.

A printing press has been patented by Mr. Peleg S. Dodge, of Stanton, Mich. This press has a reciprocating flat form bed, over which is mounted the impression cylinder, and in the frame underneath, or otherwise equivalently arranged, is the steam cylinder of a direct acting horizontal steam engine, whose piston has a stroke equal to one half the circumference of the impression cylinder, and power is thus directly applied to run the press.

A knock down barrel has been patented by Mr. James H. Miller, of Hearne, Texas. This invention affords a cheap and easily constructed barrel for shipping fruits, etc., affording a free circulation of air; wooden slats or staves of proper lengths are secured to two or more hoops, which may be readily bent around a binged head, and fastened by loops in the hoops, but the barrel can be knocked down and packed in crates or boxes to occupy very little space.

NEW BOOKS AND PUBLICATIONS.

THE GUNSMITH'S MANUAL. Messrs. Haney & Co., 10 Spruce Street, New York.

This is an illustrated volume of 375 pages, edited by Messrs. J. P. Stelle and W. B. Harrison. It is a volume of practical information for gunsmiths, and is calculated to be of interest and value also for sportsmen. It explains how their weapons are made, how they should be used, and how cared for when not in use. The manual is replete in useful information for gunsmiths and sportsmen.

INDUSTRIAL CYCLOPEDIA OF SIMPLE MECHANICS. By George E. Blakelee. Fords, Howard & Hulbert, New York.

The 700 pages of this book give plain, detailed directions for doing 2,000 common things. Its author is a practical mechanic, and was long an editor of a leading agricultural paper, so that he knows how to give his information in language devoid of abstruse terms, and so the "common people" will readily comprehend what is meant. It is not intended as a guide for professional workers in any special department, but to give valuable hints on "how to make and how to mend" to men, women, and children, indoors and out, as a daily aid in industrial affairs.

STATIONARY STEAM ENGINES FOR ELECTRIC LIGHTING PURPOSES. By Robert H. Thurston. John Wiley & Sons, New York.

Some such book as this has been an evident want for quite a little time back, and Professor Thurston has kept sufficiently abreast with the progress of modern engineering to be eminently well qualified to do justice to his subject. The modifications in engine building which have taken place since electricity has been largely introduced are here concisely stated, and particular mention is made of the most conspicuous claims for public favor in this field, showing what changes in construction and operation have been made, with the causes therefor.

Received.

THE CHILDREN OF THE BIBLE. By Fanny L. Armstrong, with introduction by Frances E. Willard. Fowler & Wells Co., New York.

THE PHYSICIAN'S VISITING LIST. A pocket memorandum book with blanks for each day of the year, with numerous handy references. P. Blakiston, Son & Co., Philadelphia.

Special.

THE EXPERIENCE OF AN EMINENT LECTURER.

The magic lantern, which was in former days only a toy, with its coarse and gaudy pictures for the amusement of uproarious children, has been improved and dignified by the introduction of photographic art. Competent scholar gentlemen and finished speakers have done their part in elevating lantern picturings to their proper place in artistic education. The lantern and the lecturer now combine instruction with entertainment in graphically getting before the public illuminated evenings of travel among the wonders of our own country, or the antiquities and curiosities of foreign lands.

Prominent among the gentlemen who have dignified the lantern by bringing to its aid the triumphs of photography is Mr. Edward L. Wilson, of Philadelphia. A natural artist, a superior photographer, and a fascinating speaker, Mr. Wilson has attained a national reputation. In winter he addresses large city audiences, and in summer he gives his illustrated lectures at the various camps of moral and religious instruction throughout the country. His photographic establishment is known throughout the nation, and is enriched with many original works of photographic art taken by himself in his tour through foreign lands.

In consequence of his intense devotion to the duties of his profession, Mr. Wilson some years ago became a confirmed invalid. The labors which crowded him in connection with the photographing of the Centennial exhibits in 1876 first contributed to impair his naturally strong constitution. In these labors he had the constant charge of over one hundred artists and assistants, and was worked day and night beyond the reasonable capacity of even a very vigorous man. It is not surprising that his health gave way completely, nor that life became a burden hard to bear.

To one who called upon him a short time ago, Mr. Wilson told the story of his illness and his restoration.

"Run down?" he said. "Well, you may say so, when I tell you that the insurance men wouldn't touch me. I had policies in two of our best companies, and I wanted more insurance. Both of them refused me. And yet, one year afterward, one of them very gladly took a new risk on me, and the other was willing to. This was, of course, after I had fully recovered. Tell you how it was. The strain on me had been too great. *Iran down, down, down gradually.* Although I had an excellent constitution, and had lived a strictly temperate life, I was so much prostrated that for a long time I could not sleep more than an hour or two in the course of a night. I suffered with acute neuralgia and with headaches, which, when they came on suddenly, would render me powerless to think or act. My appetite became capricious, and I could eat only a small quantity of food at a time. My digestion was demoralized. *My throat gave me trouble, and I began to be afraid I had chronic bronchitis.*

"One day, five or six years ago, when I was suffering with one of my terrible headaches, a friend whose mother had been cured of rheumatism by the Compound Oxygen treatment said to me: 'Why don't you try oxygen?' I laughed at the idea, for I had no faith that such a thing could reach my case. Still I went to Starkey & Palen's office in Girard Street, and inquired into it. I took a few inhalations, and laughed at it again. But I saw that Doctors Starkey & Palen were fair and truthful gentlemen, and I determined to give their Compound Oxygen a very thorough trial. There was nothing unpleasant in it, and I had no fear that it would do me harm. In any event it could not make me worse than I was. I took the inhalations hopefully and faithfully. Soon, say in less than a month, I began to feel a great change for the better. My first symptom of improvement was that the headaches were less frequent, and by no means as painful as they had been. Then I began to get better sleep. That strained and wearied feeling of body departed, and with it the mental depression under which I had labored. When those frightful headaches were at their worst they would sometimes last all day. Now when they came, it would be hardly an hour from the first indications by buzzing in my ears and tingling in my finger tips, until the headache was over.

"Well, I might tell you a long story about it, but to be brief, I recovered my health, throat trouble went away, and I had a decided increase of lung power. My good appetite returned as in former days. My digestive organs became able to take care of all the food I gave them to dispose of. *In short, I was good as new.*

"Most of this was accomplished in three or four months. But as I had been so much run down, and wanted my restoration to be both complete and permanent, I continued the treatment for over a year, varying it from time to time in amount and method. At times I would omit it for several weeks, and then return to it again. It is about three years since I finished my regular course. Now I resort to it once in a while, in case I take cold or am subject to any extraordinary physical or mental strain.

"I went abroad in 1883, taking a protracted and somewhat laborious trip through Egypt, Arabia, and Palestine. I was beyond the ordinary conveniences of comfortable travel, and had to spend much of my time on camels and to do a great deal of walking and climbing. I found I could stand any amount of exposure. I could tramp the hills of Arabia Telvi, as easily as any of my three companions. So hearty and joyful was I that our old dragoman said to me, 'You always make my heart glad when I am in trouble.' In all my tours abroad I had but two returns of severe headache; one at Mount Serval, the other at Casarea Philippi. I could eat anything that was set before me, and eat it freely.

"Since my return to this country I have engaged in my old duties with more than former activity. I have lectured a great deal, and often in the open air, without any return of throat trouble. I have attended without difficulty to the details of my large photographic business. I used to be susceptible to colds; having them, in fact, from November to May; one on top of another. Now I have had, as far as I can remember, only two colds in three years, though I have been fully subjected to every description of draughts. I enjoy my eating, and I sleep well. It used to tire me to work my lanterns for an hour. Now I can easily do it for two hours without fatigue. My weight is about the same as of old; say 135 pounds. I can work, as a regular thing, about seventeen hours a day, and my work seldom tires me."

"I do not recommend Compound Oxygen for the man who wants to get well in such a hurry that he is not satisfied unless cured in twenty-four hours. But for those who have patience to try it faithfully, and to obey directions implicitly, I consider it the grandest vitalizer and restorer in existence. To my use of it I attribute my present state of good health. You may quote me as saying all that."

In these busy days of mercantile and professional activity there are thousands of overworked gentlemen who are greatly run down as Mr. Wilson was. Their restoration may be as complete as his, if they will try a course of Compound Oxygen. To know all about this

invaluable vitalizer and restorer, call on or address DRs. STARKEY & PALEN, 1109 and 1111 Girard Street, Philadelphia.

Business and Personal.

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Catalogue of Books, 128 pages, for Engineers and Electricians, sent free. E. & F. N. Spon, 35 Murray Street, N. Y.

Wanted.—To correspond with works, corporations and cities desiring first-class, and at the same time low cost, electric light plants, with or without engines and boilers. "S. C. Forsaith Machine Company, Manchester, N. H."

Brush Electric Arc Lights and Storage Batteries. Twenty thousand Arc Lights already sold. Our largest machine gives 65 Arc Lights with 45 horse power. Our Storage Battery is the only practical one in the market. Brush Electric Co., Cleveland, O.

Practical Instruction in Steam Engineering, and situations furnished. Send for pamphlets. National Institute, 70 and 72 West 23d St., N. Y.

The Cyclone Steam Flue Cleaner on 30 days' trial to reliable parties. Crescent Mfg. Co., Cleveland, O.

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If an invention has not been patented in the United States for more than one year, it may still be patented in Canada. Cost for Canadian patent, \$40. Various other foreign patents may also be obtained. For instructions address Munn & Co., SCIENTIFIC AMERICAN Patent agency, 361 Broadway, New York.

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