

## ENGINEERING INVENTIONS

A locomotive has been patented by Mr. Edgar L. Stream, of New Orleans, La. This invention covers a special construction to adapt the driving wheels of a locomotive to be weighted by the draught of the train, in order to increase its adhesive and tractive power.

A metallic railroad tie has been patented by Mr. Charles H. Van Orden, of Catskill, N. Y. It is made of wrought or cast iron, and of considerable width, to prevent it from being pressed down into the roadbed, while it has a rib along its under surface which strengthens the tie and enters the roadbed to prevent all lateral movement of the tie.

An alarm coupling for air and steam brakes has been patented by Mr. Cornelius R. Van Ruyven, of Deventer, Netherlands. This improved coupling is so constructed as to indicate by whistling when the cock connected therewith is not open after two vehicles have been connected, and when a coupling is not connected with the dummy coupling, as well as when not attached to the coupling of another vehicle.

## AGRICULTURAL INVENTIONS.

A fertilizer distributor has been patented by Mr. Joseph B. Denton, of Newtown, N. Y. This invention covers a novel construction and arrangement of parts in a vehicle to promote convenience and secure uniformity in the distribution of fertilizers.

A broadcast sower, land roller, and double revolving harrow has been patented by Mr. Detlef F. Wegner, of Valley City, Dakota Ter. This invention covers a peculiar construction and arrangement of parts, making an improved machine for sowing seeds, rolling the land after the seeds have been sowed, and then harrowing it, all in one operation.

A pulverizing attachment for plows has been patented by Mr. Junius R. Summerson, of Dublin, Va. This invention covers a special construction and combination of parts whereby the sod is broken up and pulverized as quickly as it is turned over by the plowshare, the device being readily applicable to plows already in use, and one that cannot easily be broken by coming in contact with stones or rocks.

## MISCELLANEOUS INVENTIONS.

A coffin has been patented by Mr. Geo. B. Markle, Jr., of Hazleton, Pa. Combined with the coffin lid is a removable face glass, a flexible wire stop for holding the glass in place, and other novel features, so the coffin may without difficulty be temporarily opened.

A gang plank for vessels has been patented by Mr. Lawrence F. Frazee, of Jersey City, N. J. This invention combines hinged side rails with a gang plank, and latch levers for locking them in place when erected, so the gang plank occupies very little space on the vessel or on dock when not in use.

A coin counter and tester has been patented by Mr. William W. Haas, of Farmer City, Ill. This invention covers a novel contrivance of coin balance for weighing and for facilitating the counting of coins of all kinds, in which coin itself can be used as weights or other weights may be substituted therefor.

A feed rack has been patented by Mr. Manly Thomas, of Orinda, Mo. It is a portable hay rack for feeding horses, cattle, etc., so made as to admit its being readily loaded on an ordinary farm wagon, and then unloaded, wherever it may be needed, by the direct motion of the wagon, in connection with an adjustment of the legs of the rack.

A ventilating chimney has been patented by Mr. Samuel T. Atkin, of Georgetown, Tex. This invention covers special details and combinations of parts with a smoke flue, around which is a ventilating flue, with an adjustable thimble or sleeve, and with which is also a flue stopper which can be used with brick flues, and other novel features.

A shutter worker has been patented by Mr. Leonard Tilton, of Brooklyn, N. Y. This invention relates to improvements on a former patented invention of the same inventor, and has for its object to cheapen the construction, and provide the joints of the worker with means whereby its parts may be permanently locked for holding the shutter at any desired position.

A running gear has been patented by Mr. George W. Shaw, of Taylorsville, Ky. This invention covers a special construction and combination of parts for a simple and efficient running gear for vehicles, which shall insure a firm connection between the head block and the hind axle, and successfully resist lateral and racking strains.

A washing machine has been patented by Mr. Howell T. Boydston, of Monmouth, Kansas. This invention covers a novel construction and arrangement of parts in a wash tub, where the clothes are held down by springs between a corrugated under and upper part of rubber, and the latter can be easily operated by a lever to rub the clothes.

A nut bar has been patented by Mr. James Gillespie, of Springfield, Ill. In rolled bars for making hexagonal nuts, the angular depressions on opposite edges are made to alternate with each other, by passing through properly formed rolls, so the notched bar will be of the same width throughout, doing away with undue compression, and the nuts may be stamped or cut from the bar without waste.

A feeder for roller mills has been patented by Mr. Joseph W. Wilson, of Brookville, Kansas. This invention consists of a specially constructed double vibrating feeder, in which a rubberstrip is suspended from the under side of the shoe so that it hangs down between the two pairs of rollers, allowing the vibration of the shoe, while effecting the perfect separation of the materials fed to the rollers.

A shoe fastening has been patented by Mr. Henry H. Rodman, of Wilkesbarre, Pa. According to this invention, the tongue piece is made of a single piece of leather with grooves cut near its edges, and the edges continued to form extension cords, so the tongue

may be drawn bodily up or down, the drawing of it up pulling together the opening of the shoe so the cords may be tied around the ankle, while pulling it down loosens the cords and opens the shoe.

## NEW BOOKS AND PUBLICATIONS.

**HARBORS AND DOCKS. Their Physical Features, History, Construction, Equipment, and Maintenance.** By Leveson Francis Vernon-Harcourt. Vol. I., text; Vol. II., plans.

This work treats of a most important and difficult department of engineering activity in a way that will interest the public, while it will be of especial value to engineers, as it gives such particular accounts of many recent works that the professional man can, with the drawings, go over all the principal details of construction. With the previous work of the same author on "Rivers and Canals," it is intended to present an elucidation of the principles and practice of hydraulic engineering, as applied to navigation and commerce, both inland and marine. The illustrations and descriptions are of docks and harbors in every part of the world, showing the jetty system, different styles of breakwaters and their construction, lighthouses, beacons, buoys, dock walls, lockgates, caissons, etc., of which the drawings are all made to convenient working scale. The work is a very comprehensive one, by an author evidently well equipped for his task.

**THE PRACTICAL ENGINEER AND MECHANIC'S GUIDE.** By William A. Morrison, Lowell, Mass. Published by the author. Price \$1.00.

This book is a record of the observations and experiences of the author during many years of business life, and has a large collection of tables, recipes, and selections from different authors on many subjects.

**THE LENAPE AND THEIR LEGENDS. Being No. V. of Brinton's Library of Aboriginal American Literature.** By D. G. Brinton. Published by the author, Philadelphia.

This book covers a series of ethnological studies of the Indians of eastern Pennsylvania, New Jersey, and Maryland, with a complete presentation and translation of what is supposed to be the "Walam Olum," or Red Book, said to have been many years lost. The book is one of a series which aims to put within the reach of scholars authentic materials for the study of the native races of America, and is a beautiful specimen of the typographic art.

**THE NATIONAL ACADEMY NOTES AND Complete Catalogue for 1885,** published by Cassell & Company, of New York, edited by Charles M. Kurtz, in addition to furnishing a list of pictures shown at the present exhibition of the Academy of Design, gives nearly 100 illustrations and many personal notices of artists, such as are likely to render the book not only useful to the visitor, but valuable for reference. There are in the present exhibition 665 works—not so many as in some former years, though this was not from a paucity of offerings, but rather from a more rigid selection. The catalogue shows the names of many new and heretofore comparatively unknown artists. This little mentor to those who will visit the exhibition, or are especially interested in the development of artistic tastes among us, is sold at 50 cents a copy.

**STEAM PUMPING MACHINERY** forms the subject of a handsomely illustrated little book just issued by the George F. Blake Manufacturing Company, of New York, and which appears in Spanish as well as English. Besides the matters strictly germane to the excellent style of pumps made by the firm, the book has several pages of practical information on engineering points likely to prove handy for every day use.

## Received.

**THE PEOPLE'S MANUAL AND HAND BOOK OF POPULAR GOVERNMENT.** Especially for use in the State of Pennsylvania. By John McMurray, Philadelphia. Published by the author.

**CONTROLLING SEX IN GENERATION.** By Samuel Hough Terry. The Fowler & Wells Company, New York.

**A HAND BOOK OF THE TEETH OF GEARS. Their Curves and Properties and Practical Construction.** By George B. Grant, Boston, Mass.

## Special.

## A SALESMAN'S NARROW ESCAPE.

To sell goods appears to be easy business, especially when the goods are so beautiful and attractive as to seem almost to sell themselves. But there are duties and responsibilities connected with the life of a head-salesman in a great establishment of which the casual shopper has very little idea. One of the largest houses in the artistic porcelain and glass business not long ago came near losing its chief salesman. Had he died, as it was expected he would, his place would have been a very difficult one to fill. His escape from death was indeed a very narrow one.

When our editorial correspondent recently called on Mr. Alonzo Clark, he found him surrounded by all manner of tasteful elegancies in china and bric-a-brac, in the spacious salesrooms of the well known house of Davis, Collamore & Co., Broadway and Twenty-first St., New York. Mr. Clark is a somewhat spare and sinewy gentleman of about 40 or over. He carries with him the marks of a severe tussle with disease, but shows, both in his countenance and his actions, that he has won the victory.

We will let Mr. Clark tell his own story: "My trouble," he said, "was chiefly with my lungs and throat. Originally I had a good constitution, and came of a healthy family, my mother having reached the advanced age of 82, and being still an active woman. During the war I could endure long marches and severe fatigue, and could lie on the ground at night without being attacked by rheumatism. My first sickness was four years ago in a malarial region in Connecticut. The malaria got the better of me, and laid the foundation for catarrh and all the other evils I have been afflicted with.

"About a year and a half ago I caught a severe cold. My lungs became inflamed, and my whole system was prostrated. Soon I showed all the symptoms of consumption. I was entirely disabled, and unfit to attend to business. I was in the care of one of the best known physicians in the city, and one of the most expensive ones. But physicians could do little in reaching my case.

The nearest they came to finding out what was the matter with me was when they told me that if I had any business affairs to settle, to see about it as early as possible, as I could not last long. It was understood at the store that I must die, and that my place would have to be supplied by somebody else. My weight, which had been 137, ran down to 110. Yet I had a firm courage, with a sure hope that somehow or other I would recover.

"After I got rid of the doctors, who had given me up to die, I got a little better, and was able to drag myself down to the store. A couple of lady customers spoke to me about Compound Oxygen, and advised me to go to the New York office of Starkey & Palen, and see Dr. Turner about it. I knew nothing about this remedy, but concluded to try it, just on a venture. On taking a few inhalations at Dr. Turner's office, I was surprised at the effect on me. It seemed a light matter to inhale something which was without taste or odor; but certainly it did me a great deal of good. My benefit began at once. I soon was able to walk up and down stairs. I took one 'home treatment,' which lasted me for three months; then I got a second. My appetite returned, and my sleep was good. When I first visited Dr. Turner, I had not for months slept in a bed. I had been compelled to take such sleep as I could get by reclining in a chair. My feet and ankles were badly swelled, and I seemed in all respects to be getting ready for the undertaker. After taking the Oxygen a while, I began to enjoy refreshing sleep for two or three hours at a time; I could lie in bed, and obtain rest and comfort by doing so.

"I will here say that I found great advantage in the use of the nose-piece inhaler for my catarrh. I inhaled directly through the nostrils, with the best effect. A yellowish pulpy secretion had been coming both from nose and throat. The effect of the Compound Oxygen was to cause this to stop, and with it the pain and unpleasant sensations I had been feeling in my head.

"Soon I found myself, to my great delight, able to attend to business, as of old. I had not all my former strength, nor could I expect it. But I was rapidly gaining, and have kept on gaining ever since. All last winter I was on duty, except a few of the wettest and most slushy days, when I thought it prudent to stay in the house. I have been able to attend to my regular business, and am now. Of course I am careful of myself. I do not expose myself to storms. I walk with ease a few blocks every day, and that without experiencing any great sense of fatigue."

"Mr. Clark, do you still continue the treatment, or are you independent of it?"

"Once in a while, if I have a slight return of throat trouble, I take a few inhalations, and with positive advantage. I do not now need to take it for catarrh, for my catarrh is all gone, to my great relief. I consider myself as thoroughly cured as I can be. I have gained most of my lost flesh back again, and am increasing. Of course I do not expect ever to be very stout."

"Are you, then, a believer in Compound Oxygen as a restorer of health?"

"Believer? Why, yes; most thoroughly and heartily. I cannot say too much for it. You cannot wonder that I have lost all confidence in the old systems. They could do nothing for me but tell me I was going to die, and they blundered when they told me that. Compound Oxygen brought me to what you see me now, and did it after they had failed. Yes; you may say that I believe in Compound Oxygen, and that I recommend everybody who is situated as I was to make a fair trial of it. I don't know what they make it of, and I don't care; all that I know about it is that it pulled me through. That's enough for me."

Compound Oxygen is not an experiment. It is tried and true. Hundreds of others give similar testimony to that of Mr. Clark. Many of those who have experienced the best benefits from it are those whom the old-fashioned doctors had given up. To learn all about Compound Oxygen, send to Drs. Starkey & Palen, 1109 and 1111 Girard Street, Philadelphia, for a deeply interesting little work on the subject, which will be sent you by mail.

## 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.

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Curtis Pressure Regulator and Steam Trap. See p. 222.

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