

**NEW CAR COUPLING.**

The annexed engraving represents an improved car coupler recently patented by Mr. Alexander Peck, of Farmingdale, Ill. It is capable of automatically coupling cars of unequal heights, and is operative in such cases as commonly require a bent link, at the same time it is a safe and convenient coupler for cars of any kind. The couplers, A, are provided with arrow-shaped heads, whose interlocking faces are beveled, so that when coupled and drawing they cannot slip apart and become uncoupled so long as the cars keep the track. A chain, B, connects the coupler with the draw bar, and is surrounded by a spiral spring which holds the coupler in a horizontal position except when engaged by another coupler; it then yields sufficiently to admit of coupling two cars of the same height or of different heights within wide limits. Each coupler is provided with a lever arrangement, by which it may be raised to uncouple it or to bring it into the proper position to be engaged by the opposing coupling, when the cars being coupled happen to be of exactly the same height.

The inventor states that this coupling is safe and effective, and may be readily applied to ordinary cars without any material alteration and without the removal of their buffers. Its construction is such that should any of the cars leave the track they immediately become uncoupled and leave the rest of the train. The advantages of this coupling will be readily understood by persons familiar with the requirements of railroad engineers.

**AUTOMATIC HUB MORTISING MACHINE.**

The annexed engraving represents an automatic double chisel hub mortising machine, manufactured by the Defiance Machine Works, Defiance, Ohio. This machine is automatic in all its movements, it will make stagger mortises as well as straight, and will mortise hubs from three and one half inches up to thirteen inches in diameter. It is adapted to a wide range of work, and is very strong and well built, and although the engraving makes it appear rather complicated it is in reality more simple than the ordinary single chisel machine.

The chisel bars in this machine are inclined at the proper angle, and are both driven by a single crank shaft. Their lower ends are run in slides so that all springing is avoided and the work is done with accuracy.

The hub is carried up to the chisels by a cam seen underneath the bed, and the auger which bores the hub previous to mortising is brought into action at right angles to the chisels.

The auger spindle will be seen in the engraving projecting through the standard just above the bed.

This machine is no experiment, it having been in practical operation for more than ten years, giving the best of satisfaction. It is capable of beating 7,000  $\frac{1}{8}$  x  $2\frac{1}{4}$  mortises in ten hours without fatiguing the operator.

The manufacturers inform us that the double crank, chisel bars, auger-spindle, the pins, and the shafts are all made of steel. Everything about the machine is calculated for heavy and continuous work.

Further information may be obtained from the manufacturers, whose address is given above.

**Fire by Friction.**

A company of South African savages, Zulus, are now amusing the people of London, at the Westminster Aquarium. Among other performances they show how they get fire without matches. Some straw being laid on the ground as a bed, two sticks were placed on it a few inches apart to form a support for the third stick, which was laid across them, having a deep notch cut in it to receive the blunt point of the drilling stick; this was twirled like a chocolate muller between the palms of the hands, and when the twirler's hands reached the bottom they were either dexterously shifted to the top again, or another of the Africans squatting round took on and relieved the first. A spark was got in the charred dust in about five minutes, and was received with shouts and leaps of delight by the fire makers, one of whom, carefully shielding it in a handful of the straw, soon fanned it into a flame.

**MISCELLANEOUS INVENTIONS.**

Mr. William H. Mintzer, of Colton, Cal., has patented a shoe for locomotive engineers, firemen, drivers of horse cars, and others, by the use of which they will avoid the pain and diseases that they are subject to because of the jarring of the cars.

Mr. John M. Ludwig, of Edenburg, Va., has patented an improvement in the class of middlings purifiers in which the middlings are delivered upon a horizontal reciprocating

A novel game apparatus, patented by Mr. William B. Cowan, of Guelph, Ontario, Canada, relates to games for parlor amusement; and it consists in combining with outside walls and wings, other walls with end wings, and an armed extension inclosing a space opposite a V-shaped projection. This invention cannot be clearly described without engravings.

An improved stock car has recently been patented by Mr. John L. Copp, of Rochester, N. H. The object of this invention is to furnish stock cars so constructed that the stock can be conveniently fed and watered without being removed from the car.

Mr. William Freeland, of Brooklyn, N. Y., has patented a simple, durable, and safe device for securing carriage traces to the whiffletree, especially adapted to light harness having slotted leather traces, and it consists in a slotted pin fitted with a spring blocking piece, which is normally projected by the spring to retain the trace, and when depressed closes within the pin and flush with its surface.

Messrs. Joseph W. Cole and Columbus M. Cole, of Warren county, Ky., have patented an improvement in the class of machines for extracting honey from the comb by the effect of centrifugal action. The inventors of this machine have aimed at the greatest simplicity, and have provided for the convenient insertion and removal of the comb, for supporting comb of any

any size without the aid of a supplemental device, and for reception of the extracted honey into cups or buckets, which are made detachable for the purpose of enabling them to be removed when filled and replaced by empty ones.

Mr. Enoch B. Norton, of Hartford, N. Y., has invented an apparatus for sprinkling Paris green liquid on plants attacked by insects, the object whereof is to enable the liquid to be carried conveniently in a suitable vessel, and to permit the quantity of liquid delivered and the direction in which it is sprinkled to be promptly regulated by the operator.

An improved rocking chair, which is so constructed that it may be adjusted for use as a reclining chair, and may be compactly folded for storage and transportation, has been patented by Mr. Chauncey D. Hyde, of Pitcher, N. Y.

Mr. Cyrus Norwood, of Winters, Cal., has patented an improved electric or galvanic belt to be worn upon the person for the purpose of allaying pain and preventing and curing various forms of disease.

Mr. Jordan H. Mitchell, of Eufaula, Ala., has patented an improved buckle for connecting the ends of bale ties or bands; and the object of the invention is to furnish a buckle which shall hold the tie securely and can be used without the necessity of perforating or cutting the tie or band.

An improved end gate for wagons has been patented by Mr. George Jontz, of Wyandot, Ill. The object of this invention is to furnish end boards and top boxes for wagon bodies so constructed that the end board may be adjusted for use as a shoveling board and a dumping board.

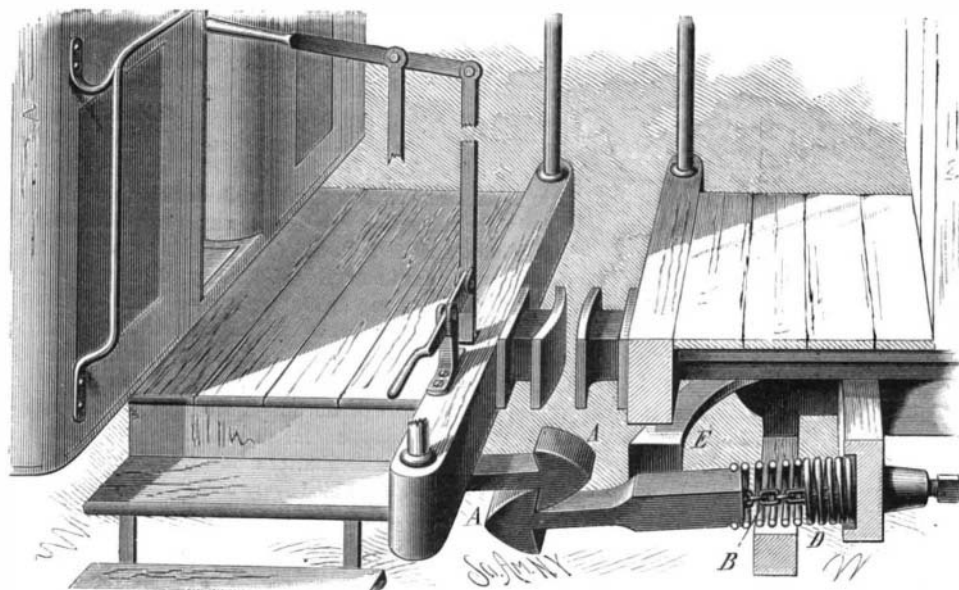
Mr. Richard Young, of Brooklyn, N. Y., has invented a tool for ornamenting and finishing the surface of leather, which consists in a creaser or marker, such as is used for lining, and a roller for embossing and printing, the creaser being stationary, while the roller is fitted to revolve, so that in use a line or crease and a printed impression are produced at the same time. The tool is used in connection with a drum, hand jigger, or other machine of usual character for finishing leather.

An improved saddletree fork has recently been patented by Mr. Gustav A. Mittendorf, of New Braunfels, Texas. The object of the invention is to strengthen the iron fork by means of a bent wooden part.

Mr. Joseph Kintz, of West Meriden, Conn., has patented an improved drop handle for drawers, etc. The object of the invention is to prevent the knob from swinging in any but a vertical plane to and from the drawer, and the lapped portion from straightening out.

A lamp base, made of glass or porcelain, provided with two rings adapted to fit on the body of the base, and having two handles, each of which is attached to both of the rings, has been patented by Mr. Joseph Kintz, of West Meriden, Conn.

Mr. George W. Bolton, of Fredericksburg, Iowa, has patented a milk can provided with simple and efficient devices for cooling and gauging the milk and for removing the cream.

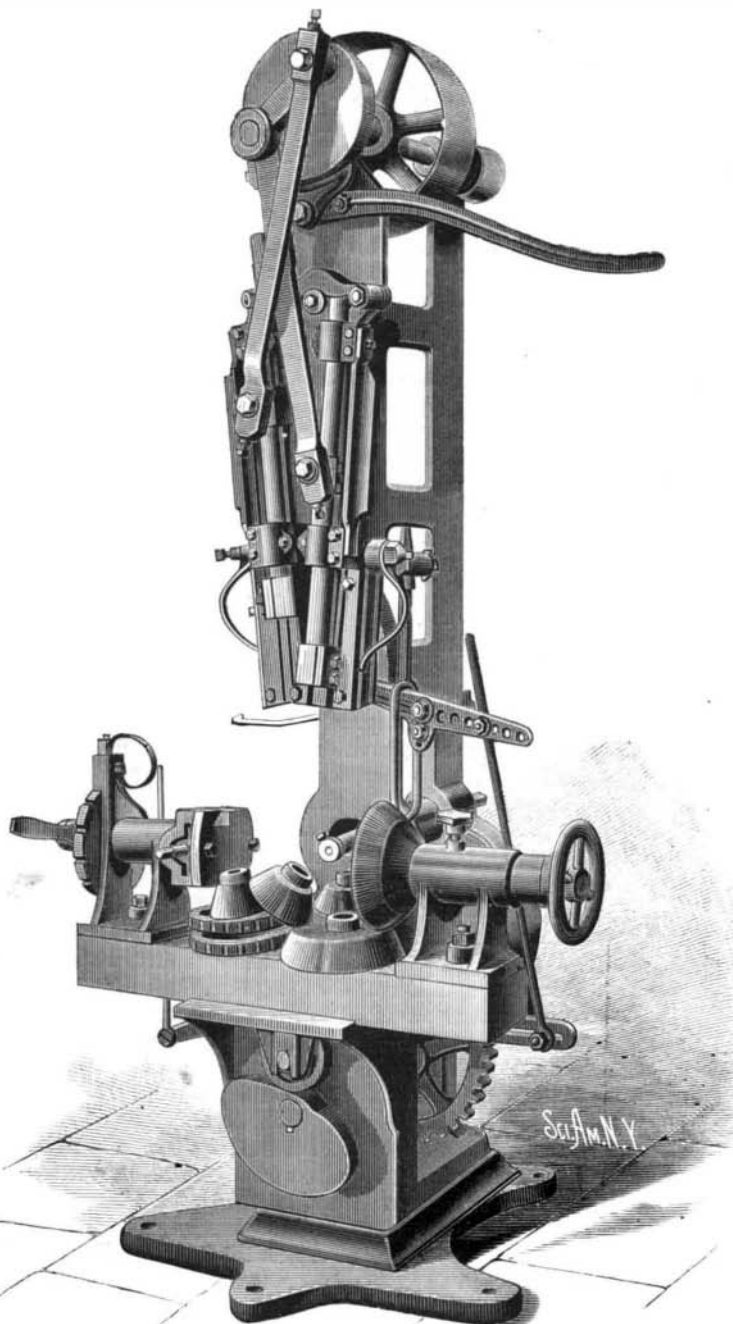


**PECK'S CAR COUPLING.**

screen. This is a simple and economical middlings purifier by which a large percentage of a high grade family flour may be obtained. The machine occupies small space, and may be run with less power than an ordinary grain separator.

Mr. William E. Woodruff, Jr., of Little Rock, Ark., has patented a machine for printing addresses on newspapers, pamphlets, wrappers, envelopes, etc., from movable, consecutive, and connected forms or printing surfaces.

Mr. Thomas Soden, of New York city, has lately patented a novel bed lounge. The improvements relate to the arrangements for transforming the lounge into a bed.



**DOUBLE-CHISEL AUTOMATIC HUB MORTISING MACHINE.**