ENGINEERING INVENTIONS.

A car brake, which can be adjusted so that it will be applied automatically by the bumping together of the cars, is the subject of a recent patent granted to Mr. J. B. O'Donnell, of Hazleton, Pa. The drawhead is operated by a lever so arranged as to be acted upon by the drawhead.

Mr. H. M. Neff, of Denver, Colo., has recently secured a patent on improvements in sleeping cars, in which the berths and seats can be folded very compactly, so as to occupy but very little space when not in use, and by his simple arrangements the berths may be prepared and taken down much more rapidly than in most sleeping cars now in use.

A car brake to utilize the momentum of the cars to apply the brakes has recently been patented by Mr. C. A. Millener, of Deseronto, Ontario, Canada. The construction of this brake is exceedingly simple, and is so arranged that either the engineer or a brakeman in the caboose of freight trains can release or apply the brake at will.

Mr. G. M. Bedinger, Jr., of Erlanger, Ky., has patented an electric signaling apparatus for railway trains, the object of which is to provide for telegraphing between trains, or from a central station to any train on the line, so that all the trains may be under the control of one person at the central station, lessening the danger of irregularity in the movement of the trains and consequently preventing accidents.

Mr. Daniel Spangler, of Hanford, Cal., has received a patent for improvements in channeling rivers and navigable streams. The object of the invention is to restrict to a given course the channels, whereby not only submerged land may be reclaimed, but a fixed channel is available for navigable purposes, and the destruction of property consequent upon inundations is avoided.

A very simple and inexpensive car coupling is the subject of a patent granted to Mr. W. D. Sandwich, of Montgomery, Ala. This consists of a rotary head provided with a coupling pin, and formed with a series of notches for locking the head. The rotary head is turned automatically upon its pivot for coupling by the entrance of the link into the drawhead. The rotating head is held in coupled position by means of a pawl, which drops into one of the series of notches in the head, according to the relative height of the cars.

MECHANICAL INVENTIONS.

Mr. John Lynch, of Alleghany City, Pa., has recently patented an improvement in furnaces for assaying and refining metals, the special novelty of which consists in the mode adopted for supporting, adjusting, and handling the cupel.

Mr. E. P. H. Capron, of Hudson, N. Y., has patented a simple and ingenious friction clutch, the object of which is to facilitate the locking of pulleys and wheels upon their shafts and the releasing of them, and to prevent the shafts from being cut or worn by the clutches.

Mr. F. H. Gross, of Deer Isle, Me., has patented an automatic sash holder to be jointed or attached in a swinging manner to the sash and bear against the window frame, to automatically hold the sash in any position to which it may be raised or lowered.

A patent for improvements in cutter heads and knives of rotary planers has recently been granted to Mr. A. V. Cross, of Williamsport, Pa. The knives are made with opposite cutting edges, so that when worn too much on one edge they can be reversed, thus utilizing the knife to its fullest extent.

A labor saving hand drilling machine of simple and convenient construction has recently been patented by Mr. Jacob Cherney, of Denver, Colo. This drill is adjustable for boring either horizontal or vertical holes by bringing into play a lever attachment, easily enabling one man to accomplish the whole work of hand drilling without the assistance of a helper.

An improved method of uniting the ends of driving belts has been patented by Mr. Carl Eibee, of Brooklyn, N. Y., which consists in joining the two ends of the belt by means of several pairs of screw clamped metal plates, each pair being on either side of the belt and held together by screws which extend through both clamps, securing the belt between them.

Mr. W. F. Martin, of Dannemora, N. Y., has patented a labor saving machine for beating up napped hats or removing the cotton which in the process of manufacturing is mixed with the fur. By the aid of reciprocating beaters and a moving bed this result is accomplished to the great saving of hand labor, which is the usual way of finishing.

An apple mill, simple in form, cheap in construction, at the same time well calculated for efficiency and durability, has recently been patented by Mr. J. F. Patterson, of Dunmore, W. Va. The entire mill is made of wood, not only on account of economy, but also that no metal shall come in contact with the juice which frequently causes injurious results.

A combined can, pump, and measure for providing retail dealers a more economical and safer apparatus for dealing out liquids than at present in use has recently been patented by Mr. B. F. Myers, of Hunnewell, Ky. The invention consists of a can containing a float and a measuring scale. The liquid is forced from the barrel by aid of a pump through the measuring vessel.

Mr. Arthur Felber, of Nyack, N. Y., has recently received letters patent for improvements on his patent issued November 14, 1882, for a stop motion for button hole sewing machines, whereby he has so simplified the construction that a single operator can run four machines at the same time. By an ingenious automatic stop mechanism, the machine stops itself when each button hole is finished.

A fire escape has been recently patented by Mr. H. D. Eastman, of Minneapolis, Minn. The apparatus is so arranged that it may either be attached permanently to buildings, or made portable by mounting on wheels and constructing in two sections hinged together. An endless chain carries buckets or cars for the removal of merchandise or people, and the frame is so arranged that it can be used as a water stand pipe.

A novel canning press, designed to be used in factories where steam power is employed, has been patented by Mr. Lucius Hamlin, of Sebago Lake, Me. The invention consists of a press with contrivances to facilitate the filling of cans with food substances, and a follower to pack the same into the cans, which is operated by a pneumatic vacuum produced by a steam ejector.

Mr. G. W. Hill, of Stark's Point, Wash. Ter., has patented a file handle, contrived with attachments for enabling it to be used for jointing, setting, and gauging the teeth of the saw. It is also provided with a straight edge and lineal measure, so the implement embodies all the necessary devices for enabling the woodman to carry with him the means by which to keep his saw in order.

Mr. E. A. Darling, of Hartford, Conn., is the patentee of a surface gange for the use of metal workers and others in marking out work. Provision is made for a more convenient final vertical adjustment of the upright or standard carrying the marking point. This gauge it is believed will supersede those now in use, the inventor claiming that they are much less complicated and cheaper to make.

A machine for separating and preparing the fibers of jute and other plants for use in the manufacture of paper and bagging, etc., is the subject of a patent by Mr. T. J. Spear, of New Orleans, La. The process consists in passing the plants between a series of plain and corrugated rollers that the plants and the stalks may be crushed and flattened and the juice pressed from them. After the plants have been passed through the machine they are set aside to rot for ten or twelve days, after which the matter will be ready to be manufactured.

Among the recent inventions relating to improvements in cotton machinery is the elevator and distributer of Mr. A. D. Thomas, of Morrillton, Ark. In this machine an endless elevator is provided for raising the seed cotton from the wagon on to the carrier, by which it is transferred either directly into the gin or to the bins for storage. A supplementary transferable elevator is provided to raise the cotton from the bins on to the carrier for delivery into the gin. This is a great labor saving machine, as this sort of work has heretofore generally been done by hand.

To facilitate the operation of sizing, scalding, and sticking hat bodies, an improved machine has been patented by Mr. G. F. Larkin, of Danbury, Conn. A tank is constructed with ribbed plates inclined from each other, and kept in place by guides, whereby the rolls of hat bodies placed between these plates will be rolled with a movement similar to the manipulation by hand. The goods are placed on the bend of an apron while being worked, so that they may be readily removed from the tank without the necessity of the operator putting his hands in the hot water.

A mouthpiece in which the size may be varied to suit the requirements of the different performers on the cornet or similar wind instruments without changing the pitch has been patented by Mr. H. E. Jones, of Caribou, Me. The tube of the instrument is fitted with an inner tube provided with a cup that fits closely within the mouthpiece of the instrument. The inner tube is provided with a screw thread, and by turning the tube the supplementary cup will be moved within the mouthpiece, thereby increasing or diminishing its size.

Mr. E. S. Williamson, of Bradford, Pa., has patented an apparatus for pumping and flowing oil wells, which is an improvement upon a patent granted to him in August, 1882. The apparatus consists of two tubes, one inside of the other, and the improvement relates principally to the method employed of anchoring the outer tube to the sides of the well, and in placing the packing box for the working tube nearer the bottom of the well than was possible in the first invention. When the oil will not flow naturally to the surface it is forced up, and will be discharged from the top of the hollow tube by moving this tube up and down for that purpose.

An improved apparatus for extracting grease from wool has been patented by Mr. A. H. Butel, of Bridgeport, Conn. The material to be operated upon is first placed within a rotating cage, after which it is lowered into a tank containing liquid hydrocarbons and other suitable solvents, and after the material has been sufficiently immersed by the rotation of the cage in the liquid, it is taken out and passed through a wringing machine, when the material is spread out and dried. The liquid, however, is drawn from the tank into a still for the purpose of separating the oil from the liquid, the volatile oil passing away by evaporation into a condenser, whence it is drawn into an oil tank. Thus the machine accomplishes two useful purposes, cleansing the wool and preserving its oil.

Improvements in the machinery and the method of shrinking, drying, and finishing cloth has been patented by Mr. William Hebdon, of New Brighton, N. Y. The advantages of this invention consist in the continuity and rapidity of its operations, the uniformity in the dampening and shrinking, and in the thoroughness with which the cloth is dried and finished. The dampening, shrinking, drying, and finishing may all be carried on at the same time. The nap may be laid and a beautiful finish given to faced goods by passing them fag end foremost over heated metallic surfaces. The middle crease in the cloth is removed, so that in doubling it for cutting the selvages may be placed edge to edge, and the cloth cut to the best possible advantage. The same inventor has also patented a machine for measuring cloth, which is an improvement upon a patent granted to him June 18, 1878. This consists in arranging a series of rollers in such a way in a frame that as the cloth passes over them it will be subject not only to an easy examination, but by rotating one of the rollers over which it passes the amount of cloth will be automatically measured, and the result indicated on a dial or marking index connected with the said roller.

MISCELLANEOUS INVENTIONS.

Mr. F. E. Bundy, of Elmira, N. Y., has received a patent for a hat holder made of wire or narrow strips of metal, which can be carried in the pocket and hung on chairs in theaters, churches, halls, etc.

Mr. Jean B. Rolland, of Paris, France, has patented a traveler for ring spinning frames, which is designed to regulate the tension of the thread in a new and improved manner, while being spun.

A simple safety snap hook, which is so constructed that the bolt or plunger cannot be pushed back by the horse, thus preventing the accidental opening of the hook, has been patented by Mr. Henry Straw, of Guilford, Me.

Mr. J. B. Dunwody, Jr., of Walterborough, S. C., has patented an improved shutter bower which consists of a spring bar connecting the two blinds across the window, constructed so that the blinds swing open or are shut by the leverage of the spring bar.

Mr. Charles L. Crum, of Winchester, Va., has patented a novel cask out of the ordinary straw or paper pasteboard. These are so constructed that they may be readily taken to pieces for transportation, and as readily put together again when required for use.

Mr. Hans M. Carlsen, of Cleveland, O., has invented a new and improved binding pole and chain, used on wagons for securing the load in place in a more effectual manner than by similar devices heretofore employed.

Mr. August Schulze, of New York city, has received a patent for a hand mirror holder for toilet cases, intended to provide hand mirror holders with a case constructed in such a manner as to receive and hold securely hand mirrors of various shapes and sizes.

A patent has been issued to Mr. Franz Zander, of New York city, for improvement in boxes for toilet sets, which consists in an arrangement of springs in such a manner in the top of the box as to hold a mirror of any shape, without changing the construction.

A horse collar pad has recently been patented by Mr. W. J. Cochran, of Denison, Iowa. He surrounds the galled place with a wall of padding on all sides, admitting air through holes in the pad, which keeps the galled part cool and at the same time keeps off flies.

A fence, cheap, light, and secure against hogs and other animals, has been patented by Mr. Madison Dagger, of Newtown, Ind. The invention consists in a worm rail and wire fence in which double posts and cross stakes are used, producing a very superior fence at limited cost.

A very simple device for fastening the heads and bottoms in barrels has been patented by Messrs. F. Le R. Tetamore and S. E. Fordham, of Brooklyn, N. Y. This fastener consists in a metal-shaped piece, which receives the head and bottom of the barrel and holds them securely in place.

A combined tobacco box and match safe has been patented by Mr. William Riley, of New York city. The match receptacle is located on the top of the tobacco box, and the contents of both the match and tobacco compartments are simultaneously exposed on raising the cover of the latter.

A very convenient artist's box for holding paints, brushes, and other artists' materials has been patented by Mr. W. H. Brownell, of Brooklyn, N. Y. It is arranged so that an easel can be formed of the top, and it is furnished with a strap to confine it to a person's knee while sketching where a table or other support is not within reach.

An improved harness bridle has been patented by Mr. J. J. McCue, of Nashville, Tenn., which consists of a metal crown plate formed with a fly terret, loops, guide, crosspieces, etc. The buckle for guiding the check reins and the crown piece being cast and attached to the head piece by screws, it can be put on quickly, and easily adjusted, and requires no stitching.

A novel device for fastening bows or neck ties in place has been patented by Mr. W. A. Bates, of Princeton, Me. This consists in providing the bow at the back with a flexible tube, which in use passes over the button and is retained thereon by its elasticity, the outer end being closed, so that suction shall assist in holding the tube in place upon the button.

A simple holder for exhibiting hose, so that one or more of the number may be removed without disturbing the rest, has been patented by Mr. O. W. Conner, of Wabash, Ind. The object is to enable the store keeper to display a large variety at a time, so that any pair of hose selected by the purchaser may be taken from the holder without disturbing the others.

A device to be applied to the window sashes of carriages to prevent the rattling and jarring of the same has been patented by Mr. B. Hurtubes, of Rahway, N. J. This consists in applying to each vertical edge of the window sashes a rubber tube stiffened by a metallic bar. It is claimed of this buffer that it will prevent all noise and jar of the windows.

Mr. Stephen Coutant, of Kingston, N. Y., has patented an apparatus for dressing and finishing bricks before burning, which work heretofore has generally been done by hand. The invention consists in a frame, carrying finishing and pressing rollers, which are caused to move over the bricks, removing all imperfections.

A very simple lace fastener to be applied to shoes, gloves, and other similar articles is the subject of a patent granted to Mr. H. H. Porter, of Littleton, N. H. This device consists in an eyelet provided with a transverse bar, whereby, by passing the cord through the eyelet over the bar and back through the eyelet again, it is firmly held at any desired point in the length.

A novel device for preventing cattle from straying on to railroad tracks or passing into or out of an inclosure at a point where the fence is terminated by the track has been patented by Messrs. B. J. Dillon and A. Gartner, of Savannah, Ga. This cattle guard consists in placing a series of spiked rollers upon frames which may be located between and on both sides of the track at points where cattle are likely to pass, preventing their crossing the track. Its use also obviates the construction of pits customarily used by railroad companies.

An improved spike, so constructed as to be firmly held in the timber in which it has been driven, has been patented by Mr. Abram Wakeman, Jr., of New York city. A hole extends through the head down through the body, and terminates in a curve at the side of the spike. By driving a pin through this hole it will be bent and curve into the timber almost vertically to the spike, making it fast in the timber.

A very handy and useful implement for transplanting rose bushes and small plants without disturbing the roots has been patented by Mr. John M. Lindsey, of Crystal Springs, Ga. Two spoon-shaped scoops attached to handles and pivoted together are forced into the ground each side of the plant, so that when closed they inclose the roots and the surrounding earth, enabling both to be removed together.

Mr. Ambrose Huttinger, of Liverpool, O., has patented a stove pipe fastener which consists of a hook lever pivoted on the side of the pipe, and a rod extending along a groove in the side of the pipe and through the pipe hole to engage with the chimney. The hook is provided with a toothed rack and a spring pawl for holding it, and the rod is extensible, so as to connect equally with a thin stove plate or a thick chimney wall.

An improved trunk strap has been patented by Mr. J. W. Putnam, of New Orleans, La. This strap instead of being made of leather is made of a woven webbing with a looped end, which is furnished with an adjustable buckle frame, whereby the length of the strap may be altered according to the size of the trunk. This strap may be used for any size of trunk or box, and does not become stiff and difficult to handle from being wet.

A substantial platform gear for heavy trucks has been patented by Mr. Edward Clark, of New York city. The inventor uses helical springs as being capable of supporting greater weight in proportion to the amount of metal than those ordinarily in use. Leaf springs may also be used as a support for the gear if desired. By this improvement a very substantial gearing will be provided with the use of very little metal.

An artificial cork has been patented by Messrs. Carl Grunzweig and Paul Hartmenn, of Ludwigshafen, Germany. The invention consists in mixing powdered cork with starch and water, and kneading the mass while boiling hot until it is thoroughly mixed. This should then be poured into moulds for forming the articles, and afterward dried at a very high temperature. The composition provides an excellent substitute for native cork, is quite light, and possesses non-conducting properties.

Mr. A. G. Forster, of New York city, has patented some improvements in swings for children in which a device is provided for preventing the child from falling out of the same. This consists in a front bar which is hinged at one end to the seat arm of the swing, and secured at the other end and at the center by pins which are provided with spring catches for fastening the pins in place automatically. The invention further relates to the manner of fastening the swing to the ceiling or beam.

An improved spring bed bottom, so constructed as to enable the folding of the bed and to facilitate the storing and transporting of the same, has been patented by Mr. John McPeck, of New York city. The bed frame consists of two series of slats held apart by interposed springs, while they are separated laterally by cross slats. The upper longitudinal slats at the sides of the bed are slotted, so that they may be slid together to decrease the length of the bed bottom.

Mr. J. H. Dumont, of New York city, has received letters patent for an improved railroad express indicator. This is elongated in form and is provided with suitable slots in which are inserted iron plates which have perforations in the form of letters and numbers, by means of which the time of departure of the trains and like information may be communicated. The indicator is provided upon the inside with a lamp, by means of which the slides will be visible by night as well as day.

A novel construction of springs for two wheel vehicles has been patented by Mr. Harry Watts, of Knightstown, Ind. The seat of the wagon is supported upon coiled springs, the lower ends of which are attached to the axle of the vehicle, while the other ends of the springs instead of terminating at the seat extend forward and connect with the shafts, whereby the objectionable back and forth motion given to the carriage by the horse's shoulder is neutralized. Rubber cushions are placed between the springs and the shafts at the point of juncture.

An improvement in bowls for water closets has been patented by Mr. J. J. B. Frey, of New York city. Connected with the bowl is a slop safe which forms an integral part of the water closet bowl, thus avoiding multiplicity of parts. The slop safe as well as the bowl is furnished with a flushing rim or duct, each being supplied with water by its individual pipe. The bowls are of porcelain or earthenware, and being constructed of one piece, they occupy much less space, cost less, and otherwise possess advantages over the ordinary system of arranging water and slop closets. This invention is an improvement on a patent granted to Mr. Frey in July, 1882.

An apparatus for electric telegraphy to be used by persons unskilled in the use of ordinary transmitters has been patented by Mr. P. E. Perez, of New York city. A suitable table is provided in which are placed signal plates of metal, each plate being made to correspond with a letter of the Morse alphabet. A non-conducting material is placed between each plate to form a suitable space between each letter. Metal strips are employed to hold down the plates upon the table. A stylus is provided consisting of a non-conducting handle fitted at one end with a metal roller which is connected with the wire from the end pole of the electric telegraph circuit. By passing this transmitter over the whole row of plates as set the message will be transmitted and will be taken down by the ordinary Morse register at the other end of the circuit.