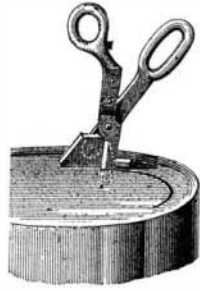


RECENT INVENTIONS.

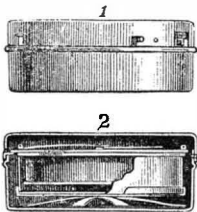
Can Opener.

The engraving shows an improved can opener which will cut on a straight or curved line. It is formed of two levers pivoted to each other, one being provided with a blade at its lower end, and the other having a plate pivoted to its lower end, and provided with a flange adapted to rest upon the top of the can, the plate thus serving as a guide and traveling fulcrum for the cutting blade. This useful invention has been patented by Mr. John McWilliams, of New Lebanon, N. Y.



Watch Movement Box.

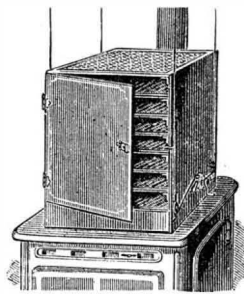
This is a box for packing watch movements for the market. It renders putting them up in paper unnecessary, and they are more securely held or kept from being shaken or injured. Ordinarily, in packing American watch movements for the market, they are put in a tin box and done up in paper, and then the whole put into another tin box provided with a cover. This invention consists in an inner and outer box and peculiar devices connected therewith, including a retaining ring, together with a spring forcing the watch movement against the ring, and locking devices, whereby a secure and steady packing of the movement is obtained. This ring,



instead of being slipped to its place, as shown, may be hinged to one side of the outer box and fasten on the opposite side thereof, so as to open and close. If it be found that the ring mars the dial, a paper washer may be interposed between them. Such retaining ring may be used in connection with a permanently attached spring, instead of a removable one, for holding the watch movement up against it. Fig. 1 is an outside view, and Fig. 2 is a sectional view. This invention has been patented by Mr. Albert D. Bingham, of Nashua, N. H.

New Fruit Drier.

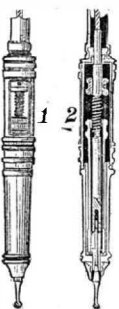
This is a metallic box having wire gauze top and bottom, and containing racks upon which to place the fruit. There is a hot air chamber below the wire gauze bottom, adapted to rest on or be suspended over the top of a cook stove by cords from the ceiling, which are attached to drums on the sides of the drier, so that by turning a crank the drier can be quickly raised up and suspended above the stove, when the latter is wanted for cooking purposes, without wholly suspending the drying process. With this kind of a drier the ordinary cook stove may be utilized for the heater without material interference with the cooking operations, and on the other hand the cooking operations will not materially interfere with the drier. A sheet metal slide is



sometimes inserted under the trays to protect the fruit from the steam that may rise at times. It may also be placed over the trays to prevent the escape of hot air when desired. This invention has been patented by Mr. William F. Hale, of Jamestown, N. Y. (P. O. Box 1,914).

Dental Drill Hand Piece.

The engraving gives an external and a sectional view of an improved hand piece for dental drills, recently patented by Mr. Robert M. Ross, of 29 Columbia Street, Utica, N. Y. The improvement is designed to facilitate the insertion in the hand piece of tools having points of different sizes. In fact, the invention consists in the application to the hand piece of a simple and effective universal chuck adapted to the different shanks. The spindle proper is bored axially at the end, and mortised transversely to receive two tapered blocks which are grooved along their inner edges to receive the tool shank. Over the spindle is placed a sleeve with its lower end flared to receive the clamping block, and its upper end threaded internally, and fitted to the threaded portion of the spindle. The spindle is provided with a milled head by which it may be held while the sleeve is screwed down to clamp the blocks against the shank of the tool. The milled head of the spindle and that of the sleeve are accessible through slots formed on opposite sides of the handle, which may be closed by a rotating shell or cover. Besides this improved device for clamping the tool, the hand piece is constructed so that it may be very readily taken apart for cleaning. It has an improved swivel attachment at the top which connects with the flexible power connection. Further information in regard to this improvement may be obtained by addressing the inventor as above.



New Station Indicator.

This is a new device for showing successively the names of stations on a railroad, steamboat, or stage line, and calling the attention of the passengers to the apparatus by sounding an alarm. The invention consists in a station indicator having clockwork mechanism for operating rollers to which a band is attached, the band carrying the station names, so that when the clockwork mechanism is released the band will be wound from one roller to the other, and will be moved across a slot in the front of the station indicator box, and at the same time an alarm bell will be sounded to call the attention of the passengers to the station indicator. The rollers are provided with clutching devices whereby the loose cogwheel (with which each roller is provided) of either roller can be engaged with a cogwheel operated by the clockwork mechanism, whereby the band can be wound in one direction or the other, according to the direction of the train. This invention has been patented by Mr. John W. Watts, of Clarksville, Mo.



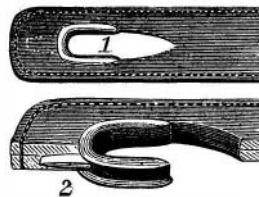
Improved Sun Dial.

This invention consists of a semicircular portion of a ring corresponding to that portion of the globe upon which the shadow of a ball located at the earth's center would travel, supposing the earth to be transparent, arranged in connection with a ball and an adjusting device, and having longitudinal lines of declination and transverse lines for hour-marks, making a simple and efficient sun dial or solar compass. The principle of the invention is as follows: Supposing the earth to be a transparent globe, with a ball placed in the center, then the shadow of the ball would travel around the globe once in twenty-four hours; and if the sun's declination was south, say, 10°, the shadow of the ball would travel 10° north of the equator. If we then take that portion of a globe lying 23° 28' on each side of the equator, the extent of the sun's declination, with a ball in the center, and the upper half cut away, it would form a semicircular ring, on which, if suspended parallel to the equator, the shadow of the ball would travel as on the earth. If we make the ring flat, it will be the tangent of a globe of the ring's diameter, as shown in Figure, and if tangent lines of declination are drawn on this semicircular ring, with a ball suspended in the center, the shadow of the ball will travel along the line of declination all day if the ring is suspended parallel to the equator—that is, with an angle from the vertical equal to the latitude of the place. It is intended that cards with the sun's declination and equation of time should go with the instrument. This invention has been patented by Mr. Niles Larsen, of West Point, Neb.



Improved Trace Eye Guard.

The design of this invention is to strengthen the trace at the eye, where they receive the full strain of the trace, so that the trace will not tear out or break away in moving the load. The trace is made as usual with two or more layers of leather stitched together, and with an eye for the entrance of the whiffletree end irons. The trace eye guard is formed with flanges which are clinched on the sides of the trace, and a prong projects from the guard into the material of the trace, as shown in Fig. 2. The guard when applied is U-shaped, and is calculated to receive all of the wear and pressure of the whiffletree end irons. This invention has been patented by Mr. D. Kaltenbacher, of Shelbyville, Ky.



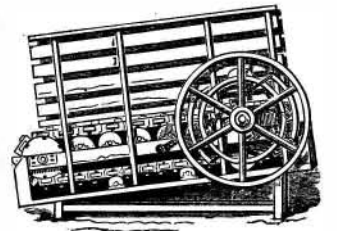
Novel Bicycle.

This bicycle has the cranks of the front driving wheel connected with hand levers pivoted in hangers on the vehicle frame, the hand levers being provided at their lower ends with arms carrying foot rests, whereby the levers can be operated by hand and foot. Elbow levers are pivoted on the same pivots with the hand levers, and can be connected with the same or with the fork of the steering wheel, so that, if desired, the elbow levers can be used for steering the vehicle by means of the feet, if the bicycle is to be propelled by means of the hands only. When the bicycle is to be propelled by means of the hands and feet, it is steered by means of a back rest attached to the upper swiveled end of the fork in which the steering wheel is journaled. This improvement has been patented by Mr. Jean B. Girard, of St. Aime, Quebec, Canada.



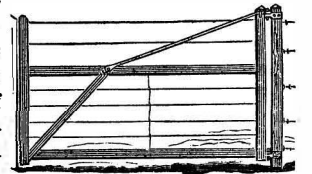
Improved Tread Power.

In this tread-mill power, the endless traveler consists of cast iron chain links jointed together and carrying lags which are connected to the links by a tenon on each end fitting in a corresponding mortise in the link. Carrying rollers are fitted to run in boxes attached to the frame, so that the chain links run along on them from one to another, and in order that the rollers may be of larger than ordinary size and placed further apart, the chain links have abutting shoulders above the pivot joints, which hold the lags up level for the horse to walk on. Each lag has a rib or cleat nailed on the upper surface just back of the front edge. The rollers that sustain the weight of the horse may be larger, stronger, and easier running than where the rollers are attached to the chains. For a brake to regulate the speed of the machine, a couple of centrifugal levers are pivoted to a couple of the arms of the flywheel, and having a brake-shoe on the short arm to act on a friction rim attached to the frame, the long arms of the levers being connected to the rocker bar by rods, and to the rocker one of the levers is connected by a coiled spring and adjusting screw, which tend to keep the brakes off the rim when the speed is not too high; but when excess of speed throws out the centrifugal levers the shoes will be pressed on the rim till the speed slows to the proper limit. The machine is provided with a simple stop device and is improved in other details. Mr. Lorin D. Carpenter, of Brush Creek, Ia., is the patentee of this invention.



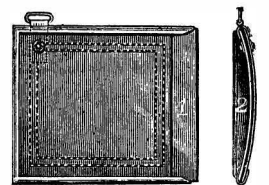
Improvement in Gates.

This gate is designed mainly for farm use; wood and metal or wire are combined in a novel manner in its construction. It may be cheaply made by unskilled labor, and combines lightness with durability. The gate is composed of two wooden uprights, one at the hinge end and the other at the free end, two horizontal rails and an oblique brace connecting the two as shown. An iron brace connects the upper end of the wooden brace with the upper end of the inner upright, and is provided with an eye which receives the pintle of the upper hinge. Wires are stretched between the uprights, forming a complete panel. This gate is very light and at the same time simple and strong. Mr. Carey McMillen, of New Guilford, O., is the patentee of this invention.



Blinder for Bridles.

The main leather part or body of the blinder is stitched or secured by rivets to the cheek pieces of the bridle in the ordinary way. At the upper, lower, and outer edges of the blinder are secured metallic binding, the edges of which are pressed down upon the material of the blinder, so as to grasp the edges of the blinder and finish it at the edges. The upper strip of binding has the slot formed in it near the outer edge of the blinder for the purpose of receiving the plate of the metal loop into which the blinder stay of the bridle is to be attached. This plate, after being forced down through the slot and between the two pieces of leather that compose the body of the blinders, is held there, preferably by the rivet which has the ornamental heads, as shown. The edges of the blinder may be finished with much less labor than by the old method of stitching, and the blinder is made much stronger, especially at the point where the loop for the blinder stay is attached, and is made more ornamental. Fig. 1 is a side view and Fig. 2 a sectional view of the blinder. This invention has been patented by Mr. Dominick Kaltenbacher, of Shelbyville, Ky.



PROF. S. A. FORBES has experimented with emulsion of kerosene upon the chinch bugs, says the *American Naturalist*, with good results. He finds that soap suds (one pound of soap to ten gallons water) mixed with an equal quantity of oil make a good emulsion. These fluids accomplish their work as well when poured on with a sprinkler as when applied forcibly in a spray, and kill the adult bugs as easily as the young.

THE *Railway Gazette* says that the tunnel contractors of the Pittsburg Junction Railway near that city are making bricks from the borings from the tunnel, to use them in roofing the completed tunnel. "Two wheels weighing several tons each work and pulverize slate, rock, and earth, and everything the tunnel produces. A stream of water is kept playing on the mass, and as it is pulverized it is forced through a fine sieve and carried to a chamber, where the manufactured clay goes through the regular process, producing a hard, tough brick."