

**ENGINEERING INVENTIONS.**

A car coupling has been patented by Mr. William H. Knight, of Portland, Oregon. Combined with a drawhead is a crossbar therein and a rod projecting upward therefrom, a spring acting on the rod, while there are levers for moving the rod and crossbar upward.

A grip for cable railroads has been patented by Mr. David Stout, of Logan City, Arizona Ter. Its construction is such that when the cable is grasped it will carry an endless chain of shoes with it, so that the friction will be between the shoes and blocks connected with bars bolted to the frame of the car, and the cable will be protected from wear.

A chart for railroad rolling stock has been patented by Mr. Joseph S. Graham, of Buffalo, N. Y. It has apertures arranged in vertical and horizontal rows, numbers being produced at the left of the horizontal rows, and two numbers, one above the other, above each vertical row, the chart to show the condition of the rolling stock in relation to repairs.

A rock drilling machine has been patented by Mr. William H. Clark, of What Cheer, Iowa. Combined with a tube for holding the drilling bit is a bevel gearing for revolving the tube, and a fixed screw held in a frame and passed through a nut on the end of the tube, whereby the bit is moved forward automatically.

A hydraulic motor has been patented by Mr. Christoph G. Wurster, of Hudson, N. Y. This invention consists of two cylinders with pistons, two cylindrical valve chambers with slide valves of special construction, with inlet and outlet ports, an exhaust chamber, and connections for transmitting the motion to a common shaft, making a motor intended to give high speed with a simple construction.

A distance instrument for surveyors' use has been patented by Mr. Jefferson L. Buford, of Albany, Texas. It has a novel arrangement of horizontal graduated ring, with a telescope made adjustable about a vertical axis, with other special features, to permit the distance from a given spot to a remote point to be quickly determined, and dispense with the traverse table, table of logarithms, and chain carrying.

A car axle box has been patented by Mr. William C. Miller, of Parsons, Kan. It has such an arrangement of the waste cellars that the oil cannot drip to the bottom of the cotton and be lost, but will flow on and lubricate the spindle, while the box has such vertical division that when a brass becomes heated and swells, the sections can be quickly separated for the removal of the heated parts.

A combined air exhaustor and water elevator has been patented by Mr. Thomas Arthur, of Bangor, Pa. It is made with a conical tube inserted in a water pipe, and connected by an air pipe with the upper part of the short arm of an elevator, the lower end of the arm having a water seal, and the upper end of the long arm being extended down past the end of the air pipe, its lower part having an air inlet, the device being adapted for withdrawing water and air from mines.

**AGRICULTURAL INVENTIONS.**

A combined cultivator and land marker has been patented by Mr. B. Frank Birkett, of Burlington, N. J. This invention covers a novel construction and combination of parts in a machine to make it readily adjustable for either of the two uses, or it can be adjusted so that will throw the soil toward or from the plants as desired.

**MISCELLANEOUS INVENTIONS.**

A washboard has been patented by Mr. Isaac Hussey, of Columbus, O. It has ribs or beads formed on its surface, between which are grooves carrying brushes or tuftsheld in place by wires secured in grooves in the back of the board.

A bed pan has been patented by Sarah V. Beal, of Ann Arbor, Mich. It has a double bottom, with a discharge pipe on a level with the true bottom, having branch pipes projecting laterally, to discharge the contents of the pan at either side of the bed through a connecting flexible tube.

A lighting device has been patented by Mr. Nathan B. Stubblefield, of Murray, Ky. It consists of a tapering tube with removable handle, a wick, and a sheath fitting the tube, making a convenient device for lighting lamps with glass chimneys without removing the chimneys.

A horse collar has been patented by Mr. Martin F. Sauer, of Somonauk, Ill. The collar is stuffed in the usual manner, but has a peculiar neck formation to render it flexible and so it will not bear on the throat or breast of the animal, while it is intended to outwear the ordinary form of collar.

A lock for sliding doors has been patented by Messrs. Miles Hayden and William C. Dixon, of Gay Hill, Texas. It is specially intended for use on freight cars, where great durability and safety are required, and contains novel features calculated to render it free from liability to damage by collisions, while it can be quickly and readily operated.

A vegetable cutter has been patented by Mr. Alfred Cannon, of High Spire, Pa. It has a cutter operating across the open forward end of a feed box, in front of a feed board, making a machine suitable for use in manufacturing establishments, restaurants, and families, or which can be used for cutting vegetables for stock on farms.

A bicycle holder has been patented by Mr. Albert P. Seiler, of Mansfield, Ohio. Combined with a base and rollers and upwardly projecting frames to hold a bicycle in such manner that the rider can operate it as if on the road, and exercise himself in such way as to increase his speed or to strengthen his muscles.

A carpet sweeper has been patented by Mr. George W. Kelley, of Goshen, Ind. Combined with a box and brush roller journaled therein is a friction roller and various novel devices for adjusting the brush to project a greater or less distance from the bot-

tom of the box, and so the carpet sweeper will be rendered more effective and durable.

A window seat box has been patented by Mr. William H. Wetherill, of Philadelphia, Pa. It is so contrived that the box and lid form a double seat, which may be occupied by two persons in different sitting positions, without twisting or straining the body, the box also forming a covered receptacle for keeping various articles.

A bracket arm has been patented by Mr. Carl Hollweg, of Barmen, Germany. It is formed of a series of links pivoted to each other, acted upon by springs between them, and locked in line by suitable latches, the arms being made in such manner that they can be extended or shortened very easily, and have an elegant appearance.

A clothes line holder has been patented by Mr. Josiah S. Wales, of Florence, Kan. This invention covers an endless clothes line, two sets of pulleys for supporting the same, with a post or support having a laterally projecting arm carrying a pulley and placed intermediately on but one line, with other novel features for conveniently operating a clothes line.

An irrigating attachment for bottles has been patented by Mr. Anaximander B. Tutton, of Sioux Falls, Dakota Ter. It is for applying medicinal solutions or other liquids directly to mucous canals of the body, and is so made as to be attached to any bottle or vial containing the fluid to be injected, also acting to keep the bottle otherwise closed as with a cork.

A syringe for hypodermic injections has been patented by Mr. Ferdinand A. Reichardt, of Elizabeth, N. J. It is transparent, with lines of graduation and figures, with an outer casing through which the graduating lines and figures may be seen, the device being intended to guard against errors in measurement in administering medicines in this manner.

An incubator has been patented by Mr. Charles S. Newsom, of Gallipolis, Ohio. Its construction is simple, and such that a lighted lamp heats water to make an even temperature of the required warmth, while the eggs can be easily removed, turned, or changed, while the whole apparatus is very compact and takes up but little space.

A combined gate roller and hinge has been patented by Mr. Edwin C. Washburn, of Nevada, Mo. The hinge and plates forming the body of the device are of wrought iron, and the construction is such that a gate thus hung can be rolled back in the usual manner or swung on the hinge, making a firm support for a gate designed for farm use.

A bamboo fishing rod has been patented by Mr. Eugene M. Edwards, of Hancock, N. Y. It is made of compound strips or splints, glued together on their unenameled sides or faces, thus giving greatly increased strength, the rod being built up of such compound splints, and this method especially strengthening the rod near the small end.

A fish hook has been patented by Mr. Cornelius Lie, of Trondhjem, Norway. In the body of an artificial fish is a longitudinally sliding bar with hooks pivoted thereto, and slots engaging a fixed part, so that the points of the hooks will be projected from the artificial fish when the bar is moved by tension on the line to which it is attached.

A machine for making barbed fence strip has been patented by Mr. Jacob W. Roop, of Harrisburg, Pa. It has rolls for cutting out the barbs and ornamental alarm fins, and for bending up and down alternately the barbs and corrugating the strips, with rolls for forming the blank strips from a bar of steel or other suitable metal.

A bow facing oar and oar lock has been patented by Mr. Jacob L. Kwarel, of New York city. Cogged sections are employed, with the oar fulcrumed upon a coupling plate, but the construction of the latter is such that the oar will hang low in the oar lock, to give the user better control of the oar and more purchase.

A chicken brooder has been patented by Mr. Maurice H. Strong, of Cincinnati, O. It is for raising chickens hatched by an incubator or by hens, and contains a variety of novel combinations of parts, whereby the brooder can be thoroughly ventilated and adjusted to any desired height according to the height of the chicks.

A poultry water can has been patented by the same inventor. It is so constructed that the fowls cannot soil the water by stepping into it or scratching dirt into it, and it may be used as a fountain to supply water to the trough as rapidly as required, a neck on the can and flange in the cup having apertures through which the water can pass from the can into a circular or annular trough formed in the cup.

A door strip has been patented by Mr. William Clark, of Lincoln, Neb. It is held vertically movable on the bottom of the door, and has at its top two spring arms, one of which is held by a staple to the free edge of the door, so the strip will automatically close the space between the bottom edge of the door and the top of the sill, and will be raised when the door is opened.

A store service apparatus forms the subject of two patents issued to Mr. Louis G. Bostedo, of Atlantic, Iowa. This invention relates to apparatus in which overhead tracks, switches, and cars are used to transfer goods and money between salesmen's counters and the wrapping places, and provides certain novel features whereby many cars can be used, and the system can be run automatically.

An automatic stock water tank has been patented by Mr. Richard H. Barber, of Galena, Kan. The body of the tank is divided vertically for the greater part of its height by partitions, forming receivers or troughs for horses and cattle, and a reservoir, the construction being such that different stock may be watered at different points, and so the quantity of water may be gauged as desired.

A wrench has been patented by Mr. Samuel J. Lea, of Chattanooga, Tenn. Its construction is such as to readily adapt the jaws of the wrench to stand at any desired angle relatively to the handle, for use in turning set screws between the arms of pulleys and in

places difficult of access, while it can be quickly set for different sizes of nuts or pipe, and readily changed from a pipe wrench to a nut wrench.

A thread guide and tension regulator for loom shuttles has been patented by Mr. George Baldwin, of Willimantic, Conn. Combined with the shuttle body is a bent strip having an aperture at one end and a slot at the other, with a screw and forked plate held on the strip, the thread from the spindle passing between the prongs, and the plate being adjustable to increase or diminish the tension.

A harness pad press has been patented by Mr. Joseph W. Johnson, of Lathrop, Mo. It has a base plate, side plates with lateral slotted lugs, bolts for adjustably securing such plates, form bars pivoted between the side plates and clinch bars pivoted at one end between the form bars, with other novel features, whereby the stretch can be taken out of the leather, and the pad can be stuffed while in the press.

A grain bag filler, weigher, and register has been patented by Mr. Lewis P. Summers, of Peconic, Mo. The grain to be bagged and weighed is, by this construction, carried up a tube and discharged into a hopper, by means of a suction blast made by a fan, the hopper having two discharge tubes pendent vertically from its bottom, and always filled with grain during the operation of the machine, but discharging alternately.

A scoop balance attachment for weighing scales has been patented by Mr. Asa Leas, of West Manchester, Ohio. This invention covers a double looped balancing weight so suspended as alternately to balance the scale by an upper and lower notch, and is intended to operate automatically, so that articles may be weighed in the scoop or on the platform without balancing the scale by adding or removing weights.

A clothes drier has been patented by Mr. Leonard A. Johnson, of Candor, N. Y. Combined with a frame having slats secured on its front are arms pivoted therein and adapted to swing through slots between the slats, with locking bars for holding the arms when they are swung out through the slots, making a device which is strong and durable, and which can be folded very compactly.

An umbrella and parasol frame has been patented by Mr. William P. Conner, of Bloomsburg, Pa. The ribs and braces are arranged in pairs, the braces of each pair and ribs of each pair being connected at the binged or pivoted ends, and the ends of the braces of each pair being pivoted to adjacent ribs of two different pairs of ribs, making a stiff frame, but one which also has considerable spring.

A fishing reel has been patented by Mr. Julius Vom Hofe, of Brooklyn, N. Y. This invention covers a novel construction of the head of the frame of the reel, which is made of a hard rubber or other like flange or disk recessed to receive the gearing, and a metal outer plate to form bearings or sockets for the spindles, there being also a peculiar attachment of the click, which is made capable of different adjustments.

A spring seat for vehicles is the subject of two patents issued to Mr. Charles Van Horn, of Bethlehem, Pa. It is so constructed that a part of the springs may be detached from the lower board, according to the weight or number of persons to ride, and the seat will always have a level up and down movement, and ride equally easy with a light or with a heavy weight, without undwice or lateral pitch.

A hide fleshing machine has been patented by Mr. Archibald W. Reid, of Ballston Spa, N. Y. According to this invention, an endless belt carrying knives suitable for fleshing is made to revolve on bearings, so the knives will be carried above an inclined table taking the place of a fletcher's beam, the latter being brought near enough to the knives for them to work upon the hides by means of a treadle.

A heat regulating mechanism for incubators has been patented by Mr. Jason L. Cousins, of Kane, Pa. The box for receiving the egg trays is surrounded by an air space, and on its side is a boiler, with gas or oil burner, with which a flue and valve are connected, the valve forming an armature connected with an electro-magnet, battery, and thermostat, the apparatus covering several novel features of construction and operation.

A washing machine has been patented by Mr. George L. Ferris, of Mexico, Mo. It has a circular drum pivoted to revolve in a box or tub with a cover, the drum being revolved by a crank handle, and having on its inner surface a series of ribs or troughs, the ribs being hollow and wedge-shaped, and in operation intended to carry up the clothes and water at the sides of the drum and let them drop in the middle again.

A hydrocarbon burner has been patented by Mr. Joseph Marion, of Brooklyn, N. Y. Combined with a shallow receiver having air passages is a water box fitted to its bottom, and having corresponding passages, the arrangement being such that combustion will take place at the surface of the oil, the air supply will be previously highly heated, and small steam jets be made to unite with the flame to increase its efficiency.

A paint mixer has been patented by Mr. Frederick Brandenberger, deceased (Frederika Brandenberger, executrix), of Danville, Ill. It is more especially designed for stirring mixed paint in a storage vessel prior to drawing, such vessel being provided with a crank operated shaft and blades which lift the liquid paint from the bottom and cause it to rise in whirling currents toward the center and top, thoroughly mixing the contents of the vessel.

A mole ditching, tile forming, and wire laying machine has been patented by Mr. Samuel Montgomery, of West Toledo, Ohio. This invention covers a novel construction and combination of parts in a machine for forming a continuous cement tile or lining to a mole ditch, and also for laying telegraph or telephone wires either directly within the mole ditch or within the cement tile formed therein, and so the tile may be used as a drainage tube.

A gate has been patented by Mr. Joshua D. Fox, of Frankfort, Ind. It is a little longer at the bottom than at the top, to give the rear end bar a

forward inclination, and the lower part of the rear end bar is connected with the binged post in the ordinary way, while to the upper end of the rear end bar is attached a pivot which works in a horizontal pulley, with other novel features, making a gate which can be readily opened and closed by persons in vehicles or on horse-back.

**Special.**

**A TREASURER'S SAFETY.**

**An Active Screw Manufacturer has the Twists taken out of his System.**

Once upon a time—and it was not so many years ago, either—gimlet-pointed screws, such as we have to-day, were unknown. The screws of those days were finished off flat at the end, and a hole had to be bored for each screw, so as to permit it to enter the wood. Some of the best inventions the world has known were by lazy fellows; and the gimlet screw was one of them. A mechanic who was "born tired," and who hated the labor of boring a hole in the wood for each screw, conceived the thought that if the screw were furnished with a little tail end in the shape of a pointed gimlet, much trouble might be saved.

At first the manufacture of such screws was attended with difficulties, but machinery to overcome these was in due time invented.

The gimlet-pointed screw is one of the necessities of the present age. Our great screw factories turn these useful little things out by the million and million. One of the greatest of the screw concerns is the American Screw Company, whose extensive works are at Providence, Rhode Island.

The treasurer of this great corporation, and one of its most active managers, is W. H. Henderson, Esq., one of the most widely known business men of Providence. Mr. Henderson, who is now well advanced in years, has had a long experience of invalidism, against which he bravely battled. His principal trouble was catarrh, which was so obstinate as for a long time to defy all treatment, and so deeply seated as to cause a great degree of deafness.

Our Rhode Island correspondent recently spent an hour with Mr. Henderson, who talked freely of his past and present experience. "My catarrh was of very long standing," said Mr. H. "At an early age I had a severe attack of scarlet fever, which left me with a variety of ailments. The most troublesome and permanent of these was this catarrh. The catarrh took a very strong hold on me, and in spite of all that the doctors could do for me it increased from year to year to such an extent that my expectations were so copious as to be very annoying. You may judge how they were when I tell you that I would often use up as many as half a dozen handkerchiefs a day. In the night time the catarrhal discharge was so great that I almost feared to go to sleep lest I should be choked while asleep. I would have to rise once or twice during the night and free my nostrils and mouth from the accumulations. I am now over the worst of my trouble, however, and my catarrh is so nearly gone that it gives me no inconvenience. One handkerchief a day is sufficient for all my needs in that direction."

"Then, Mr. Henderson, some of the treatment you have been taking has done you good?"

"Yes; let me tell you about it. I tried a great many things, which were of no avail. One medicine after another failed me. I tried electricity, and thought I received some advantage from it; but the relief proved only partial and temporary. I was ready to try almost anything that gave any hope of relief. Mr. Sullivan Fenner, of this city, advised me to try Compound Oxygen, an article of which I knew nothing except what he told me. It had been of great advantage to him and his son. This gave me practical and lasting relief. It was about two and a half years ago that I sent to Philadelphia for a 'Home Treatment' of the Compound Oxygen, and at once began using it. You may judge of my surprise at its operation, when I tell you that in a few days I felt it was doing me good, in checking the discharges and giving new life to the affected parts. I used the Oxygen regularly and persistently for several months. At first I could inhale only a few seconds at a time, and that was with considerable difficulty. But as I continued the use of the inhalant, inhalation became easier, and relief was greater. The gain in my strength and general health was very satisfactory. I had been so much of an invalid that I was unable to attend to my business with regularity; but as my improvement in health went on, gradually but surely, I found myself able to do far more than I had done for years. To indicate to you the extent of my improvement, I may say that I now rise early, and am at my office by nine or ten o'clock. I have nine clerks and keep them busy. I go out during the day and attend to a great deal of out-door business, down town. About six o'clock I go home, and spend the evening in reading or otherwise, and go to bed about eleven. I sleep well."

"Then you are entirely free from catarrh, Mr. Henderson?"

"Quite as free as a man of my age can ever expect to be after such a protracted siege with so obstinate a disease. For all practical purposes I am a well man. I still take Compound Oxygen occasionally, especially if I take cold, for there is nothing like it to break up a cold. I have visited Messrs. Starkey & Palen, in Philadelphia, and have talked with them over my case. They are gentlemen for whom I have a high esteem, and I am glad they have done so much good and relieved so much distress as they have with the Compound Oxygen."

"Some of your friends have had pleasant experience with Compound Oxygen, have they not, Mr. Henderson?"

"Yes; I have recommended it to many. My wife has taken it with good effect. She was suffering with general debility. It vitalized her and gave her strength as nothing else did."

"Then there is an old gentleman, the father of one of my clerks, Mr. Tyler. This gentleman is over seventy years of age. For many years he had suffered from asthma. For twenty-five years he had not been able to sleep except when sitting in a chair. He could not lie upon his back. He wrote to Messrs. Starkey & Palen for a 'Home Treatment' in May, and by July he was able to lie on his back and sleep like other people."

"I think it is asking a great deal of Compound Oxygen to expect it to afford relief in such old and obstinate cases as these. But you see what it has done. It can be depended upon. I firmly believe in its efficacy."

The number of those who are firm believers in the remedial power of Compound Oxygen is daily and largely on the increase. It is a wonderful remedy for the relief of the suffering and the strengthening of the weak.

An interesting treatise on the subject is published by Messrs. STARKEY & PALEN, 1529 Arch Street, Philadelphia. This will be sent by mail, free of charge, to all who apply for it.