

## ENGINEERING INVENTIONS.

A car coupling has been patented by Mr. Jefferson Fuller, of Huntington, W. Va. This invention covers a special construction and combination of parts of a device intended to couple cars automatically, having for its object to arrange the link pin to fall in place at the right time without the use of springs, and to manage the pin from either side or from the top of the car.

A car coupling has been patented by Mr. Isaac Linthicum, of Liberty, Neb. The drawhead has a funnel-shaped mouth, behind the bottom of which a recess or cavity is formed in the upper surface of the bottom, the front side of the cavity being beveled, and at the bottom of the cavity is a magnetic plate, to assist in keeping the outer end of the link raised, with other novel features.

A steam boiler has been patented by Mr. Thomas Kays, of Newton, N. J. This invention covers an improvement on the Lawson patented boiler of 1880, and provides for an additional partition or diaphragm dividing the steam space of the boiler arranged above or beyond the partition which divides the main steam space from the water space, such additional partition having openings in it for the passage of steam of somewhat greater aggregate area than the openings in the first partition, but still less aggregate area than the opening through which the steam passes to the cylinder of the engine.

## MECHANICAL INVENTIONS.

A shuttle box motion for looms has been patented by Mr. Louis C. Werner, of Broad Brook, Conn. This invention covers a special construction and combination of parts to provide an improved mechanism for automatically operating shuttle boxes, made in such a manner as to adapt it to be applied to old looms, and one which is simple in construction and reliable in operation.

## AGRICULTURAL INVENTIONS.

A sulky plow has been patented by Mr. James E. Mohney, of Eight Mile, Mo. This invention includes a novel system of connections from the front furrow wheel of the plow to the rear furrow wheel, so the furrow wheels will be moved toward and from each other by a swinging of one wheel, and special connections of the wheels to the tongue, and other novel features.

A check row attachment for corn planters has been patented by Mr. John K. Voorhees, of Pella, Iowa. This invention relates to certain improvements in a former patented invention of the same inventor, and is intended to facilitate the hills being always dropped to form rows both ways of the field, and so no difficulty will be experienced in effecting the proper adjustment of the parts.

## MISCELLANEOUS INVENTIONS.

A screw cutting die has been patented by Mr. Philip H. Class, of Greenfield, Mass. By this invention screw cutting dies are set eccentrically in the stock or holder in a manner to allow of their opening and closing, so that screws of different depths or sizes may be cut, and the adjustment being given a wide range.

A calculator has been patented by Mr. John L. Richardson, of Tuscola, Mich. This invention covers a little machine with marked and figured disks, pointer operated by a ratchet wheel with one hundred cogs, and other novel features, making a simple device for adding numbers, one which gives reliable results and can be easily operated.

A rotary force pump has been patented by Mr. John Serinko, of New Braunfels, Texas. It is made with a tubular standard having one or more flexible tubes with interior half tubes and an interior cylinder mounted upon a crank shaft and having adjustable bars carrying rollers, whereby a liquid can be raised by the successive action of the rollers upon the flexible tubes.

A machine for punching lock plates has been patented by Messrs. Thomas Donahue and William W. Cone, of Terryville, Conn. Combined with a punch and with a die having an L-shaped slot is a sliding carriage with a tongue having an L-shaped cross-section, a hopper being located between the sliding carriage and the die, the plate going into the die forcing out the stamped plate.

An adjustable folding table and ironing board support has been patented by Mr. Henry P. Schenk, of Jeffersonville, Ind., deceased (Sophia R. Schenk, administratrix). It is formed with two legs, to each of which an L-shaped top plate section is hinged, so that these top plate sections can be swung upward and united to form together a square or rectangular top plate, with other novel features.

A washing machine has been patented by Mr. Henry D. King, of Nevada, Mo. Hollow projecting beating studs are attached in the form of inverted cups to the lower side of the dasher, for beating the clothes more effectually than solid studs forcing the clothes in and out of the hollow spaces of the studs, with other novel features and special combinations, to make an improved washing machine.

A clothes line fastener has been patented by Mr. Thomas McCoy, of Lawrence, Kansas. It is formed of a pivoted lever with a fork at its upper end and a crosspiece at its lower end, combined with another pivoted lever having a cross piece at its upper end, the rope being clamped between the cross pieces after it has been passed over the fork on the upper end of the lever.

A syringe has been patented by Mr. Henry M. Howell, of New York city. It is designed more especially for use with plastic substances, as ointments, salves, etc., and consists of a shell to be filled with the plastic substance, and inserted into the syringe tube, the plunger of the syringe to be forced into the shell for expelling the substance, thus avoiding the inconvenience of filling the syringe tube.

A safety attachment for elevator cars has been patented by Mr. Philip Cohn, of Nuevo Laredo, Mexico. Latches are pivoted to the standards, with means for throwing them outward, the latches being locked in place so as not to catch on racks in the shaft, but so that when the hoisting cable breaks, the latches are thrown outward and catch on the racks, thus locking the car in place.

A machine for embossing and ornamenting boot or shoesoles has been patented by Mr. William D. Hall, of Beloit, Wis. Combined with a shaft carrying a toothed die or wheel is a vertically movable shaft adapted to turn on its longitudinal axis, a horn held adjustably on the shaft, and a check screw for limiting the upward movement of the shaft, for ornamenting the soles and producing an imitation stitch.

A collar button has been patented by Mr. George Krementz, of Newark, N. J. This invention relates to improvements on a collar button formerly patented by the same inventor; it has a hollow stem formed on a base, and the edges of the head are bent and curved down so as to form a rounded head, and to prevent the edges of the head from cutting into the skin in case the button is tilted and laid over against the flesh.

A mechanism for converting motion has been patented by Messrs. Daniel D., George L., and Charles W. Wiley, of Lanark, Ill. This invention covers a special mechanism intended for use with windmills to convert the reciprocating motion of the pump rod into rotary motion for operating churns, grindstones, etc., insuring a noiseless movement and intended to equalize the irregular speed and power of the windmill rod.

Improved bolt work for safes forms the subject of a patent issued to Mr. Thomas M. Brintnall, of Maryville, Mo. The invention consists in a lever so connected with the bolts and so intercepted by latches that it will first extend the bolts and afterward retract them, while impelled continually in one direction by a spring or its equivalent, with various other novel features. The same inventor has also obtained a further patent having for its object to extend the bolts of a safe door by the act of closing the door, to lock the same, and to unlock the door by time mechanism, so the door may be both locked and unlocked without any means of communication with its lock after the door is closed.

## Special.

## VIEWS OF THE HON. WM. PENN NIXON.

Mr. Nixon is widely known as the editor of the Chicago *Inter-Ocean*, one of the most outspoken and spirited dailies of the present age. Like many other busy editors, Mr. Nixon overworked himself, and about six years ago found that his health was gradually running down. His business associates and his family felt that he was in a perilous condition, and urged him to take rest—giving up for a while all editorial labor. His natural ambition and his long habits of diligent work were against this. Declining the suggestion of a vacation, he kept at his desk. At last, after fighting for some months with the condition of his system, which was gradually undermining his vitality, Mr. Nixon concluded to take a few weeks of rest. Of that rest and of what followed it we will let him tell, in his own words, as communicated to one of our correspondents, who recently visited him at his editorial rooms in Chicago.

Mr. Nixon, who now appears in the prime of life, and in the full vigor of bodily and mental vitality, said, substantially: "It was in February, 1878, that I took a severe cold. My system had become much worked down, and, driven with constant editorial duty, I had neglected it. After long consideration I concluded to take needed rest. I went to Florida and Cuba for a few weeks. On the way I had several hemorrhages from the lungs. I was quite sick, and returned in no better condition than before. My wife was much alarmed about me. The physician who attended me on my return gave me inhalations, tonics, alteratives, and pills; after taking which, for about two weeks, I was weaker. I kept at my work, which was exacting. By September my state had become critical. I lost flesh, and suffered from a severe soreness in the upper part of my right lung. My wife's sister, who was in Boston, wrote about a treatment which was novel to me—Compound Oxygen. A relative of hers who had been in such poor health that he had been compelled to spend several winters in Florida had been restored by this Compound Oxygen to such an extent that he was able to endure the climate of Boston in winter. The little book issued by Starkey & Palen on Compound Oxygen was sent me, and after reading it I concluded that even if their method of treating my ailments would do me no good, there was reason to suppose that it would do me no harm.

"I procured a 'Home Treatment' from the office of Messrs. Starkey & Palen, in Philadelphia, determining to give it a fair trial, and abide the result. For four or five months I took the inhalations at regular intervals, twice a day; continuing my work steadily. At first no marked effect was observed; in fact, not until three or four weeks. Then I began to feel that it was doing me good. I found that when I was exposed to the cold, and to chilling draughts, my power of resistance was far greater than it had been. There was no exhilaration, but there was a constant increase of strength. I still coughed considerably, and, in fact, did so for some months. The sore spot on my right lung gave me much annoyance. I rubbed my chest with various liniments, and I wore a chest protector. But gradually the soreness went away, as the lung gained strength. And the cough, which had so long clung to me, at last went off in an unexpected manner. One of the last coughing spells I had was almost as severe and extended as any I had ever experienced. It seemed to be the going out of the cough habit. There was probably some extraneous matter in the way, and this severe spell of coughing got rid of it.

"I gained flesh very slowly, but gradually came back to my original weight, and now weigh more than before my illness. I am more able to resist cold, and, though I now take cold occasionally, I am far less subject to it than I was of old. My digestion, which was, of course, disordered, is now all that I can desire, and I am able to do my customary work without inconvenience or serious fatigue. I have never given a testimonial to any patent medicine, and I would not; but I do not consider Starkey & Palen's Compound Oxygen a patent medicine. It is a vitalizer and a restorer, and to it I owe my life."

"Mr. Nixon, did you ever take any other 'Oxygen Treatment' than that of Messrs. Starkey & Palen?"

"No; I had no use for any other. This served the

purpose perfectly, and did even more than I could have expected of it."

"Do you ever have occasion to return to the use of the Compound Oxygen Treatment since your restoration to health?"

"Only occasionally; for instance, if I have been exposed, and have taken cold. But I keep a 'Home Treatment' in my family, for we set a high value on its efficiency in cases of need, and several of my friends have found the advantage of it. You may put me on record as being a hearty and thorough believer in it."

Mr. Nixon's case is not a peculiar one. Thousands have been benefited by the use of Compound Oxygen. Among those who have experienced its wonderful curative properties are Judge Flanders, of New York; Edward L. Wilson, the popular lecturer and photographer; T. S. Arthur, the well known author, and Judge Kelley, of Philadelphia; Mrs. Mary A. Livermore, the eminent lecturer; and many others equally prominent.

If you are interested to know what it has done for others, and what it can do for you, send to Drs. Starkey & Palen, 1109 Girard Street, Philadelphia, who will send you free a treatise on this remarkable vitalizer—its discovery, nature, action, and cures.

## 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.

Wanted.—Patented articles or hardware specialties to manufacture on contract or to manufacture and place on the market. First-class facilities. Correspondence solicited. Address Hull Vapor Stove Co., Cleveland, Ohio.

Grindstone Truing Device.—Price, \$16, with 7-inch roll; \$20, with 12-inch roll. Brown & Sharpe Mfg. Co., Box 463, Providence, R. I.

Reliable Dividers for machinists and draughtsmen. Catalogue free. J. Stevens & Co., Box 28, Chicopee Falls, Mass.

Special tools and machines of every description. Interchangeable Tool Co., 313 North 2d St., Brooklyn, N. Y.

Skating Caps.—Our machine makes the best. Lamb Knitting Machine Co., Chicopee Falls, Mass.

Miners supplied with pumps for every service by Valley Machine Works, Easthampton, Mass.

Rolling Lever, Hand Punches, and Shears. Pond Machine Tool Co., Worcester, Mass.

Billings' Patent Adjustable Tap and Reamer Wrenches. Billings & Spencer Co., Hartford, Conn.

Stephens' Patent Bench Vises are the best. See adv., p. 268.

Wanted.—Situation by a mechanical draughtsman experienced in designing general machinery. Specialty, steam and gas engines. Address A., Room 23, "Stewart Building," N. Y.

Detachable Pocket and Cap Patent for sale, or on royalty to clothiers and rubber clothiers. See illus., p. 26. Address A. Heller, 205 Madison Ave., New York.

Telephones and Magneto Bells, \$10. W. E. Lewis, Corry, Pa.

Cash Box, with "Champion" Keyless Locks. Secure as a safe. Miller Lock Works, Philadelphia, Pa.

The most complete catalogue of Scientific and Mechanical Books ever published will be sent free on application to Munn & Co., 361 Broadway, N. Y.

Oars to face your course with speed and ease. At Alex. Beckers, Hoboken, N. J.

Shafting, Couplings, Hangers, Pulleys, Edison Shafting Mfg. Co., 36 Goerck St., N. Y. Send for catalogue and prices. Air Compressors, Rock Drills, Jas. Clayton, B'klyn, N. Y.

The Best Upright Hammers run by belt are made by W. P. Duncan & Co., Bellefonte, Penna.

Iron Planer, Lathe, Drill, and other machine tools of modern design. New Haven Mfg. Co., New Haven, Conn.

The leading Non-conducting Covering for Boilers, Pipes, etc., is Wm. Berkefeld's Fossil Meal Composition;  $\frac{1}{2}$  inch thickness radiates less heat than any other covering does with two inches. Sold in dry state by the pound. Fossil Meal Co., 48 Cedar St., N. Y.

Try our Corundum and Emery Wheels for rapid cutting. Vitrified Wheel Co., 38 Elm St., Westfield, Mass.

The Providence Steam Engine Co., of Providence, R. I., are the sole builders of "The Improved Greene Engine."

Every variety of Rubber Belting, Hose, Packing, Gaskets, Springs, Tubing, Rubber Covered Rollers, Deckle Straps, Printers' Blankets, manufactured by Boston Belting Co., 225 Devonshire St., Boston, and 70 Reade St., New York.

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

Write to Munn & Co., 361 Broadway, N. Y., for catalogue of Scientific Books for sale by them.

Wanted.—Patented articles or machinery to manufacture and introduce. Lexington Mfg. Co., Lexington, Ky. "How to Keep Boilers Clean." Book sent free by James F. Hotchkiss, 86 John St., New York.

Mills, Engines, and Boilers for all purposes and of every description. Send for circulars. Newell Universal Mill Co., 10 Barclay Street, N. Y.

Presses & Dies, Ferracute Mach. Co., Bridgeton, N. J.

For Power & Economy, Alcott's Turbine, Mt. Holly, N. J. Send for Monthly Machinery List to the George Place Machinery Company, 121 Chambers and 103 Reade Streets, New York.

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.

Guilb & Garrison's Steam Pump Works, Brooklyn, N. Y. Steam Pumping Machinery of every description. Send for catalogue.

Machinery for Light Manufacturing, on hand and built to order. E. E. Garvin & Co., 133 Center St., N. Y.

All Scientific Books and App. cheap. School Electricity, N. Y.

Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423, Pottsville, Pa. See p. 264.

Nickel Plating.—Sole manufacturers cast nickel anodes, pure nickel salts, polishing compositions, etc. Complete outfit for plating, etc. Hanson, Van Winkle & Co., Newark, N. J., and 82 and 84 Liberty St., New York.

Catalogue of Books, 123 pages, for Engineers and Electricians, sent free. E. & F. N. Spon, 35 Murray Street, N. Y.

For Steam and Power Pumping Machinery of Single and Duplex Pattern, embracing boiler feed, fire and low pressure pumps, independent condensing outfits, vacuum, hydraulic, artesian, and deep well pumps, air compressors, address Geo. F. Blake Mfg. Co., 44 Washington St., Boston; 97 Liberty St., N. Y. Send for catalogue.

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

Send for catalogue of Scientific Books for sale by Munn & Co., 361 Broadway, N. Y. Free on application.

We are sole manufacturers of the Fibrous Asbestos Removable Pipe and Boiler Coverings. We make pure asbestos goods of all kinds. The Chalmers-Spence Co., 419 East 8th Street, New York.

Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Emerson's *Book of Saws* free. Reduced prices for 1885. 50,000 Sawyers and Lumbermen. Address Emerson, Smith & Co., Limited, Beaver Falls, Pa.

Hoisting Engines, Friction Clutch Pulleys, Cut-off Couplings. D. Frisbie & Co., Philadelphia, Pa.

Barrel, Keg, Hoghead, Stave Mach'y. See adv. p. 270.

For Sale.—Complete set of SCIENTIFIC AMERICAN from 1845 to 1885. Noye Manufacturing Co., Buffalo, N. Y.

Catechism of the Locomotive, 625 pages, 250 engravings. Most accurate, complete, and easily understood book on the Locomotive. Price \$2.50. Send for catalogue of railroad books. The Railroad Gazette, 73 B'way, N. Y.

For best low price Planer and Matcher, and latest improved Sash, Door, and Blind Machinery, send for catalogue to Rowley & Hermance, Williamsport, Pa.

C. B. Rogers & Co., Norwich, Conn., Wood Working Machinery of every kind. See adv., page 270.

Young Men! Read This!

The VOLTAIC BELT Co., of Marshall, Mich., offer to send their celebrated ELECTRO-VOLTAIC BELT and other ELECTRIC APPLIANCES on trial for thirty days, to men (young or old) afflicted with nervous debility, loss of vitality and manhood, and all kindred troubles. Also for rheumatism, neuralgia, paralysis, and many other diseases. Complete restoration to health, vigor, and manhood guaranteed. No risk is incurred, as thirty days' trial is allowed. Write them at once for illustrated pamphlet free.

Split Pulleys at low prices, and of same strength and appearance as Whole Pulleys. Yocom & Son's Shafting Works, Drinker St., Philadelphia, Pa.

Supplement Catalogue.—Persons in pursuit of information of any special engineering, mechanical, or scientific subject, can have catalogue of contents of the SCIENTIFIC AMERICAN SUPPLEMENT sent to them free. The SUPPLEMENT contains lengthy articles embracing the whole range of engineering, mechanics, and physical science. Address Munn & Co., Publishers, New York.

## NEW BOOKS AND PUBLICATIONS.

THE RESCUE OF GREELY. By Commander W. S. Schley, U. S. N., and Professor J. R. Soley, U. S. N. New York: Charles Scribner's Sons, 1885.

In this very clear and straightforward account of the rescue, the authors have produced a book which will prove attractive even to those who have not hitherto been interested in the progress of Arctic discovery. While it has been the chief purpose of Commander Schley and his associate to relate the circumstances attending the Relief Expedition of 1884, they have added much to the interest of their book by an admirable introduction. One-third of its contents has wisely been devoted to the recital of those events which originally placed Greely at Lady Franklin Bay, and made the final expedition imperative. The reader is familiarized with the ground by a brief sketch of the geography of Baffin's Bay and of the ice barriers which impede its navigation. An account of the general plan of the circum-polar stations as proposed by Weyprecht explains the mission of Greely and his party at so desolate a post as Fort Conger. Then follows that dreary chapter of accidents which made the expeditions of the Neptune and the Proteus so utterly ineffectual, the station at Littleton Island no more than a promise, and the word of a great government an unredeemed pledge. Prepared by this introduction, the reader is placed in a position to follow intelligently the subsequent movements of the Thetis and Bear in effecting the final rescue. From the first he is made to feel that his sympathies are engaged in a successful enterprise, and to share in a measure the enthusiasm of the rescuers. An occasional explanation places some censured action in a truer and more favorable light, but as a rule the promised freedom from comment is favorably observed. The book is illustrated by fourteen engraving and three very serviceable maps.

AN INTRODUCTION TO PRACTICAL CHEMISTRY, INCLUDING ANALYSIS. By John E. Bowman, F.C.S. Edited by Charles L. Bloxam, Philadelphia: P. Blakiston, Son & Co., 1885.

In this eighth edition of an already well known book, several valuable additions have been made. The gravimetric methods of analysis have been considerably extended, and a new chapter on volumetric analysis added. The chemical nomenclature has also been modernized. The book is divided into five parts, which have for their purpose respectively: General Chemical Experimentation; the Qualitative Analysis of Inorganic Salts and of the more common Organic Acids and Alkaloids; Examples in Qualitative Analysis; Quantitative Analysis; and the Use and Preparation of Reagents. In the appendix, several useful tables have been included. The text is clear, and the eye is materially assisted by a judicious variation in the type. Wood cuts are sparingly used to illustrate the different processes, and are generally satisfactory. The arrangement and style are excellent. Much valuable information has been condensed into convenient space, which will commend the book to the amateur analyst, as well as to the student just beginning the science of chemistry.