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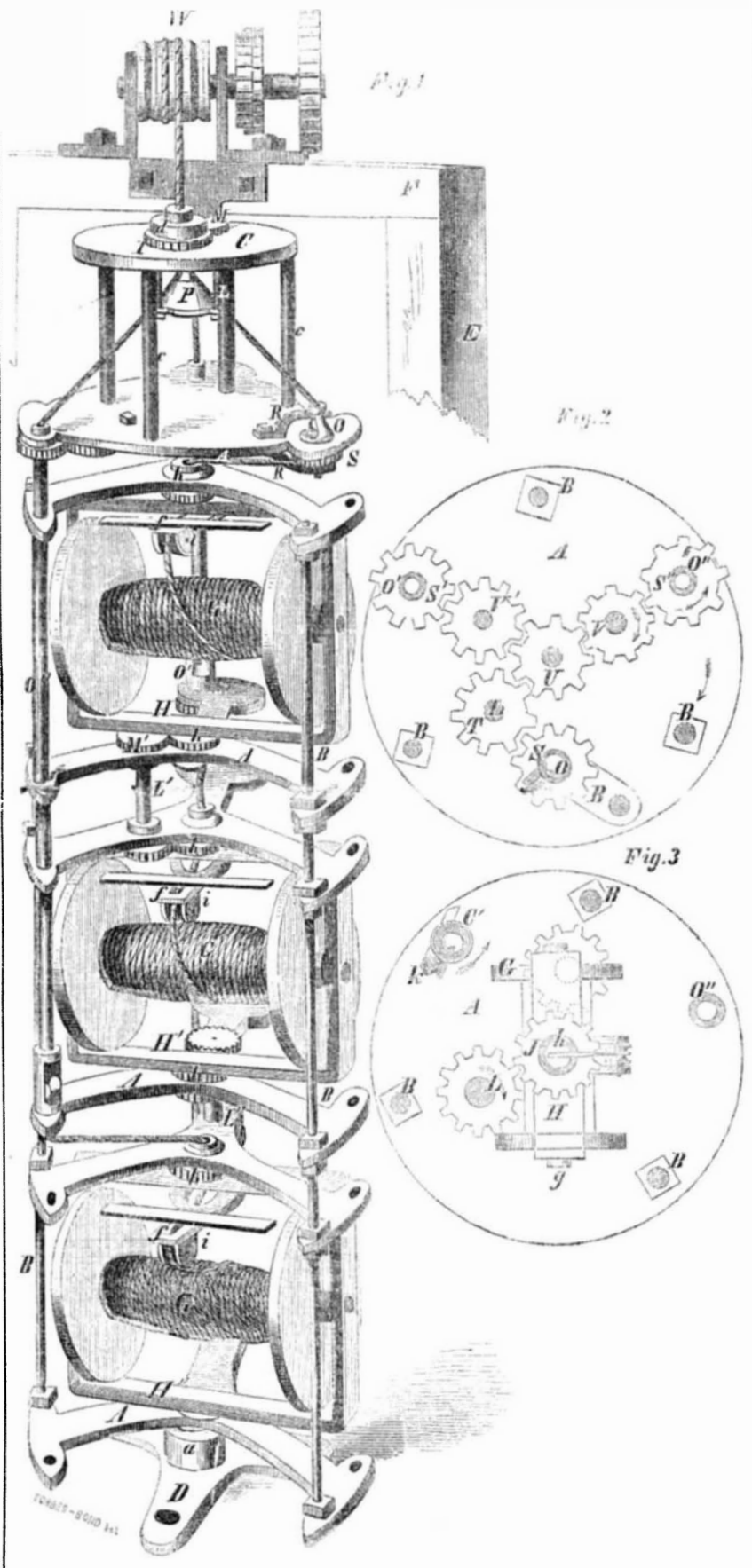
BOONE'S ROPE MACHINE.



Boone's Rope Machine.

The accompanying figures illustrate the rope making machine for which a patent was issued, on the 15th of July last, to Thomas G. Boone, of Brooklyn, N. Y.

Rope is formed by twisting together a number of strands. The strands receive an extra twist before laying them into rope, to compensate for the twist that is unavoidably taken out of them in the act of laying or twisting them together in a contrary direction to their own twist. This additional twist put into each strand is termed the *fore-hard*, because it is put in before laying.

In this machine there are certain novel devices, and a peculiar arrangement of parts for twisting the strands and laying them into rope, whereby the axes of the strand spindles are brought to positions in line with the axis of the laying spindle, and when an even fore-hard is desired, no rotary motion of the strand spindles is required, by which the machine may be driven at a much greater velocity than practicable for other rope machines now in use, requiring less power to operate it, and besides, the peculiar arrangement of the parts reduces the machinery to a most compact form—occupying but a very small space.

Fig. 1 is a perspective view, fig. 2 is a horizontal section, taken under the lower plate of the laying-block, and fig. 3 is a horizontal section taken under the top plate of the upper strand spindle. Similar letters indicate like parts on all the figures.

The strand spindles, the laying block, and all the appertaining parts of the machine but the winding capstan, are carried by a rotating frame composed of a series of plates, A A A arranged one above the other, concentric to a common axis, and connected by uprights, B B B; the lowest plate has a journal inserted in a step, *a*. The upper plate, A, is rigidly attached by pillars, *c c*, to a drum, C, which has a hollow journal working in a guide bearing, *d*, which is placed in the same vertical line with the supporting journal in the lower bearing step, *a*. These bearings may be secured in the frame, E F, or otherwise in a factory, the bed plate, D, being bolted to the lower floor. The main rotating frame constitues the laying spindle, twisting the strands into rope, and motion is given thereto by a horizontal belt passing around drum C.

H H′ H″ are the strand spindles, each one having a square frame, with journals, *h h*, at top and bottom, and a spool, G, containing the strand, secured, (as usual) by a transverse pin, *g*, passing through the frame. The journals, *h*, of the several strand spindles are fitted to bearings in the centers of certain of the plates, A A, fig. 3. The journals, *h h*, of the strand spindles, the lower journal of the frame in step, *a*, and the upper journal in bearing, *d*, of the main frame are in line with one another, so that all have a common axis. The upper journal of each spool spindle is hollow, and the strands pass from the spools up through them, as shown in fig. 1,—each strand passing up over a guide roller, *i*, on arm, *f*, and thence through the hollow journals.

I is a stationary spur gear around the exterior of the upper bearing, *d*; the upper strand spindle, H, has similar spur gear of the same size as I, one on its upper, and the other on its lower end—J, fig. 3, is its upper one; the middle strand spindle, H′, has similar spur gear, and the lowest strand journal has similar gearing attached to its upper journal. L is an upright shaft working in bearings. In the head of drum, C, is a spur wheel, M, of the size of I, and gearing into the latter. It is secured on the upper end of shaft L, fig. 2; another spur wheel, of the same size, is secured at the bottom, gearing into the spur wheel on the top of the uppermost strand spindle. By means of these four gear wheels, arranged as described, the upper strand spindle, H, is kept stationary, while the main frame, A B, rotates—the shaft, L, being caused to rotate on its axis once during every rotation of the main frame by the motion it receives round the stationary gear, I,—and the strand spindle, H, is also kept stationary. The shaft, L′, is similar to the upper one, L and has a like spur gear on its top and bottom, the latter gearing into like spur wheels on a shaft, L″, and the strand spindles, H H′ H″, are compelled to be stationary while the main frame revolves.

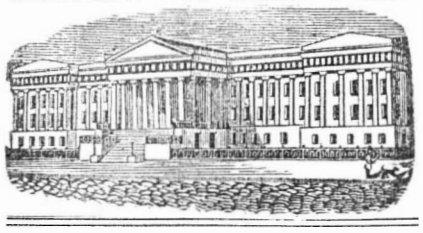
O O′ (C′ by mistake, fig. 3,) O″, are three upright tubes; the strands from the hollow journals of the spools, G, pass up through these to the laying block, P. The tube, O works in bearings in two plates, R R, bolted to the top and bottom of the top plate, A; the other two strand tubes are fitted to rotate in bearings in the same plate; their lower bearings rotate respectively in plate A, above strand spindle H′, and the plate above strand spindle H″. The strands coming from the spools through the hollow journals of the strand spindles are conducted by these tubes, as shown, up to the laying block, P, and are then twisted into rope.

Each of the conducting tubes has an opening near its bottom, in which is a roller, K, round which the strand passes. These conducting strand tubes have secured to their upper ends spur gear, S S′ S″, (fig. 2,) corresponding in size with the other gears described. The gear, S, meshes with wheel T, of similar size, on shaft L. The gear T, meshes with gear, U, of similar size, fitted loosely on a stud secured in the center of the top plate, A; and between this gear and those S′ and S″, are interposed the gears, V′ and V″, which are fitted to studs, by which means *all* the conducting tubes, O O′ O″, are rotated in a corresponding manner in the opposite direction to the main frame.

W is one of two capstans in stationary framing The several strands from the spools, G G G, are conducted up through their tubes to the laying block, P, of the main rotating frame to the capstan, and a suitable motion is given to the latter to take up the laid rope. The laying or twisting of the rope is accomplished by the revolution of the strands around the axis of the laying spindle, and when a fore-hard in the strands equal in turns to that of the lay is desired, it is performed as described, without any revolution of the laid portions of the strands in the finished rope, or of the unlaid ends of the strands, or of the spindles which carry them. In this particular, this machine differs from other rope machines, and embraces much originality. The revolution of the strands to produce the lay of the rope being effected between the unlaid ends and the laid portions while those parts are stationary, involves the necessity of the strands receiving such a separate rotary motion in a direction contrary to the lay as is imparted by the tubes, O O′ O″, on their own axes—the additional twist which the strand first receives is carried forward through the tubes for a *fore-hard*. A greater or less fore-hard in the strand may be produced by simply varying the relative sizes of the gears, I and M. Any amount of tension on the strands may be obtained by increasing the friction on the strand spools by springs attached to the strand spindles. The horizontal section, fig. 2, conveys a clear representation of the action of the strand tubes, and fig. 3 that of the strand spindles, with their hollow journals, *h*, and pin, *g*, that secures a spool in the frame.

We have seen published statements of practical rope-makers, certifying to the superior rope made by this machine, and that it could be driven at double the speed of common rope machines with half the power. It is well worthy of general attention from rope manufacturers, on account of its originality and practical advantages, it being simple, and so compact that it can be set in a space of no greater area than that occupied by a flour barrel. This machine was exhibited at the late Fair of the American Institute; the Committee on such machinery state that it was the best rope-machine on exhibition, but by mistake was only awarded a second class premium.

For more information address A. & J. T. Speer, No. 212 Broadway, this city.



[Reported officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING FEBRUARY 17, 1857.

HAIR TRIGGERED GUN LOCK—Jonathan Altman, of Armstrong county, Pa.: I claim the mode described of setting the double trigger by the act of cocking the gun as set forth.

EXTENSION CHAIRS—Saml. J. Anderson and Nelson Richardson, of Erieville, N. Y.: We do not claim the levers, d, for they have been previously used for similar or analogous purposes. But we claim

The levers, d, and folding seats, B, attached to the box, A, as shown, the box being formed of two parts, a b, connected by a hinge, c, and the whole arranged as described for the purpose set forth.

[By a peculiar combination of a series of jointed levers provided with legs, and a series of folding seats attached to a box, Messrs. Anderson & Richardson have produced a very convenient article of household furniture. It can be transformed easily into an extended seat, washstand or table, and when folded it is very compact, and occupies bu a small space.]

SEED PLANTERS—Leonard Arnold, of Janesville, Wis: I claim employing two frames in constructing the machine, the forward frame resting on the axle of the principal or driving wheels, and the rear frame resting on the axle of the covering wheels, and extending forward and under the forward frame to which it is jointed, and acting as a lever in elevating the forward frame, driving wheels and plows clear from the ground in turning round, and in passing from point to point substantially as and for the purposes set forth.

PHOTOGRAPHIC CAMERA BOX—Luzerne M. Bolles and Washington G. Smith, of Cooperstown, N. Y.: We claim, first, a swinging A, with ground glass permanently attached, as described and set forth for the purpose specified.

Second, The arrangement of the baths in the camera box to correspond with the operations of the plate holder through the mortise and grooves as set forth and described.

MAKING HAMES—Henry Burt and James T. Hedden, of Newark City, N. J.: We claim the use of the consecutive ring dies (0, 111, 2, 222) in connection with the angular grooves (a and a 2), stops (b and b 2) on the feed rollers (E and E 2), substantially as described, constructed and operating in the manner specified and shown.

GAS REGULATORS—John H. Cooper, of Philadelphia, Pa.: I do not claim the combination of valve spring and inverted cup, with the upper and lower chambers, the same having been in use for years.

But I claim placing the spring regulating the valve within the latter, made hollow for the purpose, in order to prevent the contact of the gas with the spring, in the manner and for the purpose substantially as specified.

BOSOM PINS—John P. Derby, of South Reading, Mass: Being aware that broaches or ornaments having the retaining pin hang so as to turn on a line parallel with the back of broach, have been used and patented by one Taylor, in England, and also being aware that the guard, B, has before been used for certain purposes, I do not claim that mode of attaching the pin, neither do I claim the guard, B, but as an improvement thereon.

I claim extending the arm, d, around the end, and along the side of back of broach, so that the point of pin being retained in the fingers can be entered under its extreme end, thus allowing said point to be protected by a guard when revolved to pla ce.

I also claim the combination of collar, f, with the cap n, and the post, K, which admits of the easy attachment of the pin, c.

CARPENTERS' BENCH CLAMP—James E. A. Gibbs, of Mill Point, Va.: I do not wish to confine myself to the particular devices I have described, as I claim combining the pivoted and bent clamp rod, D, with the sliding arm or lever, c, when the latter is so arranged as to jam the rod at any required hight, by means of screw or cam, or any equivalent mechanical contrivance.

ALLOWING CIRCULAR SAWS TO PLAY LATERALLY, INDEPENDENTLY OF THEIR SHAFTS—A. P. Gross, of St. Louis, Mo.: I claim the shaft, A, in combination with the sleeve, D, and springs, m, n, the saw, F, being attached to the sleeve, D, and the shaft, A, secured in its bearing, B, as shown, so as to prevent a longitudinal movement of the same, the whole being arranged as described for the purpose set forth.

[Every circular saw requires some lateral play to cut well; this invention consists in an improved method o giving the saw this end play, by attaching the saw to a collar on one end of the same shaft, and so combining it with spiral springs as to allow it the requisite and exact end play.]

CHIMNEY COWL—Moses H. Hale and Saml. Horton, of Newburyport, Mass: We do not claim the ventilator or chimney cap above referred to as patented by Emerson, but what we do claim as our invention, is as follows—and although it is not new to make a chimney cap with passages extending around its mouth of discharge, and for the purpose of receiving currents of air and directing them up into or over the discharge flue, we have applied such in a particular way, and under a peculiar arrangement of parts, which render our ventilator new and advantageous in some respects.

We claim the improved cap constructed substantially as described, viz, with a discharge pipe, A, the inverted frustum, E, the outer frustum, B, its wind passages, G G, and the shield or fender, C, arranged together essentially as specified.

METHOD OF GENERATING AIR BLAST—Isaiah J. Hendryx, of New York City; I claim, first, the cylinder constructed with a hollow shaft and divided into compartments, either on a line with the shaft, or spirally around it, said cylinder being partly immersed in water or other liquor, and revolving at an angle as described.

Second, I claim the cylinder with or without a hollow shaft, and extending the air chamber above and around the cylinder, said chamber passing far enough below the water line to prevent the escape of the air, the air being supplied to the cylinder through the hollow shaft, or by pipes passing along it, to the outside of the chamber, said pipes having valves opening inwards or immersing as described.

Third, I claim the cylinder revolving at an angle without being immersed with the liquor inside said cylinder as described

Fourth, I claim the application and use of the cylinder: its case, and contents, as herein described, for the purpose of passing air through hydro carbons and their vapors, or mixing air with other gases, for heating or illuminating, or any other purpose requiring a steady blast, I do not limit myself to the form of a cylinder, but claim any other shaped vessel, constructed of metal or other material, and operated as herein described, which will produce the intended effect.

EXCAVATING ROCK—J. C. Osgood, of Troy, N. Y.: I claim, first, excavating rock under water by means of the wedge-shaped chisel, whose length is greater than the depth of water when operated in the manner specified.

Second, I claim the spring head, B, or its equivalent, in combination with the chisel, operating in the manner substantially as set forth.

Third, the arrangement of the spring, S, within the loop or strap, o, of the turn buckle, in combination with the sliding nut, u, in the manner described.

GAS RETORTS—M. J. Miller, of St. Louis, Mo.: I claim the pipe, A, inserted so as to receive the gas at the bottom of the retort, as shown and described.

MACHINE FOR VARNISHING PERCUSSION CAPS—Chas. Hicks, of Haverstraw, N. Y.: I claim, first, the combination of a vertically moving frame, C C C, carrying a number of wires or rods, b b, or their equivalents to take up the varnish; a trough, F, to contain the varnish; and suitable guides above the said trough to receive a plate which carries the caps, the whole being constructed and operating together, substantially as herein described.

Second, The plate, H, containing holes corresponding in number and arrangement with the wires or rods, b b, or their equivalents arranged relatively to the trough, F, the vertically moving frame, C C C, and the guides G, substantially as herein described for the purpose set forth.

[A very minute quantity of varnish must be deposited in a percussion cap to make the percussion powder adhere to it; this process has heretofore been generally performed on one cap at once—one at a time—in the machine in which the caps are made. By this new varnishing machine, several hundred caps may be varnished at once, ready for being charged by powder—the charging and ramming being subsequent operations performed by the machine. A number of caps to be varnished are simply thrown upon a shaking plate formed with holes to receive them, and they find their own way into their places, and are then charged at once by a series of wires carrying varnish and dipping into each. This invention is very ingenious and useful.]

FOLDING BEDSTEADS—Benj. Hinckley, of Troy, N. Y. I claim in portable folding bedsteads, connecting and bracing the folding portions and intermediate legs by the double cog hinges attached to the side rails, and having their bearings in the intermediate posts, substantially as set forth.

GEARING FOR WAGONS—Edgar Huson, of Ithaca, N Y.: I claim so making the frame described as to leave the forward extremities of said frame open, so as to receive the pole or thills between and back of the forward ends of the side springs—thus bringing the animal nearer the wagon, and thereby making the draft easier, and requiring less room in which to turn.

BRICK PRESS—Samuel Lillie, Jr., of Fort Wayne, Ind. I do not claim the mud mill, for that is well known; but I claim forcing the clay into the molds and compressing it therein by means of a hollow plunger, E, fitted and working within the box, C, and connected with the platforms, I J, on which the molds are placed, so that the plunger and mold to be fitted, rise and fall together, substantially as shown and described.

[In this machine a hollow box with a grate in its bottom, is employed for a plunger, to force the clay into the molds and there is an adjusting platform for allowing the plunger and molds to operate correctly when gravel or stones may be in the clay. The plunger box for stuffing the molds is operated in pressing by a treddle, but it descends by its own gravity; as one set of molds passes away filled, another set are forwarded to take their place. This is a very simple, compact, and cheap brick machine.]

ATTACHING EXTRA TOP-SAILS TO VESSELS—E. H. Linnell, of Orleans, Mass.: I do not claim the use of an extra top-sail yard, nor the holding it stationary, i. e., so as not to be raised or lower d, as both the use of an extra top-sail yard, and so holding it, have long been known.

But I claim attaching and hanging the extra top-sail yard to the top mast itself, by means of the combination of the collars, f and g, turning on the top mast, the forked brace, h, connecting said collars, and the stationary annular plate, h', on which the lower collar, g, rests and turns, so that said extra top-sail yard shall swing from the axis of the top mast as a center, and secure the advantages specified.

FASTENING SKATES—Henry Pickford, of Boston, Mass. I claim uniting the skate blade to the sole of the boot or shoe, substantially in the manner and for the purpose above described.

SELF-DISENGAGING CAR COUPLING—J. C. Price, of New Philadelphia, O.: I am aware that sliding bars or bumpers have been used on either side of the platforms, for the purpose of disconnecting the car couplings; this I do not claim. Nor the device for detaching the link by means of inclined or wedging surfaces for lifting out the coupling pin, by an oblique strain upon the draw bar, as such a device was patented by James Turner, July 20, 1852.

But I claim the employment of two obliquely set sliding head blocks, stop bars, connected by a turning link or plate, which is hollowed out and beveled inward on each or its edges, in combination with the hinged buffer pin plate, which is furnished with two outwardly beveling projections on its under side; said parts being arranged relatively to the buffer head, and operating in the manner and for the purposes set forth.

[This invention is designed to render the cars capable of uncoupling, in case of actual danger from the locomotive running off the track, and at the same time to prevent a possibility of their uncoupling when one of the intermediate cars of the train jumps the track, or the forward end of it gets off the track. Heretofore, with all self-uncoupling devices, much inconvenience has been experienced from the intermediate uncoupling, or part of the train detaching and remaining behind when no actual danger exists. Mr. Price's device for avoiding this inconvenience is beautiful and simple, and can be applied to cars at present in use, which employ the common connecting links, by simply altering the buffers of the cars.]

ALLOWING CIRCULAR SAWS END PLAY INDEPENDENTLY OF THE DRIVING SHAFT—Wm. S. Reeder, of St. Louis, Mo.: I claim the arrangement and combination of an additional driving shaft, D, with the shaft, B, that carries the saw, for the purpose described.

BOAT OARS—Rufus Rode, of Manchester, Pa. I claim the means by which I back water, when the oar is to be used for that purpose, the oar to return to its place when feathering, by means of lever, fulcrum, and springs, as described.

SPINNING FLYERS—J. N. Sawtell, of Lowell, Mass.: I do not claim the process of casting cast-iron around wrought-iron, whether the wrought-iron be or be not heated when the molten cast-iron is poured thereon, as such process is well known.

Neither do I claim the constructing of the flyer of two different metals without regard to how these two metals are united to each other, as different metals are now used in the formation of many articles.

I claim the manufacture of flyers, substantially in the manner described, that is to say, casting on the polished arms, E E, the neck or nozzle, F, of metal, when the former are prepared by the application of a proper composition, so as to render the adherence of the nozzle to the arms secure, as set forth.

HARVESTING GRAIN AND GRASS—Wm. Schnebly & Thomas Schnebly, of Hackensack, N. J.; We claim the thin trapezoidal-shaped finger or guard, in combination with cutters, E S, when said finger is constructed with an open area or space, m m, conforming to the same finger, and with recesses, m m, in front and rear to support and guide the cutters near the center of the finger or guard, substantially in the manner described.

SPLITTING SHOE PEGS—Nathaniel H. Shaw, of Farnworth, N. H.: I do not claim the combination of a splitting knife with a fluted feeding roller, or its equivalent, being aware that such has before been claimed.

But I claim the feeding blade, G, when arranged substantially as described, whereby its movement is produced and adjusted to suit all the requirements of the machine under all circumstances in the most simple and perfect manner.

I also claim the arrangement of the holding bar, E, in such a manner as to enable its motions to be produced without interference with the alternate action of the splitting knife and feeding blade, and to be adjusted for the different sizes of pegs so as not to disarrange the relative positions and movements of said holding bar, splitting knife and feeding blade, substantially as specified.

FITTING GAS PIPE—Caleb C. Walworth, of Boston, Mass.: I claim the coupling constructed with long, short and inclined faces, substantially as described, and operating for the purposes set forth.

HARNESS FOR HORSES—Joseph Smith, of Delaware, O.: I claim, first, the side bars, c c, connected by cross bar, D, or their equivalents, constructed and arranged in the manner and for the purpose set forth.

Second, I claim pads, i i, or their equivalents, constructed and arranged in the manner and for the purpose set forth.

Third, I claim triangular coupling, M, or its equivalent, constructed and arranged in the manner and for the purpose set forth.

SECURING HUBS ON AXLES—Alfred E. Smith, of Bronxville, N. Y.: I claim the mode of securing the pipe box and hub on the axle, by forming the inner end of the pipe box with a flanch fitted to enter a recess in a collar fitted and secured into the inner end of the hub, substantially as described, when this is combined with a projecting collar on the axle, and a loop ring on the axle, and the collar on the hub being connected by turn buttons or equivalents therefor, substantially as and for the purpose specified.

FEED WATER APPARATUS TO STEAM BOILERS—Andrew J. Vandegrift, of Delaware, O.: I am aware that the heater, the exchange chamber, and three valves and three pipes have been used for like purposes; these I do not claim.

But I claim the fourth valve, G, and the escape pipe, H, in combination with the above described devices, or their equivalents, combined, arranged and operated for the purpose and in the manner set forth, or in any other substantially the same.

DAMPER REGULATORS FOR STEAM BOILERS—Wm Webster, of Morrisania, N. Y.: I disclaim the use of any cylindrical casing for the enclosing of the piston, and also the piston, as described in the specification and represented by the drawing of Wm. T. Gale, patented July 1st, 1856

But I claim the arrangement of the several parts, as described, and for the purpose set forth.

ELECTRIC TELEGRAPHS—Wm D. Wesson, of Chillicothe, O.: I claim constructing the stationary telegraph line of a series of immovable and interposed movable conductors, and furnishing the vehicle with a circuit breaker, circuit receivers, and conductors, arranged to operate substantially as set forth, for the purpose of breaking the circuit through the main line at a point or points where the vehicle is passing, and completing the circle through, so that by suitable telegraphing instruments or apparatus carried by the vehicle, communications may be transmitted and received by the vehicle to and from other vehicles, or to or from stations at a distance, either while the vehicle or vehicles are stationary or in motion, as set forth.

[The object of this invention is to adapt any electric telegraph to transmit communications between railroad trains, canal boats, and all vehicles that move in a track that is unvarying, or varies but little, either when they are in motion or while stationary. The principle of the invention consists in the construction of a complete telegraph line along the route to be traveled, and so forming it that its circuit may be broken at regular intervals by the passage of the train, vehicle, or vessel along the route. A telegraph instrument is provided on the train or vehicle, and all the means necessary to effect a connection with its apparatus, and to the stationary line, so as to form a circuit, and transmit a message or messages. This is accomplished by employing movable conductors combined with fixed conductors on the main line, and connecting the apparatus on the train or vehicle with a movable conductor, thus making a flying telegraph office of the train or vehicle. The objects and aims of this invention are important and useful.]

PARING APPLES—David H. Whittemore, of Worcester, Mass.: First, I claim giving the slide, I, with its slicing knife attached, a curved or lateral motion, for the purpose of enabling the slicing knife to leave the core in a shape for the easy removal of the apple, by means substantially as set forth.

Second, I claim the arrangement consisting of the traveling knife carriage, I, with its tilting lever, K, playing over the guard, G, which keeps the lever engaged with the screw while the apple is being pared, and releases for the free return of the carriage, as set forth.

CUTTING VEGETABLES—H. A. Willard, of Westminster, Vt.: I claim the cutter, B, in combination with the metallic cutter plate, A, together with the particular arrangement of the cutters upon the cutter plate, in such a manner that several are acting upon the vegetable at the same time, and that as soon as one has commenced another immediately follows, so that while a portion are leaving the vegetable and holding it firmly to the plate, others are commencing, preventing, by this arrangement, the vegetable from rolling or dodging, and keeping it continually in contact with the knives, thereby cutting with greater rapidity, with less power, and leaving the cut vegetable in a more desirable shape for mastication than any machine now in use.

OPERATING VALVES FOR STEAM ENGINES—Samuel R. Wilmot, of Watertown, Conn.: I claim the valve motion described for operating the valves of steam engines, consisting essentially of a twisted traverse rod, of a traveling slide, and of the stops which limit the turning of the slide, or their equivalents, combined together, and operating substantially as set forth.

RAISING WATER—Daniel K. Winder, of Cincinnati, O.: I claim the arrangement and combination, substantially as described, of annular reservoir, f, with the plunger, j, tube, l, flexible pipe, p, valves, h i k, and cock, r, for the purposes explained.

CRIMPING BOOTS—J. G. Baker, Jr., (assignor to himself and Charles Bradfield,) of Philadelphia, Pa.: I claim the combination of the swiveled stay rods, U, with their cross heads, T, and thumb screws, S, when arranged with the former, Q, as stated, for the purpose of facilitating the removal of the finished boot front, and introduction of another piece, as represented.

SASH FASTENER—Thomas Floyd, (assignor to himself and G. H. Merklein,) of Chambersburgh, Pa.: I do not confine myself to the application of the sash fastener, as shown, as I may find it convenient to let it into the frame, causing it to operate against the edge of the sash style; to do so it will only be necessary to make the handle, E, at right angles with catch, D, in which position it will work equally well against the edge of the style, and be found as convenient as at present applied.

I claim the triangular or catch lever, D, and thumb lever, E, in combination with the cylinder, F, the follower, H, with piece, I, attached, and spring, G, as described, and for the purposes set forth.

TILE MACHINE—Junius Foster, (assignor to John Herbold, George Kuhn, and Junius Foster, aforesaid,) of Brooklyn, N. Y. I do not claim the plunger, h, in itself. Neither do I claim cutting off the clay or tile with a knife or wire.

But I claim the combination of the reciprocating plunger, h, with the rollers, K and l, slide or trough, o, and knife or wire, 8, when the said parts are arranged for joint operation, substantially in the manner and for the purposes specified.

CURTAIN FIXTURES—Lewis B. Gusman, (assignor to himself, Henry W,, and Henry Safford,) of Philadelphia, Pa.: I do not claim the general application of a lever nip as a substitute for teeth, to prevent slipping.

But I claim the use of a lever, A, constructed substantially as described, when the said lever is caused to operate upon the bracket, B, in supporting a window curtain, by means of the upward strain of the cord, D, the whole being arranged and operating together in the manner and for the purpose set forth.

VARNISH CAN—Alonzo Marshall, (assignor to Benjamin Marsh,) of Newark, N. J.: I claim connecting the two vessels by a pipe, in the manner and for the purpose described.

SECURING THE PANELS OF FIELD FENCES—C. P. Garlick, of Amadoa, Minn. Ter., and G. M. Blackstone, of Mainville, O.: We claim the combined uses of the mortises, S, and wedges, W W, in the chain, g, when arranged with and used for connecting the lower part of the panels of the fence together, all as and for the purposes described.

RE-ISSUES.

PRESSING BONNETS AND BONNET FRAMES.—Wm. Osborn, of Louisville, Ky. Patented Aug. 19th, 1856: I do not claim any of the separate parts set forth; neither do I claim pressing or forming a separate flaring face piece, or a separate crown piece for bonnets or bonnet frames.

But I claim pressing the whole of a bonnet or bonnet frame, including the flaring piece, side, crown, and tip, at one operation, by dies, substantially as specified, whether said bonnet or frame be formed of one or of several pieces, and irrespective of the particular shape of the bonnet or frame.

I also claim forming the side, crown, and flaring face piece of a bonnet frame in one piece or at one operation, as specified.

MANUFACTURE OF HOSIERY—Wm. H. McNary, of Brooklyn, N. Y. Patented Dec. 23d, 1856: I do not confine myself to the use of any particular machinery to produce the results described.

But I claim the production of the heels and toes of hosiery by knitting a piece of spherical or other suitable form on the cylindrical or straight portions of the leg or foot, by any mode of operation in which the stitches are dropped or left upon the needles, and taken up again, substantially as described, whereby the whole of the leg and foot is enabled to be produced, by a continuous operation of the machinery or devices employed.

CLOTHES PINS—George W. Parker, of Fitzwilliam N. H. Patented March 18, 1856: I claim, first, the use of holes in a wheel, or of tubes secured to a wheel, and into which the pieces of wood are fed, and are thus retained in and moved forward to the right position to be acted upon by the lathe saw or bit.

Second, I claim the sliding or vibrating lathe and tail block, whereby the pieces of wood to be turned, are carried forward to the action of the cutters or chisels.

Third, I claim the cutters or chisels in combination with the lathe.

Fourth, I claim a holder, essentially the same as shown and described, to hold the pieces while being sawed or bored, the succeeding piece forcing the preceeding one out of the holder, and it drops between the holder and saw or bit, and whether the holder be movable or stationary, the saw or bit being made to move to and from the holder, or the holder be made to move to and from the saw or bit.

Fifth, I claim a saw or bit, either movable or stationary, in combination with the holder.

Sixth, I claim a punch, or its equivalent, to force the pieces into the holder.

DESIGN.

WOOD STOVES—A. C. Barstow, of Providence, R. I.

A Swift Ship.

The Liverpool (Eng.) *Post* contains the following tribute to an American ship :—

"The celebrated clipper ship *Dreadnought* was launched 1,108 days ago, during which time she has made twenty-one passages across the Atlantic ocean, traversing 65,100 miles, carrying about 47,000 tuns of merchandise. On two several occasions she brought later news from the United States than the regular steamers, and we published third editions of our paper on each occasion—the first with four, and the latter three days' later news."

Since the above was published, this ship has made an extraordinary passage from Liverpool to this city, the time occupied (from land to land) being only fifteen days, and that in stormy weather.

The *Dreadnought* was built at Newburyport, Mass., by Messrs. Currier & Townsend, who, we understand, are building a new clipper for the same firm—Dey & Co., this city,—which they assert will surpass the *Dreadnought*.—Our steamship builders must look to their laurels.

Petition for Extension of a Patent.—Fire Proof Safes.

Daniel Fitzgerald, of this city, has applied for an extension of his patent for improvements on fire-proof safes, which was granted June 1st, 1843, and will finally expire on the 1st of next June, unless extended.

Artificial Diamonds.

Some of our cotemporaries are at present giving, as a matter of news, an account of artificial diamonds, made by M. Despretz, of Paris. We published the account of this supposed discovery of artificial diamonds more than seven years ago, on page 302, Volume 5, SCIENTIFIC AMERICAN.

Mechanism of the Horse's Foot.

The elastic tissue packed within each hoof of a horse is so folded, backward and forward, that it would present a surface of four feet square were it spread out. Thus his limbs and the entire weight of his body rest on spring cushions packed in boxes.

Archimedes and the Lever.

Archimedes said, "Give me a lever long enough, and with my own weight I will move the world." "But," says Dr. Arnott, "he would have required to move with the velocity of a cannon ball for millions of years, to alter the position of the earth a small part of an inch. This feat of Archimedes is, in mathematical truth, performed by every man who leaps from the ground; for he kicks the world away from him whenever he rises, and attracts it again when he falls."

Erratum.

On page 171, in the article on remedies for sore hands, the word noxious, should read *in*-noxious, in reference to prussian blue, and rouge.

It is reported in this city that two mammath steamers are to be built for the California trade—each 7000 tuns burden.