

SPRING BED BOTTOM.—E. R. RISON, Kilmundy, Ill.—This invention furnishes an improved spring bed bottom, simple in construction, strong, and not liable to break or get out of order.

HORSE RAKE.—E. R. HALL, Illon, N. Y.—This invention relates to that class of horse rakes in which wooden teeth are employed. It consists in a novel manner of hanging and arranging the rake so as to put it under the complete control of the driver, and render it capable of being raised and lowered, and turned in order to discharge its load with the greatest facility.

WHIFFLETREE.—GEO. WATT, Richmond, Va.—This improvement consists in making the double and single trees of rods so fashioned by the bending of one or more portions as to have an elasticity when power is applied to the ends and the middle loop held fast.

BURNING FLUID.—JOHN JANN, New Windsor, Md.—This invention consists of a composition of benzine 33 gallons, sweet oil half pint, and oil of vitriol 2 quarts.

DEVICE FOR LIFTING FLOUR AND OTHER BARRELS.—LUCIUS H. GOFF, St. Albans, Vt.—This invention relates to a novel and useful implement to be used for the lifting of flour and other barrels, whereby it can be accomplished with great convenience and in a most ready and comparatively easy manner.

CAR COUPLING.—GEORGE W. WILSON, Abingdon, Ill.—This is a simple, self-acting device for coupling railroad cars quickly and safely, consisting of an arrangement of cams and levers connected with the humpers, which release themselves if a car is thrown off the track.

KINDLING MATERIAL.—C. A. ROSE, Columbus, Ga.—This invention consists in preparing a new kindling material by compressing into portable blocks the leaves of the southern pines, which are rich in resin and make a very inflammable and convenient kindling stuff, which can be afforded for less than wood, and opens up a new field of profitable industry hitherto neglected.

CULTIVATOR.—ADDISON F. STILWELL, Fayette, Iowa.—This invention consists in a novel manner of arranging the front plows of the device, whereby the plows may be adjusted to perform different kinds of work as required.

CONSTRUCTION OF JOINTED MOLDS.—M. B. STAFFORD, New York City.—This is an improvement in jointed molds for brick, peat, soap and other machines for compressing and molding various substances. The object is to obtain a mold of the kind specified which will open freely and close tightly in such a manner as to leave no mark, impression or ridge in the article molded.

GATE.—B. S. HEALY, Cohocton, N. Y.—This invention is designed to furnish a simple, cheap, and convenient manner of hanging a gate.

SAFEGUARD FOR RAILROAD CROSSINGS.—ASA HILL, Providence, R. I.—This improvement in safeguards or barriers for railroad crossings, is to prevent accidents which frequently occur by imprudent attempts to cross the track in front of a passing train. It is simple in construction, capable of being put up at a very moderate expense, and operated or manipulated with the greatest facility.

CATAMENIAL SACK.—JOSEPH C. BENZINGER, Catonsville, Md.—The object of this invention is to produce a catamenial sack which will tend to maintain the person of the patient in a cleanly condition, and will prevent chafing.

WEEDING HOE.—W. J. WELLS, Sidney, Ohio.—This invention consists in a novel construction of a weeding hoe, whereby many important advantages are obtained.

CORN PLANTER.—BARNABUS CLARK, Mackinaw, Ill.—This machine is for planting corn in hills or check rows without any previous furrowing of the ground. Its object is to obtain a simple device for the purpose, and one whose parts will be under the complete control of the driver or operator, and be capable of being rendered operative and inoperative, when desired, with the greatest facility.

ROCK-DRILLING MACHINE.—GEORGE F. UNDERHILL, Brooklyn, N. Y.—This invention consists principally in a novel arrangement of parts for operating the drill of the machine.

HOLDING DRIVING REINS.—MILTON WHIFFLE, Medina, N. Y.—This invention consists in a device composed of a vibrating spring attached to a bed plate, between which spring and plate the reins may be readily inserted, and thereby held and prevented from getting under the horse's feet or otherwise entangled while the driver temporarily leaves the carriage.

MACHINE FOR BORING AND TENONING.—JAMES LEFEBER, Cambridge City, Iowa.—This invention consists in a combined boring and tenoning machine, adapted especially for the manufacture of wheels of carriages and other vehicles. It is also calculated for finishing or completing the wheel thereon, so that it need not be removed until it is finished. The felles can be doweled thereon by placing a doweled table on the machine.

CLOTHES DRIER.—J. C. CONNOR, Dover, N. H.—This clothes drier is light, simple in construction, cheap, and occupies little space either when folded or when open; and which at the same time is strong, affords a large amount of drying surface, and allows a free circulation of air among the suspended clothes.

ATTACHING KNIVES TO THEIR HANDLES.—WILLIAM CLAYTON, Bristol, Conn.—This invention consists in passing the tang of the blade through the handle of the knife and securing it at the rear end of the handle by a nut, which screws on a screw thread out on the end of the said tang, by which means the knife is made strong and firm; and it possesses the quality of being fastened without the use of cement or rivets, and produces a neat and comely-appearing article of cutlery.

EARTH SCRAPER.—NELSON PECK, Jay, N. Y.—This is an improved scraper for moving earth from one place to another in making and repairing roads, and for other purposes.

FENCE.—GEORGE S. CARLISLE, Columbus City, Iowa.—This invention consists in attaching braces to each other and to the ends of the adjacent panels of fence, for the purpose of firmly sustaining the fence, and at the same time enabling said fence to be readily removed and again set up in any desired situation.

SAFETY WHIFFLETREE.—W. A. HARRALL, Washington, Ind.—This invention has for its object to furnish an improved whiffle-

tree, by means of which the horse may be released from the carriage whenever he becomes so unmanageable as to render it advisable.

MACHINE FOR BORING WELLS, ETC.—COLIN MATHER, Manchester, Eng.—This invention relates to a machine for boring wells or other holes in the ground, in which a flat drill rope or hand is used, in contradistinction to the ordinary round rope and metal rods, the drill being arranged in such a manner that it makes a part of a revolution after each blow. The drill rope extends over a pulley which is secured to the top end of a piston rod, to which a rising and falling motion is imparted by the action of steam on a piston fitted into a suitable cylinder.

DRILL FOR BORING WELLS, ETC.—COLIN MATHER, Manchester, Eng.—This is a drill the cutting part of which is composed of a series of flaring cutters or chisels, secured in a suitable head in such a manner that a hole of considerable diameter can be bored, and that the cutter can be readily kept in order, each of the chisels being made so that it can be removed independent of the others, and sharpened or replaced by a new one at short notice, and with little loss of time or expense.

PORTABLE RAILROAD.—JOHN W. PETELER, Sheppach, Bavaria.—The object of this invention is a portable railroad, which can be readily transported from one place to another, and easily put down or taken up, and which can be used with great advantage for passing over marsh land, for building roads, or for engineering or building operations in general.

LOOM.—ISAAC N. HODSON, Mount Pleasant, Iowa.—This invention consists in the arrangement of a grooved roller, to which an oscillating motion is imparted by the action of a suitable toe or tappet attached to the lay or batten, and which are provided with double, triple or multifarious cranks intended to impart the required rising and falling motion to the heddle frames, in such a manner that two or more heddle frames can be operated by the motion of the batten, and the construction of the loom is materially simplified.

CHURN.—JACOB H. MENDENHALL, Cerro Gordo, Ind.—This invention has for its object to furnish an improved churn, easily and conveniently operated, and which will do its work quickly and thoroughly.

WAGON OR CARRIAGE GEARING.—J. R. MCALISTER, Richville, N. Y.—In this invention the reach-pole is dispensed with, and the wagon body is connected with the front and rear axletrees by means of four or more trace rods, in a novel and peculiar manner, whereby strength, durability, lightness, and cheapness are secured, and the pitching, either backward or forward, of the wagon-body is entirely prevented.

TELEGRAPH INSTRUMENT.—ALONZO CHASE, Syracuse, N. Y.—The object of this invention is to enable persons who are not skilled in or acquainted with the system of telegraphing to signal any message over the wires of a line of telegraph.

BAG HOLDER.—GILBERT E. CORBIN, St. John's, Mich.—The object of this invention is to produce a bag holder that will be susceptible of adjustment to any of the varying sizes of the bags.

ORGAN REED.—A. M. BRUSE, Clayton, N. Y.—This invention consists in the use of silver in the manufacture of organ and other similar reeds, whether alone, or mixed, or alloyed with other metals.

COMBINED TOILET STAND AND MIRROR.—W. H. HUGHES and H. L. LENT, Peekskill, N. Y.—This invention consists in combining with a toilet stand a mirror, in such a manner that its height from the top of the stand can be adjusted to suit the wishes of the person who is using it, and according as may be deemed necessary.

DIES FOR HEADING BOLTS.—JOHN W. SIBBET, Cincinnati, Ohio.—The object of this invention is to furnish dies for heading bolts of any size or length, having heads of any desired shape, and square or round necks; and it consists of improved dies formed in parts, and in the combination with the said dies of headers for forming the heads.

CLOTHES-WASHING MACHINE.—M. J. LOWBERRETTZ, Leavenworth, Kansas.—This invention is for washing clothes, and consists in a novel construction and arrangement of parts, whereby clothes may be thoroughly cleaned without injury and with but a moderate expenditure of power.

SCHOOL DESK AND SEAT.—GEORGE MUNGER, New York City.—This invention relates to a school desk and seat, which is constructed of a number of pieces joined together by dovetails or flat tongues and grooves, so that the desk or settee can be readily taken apart and packed in a comparatively small compass, and when it is to be used it can be put up by any person of ordinary mechanical skill without much loss of time.

HYDROCARBON VAPOR MACHINE.—JAMES F. SPENCE, Williamsburgh, N. Y.—This invention relates to a hydrocarbon vapor apparatus, in which two air wheels are used, working in one and the same case, and operating in combination with said case in such a manner that a steady light is produced without the aid of a gas receiver. The supply oil vessel is provided with a jacket to receive steam or hot air, in such a manner that the oil is heated before it is admitted to the machine, and the formation of the illuminating mixture is considerably facilitated. The hot air is generated in a chamber attached to the machine, and heated by a burner supplied with gas from the machine. The quantity of oil contained in the machine is regulated automatically by a float, carrying a stop valve, which closes the mouth of the feed-pipes as soon as the liquid in the machine has reached the desired height.

SAND PUMP.—COLIN MATHER, Manchester, England.—This sand or shell pump is provided with a cylindrical barrel similar to that of an ordinary pump, and provided at its lower end with a valve or clack opening upward, somewhat similar to that in ordinary pumps, but instead of being fastened to the cylinder, its seating is in an annular frame, which is drawn up against the end of the cylinder by a rod passing up to a wrought iron guide or bridge at the top, where it is finally secured by a cotter or key.

HOOP-SHAVING MACHINE.—J. G. MORGAN, Colton, N. Y.—This invention has for its object to furnish an improved machine, by means of which hoops may be shaved conveniently, quickly, and accurately.

ELECTRIC BATON.—R. G. PIKE, New York City.—This invention relates to a contrivance for lighting gas by electricity, which may be considered in two parts, viz: the electric baton and the deflector, the former being the generator of the electric spark, and the latter the means to bring said spark properly in contact with the gas.

APPARATUS FOR RECEIVING, DISCHARGING, AND TRANSFERRING FREIGHT, ETC.—NEWTON A. PATTERSON, Kingston, Tenn.—The object of this invention is to furnish an improved apparatus for receiving and discharging freight from railroad cars and vessels, and for transferring it from one place to another, whether it be about the depot, about the wharf, or in any other place.

BED CHAIR.—E. HAMBURGER, Detroit, Mich.—This invention consists of an improved bed chair formed by combining the back seat, cushion, and legs with each other and with the frame of the chair, in such a way as to furnish an easy chair, which may be readily converted into a comfortable bed.

NECK TIE.—JAMES K. P. PINE, Troy, N. Y.—This invention relates to a substitute for the ordinary neck ties, and consists in making them of paper, card-board, or other similar materials and ornamenting them with any suitable design, in imitation of the ordinary neck ties, etc.

FENCE.—CHARLES LEE, Winchester, Ohio.—This invention has for its object to furnish an improved fence, light, strong, and durable, and which may be easily and quickly put up and taken down, and consists principally in the cast-iron hanged loops in combination with the posts and boards of the fence.



Watchmaker, of Mass.—The superior finish of the steel work in English watches is simply the result of patient labor. Oil stone dust, crocus, rouge, Vienna lime, etc., are the materials used, applied by means of block tin, glass plate, or boxwood. They finish by hand and we by machinery.

L. G., of Pa.—Lathes built by the best makers always have a belt guard at the rear of the small pulley of the cone. If your counter-shaft is in line with your head arbor, and you use both hands in shifting the belt, there is no necessity of tearing the belt in the gear. The destruction of belts you speak of is simply the result of culpable carelessness. We have used lathes for many years without injury to the belts.

E. H. S., of Ohio.—Galvanizing, probably to suit your purpose, can be effected by cleaning the iron with acid, sulphuric or hydrochloric, and water, and plunging it in a bath of melted zinc. The deposition of the zinc by means of the galvanic battery is more effectual, but more costly and trouble some.

J. D. S., of —.—Gun barrels are blued by heating in a charcoal fire. Packing them in boxes with sand before going into the fire insures a more even color.

A. M. S., of N. Y.—We know of no way to blue iron or steel without heating except by a lacquer.

L. M., of Mass.—Nine-ninths is a unit and not a fraction. Written 9/9 it may be technically considered fractional, but is so only in form. One hundred is no more a fraction when expressed thus: 99 9/9 than when expressed as 100.

J. H. F., of N. Y.—There is no particular reason except that of convenience in placing a beam engine of a steamboat fore or aft the shaft. It will work equally well in either position.

Mechanic, of Ohio.—Send to Henry Carey Baird, 406 Walnut street, Philadelphia, and he will furnish you what you need for the study of draughting.

H. C., of Mass.—There are conflicting statements as to the shortest trips to Europe by steamers and sailing vessels. We cannot afford the time to study and decide the question you ask.

E. H. L., of Mo.—Bleaching powder is not manufactured in the United States, and the manufacture is profitable only where extensive alkali works are in operation. The oxide of manganese is not mined in this country. One of the most valuable mines of chrome iron in the world is found in the State of Maryland.

W. A. K., of Ohio.—An alloy of zinc and iron can be made by any one of the methods used for making brass, substituting the iron for the copper. But as the melting point of the iron is higher than that of the copper, the difficulties will be greater. We are not aware that such an alloy is used in any of the arts.

D. P., of Ohio.—Silicate of soda has the same properties as silicate of potash, and a solution of it is an article of commerce under the name of liquid quartz. You can buy a small quantity cheaper than you can make it.

N. D., of N. J.—The highest authorities in chemistry have adopted the changes in the nomenclature, and use such expressions as sulphate of sodium, carbonate of calcium, etc. The school books are not the best sources for the latest progress of science.

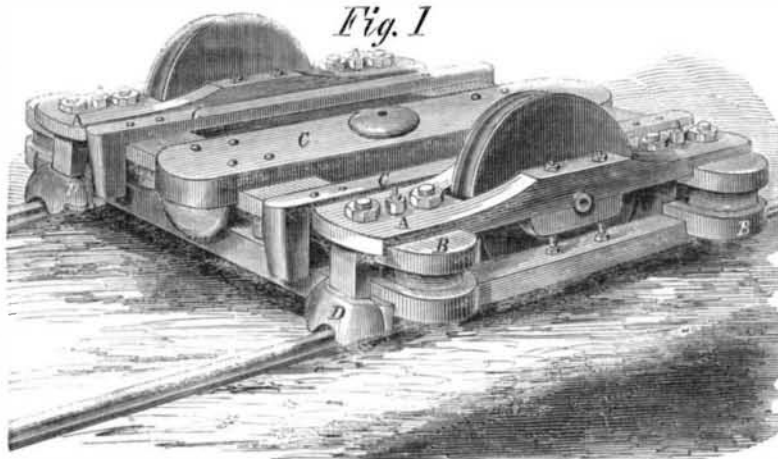
SPECIAL NOTICES.

John R. Moffit, of Chelsea, Mass., formerly of Piqua, Ohio, having petitioned for the extension of a patent granted to him on the 30th day of November, 1856, for an improvement in grain separators, and released on the 17th day of May, 1859, in three divisions—A, B and C, numbered respectively 715, 716, and 717—this petition being for the extension of the release, B, numbered 716, it is ordered that the said petition be heard on Monday, the 12th day of November next.

Improved Suspension Car Truck.

Cases have been known where a train of cars has been lifted bodily from the track by a tornado, and accidents have occurred which were attributed to the top-heaviness of cars, owing to their elevation from the track and the narrowness of their bases in the spread of the wheels. This improved truck is intended to bring the weight of the car nearer the track than is possible in the ordinary truck, to facilitate the ingress and egress of passengers, the loading and unloading of freight, to admit of the use of wheels larger than those commonly employed, and to allow independent action of the wheels on either side of the car.

Fig. 1 is a perspective view of a single truck. It will be seen that the body of the truck is suspended beneath the center of the axle, thus bringing the car bottom so much nearer the rails. The wheels run in brackets, A, which are connected by double cross-ties, B. Between the upper and lower portions of the cross-ties, springs of rubber, or other suitable material, are interposed, and the whole frame is braced and made solid by longitudinal ties, C. The rubbers, D, are intended to run near the rail for the purpose of clearing obstructions from the track, and securing the cars on the track if by

**STRAIT'S SUSPENSION CAR TRUCK.**

curves than where both of a pair of wheels are secured to the same axle. Patented May 22, 1866, by H. Strait, 66 East Pearl street, Cincinnati, Ohio, whom address for further information.

KEENER'S PATENT HAT RACK.

Gentlemen are often much provoked by having their fine and costly silk and fur hats tumbled about the floor on account of the difficulty of balancing and supporting the entire length of crown upon the short hook or pin of ordinary hat racks. This occurs at parties or other gatherings, where many hats are



crowded together, or in hotels, private houses, offices, and elsewhere, and, as a result of such rough usage, many a valuable hat does not live out half its days.

The annexed engraving shows Keener's patent elliptic hat rack, which is designed to obviate this difficulty. In the place of the old form of hat hook, he supplies an elliptic ring or loop of metal or other material; this is suspended from an eye or hook. In using it, the ring is lifted to a horizontal position with one hand by means of a slight finger piece at its lower end, while the crown of the hat is inserted in the ring from below. The ring is then dropped to its pendent position, holding the rim of the hat against the wall or rack frame, as shown in the engraving.

Thus secured, it is impossible for the hat to fall of itself; it matters not how high the crown may be, it is safe. This form of rack may also be used for ladies' or misses' hats and bonnets, boys' caps, etc. If it is desirable to use it in connection with the old hooks for coats, the rings may be so placed as to

bring the hooks in their center; by this means the coat may be hung under the hat. This patent was obtained through the Scientific American Patent Agency. As the patentee is not prepared to manufacture these racks, he will sell the rights. [See advertisement in another column.]

HARLOW'S ASH SIFTER.

The old-fashioned wood fire, although having its inconveniences, is free from the plague of ash sifting and its attendant annoyances of dirt and labor. We have yet to see the person fond of poking the fire, who is equally enamored of sifting coal ashes. Economy, however, demands that ashes should be sifted, and he who can provide the means of doing the work effectively, divorced from its annoyances, is entitled to the thanks of the housewife. This is the intention of the improvement herewith illustrated.

It is a box containing a cylinder, A, of wire gauze which is rotated by a crank. The cover has a small trap, B, which is opened to admit the introduction of the mixed coal and ashes, the cylinder being held by the pawl, C, so that the opening, D, is retained opposite the trap. A partition, extends across the drum from the center to the periphery, and a door, E, pivoted on the central shaft closes the aperture. This door is secured by a button, seen at F, held by a spring. The lug, G, fastened to the inside of the case, turns this button and opens the door, E, at each revolution, and it is closed again by its own weight after passing the center. This arrangement tends to throw the ashes from side to side until they are thoroughly sifted, while the position of the door, when open, prevents the escape of either ashes or coal from the cylinder. When properly sifted the

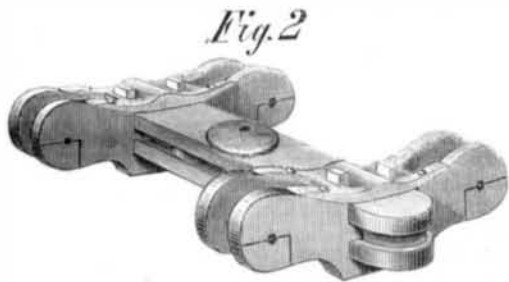


pawl, C, is lifted, the cylinder turned to the left, and the coal is dumped through the chute, H, into a hod. The contrivance is easily secured to the top of a barrel which receives the ashes and prevents them from escaping.

Patented through the Scientific American Patent Agency, April 24, 1866, by P. Harlow, Kingston, Ulster Co., N. Y., whom address for additional information.

REMARKABLE PASSAGE.—The English papers notice the fact that during the run from New York to Brest, the *Pereire* exceeded the *Ville de Paris's* run, the voyage being of extraordinary quickness, the distance from New York to Brest, which is 26 miles further from New York than Liverpool, and 225 miles further than Queenstown, being accomplished in eight days and 22 hours, giving an average speed of 14 knots an hour—a rate of steaming without parallel.

PAPER, as well as cotton fabrics, can be rendered partially fire-proof by immersion in a solution of alum.



any means the wheels should be lifted from their places. To further secure this object, the wheels can be made with a light outer lip, as shown in the engraving. This is practicable in this truck, as the wheels move independently of one another on short axes.



Fig. 2 shows a double truck intended for four wheels. Its plan of construction will be readily understood by the engraving without reference to its parts. Fig. 3 represents rubbers or guides to be attached to the double truck, projecting in front and in rear of the wheels. E is a fixed rubber at the rear of the wheel, and F an adjustable rubber, which can be raised or lowered at will by means of a bolt and spring.