

## ENGINEERING INVENTIONS.

A car coupling has been patented by Mr. Michael Spelman, of Shreveport, La. It is automatic, the drawhead having a device for guiding the link into the cavity to enable it to engage with the coupling pin, and there being a novel link guide and supporter to hold it in the desired positions.

A car coupling has been patented by Mr. Lorenzo D. Hoover, of Rock Island, Ill. The drawhead is formed with a chamber, bridge, and aperture, in combination with a coupling pin having a shoulder and a pivoted leg, the shoulder being adjusted to hold the connecting link upon the bridge, the device being automatic.

An automatic block signal for railways has been patented by Mr. Lewis B. White, of New York city. From standards at the side of the track a novel connection is provided with the rail, so that when the latter is struck by a passing locomotive a crank is operated which sets a signal that will remain set for a given time and then swing back to its normal position.

A boiler furnace has been patented by Mr. John Mailer, of San Francisco, Cal. It has a fuel magazine above and opening into its firebox, with passages leading from the fuel magazine and firebox into a rear combustion chamber, tube lined and apertured doors being provided to admit air to the fuel as it feeds, and the whole construction to facilitate the regular supply and economical consumption of fuel.

## MECHANICAL INVENTIONS.

A planer chuck has been patented by Mr. Thomas H. Paul, of Frostburg, Md. A bed piece, with a transversely sliding chuck body, is pivoted to oscillate on the planer platen, and there are other novel features, whereby a gib and gibway may be planed to fit exactly together, or a groove planed in the arc of a circle, or the plane face of a circular segment planed with cuts in arcs of circles.

## AGRICULTURAL INVENTIONS.

A fertilizer distributor has been patented by Mr. Joseph Kittle, of East Bend, N. C. It is to facilitate dropping by hand a certain amount of fertilizer, and has devices for measuring and gauging the supply from the hopper, and for sustaining the distributor and adapting it to persons of different heights.

A cultivator for listed corn has been patented by Messrs. John C. McCandless and Orson King, of Randolph, Kan. This invention covers a novel construction and combination of parts in a machine for loosening the soil and destroying the weeds and grass upon the tops and sides of the ridges and between the ridges.

A mowing machine has been patented by Mr. Warren Hill, of Towanda, Pa. It has sleeves on the ends of the axle with downwardly projecting arms connected with the draught pole, and other arms on which a cross bar rests, to help support the frame with the gearing and shafting, to improve center cut mowing machines and prevent undue pressure on the cutter bar, while simplifying the construction.

A cultivator has been patented by Messrs. Lorenzo D. Monroe and George W. Wiggins, of Morgan, Ga. The construction is such that the arms which carry the cultivator blades are made adjustable upon any part of the cultivator beams, and at any angle, while combined with a central cultivator beam are side beams, also carrying adjustable arms and an adjustable draught bar.

A combined cotton seed planter and fertilizer distributor has also been patented by the above named gentlemen. The invention covers a novel construction and arrangement of parts in a machine for doing the furrowing, planting, fertilizing, and covering of the seed at one operation, and doing this expeditiously and with a minimum expenditure of labor.

## MISCELLANEOUS INVENTIONS.

A bolt fastener has been patented by Mr. Edward G. Holden, of Oak Ridge, Mo. The bolt has a reduced threaded portion, forming a shoulder and a square offset, in combination with end pieces and toggle levers, to securely hold the bolt in a smooth recess.

An improvement in scissors has been patented by Mr. Theodore Bayrholder, of Shelby, Neb. The scissors are made with a pivot plate adapted to a recess in one arm of the scissors, and there is also a spacing plate, so that scissors can always be readily tightened up as desired, and a close joint preserved.

A bodice belt has been patented by Mr. Samuel Bretzfeld, of New York city. Combined with a belt having a fastening adjustable for the desired length are two bodice pieces adjustable on the belt, having a loop or pocket for the passage of the belt and a double parallel row of perforations to receive lacings.

A photographic plate box has been patented by Mr. Vincent M. Wilcox, of New York city. It has adjustable and removable corrugated or notched spring partitions to receive the ends or edges of plates and hold them separately, making a case adapted to hold photographic plates of different sizes.

A combined blacking brush and scraper has been patented by Mr. Charles E. Hatch, of Vallejo, Cal. The handle is detachable, and has a scraper or blade for use in cleaning mud or dirt from boots or shoes before blacking, but the handle can be quickly and easily adjusted to the brush again by turning a set screw.

A corset fastening has been patented by Mr. Morris Hertz, of New York city. Its construction is such that the corset is to be hooked about the person in the ordinary way, but when it is to be removed it is only necessary to press downward upon a finger piece, which will operate a plate and hook-shaped keepers to open the corset.

A dumping car and scow has been patented by Mr. William Fallon, of Newburg, N. Y. This invention covers improvements on a former patented

invention of the same inventor for the construction of scows and cars in such manner that they can be dumped easily and rapidly, and afterward readily brought back to the normal position.

A sugar cane top and leaf cutter has been patented by Mr. Emilio Lobeck, of Havana, Cuba. The machine has a feed table, along which the cane tops and leaves are passed to feed rollers, which carry them to rapidly working knives, the feed rolls and knives being operated by gearing from an axle of the truck on which they are mounted.

A convertible skate has been patented by Mr. John Lapp, of Honeoye Falls, N. Y. It is intended for both roller and ice skating, and has removable front and rear runners with opposite blades connected to each other, with various novel features, so the advantages of the automatic side curving movements of roller skates may be availed of in ice skates.

A pipe coupling has been patented by Mr. Lucien Lerede, of Paris, France. This invention consists in the employment of metal tubes, each of which has at its ends a ball and socket or other universal joint, with means for rendering it perfectly tight, the device being especially designed for compressed air and vacuum brake apparatus.

A shoe blacking box has been patented by Mr. Francis M. Osborn, of Port Chester, N. Y. This invention relates to blacking boxes in which the blacking to be used is forced through apertures in a plate fitted in the blacking box, and the construction is such that only the quantity of blacking required at a time will be exposed to the brush.

A dissolving key for oxyhydrogen lights has been patented by Mr. Henry J. Brower, of Brooklyn, N. Y. Combined with a key body having separate channels for the oxygen and hydrogen are valve plugs in each channel connected to operate together, the key to be used in turning gas from one jet to one or more other jets, to produce dissolving effects or for other uses.

A flood gate has been patented by Mr. James A. Galloway, of Spring Hill, S. C. Its construction is simple, but it is so designed that the gate may be held open and stopped from revolving, its several parts being held out of the way of timber and other floating objects likely to damage it, and a clear way provided for the water, the invention being an improvement on a former patented invention of the same inventor.

A hand nailing implement has been patented by Messrs. Edward L. Taft, of Gardner, and Henry M. Rich, of Athol, Mass. This invention covers a pair of nail or pin driving pliers, with an automatic nail feeding device, operated by the opening and closing of the pliers, one of the jaws serving to drive the nail and the other as a rest for the rod or article through which the nail or pin is to be driven.

A platform rocker has been patented by Mr. James S. Piper, of Gardner, Mass. The seat back and arm rests are formed of bent wood, the back rest bars extending down below the seat and having their lower ends secured on a curved runner, which has its front bent up to the under side of the seat, then extends along the under side and is bent down to the runner at the rear end of the seat, all on a platform with bent ends forming feet.

An apparatus for dyeing has been patented by Mr. Ludwig Pfaff, of San Francisco, Cal. The fabric to be dyed is wound around a perforated tube, a perforated cylinder surrounding the fabric, and top and bottom pieces covering the ends of the cylinder of fabric, the whole to be placed in a vat, and dyeing liquid forced up through the bottom of the tube, passing through the fabric, and dropping from the apertures of the outer cylinder into the vat.

A water elevator has been patented by Mr. Thomas A. Porter, of Cameron, Texas. Combined with endless chains having novel links and staples are buckets with apertured side flanges through which the staples pass, fastenings passing through the staple in front of the apertured side flanges to hold the buckets in place, and so their open ends, in passing over the drum, will not tip forward until the spouts are carried just above the inner wall of the receiver.

A combined umbrella and cane has been patented by Mr. George Leland, of Jacksonville, Fla. Combined with a hollow cane is a nut adapted to be held on its end, ribs pivoted thereto, with braces and a chain ring holding the lower ends of the braces, the several parts to be held in the hollow of the cane when the umbrella is not in use, the diameter of the cane seven-eighths inch at the smaller end and one and a quarter inches at the thicker end.

A bridle bit has been patented by Mr. Emory Q. Darr, of Shelbyville, Ind. It consists of two rigid bars of different lengths, one above the other, pivoted together centrally, the upper bar suspended by the usual cheek straps, and to remain in a fixed position across the horse's mouth, while the swiveled lower bar turns on its pivot to guide the horse by lines in the usual manner, so that the pull on the rein is not largely expended in drawing on the bridle, but it is transmitted directly to the animal's mouth.

## NEW BOOKS AND PUBLICATIONS.

LEHRBUCH DER VERARBEITUNG DER NAPHTHA ODER DES ERDOLES AUF LEUCHT- UND SCHMIEROLE (Handbook of the Manufacture of Illuminating and Lubricating Oils from Naphtha or Petroleum.) By F. A. Rossmassler, Chemist, Vienna, Pesth, Leipzig: A. Hartleben, 1885.

The author gives a systematic account of the crude material, the products derived therefrom, and the gradual progress made in the art of refining. He describes the properties of lubricating and illuminating oils, the different operations of distilling, condensing, purifying, mixing, bleaching, and deodorizing. He sets forth the use of the more volatile products, and describes in detail the methods of manufacturing and purifying lubricating oils, and finally he gives a very full description of the plants for factories and the devices for filling kerosene barrels.

## Special.

## A BANKER AND HIS FRIENDS.

Alvarado Howard, Esq., is treasurer of the savings bank of Stafford Springs, Conn. Like many other bank men, he had suffered from overwork. There is a sort of headache which is peculiarly the lot of the bank man closely applying himself to business. With it comes a weary and broken down sensation of inability to give full attention to business. All this Mr. Howard suffered, with lack of appetite, loss of flesh, and the other symptoms which with unpleasant plainness tell the story of dyspepsia.

"I was very low spirited," said Mr. Howard to one of our correspondents who visited him at his cozy cottage at Stafford Springs. "My wife was greatly concerned about me. I had taken advice and medicine from the regular physicians, but with very little advantage. Some friends of my wife had taken Compound Oxygen, and had sent her circulars and pamphlets about it. She was much interested in what she read of it, and said she thought this was what I needed. While she was away from home for two or three weeks I sent for a 'Treatment.' You may judge of the effect of the Oxygen on me when I tell you that, although I had not told my wife I had got it, she noticed from the character of the letters I wrote her that I was in better spirits, and consequently in improved health."

"Had the Compound Oxygen, then, so soon begun its good work on you?"

"Yes; it did its work much more quickly than I had any reason to expect. I was surprised, for although I anticipated good results, I had not supposed they would be felt so quickly. Within a week I was so much better that I was going to put the Oxygen away and take no more of it. But I concluded that it would be better to keep on with it for a while. I did so for a few weeks, and was so completely restored to health that I had no further need for any remedy. That was three years ago. Since that I have never been without Compound Oxygen in the house, and I do not intend to be without it at any time."

"Then you have had to resort to it pretty much all the time?"

"By no means; only occasionally, when I have had a cold or something of that kind. But my wife has used it and derived great benefit from it, and so have the children."

"I believe my wife would have been dead but for Compound Oxygen. Her lungs troubled her. The pain was very severe, particularly in the left lung. The symptoms were those of incipient consumption. Both last winter and winter before she took Compound Oxygen through nearly all the cold weather, and with the most remarkable effect. It strengthened her, removed the lung pain, and generally and particularly built up her health."

"As for the children, my boy is eight years old. He has grown up quickly, and is half a head taller than most other boys of his age. He has taken Compound Oxygen for colds and as a tonic and strengthener. Nothing has ever served him better. We have the utmost confidence in it for him. Baby is six months old, and has learned to inhale like a grown person. She had a cold with catarrhal symptoms, and was entirely relieved and cured with Compound Oxygen. I may add that I myself am naturally disposed to catarrh. Since I have used this Oxygen, which is now about three years, the catarrhal troubles have not annoyed me."

"Three or four weeks ago I was suddenly taken down with quinsy. Compound Oxygen had done so much for me in other respects that I tried it for this. I took it pretty hot, putting the tube well down my throat so as to reach the sore and swollen parts. Almost at once it brought down the swelling, and took away the pain. Do you wonder that I so thoroughly believe in such a remedy?"

"I think you said you had friends who had used it, Mr. Howard? Has their success with it been as great as yours?"

"Yes; so completely satisfactory that I recommend it to every friend that I have."

"A lady who was with us, but who now lives in Boston, was troubled with severe colds. My wife urged her to use Compound Oxygen. 'It is all folly,' she replied. 'When one of my hard colds takes hold of me, I must let it run and take its course.' But the Oxygen broke up in three days as severe a cold as she had ever been taken with."

"My sister who lives in New Haven, a married lady, some twenty-four years ago strained her voice and injured her lungs and throat, the injury resulting in chronic bronchitis. For about three years she has used Compound Oxygen, which has kept her alive, for she was very near dying. That she should be entirely cured of such a deep-seated and protracted malady would be too much to expect. But she has been greatly relieved, and her life made incomparably more comfortable than it otherwise could have been."

"A young lady, a friend of ours, living a few miles out of town, has for a long time been troubled with lung disease. The doctor said her left lung was badly diseased, and it was only a question of time when she must die. Her digestive and other functions were much deranged. Both she and her sister were prejudiced against the use of Compound Oxygen, and the only way that I could induce them to consent to the use of it was to send for a 'Treatment,' and assure them that if it did no good in three or four weeks I would stand the expense of it. A week after she began to use it she said that she never had tried anything which had done her so much good."

"She has now improved wonderfully, though of course not yet entirely cured, but oh, how different from what she was!"

"Mr. M. C. Kinney, our Town Clerk of Stafford, had two or three attacks of asthma. The old-school physician who had treated him of course condemned Compound Oxygen, and said it was no better than so much warm water. Mr. Kinney took the Oxygen, however, and was greatly relieved."

"Well, Mr. Howard, you really seem to have become a sort of an apostle of Compound Oxygen to all your friends and neighbors. It is not so?"

"Call it what you choose. I believe in this thing with all my heart. Whatever it is made of I don't pretend to know. I know only what it has accomplished for me and my friends, and therefore I freely advise those who are sick to use it. And I have seen its benefit in relieving those who were too far gone for entire recovery. It cannot be expected to work miracles; but even to relieve those who must die is a great achievement for it. Here, for instance, is the case of a young lady who was taken with a severe throat difficulty, which settled on her lungs and ran into consumption. I had some Compound Oxygen in the house, and I placed it at her disposal. This was too late to save her, for she was by this time very far gone. She lived for a few weeks, but during those weeks she experienced great relief. The family wished that they had known of the Compound Oxygen, and had used it, long before."

"Another—a gentleman and his wife who are now in

California. The lady had a cankered sore throat and a bad cough. The doctors said she was drifting into consumption. Her husband disliked to displease the medical man by trying a remedy contrary to his advice, but I asked him which he would rather do—please the doctor and bury his wife, or save his wife and confound the doctor. He finally sent for a 'Treatment.' His wife tried it, and her sore throat soon got well. She began to gain in her general strength and health. They had made their arrangements to go to California, and soon after went there. I have since heard from them. The lady is now strong and hearty, with her health entirely restored."

"A young lady who is a neighbor of ours was for years in such a low state of health that she could not half enjoy her life. She had been under medical attendance in a chronic sort of a way, which gave her little or no benefit. We gave her circulars about Compound Oxygen. She received them courteously, but said she was already under medical treatment, and did not want to make a change. One day she came to our house with such evidently improved health that we at once asked her what she had been doing. 'You needn't say anything about it,' said she, 'but I have been taking Compound Oxygen.' I could tell you a long story about her improvement, but suffice it to say that we are all surprised to see how she has gained. She had been able to take but little exercise. If she was going a quarter of a mile, she would order the carriage. She now takes exercise like other people, and although slender and by no means robust in appearance, is in the enjoyment of such good health that she no longer has occasion for the services of the doctor."

Mr. Howard added that he could give instances of other friends for whom Compound Oxygen had performed similar benefits. It will be seen from the record of those he has given that the benefits of Compound Oxygen cover a very wide range of suffering, and are applicable under the most diverse circumstances. Whatever the difficulty, nobody need despair of finding relief by means of Compound Oxygen. To learn more about it send for the pamphlet treatise on the subject, which will freely be mailed to all who address Drs. STARKEY & PALEN, 1529 Arch Street, Philadelphia.

## Business and Personal.

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