

Recent American and Foreign Patents.

Under this heading we shall publish weekly notes of some of the more prominent recent American and foreign patents.

**GRAIN-BINDING DEVICE.**—George Warner, West Liberty, Iowa.—This invention relates to a new and improved grain-binding attachment to be applied to harvesters for the purpose of binding grain as it is cut.

**DRAW HEAD FOR RAILROAD CARS.**—Walter A. Shotwell, Paterson, N. J.—This invention relates to a new and improved draw head for railroad cars, and in a novel application of the draw head to the cars whereby the draw heads are rendered self-coupling, capable of being uncoupled or disconnected with facility, and also capable of being used when necessary, with the ordinary link coupling.

**COTTON GIN.**—Fones McCarthy, Orange Springs, Fla.—This invention relates to a new and improved gin for ginning Sea Island and other long staple cotton and is an improvement on what is known as the "McCarthy Gin," patented in 1840 and extended in 1854. The defect in this gin is the cotton is fed to the drawing cylinder on a plane horizontal grate, and is drawn in and held by the cylinder and breast plate while the stripper, so called, a rapidly-vibrating plate, strikes it (the cotton) and takes out the seeds. This stripper, which makes from six to eight hundred strokes per minute, strikes the seeds with such force that a great portion of them are driven above and fall upon the unginned cotton, and mingling with it greatly retard the ginning operation, making it necessary for the attendant to be constantly shaking and opening the cotton to get the seeds out of the way. By this improvement the cotton is presented to the cylinder vertically or nearly so down through a space between the feed board and a vibrating grate and the drawing cylinder, the seeds being prevented from rising by the cotton above them.

**CORK RECEPTACLE FOR BOTTLES, ETC.**—Alexander Honrath, New York City.—This invention consists in forming or making bottles, vials, and other small vessels for holding liquids and which are provided with cork stoppers, with a receptacle to hold a spare cork, to be used in the event of the cork in the nozzle or neck of the vessel being broken or injured in drawing it out; the receptacle being also convenient to place the cork in, when the same is drawn from the nozzle of the vessel, in order to fill the latter or pour the contents therefrom.

**MACHINE FOR CUTTING FILES.**—S. A. Sutton, Pawtucket, R. I.—This invention relates to a new and improved machine for cutting files and it consists in a novel means employed for adjusting the cutter relatively with the file blank, whereby the blank is cut uniformly throughout however rounding its faces or sides may be. The invention also consists in a means for regulating the force of the blow of the hammer so that the blow may be at all times commensurate with the length of the stroke of the hammer. The invention further consists in a novel arrangement of the cutter arm and bed, whereby the cutter is made to operate similar to a drawing cut, and perform its work in a thorough and efficient manner.

**FRUIT PICKER.**—Edward W. Gurnee, Haverstraw, N. Y.—This invention relates to a new and improved device for picking fruit from trees, and is designed to facilitate the tedious operation of direct picking by hand which involves the necessity of climbing trees and venturing out on small branches. The object of the invention is to obtain a simple, cheap and durable implement for the purpose specified, and one which may be readily kept in repair and proper working order by any person of ordinary ability.

**GANG PLOW.**—D. C. Riggs, St. Joseph, Mo.—This invention relates to a new and improved gang plow and it consists in a novel and improved construction of the same whereby the plows may be readily raised out of the ground when required and the device placed under the complete control of the operator, while the plows arranged in connection with rotary cutters are made to operate with far greater facility than usual, and the draft of the machine thereby greatly reduced.

**WINDLASS BEDSTEAD.**—Joseph Horner, New Brunswick, N. J.—This invention relates to a new and improved mode of securing the sacking bottom to bedsteads, whereby said bottom may be very readily applied and detached, and, when applied, tightened up with the greatest facility.

**SAW.**—W. R. Stephenson, Transfer Station, Pa.—This invention relates to a new and useful improvement in circular and reciprocating saws, and it consists in providing the saws with teeth of peculiar construction and also with clearers, or scrapers, whereby a great saving of power is effected in the running of saws, and more work performed in a given time than can be done with the ordinary saws in use.

**INSTRUMENT FOR STRETCHING BOOTS AND SHOES LENGTHWISE.**—Wiley Jones, Norfolk, Va.—This invention relates to a new and useful improvement on an instrument for stretching boots and shoes lengthwise, and for which Letters Patent of the United States were granted to this inventor bearing date November 20, 1866. The original invention consists of a screw rod movable brace, and a shell or cap so arranged that the brace may be adjusted within the boot or shoe against the counter thereof, and the shell or cap fitted in the toe of the boot or shoe and the longitudinal stretching produced by turning the screw rod. This instrument works perfectly in every respect but there is one difficulty attending its use, and that consists in the liability of the shell or cap to slip off from the end of the screw rod adjusting the former into the boot or shoe, and the liability of the end of the screw rod being drawn out from the shell or cap in removing the instrument from the boot or shoe after the stretching of the same. The reason of this is owing to a lack of any attachment of the shell or cap to the screw rod, the latter having simply a tenon turned on its end to enter a hole in the shell or cap, a shoulder formed by the tenon bearing against the latter.

**HORSE-POWER.**—John C. Cox, Greenville, N. C.—This invention has for its object to furnish an improved horse-power for imparting motion to threshers and other machines.

**SLATE PENCIL SHARPENER AND HOLDER.**—W. H. Alcorn, New York City.—This invention relates to a new attachment to school slates, and consists in an arrangement for holding and sharpening slate pencils, which is fixed to the slate frame so as to form part of the same. The holder is so made that it will be adapted to pencils of various diameters, while the sharpening device is made substantial and cannot be easily worn out.

**APPLICATION OF ROWLOCKS TO BOATS.**—Wm. Fuzzard, Chelsea, Mass.—This invention consists in applying rowlocks to boats in such a manner that instead of the rowlocks being fixed or stationary as hitherto, they will be allowed to move, under the action of the oars, in a direction towards and from the operator or oarsman while in the act of rowing, and thereby materially increase the length of the stroke, or sweep of the blade of the oars, and correspondingly augment the efficiency of the same in their propelling action.

**COTTON CULTIVATOR.**—Charles Gibbon, Hicksford, Va.—This invention relates to a new and improved machine for cultivating cotton, scraping the earth from the plants, thinning out the same, and throwing up fresh, loose earth thereto.

**CLAMP FOR PAINT BRUSHES.**—Geo. R. Gardner, Westerly, R. I.—This invention relates to a new and improved clamp to be applied to paint brushes in order to confine the bristles so as to prevent an undue spreading of the same. The invention is designed as a substitute for, and an improvement upon the plan now adopted by painters to effect the same end, to wit, the wrapping of twine around the bristles, which is attended with considerable trouble, and after a brush has been used and worn down to a certain extent cannot be readily renewed and adapted to suit the length of the bristles.

**PLATFORM SCALE.**—Wm. W. Reynolds, Brandon, Vt.—This invention relates to a new and useful improvement in that class of platform scales which are provided with means for releasing the levers or weighing mechanism from the platform, when the articles to be weighed are placed upon, and after being weighed, taken off therefrom. This result is at present effected by having the weighing mechanism arranged in such a manner that it may, when it is necessary to detach or disconnect it from the platform, be lowered so that the latter will rest on the frame or bed of the scales, and hence scales of this class are commonly termed "platform drop scales." The invention consists in accomplishing the object by having supports connected with lever attachments, and arranged in such a manner that the supports, when it is necessary to relieve the weighing mechanism from the platform, may be raised so that the platform will rest upon them, leaving the weighing mech-

anism intact. By this means scales of this class are simplified in construction, rendered less liable to get out of repair, while all the advantages of the original plan are retained.

**CAR COUPLING.**—W. R. Jamison, Taylorstown, Pa.—This invention has for its object to furnish an improved car coupling, so constructed and arranged that should one or any number of cars be thrown from the track or fall through a bridge or trestle work, the cars will immediately uncouple themselves, but will be held securely connected in all other circumstances, even when passing around the shortest curves.

**ROTARY HARROW.**—P. B. B. Stiles, Galesburg, Ill.—This invention has for its object to furnish an improved rotating harrow so constructed and arranged as to be more easily operated, and more effective in operation than the harrows now in use.

**FENCE.**—F. W. Huxford, Boonesborough, Iowa.—This invention has for its object to furnish an improved fence for keeping the snow from drifting into cuts in railroads, and obstructing the track, and for other similar purposes.

**CHURN.**—C. J. Chalfant, Unionville, Pa.—This invention has for its object to furnish an improved churn, so constructed and arranged that the air may be carried down beneath the cream, and the cream carried up and thrown through the air, thus throwing the milk into violent agitation in contact with the air bringing the butter in a very short time.

**NEW AND IMPROVED MODE OF APPLYING WINDOW SHADES TO WINDOWS.**—H. J. Cox and Wallace Hill, Long Eddy, N. Y.—This invention relates to a new and improved mode of applying window shades to windows, whereby the former are rendered capable of being rolled up either from the top or bottom as required, and also rendered capable of adjustment laterally, and of being very readily applied to and detached from the window.

**ECCENTRIC LATHE.**—J. B. Gayle, Portsmouth, Va.—This invention consists in an arrangement which enables me to turn eccentrics for steam engines in a much more complete and perfect manner than it has hitherto been done, and the device is intended especially for that and similar purposes.

**WASHING MACHINE.**—Wellington Green, Kinzua, Pa.—This invention has for its object to furnish an improved washing machine so constructed and arranged as to do the washing quickly, and thoroughly, and with a small outlay of power.

**FLOUR PACKER.**—H. A. Barnard, Moline, Ill.—This invention has for its object to furnish an improved apparatus, by the use of which flour may be quickly, conveniently, and evenly packed into barrels.

**CORN HUSKER.**—H. N. Hill, Pontiac, Michigan.—This invention relates to an arrangement for cutting the ears of corn from the stem, and thereby cleaning the husks from the corn.

**HAMES FOR HARNESSES.**—S. G. Tufts, Mainville, Ohio.—This invention has for its object to strengthen the hame at its lower end, and to so construct the hame tug hook, that the hame tug may be readily attached and detached when required, and that it will at the same time hold the said hame tug securely in place.

**BRUSH RACK.**—John Ames, Lansingburgh, N. Y.—This invention relates to a new and improved rack for holding paint, varnish, and other similar brushes for exhibition in stores where the same are sold. Brushes have hitherto been attached to cards for this purpose, but they are very liable to become detached therefrom, especially large and heavy brushes, the invention consists in having a shallow box provided with one or more perforated cleats to receive the handles of the brushes and retain them in proper position within the box.

**TUBE CLEANER AND WATER AGITATOR.**—W. S. Stensby, Chicago, Ill.—This invention consists in arranging scrapers within the boiler and around the tubes which may be drawn back and forth from one end of the boiler to the other whereby the scale deposited on the tubes, and on the interior surface of the boiler is so loosened that it may be easily removed from the boiler by blowing off.

**ANTI-FRICTION PUNCH AND SHEARS.**—D. D. Robinson, Berrien, Mich.—This invention consists in so constructing a combined Punch and Shears that I am enabled to use a variety of punches and dies attached thereto and ready for use when moved into position, and also in the arrangement of gears for keeping the traversing rollers in position upon the inclined planes.

**APPLICATION OF STEAM POWER.**—A. J. Fullam, Springfield, Vt.—This invention consists in adapting steam power to operations which have hitherto been performed by hand, such for instance as drilling holes in the sides of ships, or in heavy machinery, of either wood or iron.

**DOGS FOR DRAWING SAW LOGS.**—Samuel Sykes, Chippewa Falls, Wis.—This improvement relates to the manner in which the "dog," which is driven with a saw log or other logs, for the purpose of a "hold fast," is formed.

**MANGLE.**—Henry Grandsen, Dubuque, Iowa.—The object of this invention is to furnish a simple, cheap and durable machine, called a mangle, for smoothing linen; and the invention consists in placing in a suitable frame, rollers, between which the linen is made to pass under pressure.

**OSCILLATING MARINE PROPELLER.**—Charles E. Foley, Brooklyn, E. D. N. Y.—This invention consists in attaching to a shaft which passes through the side of a vessel, propelling wings, which are jointed or hung to a bar or bars which are attached to the shaft, and which stand at right angles therewith, the wings being hinged in pairs and operating against the water alternately.

**FIRE KINDLER.**—Henry Vanausdall, Keokuk, Iowa.—This invention consists in constructing an apparatus whereby oil, alcohol, or any of the hydrocarbons may be used for the purpose of igniting coal or wood.

**MATCH SAFE.**—P. Killie and H. C. Yates, Decatur, Ill.—The nature of this invention consists in forming a safe for holding lucifer matches of ordinary round or square forms, in which is an arrangement for discharging the matches from the bottom, one at a time, and lighting the match as it emerges from the safe or box.

**HAY RAKE.**—Charles Howard, Bearsville, Ulster County, N. Y.—This invention relates to an improvement in the construction of horse hay rakes, which consists in an arrangement of a lever for keeping the rake in position for raking, and tripping it when loaded, so that it shall turn over and deposit its load to be instantly ready for going on with the operation of raking, and also of a lever for raising and lowering the rake head to clear the ground—and allow the rake to be moved from place to place without striking the teeth.

**SAW MILL.**—John C. Delavigne, New Orleans, La.—This invention relates to an improvement in a reciprocating saw mill, and consists in connecting the saw or saws with a walking beam to produce their motion in connection with springs, which are depressed by each end of the walking beam alternately, and reach to aid in lifting each end alternately.

**COMPRESSING RATTAN.**—Louis Klein, Dansville, N. Y.—This invention consists in compressing rattan to give it better properties as a substitute for whalebone.

**PLANE FOR CUTTING BLIND SLATS.**—James L. Bess and Adam Macky, Keokuk, Iowa.—The subject of our invention is a hand plane, adapted to cut two or more thin slats for window shades, blinds, etc., at every stroke or movement, and at the same time dress or prepare the material for the operation.

**CAR SEAT AND FOOT REST.**—James R. Chiles, Richmond, Va.—The object of this invention is to provide a chair for use in railway passenger cars, which shall serve as a convenient and easy chair for sitting, or at the option of its occupant, be changed easily and quickly to a reclining chair.

**METHOD OF PRESERVING WOODEN PILES.**—W. Harold Smith, Memphis, Tenn.—This invention consists in enveloping the pile with a hard earthen case, similar in composition and manufacture to common earthen or stone potter's ware. The earthen envelop may be glazed on its outer surface, and between it and the wooden pile the space is filled in with sand, concrete, lime, cement, coal tar, gravel or common earth. The object of the invention is to preserve piles and timber from decay, and from destruction by worms and insects.

**REFRIGERATOR.**—William Rosenkranz and Michael Esch, St. Paul, Minn.—This invention relates to a new device for cooling liquids in bottles, said device being so constructed that any one bottle can be easily taken out and replaced, and so that a constant stream of cold water is made to circulate in the apparatus.

**EVAPORATOR AND DEFLECTOR FOR HOT-AIR REGISTER.**—S. Hamilton Caughy, Baltimore, Md.—This device contains water, and is intended to be attached to the grating or register opening, so as to deflect the air into the apartment either against and around the tank, so as to evaporate the water freely or more directly into the room carrying less moisture.

**WASHING MACHINE.**—LeRoy Coville and William Keeler, Oxford, N. Y.—This invention relates to a washing machine in which a perforated board is arranged above the bottom of the suds box, which can be drawn out to allow the articles to be washed to be placed on it. A corrugated roller, which is secured to a reciprocating frame, that is connected with a rock shaft hung in the sides of the suds-box, is made to move across the aforesaid perforated board, and is pressed upon the clothes by means of springs, which are secured to the reciprocating frame, their free ends working below a track fixed to the sides of the suds box.

**MACHINE FOR MAKING SCHOOL SLATE FRAMES.**—William Kester, Cherryville, Pa.—This invention relates to a machine which is used to saw, plane, bore, tongue, and groove, and join the pieces of wood which are used on school-slate frames. The invention consists in such an arrangement of the parts which compose the machine that the said frames can be made thereon from rough and unplanned boards, and be finished so as to be perfect and satisfactory, as regards their appearance, as well as their construction, strength and form.

**COTTON PLOW.**—C. Billups, Norfolk, Va.—In this invention the landside is provided with a vertical coulter, and is made detachable, and a new device is used for attaching and adjusting the scraper to the standard.

Answers to Correspondents.

**CORRESPONDENTS** who expect to receive answers to their letters must, in all cases, sign their names. We have a right to know those who seek information from us; besides, as sometimes happens, we may prefer to address the correspondent by mail.

**SPECIAL NOTE.**—This column is designed for the general interest and instruction of our readers, not for gratuitous replies to questions of a purely business or personal nature. We will publish such inquiries, however, when paid for as advertisements at 50 cents a line, under the head of "Business and Personal."

All references to back numbers should be by volume and page.

**W. H. C., of Mass.**—Try paraffin for preserving your copper coins from the action of the air. Immerse them for a moment in melted paraffin and then wipe off the excess of paraffin with a clean, dry cloth.

**J. M., of Pa.,** gives some information to watchmakers which will reply to several inquiries made of this office. He says: If watchmakers wish to experiment with compensation balances, isochronal hair springs, etc., they must not use the marine chronometer, but reduce the scale to that of a watch. The material of which the machine is made is as hard in small as in large scales of construction, while the pressure reduces with the scale, and the rubbing surfaces can be reduced in area proportionally to the pressure.

**S. O. P., of N. Y.**—The leather washers under the heads of carpet tacks are cut and placed by a simple machine operated by the foot. An upright punch comes down on a die and cuts the leather, while another punch, working inside the first, drives the tack through the leather. The tacks are placed in a hopper from which a tube, split through its bottom, conducts the tacks to the press the points hanging through the slot, the tacks being suspended by their heads. The best tacks for carpet purposes are those made from tough iron usually labeled "Swedish iron."

**J. P., of Mo.**—Zinc is not very tenacious. A wire of one-twelfth of an inch diameter will not sustain over 25 pounds.

**T. W. H., of Mich.,** wishes to know how to purify and deodorize genuine crude bear's oil. Add to the oil ten per cent of its bulk of a weak solution of sal soda, and blow steam through the mixture for an hour or longer. Septimus Piesse however, says that the most popular and "original" bear's grease is simply hog's lard and almond oil prepared with oil of rose, etc.

**H. P. J., of N. H.**—"Which produces the most healthful heat for an ordinary room, an air-tight wood stove, an open wood stove, or a coal stove?" We are not aware that there is any difference in the nature or properties of heat, produced under different circumstances. Heat is always and invariably the same thing from whatever source it comes. There are, however, considerations relating to health for choosing between different methods of warming houses; as for example, ventilation, perfect combustion, and cleanliness.

**R. J. H., of Mo.**—You can make your floor tiles of any desired color by mixing with the clay the appropriate metallic oxides. Consult any book on coloring pottery or glass, and you will probably get all the information you need.

**D. W. H., of Mich.**—"How can I deodorize a pine-wood refrigerator or ice box? What solution or preparation applied to its internal surface will prevent it from imparting to articles of food placed in it the odor and flavor of pine?" The most effectual "preparation" and perhaps the best, is a lining of sheet zinc. No varnish would be wholly impervious to the fumes of the pine. If the box were thoroughly seasoned by exposure to the heat of the sun for a few weeks, probably the greater part of the volatile matter which constitutes the odor, would have been evaporated.

**E. P. C., of N. Y.** desires to know how to conduct the steam from his boilers, to an engine of 15 or 20 horse power, a distance of 100 feet without wasting his steam too much, and asks whether he should carry the pipe above or below the surface of the ground, how he should protect it etc? First, the pipe should be of generous area, say 3½ inches diameter, and should be covered with hair felted 2 inches thick, carried above ground for the convenience of detecting leaks, and protected from the weather. Properly protected the loss of steam from condensation would be hardly appreciable.

**D. A. K., of R. I.,** asks if there is any trouble in burning pine shavings under tubular boilers of ordinary sized tubes; is there much gain of cylinder over tubular boilers; would an 18 or 20 feet boiler be more economical than a longer one; in a word, what is the best boiler for an establishment requiring 15 or 20 horse power? In reply we would say that, in our opinion, the best boiler for your use is the cylindrical tubular boiler, say four feet diameter, 10 feet long, with 50 three-inch tubes, and a grate surface of 18 feet. With a proper arrangement to admit air over the fire, through holes not over 3-16 of an inch diameter, the total area of which to be equal to 24 square inches, there is no reason why the boiler should not last as long as any ordinary cylinder boiler. The burning of pine shavings is perfectly feasible and is generally practiced in your section of the country.

Business and Personal.

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F. C. Beach, Stratford, Conn., wishes to communicate with parties who put down "drive wells" in that State.

"J. C. G." of Kansas (in July 27th No.) send address to A. Galpin, Neenah, Wis.

Steam Cooking and Heating Apparatus—Manufacturers of the above please address with descriptive price list, Lewis F. Hake, Salem, Columbiana county, Ohio.