RECENT AMERICAN PATENTS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week; the claims may be found in the official list:—

Coffee Roaster.—This invention relates to certain improvements in a coffee roaster, for which Letters Patent were granted to this inventor, bearing date April 28, 1863. The original invention consisted of a rotating sheet-metal coffee receptacle, hung on a shaft or pivot horizontally, and operated by means of a clock movement provided with a single spring. The present improvements consist in substituting a wire-cloth coffee receptacle for the sheet-metal one previously used, whereby the coffee is screened while being roasted, and the husk and other substances which give the coffee a disagreeable, bitter taste, removed or separated from the coffee. Another improvement consists in using a detachable lid or cover with the receptacle above mentioned, whereby the heat is retained around said receptacle, and also the aroma of the coffee, while, previous to the roasting operation, the lid or cover is removed in order to admit of all moisture being expelled, so that the coffee may be roasted in a dry state. Another improvement consists in applying two driving springs to the clock movement, whereby the device may be wound up during the time it is in operation, and without stopping the rotation of the coffee receptacle. Another improvement consists in a novel manner of applying the coffee receptacle to the device, whereby it may be readily detached for the purpose of being filled and emptied, and readily applied and connected for use. C. A. Mills, of Bristol, Conn., is the inventor.

Manufacture of Mirrors, Etc.—This invention relates to a new method of precipitating on the inner surface of a mirror or looking glass nitrate of silver or other suitable substance, from a solution, by placing the glass plates edgewise into a vat, the face of each glass being protected by placing it against the face of the adjoining plate, with an intervening sheet of india-rubber, gutta-percha, or other bad conductor of electricity, whereas the backs of the plates are free, so that when the vat is filled with the solution of silver or other material the metallic salt contained in said solution is evenly and uniformly precipitated on the back of all the glass plates, and a large number of mirrors of great brilliancy can be made in a short time, and with comparatively little expense. On taking the plates out of the bath, a coat of varnish is applied over the layer of metal as a protection, and, thereby, mirrors made according to this plan are rendered cheaper and much more durable than mirrors coated with mercury in the ordinary manner. Rudolph Keck, of New York City, is the inventor.

Car Spring.—This invention relates to a new and improved spring for railroad cars, and it consists in the employment or use of a series of steel plates, placed within a box, which is fitted in the pedestal of the car, as usual; said plates being arranged with india-rubber or other suitable yielding substance, also placed within the box, and in such relation with the plates as to form a spring very compact in form, and one which will have a gradually resisting power when subjected to weight or pressure. George Douglas, Scranton, Pa., is the inventor.

Caloric Engine.—This invention relates to certain improvements in caloric or hot-air engines, and it consists in an improvement in the air-heating device, whereby the air is subjected to a large area of heated surface within a chamber of limited dimensions. The invention also consists in an improved arrangement of the flue of the heater and hot-air conducting pipe and the driving cylinder, whereby the heated air, in its passage from the heating device to said cylinder, and while within it, is prevented from being cooled and rendered inefficient. The invention also consists in a novel arrangement of slide valves for the pump and driving cylinder, whereby a perfectly balanced valve is obtained; and the invention further consists in a novel means of communicating a rotary motion to the shaft from which the power is taken, from the reciprocating motion of the piston rod of the driving cylinder. Hiram Kilbourn, of Waterloo, Iowa, is the inventor.

Bottles.—This invention relates to a new manner of constructing the head of a bottle, particularly such as are used for bottling soda water, wine, mineral waters, etc., so that a wooden plug can be used instead of a cork, which will materially reduce the expense of corking bottles, for the reason that the corks now used in such bottles are destroyed as soon as drawn from the bottle, and are made of cork now, which is expensive. The invention consists in forming on the inside of the head of a bottle a groove of suitable extent, into which is introduced a packing or lining of rubber or other suitable elastic material, which will, when the plug is driven in, insure a perfectly tight sealing or corking of the bottle. Thos. B. Way, of Bennington, Vt., is the inventor

Paddle Wheel.—This invention relates to a new and improved paddle wheel, of that class which are provided with feathering buckets, and it consists in a new and improved manner of operating or feathering the buckets, whereby the same are made, during the revolutions of the wheel, to radiate from its summit, so that the plunge and lift attending the ordinary paddle wheels are avoided, and the improvement rendered capable of being used as a submerged wheel, possessing the advantage over the screw propeller of a direct instead of an oblique action, and also rendered capable of working effectively when turned in either direction. Edgar Haight, of Buffalo, N. Y., is the inventor.

Method of Coloring Photographic Prints.—This invention has for its principal object the cheapening and increasing the durability of photographic prints, and relates more particularly to a new system of coloring photographs, by means of chemical substances, which so combine with the photographic prints, when applied to them, as to be indestructible either by water, alcohol, or spirits of turpentine, and, moreover, in beauty are equal to, if not superior to, prints colored by any of the ordinary modes hitherto known or practiced, and can never fade or discolor by exposure to the sun or any other light—said chemical substances being of such a nature that they can be readily and easily applied to the prints by any person, whether acquainted with the art of coloring or not. J. C. Beyse, of St. Louis, Mo., is the inventor.

Bolt-heading Machine.—The object of this invention is to produce bolts with square or polygonal heads, by the action of a mechanism which requires no more attention except that necessary to feed the blanks to the machine. The blanks are cut off to the proper length from round iron bars of the requisite thickness, and one blank after the other is fed into the machines by the attendant. Suitable tongs grasp hold of the blank and carry the same along under the several heading tools, by the successive action o which, combined with that of suitable heading dies, heads of the proper size and shape are formed, and the bolts, after having been headed, are discharged from the machine automatically. During the heading operation the blanks are held in position by suitable clamping jaws, and, while the first heading tool is brought into action, the head to be formed is sustained by sliding spring jaws. Simultaneously with the second heading tool the head to be formed is exposed to the lateral action of heading dies, and, when the last heading die comes into action, the head is confined by a heading die having a suitable recess representing one-half of the head to be formed. The tongs which carry the blanks from one heading tool to the other are secured in a sliding spring head so that they rise and clear the blanks in going back, and the blanks are raised after the heading tools have acted thereon, to such a position that the tongs on their forward stroke are enabled to grasp them, and advance them to the next succeeding heading tool, or to the discharge opening. While being moved from the second to the third heading tool, each blank receives a quarter revolution or less, by the action of a sliding pusher, so as to bring the heads in the proper position in relation to the last heading dies. Franz Schweizer, of New York City, is the inventor.

A New Steam Engine.

A new steam engine, on the rotary principle, was exhibited before the British Association, at Birmingham, England, lately. The boiler is vertical, having a cylinder of three feet in diameter by six feet in hight; the internal fire surface consisting of a hemispherical bottom, with the heat spreading all over it by leading to a circle of vertical fire tubes, passing through the water. To one side of this boiler is attached the engine, which shows externally as a horizontal cylinder, about twelve inches in diameter by two feet in length, within which the pistons revolve, the entrance and exist of the steam being provided for by the action of external elliptical tooth wheels fixed on the revolving shafts, which, causing alternate faster or slower movements of the pistons past each other, opens and closes the passages. A drum-wheel on the axis of the cylinder carries a strap, which will put in motion any required machinery. The whole is supported on one pair of wheels, with a pair of shafts attached, and can be moved by one horse. The machine, as shown, was stated to be the equivalent of an ordinary eight-horse portable engine, and that the relative weights were thirty hundred weight, the rotary engine, against fifty-five hundred weight on the ordinary plan. No fly-wheel is needed, it was said, to keep up the movement, and there is an absence of all the vibrating motion induced by the reciprocation of ordinary engines. The principle is applicable to portable purposes or to boats or locomotive engines. The actual consumption of fuel for work done was not given to the meeting.

[We are unable to see any novelty in this engine. —Eds.

MISCELLANEOUS SUMMARY.

Japan Black.—1. Asphaltum, 3 oz.; boiled oil, 4 quarts; burnt umber, 8 oz. Mix by heat, and when cooling thin with turpentine. 2. Amber, 12 oz.; asphaltum, 2 oz.; fuse by heat, add boiled oil, half a pint; rosin, 2 oz; when cooling add 16 oz. oil of turpentine. Both are used to varnish metals.

Dr. Richardson has succeeded in making the heart of a dog, which had been dead some time, pulsate perfectly for at least twenty minutes, by introducing blood heated to 90° Fah. into the coronary arteries.

A Dentist of Edinburgh has patented an ingenious modification of forceps, which admits artificial cooled air through its points to the gum, so as to deaden sensation previously to the extraction of the tooth, and thus render the operation painless.

Artificial Ivory Tablets for Photography.—Finely pulverized heavy spar (sulphate of baryta) is mixed with gelatin or albumen, compressed into sheets, dried and polished.

Pineapple essence is a solution of butyric ether, with some oil of lemon and orange peel, in deodorized alcohol; essence of raspberry, a tincture of orris-root with a little butyric ether.

Vegetable ivory shows a red stain where a drop of oil of vitriol is applied, which again disappears on washing it with water. Bone or genuine ivory does not show this reaction.

Our notice of the Fair of the American Institute made mention of the Clinton Wire Cloth Co., and located them in Connecticut. This was erroneous. The Works are located at Clinton, Mass.

A chess problem, published by the Philadelphia Fair paper, is the most complicated in the records of the game. The proposition is, "White to move and compel Black to mate in eighteen moves."

The journeymen shipwrights of Baltimore, determined to mark out a path for themselves, have established an independent shipyard, and are already taking contracts.

The diminution of the magnetic dip has been going on in London for the last half century with great regularity at the rate of about three minutes annually.

A weight which would only be 3 oz. on the moon would be 1 lb. on the earth, and the same force would throw a body six and a-half times further or higher on the former body.

In the mines of England there were 998 deaths by accident in the year 1864, and in the previous year 933.

Fraunhofer, in his optical experiments, made a machine by which he could draw 32,900 lines in an inch breadth.

The highest inhabited place on the globe is the Post-house of Ancomarco, in Peru, which is nearly 16,000 feet above the sea.