

REISSUES.

2,144.—Power Press.—Charles W. Johnson, Waterbury, Conn. Patented Nov. 7, 1865:
 First, I claim the combination described of the gear, I, and plate, P, or their equivalents, constructed and arranged to operate together substantially as and for the purpose specified.
 Second, The combination of the cam, S, lever, N, and bolt, X, in the manner substantially as and for the purpose specified.
 Third, The combination of the bolt, S, lever, N, or their equivalents, substantially in the manner specified, as and for a cut-off, or stop motion.

2,145.—Stone Breaker.—Eli W. Blake, New Haven, Conn. Patented June 15, 1858:
 I claim, First, The combination in a stone-breaking machine of the upright converging jaws with a revolving shaft and mechanism for imparting a definite reciprocating movement to one of the jaws from the revolving shaft, the whole being and operating substantially as set forth.
 Second, The combination in a stone-breaking machine, of the upright, movable jaw, with the revolving shaft and fly wheel, the whole being and operating substantially as set forth.
 Third, In combination with the upright converging jaws and the revolving shaft, imparting a definitely limited vibration to the movable jaw, so as to arrange the jaws that they can be set at different distances from each other at the bottom so as to produce fragments of any desired size.

EXTENSIONS.

Instrument for Cure of Stammering.—Robert Bates, Pa. Patented Sept. 30, 1851. Extended Sept. 29, 1865:
 I claim, First, The employment of a tube in the mouth which will admit of speaking, and the passage of air when either the tongue or lips would prevent the passage of air substantially as hereinabove set forth.
 Second, The employment of the adjustable spring pad, substantially as hereinabove set forth.
 Third, The joint employment of the mouth tube, and the adjustable spring pad, at the same time curing the guttural, lingual and labial disease of stammering, substantially as hereinabove set forth.

Machinery for Sawing Volutes.—Elijah Whiten, Hingham, Mass. Patented Sept. 30, 1851. Extended Sept. 29, 1865:
 I claim the manner in which I produce the two motions necessary to be given to the block in order that it may be sawed in the required form, viz. the screw rod, F, and its right and left screws cut upon it meshing into the pinions, T, T', by which motion is communicated to the horizontal rods, G, G', the toothed wheels, pinions or spurs, U, U', grasping the edge of the block, and causing it to rotate in combination with the level pinions, J, M, screw rods, K, and arm, O, by which a rectilinear motion toward the saw is given the carriage and block, producing the result described.

Machinery for Enameling Moldings, Etc.—Robert Marcher, Cornwall, N. Y. Patented Oct. 21, 1851. Reissued March, 15, 1859. Extended Oct. 21, 1865:
 First, I claim in coating or enameling the surface of moldings, the employment of a plate whose lower edge is formed the reverse of the transverse form of the molding to which it is applied, when such plate is made self-adapting to the surface of the molding during the longitudinal movement, substantially as herein described and for the purpose set forth.
 Second, I claim the employment of a hopper to contain the composition for enameling when the lower edges of the end plates thereof are formed the reverse of the transverse form of molding, and the molding to be enameled is employed as the bottom of such hopper, substantially as described, and for the purpose set forth.

Machinery for Shaving, Nicking and Reshaping Wood Screws.—Thomas J. Sloan, New York City. Patented Oct. 21, 1851. Extended Oct. 21, 1865:
 I claim so combining the shifting mandrel that carries the blanks with a shaving and nicking apparatus substantially as described, that the blank after being shaved to give the required form to the head, and being laid in the same mandrel, may be shifted to the nicking apparatus, and after being nicked, be shifted back to the same shaving apparatus to have the burrs removed by the same cutter that performed the first shaving operation, as herein set forth.
 I also claim the employment of two shifting mandrels, substantially as specified, in combination with the shaving and nicking apparatus, substantially as herein described, so that the nicking operation can be performed on one block, while the first and second shaving operations are being performed on other blanks as specified.
 I also claim giving to the mandrel or mandrels, end play in the boxes in combination with the permanent rest at the back of the mandrel and with the cutter, substantially as specified, by means of which the same position of the blank relatively to the cutter is obtained for the second shaving operation, which it had for the first as described.

Oil Presses.—David Louis Latourette, of St. Louis, Mo. Patented Oct. 28, 1851. Extended Oct. 28, 1865:
 I claim the combination of the heating plates with the steam chamber, substantially as herein set forth, the plates being moved parallel, and the steam tubes connecting them with the steam chamber sliding in stuffing boxes in a line with the motion of the plates as above set forth, said steam chamber being placed in proper relative position with the plates for that purpose.

Tanner's Oil from Rosin.—Louis S. Robbins, New York City. Patented Nov. 4, 1851. Extended Nov. 4, 1865:
 I claim the new and original products of manufacture which I denominate Robbins tanner's oil or Robbins currier's oil, the process of producing which I have herein fully set forth.

Lubricating Oil from Rosin.—Louis S. Robbins, New York City. Patented Nov. 4, 1851. Extended Nov. 4, 1865:
 I claim the new and original product of manufacture which I denominate Robbins lubricating oil, the process of producing which I have herein fully set forth.

Distilling Acid and Naphtha from Rosin.—Louis S. Robbins, New York City. Patented Nov. 4, 1851. Extended Nov. 4, 1865:
 First, I claim the process of separating the acid and water, arising from the decomposition of rosin, at the temperature of 325 degrees Fahrenheit, or thereabout by means of fire heat, substantially in the manner herein set forth.
 Second, I claim in combination with the above, the process of separating the naphtha from the other component parts of the rosin by preserving the temperature of the liquid mass within the still at about the range of 325 degrees Fahrenheit, as above stated, and injecting steam into the same, by which I am enabled to throw off the naphtha at the same temperature employed for throwing off the acid.
 Third, I do not intend to limit my improved process of distillation as hereinbefore described, to the production of acid from rosin, but shall employ it for redistilling the crude article known as rosin oil.

Stove-grate Bars.—Philo P. Stewart, Troy, N. Y., assignee of George W. Gardner, Albany, N. Y. Patented Nov. 18, 1851. Reissued May 31, 1864. Extended Nov. 18, 1865:
 First, I claim the detaching of cinders, clinkers or ashes from coals or solid burning fuel, by means of parallel grate bars having an oscillating or vibrating motion in the horizontal plane imparted thereby by means of a frame of yoke, and lever or equivalent thereof, in the manner substantially as herein described and set forth.
 Second, I also claim the employment of parallel grate bars, so constructed, arranged, and combined with a frame or yoke, as to be operated or vibrated in a horizontal plane by means of a lever, substantially as herein described and set forth.

Railroad Car Brakes.—Francis A. Stevens, Chicago, Ill. (formerly of Burlington, Vt.) Patented Nov. 25, 1851. Extended Nov. 25, 1865:
 I claim the combination and arrangement of the levers, links, rods, and shoes or rubbers, substantially as herein described,

whereby each wheel of both trucks of a car is retarded with a uniform force, when the brake is put into operation.

Drop Press.—Milo Peck, New Haven, Conn. Patented Nov. 25, 1851. Extended Nov. 25, 1865:
 First, I claim the general arrangement and combination of the crank and shaft with the sweeps, moving always in the same direction with the moving gear or pulley, and the ratchet wheel joined together and running on the shaft, constantly in the same direction, substantially as I combine them, for the purposes herein described.
 Second, I also claim the lock in combination with its sweep and springs, and with the crank to stop its motion not too abruptly, and to pull it until it is unlocked by the hand or foot of the workman, substantially as described.

Machinery for Making Kettles and articles of like character from Disks of Metal.—Hiram W. Hayden, Waterbury, Conn. Patented Dec. 16, 1851. Extended Dec. 16, 1865:
 First, I claim the application of a rotary metallic form or mold, on a disk blank or plate of metal, with a proper tool, roller or rolls, sustained, moved and directed in a proper path by competent mechanical means, for the purpose of operating on a disk blank or plate of metal, so as to reduce it gradually from the center to the edge, at the same time forming it with straight sides, by successive stages, into a complete kettle, or into any similar articles, to the forming of which this apparatus can be applied, substantially as described and shown.
 Second, I claim the construction of the mandrel, f 3, part of which is cylindrical, and part fitted with a short screw, l 3, to take the screws of the hand wheel, f 2, so that great pressure may be made at the point desired, while at the same time the mandrel can be easily and quickly moved through a long distance for the purposes as described and shown.

Grain Sieve.—Rebecca C. Wheeler, administratrix of Thomas B. Wheeler, deceased, Albany, N. Y. Patented Dec. 16, 1851. Extended Dec. 16, 1865:
 I claim forming sieves for separating grain from straw chaff, and all extraneous matter, and for other analogous purposes, of sheet metal with apertures, B, B, cut or otherwise made in it, and inclined leaves, A, A, under the said apertures, of corresponding form with the apertures themselves, substantially as herein set forth.

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S. J., of Ind.—At a certain depth below the surface of the earth the temperature is the same summer and winter. This depth varies with the latitude and other circumstances, but it is safe to say that in a well 50 feet deep there would be no change in the temperature of the water at different seasons that would be perceptible to the senses. Convince your boys by putting a thermometer in the water.

—, of Mass.—It is not a new idea to use an air pump to exhaust fruit jars, instead of heat. It has been tried and found not so good as cooking the fruit slightly.

J. S. M., of Me.—Atwood's alcohol is alcohol purified by the improved process of Mr. Atwood, of Boston, Mass. At one time it was used by nearly all photographers, but now there is competition in the market among several distillers.

G. U., of Mass.—Dr. Grace Calvert says that the best material for making cloth or leather waterproof is paraffine with the addition of a "few per cent" of linseed oil. See his statement on page 369 of our last volume.

E. L., of N. J.—Parchment paper, as well as bladder and other animal membrane, is used as a dialyser. This process separates gummy from crystalline substances. As soda and quartz are both crystalline, they would not probably be separated by dialysis. Soluble glass would not be a permanently waterproof coating.

A. H. C.—The treatment of the ends of paper collars as you propose could probably be patented, if the useful result which you describe is really obtained.

P. D. says:—"I see that Canadians are not allowed to participate, on equal terms, in United States patent-law protection. Will you please inform me through the SCIENTIFIC AMERICAN whether mere residence in Canada constitutes such a Canadian as is contemplated by the statute, and so much obliged?"
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M. H. S., of N. J.—The French meter contains 39,385,635 American inches.

H. M., of N. J.—The notice which you send us of a new mode of refining petroleum has no description of the process; such unmeaning puffs we are always distrustful of.

S. J. H.—The information you desire is contained in the business directory of New York City, J. F. Trow, publisher, No. 50 Greene street.

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 Ans.—No.

J. H. E.—Combination locks, without key hole, are used upon some safes.

A.—You can purchase books of forms such as you describe in your city.

R. E., of Mo.—The parties you inquire about are responsible.

J. R. M., of Pa.—Fresco painting is executed in mineral colors, ground in water, and laid on the fresh plaster. The plaster should be of fine, pure sand and lime.

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Improved Horse Rake.

The ordinary horse rake is so made that it has to be turned over by hand. At each winrow, the mechanism which prevented the rake from revolving is withdrawn, and thrown in again when the hay is deposited. It has occurred to the inventor of this rake that the machine might be made self-acting, so that no hand labor whatever would be required, and the team merely drawn over the field. In this plan he has succeeded, and the engraving illustrates the means by which the end is accomplished. The details are quite simple, and while the rake is made capable of doing the work efficiently alone, it is readily converted into the ordinary rake, and the load can be discharged at any time or place, as in the old-fashioned machines. The frame of this machine has a shaft and crank wheel, A, which is driven by gearing from the main axle. The crank wheel has a slotted connecting-rod, B, which is attached to the lever, as shown.

This lever works on the shaft the rake teeth are attached to, and has a joint, at C, where the teeth pass through the slotted guide. When the team advances, therefore, the crank wheel will revolve, and the rake be caused to move up and down, thus discharging its load without any action on the part of the driver. The time of discharging the hay can be regulated by altering the length of the slot in the rod, so that more play will be given to it before it commences to lift.

When it is desired to use the rake as an ordinary one, the stop, E, is thrown into the crank wheel; this also disengages the coupling, G, from the crank wheel, so that the rotation is stopped; the rake can then be used at pleasure. There are also bars affixed behind, so that the teeth pass by them as they rise, thus preventing the hay from being scattered, and causing it to drop in one place, making a compact winrow. The pedal, H, is for the purpose of depressing the teeth of the rake when desired, and the same may be held up when proceeding to work by the chain, I. This seems to be a well-designed and efficient machine.

A patent was allowed it through the Scientific American Patent Agency, December 29, 1865, to Daniel G. Adelsberger, of Emmetsburgh, Frederick Co., Md. Address him at that place.

RENDERING CLOTH UNINFLAMMABLE.

A correspondent from Danville, N. Y., asks us to tell him what is the best preparation to render cloth incombustible; in reply we must say that we know of no substance that will do this. Cloth may be prevented from burning with flame, but it cannot be protected from destruction by heat; it may be saturated with substances which will render it, under ordinary conditions, uninflamable, but they will not make it incombustible. The substance that has been most used for this purpose is alum, though the tungstate of soda has been highly recommended.

Alum acts in two ways to prevent cloth from burning with flame. It has a strong affinity for organic substances, and when applied to cloth it adheres very firmly to the fibers, partly combining with them, and partly covering them with a film which shields them from contact with the oxygen of the atmosphere. When cloth thus protected is subjected to the action of sufficient heat, it undergoes decomposition, the hydrogen and oxygen are

driven off, and the carbon remains, in the form of charcoal or tinder; the cloth is charred. Burning is the combination of some substance with oxygen, and flame is the burning of a gas. The reason why hydrogen does not burn when it is expelled from cloth protected by alum is, it is driven off so slowly that the particles are scattered, and before they come in contact with the oxygen of the atmosphere they are cooled below the temperature at which combination takes place.

Another action of alum in preventing the rapid combustion of cloth, is the cooling effected by the expulsion of the water of crystallization. Alum crystals contain a large portion of this water, which

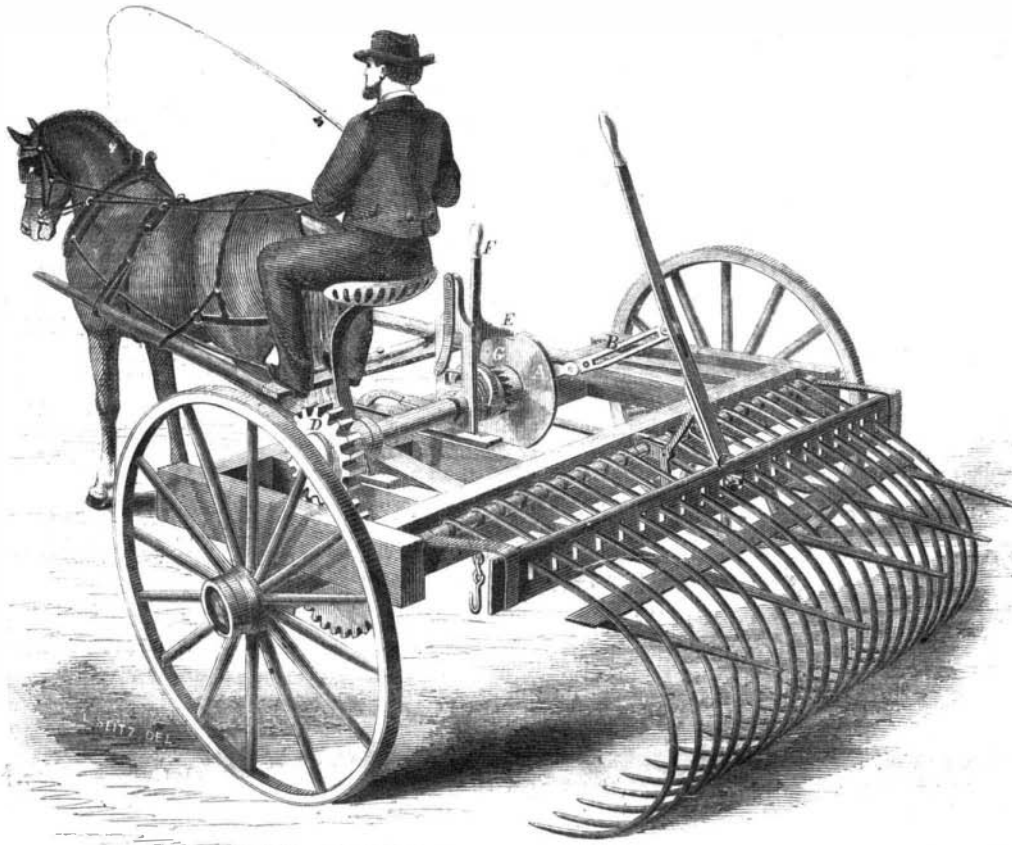
appear and show cause on the 19th day of March, next, at 12 o'clock, M., when the petition will be heard.

Exceedingly Hard Iron.

Some years ago, M. Gaudin found that by heating iron, tolerably free from carbon, with a small quantity of boron, to a very high temperature, he obtained a product which could not be forged, but which possessed extraordinary hardness. He has now found that an equally hard metal may be obtained by adding to ordinary cast iron, in fusion, phosphate of iron and peroxide of manganese—he does not mention in what proportions. The product

cannot be forged, but it casts easily, and is therefore readily applicable to the construction of such machines, or parts of machines, as require in their material extreme hardness rather than tenacity. The metal so produced is, moreover, singularly sonorous, and M. Gaudin, accordingly, proposes it as a material for bells. He finds that a still harder metal is produced by the addition of tungsten—again he omits to say in what amount—to ordinary cast iron. He states that this tungsten iron surpasses everything previously known as a material for tools for cutting rocks, and that crystals of it will cut glass as readily as the diamond.—*London Mechanics' Magazine.*

It requires as many as 2,009 tons of coal to produce a small circular block of aniline 20 inches high by 9 inches wide. This quantity is sufficient to dye 300 miles of silk fabric.

**ADELSBERGER'S HORSE RAKE.**

is of course in the solid state, and the first action of heat upon alum is to expel the water of crystallization. In escaping, the water is changed from the solid to the gaseous form, absorbing and rendering latent in the change both the heat of liquefaction, 140°, and the heat of vaporization, 960°, in all 1100°. So long as this change is going on, it tends to keep the cloth cool, and thus to prevent combustion.

Cloth protected by a wash of alum, is, however, merely prevented from burning suddenly with flame; if subjected to sufficient heat, it is completely decomposed and destroyed; though the heat acts only on the portion of the fabric subjected to its influence; it is not propagated throughout the whole mass, as in the case of unprotected cloth.

SPECIAL NOTICES.

Samuel Fox, of Deep Car, near Sheffield, England, has petitioned for the extension of a patent granted to him on the 17th day of May, 1853, for the term of fourteen years from the 6th day of April, 1852, for an improvement in umbrellas and parasols.

Parties wishing to oppose the above extension must appear and show cause on the 19th day of March next, at 12 o'clock, M., when the petition will be heard.

Jonathan S. Turner, of Fair Haven, Conn., has petitioned for the extension of a patent granted to him on the 13th day of July, 1852, for an improvement in alarm clocks.

Parties wishing to oppose the above extension must appear and show cause on the 25th day of June next, at 12 o'clock, M., when the petition will be heard.

Ebenezer W. Phelps, of Elizabeth, N. J., has petitioned for the extension of a patent granted to him on the 6th day of April, 1852, for an improvement in moth traps to bee hives.

Parties wishing to oppose the above extension must

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