



[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office FOR THE WEEK ENDING FEBRUARY 21, 1854.

OPERATING SAWS.—Frederick T. Andrews, of Georgetown, D. C.: I claim the method herein described of communicating the advance and receding motion to the saw, and for the purpose set forth.

I further claim the combination and arrangement of the half beam lever and rocking link with the saw when operated by a crank or its equivalent, and pitman, connected at any point between the fulcrum of said lever and saw.

ATTACHING HORSE BELLS TO STRAPS.—Jason Barton, of Middle Haddam, Conn.: I claim attaching spherical bells to straps by means of wires or rods, the bells being attached to the wires or rods as described, and the wires or rods secured in any proper manner to the other side of the strap.

WINDOW CORD PULLEYS.—Jeremy W. Bliss, of Hartford, Conn.: I do not claim, separately of itself, making the box part of the shell and its face piece in halves, and fitting together by angular tags and recesses, as specified.

But I claim the shell and its face piece in halves, fitting loosely together, as described, when combined with the wedge formed seat and projecting tooth constructed and arranged as specified, so that the pulley may be fitted together and in its place with despatch, and be readily removed and taken apart for the convenience of cleaning, repair, or adjustment of the cord without detaching the latter, and whereby the shell, with its pulley, when in their place cannot be moved outwards without raising the sash, and its weight, fastening screws are dispensed with, the chafing of the cord avoided, and the entry and removal of the pulley facilitated, as specified.

I further claim the combination and arrangement of the back locking bolt, with the wedge-formed seat and projecting tooth, as described.

CURVED SASH BOLT.—E. G. Connelly, of Indianapolis Ind.: I claim the combination of the gravitating catch or bolt, with the metallic case or box, giving said catch the form of an annular segment, or the segment of 90 degrees of a circle, combined with said metallic case of similar form, constructed and applied in such a manner that the expansion of the wood cannot retard or obstruct said catch or bolt, as it inserts itself into the recesses or notches in the frame. I do not claim the recesses or the material of the metallic case, or the catch, but the construction, formation, and application of said metallic case and catch, as set forth.

STONE PICKING MACHINES.—J. T. Foster, of Jersey City, N. J.: I claim the use of a cylinder for picking stone or other articles, in combination with drop teeth and cam and spurs for operating the same, as specified.

I also claim the use of the solid discharging plate and its combination with the drop teeth in a cylinder, and operated substantially as set forth, and the combination of the drop teeth, with the adjustable rabe.

OAR-LOCKS.—Wm. P. Glading, of New York City: I claim the application to oars of a cylinder surrounded with a band and bolt, as described, for preventing the oar from wearing off against the row-lock, and preventing the oar from slipping out of its place.

DERRICKS.—J. B. Holmes, of Boston, Mass.: I claim, first, the combined arrangement of the collar upon the mast; the revolving platform supported upon it, and clamped below it, and the tension rods from said platform to the revolving mast-head cap, as described.

Second, pivoting the heel of the derrick boom upon the revolving platform in the locality, as described, that is, upon that portion of the platform, which is beyond the center of the platform when measuring from the point of suspension of the weight.

STRETCHING AND DRYING CLOTH.—D. & H. Stearns, of Pittsfield, Mass.: We claim, first, the means shown for stretching the cloth while wet, and carrying the same parallel while being dried, consisting of the endless belt of tenter hooks traveling in adjustable ways to accommodate different widths of cloth, which ways are parallel to each other, except at the ends, where they converge to allow the cloth to be hooked on and stretched the same as it is moved forward, as specified.

And in combination with the above parts for stretching the cloth, we claim conveying the ways at the delivery end to relieve the strain on the cloth, and allow the same to pass off the tenterhook, without tearing, as specified.

Second, we claim the heating cylinder and its adjustable roller, so arranged as to keep the cloth in contact with any desired portion of the cylinder, to heat and partially dry the cloth, the amount required before it is stretched on the tenterhooks, as described.

WEAVING WIRE SCREENS.—J. M. Schuyler & Wm. Zern, (assignors to D. L. Easterly) of Pottsville, Pa.: What we claim in the weaving of wire, is causing the warp and weft wires to bend each other by means of clamps, levers, or their mechanical equivalents, operating upon the warp wires each time the lay eats up the weft, for the purpose set forth.

We also claim connecting the lay and clamp movement, so that the motion of the lay shall give motion to the clamps, as set forth.

CONTRIVANCES FOR PROTECTING PASSENGERS IN RAILROAD CARS.—S. F. Holbrook, of Boston, Mass.: I do not claim to support the back rest by inflexible bars hinged to the floor, and made to turn so as to bring the back from over one side of the seat to over the other side of it, in order to enable a person to sit with his face in one direction or the opposite, as may be most convenient to him. Nor do I claim the placing in the partition of a carriage, and opposite to, and about the height of the face of a passenger, a broad band of padding extending from one side of the carriage to the other, and to serve as a protection to the head of the passenger in case of accident.

I claim, as applied to a railway car or carriage, the above described improvement, for supporting the back and head rests, or either, viz., by means of strong flexible bands, or their equivalents, extended from or near to the floor, to or near to the roof of the car, as specified.

And in combination with the flexible bands, I claim the set of slide rails or equivalents, made to support the bands at one end of each, and to allow of their being moved from their angular inclination from one side of the vertical to a similar angular inclination on the opposite side thereof, in the manner and for the purpose as stated.

TOOL FOR DOVETAILING.—A. P. Hughes, of Philadelphia, Pa.: I claim the arrangement and combination of the chuck, bit, saw, and plane iron, or their equivalents, as specified.

CORRUGATING METAL PLATES.—Richard Montgomery, of New York City: I claim the method described of forming corrugated metal beams by passing a plate of metal of the proper size through a series of crimping dies, as set forth.

WHIFFLETREE HOOKS.—Martin Newman, 2nd, and N. C. Whitcomb, of Lanesboro, Pa., and G. O. Cole, of Hartford, Conn.: We claim the construction of a trace fastener on the ends of a whiffletree, consisting of a wing latch turning on a pin, detents, and spring, in combination with a hook and catch or detent thereon, operating in the manner and for the purpose of preventing accidental displacement of the cock eye on the end of the trace.

We do not confine our claim to the use of the socket in connection with the spring latch arrangement, as the spring latch and hook may be used either on a socket plate or shank, as occasion may require, or in any other manner, as set forth.

ATTACHING HUBS TO AXLES.—Elnathan Sampson, of Oaromont, N. H.: I claim the united bands and tube, secured to the inner end of the hub, combined with the tube and the axle by means of the single screw, in such a manner as to securely confine the hub to the axle, and also exclude the dust from and retain the oil within the hub, as set forth.

MACHINE FOR SLITTING CLOTHES PINS.—J. B. Smith, of Sunapee, N. H.: I claim the sliding saw frame or frames operated on adjustable ways in combination with the movable groove bed, as described.

I claim the groove or fluted bed, with the said grooves arranged parallel with the shaft on which said bed is placed, or radiate from its center.

I claim the manner of setting off the groove bed by means of a ratchet or its equivalent, a worm wheel operating on the nubs of the index, these nubs being the same in number as the grooves in the groove bed.

I claim the lever paw, operated by springs by their mechanical equivalents, pressure rolls to hold the pin while being slit.

I claim the application of the gauging spring for driving the approaching pin towards the end of the groove into which it has fallen.

I claim the safety slide for the purpose of preventing the wrong passage of the saws, in short, I claim the construction of a self-acting machine for slitting clothes pins, by means of one or more saws, making one or more kerfs into the same, or separate pins at one advance of the saws, having the same appurtenances, and operated as set forth.

SEAL PRESSES.—James Foster, Jr., of Cincinnati, Ohio: I do not claim substituting percussion force for pressure in presses generally, nor even in seal presses; nor do I claim returning the piston or die of a press with a spring.

I claim, in seal presses, the combination of the following elements, viz., a framework to sustain the boxes, and guides for the piston, a spring piston bearing the die, and surrounded by a knob or suitable provision for receiving the blow of the hand, and guided by the groove and guide pieces, or their equivalents, as set forth.

TREATING HAIR FOR WEAVING.—John Gledhill, of New York City: I claim preparing hair for being woven into cloth by raising a bulb or knob at either end, as described, whether by the action of heat or any chemical agent, whereby the hair is made capable of being readily seized and as readily relinquished by a device which serves it to the operating parts of the loom.

MACHINE FOR CUTTING LATHS.—C. F. Packard, of Greenwich, Ct.: I do not claim, separately, the knife working vertically, for that is well known, neither do I claim the toggle joint for working the cutters, for that is a well known device.

I claim cutting laths from a log or block by means of the knife or cutter, having a vertical reciprocating motion, and the knives or cutters having a horizontal reciprocating motion, the cutters being arranged and operated as described.

SPooling YARN FROM THE COP.—Smith Thompson, of Newburyport, Mass.: I claim the regulator guide, as combined with the friction beam, and made to hang on the yarn, and be capable of being raised by it, as specified.

THRASHERS AND SEPARATORS OF GRAIN.—John Zink, of Greenville, Va.: I claim the arrangement of the straw carrier and apron on the same shaking frame, with the screen, so that the straw and chaff are shaken into the grain from the straw, and carries the latter forward and out of the machine, shall also carry forward on said apron the grain to the screens and blast, as described.

MACHINERY FOR MAKING CORDAGE.—Rufus Porter, of Washington, D. C. (assignor to George Stephenson, of Northfield, Ind.): I claim the arrangement, as described, and the combination of the flyers, rollers, and drum, by which the longitudinal motions of the strands between the flyers and the laying point are equalized, the said rollers being made to rotate on their respective axes by the tension of the rope and strands.

PARTI-COLORING MACHINES.—Solomon Smith (assignor to himself and Wm. Schoaler), of Acton, Mass.: I claim dividing each of the horizontal layers or frames into two sections, and carrying the cloth from the lower to the upper side of such sections between the contiguous inner ends of said sections.

And in combination with the said mode of using sections and carrying the cloth between them, I claim making the end of one section lap by that of the other, so that the same contrivances used to compress the several frames together, or down upon one another, may also operate to compress the two sections together, and upon the cloth extending between them, as specified.

APPLYING COLORS TO STONE.—Hiram Tucker, of Cambridgeport, Mass. (assignor to himself and Joseph Storey, of Boston, Mass.): Patented in England Sept. 24, 1852: I do not claim the common process of applying water colors to paper by the use of a bath or size, and mixing such colors in water; nor do I claim the union of linseed oil and varnish made from kauri, in its use in connection with a pigment, and in the common process of painting or spreading colors on a surface by means of a brush, my invention having special reference to the application of colors to a surface, by means of a liquid or water bath; nor do I claim therein the use of either kauri or oil alone.

I claim my improvement in the process of marbling whereby an oil color (or pigment mixed with a drying oil) when applied or spread on the surface of a bath of water or other suitable liquid, shall have imparted to it the property above mentioned, with the improvement consisting in employing in such process the gum kauri, or a like substance, combined as specified with the drying oil, the same enabling a person, by means of a bath, to apply to a surface of stone or other material, oil colors, so as to present the natural effects or appearance of any polished stone it may be desired to imitate.

DESIGNS.
COAL SHOVELS.—Conrad Harris & P. W. Zoiner, of Cincinnati, O.
GUTTAR.—W. B. Tilton, of New York City.

A Splendid Diamond.

The following paragraph in regard to a remarkable diamond found in South America, appears in the money column of the "London Times":—

"One of the largest diamonds known was deposited yesterday at the Bank of England, by a London house, to whom it was consigned from Rio Janeiro. Its weight is 254 carats, and its estimated value, according to the scale, £280,000. It is said to be of the finest water, and without flaw, and was found by a negro slave, who received his freedom as a reward.

Earthquake in Spain.

A terrible earthquake took place in Fiana, in Almeria, in Spain, on the 13th of January. The Spanish papers say: "The town of Fiana has just been visited by a frightful misfortune. On Friday last, between two and three o'clock in the morning, during complete darkness, and while every one was asleep, the soil was suddenly shaken and turned over by a series of violent shocks, following each other in rapid succession, and accompanied by a prolonged noise, resembling the roaring of thunder, and followed by numerous fissures. It crumbled down the greatest part of the Alcazaba, (an

ancient castle of the Moors,) broke houses to pieces, and caused large chasms in nearly all the streets. Eight persons were afterwards dug out in a terrible state of mutilation."

Professor Faraday on Electricity.

The opening lecture of the Royal Institution of London, this season, was delivered by Faraday to a very crowded audience.

The subject was the development of electrical principles produced by the working of the electric telegraph. To illustrate the subject there was an extensive apparatus of voltaic batteries, consisting of 450 pairs of plates, supplied by the Electric Telegraph Company, and eight miles of wire, covered with gutta percha four miles of which were immersed in tubs of water, to show the effects of submersion on the conducting properties of the wire in submarine operations. The principal point which Professor Faraday was anxious to illustrate was the confirmation which experiments on the large scale of the electric telegraph have afforded of the identity of dynamic or voltaic electricity with static or frictional electricity.

In the first place, however, he exemplified the distinction between conductors and non-conductors, impressing strongly on the audience that no known substance is either a perfect conductor of electricity or a perfect non-conductor, the most perfect known insulator transmitting some portion of the electric fluid, whilst metals, the best conductors, offer considerable resistance to its transmission. Thus the copper wires of the submarine-electric telegraph, though covered with a thickness of gutta percha double the diameter of the wire, permit an appreciable quantity of the electricity transmitted to escape through the water; but the insulation is, nevertheless, so good that the wire retains a charge for more than half an hour after connection with the voltaic battery has been broken. Professor Faraday stated that he had witnessed this effect at the Gutta Percha Works, where one hundred miles of wire were immersed in the canal. After communication with a voltaic battery of great intensity, the wire became charged with electricity, in the same manner as a Leyden jar, and he received a succession of forty small shocks from the wire, after it had been charged and the connection with the battery broken. No such effect takes place when the coils of wire are suspended in the air, because in the latter case there is no external conducting substance. The storing-up of the electricity in the wire when immersed in water is exactly similar to the retention of electricity in a Leyden jar, and the phenomena exhibited correspond exactly with those of static electricity, proving in this manner, as had previously been proved by charging a Leyden jar with a voltaic battery, that dynamic and static electricity are only different conditions of the same force; one being great in quantity but of low intensity, whilst the latter is small in quantity but of great intensity. Some interesting facts connected with the conduction of electricity have also been disclosed by the working of the submarine telegraph, which Professor Faraday said confirmed the opinion he had expressed twenty years ago, that the conducting power of bodies varies under different circumstances. In the original experiments by Prof. Wheatstone to ascertain the rapidity with which electricity is transmitted along copper wire, it was found that an electric spark passed through a space of 280,000 miles in a second. Subsequent experiments with telegraph wires have given different results, not arising from inaccuracy in the experiments, but from different conditions of the conducting wires. It has been determined that the velocity of transmission through iron wire is 16,000 miles a second, whilst it does not exceed 2,700 miles in the same space of time in the telegraph wire between London and Brussels, a great portion of which is submerged in the German Ocean. The retardation of the force in its passage through insulated wire immersed in water is calculated to have an important practical bearing in effecting a telegraphic communication with America; for it was stated that, in a length of 2,000 miles, three or more waves of electric force might be transmitting at the same time, and that if the current be reversed, a signal sent through the wire might be recalled

before it arrived at America. Prof. Faraday concluded by exhibiting a beautiful experiment illustrative of the identity of voltaic and frictional electricity. The terminal wires of a powerful secondary-coil apparatus were placed seven inches apart within the receiver of an air pump, and when the receiver was exhausted, a stream of purple colored light passed between the wires, resembling, though more continuous and brilliant, the imitation of the aurora borealis produced when an electric spark is passed through an exhausted glass tube. The voltaic power employed to produce this effect of static electricity was only three cells of a Grove's battery.

Impure Gas in Philadelphia.

[The above is from the London Mechanics Magazine. The information will be interesting to all our readers, as it conveys information of a new and striking character relating to the subtlety of electricity.]

In the last number of the "Scientific American," we pointed out some of the evils of impure gas, and directed public attention to them. Since then—on the 23d. inst.—a correspondent of the "Philadelphia Ledger," has written a communication to that paper, stating that the gas used in Philadelphia contains the impurities we pointed out. He refers to the gas supplied by the Northern Liberties Gas Works of that city, says:—

"It will no doubt have been by many as it was in fact observed by me, that, ever since last 'quarter-day,' the gas has emitted a very offensive smell, resembling somewhat burning sulphur, producing a very choky effect upon the lungs, so much so, that several of my acquaintance have been taken sick from the effect. A friend of mine has had all his canary birds (which he keeps in his store) killed from this deleterious effect of the gas. This matter has become an intolerable nuisance, and ought to lead to proper inquiries from the proper authorities; but, alas! I believe there are no constituted authorities outside of the company itself that is authorized to make the necessary examinations. I would respectfully suggest that there be a meeting called by citizens of the district, for the purpose of taking into consideration the propriety of urging upon the Legislature to appoint, or enact such a law by which the citizens can elect an inspector of gas, whose duties shall be such as will relieve the public from this as well as other frauds which the companies have in their power to commit. It is a farce in the company to reduce the price of gas 10 per cent, and allowing 20 or 30 per cent, of impurities to be mixed with and charged for as pure gas."

The King and Seidlitz Powders.

On the first consignment of Seidlitz Powders to the capital of Delhi, the monarch was deeply interested in the accounts of the refreshing box. A box was brought to the king in full court, and the interpreter explained to his majesty how it should be used. Into a goblet he put the twelve blue papers, and, having added water, the king drank it off. This was the alkali, and the royal countenance expressed no sign of satisfaction. It was then explained that in the combination of the two powders lay the luxury; and the twelve white powders were quickly dissolved in water, and as eagerly swallowed by his majesty, with a shriek that will be remembered while Delhi is numbered with the kingdom, the monarch rose, staggered, exploded, and, in his full agonies, screamed, "hold me down!" Then, rushing from the throne, fell prostrate on the floor. There he lay during the long-continued effervescence of the compound, spitting like ten thousand pennyworths of imperial pop, and believing himself in the agonies of death, a melancholy and humiliating proof that kings are mortal.

Beet Root Wine.

It appears, according to Galignani, that a very good champagne wine is made from beet-root. When the juice has been purified by the ordinary process, and a pure solution of sugar and water has been obtained, it is evaporated to a suitable density, after which it is fermented by adding cream of tartar, and the required bouquet is given by means of aromatic plants.