ENGINEERING INVENTIONS.

A wind driven vehicle is the subject of an invention recently patented by Mr. Oscar W. Burnell, of Dorrance, Kan. The wind wheel is mounted on a frame, and by a series of cog wheels conveys the power to the driving gear, and thus propels the vehicle. The inventor designs his wind propeller for farm work, to take the place of horses or steam power in the field.

A novel car brake has been patented by Messrs. Adolph G. Hamm and Harry W. Eisenbise, of Burlington, Iowa, which is operated by the momentum of the car. This railroad car brake is operated by ingenious mechanism, which transfers the power derived from the motion of one of the axles or trucks, to the brake. The shoe of the brake impinges against the outside of the car wheel.

Improved machinery for moulding bricks and tiles has been patented by Mr. Thomas Le Poidevin, of Guernsey, England. Connected with an ordinary pug mill are a series of moulds mounted on trucks, which are run on rails underneath the mill to be filled. The line of moulds are made to travel on the track one after the other as filled out of the way of the mill, by means of gearing operated from the pug mill. The invention seems very practical, and it is certainly very simple in its operation.

An improved car brake is the subject of a patent recently granted to Mr. Edgar T. Stone, of Spanish Hollow, Oregon. A cone-shaped friction clutch meshes into a recess formed on the inner side of the car wheel. The cone clutch is forced by jointed levers attached to a rod running the length of the car into the recess in the wheel, wedging it so tightly as to prevent its revolution. A spring is arranged for relieving the clutch when it is not in use. The construction of this brake is simple and powerful in action.

Mr. M. A. Dees, of Moss Point, Miss., has recently patented a device for increasing the traction of locomotive driving wheels for the purpose of preventing slipping of the wheels on the track, specially when starting up the locomotive. A vertical cylinder on the rear of the locomotive is connected with a beam attached to the piston in such a way, that when steam or compressed air is admitted the piston will be forced upward, and the weight of the tender will work on the locomotive in such a way as to increase the traction of the driving wheels.

MECHANICAL INVENTIONS.

Mr. George H. White, of Escanaba, Mich., has patented an improved coal and ore chute for coal, ore, and other materials. The chutes are hinged to the bins at the doors through which the materials are to be delivered and are swung by a pulley up and down to connect and disconnect with vessels, cars, etc., to be loaded.

Mr. Jonathan Hendershot, of Shirtzville, Va., has recently patented a sawing machine intended specially for sawing logs in the woods, the machine being so constructed that it can be readily lifted up and placed over the logs. This invention renders it possible to construct a very simple saw mill which is easily operated by hand or any other power, and inexpensive to build.

Improvements in the treadle of sewing machines have been patented by Mr. Herman Cramer, of Sonora, Cal. The invention consists of a vertical double brace joining the legs of the two ends of a sewing machine, and provided with holes through its lower extremities to serve as bearings, in combination with a treadle provided with trunnions fitted to oscillate in these bearings.

An improved thread doubling machine has been patented by Mr. Albert L. Washburn, of Hartford, Conn. The invention consists in a machine designed to produce a thread of evenly laid strands, and this is accomplished by means of a simple device for regulating and equalizing the tension of the different strands while doubling the thread by using with a tension ring two or more pairs of guides.

Mr. Lester Traxler, of Butler, O., has patented a portable saw mill which has several advantages over those at present in use. It is of such construction that it may be put up and taken down again and removed to another place with facility. The framework is light in build, so that it may be easily transported, and may be put up any number of times alike, and is of such a form that the lining up of the saw frame and tracks, which had need to be done formerly at every removal, is wholly avoided.

Mr. Ernst Gessner, of Aue, Saxony, Germany, has patented some improvements relating to a machine for raising a nap on cloth by means of teasels. The improvements consist in the peculiar means for bringing the cloth into contact with one or both of the gig cylinders or removing it therefrom without discontinuing the run of the machine, and in the arrangement of the teasels on the cylinder. Another result of this invention is the ingenious method employed for holding the axial shafts of the teasels in their bearings.

A novel block presser for wood paper pulp machines has been patented by Mr. Norman H. Brokaw, of Marinette, Wis. The invention consists of a device whereby when compressed air, steam, or a liquid is admitted in the cylinder the head block will be moved downward, and will press the block of wood on the grinding surface, and when this head block has descended sufficiently, a latch is opened, the inner ends of the levers are released, the cocks are reversed, and the piston and head block will be raised.

Letters patent have been granted to Messrs. Job C. Chambers and Silas Chambers, of Dallas, Tex., for an improved machine for digging wells and cisterns. A frame is provided with an auger for penetrating the ground in a similar manner to the ordinary post hole auger, which the machine very much resembles. Connected to the shaft which bears the penetrating auger, is a gang of plowshares, which break up the earth and conduct it into a receiver, when it is raised to the surface by the ordinary pulley and rope appliance.

An improved punching and shearing machine has been patented by Mr. John M. Sailer, of Portland, Mich. The invention consists in a punching and shearing machine constructed with one jaw pivoted in the machine frame, and the other jaw connected with this pivoted jaw by means of link bars pivoted to the sides of both jaws. The jaws are provided on the adjoining edges with guide lugs resting sidewise against each other, for preventing lateral movement of the jaws. The jaws can be operated by means of a right and left hand screw, by a cam, or other suitable device.

An improved bowlder grapple, of cheap and simple device, for removing stones which are embedded in the soil, has been patented by Mr. John Marshall, of Cordova, Ill. The device consists of a pair of grapple hooks formed by bending over the ends of a yoke-shaped bar of steel or iron, these arms being bent at an angle of about 90° to plane of yoke. This grapple hook is joined by a chain to another pair of hooks or fork having long, metal arms, with an eye at its upper end for attachment of a rope or chain by which a team may be attached for drawing the bowlder out of its bed. The fork may be used as a sort of sled for removal of the stone when it has once been fairly dislodged from its bed.

Improvements in two-wheeled vehicles, the object of which is to provide an equalizing device whereby the body of a two-wheeled gig or cart shall always be kept level, regardless of the weight upon the seat, have been patented by Mr. Anders Rasmussen, of Oshkosh, Wis. The equalizer consists of two levers, connected together end to end by a sliding joint, and pivoted near their centers to the ends of a rectangular bar. The equalizer is placed at the center of the axle, and its forward end is secured to the body of the gig, while its rear end is connected with the ends of the spring. With this construction, weight upon the seat of the vehicle will cause the outer ends of the levers to be depressed equally, whereby the downward pressures thus exerted both at the front and the rear of the body will counterbalance each other and allow the body to retain its level position.

An improved process of and apparatus for obtaining chlorine and sodium has been patented by Mr. Andre Leopold Nolf, of Brussels, Belgium. The invention relates to means and apparatus for decomposing chloride of sodium by dynamic electricity into two constituent elements, viz., sodium and chlorine, the decomposition being effected by means of a special form of vat which the inventor calls the "Nolf Apparatus," and into which is placed the solution of chloride of sodium to be acted upon. The various effects produced simultaneously by the Nolf apparatus are as follows: The sodium is reduced to a metallic state and prevented while in that state from decomposing the water of the solution in which it is placed. The chlorine is allowed to disengage itself in a gaseous state, so that it may be easily collected. All polarization of the electrodes in the bath which is subjected to decomposition is prevented. The solution of chloride of sodium is always maintained at the same degree of concentration without the necessity of stopping the decomposition.

A coffee separator of improved construction has been patented by Mr. Patrick P. Brannon, of Santa Ana, San Salvador, Central America. A frame supports an endless canvas apron that passes over two rollers pivoted to the side boards of the frame. Above this apron is arranged a hopper the opening at the lower end of which is provided with a valve plate, which is opened by every revolution of the driving shaft, thus causing an intermittent discharge of the coffee. Underneath the opening a board is located to receive the coffee as it falls, and spread it evenly over the surface of the apron. With this arrangement the round berries will roll down the endless apron, and fall into a spout located at the lower end of the apron. The flat berries on the contrary will be carried up by the apron and will fall into a spout arranged at the other extremity of the endless apron. Combs are arranged both above and below the spout of the hopper, to turn the berries over, whereby the flat ones will be prevented from rolling down the entire length of the apron, and the round berries will likewise be dislodged and sent to their proper receivers.

AGRICULTURAL INVENTIONS.

An improved shovel for cultivators has been patented by Mr. John E. Mitchell, of Fowler, Ind. The invention consists of an improved gopher attachment to cultivator shovels for cultivating corn, being designed for ridging the earth up around the plants in the later dressing, when they are well grown, without injuring the roots.

Mr. Henry Grebe, of Omaha, Neb., has patented a novel hay gatherer, an improvement upon a patent granted to same inventor July 15, 1879. It consists in providing the side gates of the brake with slotted sweep bars. A seat is arranged so that its position may be changed on the machine to suit the convenience of the operator.

A rotary colter of improved form has been patented by Messrs. S. M. Weston and C. T. Shanner, of Somerville, Ind. A rotary colter is constructed with movable bearings for taking up the wear, and a locking key and pawl for fastening the colter to its axle, by which construction all irregular movements of the colter will be prevented and the colter will advance in a straight line.

A novel plow point and colter, constructed in such a manner that it may be secured in position without any other means than contact with the plow point, has been patented by Mr. Hugh F. Lyle, of Staunton, Va. The colter is so constructed that when the plow point is bolted in position, it will overlap the lower end of the colter. One bolt is thus made to secure both the colter and plow point in place.

MISCELLANEOUS INVENTIONS.

An improvement in the construction of a harness saddle together with its shaft tug and loop, has been patented by Mr. Victor Smith, of Bedford, Pa.

A patent has recently been granted to Mr. W. J. Morand, of Passaic, N. J., for a simple method of connecting whip tips with their stocks by using coils of wire brazed to each other, forming a neat and cheap ferrule.

A novelty in the way of a collar button is the subject of a patent granted to Mr. J. E. Vanderbilt, of Brooklyn, N. Y. The button consists of three plates, an inner plate, a central semicircular plate, and an outer plate, all connected by one shank, forming a very strong and unique fastening.

An improvement in letter boxes has been patented by Mr. Marcus R. Jones, of Baltimore, Md. The object of the invention is to provide a time indicator for letter boxes, which the carrier, when he collects the mail, shall set to indicate the next hour for collecting the mail from the box.

A novel invention in the form of a barrel heater has been patented by Mr. Silas Anson, of Bellevue, Mich. A platform is provided for setting barrels on to be heated, with a fire grate in the center, and a fire pot is located on it, the object being to provide heat and shrink barrels without burning them.

Mr. D. M. Steward, of Cincinnati, O., is the patentee of a new process of treating steatite and applying it to electric wires for producing insulation. The inventor treats his steatite with ammonia and muriatic acid, subjecting the composition to heat during the process.

A hand crimping tool of a simple and improved form has been patented by Mr. James Fishwick, of Mainville, Ohio. It consists in a couple of levers pivoted together like a pair of scissors, provided with corrugated crimping faces, of brass or other non-corrosive metal, between which jaws or faces, after heating to a suitable degree, the article to be crimped is held.

A new composition for tanning hides has been patented by Mr. James F. Cranford, of Oak Hill, Ala. The ingredients of the tanning mixture consist of tanner's ooze, alum, salt, saltpeter, and lye soap. The ooze is made from the inside bark of the mountain oak or white oak, or may be had from other sources, but preferably from the latter.

An improvement in doors for grain cars and like purposes is the subject of a patent granted to Mr. Robert J. Walker, of Girard, Ill. The door is made in two parts and hinged together, and is also provided with sliding hinges, which enable the door to be swung upward and edgewise against the side of the car when it is not required for use.

A fire escape is the subject of a recent patent granted to Mr. Elmer A. Converse, of Monticello, O. The escape consists of a rope ladder provided with stops which are fastened at either end to the rope by wire ties. The upper end of the ladder is a hook for hitching to a staple in the floor of the room, when the ladder is required for service.

A spreading stick for hammocks is the subject of a patent recently granted to Mr. Jos. H. Bates, of Walton, N. Y. The invention provides a notched spreading stick to receive the cords, to which is fitted a retaining rod. The notched stick insures equal strain on all the cords of the hammock, and the retaining rod holds the cords firmly in place.

A snap hook of improved form has been patented by Mr. David G. Sheridan, of Bridgeport, Conn. A snap pawl for securing the ring or other object is pivoted to the hook near the point, and provided with a spring, so as to snap over the ring after entering the hook. The pawl is provided with wing plates projecting from its edges, for holding the ring or other object securely.

A die for welding links has been patented by Mr. Frank A. Iddings, of Warren, O. The die relates specially to the welding of links used in railroad car couplings. By a peculiar construction of welding dies increased facility is afforded for opening the dies when necessary to remove the welded link. A finishing die is likewise provided which operates in connection with the welding die.

A sawdust conveyer for the conducting of the sawdust and shavings in wood working mills, and the light waste produced in other manufacturing establishments, from the building or into the boiler furnaces, is the subject of a recent patent to Mr. James M. Elliott, Jr., of Gadsden, Ala. The introduction into mills of exhaust sawdust and shavings conveyers renders wood working establishments less liable to take fire and burn.

A device for separating pecan and other nuts from the leaves, hulls, and other trash has been patented by Mr. John H. Dolman, of Albany, Tex. The machine is provided with an inclined series of parallel positively driven rollers, geared to rotate toward each other at such a distance apart as to allow of the leaves and other refuse falling through between them, but conducting the cleansed or separated nuts away from the leaves.

An improved miner's pick has been patented by Mr. Harvey F. Seybert, of Brady's Bend, Pa. The invention consists in a pick, the handle of which is provided with a spiral spring extension, which is designed to relieve the workman from the jar and shock of striking blows with the tool, and also to insure more effective action by the tool. The spring can be used on any other handle as well as a pick handle, and it is made to fit snugly the handle in use.

An ingenious toy in the shape of a musical top has been patented by Mr. Max Dannhorn, of Nuremberg, Germany. This musical top is provided with a plate containing a series of reeds arranged in a circle, on which plate a second plate provided with a single slot is adapted to revolve, so that, when the slot comes successively over the several reeds, a current of air passes through the casing of the top from top to bottom and through the reeds, which are thus sounded successively.

A simple fanning attachment for sewing machines has been patented by Mr. Joseph H. Tabony, of New Orleans, La. The invention consists in a telescopic shaft to which is pivoted a fan which is operated by a rod connection with the treadle of the machine. The fan can be adjusted to any reasonable height, and may be given a sweep of considerable extent. The fan is operated by the same treadle used in operating a sewing machine, and is intended to be used usually in that connection.

Mr. Jacob D. Spang, of Jacksonville, Fla., has patented a novel game board, which is an improvement upon letters patent granted to same inventor March 26, 1874. The game board represents a miniature race track, furnished with a race field, a track or platform, and suitable hurdles and stops. Balls, so marked that they may be distinguished one from the other, are used to represent horses. The balls are set in motion simultaneously, and the one first reaching the goal situated at the further extremity of the board is declared winner.

A difficulty has been heretofore experienced in securing a fair sample of oil out of casks for testing purposes, owing to the variation in the purity of the oil at different strata therein. Mr. Otto Schubert, of Parkersburg, W. Va., provides a testing glass on which is marked a graduated scale. By his process of manipulating the oil which his specification explains very minutely, he is enabled by the use of his graduated glass to arrive at the specific gravity of the oil, and it also indicates its purity.

An improved handle cap for traveling bags has been patented by Mr. Henry S. Craus, of Brooklyn, N. Y., and the object of the invention is not only to increase the facility of manufacture of bags, satchels, etc., but it increases the security of the attachments. A handle cap for bags, satchels, and baskets is constructed with a cap plate attached to the bag or satchel, and provided with a slotted hollow projection to receive the connecting head and stem, whereby a firm and durable connection is formed between the handle and the bag or satchel.

Mr. A. M. Rosenbrugh, of Toronto, Canada, has recently patented a portable galvanic battery, in which the elements are attached to the hydrostat plate. The drip cups for the elements are suspended when the battery is not in action. The case of the galvanic battery has a series of dripping cells, and cells with exciting fluid. The cells are arranged alternately. A set of hydrostat plates covering two sets of cells has a series of elements on one side and on the top a conductor, which connects the elements of one plate to those of the next.

An improved carpet cleaning apparatus has been patented by Messrs. William Bowman and Ernest Hunscher, of Cleveland, O. A tower is constructed of suitable height, and provided with an endless carrier for elevating the carpets, and also friction and tumbling frames over which the carpets roll in their descent. By this movement the carpets are turned end for end and rolled and tumbled about, so that, practically, they clean themselves, and no one carpet comes in contact with another. The operation being in the open air, and the tower open at all sides, the dust and dirt, are carried away by the wind.

An improvement in the manufacture of candies, etc., has been patented by Mr. August Neuhausen, of Chicago, Ill. The invention consists in crystallizing candies or confections direct in the boxes, which hold a given weight, and which constitute the packages of commerce. The method of crystallizing is the same as is already practiced in pans, and after the candies or confections have been crystallized, the boxes may be shipped directly to customers. In this way the handling of the crystallized articles in removing them from the pan to the boxes is obviated, and the damage formerly done to the confections is avoided.

A novel wagon hound has been patented by Mr. Andrew J. Harper, of Unionville Center, O. Four iron hound bars, are each formed at their front ends with eyes, through which passes a long pivot bolt that couples them to the tongue. Two of these bars pass over the top of the bolster, and two of them pass underneath the axle, which two sets then converge toward each other in the rear of the axle, and are bolted respectively to the top and bottom of a wooden crossbar. The bars cross the bolster and axle without any notch being cut in the same. It is claimed that by this improved hound the cutting away of the axle and bolster is avoided, and greater strength is secured.

A simple breech loading rifle has recently been patented by Mr. A. S. Jones, of Olivet, Dak. Ter. It belongs to the class of fire arms using a hinged breech block, fitted to swing upward and forward in opening the breech for loading, and is so arranged that the gun may be used either with or without bringing into play the magazine supply of ammunition, which is located as usual in the stock. There is a plunger back of the breech, which, when pressed down, frees the first cartridge in the magazine, and permits it to go into its place in the gun, by the pressure of a spring on the rear of the cartridges. The cocking of the hammer releases a latch holding the breech block in place, which is then opened by a spring in rear of the block.

A novel station indicator has been patented by Mr. Harvey A. Holloman, of Kingston, Tex. The invention consists in a box provided with an opening in its front, at points near the lower and upper edges of which opening are arranged pairs of rolls, said box having drums journaled in the top and bottom, to which drums a band is attached, bearing the names of the stations and stretched between said rolls, which band extends across the opening of the box. The drums are provided with crank handles for turning them, one of which crank handles is connected with a bell hung on a bracket of the box, whereby the bell will be sounded when the crank handles are turned to shift the band, thus calling the attention of the passengers to the station indicated.

An interest calculator designed to facilitate the computing of the interest on any desired sum of money for any desired number of days, months, or years has been patented by Mr. Marshall Todd, of Danville, Ind. A box having its top divided into a series of subdivisions marked "one day," "two days," "three days," etc., is provided. These subdivisions are each provided with an aperture, through which the interest numbers on sliding cards in the box can be seen. These cards are each provided with a row of numerals from 0 to 9, inclusive. By drawing out the cards until the numerals expressing the desired number of units, tens, hundreds, etc., will show in apertures in the cover of the box, the interest on these sums will appear in the apertures of the subdivision in the cover of the box.