

Recent American and Foreign Patents.

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

**BEDSTEAD.**—The side rails have metallic plates attached at the ends, upon which are formed hooks, which enter mortises in the posts and engage metallic pins, in such a manner as to draw the parts tightly together. A flange formed on each plate also rests against the post, and makes the connection firmer. Sockets are also formed upon the plates to sustain cross-bars placed respectively at the head and foot of the bed. These cross bars sustain the longitudinal slats, held together in sections by cross bars, so that each section sustains the weight of the person resting upon it, independently of the other. Invented by Ira Deyo, of Pa.

**ELEVATOR.**—This improvement, made by Valentine C. Blair, of Wheatland, Pa., consists of pairs of lever clamps or catches, so pivoted that the action of a spring causes them to gripe with great firmness the slides, upon which the frame of the platform or cage slides up and down, in case the ropes should break. The outer ends or levers are connected by links at the ends of a four armed bow, which bow is attached to the rope in such a manner that it keeps the ends of the clutching levers raised against the action of the springs, so that the latter cannot cause the clamps to take hold except in case of breakage.

**COUGH CANDY.**—Louis Violet, of New Lebanon, N. Y.—One pound extract of horchound and one pound extract of liquorice are dissolved in alcohol and boiled down to the consistency of paste, then mixed with four pounds of sugar, which were previously dissolved in water. The medicine is, as a gum filling, put up in canicles of suitable shape and style, and is harmless to the stomach, but effective in curing inflammatory diseases and affections of the throat.

**TRDY PINS.**—The inventor claims to have discovered a principle of construction or new way of shaping the pin, so combining a lateral or branched head with a pair of opposite and short corrugations that a narrow recess is formed between them, in which the fabric will lie and prevent the pin from working loose or slipping out. Invented by Hial H. Newton, Cleveland, Ohio.

**COMBINATION TOOL.**—This is a new implement for use with sewing machines, which embraces in one tool a hook, a spring nippers, and a shears the hook being to take out or put in the shuttle and adjust the thread; the nippers being to take the end of the thread projecting through the eye in threading the needle to pull it through, also to hold and adjust the needle in setting; and the shears being to cut threads, cloth, etc. B. S. Burch, of Petersburg, Va., assignor to himself and William H. Baxter, of the same place.

**RAILWAY RAIL JOINT.**—This consists in a long flat plate having vertical slots, one on each side, near the center, two clips with upper ends catching on the base of the rail, and lower parts projecting down through the slots in the plate, the latter being placed under the rails; a gib for holding the ends of the clips below the plate from being forced together; and a key for clamping the clips and the plate together, said key passing under the plate transversely and through holes in the clips, and the plate resting at the ends on the ties. The inventors propose to employ a split key, having the ends so shaped that it will be prevented from working out. The plate may have notches on the edges of the part resting on the ties, coinciding with the notches in the edges of the bases of the rails, for reception of the spikes used to hold the rails down and to prevent end movement. The several parts forming this apparatus for joining the ends of the rails are all very simple in form, and may be made in wrought metal, either by rolling or stamping, making, it is claimed, a very cheap, simple, and efficient joint. Invented by George E. Morris and Charles W. Gregory, of Danville, Ill.

**HYDRANT.**—This invention is intended to provide hydrants having double discharge nozzles with a convenient valve, whereby either one of the nozzles can be closed, and it consists in the application to the hydrant of a swiveled lever carrying a disk or valve, whereby either one of the nozzles can be easily closed. Equidistant from the axes of both nozzles is swiveled in the head a stem, which is packed by a stuffing box, and can be turned on the outside of the hydrant by means of a key or handle. The inner end of the stem carries the lever, to which the valve or disk is secured. This valve or disk can, by turning the stem, be brought opposite the inner end of either nozzle, thereby closing it, or can be turned so the valve will not close either. When, in the ordinary double hydrants, one hose is secured, the second can only be applied by stopping the entire supply of water by the main cock, as otherwise the force of the water would prevent the attaching of the second hose. By the use of this invention the second nozzle could be closed by the valve when the hose is to be attached, while the stream through the other hose will not be interrupted. In case a hose bursts, which is frequently the case, the valve is immediately moved to prevent more water from flowing to it, while the other hose can be used without hindrance. The interruptions often fatal to the success of stopping a fire are thus made unnecessary. Joseph L. Pillsbury, of Columbus, Ohio, is the inventor.

**PIPE WRENCH.**—This invention consists in forming the serrated jaws of the wrench at particular angles to each other and their handles, which adapts them for seizing and holding objects, with, it is claimed, a facility and security unequalled by others hitherto used. The claim is a wrench, formed of a fixed jaw and a movable jaw, both serrated, having the particular shape and angle shown, and provided, respectively with handles, as shown and described. William Henry Barwick, of Montreal, Canada, is the inventor.

**BUILDING BLOCKS.**—Nicholas Boch, assignor to himself and W. J. Maidhof, all of New York city.—In the middle of the rabbetted block or thereabouts is formed an oblong aperture to serve as a ventilating flue. These blocks are more particularly adapted for use in constructing buildings with stone fronts and brick backing; but the inventor thinks they will be found perhaps equally serviceable under other circumstances.

**BOLT HEADING MACHINE.**—In this machine, the clamping dies have two simultaneous movements at right angles to each other, while the header has but one; and the same screw pressure effects the whole, while it, at the same time, furnishes to the spring the stored-up power to retract the clamps. Invented by George Chapman, of Rockford, Ill.

**ROCK-DRILLING MACHINE.**—This invention relates to improvements in machines for drilling rock for tunneling and other purposes. It consists in an arrangement of adjusting supports on a vertical frame, upon one end of a truck, for shifting the drills and operating gears vertically and horizontally, the machine having four sets of drill supports and four drills. It also consists in certain novel swivel heads, in which the drills work, and by which they are mounted on the said adjusting supports, and by which also the drills may be pointed and held in any direction, each independent of the other. Norman W. Robinson, Burlington, Vt., is the inventor.

**CURRIERS' SLICKER.**—George T. Collins, of North Eastham, Mass., has invented a carrier's slicker, which consists in an arrangement of the blade and handle and adjusting apparatus for moving the blade as it wears away, to have it project from the handle the same distance at all times, and also in the application to the handle of a strengthening band of iron, to prevent it from working. By this arrangement the blade may be moved forward as fast as it wears, and held firmly in position; also, the warping of the slotted part of the handle, by which the blade is often loosened in the common slickers, is avoided.

**TOY GUN AND PISTOL.**—A new combined spring and air gun, to be used as a toy and for target practice, consists in the use of a sliding barrel, which actuates an annular piston. The stock or handle of it holds a rigid cylindrical case, and a trigger, whose point enters the case through an aperture. A spiral spring is fitted into the case, so as to surround the barrel and be in contact with the front end of the case. An annular piston is placed loose around the barrel, within the case, so as to be interposed between a shoulder and a spring. The barrel can slide within the case, and, when pulled forward, draws the piston along and compresses the spring, until the piston has passed and is locked by the trigger. The barrel can then be pushed back into the case, without affecting the position of the piston. Its backward motion is arrested by an elastic ring, placed upon the headed front part of the barrel. The

breach end of the case is open, but can be closed by a pivoted breach plate. When the barrel has been pushed back, after having locked the annular piston to the trigger, a dart, or light projectile of a suitable kind, can be placed in the back end of the barrel. When the trigger is next touched to release the piston, the spring will expand and force the piston back, whereby the air contained in the back of the case will be expelled through the barrel, causing it to expel the dart. Invented by H. M. Quackenbush, of Herkimer, N. Y.

**CULINARY VESSEL.**—This invention has for its object to improve the construction of culinary vessels, such as kettles, pots, boilers, etc., in such a way that the said vessels may be easily tipped or inclined to pour out their entire contents without danger of scalding the hands of the operator with the steam from the said vessel; and it consists in a jointed bail and catches, in combination with the body of the vessel, so that the handle being placed a little below the edge of the vessel, the hand, when grasping said handle, is entirely protected from the steam arising from said vessel. Samuel W. M. Chattaway, of Middletown, Conn.

**SHUTTER WORKER.**—This invention consists in an open skeleton bracket attached to the blind, and a toothed sector on the end of a spindle, the spindle passing through the window casing, with a handle on its other end, so that the sector can be turned, and the blind opened and closed by a person on the inside. By this improvement the trouble and annoyance of opening the window for opening or closing the blinds are avoided. When closed, the blind is securely locked by a tooth and bar, and when open, it is fastened by a catch. James W. Jenkins, of Monmouth, Me.

**CARRIAGE SEAT.**—Simon P. Graham, London, Canada.—This invention relates to sundry improvements in the rails, bottoms, spindles, and pillars of carriage seats, all tending toward increased simplicity, and cheapness of construction.

**NAIL CUTTING MACHINE.**—A. W. Paull and J. Morgan, Jr., Wheeling, West Va.—The invention consists in a novel means of holding the end of the nail plate firmly and immovably, whereby any pattern of nail blank and any exact number of nails to the pound may be always obtained with absolute uniformity.

**POWER FOR SMALL MACHINERY.**—Charles L. Johnson, Omaha, Neb.—This invention consists in an arrangement of parts, whereby a weight hung outside of the building, may be made use of for the purpose of operating a mechanism placed within the building, by which mechanism, when thus operated, any small machinery may be driven through suitable connections.

**KILN FOR THE TREATMENT AND PRESERVATION OF WOOD BY THE ROBBINS' PROCESS.**—John W. Fielder, Princeton, N. J.—This invention relates to an apparatus for preserving wood by what is known as the Robbins' process, that is to say, by placing wood in an air-tight kiln, and introducing thereinto the vapor of creosote oil, which vapor drives moisture and air out of the pores of the wood, coagulates the albumen of the sap, thus preventing its putrefaction, and fills the pores with oil, thus rendering it secure from decay.

**WATER METER.**—Joseph W. Cremin, New York city.—This invention relates to the application of the device, known as Barker's Centrifugal Mill, to a water meter, the revolving hollow arms being placed within a case, and mounted on a hollow shaft, extending crosswise thereof, said shaft connecting at one side of the chamber with the supply pipe, and at the other side with the registering clock work, which is worked by the turning of the shaft through the agency of water rushing into the arms and out at holes in, or near, the ends of the latter, in the ordinary way of operation of the centrifugal mill.

**CAR COUPLING.**—James B. Harper, St. John, Mo.—This invention relates to an automatic car coupling, in which the drawheads are pivoted to the cars so as to be horizontally rotatory, and in which the link is pivoted at one end to one of the drawheads, and has at its other end a pointed head, with spirally cut sides, which head, when two cars are coupled, enters the other drawhead, the lips of which, acting on the spiral sides of the head, turn the same vertically until it enters the cavity of the drawhead, after which the said head turns horizontally so far as to present its rear side to the inner sides of the lips of the drawhead, and thus be held within the latter.

Queries.

[We present herewith a series of inquiries embracing a variety of topics of greater or less general interest. The questions are simple, it is true, but we prefer to elicit practical answers from our readers.]

- 1.—**APERIENTS.**—I would like to ask some physician, whether the habitual use of aperients is injurious?—F. C.
- 2.—**TURBINES.**—I would like to learn through the SCIENTIFIC AMERICAN, if turbine water wheels, having gates placed beneath the wheel in draft tubes, to regulate the amount of water used, obtain any more useful effect from the water, or are any better, than the same wheel whose gates are placed so as to regulate the water as it enters the chute, or as it passes from the chutes to the bucket of the wheel? Does a wheel having its gate below it become any more of a reaction wheel than the same would if its gates were before, so as to regulate the water as it entered the shaft? and does it derive as much power from the direction of the water? And how is it when using partial gates?—J. C. W.
- 3.—**BLEACHING WOOD.**—Can any of your readers inform me of any good process for bleaching wood that has been stained or colored? I want to prepare it for use.—D. L. F.
- 4.—**LIQUEFACTION OF NITROUS OXIDE.**—Can any of your readers inform me what is the obstacle met with in the liquefaction of nitrous oxide gas on a large scale, by mechanical pressure or otherwise?—W. W.
- 5.—**PREVENTING RUST.**—I have a piece of machinery composed principally of tinned iron, or ordinary tin, and which, from the nature of the machine, it is necessary to keep in the cellar. It is covered with several coats of ordinary oil paint, which becomes sticky and soft, and the tin is beginning to oxidize or rust in spots. Can you inform me what paint I can use as a covering, that will resist the rust attacking it? Also what is the best thing to prevent the rusting of bright machinery that works in a cylinder, and is not easily accessible? Some parts of it are composed of bright steel, others of sections of clock springs, etc.—G. R.

NEW BOOKS AND PUBLICATIONS.

**A MANUAL OF THE PRINCIPLES OF ROAD MAKING.** Comprising the Location, Construction, and Improvement of Roads; Common, McAdam, Paved, Plank, etc., and Railroads. By W. M. Gillespie, LL.D., C.E. Tenth Edition, with large Addenda. Edited by Captain Cady Staley, A.M., C.E. A. S. Barnes & Co., New York and Chicago.

As a happy combination of practical information, and scientific elucidation of an important subject, this work might well be taken as a model, so far as it goes. Were the facts here presented more generally diffused, there would soon be a marked improvement in American roads. That the work has reached its tenth edition is evidence of its practical value. We think the editor might, however, have profitably substituted for much of the matter relating to plank roads, a discussion of the more modern roads made of wood as well as a notice of various kinds, roads in which stones, coal tar, etc., are the materials employed. It is a little too late in the day to waste much time in the discussion of plank roads. In short, the book is scarcely up to the age on the subjects of which it treats, and so far as railroads are concerned, is not complete enough to be of great use to engineers. The information given as to earth roads, McAdam, and other well known kinds of roads, is sound and practical, and this we regard as giving the book its chief value.

**SCRIBNER'S MONTHLY.**  
The July number of this popular illustrated magazine, under the editor-

ial management of J. G. Holland, formerly of the Springfield (Mass.) *Republican*, is just out, and may be had at any of the periodical stores, or of the publishers, Scribner & Co., 651 Broadway, New York.

THE AIR WE BREATHE.

This is an interesting essay, read before the Western Social Science Association, at its annual meeting for 1870, by W. H. Churchman, A.M. Published by the Indianapolis Printing and Publishing House.

SPECIAL REPORT ON IMMIGRATION.

Mr. Edward Young, Chief of the Bureau of Statistics, will please receive our thanks for a copy of the above named report.

Practical Hints to Inventors.

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How Can I Obtain a Patent?

Is the closing inquiry in nearly every letter, describing some invention, which comes to this office. A positive answer can only be had by presenting a complete application for a patent to the Commissioner of Patents. An application consists of a Model, Drawings, Petition, Oath, and full Specification. Various official rules and formalities must also be observed. The efforts of the inventor to do all this business himself are generally without success. After great perplexity and delay, he is usually glad to seek the aid of persons experienced in patent business, and have all the work done over again. The best plan is to solicit proper advice at the beginning. If the parties consulted are honorable men, the inventor may safely confide his ideas to them; they will advise whether the improvement is probably patentable, and will give him all the directions needful to protect his rights.

How Can I Best Secure My Invention?

This is an inquiry which one inventor naturally asks another, who has had some experience in obtaining patents. His answer generally is as follows, and correct:

Construct a neat model, not over a foot in any dimension—smaller, if possible—and send by express, prepaid, addressed to MUNN & Co., 37 Park Row, New York, together with a description of its operation and merits. On receipt thereof, they will examine the invention carefully, and advise you as to its patentability, free of charge. Or, if you have not time, or the means at hand, to construct a model, make as good a pen and ink sketch of the improvement as possible, and send by mail. An answer as to the prospect of a patent will be received, usually, by return of mail. It is sometimes best to have a search made at the Patent Office; such a measure often saves the cost of an application for a patent.

Preliminary Examination.

In order to have such search, make out a written description of the invention, in your own words, and a pencil, or pen and ink, sketch. Send these, with the fee of \$5, by mail, addressed to MUNN & Co., 37 Park Row, and in due time you will receive an acknowledgment thereof, followed by a written report in regard to the patentability of your improvement. This special search is made with great care, among the models and patents at Washington, to ascertain whether the improvement presented is patentable.

Caveats.

Persons desiring to file a caveat can have the papers prepared in the shortest time, by sending a sketch and description of the invention. The Government fee for a caveat is \$10. A pamphlet of advice regarding applications for patents and caveats is furnished gratis, on application by mail. Address MUNN & Co., 37 Park Row, New York.

To Make an Application for a Patent.

The applicant for a patent should furnish a model of his invention, if susceptible of one, although sometimes it may be dispensed with; or, if the invention be a chemical production, he must furnish samples of the ingredients of which his composition consists. These should be securely packed, the inventor's name marked on them, and sent by express, prepaid. Small models, from a distance, can often be sent cheaper by mail. The safest way to remit money is by a draft, or postal order, on New York, payable to the order of MUNN & Co. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents.

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