



[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS
Issued from the United States Patent Office
FOR THE WEEK ENDING JULY 18, 1854.

STEAM BOILER—W. E. Bird, of Cahawba, Ala.: I claim the combination of the lower boiler or boiler, and the upper boiler or boiler with each other and with the furnace, in such a manner that the top of the furnace will be formed by the upper boiler or boiler, and the rear of the furnace be principally formed of the lower boiler or boiler, while the flue space from the said furnace passes between the said upper and lower boilers, and communicates with the flues returning through the lower boiler or boilers, as set forth.

COTTON GIN RIMS—I. F. Brown, of Columbus, Ga.: I claim the employment of a series of cast-iron hubs, each having two or more arms cast with them, each of which arms is of proper form to combine with a short rib, and with it form a complete rib, whereby when the said hubs are secured upon a shaft arranged in a proper position, their arms may be successively brought into combination with the short ribs, for the purpose of renewing the wearing parts, as described.

PREPARING FLOCKS FOR FELTING—L. W. Boynton, of South Coventry, Conn.: I am aware that brushes have been used for preparing flock, and analogous substances, and that the use of a wire screen is not new. I therefore do not claim either of them as such.

But I claim the combination of a wire screen, with a revolving cylindrical brush and one or more stationary brushes, in such a manner that the screen is placed below the revolving brush to prevent any of the flock from falling on to the web of wool, before it is fully prepared, and also to assist in preparing the flock when the whole is constructed and combined as described.

COATING IRON WITH BRASS OR COPPER—Hugh Burgess, of Kentish Town, Eng. Patented in England Feb. 17, 1853: I desire to state that I do not claim any of the apparatus or the process to which they refer.

I claim the coating of iron sheets, bars, bolts, and other forms of iron with copper or brass, by a combination of processes, consisting first in coating the coating them over with a solution of cadmium or zinc, drying and dipping them into a bath of melted copper or brass, and raising them out of the bath into an atmosphere of steam and carbonic acid flowing in streams or jets, as described.

BLOCK SLIDE VALVES FOR STEAM ENGINES—L. R. Conard, of Philadelphia, Pa.: I claim forming the passages through said valve, so that the oblong steam and exhaust openings shall enter from the upper and lower surfaces, longitudinally to its motion, and leave the opposite surfaces transversely thereto, as described.

MAKING PRINTING BLOCKS—Thos. Crossley, of Boston, Mass.: I do not claim the use of gutta percha as a material for making printing blocks; neither do I claim sawing blocks into prisms, for the purpose of more easily removing those portions of the block not required for the figure.

But I claim the described method of making printing blocks, the surface of gutta percha being applied to the surface of the wood, as set forth.

BRIDGES—Samuel and Thomas Champion, of Washington, D. C.: We claim, first, the combination of the tubular braces or struts made smaller by gradation, or tapering as they extend from the pier or support, with suspension rods, also made smaller by gradations, or tapering, as they extend from their pier or support, as specified.

We also claim the arrangement, as described, of the struts, suspension rods, and clamp posts, viz., the oblique struts between the center posts, and horizontal struts, being placed in lines radiating from a common center, and the suspension rods being also placed in lines radiating from a common center, above that from which the struts radiate in such manner that each suspension rod shall extend from the top of the column or post over the pier or support, to the foot of one of the clamp posts, while each oblique strut shall extend from the foot of the post, over the pier to the head of each clamp post, as described.

We also claim the construction of tapering tubular struts of not less than two concentric sheets, layers, or thicknesses of metal, the sheets of each layer abutting, and those of one layer breaking joints with the next, as specified.

OPERATING EXCAVATING MACHINES—J. A. H. Ellis, and Alexander Gordon, of Rochester, N. Y.: We claim, first, placing the operating machine within the circuit of an endless chain, which passes over a pulley anchored at one point, and over or around a capstan at another point, so that the excavator shall form a part of the endless chain, and be drawn forward or backward and operated by it, as described.

We also claim attaching one or both ends of the chain to a drum or shaft connected with the machine, so that the slack of the chain may be taken up on said drum or pulley shaft, to cause the machine to move steadily without sudden strain; or to let out the chain when it becomes necessary to draw it out of its direct line for guiding the machine in any desired direction, as described.

WINDMILL—Jacob Erdle, of West Bloomfield, N. Y.: I claim the manner or mode of filling the whole wheel with fans or wings, which causes the wheel to be more powerful than it otherwise could be, as it receives the power from the whole current of air that strikes within its circle, and he mode or form of regulating, stopping, and starting the wheel through the center of the main shaft.

TANNING—Roswell Enos, of Woodstock, Ill.: I claim commencing the tanning operation upon the sides, by the use of a salted infusion of sumac, and then completing said tanning operation by the repeated use of the strong oak or hemlock bark liquors, as set forth.

SEPARATING IMPALPABLE POWDER FOR PAINTS—Geo. W. Griswold, of Oarbondale, Pa.: I claim the process of separating and collecting impalpable from coarser substances, such as ground coal, &c., for the purpose of paint, by the means described.

RAISING VESSELS—Felix Huston, of New Orleans, La.: I am fully aware that auxiliary floats to raise vessels have been used, some of which have been so geared as to be rotated for winding up the raising lines or chains, and that levers and weights have been used in connection with dry docks for raising vessels in said docks. These I do not claim.

But I claim the raising of sunken vessels by means of the careening motion of the slide or auxiliary vessels, whether such careening motion is procured by weights run across the deck, from side to side of said vessels, or aided by arms projecting beyond said slides, as described.

HORSE POWERS—Wm. R. Palmer, of Elizabeth City, N. C.: I claim the combination of the rib or projection upon the arms, with the bent pin or iron, or their equivalents, constructed and arranged, as described, for the purpose of giving a short bend to the rope or band, and thereby prevent its slipping, as set forth.

SCOURING PIECE GOODS—J. A. Roth and Joseph Lea, of Philadelphia, Pa. Patented in England Feb. 7, 1854: We claim the combination of the series of distributing rollers, &c., and the dasher wheels with the vat, as described.

CUTTING TOBACCO—Ebeneszer Murdock, of Albany, N. Y.: I claim the process of manufacturing cut tobacco, by cutting with the leaves, as stripped of the stems for cutting the stems previously cut up to a certain degree

of fineness (the object being to facilitate by the use of said stems, the advantageous cutting of the leaf itself,) the mixed mass then to be cut up together to the requisite fineness, and then the stems to be separated from the cut leaf, which is then ready for use.

LAMPBLACK HOUSES—Wm. G. W. Jaeger, of Baltimore, Md.: I claim the division of the house lengthwise with the aperture, and the connection of the two houses by chambers, by which I am enabled to carry the smoke around the whole length of the house, and return it by means whereof a superior quality and a greater quantity of lamp black is condensed.

I also claim the use of the two furnaces, as described, by which the manufacture can be carried on uninterruptedly.

I also claim the waste chimneys, that open some distance below the roof, constructed and arranged as set forth.

HERMETICAL SEALING—Jas. Spratt, of Cincinnati, O.: I do not claim the gasket and screw, nor the wax trough separately considered; but I claim the screw cap or cover and neck, as described, provided with a gasket of gum elastic, or like substance, at their inner junction, when this is combined with a trough for containing cement around their outer junction, for the hermetical sealing or closing of preserve canisters.

STEAM GAUGES—Thos. Stubblefield, of Columbus, Ga.: I claim the combination of the hollow cylindrical box, perforated at both ends, with a hollow cylinder of india rubber open at one end, and performing the duty of a manometer spring, as described, and also separating the perforations in the opposite ends of the box, the several parts being constructed and arranged, and the case connected with the boiler, and the india rubber with the index, as set forth.

WASHING MACHINES—H. C. Stevenson, of Georgetown, Ky.: I claim the arms and the springs, in combination with the rubber and plate, constructed and arranged as described.

WEAVERS' HEDDLES—Jacob Sennett, of Philadelphia, Pa.: I claim forming the eye of the heddle, by casting or otherwise securing around and between the strands or threads composing the same, metallic clasps in lieu of the cumbersome knots heretofore employed, curved on their sides and made concave and smooth on their ends between the strands or threads, where they form the ends of the eyes, as set forth.

BUCKLES—Wm. W. Smith, of Marshall, Mich.: I claim the stationary hook or tongue attached to the body of the buckle as described, as an improvement on the old or loose tongue and buckle, not only in the cheapness of manufacturing them, but in their strength and durability, and the ease with which they are or can be buckled and unbuckled.

RAILROAD CAR TRUCKS—Abram Snyder, of Hawley, Pa.: I claim making the bearing surfaces of the disks on which the load wheels, and is supported of an undulating form, as described.

MAKING STEEL DIRECT FROM THE ORE—G. H. Smith, of Rochester, N. Y.: I claim the process of converting the iron ore into steel, by subjecting the ore in the comminuted state with carbon, and with or without other flux, in a close oven, retort, or other vessel, to a high degree of heat, say about the temperature of what is known as white heat, and then separating the metallic particles from the impurities, and either melting them in crucibles to produce pig iron, or rolling and baling them in a reheating furnace, and subjecting the mass to pressure by rolling or hammering to produce spring steel, as specified.

APPARATUS FOR LAYING OFF THE SCYE, IN CUTTING GARMENTS—Peter Spilman, of Richmond, Va.: I do not claim the laying down of lines on a diagram for determining points of the arm holes of coats, considered irrespective of the precise manner in which these lines are placed relatively; for I know that diagrams with lines drawn thereon, by which the points of the arm holes are determined, have been invented, but I claim the apparatus, consisting of the diagram constructed and operating as described.

METALLIC FIRE PLACES—J. F. Snyder, of Culpepper, Va.: I do not claim the use of a screw in the fire place, which may be operated by means of weights and pulleys, as that is an old device.

But I claim forming the screen with narrow metallic strips having a concave surface connected by links, making them flexible and easily coiled into a small space on a cylinder, the whole being arranged and constructed in the manner and for the purpose set forth.

HOLDING DOCKS OF HORSES—Seymour Tomlinson, of Pleasant Valley, N. Y.: I claim the stuffed section or pads, or their equivalents, so constructed as to support the tail of the animal in the required position by its sides, and the head and neck, so as to leave the cut, pricked, or scarified portions untouched, thereby permitting them to heal much sooner than if the fixtures which support the tail come in contact with them. Not intending to claim any of the other parts described.

WINDING ROPE, CORD, OR YARN—P. B. Tyler, of Springfield, Mass.: I claim, first, the combination of the friction brake, operated as described, and the sliding belt or its equivalent, as specified.

Second, I also claim driving the reel by its outer periphery by the employment of the finger or dog, as described, in combination with the guide, for causing the reel to traverse, the reduction of friction caused by the mode of driving enabling the guide to cause the reel to traverse without too much resistance.

PAPER FROM WOOD—Chas. Watt, of London, and Hugh Burgess, of London, Eng. Patented in England August 13, 1853: We do not claim the apparatus for the manufacture of the manipulations herein, as they may be varied to suit the circumstances of the case.

But we claim the pulping and disintegrating of shavings of wood and other similar vegetable matter for making paper, by treating them with caustic alkali, chlorine, simple or compound, with oxygen and alkali, in the order described.

THREADING SCREWS—G. F. Wilson, of Providence, R. I., and J. M. Whitney, of North Providence, R. I. Patented in England April 4, 1854: We do not claim the use of a gang or series of cutters, which are allowed to return after each operation, and previous to making a new cut, as this has been done before.

But we claim arranging the cutters upon the periphery of a disk, or its equivalent, and bringing them up to the blanks by a continuous motion, as described.

Second, we claim the peculiar manner in which the chasers are made and secured to the cutter head, they being let into grooves or recesses in the head, and having their upper portions hinged to their lower portions, which latter are secured to the head by screws or otherwise, by which arrangement, while the chasers are held secure from all possibility of displacement they may be easily and expeditiously brought up to their work, as required.

CARRIAGE SPRINGS FOR LIGHT VEHICLES—Mary Burns (admrx. of Robt. Burns, Jr. dec.), New York City. Patented in England June 7, 1853: I do not claim the bell metal springs inside of the india rubber spring, as set forth.

I claim the combination of india rubber or other compressible material with a bar spring having a toggle joint in its center.

Second, I also claim the lengthening and shortening of the toggle joint bar between the compressible spring, by means of the screw or nut, by which they are made to sustain their required weight with a proper degree of elasticity having greater or less stiffness in the spring bracing of the carriage.

PEGGING BOOTS AND SHOES—G. J. Wardwell, of Andover, Me. (assignor to himself and Elmer Townsend, of Boston, Mass.): I do not claim the combination of a guide point with a set screw to regulate the distance of the pegs from each other.

But I claim the combination and arrangement of the guide or setting point with the handle, theawl or hole punch, the peg driving orifice and mechanism, as specified.

I also claim the combination and arrangement of the spring gauge lever or depressor and the screw with the handle and pegwood carrier, the object of the same being not only to gauge the space in the pegwood carrier so as to adapt it to pegwood of any desirable width below the maximum that can be used therein, but also to enable a person to move the pegwood downwards and back of and below the edge of the knife, when necessary, so that it may not be moved forwards under circumstances as stated.

I also claim the so combining the spring with the pegwood carrier, peg driver, and gauge lever that it shall not only serve to support the pegwood or constitute a bottom to the carrier, but also to force up the pegwood after it has been depressed either by the peg driver, or the gauge lever as specified.

MACHINES FOR SAWING STONE AND MARBLE—Albert H. Tingley, (assignor to himself, Edmund W. & Hervey F. Tingley) of Providence, R. I.: I claim the combination of the two spring pawls, the slotted connecting rod, the movable ratchet, and its tripping pin, with the fixed ratchet of the shaft of the sprocket wheel, the whole being operated as specified.

And I claim the series of hooked pins on the water distributor, in combination with the series of notches applied to the connecting rod for operating the water distributor, for the whole being for the purpose of regulating the motion of the water distributor and of causing that motion to take place over either a portion or the whole entire surface of the stone as occasion may require.

RE-ISSUE.

SAWING MACHINE—Chas. R. Fox, of Chicago, Ill. Patent originally dated May 9, 1854: I claim the combination of the notched plate, pawl, rack, pinion, lever, and sectional pawl, arranged and operating as set forth.

Also the construction of the boxes with the opposite inclined inner faces for giving the requisite set-on to the carriage when zigging back and again setting up, when moving forward for the cut as set forth.

ADDITIONAL IMPROVEMENT.

LOOMS FOR WEAVING FIGURED FABRICS—Saml. Eccles and James Eccles, of Philadelphia, Pa. Patent originally dated Aug. 3, 1852: We intend to apply the stop motion described to looms having other kinds of shuttle box motions attached, and shall vary the form of the parts, to suit the necessities of the various cases.

We claim the mechanism described which connects and disconnects the shuttle box motions to and from the cam shaft, that is to say, we claim the bell crank lever when kept in connection with the grooved hoop or collar by a spring or its equivalent in combination with the lever and its connecting rod or any mechanical device, for the purpose of operating rise and fall upon by a filling thread stop motion, when the filling thread breaks or becomes expended, for the purposes described.

We further claim the pattern chain composed of flags, having projections or segments of flanges on the top and blank flags, having no projections on the top, as herein described, for the purpose of operating rise and fall shuttle boxes therewith in power looms for weaving figured fabrics.

NOTE.—Several patents in the above list were secured through the Scientific American Patent Agency.

(For the Scientific American.)

Lightning Conductors for Ships.

I have long considered a good lightning conductor for ships a great desideratum, and have employed a good deal of my spare time and money in endeavoring to introduce into our Navy, and into our mercantile marine, the conductor of Sir William Snow Harris, which, in the British Navy, in the Hon. East India Company's service, and in some of the other navies of Europe, has been adopted; every ship in the British navy has Harris' conductor, and not a poundsterling nor a single life has been lost by lightning since it has been fully adopted. This is a fact which speaks to the humane, as well as to that no smaller class who look solely to their own interest.

The Harris Conductor has not been used in our navy principally because "there is no appreciation in the Navy Department for the purchase of a patent right," and it has not been introduced into our mercantile marine because it is too costly.

With a view of bringing into use the same principles at a smaller cost, I turned my attention to a modification of Harris' Conductor, and have obtained a patent for it, as you know—my improvement or modification is approved by Sir William S. Harris.

It consists simply in leaving the masts at or near to the eyes of the lower rigging, and coming down by one of the shrouds on each side, by a system of tubes and sockets in connection with a conductor fixed to the side of the ship. By this process the interior of the ship is avoided, and a simple yet fixed conductor is applied, by which the electric fluid is carried off; a ship can be fitted as well afloat as on the stocks, and as well loaded as when empty, and the moderate cost brings it within the range of the general ideas of ship owners.

The usual chain or link conductor used in the navy, and in some merchant ships, is good as far as it goes, but being very liable to derangement, by reason of the strains and jerks to which it is subject, it is not generally adopted, and does not meet the requirements of a permanent conductor. A copper wire of 1 1-6 of an inch in diameter, is good as far as it goes too, and the same may be said of a wire no larger than a piece of twine, or not larger than sewing silk. A small wire will carry off a small discharge of electricity harmlessly to the mast and ship, but it will fuse in the operation, leaving the mast unprotected. Now, it is desirable to have a conductor permanently fixed to, and incorporated with the masts and hull of a ship, so that a heavy discharge will be as easily carried off as a small one by a small wire.—The conductor which I have patented will do this if it has sufficient surface, and is thoroughly fitted.

I am now only waiting until I can make suit-

able arrangements with some well known concern engaged in the manufacture of copper, for the purpose of supplying ships with fixed and reliable conductors, which, if generally adopted, will save many lives and much property.

The underwriters of New York have agreed to make a return of two per cent of the premium on all ships furnished with suitable lightning conductors, they show a regard for the cause of humanity and for their own interests by making this return; and it is to be hoped that all underwriters will follow this good example, not that it is the duty of underwriters to encourage these means more than ship owners, but the concession will have the effect to wake up the owners of ships to a sense of their duty in this respect.

R. B. FORBES.
Boston, Mass.

The Great Republic.

The mammoth clipper "Great Republic," the hull of which was lately purchased by N. B. Palmer, of this city, is to be rebuilt. She will have but three decks and three masts, instead of four as first built, and will be capable of carrying from 3,000 to 3,500 tons. The cost of re-building her will be somewhere between \$100,000 and \$125,000. She will be employed in the China trade, under her original name. The length and model will remain unchanged. In sixty or seventy days, it is stated, she will be ready for sea.

Manufacture of Caviare.

The sturgeon fishery is very extensive in the rivers in New England. A part of the fish is valuable for the manufacture of isinglass.—The spawn is largely bought up by a German, who, for several years, has manufactured therefrom a condiment called "caviare," clear and beautiful as jelly, and which he sends to Europe, where it is esteemed a great luxury.—The sturgeon is not, as many suppose, a fresh water fish; they go up the rivers to spawn.

Distances of Routes to California.

The following are the distances of four routes from this city to California, furnished by Lieut. Maury to the Honduras Inter-oceanic Railway Company:

From New York to San Francisco, via	
Panama,	5,200
Ditto via Nicaragua,	4,700
Ditto Honduras,	4,200
Ditto Vera Cruz and Tehuantepec,	4,200

No allowance is made in the above for the distance across the continent.

Silver Pointed Lightning Rods.

The Livingston County "Republican" of the 29th ult., states that the house of Mr. Cushing, about a mile north of the village of Genesee, in that county, was struck by lightning during a storm on Thursday the 22d. What is singular in the case, the house was protected by three silver pointed lightning rods of most approved construction, which rods, it seems, afforded no protection.

The Diving Rod.

R. Chisholm, in a letter to the Charleston "Mercury" (S. C.) asserts that good water was found for him by a "diving rod," by a person who came to his place for that purpose, in nine spots, where no water fit for any good purpose ever could be found previously. He states that he once had no faith in "Bletonism," but it would be folly for him to disbelieve any longer.

Flying.

We have received a communication from J. W., of Pa., who asserts that he has watched vultures in their flights, with great attention, with the naked eye and with a telescope, and he never saw one, according to J. B. C., "sail slowly through the air for many minutes without flapping its wings."

Peat for Fuel.

The Waterbury "American" says that two beds of peat have recently been discovered about two miles from that city, and that two joint stock companies have been formed, with abundant capital, for the purpose of supplying it as a fuel for market.