where he graduated in 1796. He studied law, but was induced to abandon his profession and accept the new chair of chemistry at Yale in 1804. In 1818 he founded the *American Journal of Science and Arts*, and was its sole editor for twenty years.

The subject which most warmly enlisted Professor Silliman's sympathies, and to the elucidation of which he most zealously devoted his faculties, was the harmony of science and religion. In a course of lectures which the writer of this heard him deliver in 1834, he argued with almost passionate zeal that the word "day," as used in the beginning of Genesis, does not mean twenty-four hours, but an indefinite period of time; contending that this is conclusively shown in the sentence at the close of the account, "These are the generations of the heavens and of the earth when they were created, in the *day* that the Lord God made the earth and the heavens." Many years afterward, at the meeting of the American Association for the advancement of Science, at Providence, he argued with the same enthusiasm on his favorite topic. He said, "All the scientific men ask is *time*, and time the religious men are ready to grant." From his learning, his ability, his position, and his zeal, he was enabled, by showing the eternal harmony of the two, to render a service to both science and religion which will never be fully appreciated.

Professor Silliman was remarkable for his warm and genial nature; his life was an exemplification of the Christian virtues; and after doing more perhaps than any other man of his generation for the advancement and diffusion of knowledge, his long and useful career has been brought to a close amid the sorrow not only of his countrymen, but of all lovers of science throughout the civilized world.

OIL CUPS.

A most objectionable and wasteful practice of using oil cans, instead of oil cups, for lubricating machines, prevails extensively. It is objectionable because uncleanly, for one reason, and extravagant because too much oil is put on at once. A journal will carry only a certain quantity of oil, and all that is poured in after the surfaces are well covered, runs off at the nearest aperture. When oil cups are applied, and properly used, the bearing takes up all the oil admitted, and uses it economically; that which is now lost might be saved. By an oil cup we do not mean a simple brass funnel to guide the nose of the can to the proper place, but a cup with a wick and a tube, or the equivalent of this device, for feeding the oil at regular and proper times. The wick and tube is the one generally used, and it can be made to feed fast or slow according to the amount of oil needed.

The filthy drip pans placed under the hangers of shafting are entirely unnecessary, and should be dispensed with by using cups. Many a suit of clothes has been spoiled, and not a little profanity caused by the upsetting of these drip pans, and the descent of their contents on workmen when belts run off. Where oil cups are not used fully one-half the oil poured on the bearing runs out again; and, as a matter of economy, every manufacturer, of whatever class, should see that his engines, his lathes, shafting and similar machines and fixtures are furnished with oil cups that feed the lubricator to the journals, as fast or as slow as it is required.

Good Inventions in Demand.

There never was a time when really good inventions were in so great demand as now. Almost every day we are called upon to prepare assignments for parties who have recently obtained patents, and we have been surprised at the large prices which rights on some small, useful articles have commanded.

In another column may be found an advertisement of two brothers who wish to invest $10,000 in some new and useful improvement in the hardware trade. The advertisers are known to us to be men of integrity, and to mean what they say, so that parties having any patented article for sale which meets the requirements set forth in the advertisement may correspond with them in full confidence of honorable treatment.

A Boston firm has just put into operation, at Fisherville, N. H., a factory which transforms poplar wood into "excelsior," for filling mattresses, at the rate of two tuns per day.

MARKETS FOR THE MONTH.

The leading feature in the market for the past month has been the great fluctuation in the price of gold, which has ranged from 260 to 209⅞. As long as our currency is so inflated it will doubtless be subject to these disturbing fluctuations. The following table shows the prices of the leading staples, reckoned in our paper currency, at the end of October and November:—

	Price Oct. 26.	Price Nov. 30.
Coal (Anth.) ℔ 2,000 lb	$9 50@11 00	$9 00 @10 50
Coffee (Java) ℔ lb	45	50
Copper (Am. Ingot) ℔ lb	47@ 48	48 @ 49
Cotton (middling) ℔ lb	1 22	1 29 @ 1 30
Flour (State) ℔ bbl.	$8 90@ 9 25	$9 65 @10 25
Wheat ℔ bush.	$2 25@ 2 60	$2 50 @ 2 80
Hay ℔ 100 lb	1 30@ 1 35	1 45
Hemp (Am. drs'd) ℔ tun.	320 00 @350 00	$320 00 @350 00
Hides (city slaughter) ℔ lb	10½@ 11	13½@ 14
India rubber ℔ lb	$1 10 @ 1 15	70 @ 1 15
Lead (Am.) ℔ 100 lb	$13 87 @14 00	$15 50 @16 00
Nails ℔ 100 lb	$9 50 @10 00	9 00 @10 00
Petroleum (crude) ℔ gal.	46½@ 47	48
Beef (mess) ℔ bbl.	$8 00 @13 00	7 00 @12 00
Saltpeter ℔ lb	24 @ 30	30
Steel (Am. cast) ℔ lb	18 @ 33	30 @ 34
Sugar (brown) ℔ lb	18 @ 21	16½@ 22¼
Wool (American Saxony fleece) ℔ lb	90 @ 1 00	90 @ 1 10
Zinc ℔ lb	20 @ 21	19 @ 20
Gold	2 16	2 30

FARMERS' CLUB.

The Farmers' Club of the American Institute held its regular weekly meeting at its Room at the Cooper Institute, on Tuesday afternoon, Nov. 29, the President, N. C. Ely, Esq., in the chair.

EMIGRATION TO MARYLAND.

The President read a letter from W. Bayard, Esq., of Maryland, in reply to an invitation from the Club, saying that he would be present at the next meeting, on Tuesday, December 6th, and would explain the advantages and disadvantages of Maryland as a place for immigration and settlement by Northern farmers.

OSAGE ORANGE HEDGES.

Solon Robinson read a letter from S. W. Noble, of Leroy, Ill., saying that though the tops of the Osage orange are occasionally killed by extreme cold in the winter, the roots are not injured, and the freezing does not impair in the least the effectiveness of the hedge. The roots throw up fresh sprouts, and the old stalks stand as a perfect fence till the new sprouts are grown.

THE BEST EARLY POTATO.

Mr. Carpenter gave it as his opinion, from extensive experience, that the Early Cottage is far the best and most profitable early potato.

CEDAR BIRDS.

Dr. Trimble, being called up, stated that the bird which eats such large quantities of canker-worms is the cedar bird, and that is what he called it before—not the reed bird. Besides the name of cedar bird, it is also called the cherry bird, the canker bird and the wax wing.

Dr. Trimble continued, "Mr. Chairman, I also said that the Baltimore oriole eats the curculio, and that I had found the head of one of these insects in the crop of a reed bird. I have here an agricultural paper in which the editor says that he does not believe that I know what a curculio is. I have wintered and summered with the curculio for the last 25 years. I have studied its habits, examined its structure, written upon it; I have probably killed more of the insects than all of the rest of the inhabitants of the United States. The curculio has a very large eye, containing, as nearly as I have been able to count under the microscope, 147 lenses. There is no other species of this class of wevils the eye of which has very nearly the same number of lenses. Some have very few, and some a great many more. Now, I found in the crop of a bobolink the proboscis and eyes of an insect that resembles the proboscis and eyes of the curculio. On bringing the eye into the focus of the microscope, I found that it contained 147 hexagonal lenses, and I think I am justified in stating that, at all events, one reed bird has eaten one curculio."

Many other subjects were discussed, but we select only the above.

The *Country Gentleman* says that scraping the horns of oxen on the inside will make them curve outward, or *vice versa*.

ISSUED FROM THE UNITED STATES PATENT-OFFICE

FOR THE WEEK ENDING NOVEMBER 29, 1864.

Reported Officially for the Scientific American.

☞ Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, specifying size of model required and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the Scientific American, New York.

45,214.—Apparatus for amalgamating Gold and Silver. Henry N. Adams, New York City:

I claim, first, Amalgamating gold and silver contained in pulverized ores, tailings, or other metaliferous material, by means of quicksilver brought in contact therewith in the condition of vapor, under a mode of operation, substantially such as above set forth.

Second, The discharge of the distilled vapor of quicksilver from a still, and auriferous or argentiferous quantity or substances containing gold or silver in a pulverized state from a hopper into a rotary or oscillating and inclined cylinder or chamber, which is fed in a continuous stream with the said quartz or material from the said hopper, by means of the rotating or oscillating motion of the said cylinder or chamber, substantially in the manner and for the purpose set forth.

Third, The combination of the apparatus for supplying the retort with quicksilver with the retort, substantially in the manner and for the purpose specified.

Fourth, The combination and connection of the retort and the revolving or oscillating cylinder and chamber, by means of the worm, R, through which the distilled vapor of mercury is discharged from the retort with the said revolving cylinder or chamber, in the manner and for the purpose herein named.

Fifth, The stationary hopper, O, in combination with the rotating or oscillating cylinder or chamber, L, substantially in the manner and for the purpose mentioned.

Sixth, The partition of said hopper, O, with its aperture and plug, Q, in combination with said hopper, in the manner and for the purpose described.

Seventh, The stuffing-box, N, in combination with the feeding end of the rotating or oscillating cylinder or chamber through which it passes and in which it works, substantially in the manner and for the purposes set forth.

Eighth, The surrounding jacket pipe, a, in combination with that part of the worm which passes through the hopper, in the method and for the object designated.

Ninth, The mode of sealing the upper or feeding end of the rotating or oscillating cylinder or chamber by plunging it directly into the pulverized quartz or gold or silver bearing substance contained in the hopper and allowing it to revolve out matter, substantially in the manner and for the object specified.

Tenth, The revolving or oscillating motion of the cylinder or chamber, the feeding end of which moves in the pulverized matter to be supplied to it for agitating and drawing the said pulverized substance into and through the said cylinder or chamber, in a continuous and equable stream, in the manner and for the purpose mentioned.

Eleventh, The widening and projecting outwardly of the feeding end of the rotating or oscillating chamber by means of arms or their equivalents, to describe a larger circle than the said cylinder or chamber in its revolution or oscillation in the pulverized ore contained in the hopper to stir up and throw into the said cylinder or chamber the said pulverized auriferous or argentiferous substance, substantially in the manner described.

Twelfth, The combination of the receiving elutriating pan with the discharging cylinder or chamber or its equivalent, whether moving or stationary, when the said cylinder or chamber, either revolving or stationary, is discharging into said pan gold or silver bearing quartz or ore in a pulverized state, which has been treated or amalgamated with the distilled vapor of quicksilver, and when at the same time the pan is supplied with the grinding and mashing drags, K, or any equivalent crushing device by which apparatus the said pan becomes substantially an arastra, and shown substantially in Fig. 1, in combination with any auriferous or argentiferous pulverized ore discharged from an amalgamator, in which it has been amalgamated with the distilled vapor of quicksilver to grind and mash and work over the said mass and separate from it the fine dewy particles of quicksilver condensed through it, and collect them into a liquid state to be used over again, all substantially in the manner and for the purposes hereinbefore set forth.

Thirteenth, The use of the drags, K, to grind the amalgamated mass and work out of it the fine particles of quicksilver, disseminated through it when the said fine particles result from the condensation of the distilled vapor of that metal.

Fourteenth, The use of the shaft and cog wheels, or any equivalent device by which the rotating shaft when attached by a belt or its equivalent to the driving power, shall move both the rotating cylinder or chamber and the drags, K, or their equivalent, substantially in the manner and for the purposes specified.

Fifteenth, The use of a rotating or oscillating conveyor for turning over and exposing the ore to the vaporized quicksilver during its passage through it, substantially as above set forth.

Sixteenth, Connecting the discharging end of the conveyor, L, at or near the bottom of the arastra so that the water may reach up therein and around it in the jacket pipe, J, and act on the descending vapor of the quicksilver as a condensor in the revolving or oscillating conveyor, substantially as and for the purpose above described.

Seventeenth, Making the joint which connects the conveyor with the arastra, and sustaining the lower end of the conveyor by means of a pipe, J, extending from the arastra, which permits the rotation of the conveyor in water and prevents the escape of the vapor of quicksilver from its lower end, substantially as described.

45,215.—Cigar-holder.—Louis Auguste, New York City:

I claim the application to a smoking tube, A, of a tubular socket, f, with perforated partition, g, and cap, h, and applied to the mouth piece, e, the whole constructed and arranged substantially as herein set forth.

[This invention consists in the employment of a removable sponge holder arranged in the interior of the cigar-holder and provided with a perforated partition and cup, in such a manner that said sponge holder will not obstruct the draught, and that it can be readily detached from the cigar-holder, and the sponge can be removed and cleaned without disturbing the other parts of the cigar-holder, and by these means a sponge saturated with camphor or other suitable material can be kept in contact with the smoke and any desired flavor can be given to the same.]

45,216.—Grubbing Machine.—Cortland Ball, Augusta, Mich.:

I claim the combination of the axle, A, wheels, B B, nuts, a a b b, toothed rings, c c, lever, D, suspended pawl, E, side braces, G G, the eye bolts, F F (on the peripheries of the wheels, B B), and the chain, H, all constructed, arranged and connected as herein shown and described.

[This is one of the most powerful and quickly operated machines for the purpose that we have seen. If any body wants a first rate grubbing or root-raising machine, we advise them to address the inventor of the above.]

45,217.—Refrigerator.—George A. Banta, New York City. Ante-dated Nov. 16, 1864:

I claim, first, The arrangement of the side chambers, h and n, and back chamber, m, with the openings, 4, 7 and 5, as set forth, whereby the air, after passing over the ice, descends through the chambers, h, rises through the refrigerator, thence passes to the back chamber, m, and from that through the back chambers, n, and exit openings, 5, as specified.

Second, I claim the division, k, formed of slate with air chambers between the wooden case and slate divisions so that said slate has a circulation of air on both sides, as and for the purposes specified.

45,218.—Device for making Curvatures in Flexible Tubes.—Alexander Beckers, New York City:

I claim a helical curvature to surround the flexible pipe at the angle or bend, for the purposes and as specified.

I also claim a connection extending from one end to the other of said helical curvature, to retain the same at any desired distance apart, and preserve the bend or angle in the pipe, as set forth.

45,219.—Tobacco cutter.—Abijah E. and Josiah B. Blood, Lynn, N. Y.:

We claim, first, The arrangement and combination of the slotted knife-bar, D D, the lever, E, the guide-pin, d, and the side frames or cheeks, A B, all constructed and operating substantially in the manner and for the purpose specified.

Second, So arranging the gage-plate, h h, and its set screw, j, with reference to the upright part of the frame, A B, that said screws shall stand so far forward of the opening under the knife that it can not interfere with the material placed under the knife to be cut or livided, as herein set forth.

45,220.—Air-pump.—N. H. Borgfeldt, New York City:

I claim, first, A centrifugal air-pump, the working or pumping part of which acts under water or other liquid.

Second, The disk, A, revolving under water or other liquid and provided with a central supply pipe, b, and one or more radial discharge channels, d, in combination with the spring valves, e, and wings, C, constructed and operating substantially as and for the purpose set forth.

Third, The application of a cam groove, g, in combination with the wing or wings, C and revolving disk, A, constructed and operating substantially as and for the purpose specified.

[This invention consists in an air-pump provided with one or more movable parts, which, when moving in one direction, work against the pressure of the air previously compressed by the action of the pump, and at the same time create a vacuum to be occupied by the external air, and which, when moving in the opposite direction, are partially or wholly propelled by the action of the air previously compressed, and the expulsion of the fresh air, which entered to fill the vacuum, is facilitated.]

45,221.—Insulator for Telegraph Wires.—David Brooks, Philadelphia, Pa.:

I claim, first, The use in the manner described of a hollow cylinder, h, of paper or its equivalent in connecting the glass block, B, to the casing, A, by means of sulphur.

Second, Coating the interior of the space above the glass block as well as the edge of the casing, and of the sulphur near the same, also the stem of the wire holder with paraffine, in the manner and for the purpose described.

45,222.—Quartz-crusher.—Andrew Buchanan, Brooklyn, N. Y. Ante-dated Nov. 26, 1864:

I claim, first, As an improvement in quartz-crushing machines the crushing wheels, A A', provided with cogs, a a', and intervening cavities, b b', and arranged in relation to each other like cog wheels, substantially as and for the purpose herein shown and described.

Second, The application of the side flanges, D D', to the crushing wheels, A A', substantially as and for the purpose set forth.

45,223.—Car Sash Fastening.—W. H. Burridge, Cleveland, Ohio:

I claim the special construction and arrangement of the plate, B, with points, b, and projections, f, in combination with the cap, C, otches, c, and bolt, D, as a new and useful article of manufacture.

45,224.—Process for engraving Copper, etc.—A. F. Burson, Mt. Blanchard, Ohio:

I claim, first, As a new mode of producing an iodo-polished surface on a copper plate, as set forth, the polishing being done after the plate is iodized, modifies its chemical relations and produces a surface after it has been exposed to bromine, to light, and to the modified vapors of mercury, that resists the deposit of copper, whilst in the decomposition cell of an electrotyping apparatus, the plate after polishing containing a trace of iodine

Second, I claim as my invention the modification of the vapors of mercury by the use of the sulphate of zinc or copper, or the sulphuret of antimony (the sulphate zinc is best), or their equivalents, by placing one or more in solution in mercurial bath, and then drying it, which modifies the mercurial vapors, causing it to be well defined on the lights of the image that has been produced on the plate by means of light.

Third, I also claim as my invention the method of iodizing polished copper plate once modifying the vapors of mercury, which when manipulated as described will produce a sharp and well defined picture (which I designate a photope), and on the lights of this image, produced in this manner, copper can, by means of electro-metallurgy, be deposited, whilst the coating on the shades, produced in manner set forth, will remain clear of the cupreous deposit (which I designate a photo-electrotype) thus giving elevation to lights and depression to shades; ink may be applied and prints obtained therefrom by means of a press, or the engraving may be used after applying silver or gold to alerate lights as a durable portrait, etc., or the image may be etched in, in place of depositing copper thereon in the usual manner. Let it here be understood that the copper coating to be a protection from the deposit of copper in electrotype cell, must be exposed to modified mercurial vapor, and have also been exposed to light and shade of an image.

Fourth, I claim in the foregoing to have made a new discovery of a principle—a discovery of an art, an art as broad in its relations to the family of arts as the daguerreotype itself—light and electricity producing a n image in solid metal as durable as bronze.

45,225.—Oscillating Valve.—J. W. Carhart, Cohoes, N Y.:

I claim a valve with a circular end, a, semi-circular end, b, and abutment, c, of such form as to effect a cut-off and fitted into a socket, B, to operate substantially as and for the purpose herein shown and described.

[This invention consists in the use of a plug or valve with one circular and one semi-circular end, the two ends being connected by a flat abutment in such a manner that when the plug is fitted into a corresponding socket, its circular end closes the socket all round, but its semi-circular end closes the socket only half ways, giving access to the steam to that compartment of the socket below the abutment and, by imparting to this plug an oscillating motion, the steam can be changed, throwing the parts alternately in communication with the steam pipe and with the exhaust pipe.]

45,226.—Machine for making Sheet Metal Pans.—Chas. F. Chambers, Hutsonville, Ill.:

I claim, first, In the described combination the form, H, clamp, L, and the upsetting roller, E, guided and operated substantially as et forth.

Second, In the described combination with the clamps, 6 and 6', and the clamp, L l l M, or their equivalents, I claim the sectional or compound form, h, 1 2 3 4 5 1' 2' 3' 4' 5', substantially as set forth.

Third, The arrangement of self-retracting form, H, and regulating cam, K, substantially as set forth.

Fourth, The clamp, L l P, performing the double office of closing the blocks and holding down the work.

45,227.—Scraping Disk or Wad for Ordnance Cartridges.—J. M. Connel, Newark, Ohio:

I claim, first, The combination of the scraper as described, or its equivalent, with an india-rubber ordnance powder bag, applied within the same substantially as described.

Second, The construction of the scraper with an annular chamber e, and flanges, g, substantially as described.

45,228.—Harvester.—John Curtis, Hackettstown, N. J. Ante-dated Nov. 21, 1864:

I claim the reclining platform, A*, with endless carrying bands, C, in combination with the curved guide bars, D and hinged rake, E, constructed and operating in the manner and for the purpose substantially as herein shown and described.

[This invention consists in arranging in the passage leading from the trap to the cage and connected with the trap door a hinged gate, in such a manner that the animal in passing from the trap to the cage locks itself in and at the same time resets the trap.]

45,229.—Flasks for Drain Pipes.—Edwin Dayton, Meriden, Conn.:

I claim, first, A case constructed substantially as described so that the parts may be united in any position in which they may be set together, for the purposes specified.

Second, The rings forming the two ends of the case in combination with the body of the case, when constructed so as to protect the edges of the case, substantially as described.

Third, The combination of a case and base when constructed so that the case may be longer than the pipe to be formed therein, substantially as and for the purpose specified.

Fourth, The herein described core, constructed substantially as and for the purpose specified.

Fifth, The pit described in combination with core case and base forming a flask, for the manufacture of pipe, substantially as and for the purposes specified.

45,230.—Changing Rotary into Reciprocating Motion.—Alexander Dean, Penn Yan, N. Y. Ante-dated Nov. 25, 1864:

I claim the drum, C, provided with the rims, d d d, and the cam rings, f f, having cams, g g, of varying eccentricity, fitting thereon, in combination with the reciprocating gate, D, provided with standards or bearings, K K, adjusting laterally to correspond with the position of the cams, in such a manner that a long or short stroke of said gate may be produced, substantially as herein set forth.

45,231.—Cultivator Plow.—John Doak, Keithburg, Ill.:

I claim connecting together the beams, G M, by means of flexible connections or hinges, G', for the purpose of allowing the beams, M, to receive a lateral movement from the stirrups, c, independently of the beams, G, while both the beams G M, may be moved vertically, simultaneously, by means of the arm, S, substantially as set forth.

45,232.—Hand Seed-sower.—George C. Fauckboner, Schoolcraft, Mich.:

I claim the cord, B, pulleys, C, and lever, F, in combination with gage pins, H H and E, and hopper or box, A, substantially as and for the purpose set forth.

45,233.—Tobacco Pipe.—Abijah Fessenden, East Boston, Mass.:

I claim dividing the bowl of the pipe into three or more concentric chambers) connected and arranged together, substantially as herein described and for the purposes specified.

45,234.—Animal Trap.—J. M. Flautt, Reedsburgh, Wis.:

I claim, first, The latch, f, arranged in combination with the tappet, g, on the edge of the trap door, and with the lever, h, chain or cord, i, spring catch, j and gate, D, and trap door, C, constructed and operating substantially as and for the purpose herein shown and described.

Second, I claim in combination with the above the weighted line, d, wheel, c, and escapement, b, by which, when the door is freed, it is caused to be again elevated substantially as described.

[This invention consists in arranging in the passage leading from the trap to the cage and connected with the trap door a hinged gate, in such a manner that the animal in passing from the trap to the cage locks itself in and at the same time resets the trap.]

45,235.—Riding Saddle.—J. M. Flautt, Reedsburgh, Wis.:

I claim the application to an ordinary saddle of a pommel which is composed of two distinct parts and connected to the saddle tree, substantially in the manner herein specified, so that the saddle can be readily changed from an ordinary to a side saddle.

[This invention consists in the application to an ordinary saddle of a pommel, which is composed of two distinct parts and connected to the saddle tree in such a manner that the saddle can be readily changed from an ordinary to a side saddle, and that one and the same saddle serves the double purpose of an ordinary and of a side saddle.]

45,236.—Sewing Machine.—John G. Folsom, Winchendon, Mass.:

I claim, first, Adjusting the looper or lower needle of a sewing machine to suit the different sizes of needles, by an endwise motion of its shaft, whether it be a vibrating or revolving looper, substantially in the manner and for the purpose above described.

Second, Locking the looper in its proper position, by sinking its eye and shank in the end of its shaft, substantially as above described.

[This invention consists in a novel method of adjusting the upper and lower needles to each other, and also in a new method of securing the lower needle to its shaft.]

45,237.—Safety Ship and Car-heating Stove.—George F. Foote, Cincinnati, Ohio:

I claim, first, A safety car and ship-heating stove made of wrought or sheet iron arranged with a horizontal plate, A, or perforated plate or grating B, when the above is combined with the draft openings, K, substantially as and for the purposes set forth.

Second, In combination with a stove constructed and arranged as specified in the foregoing clause, I claim the safety door fastening, F, as described.

45,238.—Machine for separating Hooks and Eyes.—Maltby Fowler, Northford, Conn.:

I claim the combination as above described, in a machine for separating hooks and eyes, and similar metallic articles, consisting of a hopper, C, a cylinder, B, with beaters, a, rotating in a case, A, with a discharging hopper and a box containing water in which the articles are received.

[This invention relates to a new and improved machine for separating hooks and eyes and other articles after being plated, in order to prevent the articles being soldered together by the plating as the latter cools.]

45,239.—Lighting Gas by Electricity.—Samuel Gardiner, Jr., New York City:

I claim dividing the current of electricity, generated by a galvanic battery, into several circuits, as herein specified, for the purpose of lighting a large number of gas burners by electricity.

45,240.—Lighting Gas by Electricity.—Samuel Gardiner, Jr., New York City:

I claim, first, The turning on and off illuminating gas, generating and discharging the electricity through a series of gas burners to be lighted by means of an ordinary bell crank, arranged as specified.

Second, I claim one or more disks, e, arranged and employed substantially as described, in an apparatus for lighting gas by electricity.

Third, I claim the arrangement of the receiver of the electricity, or its equivalent, as specified.

Fourth, I claim discharging the electricity from the receiver by the combined action of the star wheel, F, pin, u, lever, G, and adjusting spring, t.

Fifth, I claim the combination of the receiver, A, stop-cock, B, disks, e, forks, l, and discharging apparatus, F G n m, arranged and operating substantially as herein set forth.

45,241. Lighting Gas by Electricity.—Samuel Gardiner, Jr., of New York City:

I claim broadly a tip of lava or other non-conducting material in the described combination, with an apparatus for lighting gas by electricity

45,242.—Crutches.—Y. E. Gordon, of Cleveland, Ohio:

I claim, first, The arrangement of the springs, S S, ferrules, G G, in combination with the head, C, and sectional side rods, A A and B B, as and for the purpose set forth.

Second, I claim the springs, F F, ferrules, D D, and washers, d d, in combination with the hand piece, E, and sectional side rods, A A and B B, as and for the purpose described.

Third, I claim the springs, n n, catches, m m, in combination with the cross piece, H, rod, H', and sections, B B, as and for the purpose set forth.

45,243.—Artificial Grindstone.—George G. Griswold, of Chester, Conn.:

I claim ombining sand with hydraulic cement, to form a substitute for the common grindstone, when the same shall be combined substantially as herein described.

45,244.—Warming and Ventilating Churches and Public Halls.—Edwin J. Hardy, of Buffalo, N. Y.:

I claim making the floors of church buildings and other public halls with open joints or perforations, which open joints or perforations are provided with movable stops, D, for regulating the passage of the air through the openings, in connection with a basement or lower room, having suitable stoves or furnaces for producing the requisite amount of heat, so that the heat from this lower room may be conducted directly through the floor into the pews or slips, substantially as described.

45,245.—Elevators.—N. D. Hinman, of Pleasant Vale, Conn.:

I claim the bars, J J L L, pivoted in the car, A, as shown, and the bars, J J, connected at one end by a cross piece, K, in combination with the button, G, on the chain, F and the pin e, on the inclined ways, M, all arranged substantially as and for the purpose herein set forth.

I further claim the bent pawl, H, with the sliding rod, Q, or its equivalent, with or without the spring, Q, arranged to operate in connection with the chain, F, and pulley, D, substantially as and for the purpose herein set forth.

[This invention relates to a new and useful improvement in that class of elevators which are connected with a car placed on elevated ways, and arranged in such a manner that the load, when elevated, may be drawn over the spot where it is desired to have it deposited, and then dumped. The invention is chiefly designed for elevating and mowing hay and grain in barns, but it is applicable to other purposes.]

45,246.—Mowing Machines.—M. C. Hubbard, of Syracuse, N. Y.:

I claim the combination and arrangement of the ratchet ring and dogs in the driving wheel of a mowing machine, substantially as and for the purpose set forth.

45,247.—Steam-pressure Gages.—John Vivian Jepson, of New York City. Patented in Canada Nov. 5, 1863:

I claim, the combination in a pressure gage of the piston, flexible diaphragm, spring, index and dial, substantially as set forth.

I also claim the combination of the piston and spring with the toothed sector, pinion and index, through the intervention of a slide, substantially as set forth.

45,248.—Self-acting Pulley Brake.—John Jochum, of Brooklyn, N. Y.:

I claim as a new article of manufacture a nautical self-acting brake pulley, to be suspended by a rope, B, and consisting of the body, A, shaft, C, sheave, D, ball, E, and spring, F, all constructed, arranged and operating as and for the purposes herein specified.

45,249.—Earth Pulverizer.—John Johnson, of Mount Washington, Ohio:

I claim in the construction of the implement herein described the combination and arrangement of the frame, A, pulverizer, C, furnished with open teeth, b, curved in the manner described, traction wheels, B, gearing, c d e f, and adjustable castor wheel, D, substantially as and for the purposes herein specified.

45,250.—Trusses for Inguinal Hernia.—S. & W. H. Jordan, of Roxbury, Mass.:

We claim as our invention the improved inguinal truss, consisting of the extra part or brace, B, the pad, A, the body belt, C, and the two brace straps, E F, arranged and combined together, substantially in the manner as hereinbefore specified.

45,251.—Fire-alarm Telegraphs.—Charles Kirchhof, of Newark, N. J.:

First, I claim the combination with a magneto machine of the automatic operating mechanism, to take the place of an operator, and so constructed as to convey any required number of signals at uniform or varying intervals, without any other manipulation than properly setting the indexes before starting the machine.

Second, I claim the traveler, l, constructed and operating substantially as described.

Third, I claim regulating the number of signals or impulses, by means of the sliding rod, D, and plate, f', operated by the attendant, substantially as specified.

Fourth, I claim the oscillating wheel, A, when constructed and operating substantially as and for the purpose set forth.

Fifth, I claim the key, f, provided with the spring, e3 when constructed and operating in the manner and for the purposes set forth.

Sixth, I claim the key, f, constructed as described, in combination with the cam, e2, operating in the manner and for the purposes set forth.

Seventh, I claim so constructing and arranging the automatic operators, A and l, that they can be thrown in and out of connection with the actuating mechanism at pleasure.

45,252.—Converting Motion.—A. E. Kline, of Goodville, Pa. Ante-dated Dec. 20, 1863:

I claim the combination of the elliptical groove, D, and roller, E, with the cross grooves, b c, and disc, A, in the manner and for the purpose herein shown and described.

45,253.—Apparatus for Pasting Photographs on Cards.—Charles S. Lucas, of Poughkeepsie, N. Y.:

I claim, first, The combination and arrangement of the platten, F, handle, W, spring, I, fingers or dog, G, and stop piece, H, or their equivalent, for the purpose heretofore set forth and described.

Second, The combination and arrangement of the paste box, K, frame, L, roller, M, and springs, N, or their equivalent, for the purpose heretofore set forth and described.

Third, The combination and arrangements of the movable bed, O, fingers or dogs, P, stop pieces, Q and X, or their equivalents, for the purposes heretofore described and set forth.

Fourth, The slide joint, Z, for connecting the bed, O, and slide, E, for the purpose heretofore set forth and described.

45,254.—Car Replacer.—John Mable, of New York City:

I claim the blocks, A A, provided with flanges, E F, and with hooked lips, C, and either with or without the plates, B, all arranged substantiall for the purpose herein set forth.

[This invention relates to a new and improved apparatus or device for placing railroad cars on the track in case of the former running off from the latter while traveling. The object of this invention is to obtain a simple and economical device for the purpose, which may be carried on the tender of the locomotive, so as to be always ready when required for use, and which may be very readily applied to the rails.]

45,255.—Sugar Mold Carriage.—Alexander Mackey, of New York City:

I claim, first, The construction of the adjustable upper portion of the carriage of a system of separate pivoted bars, H H, arranged to operate substantially as and for the purpose herein specified.

Second, The standard, J, applied in combination with the upright spindle of the caster or guide wheel, and with the bottom frame, A and standard, F, substantially as and for the purpose herein specified

45,256.—Cooking Stove.—A. S. Markham, of Bushnell, Ill.:

I claim, first, The wood grate, J, and its rod, g, in combination with the tube, b, lever, C, and slotted foot, c, constructed and operated substantially as and for the purpose above described.

Second, I also claim the coal grate, with its journals, p, bent down as described in combination with the tubes, i, the troughs, t, and

the sliding rods, a, connecting rod, b, and lever, C, substantially as and for the purpose above described.

[This invention consists in so constructing grates for cooking and other stoves as to enable one to raise and lower them at pleasure. The devices employed make the principle applicable to both coal and wood grates, and the dumping of the rate is provided for when the coal grate is used.]

45,257.—Seed Planters.—James M. Maxwell, of Cape Elizabeth, Maine. Ante-dated Dec. 13, 1862.

I claim the combination as well as the arrangement of the seed-dropping apparatus, and its furrow-opener and closers, with the plow and the wheel arranged in the heel of the latter.

I also claim the combination of the gate, D, and its operative mechanism, viz., the lever, E, and latch, m, with the seed-dropping apparatus and the plow.

I also claim the combination of the wheels, s s' and their operative mechanism, viz., the arms, t u, bar, v, and lever, w, with the plow and the third wheel, B, arranged within or at the heel of the plow, as specified.

I also claim the improvement by which the furrow-opener and its closers are enabled to pass a stone or obstacle, the same consisting in the flexible conductor and the yielding supporting arm, the same being applied to the hopper and the plow, in manner and so as to operate substantially as specified.

45,258.—Pocket Pipe Cleaner.—Gustavus E. Matile, of Washington, D. C.:

I claim the arrangement of the various parts of a pocket pipe cleaner in the manner and for the purpose specified, substantially as described.

45,259.—Machine for Scutching Tangled Flax.—William C. McBride, of Raritan, N. J.:

First, I claim attaching the scutching blade arms, G, to the disk or head C, by means of bolts, d, provided with springs, e, arranged as shown, or in any equivalent way, to admit of the yielding of the scutching blades, substantially as and for the purpose herein set forth.

Second, The feeding of the flax to the scutching blades by means of the roller, J, and concave, I, arranged in the manner substantially as herein described.

Third, The adjusting of the scutching blades, H, nearer to or farther from the edge of the concave, I, by means of the shaft, B, having the collar, E, and screw, F, adjustable upon it, as set forth.

Fourth, The screen or riddle, W, when used in connection with the rotary scutching blades, feed roller and concave, substantially as set forth.

45,260.—Apparatus for Reversing the Motion of Rolls.—Geo. F. McCleane, of Pittsburgh, Pa.:

I claim the special arrangement and combination of the mechanism hereinbefore described, for reversing the motion of rolls, consisting of two shafts, a and b, placed in the same axial line, one of which is connected with the rolls, and each carrying a miter wheel, which wheels, f and h, both gear into a miter wheel, g, placed at right angles to and between them, one of the miter wheels, f, being attached to its shaft, a, and the other, h, to a loose sleeve, e, on the shaft, b, with a crab, k, placed on one of the shafts, b, with which it revolves, between the miter wheels, so that by sliding the crab to one side or the other the roll shaft, b, is geared either directly with the driving shaft, a, which moves in one direction, or with the miter wheel, h, and loose sleeve, e, which move in the opposite direction, substantially as described.

45,261.—Fibrous Packing for Steam Engines.—Wm. Hartley Miller, of Philadelphia, Pa. Ante-dated April 3, 1863:

I claim the application to the packing yarn of a substance which will make it more efficient, using for that purpose the aforesaid chemical compound, or any other substantially the same, and which will produce the intended effect.

Second, I claim the application to the packing yarn of a cloth or canvas, or other fibrous covering, prepared as herein described, or any other substantially the same, and which will produce the intended effect.

Third, I claim the application of either of the above separately, and without reference to each other, as herein described, and any other substantially the same and which will produce the intended effect.

45,262.—Breech-loading Fire-arms.—William Morgan-stern, of Philadelphia, Pa.:

First, I claim a breech-piece, arranged to slide to and from the open end of the barrel of a firearm, in combination with the slotted arm, J, or its equivalent, and an inclined lever, E, the whole being so constructed and arranged, and so connected with the hammer that the latter shall be cocked by and during one movement of the breech from, and one movement to the rear of, the barrel.

Second, A slot or recess, u, so formed in the breech, and so arranged in relation to the recessed projection, 4, that a portion of the bead of the metallic cartridge shall be accessible to a hammer hung beneath the breech.

Third, A hammer, F, with a pin or pins, k, or their equivalents, the spring, G, or their appropriate spring, the lever, E, the pin, I, and trigger, H, or other analogous devices for retaining and releasing the said lever, the whole being arranged on a firearm, and operating substantially as set forth.

Fourth, The pendant arm, J, so connected to the sliding breech, or to the pin, L, that it can move longitudinally, but not turn laterally, with the said breech, in combination with the inclined arm of the lever, E.

Fifth, The arm, K, attached to or forming a part of, and arranged to move laterally and longitudinally with the sliding breech, in combination with the lever, E, when the latter, and the said arm, K, are so constructed and so arranged in respect to each other that the said lever, F, is held stationary until the said breech is locked to the frame.

Sixth, The pin, I, arranged to slide in the projections, n and n', of the frame, D, the spring, p, and trigger, H, the whole being constructed and arranged in respect to the lever, E, and operating substantially as set forth, for the purpose specified.

Seventh, The lever, P, and bar, 15, or their equivalents, arranged in respect to the lever, E, and operating substantially as and for the purpose set forth.

45,263.—Eye Protectors.—Lewis Morse, of North Attleboro, Mass.:

I therefore claim the improved manufacture of eye protector, as made with its base frame, and eyes stamped and grooved or channeled from a single plate of metal and applied to the wire gage cover, in manner substantially as described.

45,264.—Cultivators.—James D. Osborn, of Goshen, Ind.:

First, I claim the two-part axle, E E', as employed in combination with the levers, G G', racks, F F2, and wheels, D D', the whole being constructed and arranged in the manner and for the purpose specified.

Second, I claim the tongue, K, in combination with the beam, B, roller, I', arm, I, rod, H, lever, G, and castor wheel, L, all arranged and operating in the manner described, to convert the implement from a stiff to a loose-tongued machine.

Third, In combination with a cultivator, constructed as herein described, I claim the slide, Q, arranged and employed substantially as and for the purpose specified.

45,265.—Carriage Springs.—R. W. Parker, of Woburn, Mass.:

I claim the springs, C C, constructed with lowered ends, and parallel, or nearly parallel sides, attached at their ends to the front and rear bolsters of a carriage, and supporting the seat or body upon their sides between said bolsters, all substantially as herein shown and described.

[This invention consists in having two springs constructed, either of metal or wood, and bent or curved in bow shape, with parallel, or nearly parallel sides, said springs being attached to the front and back bolsters of the vehicle with their sides, underneath the sides of the body of the latter, the body resting on the sides of the springs, and all so arranged whereby it is believed that several advantages are obtained over the ordinary springs in present use.]

45,266.—Medicine Chest.—R. B. Parkinson and J. M Marvis, of Philadelphia, Pa.:

We claim, first, A medicine chest, composed of the exterior case or cover, A, of leather or other like material, and the interior box, C, with spaces arranged between the two, substantially as and for the purpose herein set forth.

Second, The combination of the said case with the pouches, B B, at the end of the same, for the purpose specified.

45,267.—Horse Collars.—George F. Parsons, of Baltimore, Md.:

I claim the improved article of manufacture, the collar for horses, mules, etc., constructed of leather alone, of leather and the other materials of fabrics named, or of any suitable material, the different layers of the leather or other material being secured to each other by metallic rivets, as herein recited.

45,268.—Machine for Making Nuts.—James Paton, of Newburg, Ohio:

First, I claim the above-described machine, when arranged, constructed and operated substantially as set forth.

Second, I claim the cross bar, L, and springs, L', in combination with the die, K, substantially in the manner and for the purposes specified.

Third, I claim the lever, Q, sliding frame, C, arm, R', and cam, e, in combination with the punch, M, dies, K and D4, and matrix, when arranged and operating conjointly, substantially as and for the purpose set forth.

45,269.—Machine for Making Bolts and Rivets.—J. Paton, T. Campbell, and R. Paton, of Newburg, Ohio:

We claim, rst, The above described machine, when constructed, arranged and operated, substantially as set forth.

Second, We claim the use of the hooks, p p, in combination with the vibrating jaw, E, and cam, G, substantially as and for the purpose set forth.

Third, We claim the special arrangement of the reciprocating head, H, arms, H' H', followers, K, in combination with the plunger, J, vibrating lever, K', and cams, I I', when constructed operated conjointly, substantially as and for the purpose set forth.

45,270.—Fifes.—John Pfaff, of Philadelphia, Pa.:

I claim the ridges, b, arranged in respect to the mouth opening, a, of a fife or other like instrument, as and for the purpose specified.

45,271.—Washing Machine.—Wm. Pollyblank, of Cleveland, Ohio:

I claim the special arrangement of the weighted corrugated balls, in combination with the rotating corrugated cylinder, B, circular frames, h, and tub, A, when operating conjointly as and for the purpose set forth.

45,272.—Wash Kettle.—John Reist, of Philadelphia, Pa.:

I claim the described improvement in wash kettles, consisting in the application thereto of a false bottom, B, upright tube, D, and revolving cap piece, E, the whole operating substantially in the manner and for the purpose specified.

45,273.—Wind Wheels.—George H. Reister, of Washington, Iowa:

I claim, first, Operating the movable guides by the vane, u, and the other means or devices as herein recited, the several parts being arranged in relation to each other substantially as described.

Second, I claim in combination with the guides the adjustable shutters for concentrating and directing the wind to the inlets, as set forth.

45,274.—Frames for Saws.—Thomas D. Roberts, of Middletown, N. Y.:

I claim the combination of the frame, A B, consisting of two pieces connected by a pin, at a, the cross bar, E, the saw blade, C, and the screw bolt, b, attached to the end of the saw blade, and receiving a thumb nut, D, bearing upon the handle, A, all as herein shown and described.

[This invention relates to an improvement in that class of handsaws in which the saw blade is strained in a wooden frame, and it consists in constructing the frame of the pieces of wood with a central bar, the saw blade being secured in the two main parts of the frame, and all so arranged that the frame may be constructed at much less cost than the ordinary frames, and also be more durable.]

45,275.—Print for Bituminous Roofing Fabrics.—Alfred Robinson, of New York City:

I claim a bituminous roofing fabric, having its surface made of any suitable color, substantially as herein described.

45,276.—Brush Handle.—Fred. Rudolph and Wm. Kasefang, of Jersey City, N. J.:

I claim a hoop or loop, C, projecting from a shank, B, in combination with the hinged jaws, E E, and handle, A, constructed and operating substantially as and for the purpose set forth.

45,277.—Churns.—Henry Soggs, of Columbus, Pa.:

I claim the suspended dashers, D E, hinged to the rigid cross beam, F, in combination with the swinging pyramidal tub, B, for the purposes and substantially as described.

45,278. Sewing Machine.—Greenleaf Stackpole, Ellsworth, Maine. Ante-dated Sept. 17, 1863:

I claim the combination of a sewing machine for making in cloth or other material, with two threads, one straight row of stitches or line of sewing with auxiliary machinery for simultaneously making with other two threads another and parallel separate and distinct straight row of stitches of sewing in the said cloth or material, the whole being substantially as above described.

I also claim the combination of its equivalent of the said auxiliary sewing machinery with the said sewing machine in such manner and by such means as to enable the two shuttles and two needles and their accompanying parts to be simultaneously adjusted relatively to one another so as to cause them to make the two lines of sewing either nearer to or further apart from one another, as circumstances may require, the whole being substantially as described.

I also claim the combination and the fastening of one end of the cloth bridge and needle guide, 13, to the main machine, or to the plateform, e2, of the auxiliary machinery, leaving the unfastened end free; so that the untastened end will move easily in the main machine or the platform. e2, moves easily under the bridge when one end of the bridge is fastened to the main machine, substantially as above described.

I claim the running of two shuttles simultaneously in separate race ways, face to face and parallel to each other, which are adjustable any distance apart, in conjunction with the needles, substantially as herein described.

I claim the simultaneous running of two separate distinct parallel curved lines of sewing any distance apart, disconnected from each other when using to form the same, two shuttles running face to face.

45,279.—Carriage Axle Box.—Wm. Stechschult, Glandorf, Ottawa Postoffice, Ohio:

I claim an axle box, A, cast solid throughout enclosing the projections of the linch-pins and the end of the spindle and applied in combination with the screw plug, d, annular groove, e, and linch-pins, f f, constructed and operating in the manner and for the purpose herein shown and described.

[This invention consists in an axle box which is cast solid with the cap which closes the same in front and which is perforated with a small oil hole that is closed when not used by a screw plug, in such a manner that the oil poured in the axle box is scraped off and pushed back therein by the action of the spreading noses, and no oil is allowed to waste, and furthermore a solid, cheap, and durable axle box is produced.]

45,280.—Churn.—Alexander Stevens, Washington, Iowa:

I claim the combination and arrangement of the wheels, pulleys and upright cylinders, the same being constructed and operated as herein set forth.

45,281.—Street Railway Car.—John Stephenson, New York City:

I claim, first, The employment or use of the iron or other metal abutments, B, applied to the car and constructed in such a manner that the ends of the truss rods may pass through them and be firmly secured therein, substantially as set forth.

Second, The passing of the truss rods, C, through the sills, a, of the car below their undersides, substantially as described.

Third, The combination of the truss rods with the abutments and studs, all arranged and applied as and for the purpose set forth.

45,282.—Corn Harvester.—Thomas H. Storms & John C. Poffenberger, Jacksonville, Ill.:

We claim, first, The adjustable or pivoted semi-circular bars, Q Q, in connection with the jaws, S S, and annular frame, P, all constructed as shown to operate, substantially in the manner and for the purpose set forth.

Second, The windlass, N, when used in combination with the annular frame, P, and its attached parts, substantially as and for the purpose specified.

Third, The sliding and adjustable platforms, I I, arranged in connection with the oars, H H K, so as to admit of holding the stalks until they are grasped by the jaws, s s, and then admit of being shoved back, and turned upward to allow of the shock being discharged, as described.

Fourth, The rest, V, in combination with the reel, R, cutting device, D, movable or pivoted bars, Q Q, jaws, S S, annular frame, P, sildes, O O, and windlass, N, arranged on a mounted frame, substantially as and for the purpose specified.

[This invention relates to a new and improved machine, whereby standing corn may be cut and left upon the field in shocks, the whole work being done at one operation and with one and the same machine.]

45,283.—Washing Machine.—Frederick C. Walker, New York City. Ante-dated Nov. 16, 1864:

I claim constructing a washing machine with a series of corrugated slats alternating with each other, in combination with a semi-cylindrical rubber formed with a cavity, f, for the purposes and as specified.

45,284.—Constructing Bales of Hay.—Orson & Charles Waste, Cameron, Ill.:

We claim the constructing and arranging a bale of hay with sheets of hay which have been pressed or crushed and cut, in the manner described.

45,285.—Machine for Preparing Hay for pressing into Bales.—Orson & Charles Waste, Cameron, Ill.:

I claim the rollers, C C, and knives, D D, when constructed and arranged as and for the purpose specified.

45,286.—School Desk and Seat.—Theos. Weaver, Harrisburgh, Pa.:

I claim, first, The standards, A A, the foot rest, B, which penetrates them at various hights from the floor, the book-case, F F F, combined and arranged substantially as and for the purposes herein described.

Second, The combination and arrangement of the adjustable folding leaf, L M, the ledge, N, its slots, T T, the notched braces, C C, their axes, D D, operating substantially in the manner as and for the purposes herein set forth.

Third, The combination and arrangement of the adjustable rods, G and H, the diverted rod, F, the sliding back, E, the seat, K, the ratchets, I I, the automatic spring, O, supported by its coils around F, and its insertion into the back, E, operating substantially in the manner as and for the purposes herein shown and described.

45,287.—School Table and Seat.—Theos. Weaver, Harrisburgh, Pa.:

I claim, rst, The standards, R R, with their slots and rods, K K, at different hights, the burrs, L L L L, to clamp and unclamp them when adjusted, and the hat racks formed by the hooked extremities of the burrs, combined, arranged, and operated as herein shown and described.

Second, The combination and arrangement of the compound adjustable leaf, A C D, hinged together underneath the sections; section, D, hinged to the plank, F', the guide, J, the slides, M and N, the mode of inserting them into the plank, F', the staple, U, the adjustable ledge, B, with its slots, the button, E, operating substantially in the manner as and for the purpose herein set forth.

Third, The combination and arrangement of the haunch rod, W, the toggle joint, O, the curved arm, X, the slots, Q Q, in seat and back, the notched brace or rubber, A', the hinges, Z, substantially as and for the purposes here in set forth.

Fourth, The combination of the adjustable ledge, B, with sections, D and A, for the purpose herein described.

45,288.—Car Coupling.—Edwin F. Wells, New York City:

I claim the drop pin, B, in combination with the segment slide, G, fitted in a curved opening, F, at the rear of the opening, D, which receives the link, E, all being arranged within the draw-head, A, and with a link or shackle, E, to operate in the manner substantially as and for the purpose herein set forth.

[This invention relates to a new and improved car coupling of that class which are commonly termed self-acting or self-coupling.]

45,289.—Amalgamator.—Zenas Wheeler, San Francisco, Cal.:

I claim the pan, O O, with a double bottom or diaphragm in combination with the stirrer, A A, and guides, E E, substantially as described.

45,290.—Revolving Fire-arm.—Rollin White, Lowell, Mass.:

I claim arranging the trigger in the frame in which the many chambered cylinder revolves, and in front of the chambers of the cylinder which happen to be below the fixed barrel as described, so that the hand in grasping the handle of the pistol and the lower part of the chambered cylinder will have the fore finger bearing conveniently against the trigger.

I claim the stationary rest or anvil on which the fulminate of the cartridges is fixed, in combination with the many chambered revolving cylinder.

45,291.—Horse Power.—Frank Wicks, Kansas, Ill.:

I claim in combination with a divided or sectional hub in a hoisting apparatus, a sweep or its equivalent on one of the sections, and a rope wheel or its equivalent on the other section, and a cam interposed, so that when the sweep rides up on the cam, the sections of the hub will be disconnected, and the rope allowed to run independent of the motion of the horse or team, substantially as described.

45,292.—Metallic Cartridge.—Wm. H. Wills, Boston, Mass.:

I claim covering the heel of the cartridge case, A, by a metallic screw-cap, B, substantially in the manner and for the purpose set forth.

45,293.—Tool for Cutting Rivets.—Peter Wixcel, Lafayette, Ill.:

I claim connecting the movable jaw, B, to the cam lever by means of the joint, e, or its equivalent, substantially as described.

[This invention consists in improvements upon the ordinary bolt cutter by which the power applied to the cutter is constantly increasing as the cutting proceeds, until the work is finished.]

45,294.—Cutter for Cutting Gear Wheels.—Joseph R. Brown (assignor to himself and Lucien Thorpe), Providence, R. I.:

I claim a cutter for cutting the teeth of gears composed of a series of cutting blades or teeth, constructed substantially as described.

45,295.—Railroad Frog.—E. M. Caulkins, Worcester, Mass., assignor to himself and John J. Powers, Grafton, Mass.:

I claim the combination of a cast-iron frog, A, with two spring rails, G, working independently of each other and forming a continuous rail on each side of the frog, when constructed and operated substantially as and for the purposes described.

45,296.—Corset Skirt Supporter.—Lavinia H. Foy (assignor to James H. Foy), Worcester, Mass.:

I claim, first, The combination of the straps, J J, body, A, and extensor or skirt supporter, M, or the equivalent thereof, substantially as described.

Second, The combination with the shoulder-straps, J J, body, A, and extensor or skirt supporter, M, of a laced opening, K, or the equivalent thereof, extending down the back, substantially as and for the purposes set forth.

45,297.—Tool Elevator for Lathes.—Wm. Hamilton (assignor to himself and Josiah B. Fuller), Chicopee, Mass.:

I claim, first, The combination of the pieces, A B and C, or their equivalents, when constructed and used substantially in the manner and for the purpose described.

Second, The ratchet formed by the notches O O O' O', on the pieces, A and B, when used in combination with the pieces, B and C, substantially in the manner and for the purpose described.

45,298.—Fence.—H. B. Myers (assignor to himself, James A. Ostrom & H. Crawford), Schoolcraft, Mich.:

I claim the oblique kerfs, a, at or near the top end of the pickets, E, and the dowel pins, b, in their bottom ends to operate in combin-

ation with the wire, D, and foundation rail, C, in the manner and for the purpose substantially as set forth.

Also the bends, C, in the wire, D, to operate in combination with the oblique kerfs, a, in the pickets, substantially as and for the purpose described.

[This invention consists in the employment or use of pickets provided with an oblique kerf at or near their top ends and with dowe pins or tenons projecting from their bottom ends to be used in combination with a wire stretched from one post to the other, and with a longitudinal foundation rail in such a manner that by causing the oblique kerfs to catch over the wire and inserting the dowel pins in appropriate sockets in the foundation rail, the pickets are steadied on top and bottom, and a light, durable, and cheap fence is produced.]

45,299.—Harness Snap.—Charles H. Palmer (assignor to George Edwards), Newark, N. J. Ante-dated Nov. 16, 1864 :

I claim the tongue constructed as described and the combination of the spring therewith, in the manner and for the purpose set forth.

45,300.—Bearing for Flyers of Spinning Machines.—Blaney E. Sampson, Boston, Mass., assignor to himself and George N. Towbridge, Rollinsford, N. H.:

I claim the application of the green hide collar or its equivalent to the flyer neck bearing, in the manner or by the mode substantially as hereinbefore specified.

I also claim the improved flyer neck bearing as made with the annular chamber, c, for reception of the raw hide collar, d, and with the opening or passage, e, leading laterally out of the said chamber, in manner as specified.

45,301.—Paper Envelope.—Richard Shepard, Brooklyn, N. Y., assignor to Fitch, Estee & Co., New York City :

I claim the strips, A A A and B, substantially as and for the purpose set forth.

45,302.—Rockers for Furniture.—Abraham Strawbridge (assignor to himself and Michael Sehman), Covington, Ky.:

I claim the combination of the dove-tailed grooves, B, rubber strips, C, bosses, D D, and screws, b b, all constructed, arranged and employed in the manner and for the purpose specified.

45,303.—Composition for Preventing Incrustation in Steam Boilers.—Alonzo Temple (assignor to himself and J. L. Fitch), Bridgeport, Conn.:

I claim the within-described composition for preventing or removing incrustation of steam boilers.

45,304.—Device for Packing Dry Goods Boxes.—Thomas Webber (assignor to himself and Volney Rusco), Chicago, Ill. Ante-dated Nov. 25, 1864 :

In combination with the foundation, A, and windlass, B, I claim the chains, h h, and claw-rods, i i, or their equivalents, arranged and operating substantially as and for the purpose set forth.

45,305.—Water Wheel.—James White, Cleveland, Ohio :

I claim, first, The combination of the stone with the hoop, b, supported by a rim, a, and the tram screws, c, for the purpose of adjusting the position of the bed stone with reference to the shaft, substantially as shown and described.

Second, I claim the arrangement of the levers, p, extending from the circular piece, p', the arms, n, rods, n', the gates, m', which when moved causes the openings through which the water passes to the wheel to be larger at the periphery than at the inner portion of said gates, whereby to use the water with economy, and regulate the power to suit the work to be done by the stones, as herein shown and described.

RE-ISSUES.

1,826.—Grain Separator.—Jonathan L. Booth, Rochester, N. Y. Patented Sept. 20, 1859. Re-issued Sept. 25, 1860 :

I claim the combination of the zig-zag screens and boxes, B C, when the same have a lateral shake motion or one at right angles to the passage of the grain in such a manner as to have the grain pass consecutively over and through them, and arranged relatively with each other to operate substantially as and for the purpose herein set forth.

I also claim the series of zig-zag screens and boxes, B C, with or without the troughs, E, and having a lateral shake motion in connection with the fan, G, and spout, H, substantially as herein set forth.

1,827.—Machine for Grinding and Amalgamating Gold and Silver.—W. H. Hepburn & G. K. Peterson, San Francisco, Cal. Patented April 19, 1864 :

We claim, first, The pan, B, with a concave bottom in combination with a corresponding shaped muller, in shell form having openings in the hub and shell sufficient to allow the pulp to pass freely to the grinding surfaces arranged with or without the ribs, m, substantially as described and for the purpose set forth.

Second, The arrangement of the shoes, P, provided with curved beveled edges and attached to the under side of the muller, H, so as to form oblique or spiral curved grooves, p, in reverse direction to relation of muller, for the purpose specified.

Third, The spiral flanges or ribs, m^*, on the upper side of the muller, as described.

Fourth, The arrangement of the hand-wheels, O N, thimble, L, and tubular screen, M, substantially as described and for the use and purposes as herein before set forth.

1,828.—Shirt Collar.—Wm. E. Lockwood, Philadelphia, Pa., assignee by mesne assignments of Walter Hunt, New York City. Patented July 25, 1854 :

I claim a shirt collar composed of paper and muslin, or its equivalent, and polished or burnished, substantially as and for the purpose described.

1,829.—Machine for Making Horse-shoes.—Barney Mee, Troy, N. Y. Patented June 9, 1863 :

I claim combining with the rotating male mold around which the rod of iron is bent, the vibrating lever for pushing the rod when bent away from the front or toe end of the mold, and the sliding bar with its diagonal groove for operating the said vibrating lever, substantially as herein described.

1,830.—Manufacture of Sugar.—John Findley Riggs, Fremont, Nebraska Territory. Patented Jan. 26, 1864 :

I claim retining sorghum or other sugar by applying a liquid to dissolve the gum, and removing the same by pressure.

EXTENSIONS.

Sewing Machine.—Allen B. Wilson, Waterbury, Conn. Patented Nov. 12, 1850. Re-issued Jan. 22, 1856. Extended Nov. 12, 1864 :

I claim, first, The method of causing the cloth or material to be sewed in a sewing machine to progress regularly by the joint action of the surfaces between which it is clamped and which act in conjunction, substantially in the manner and for the purposes herein specified.

Second, I claim holding the cloth or other material at rest by the needle or its equivalent, in combination with the method of causing it to progress regularly, the whole substantially as herein set forth.

Third, I claim arranging feeding surfaces, substantially such as are herein specified, in such relation to the needle as herein set forth, that they or one of them shall perform the office of stripping the cloth or material from the needle as it rises or recedes from it, as herein described.

Fourth, I claim so mounting and attaching one of the feeding surfaces to some other part of the machine, that it may be removed or drawn away from the other surface at pleasure, substantially in the manner and to effect the objects herein set forth.

Sewing Machine.—Allen B. Wilson, Waterbury, Conn. Patented Nov. 12, 1850. Re-issued Dec. 9, 1856. Extended Nov. 12, 1864 :

I claim, first, The combination in a single machine of these three following elements, namely, a table or platform to support the material to be sewed, holding it for the action of the needle and presenting it properly to the grasp of the feeding apparatus; a sewing mechanism proper consisting of a needle and shuttle, or their equivalent, and a mechanical feed automatic, and causing the cloth to progress regularly, to which the cloth is not attached, and so grasping the cloth that it may be turned and twisted by the hand of an operator, such twisting not interfering with the regular progression of the cloth, and the whole being constructed and acting together and in combination with each other, substantially in the manner and for the purposes herein specified.

Second, I claim moving a shuttle so shaped and held by its race, that jaws may embrace it, by means of two jaws which are alternately in contact with the shuttle and are constructed and move substantially in the manner herein set forth, making and breaking their contact without any aid from cams or springs or the equivalent of such devices.

Third, I claim a double pointed shuttle, substantially such as is herein specified in combination with jaws for driving it, substantially such as are described whereby the shuttle may be thrown alternately from opposite directions through loops without practically disturbing the loop thread.

Valve for Governors.—Junius & Alfred Judson (assignor to Junius Judson), Rochester, N. Y. Patented Nov. 5, 1850. Re-issued Jan. 10, 1854. Extended Nov. 5, 1864 :

We claim making the opening or openings controlled by the governor valves of steam engines of gradually increasing capacity from the closed towards the open position, substantially in the manner and for the purpose specified.

And we also claim interposing a spring between the valve cover and the set screw or its equivalent, which determines or sets the position of the face of the valve to its seat, so that the tension of the said spring shall resist the pressure of the steam on the valve cover, and thereby produce an increased flow of steam to the cylinder, substantially as specified.

And we also claim the employment of the valve lever, adjustable to the steam of the valve, in combination with a fixed indicator, substantially as specified for the purpose of setting the valve in any required position without opening the valve box, as set forth.