

## ENGINEERING INVENTIONS.

A frogless switch has been patented by Mr. Abraham Culp, of Mount Carmel, Pa. It is so made that the strain incident to the shifting of the switching rail is distributed throughout the length of the rail, instead of falling, as usual, upon one point, and thereby causing a bending of the rail.

A combined steel tie, rail fastening, and lock joint has been patented by Messrs. Theodore L. Mumford and Hugh Moore, of Mauch Chunk, Pa. Combined with a tie having stationary jaws and apertures, and the rails, are lever clamps inserted in the apertures, and held on the rail flanges by nuts, holding the rails securely in place, and permitting the making of the middle parts of the ties narrower than the end parts.

A railway signal has been patented by Mr. Pierson J. Wicks, of Greenpoint, N. Y. It consists of a contact wheel attached to the locomotive, an alarm in the cab electrically connected with the tires of the contact wheel, and a switch between the electrical connections of the alarm and the contact wheel, with other novel features, for automatically sounding a bell in the cab of a locomotive as soon as two or more trains are on adjoining sections or at a crossing.

A railroad rail joint has been patented by Mr. Thomas A. Davies, of New York city. This invention provides rail joints constructed in such manner that the amount of bearing surface in contact will be unaffected by the setting up of the fish plates, the upper bearing surfaces of which will always rest tightly against the corresponding bearing surfaces of the rail.

A fish plate for railroad rails has likewise been patented by the same inventor. Fish plates are to be made, by this invention, with flanges upon their lower edges projecting outward farther than the base flanges of railroad rails, with recesses in their outer edges to receive the heads of the fastening spikes driven into the ties at the outer edges of the base flanges of the rails, the object of the invention being to provide fish plates that will hold the rails from longitudinal movement without interfering with their proper effect as fish plates.

## AGRICULTURAL INVENTIONS.

A combined harrow and cultivator has been patented by Mr. David Kessler, of Willis, Kan. This invention covers a combination of various novel features in a machine that can be readily adjusted for cultivating listed corn or surface corn, or for ordinary harrowing, and which shall be reliable and effective with either adjustment.

A horse hay rake has been patented by Mr. George K. Schauer, of Osborn, O. A frame carrying roller is fixed on one wheel of the axle, and a lever is pivoted on a fixed piece on the axle, and has a cam projection, with operating mechanism, whereby the cam is thrown into and out of the path of the rollers, to facilitate the reversing of the rake for discharging grass, etc.

A planter has been patented by Mr. William Lewis, of Dawn, Mo. Its construction is such that the main frame of the machine and the parts carried thereby may be raised above the normal position when the machine is to be taken from one place to another or turned at the end of a row, which is done by hinging the main frame to arms rigidly connected to and extending to the rear from the axle of the planter.

## MISCELLANEOUS INVENTIONS.

A candle attachment has been patented by Mr. George Whyte, of Northview, Elgin, Scotland. It consists of a dome-shaped cap, with weight-casing, standards for supporting a shade, and other novel features, the device preventing the overflow of melted grease, as well as making a shade holder.

An insecticide has been patented by Mrs. Rebecca McKee, of New York city. The composition embraces a number of materials easily obtained of any druggist, and which can be readily mixed and prepared for use in places infested with insects or vermin, as a thorough and efficient destroyer of such pests.

A uterine supporter has been patented by Mrs. Martha F. Haynes, of Athol Center, Mass. It is a device for affording relief and promoting cure in cases of prolapsus uteri or reversions, it being simple and inexpensive in character, and which may be easily adjusted by the patient and worn without discomfort.

A sash lock has been patented by Mr. Charles E. Nicholas, of Toledo, Ohio. A tongue with a spur and notch is pivoted in a casing in such way that it can be attached to the stile of the upper sash of a window, for engagement with the top rail of the lower sash, to make a simple and efficient sash lock without the use of springs.

A turntable for hay carriers has been patented by Mr. Edwin Woodward, of Stryker, O. It is constructed in such a manner that with it an ordinary hay carrier can be readily reversed, when it is desired to deposit the hay or grain in the other end of the barn, the device being simple to make and reliable in operation.

A fireproof shutter for stairways has been patented by Mr. Henry Dale, of New York city. It is made of corrugated iron, and housed or boxed beneath the stairs, so that it can be readily withdrawn from its housing and drawn to a position to cover the well or opening formed for the stairway leading to the floor beneath.

A paint has been patented by Mr. John H. Palmer, of West New Brighton, N. Y. It is made by combining the residuum of linseed oil, resulting from purification, with a certain amount of linseed oil, the matter remaining after the usual process for purifying oil from flaxseed having heretofore been generally a waste material.

A spring roller has been patented by Mr. Charles E. Brooks, of Brooklyn, N. Y. It is a

window shade roller, made in such manner that the revolution of the roller will be stopped automatically when the shade has been rolled up to a fixed limit, to prevent disarrangement or breakage of the roller or its fixtures, should the roller be accidentally released.

A photographic camera has been patented by Mr. John S. Johnston, of New York city. It is a plate reservoir camera, in which the sensitive plates are automatically fed up in succession, and after receiving their impressions are automatically deposited in a receiving reservoir, especially adapted for use for detective and instantaneous photographic purposes.

A tube expander has been patented by Messrs. William Schoendelen, William Klein, and August Schoendelen, of Davenport, Iowa. This invention provides a simple and easily operated hand tool for expanding bushes in the bung holes of barrels and kegs, to retain the bushes in their place, and to tighten them should they become leaky after use.

A freight handling mechanism has been patented by Mr. Drew Stretch, of Liverpool, Eng. It embraces a boom jointed to swing vertically and laterally, a pulley wheel and devices for its longitudinal adjustment on the boom, a hoisting rope, guy ropes, etc., to facilitate the vertical raising and lowering of the freight, and to bring the freight into position to be dumped into the chutes.

A filling apparatus has been patented by Mr. Thomas H. Hathaway, of New Bedford, Mass. The bottom of a receptacle for holding a liquid has a movable plate in connection with a series of apertures and funnels, so arranged that when a number of bottles of the same size are placed beneath the funnels, they may all be filled at the same time, by the moving of an arm by which the apertures are opened and closed.

A harness has been patented by Mr. John H. Whitaker, of Davenport, Iowa. This invention relates to a former patented invention of the same inventor, of harness for training horses, and covers an improvement whereby the bearing surfaces of lines extending beneath the horse's belly and between his hind legs have but a slight movement along with the horse's leg without rasping it.

A bicycle shoe has been patented by Mr. Thomas J. Strickland, of Randolph, Mass. The insole has an intermediate or shank portion of greater flexibility than the end portions, and the outer sole is composed of an inner and an outer layer of greater flexibility than the inner layer, making the shoes more flexible and better adapted to resist the jar or vibration of the machine.

A printing plate holder has been patented by Mr. Marshall J. Hughes, of Jersey City, N. J. This invention covers clamping plates with opposite edges bent or angled to form lips to embrace the beveled edges of stereotype or other printing plates, one of the bent lips having an adjusting screw, and the clamping plates being held by the furniture employed by locking the block in the chase.

A necktie fastener has been patented by Mr. Frederick Standish, of Shelton, Conn. It consists of a clasp held to the tie and having opposite yielding hooks, with a stud having holes to which the clasp hooks are adapted, making a simple and inexpensive device which will allow the necktie to be put on and removed very quickly and conveniently, and will hold it securely in its place when adjusted.

A calf weaner has been patented by Mr. William H. Tyler, of David City, Neb. It consists of a wire frame with loops adapted to be received in the nose of the animal, the combination with a metallic apron arranged to hang over the mouth, the wire frame having two projecting points for preventing the apron from being thrown over the nose, the device being also serviceable for keeping cows from sucking themselves.

A calf weaner has been patented by Mr. Cyrus J. Fox, of Falls City, Neb. This improvement is embodied in a rubber headstall which is capable of adjustment in size, and a series of pendant bars, adapted for attachment to the animal's head, but so as to offer no obstruction in feeding on grass or out of a trough, as the muzzle will slide readily up the head when it rests down against anything.

A neck yoke coupling has been patented by Mr. Jacob B. Lowman, of Virginia City, Montana. It is for attachment to a vehicle pole or tongue, and is so made that with it neck yokes having a ring of any size may be connected securely to the pole or tongue of a vehicle, and as the horses hold back the ring will draw, so as to have less tendency to bend or break the pole than when other couplings are used.

A packer for oil wells has been patented by Mr. John D. Brooder, of Kane, Pa. It consists of a conical expander placed between two rubber packing rings, with a device for forcing the rubber packing rings upon the conical expander, the packer to be secured to the lower end of the tubing of the well, and lowered with the tubing in an unexpanded condition, and when in place the pipe to be turned to force rings on the expander and cause the elastic rings to entirely fill the well.

The making of gelatine printing rolls, and making matrices therefor, form the subject of two patents issued to Mr. Edwin P. Benjamin, of Minnetonka, N. Y. The rolls are for use in printing continuous patterns upon cloth, paper, or other substance, of any desired length, and are moulded in gelatine on a flexible sheet, to form a plate thereon, the sheet being then drawn tightly around a tubular shell or core until the edges of the plate are brought together and connected, the core being of especial design to adapt it for such work. The matrices used in casting the patterns in the gelatine are made of gutta percha, into which plumbago has been well worked, pressed in thin sheets between heated metallic plates, upon the face of one of which is the desired pattern, the gutta percha plate thus formed being heated until it becomes sufficiently pliable to be bent in the form of a hollow cylinder, the patents likewise covering numerous practical details intended to facilitate the making of rolls for printing continuous patterns.

## Special.

## A NEW PHASE OF DARWINISM.

A DEVELOPMENT OF HEREDITY; THE POWER OF FAITH; A SEARCH FOR PURITY; A REGENERATION OF BLOOD: THE SAVING POWER OF PURITY.

Erasmus Darwin, the man of science, the poet, and the good physician, came to Lichfield, Staffordshire, England, fresh from the University of Edinburgh, about the year 1760, when he was not thirty years of age. He took a humble suite of rooms on a street that overlooked the silvery Trent, and at once entered upon practice, which in a remarkably short time became extensive and lucrative. With professional popularity he gained social distinction among the young people of the town. In the shadow of the noble Cathedral he found friendship and association such as had been denied the other great Lichfield man, Samuel Johnson, and such as had been given Lichfieldians like Gilbert Walmesley and Henry Hervey. There were young ladies of rank and wealth who smiled on him, and were willing to give their money and titles in exchange for his love, but he cared not. Marriage was far from his thoughts. His profession was his all. He had no time for love or pleasure.

In 1768 he was called upon one day by Thomas Chaffee, a wealthy brewer, who complained of a severe pain in his stomach. The doctor had been doing a great deal to stay the tide of intemperance that was cursing the borough, but his words had not weighed against the product of Chaffee's malt. Now a chance for an effective temperance lecture was at hand.

"Thomas," he said, "you have got a cancer. Your liquor caused it. I cannot cure you. You have committed suicide, but for God's sake stop your brewing before you commit unnumbered homicides."

Quite naturally, such plain language displeased the brewer, and he went home enraged. His daughter Sinai shared her father's anger when she heard of the young doctor's words, and having a wild spirit of her own, she forthwith called on Dr. Darwin to show her resentment. The outcome of the call was that the lady admired the physician's quiet courage of conviction, and he reciprocated by admiring her championship of her father and his vocation.

The result was mutual love and a marriage engagement. In a few months Thomas Chaffee was dead of gastric cancer, and his daughter had shown her love for Dr. Darwin by selling the brewery, and by working hand in hand with him to diminish drunkenness. She would do anything for him, and she loved him with most beautiful strength and depth of affection.

But the doctor was too scientific to be a true lover. He was too much like his grandson. The girl pleased him well, but after a protracted engagement he heartlessly broke it by arguing to himself and his fiancée that it was probable that she would inherit her father's terrible malady, and that such a probability would entail a burden of unhappiness on them both. Such cool reasoning was a dreadful blow to the orphan girl, and as nothing was left to bind her to her native town, she soon emigrated to America. Dr. Darwin removed from Lichfield to Derby, a little later, and won great fame as an author and a scientist, and had a home that might have been happy.

Sinai Chaffee could not forget her first love. Finding a home with relatives near Albany, she lived a quiet maiden life for many years, and never entered society. Amasa Converse went frequently from his home in Windsor, Mass., to Albany, and when the next June came up the Hudson, there was a bloom of orange blossoms at the Van Ness mansion house, and Chancellor John Lansing gave away the bride, the fair and gentle Sinai. Mr. Converse was a farmer, but he gave his wife a pleasant home among the Berkshire hills. When her first born came, and they told her it was a son, she said, "His name shall be Erasmus Darwin Converse."

The years passed happily. Afterward there were born two daughters, and then the mother died. On her dying bed she told her sister-in-law of her early love.

"There is no cancer in my blood," she said, when the fury of fever had inflamed her veins; "but, Polly, I fear that my boy may some time suffer from the disease."

Polly only smiled at such an idea, but she did not forget it. Darwin Converse grew a stalwart and healthy lad, but he had his mother's gentle and retiring manner. His father married again and sent the boy away to school, where for a chum he had George Dana Eustis, and where he made the close acquaintance of William Cullen Bryant. The poet was soon away to the city, but he left young Converse in Cummington, where for a quarter of a century they met every summer and kept their friendship warm. Converse was a farmer, but he was a scholar and a philosopher, and his secluded life was never other than happy. Marrying a wife, and a successful life, he passed middle age and never knew a day of sickness. One autumn day in 1873 he drove from Cummington to Pittsfield, and, as was his custom, took dinner with his aunt, Mrs. Polly Pratt.

"Why do you wear a muffler," she asked him.

"My throat pains me some," he said, "and so I bundle it up."

The old lady asked to see his ailing throat, and noticed on one of the tonsils a small scarlet spot.

"Can it be cancer?" she thought, remembering his mother's prophetic fears.

The next time the father went to Pittsfield it was three months later, and it was to consult a physician about his throat. Dr. C. D. Mills examined him, and finding his system in prime condition, was inclined to treat him for an entirely local affection.

"Doctor," said the sage old aunt, "isn't it cancer?" and she told of the hereditary liability.

The next time that the doctor looked at the circumscribed, angry redness, he recognized the antecedent heredity, and knew the particular direction that the morbid action had taken. "Cancer," he said; and in his opinion coincided Dr. William Warren Greene, Dr. Thomas Hun, Dr. A. N. Allen, and several other eminent surgeons. It was cancer, at the best, terrible, but in this case made more terrible by its inaccessibility.

The prophecy, born of outraged love, was fulfilled; and while Charles Darwin was surprising the world with his brilliant theories, the son of his grandfather's wronged first love was feeling deathly pain as he breathed the keen Massachusetts air.

One day, as the farmer read his paper, he chanced to see an item which told of a Philadelphia physician who was treating diseases with a compound form of oxygen. The farmer liked the idea, and in the summer he went to Philadelphia. Dreading lest he was to fall into the hands of a charlatan, he gave Dr. G. R. Starkey an assumed name, and showed him his throat. After an examination he said, "Doctor, if your treatment will purify my blood, I want it."

"The inhalation," answered the physician, "will do just this if you will give it time. It will render your system able to throw off the matter that causes the disease." "I am a believer. Begin your treatment," was all the man could say.

Advantages were realized at once. The system that had begun to totter under the burden of the terrible

disease was speedily vitalized, and gradually the throat lesion began to assume the appearance of healthy healing. "My throat is well," he was soon able to say, and with the exception of a cicatricial spot in place of the ulcer, he never suffered further inconvenience. Of course the physicians had to admit that he was cured, though Dr. Mills was inclined to doubt.

Alonso Morse, a worthy citizen of Vineland, N. J., was a cousin of Mr. Converse, and had a cancer at the inner canthus of his left eye. He was induced to try the Treatment, and was cured, as hundreds of reputable citizens of Vineland, and Dalton, Mass., can testify. Said Mr. Morse to a reporter, "That Philadelphia doctor saved my life, and I am positive that there is no other physician who can cure cancer."

This is but one of a hundred singular, chronic cases whose relief and final cure has made their friends view it as almost a miracle.

The above testimonial is published—not to claim for the Compound Oxygen a cure of any specified disease, but, as a marked illustration of the way it cures all affections. The process is that of revitalizing the physical organism, so that it is restored to a state of natural health. Now, it is to be well noted that this revitalization is not an artificial supply of a given amount of vitality, which is to be soon exhausted, thus leaving the system in the same condition in which it was; but it puts the organs whose functions it is to generate vitality, in a state of full health. This testimony was written by the well known writer, "Rev. M. C. Cogswell," without our suggestion or knowledge, and sent to us. We have kept it two years, and have taken pains to establish its authenticity. Being satisfied on that point, we allow it to go forth, not for the purpose of soliciting cases of cancer for treatment. We have never seen a case of cancer thoroughly cured by Compound Oxygen, but we have seen enough of its effects in cancerous cases to be convinced that many of them might be cured if taken in time.

In corroboration of this statement we give the following account of a case sent to us by the patient, an estimable lady of Millersburg, Ohio:

"August 31, 1886."

"I think you have said in some of your circulars that you did not claim that the Compound Oxygen would perform surgical operations or cure cancer. I think I can now say that it has cured what would have been a cancer two years ago had it not been treated according to your directions. While using the Oxygen by inhalation, I also bathed the sore, or rather covered it with a cloth saturated with inhaler water, at morning and at night, as directed, since it became worse through neglect of the treatment last spring, and am happy to say that I regard it as cured, although I still apply the water. The itching and gnawing sensation is gone, the last vestige of scab has disappeared and there is only a small discolored depression (very slight) left to tell of the trouble now. I have used nothing for it whatever except your treatment, so the cure can be ascribed to nothing else."

The Compound Oxygen has now received a world-wide reputation for efficiency in curing chronic diseases. The afflicted will find facts and testimonials greatly to their interest in the Treatise on Compound Oxygen, and their publications on various diseases, which are all sent free upon application, addressed to Drs. Starkey & Palen, No. 1529 Arch Street, Philadelphia, Pa.

## 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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