



[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office FOR THE WEEK ENDING MARCH 7, 1854.

**ARRANGEMENT OF FUSIBLE PLUGS, OR DISKS, FOR STEAM BOILERS.**—William Burnett, of Boston, Mass.: I do not claim to have invented the application of fusible plates of steam boilers for the purpose of permitting the steam to escape, when it has reached any assigned limit; nor do I claim the method described of preventing the plate, which is remote from the boiler, from being fused by the heat of the boiler. I claim the application to steam boilers of two plates or plugs of fusible alloy, arranged as described, one of said plates being remote from the boiler, and the other in the interior thereof, by which arrangement the pressure of the steam is admitted on both sides of the interior plate, as specified.

**MACHINES FOR PLASTERING.**—Isaac Hussey, of Harveysburg, Ohio: I claim the arrangement of the several parts of the machine as and for the purpose described. [See engraving of this machine on page 164, Vol. 8.]

**VALVE MOTION FOR LOCOMOTIVE ENGINES.**—Caleb Cook, of Nashville, N. H.: I do not claim, for operating the valves, an arrangement wherein a link is employed, and has attached to it the valve rod and the eccentric rod, the central pin of the link working in the eye of a horizontal arm attached to a rocker shaft; nor do I claim a modification of such, wherein would be the same link with the eccentric rod and valve rod attached, and having the center pin of the link moving in vertical or curved guides attached to the rocker shaft, as such modifications do not admit of the reversing the engine without the removing both the link and the eccentric rod; whereas, with my improvement such can be effected by moving the eccentric rod only.

I therefore limit my claim to my particular arrangement or construction of the open lever, as provided with two recesses, and connected to a rocker shaft, and applied to and made to operate with respect to the eccentric and valve rods, as described.

**THE GAUGE OF STRAW CUTTERS.**—Warren Gale, of Louisville, Ky.: I claim the arrangement of the adjustable gauge, as described. [An engraving of this machine is published on page 136, of this volume.]

**OPENING AND CLOSING GATES.**—W. G. Philips, of Newport, Del.: I claim the double-bar rotating gate, opening and closing continually forward, by means of levers and inclined planes, as well as by pulleys and cords, combined and arranged as set forth.

**ROUNDING AND BEVELING THE HEADS OF BARRIS.**—J. P. Heacock, of Marlboro', Ohio: I claim rounding and beveling a barrel head at one operation, in a very true and perfect manner, by the employment of a double edged adjustable cutter secured in a swinging frame, or forked lever, and moved from a vertical to a horizontal position, and vice versa, back and forth from one end of the stuff to the other, in combination with the clamping jaws for holding the stuff in a proper position while being operated upon, as set forth.

[See notice of this invention on page 60, Vol. 9.]

**COTTON SEED PLANTERS.**—G. W. Cooper, of Palmyra, Ga.: I claim the combination of the saws and feeders, the said saws having a reciprocating rectilinear motion, and the said feeders having a reciprocating rotary motion, the above parts being constructed and arranged as set forth.

[See notice of this invention on page 380, Vol. 8.]

**SASH FASTENERS.**—H. B. Kimble, of Rochester, N. Y.: I claim the combination of the peculiar form of the bolt having a locking notch, with a weighted lever, formed and operating as described.

**SEWING MACHINES.**—Wm. H. Johnson, of Granville, Mass.: I claim, first, the making of a seam with a single thread, by the combination of a single needle, forked hook, and expanding lever, as specified.

Second, the forming or making of a seam from a single thread, by the running of a loop of the thread through the material to be sewed; the running of a second loop through the material, and putting the first loop through the second; the running of a third loop through the material and through the first-named loop; the carrying of a fourth loop through the material, and putting the third through it, and so on; putting the first loop through the second and around the third, the third loop through the fourth and around the fifth, and so on, forming the beveling double loop stitch, as set forth.

Third, the feeding of the material to be sewn by means of a vibrating needle, by which the material is moved along as required for the stitch, as specified.

**SASH SUSTAINERS.**—G. C. Hinman, of New Haven, Ct.: I claim the described sash sustainer, consisting of an arched rod attached to the horizontal part of the window, in such a manner that the weight of the sash shall cause the clogged ends of the rod to bear equally on both sides.

Also, as described, the lever thumb piece for increasing the arch of the rod, and relieving the pressure, so as to allow the window to be lowered, as described.

**REELING MACHINES.**—George Sevan, of West Earl Township, Pa.: I claim the double disc, as constructed, with hinged wings, for the purpose of keeping the threads regularly stretched, and operating the sliding rail when one of the threads is broken, in the manner described.

**SECTIONAL DRY DOCKS.**—Samuel Loveland, of Astoria, N. Y.: I claim the transversely placed tank, trunk, or water chamber, of each section of the dock, forming not only a central water ballast in the float, directly under the keel of the vessel to be raised; but when empty, a dry tank for the purpose of giving access to the keel in repairs.

I also claim the tank, trunk, or chamber, in combination with the buoyant chambers, or floats, hollow guards or chambers, or when combined with chambers or floats attached to the ends of the trunk or float, in the manner set forth.

**TAIL STOCKS FOR TURNING LATHES.**—L. B. Tyng, of Lowell, Mass.: I claim constructing and applying guide boxes, substantially as described, to the tail stocks of lathes, which make a better, cheaper, and far more durable bearing than those made heretofore for such purposes.

**BORING AND MORTISING CARRIAGE WHEELS.**—R. J. R. Stone, of Berlin, Ohio: I claim the combination and arrangement of the chisel and quadrant lever, in the manner specified, for the purpose of boring out the mortise at any desired angle, as indicated by the index. I claim this in connection with the sliding frame in the manner and for the purpose set forth.

**CARRIAGE BRAKES.**—Joseph Sollenberger, of Higginsport, Ohio: I claim the mode of applying the fore and hind wheel rubbers, by means of the connections M and N, applied to the fore rubbers as described, and in connection therewith the connection J, applied to the hind rubbers, as described, so that the fore wheels may be acted on in the rear, and the rear wheels in front, substantially as described.

**APPARATUS FOR PAYING THE SEAMS OF VESSELS.**—James W. Mookes, of Milan, Ohio: I claim the construction of a rotary mop, by the combination of the two sectional disks, provided with hollow arms or axes, through which passes a bolt having a nut, by which the disks are secured together, and the mop retained in place at the periphery between the inside edges, or by any other means, substantially as set forth.

**SUSPENDING EAVES TROUGH.**—Chauncy D. Woodruff, of Toledo, Ohio: I claim the mode of suspending and fastening eaves troughs as described.

**SEED PLANTERS.**—L. B. Fisher, of Coldwater, Mich.: I claim constructing the driving wheels of planters with cut rims and divided hubs, substantially as described, said hubs being made to traverse the driving shaft by means of forked levers operated by a screw or its equivalent, for regulating the alignment of the hubs in a cross direction, as set forth.

I also claim the scraper in combination with the two pins and the two levers, arranged and operating substantially as described, for preserving a given space between the edge of the scraper and outer surface of the rim of the wheel, as specified.

**SEED PLANTERS.**—Jeremiah C. Gaston, of Reading, Ohio: I claim the reciprocating agitator, as set forth.

**SEWING MACHINES.**—Charles Miller, of St. Louis, Mo.: I claim giving the cloth or material being sewed, a movement laterally to the direction of the seam, between the successive stitchings or interlacings of the needle and shuttle threads, substantially as set forth, for the purpose of receiving different kinds of stitches or seams. [See notice of this invention on page 268, Vol. 8.]

**OPERATING HYDRAULIC RAMS.**—Clark Polley, of May's Landing, N. J.: I claim the air tight box or chamber, having within it and in combination therewith, and with each other, as set forth, the hydraulic ram and pump, and having suitable pipes attached in such a manner as that when the apparatus is submerged, and the pump worked from above, the ram will be free to operate by the pressure and momentum of the water resting above it.

**ARTIFICIAL LEGS.**—David B. Marks, of New York City: I claim the combination of the rod which is attached to the foot, and moves upwards and downwards within the leg or lower part of the limb, the spring applied to the rod, and the curved bar, plate or way, attached to the thigh or upper part of the limb, the whole operating substantially as described, to keep the knee stiff, and control the position of the foot, until the ankle is bent, on throwing the body forward, and retain the foot in its bent position at the ankle, until the knee is again straightened, as set forth.

[This ingenious invention is illustrated in number 48, Vol. 8.]

**BRICK MACHINES.**—Seaman C. Ripley, of New York City: I do not claim broadly the use of a gauge or guiding the molds in entering under the grating, as such a gauge, provided with a weighted lever for throwing it back to its place on the backward movement of the fore bar, has been used in the machine of Collins B. Baker, patented March 22, 1850.

I claim throwing the gauge back to its place by means of a tail, or cam, or equivalent, upon which the fore bar acts on its backward movement, as described.

**MACHINES FOR SPLITTING RATTANS.**—Joseph Sawyer, of South Royton, Mass.: I claim the combination of the feed rollers with the cutter, constructed and operating as described.

**MACHINES FOR SPLITTING RATTANS.**—A. M. Sawyer, of Templeton, Mass.: I claim the combination of a sawed spurred cutter, or its equivalent, in combination with a guide for holding and guiding the stick thereto, as described.

**SEWING MACHINE.**—Wm. Wickersham, of Boston, Mass.: I do not claim the mere duplication of a sewing machine or the placing of one of such machines by the side of or near to another, and similar machine, so as to perform two rows of stitches by the operation of both machines.

But I claim more properly in so combining with one sewing machine, having a thread carrier, or their mechanical equivalents, another or second needle, and a second hole in the thread carrier, or equivalents thereof, that by the action of the same needle-moving machinery, two needles are made to operate simultaneously, so as to perform at one and the same time, two parallel rows of stitches, with separate threads, substantially as specified.

**BRITANNIA TEA AND COFFEE POTS.**—Robert W. Andrews, of Shilfordville, Conn.: I claim a tea pot, coffee pot, or other vessel, composed of a supporting ledge, or base of iron, (or other metal which is not melted by ordinary degrees of fire heat) combined with a body of britannia metal, as set forth.

**CONNECTING JOINTS OF AIR HEATING PIPES.**—J. Young, of Franklin Furnace, Ohio: I claim forming a perfectly tight joint for air heating pipes, by boring out recesses in the ends of the pipes, the recesses being sufficiently large to receive a thin plate, which is made of a more expensive metal than the pipes, and which, when upon being heated, will, in consequence of expanding more than the pipes, bind tight against the recesses in which it is fitted, and form a perfect tight joint, as described.

[This is a good improvement, and is noticed on page 140 of the present volume.]

**MACHINES FOR DRILLING STONES.**—William C. Wright, of Boston, Mass.: I claim the combination of mechanism herein described, for operating the drill bar, consisting of two pairs of grippers, attached to rods, having slotted heads, which receive the wrists of two cranks, the said cranks being arranged diametrically opposite to each other, on a common axis, and the slots in the heads of the gripper rods being of such form as described, so as to cause one set of grippers to always rise while the other pair are descending; but to cause a cessation of motion before every descent, in order to give time for the drill bar to fall, as herein set forth.

[A notice of this invention is published on page 108 of the present volume.]

**HANGING GATES.**—Ashley Hotchkiss, of Schenectady, N. Y.: I claim hanging a gate by means of two lower turning wheels, or pulleys, and a single hook, upon projections of a box, or frame, the upper end of the gate being weighted and carried by suitable rollers, (any number) or their equivalent, working or travelling in fixed grooves, channels, or spaces, so as to admit the gate opening either way, the several parts being constructed, arranged, and operating, as described.

[This is a good improvement, and we hope the inventor will realize a proper remuneration for it.]

**WATER CLOSETS.**—Daniel Ryan & John Flanagan, of New York City: We claim, first, dividing the chest or penstock, into two compartments, communicating with each other, the division being made by means of a branch, or its equivalent, by which a sufficiency of water is raised into the chest, or penstock, after the supply has been stopped, to cover the opening, or mouth of the pipe, at the bottom of the bowl seat, and effectually prevent the escaping of effluvia into the apartments.

Second, we claim the sliding tube within the trunk, or cylinder, said tube being constructed, arranged, and operated as shown, by which a direct communication is at all times cut off between the bowl seat and exit pipe, and at the same time the excrement allowed to pass into the exit pipe at the proper time.

**RELACTING RAILROAD SWITCHES.**—Joseph Wilson, of Hartford, Conn.: I do not claim the connection of a switch and a bar, by a jointed lever, so that the motion of one gives a corresponding motion to the other; nor do I claim to operate the switch by means of a bar forming part of one of the main track rails; nor do I claim to return the switch to its position by means of a spring and catch after it has been displaced by the pressure of the flange of the car wheel; but I limit my claim to the precise arrangement of the parts for operating the switch by means of the lateral pressure of the wheel flanges on the inner sides of the movable and fixed rails, when the cars are on the rails.

**SEWING MACHINES.**—Christopher Hodgkins, of Boston, Mass. (assignor to Nehemiah Hunt): I claim constructing the horizontal needle of the angular form, as described, and making it to operate with respect to the vertical needle, and its eye, as explained.

**WIRE HEDDLE EYES FOR LOOMS.**—Thomas Clegg, of North Andover, Mass. (assignor to himself and Nathaniel Stevens, of Andover, Mass.): I do not claim a loom harness metallic eye, or eyelet, made by being stamped out of a piece of metal; nor do I claim a metallic eye, or heddle, formed by round wire, or wires twisted together.

But I do claim a loom harness metallic eye, made of round wire, or wires, twisted together and compressed and flattened in the twist of its wires, and directly at the top and bottom twisted warp opening, as described.

**APPARATUS FOR OPENING AND CLOSING GATES.**—Samuel G. Dugdale, of Richmond, Va. Additional to reissued letters, Jan 31, 1854: the nature of my improvement consists in hanging a pendulous lever provided with a notch, by which I cause the weight of the gate to be the means of holding the bottom to the point to which it is drawn, and at the same time holding the vertical lever down until the carriage has passed over it, thereby preventing any appendages that might be attached to said carriage, or vehicle, from catching said lever. The application of a pendulous lever provided with a notch, or its equivalent, as set forth.

**RE-ISSUE.**  
**SHINGLE MACHINES.**—E. R. Morrison, of Troy, Pa. Originally Patented Nov. 22, 1853: I claim riving and carrying forward of the riven shingle, by the intermittently reciprocating movement of the riving knife stock, or frame, so as to be operated upon successively by the shaving and edging knives, said motion being imparted by the movement of the riving knife stock, through the intervention of the spring hooks, stops, or dogs, or their equivalents, as described.

**NOTE.**—In the above list of patents, eleven of the applications were prepared at the Scientific American Patent Agency. We think it is the largest list ever issued to our clients at one time. We congratulate them upon their favorable prospects, and urge them to use diligence in bringing out their inventions before the public. Now they are fresh and can be more easily disposed of if they possess value.

Explosion of a Steamboat Boiler.—The New Law.

On the 17th ult., the steamboat "Kate Kearney" exploded one of her boilers while lying at the dock in St. Louis, Mo., by which catastrophe four persons were instantly killed, and twenty severely scalded, some of whom have since died. We have seen it stated that this explosion was caused by gross carelessness. The St. Louis "Republican" states that the U. S. District Attorney, Thomas C. Reynolds, has entered into a vigorous prosecution of the parties to whose carelessness and recklessness the deplorable catastrophe is attributed. The Captain has been arrested and required to enter into bonds of \$5,000 for his appearance at trial. One of the Deputy Marshals was subsequently sent to Alton with a warrant for the arrest of the engineer, Albert Hardy. Both of these officers of the "Kearney" will be prosecuted for manslaughter under the Steamboat Law. The affidavit of carelessness was made by the Inspectors, and is levelled exclusively against the Captain and Engineer.

It appears to us that the Steamboat Inspectors under the New Law for that District are also blameable, and their conduct should likewise be subjected to a rigid examination. The "Kate Kearney" was an old boat, and the Louisville "Evening News" states that part of the boiler which was blown on the Levee exhibited an old fracture, and was much incrustated inside. The same boiler had collapsed once before, in 1851, and was merely mended, as testified to by the Captain and one of the owners, and it had been in use altogether for six years. How the Inspectors ever came to test this boiler, as it is stated they did, and allow it to pass, is something that requires explanation. It makes no matter how many good laws may be enacted for the preservation of life from explosions; they will all be no better than blanks on the statute book, if the officers appointed to carry them out, neglect to do their duty. The constant tendency of our institutions has been to appoint men to all offices from political party motives, not for personal merit. This party policy should be abolished with respect to such offices as those of Inspectors under the Steamboat Law.

One great cause of explosions on our western boats, we see, has been brought to light by the investigation of the local Inspectors of Cincinnati into the causes of the collapse of a flue in a boiler of the steamer "Zach. Taylor," by which three lives were lost and several persons injured. Among other things, the testimony which has been laid before them shows that the iron of which the flues were made, instead of being uniformly one-fourth of an inch in thickness, had the appearance of piled iron, not welded in rolling, and it varied in thickness as much as thirty per cent.—being in some places little more than one-eighth of an inch thick.

Now, as a boiler can only be of the strength of the weakest part of it, every boiler should be inspected with great exactness and care. If the Inspectors do not do this, they, above all other persons, deserve to be severely punished.

Another Terrible Steam Boiler Explosion.

On the 2nd inst. a steam boiler exploded with terrific violence at the car factory of Messrs. Fales & Gray, Hartford, Conn., by which nine persons were instantly killed, and about twenty others severely wounded. The building containing it was destroyed, and much

other damage done. The boiler which exploded was nearly new, made of the best materials, was five feet in diameter, and twenty-four feet long. From the evidence presented before the

Coroner's Jury, we are of the opinion that the cause of the explosion was allowing the water in the boiler to get below the fire line of the flue, whereby it—the boiler—became red hot, and weak at the fire line, and when cold water was let in, the steam began to generate so rapidly that the metal gave way—exploded—scattering death and destruction around. It seems that the boiler had five flues, which were carried pretty high, thereby increasing the danger, and requiring greater attention.

It has been suggested to us that government should offer a suitable reward for some invention that will be a perfect preventive of steam boiler explosions. We must say that the cause of steam boiler explosions is not a mystery; it is well known, and such catastrophes can all be prevented if men are only cautious, careful, and attentive. We seldom hear of a steam boiler exploding in France. We believe that no more than two boilers have exploded in that country in twenty years. This has not been owing to any wonderful application of apparatus, or a superior mode of constructing French boilers, but simply because low pressure steam is generally used, and a good and rigid system of steam boiler inspection enforced. The most perfect means to prevent explosions is at the command of all, but they are not applied. The pressure of the steam on the exploded boiler was 80 lbs. to the square inch, or equal to something more than five tons and a half on every square foot. However strong the iron of the boiler might have been when cold, it became very weak when highly heated.

Professor Agassiz

In his lectures before the Lowell Institute, in Boston, says that the human race existed on the globe a hundred and fifty thousand years ago. This he proves to his own satisfaction.—He points out differences in the physical structures of the different races of men, greater than those existing between the orang-outang and the chimpanzee—animals which naturalists regard as different species. He concludes, therefore, that men sprang from different stocks.—[Exchange.]

[We have seen many such opinions accredited to Prof. Agassiz, but have never been able to see a correct and certified report of his opinions.]

Remedy for Chilblains.

Take a sufficient quantity of hot water in a tub to bathe the feet in, and add a lye made of wood ashes or potash, until the water feels quite soft and slippery. Soak the feet which are troubled with chilblains thoroughly in this, then rub them with a towel until they are perfectly dry. After this rub them over lightly with the spirits of turpentine, and it will at once stay the disagreeable sensations arising from the chilblains. Follow up this operation for a few evenings, and a cure will assuredly be effected, as I have proved by experience.

J. M. T.

Irvine, Pa.

Reaping Machines.

We have in our possession some very rare and valuable information in regard to the progress of this class of agricultural implements, and shall present it in a series of articles, together with illustrations, as soon as we can find pace for them.

Hobb's Lock Picked.

The famous American Lock, known in England by the above name, has, it is stated by the London papers, been picked at last by a Cockney. We have not yet received an account of the particulars connected with this affair.

The locomotive "Manchester" exploded at Hudson, on the Hudson River Railroad, on the 10th inst. The engineer was instantly killed.

A Bill is now before the Legislature of this State, making it obligatory on all ferry steamboats to carry life preservers and other safety apparatus.