

27,261.—Elisha M. Smith, of Indianapolis, Ind., assignor to himself and Elbridge G. Mayhew, of Shelbyville, Ind., for an Improvement in Molding Machines:

I claim the combination of variable guides and their necessary appendages with a sash or molding machine, substantially as described in this specification.

27,262.—George Elliott and George F. Elliott, of Manchester, Conn., for an Improvement in Locks:

We claim, first, The combination of the hook plates, B B', spring pivot, h h', and inclined slotted eccentric rim, F, the whole constructed, arranged and operating substantially as and for the purpose described.

Second, The movable tumbler, E, in combination with the hook plates, B B', spring pins, h h', and eccentric rim, F, substantially as and for the purpose described.

[This lock has a series of circular hook plates, so arranged in a case that, in order to unlock the lock, it is first necessary to disconnect said plates by certain movements of the key. The operation of unlocking is very simple and easy to those initiated, but rather difficult and tedious to the burglar. The construction is simple and cheap. We regard it as a good contrivance.]

RE-ISSUES.

R. H. Cole, of St. Louis, Mo., for an Improvement in Making Nuts. Patented June 3, 1856:

I claim forcing a portion or the whole of the metal displaced in forming the holes in the nuts in the bodies of the nuts, by which I am enabled to make the nuts thicker and more compact than the bar from which they are cut, all substantially as set forth.

R. H. Cole, of St. Louis, Mo., for an Improvement in Nut Machines. Patented June 3, 1856:

I claim the arrangement of the round punch, f', with an aperture in the angular punch, d, at the same time that a round punch, e, is arranged within an aperture in the bottom, j, of the nut box, when the said round punches are combined with the movements which causes them to act jointly in perforating holes in the nuts formed in said nut box, substantially as described.

I also claim the joint arrangement of the angular punch, d, and its interior round punch, f', with the bottom, j, of the nut box and the interior round punch, e, when the said bottom of the nut box is combined with a spring, or its equivalent, in such a manner in relation to the said angular punch, d, and the round punches, e and f', that the action of the said parts in forming a nut will cause the completed nut to be thicker than the bar from which the blank was cut, substantially as set forth.

James M. Dick, of Buffalo, N. Y., for an Improvement in Railroad Frogs. Patented Aug. 3, 1858:

I claim combining the four rails, arranged in the manner described, to form a frog by attaching them separately to a series of separate chairs, in manner substantially as described, so that each part may be removed for repairs and replaced independently of the other parts, as set forth.

I also claim holding down the movable end of the spring rail of the frog to its chair, so that it shall be free to expand and contract and spring laterally by combining it with the chair by means of the lip extending under and embracing the chair, substantially as described.

George C. Dolph, of West Andover, Ohio, for an Improvement in Mowing Machines. Patented Sept. 8, 1857:

I claim attaching the cutter bar, B, and cutter, A, to the front of the frame of the machine by means of a plate or bar, so arranged that its front end may be raised or lowered by a lever independently of the main frame of the machine, and thus give to the cutting apparatus a tilting or rocking movement which will elevate and lower the points of the fingers, said parts being constructed and applied to the mowing machine of E. Ball referred to, in the manner substantially as described.

[This invention consists in giving the cutter bar and cutter an adjustable movement independently of the frame of the machine, so that the cutter or sickle may be raised and lowered and adjusted at any desired point, without moving or at all affecting the frame of the machine.]

James Powell (assignee of Martin Robbins and James Powell), of Cincinnati, Ohio, for an Improvement in Faucets. Patented Dec. 21, 1858:

I claim, first, The application to the key stem the collar, I, cushion, Q, and loose collar, R, or their equivalents, in the manner and for the purposes described.

Second, The valve stem, L, formed with three bearing surfaces, m m', when connected by a disc, N, and operated upon by a suitable cam, H, in the manner and for the purpose explained.

Third, The elevated or projecting guide, G, or its equivalent, when combined substantially as and for the purpose set forth, with a valve stem formed and adapted to be actuated by a cam or other eccentric on the key stem in both opening and closing the valve.

Barney E. Sampson, of Boston, Mass., for an Improvement in Pole Coupling for Railroad Cars. Patented July 7, 1858:

I claim making the mth or face of the bunter between the plates, a and b, entirely open at the sides and in front, so that the coupling of the pole may be easily made, whether it point directly forward or deviate to the right or left, substantially as set forth.

Second, I also claim sustaining the pole of a horse car in the proper position by means of the brace, G, substantially as described.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim adjusting the expansion of steam in steam engines with the aid of an independent motion to determine when a weight or spring shall commence to close a separate moving cut-off valve for each end of the cylinder.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim the combination of a cam, arm or wiper, moved by an independent motion, with a reciprocating trip and catch to liberate a weight, spring or other force that act to close a cut-off valve.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim liberating the closing weight, or apparatus to cut off, by the aid of an independent motion in combination with a regulating reservoir to resist the force and momentum of the rapidly moving parts in cutting off.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim imparting a co-existing independent motion to two reciprocating catch pieces in the operation of trip cut-off valves.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim an adjusting mechanism, so arranged that the relative position of its parts, during any portion of its movement by the engine, can be changed to alter the closing action of the weight that operates the cut-off without altering the time or encountering the resistance of opening the two separate moving cut-off valves.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim counterbalancing the weight of the lifting rods so as to relieve the engineer in working the engine by hand, and so that, when the engine is hooked on, they will exert their full force in descending to overcome any opposing friction.

ADDITIONAL IMPROVEMENT.

Josiah Ells (assignor to Jas. M. Cooper and Wm. S. Lavery), of Pittsburgh, Pa., for an Improvement in Revolving Fire-arms. Patented Aug. 1, 1854; re-issued Sept. 6, 1859:

I claim, first, The combination of the cam, i, on the hammer and cam, j', on the trigger, constructed and arranged substantially as described, for the purpose of drawing back the trigger and retaining it and the hammer at the point of full cock without the use of a nyawl or catch to retain them in that position.

Second, The use in fire-arms cocking as well by hammer as by trigger, of a pawl, in combination with a notch on the front edge of the hammer, for the purpose of preventing the complete fall of the hammer and the discharge of the piece in case of the partial raising of the hammer or drawing of the trigger, substantially as described.

Third, The combination and arrangement of the cam, i', and pawl, n, on the trigger and the cam, i, on the hammer, and stud, r, and lifter, y, on the trigger, so that their conjoint action will effect the entire operation of the arm, viz., in half cocking or full cocking the hammer and rotating the breech into position, locking it and setting the trigger in a drawn position, preparatory to the discharge, by the manipulation, of either the hammer or the trigger.

Fourth, The spring stop on the arbor or spindle and ratchet grooves in the bore of the cylinder in which it works, to prevent the backward rotation of the breech, in combination with the spring stop on the hammer spring and ratchet grooves on the external circumference of the breech in which it works, to prevent the forward rotation of the breech, for the purpose, by their combined action, of perfectly locking the breech in position before the hammer reaches the point of full cock, by either mode of manipulation, preparatory to firing.

Fifth, The lever and spiral spring in the trigger, combined and arranged as described, for the purpose of operating the vibrating stud.

DESIGNS.

N. S. Vedder (assignor to Abraham Cox, Joseph Cox and John Whitman), of Troy, N. Y., for a Design for a Cooking Stove.

Isaac De Zouche, of St. Louis, Mo., for a Design for Iron Railings.

James E. A. Gibbs, of Mill Point, Va., for a Design for a Sewing Machine.

H. S. Hubbell, T. H. Wood and J. E. Roberts, of Buffalo, N. Y., for a Design for Stoves.

William H. Smith, of Newport, R. I., for a Design for Stoves.

Notes & Queries

J. G. of Ind.—The claim of H. B. in his communication on page 83 of our present volume is, that by compression he avoids the loss of the steam which is required at each stroke to fill the space between the port and the piston. If he cut off at the proper point to save this, it does not follow that by cutting off sooner he would save more—he could not save more than the whole of what is now lost. Water in a close boiler does become hotter than 212°; not in an open boiler. Why the bottom of a boiling pot remains cool, if such is the fact, is to us a mystery. We should not want to live any greater length of time than would be required to pick a millstone with a glazier's diamond.

W. McC., of Ala.—The water taken up by a whirlwind in the form of a water-spout will be found to be salt when it falls to the earth. Most of the rain is formed of water which rises by evaporation, and this process does not carry up the salt.

C. L., of Conn.—A fall in the mercury of the barometer generally indicates approaching rain, a high wind, or a thunder storm; but it frequently rises prior to a snow storm. The reason of this is but imperfectly known.

C. A. P., of Ky.—An ambrotype can be copied photographically by transmitting the light through the glass in a dark room, and allowing the rays to fall upon the paper. We are not acquainted with any artist in this city who makes a practice of taking pictures in this manner, though several know how to do it.

G. L. B., of Maine.—There are plenty of oscillating steam engines so constructed that the trunnion itself is the valve, and the steam is shut off and taken in by the cylinder itself.

C. H. H., of Ind.—Smoke consists principally of carbon. The plan of burning it by passing it into a hot furnace has been in operation for several years; it is extensively practiced in England. An escape flue is necessary.

O. B. M., of Mass.—Your article on the Pemberton Mill is accepted, and will probably appear in our next issue.

J. W. S., of N. Y.—Your article on the obstruction of river navigation is accepted, and will appear soon.

C. W. K., of Ga.—We know of no liquid which will prevent insects from sucking the blossoms of apples and pears.

T. H. Y., of Ohio.—There can, of course, be no way of drawing all the wine from one cask into another on the same level without the use of power, applied either to a pump or some other apparatus.

A SUBSCRIBER, of Canada.—Bodies falling through a vacuum fall with the same velocity whatever their density or size. This is true only of bodies whose weight, compared to that of the earth, is inconsiderable. Planetary masses would fall with velocities proportioned to the quantity of matter which they contained.

J. D., of N. S.—It would be necessary to know more of the facts than you communicate in order to answer your question. How great is the present head? How large is the pipe through which the water flows? and how much water do you want to raise per day? We recommend you to write directly to the Alaire Works, this city.

F. F., of Kansas.—In commencing the study of chemistry, use only the most simple apparatus. A blow-pipe, spirit lamp, retort and a few glass tubes will enable you to perform quite a number of experiments Morfitt's "Chemical Manipulations," published by Lindsay & Blackiston, Philadelphia, is the most suitable work for your purpose. You can only obtain books published by government from members of Congress.

F. A. C., of N. Y.—Napoleon II. was the son of Napoleon I. and Maria Louisa, of Austria. He died young. The Sons of Malta constitute a secret order—great upon malt liquor, for ought we know to the contrary. We cannot give you the peculiar information desired about the microscopes which were advertised.

J. H. F., of N. Y.—The beautiful gloss to which you refer, upon marble and alabaster, is produced by rubbing the surface (after it has been reduced with emery and pumice stone) with a moist linen cloth and the powder of calcined tin. After rubbing with this for some time, take a cushion of soft dry cloth, or, what is better, a piece of soft white leather, and rub very lightly. Fine soft silk is the best substance to finish up the polish with, but it is seldom used.

G. P. D., of C. W.—There must be something wrong with your battery when you cannot get a copper deposit from a strong solution of the sulphate. It is a difficult matter to silver-plate cast-iron, but it has been done in some instances by having an excess of chloride of silver in the cyanide solution. Use stronger solutions than those you have yet tried.

J. J. B., of N. Y.—A windmill may be capable of doing all the work you want in a wagon shop, but you cannot depend upon it because it is not constant. A horse-power, we think, would be the cheapest which you could use in a small business. If it is not sufficient, we advise you to get a small steam engine.

J. B. B., of Fla.—Short iron chimney caps are not objectionable with lightning rods attached, if you have the lower part of the cap properly connected with the rod. All large pieces of metal, such as gutters and caps, about the roof and sides of the house, should be connected with the rod. The latter should be as large as possible, in order to carry off the most intense stroke with ease.

Money Received

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, Feb. 25, 1860:—

P. C., of Conn., \$30; N. A. P., of Tenn., \$70; J. M. B., of Iowa, \$30; J. W. A., of Vt., \$25; J. B. C., of N. Y., \$55; C. E. H., of Mass., \$30; J. W. C., of Fla., \$250; E. B., of Ohio, \$30; N. S. G., of N. Y., \$30; N. A. S., of Ill., \$30; E. & D., of Mass., \$12; H. B. J., of N. J., \$250; O. C., of Vt., \$30; S. & M. of N. Y., \$30; G. H. B., of Ill., \$25; R. B., of N. Y., \$25; B. S., of Va., \$30; D. McK., of N. Y., \$20; J. S., of Ind., \$10; H. S., of R. I., \$30; J. D. B., of N. C., \$25; S. A. Co., of N. Y., \$30; C. M., of N. Y., \$42; A. & W., of N. Y., \$30; G. V. B., of Conn., \$30; J. E. E., of Cal., \$250; G. F. B., of Ill., \$35; J. E. A., of Tenn., \$30; E. B., of Ind., \$30; F. S. M., of N. Y., \$30; D. A., of Ohio, \$30; G. W. D., of N. Y., \$30; A. B. H., of Fla., \$25; W. S., of Ill., \$30; J. H. of N. J., \$30; W. W., of Pa., \$400; J. H. L., of N. Y., \$30; A. S., of N. Y., \$25; W. T., of Mich., \$30; G. H. M., of Mass., \$30; R. R., of Vt., \$40; J. M., of Iowa, \$30; R. M. L., of Minn., \$30; H. N. & J. C. B., of Conn., \$30; A. C. L., of Mich., \$30; L. E., of Mich., \$300; H. G. L., of Iowa, \$30; J. T., of N. Y., \$25; G. W., of N. Y., \$25; W. M. G., of Ohio, \$25; T. F., of N. Y., \$100; J. A. C. J. S., of Pa., \$25; W. F., of N. Y., \$30; B. M., of N. J., \$30; J. Y. H., of Pa., \$30; J. S., of N. Y., \$30; U. S. I., of Ind., \$30; S. R. A. Co., of Conn., \$76; P. J., of N. Y., \$30; T. & R., of N. H., \$25; D. D., of N. Y., \$10; M. L. B., of N. Y., \$30; C. R. S., of Vt., \$30; T. C., of Ill., \$30; E. K., of Pa., \$25.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, Feb. 25, 1860:—

J. B. C., of N. Y.; N. T. S., of N. Y.; J. A. C. J. S., of Pa.; J. M., of Ala.; J. W. A., of Vt.; W. E., of Texas; A. S., of N. Y.; C. G. C., of Ill.; J. Y. H., of Pa.; E. K., of Pa.; R. E., of Vt.; Mrs. S. D. G., of N. Y.; L. D. B., of N. Y.; R. B., of Miss.; C. & P., of Ind.; J. T., of N. Y.; E. & L., of N. Y.; M. M., of Md.; G. W., of N. Y.; E. & D., of Mass.; J. D. B., of N. C.; C. M., of N. Y.; J. H. G., of Pa.; A. H., of N. Y.; G. W. R. B., of La.; G. E. H., of Ill.; M. & M., of N. Y.; R. B., of N. Y.; A. B. H., of Fla.; R. I. G., of Md.; J. E. E., of Cal. (3 cases); F. B., of N. Y.

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