



[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS  
Issued from the United States Patent Office  
FOR THE WEEK ENDING SEPTEMBER 2, 1856.

**BUCKLE FOR WEARING APPAREL**—Edward Parker, of Plymouth, Conn.: I claim, swaging or cutting the blank, or the bow B, and the cap B, or in one piece, from a metal plate, and securing the tongue, D, in the buckle, by bending or closing the cross-piece, C, around the shank c, substantially as described.

**ROTARY STEAM ENGINES**—John Robinson, of New Brighton, Pa.: I do not claim the hollow shaft or piston head, D, with a passage or passages in its periphery, to admit or carry off its propelling gas or fluid, as such; but with a lateral arrangement of said passages in relation to the radial piston, and employing a separate transverse partition in the hollow head, to form inlet and outlet chambers at opposite ends of the piston, has before been used.

But I claim, the arrangement of the piston G, projecting radially into, within or through the hollow head, D, and forming inlet and outlet cavities or passages, a', c', and b, b', on either side of it, across its whole breadth, or face, substantially as described, for the purposes set forth.

**CANDLE MOLDING MACHINES**—John Robinson, of New Brighton, Pa.: I claim, attaching a series of molds, I, to endless chains B B, which have an intermittent movement; the molds being formed of two parts, and opened and closed at the proper time by the jaws, J, operated for the purpose specified.

I also claim, drawing the candles from the molds, by means of the jaws n, attached to the rod L, arranged and operated for the purpose shown.

I further claim, in connection with the jaws, (n) (n), the plate P, operating for the purpose of turning or conveying the candles into the receptacle Q.

**CHURNS**—Lewis Lamb, of Berlin, Conn.: I do not claim employing in a tub two concentric shafts separately, provided with one or more dashers to revolve with them. But I claim, applying the auxiliary dasher to the shaft of the rotary dasher, without any other shaft, so that the shaft of the rotary dasher may revolve on the hub of the auxiliary dasher, in combination with applying to the inside surface of the tub, a stop or projection, or equivalent means, arranged as described, and by which the auxiliary dasher may be stopped from revolving with the other dasher, when both are placed in the cistern, and the churn is in operation, as described.

**ALE AND BEER COOLERS**—James McIntyre, of Somerville, Mass.: I do not claim connecting an ale or liquid so that the heated liquid, while descending in a channel between plates, shall be cooled by cooler currents of water or liquid made to flow in a contrary direction, against the outer surface of said plates or channel, as described. Nor do I claim arranging the water and ale channels in a zig-zag, serpentine, or equivalent manner, with respect to one another, as described—so as to produce an effect as stated.

But I claim, the combination of the passages p, n, and gate o, with the ale and water chambers, pipes m, m, and zig-zag passages; the same being for the purpose, or to accomplish results as set forth.

**CONDENSERS FOR STEAM ENGINES**—David Matthew, of Philadelphia, Pa.: I claim, the combination of the flat vertical tubes, connected by horizontal tubes with new rose pipes inside, and surrounded by the outer case, to condense, by the combined action of air and water, substantially as described.

**PROCESS OF STIFFENING HAT BODIES**—Jos. McCracken, of Brooklyn, N. Y.: I claim, the process of stiffening wool hat bodies, by acidulating the hat bodies before applying the stiffening, as a means of graduating and controlling the quantity and depth to which the stiffener can penetrate the body of the felt, in combination with a pearlash solution of shellac for stiffening the "tip" or "crown," and a pearlash and soda, combined with a solution of shellac, for stiffening the "brim," substantially as described, and for the purposes set forth.

**MANUFACTURE OF BLACK BOTTLE GLASS**—John F. McCully, of Gonzales county, Texas: I do not claim as new, the process of re-heating the batch, as applied to the ingredients heretofore used for making black glass, but only as applied to and necessary for the batch, if the specified clay slate is used as one of the constituent ingredients.

I claim, the introduction of the above specified clay-slate as one of the ingredients in compounding the usual batch for the manufacture of black glass, in the proportion and in the manner as specified.

**PLOWS**—Benaiah C. Hoyt, of Port Washington, Wis.: I claim the adjustable rotary mold board, K K, combined with the beam, D, and frame, H, the whole being arranged in the manner described.

**RAKING ATTACHMENT FOR REAPERS**—M. G. Hubbard, of Penn Yan, N. Y.: I claim, the jointed rake bar, B, attached to the upright, H, and connected with the pulley, c, as described, for the purpose set forth.

**MACHINE FOR TESTING AXES**—Warren Hunt, of East Douglas, Mass.: I claim the described method for testing the truthness of axes—consisting essentially of the bar c, and slotted gauge plate E, operating in the manner substantially as set forth.

**SPRING BEDSTEAD**—Wm. H. Kimball, and Andrew J. French, of Lynn, Mass., (assignors to themselves and Amos K. Noes, of same place): We claim, arranging and combining together and with the frame or bedstead A, the springs F F F, and their connection rods G G G, in manner essentially as set forth; the rocker bars D E, the levers B C B' C', bars D E, straining screw rod H, and crank nut I, the whole being made to operate substantially in the manner specified.

**HARVESTING MACHINES**—Wm. A. Kirby, of Buffalo, N. Y.: I claim, the combination of the main wheel K, single plate H, and rim L, when connecting and operating together in the manner and for the purpose as described. I also claim the hanging the seat to the plates H, and to the standard S, as described.

**PEN AND PENCIL CASE**—John H. Knapp, of New York City: I do not claim the manner of operating the pencil slide, viz., by the spirally slotted tube H, and the straight slotted tube E, for that has been previously used, and the pen slide D, is also well-known, and in common use.

But I claim, placing the pen slide D, over or upon the tube B, which encloses the slotted tubes E H, the above parts being arranged as shown, so that the pencil slide is shoved out at the opposite end, and the working parts rendered so compact, that an extremely portable and extensive case is obtained as described.

**CHARGERS FOR SHOT POUCHES**—John M. Hathaway, of New York City: I claim in combination with the slide of a shot charger a locking apparatus, substantially as described, to prevent the accidental opening of the charger, but readily unlocked by the user, as set forth.

I also claim the slots, 1 2 3 4 &c., on the tube, B, and the tongue button and spring on the tube, C, in combination, as a device for adjusting and holding said tubes as set forth.

**PLOWS**—Joseph B. Harris, of Byhalia, Miss.: I claim combining with a sub-soil plow a mold board, movable to different heights, substantially in the manner and for the purposes specified.

**ADJUSTABLE CUT-OFFS FOR STEAM ENGINES**—Andrew Hartup, and John Morrow, (assignors to J. P. Flaigh, Andrew Hartup and John Morrow), of Pittsburgh, Pa.: We claim the combination of the T-shaped lifter, slide, screw and stops, or their equivalents, constructed and arranged as described, and operating as an adjustable cut-off for steam engines, in the manner set forth.

**FOUNTAIN RULING PEN**—Charles Ketchum, of Penn Yan, N. Y.: I claim, a fountain ruling-pen, substantially as specified.

**BEDSTREAS**—Charles H. Gould, of Concord, N. H.: I claim the within described spring bed bottom, constructed essentially of the slabs, B, pivoted at the lower ends, the bar, C, springs, D, and band, E, operating in the manner substantially as set forth.

**BORING AND MORTISING HUBS**—Henry Hayes, of Quincy, Ill.: I claim, first, the adjustable frame, B B B, with its attachments, substantially as described, and for the purposes set forth.

Second, the application of the rider, H, to the carriage, G, substantially as described and for the purposes set forth.

Third, the combination of the index, I, the lever, s, and the roller, t, substantially as described and for the purposes set forth.

**CALENDAR CLOCKS**—Edwin Allen, of Glastenbury, Conn.: I do not claim the lever, C, and stop pins, d, on the month wheel, as their equivalents are found in the calendar mechanism of John Williams, patented Sept. 19, 1854.

But I claim, first, the change wheel, E, and year wheel, F, or its equivalent fitted, as described, to rotate with the month wheel, B, and carrying the leap year wheel, G, occupying such a position on the change wheel as to represent the month of February, said change wheel receiving every month one-twelfth part of a complete rotation on its axis, independently of the month wheel, and the leap year wheel receiving every year, in addition to its revolution around the axis of the change wheel, one-fourth of a complete rotation on its own axis, the movement of the change wheel and leap year wheel being produced by any means equivalent to those described, and the said wheels combined and operating upon the lever, C, substantially as described.

Second, the internally notched ring, P, on the driving wheel, M, or its equivalent, that transmits motion from the month wheel to the yearly rotating month card, combined with the lever, Q, and its locking pin, I, and the pin, z, on the month wheel, the whole operating substantially as described, to lock the wheel, M, or its equivalent, and through it, the month card, till the time for moving the same, and then unlocking it as long as is required to effect the movement.

**HARVESTERS**—Howar Adkins, of Plymouth, Ill.: I claim the rake operated by means of the crank, N, and guide blocks, Q S, substantially as described for the purpose specified.

**FEEDING PAPER TO PRINTING PRESSES**—David Babson, of Groton, Conn.: I claim the stocks, m, m, with points, n, n, attached, said stocks being placed in a reciprocating frame, operating as shown and described for the purpose set forth.

**COTTON SEED PLANTERS**—D. J. Beecher, of Greenville, Miss.: I claim the combination of the endless series of arranged plates with the slotted discharge tube, constructed, arranged, and operating substantially as and for the purposes set forth.

**ROTARY STEAM ENGINE**—P. D. M. Carmichael, of Leroy, N. Y.: I claim the rotary engine composed of a piston with an eccentric rim, d, d, whose interior fits at one point to the outer of the cylinder, and its interior at a diametrically opposite point, to a central circular block, D, said rim working within a slotted rocker, H, in an oscillating abutment, E, the whole operating substantially as set forth.

**ARRESTING CARBON IN CHIMNEYS**—Hezekiah Chase, of Lynn, Mass.: I do not claim the introduction of jets of water into a chimney, for the purpose of arresting sparks or carbonaceous matter, as I am aware, that such has been an attempt to make, in the chimneys of some of our engines. My invention is more properly an improvement on that for which letters patent were granted June 19th, 1837, to James A. Cutting and George Butterfield, of Boston, Mass. The most essential feature of my improvement and that which differs from anything in the apparatus of Cutting and Butterfield, being that part of my device whose office it is to produce a thin sheet of water close to and surrounding the edge of a meniscus deflector placed over the mouth of the discharging flue within the chimney. Nothing of this kind is found in the invention of Cutting and Butterfield, wherein streams of water only are employed. In my improved smoke collecting apparatus I use streams and a deflector, as do Cutting and Butterfield, but in addition to the principle common to both, I arrange the jet pipes that the jets of water may fall on the top of the deflector, and be discharged over its edge in a thin sheet.

I claim arranging the jet pipes, the deflector, and discharge flue so that the water may first fall on the top of the deflector, and be discharged in a thin sheet over its edge and around the mouth of the chimney, as set forth, and this whether the streams fall directly downward from the jet pipes and upon the deflector, or whether they may be first discharged upward, and next be caused to fall back and upon the top of the deflector, and so that such streams may serve not only to arrest carbonaceous matters which may escape or pass by and rise above the deflector, but to retain them as they fall, and be thrown into the receiver, B, after they have fallen with the streams upon the said deflector.

**FILTER**—David N. B. Coffin, Jr., of Newton, Mass.: I claim the method substantially as described of applying the filtering diaphragm, and also combining therewith the additional layers, and for the purpose set forth.

**STREET SPRINKLER**—John F. Driggs, of New York City: I am aware that fixed perforated pipes have been employed for the purpose of sprinkling in many branches of manufacture, and that waste cocks have been provided in shower baths which open and drain the pipes, but I do not claim such a device as set forth. But I am not aware that any have attempted to employ such for the purpose of watering streets, or have ever attempted so to construct and connect an awning pole or a sign pole that it may serve this purpose.

I claim the peculiar arrangement of the perforated and slightly inclined pipe, A, in connection with the uprights, C and D, or with equivalent brackets from the neighboring building, and of the valve, D, the waste pipe, F, and the water main, E, when arranged in such a manner that it may serve the double purpose of supporting awnings, signs, lamps, etc., and of rapidly and effectually sprinkling the streets.

**PURIFYING OIL**—Cummings Cherry, of Pittsburg, Pa.: I do not claim any of the individual parts of my apparatus per se.

But I claim the arrangement of the horizontal retorts, I, I, as combined with the copper heads, J and L, of the rectifying chamber, Q, of the steam conduits to the oil boiler, and of the agitating apparatus, in the manner and for the purposes described.

**DISTILLING CRUDE OIL**—Cummings Cherry, of Pittsburg, Pa.: I claim providing upright retorts for the manufacture of oil from bituminous coal, with a closed top, and an opening at their bottom to be immersed in water, in the manner and for the purpose substantially as described.

**DRYING OIL**—Cummings Cherry, of Pittsburg, Pa.: I do not claim the admixture of litharge or resin to vegetable or animal oils in the manufacture of dressing oil. But I claim preparing the oil, and for the purpose specified.

**HAY RAKES**—Hankles Heaberlin, of Scipio, Ind.: I claim, the combination of the revolving rake with the adjustable spring bow, s, so that said rake may be set to trip, and be tripped with such variable motion on the foot, g, as may be desired; the whole being arranged and operating in the manner and for the purpose set forth.

**HARVESTING MACHINES**—Joel Y. Shelley, of Hareford, Pa., and Jas. Stauffer, of Mosenack, Pa., (assignors to Wm. Watson, of St. Paul, Minn.): We do not claim the supporting of the frame of a harvester, on two main wheels, in the manner of a cart, with a caster wheel in front of them, as the frame of a harvesting machine patented to Edward Badlaw, Jr., on the 18th day of Sept., 1835, is thus supported.

We claim, the combination of the driving wheel G, supporting wheel F, caster wheel L, hinged tongue E, and the main frame, when the said parts are arranged and operate in relation to each other in the manner set forth.

**WHIFFLETREE FOR DETACHING HORSES FROM CARRIAGES**—N. N. Selby, of Fairview, Pa.: I claim, the application of the spring, b, to the whole length of the whiffletree, and turned over at each end, forming loops for the harness tugs, in combination with the bolt f, pins j, and fulcrum d, operated by the levers g and h, substantially as described.

**BUCKLE FOR WEARING APPAREL**—Wm. Slade, of Gum Creek, Ga.: I claim, the double-jointed buckle, constructed substantially as set forth.

**GRAIN AND GRASS HARVESTERS**—Oren Stoddard, of Busti, N. Y.: I do not claim the pivoted cutters K, irrespective of the peculiarity of their relative position or movements with each other, as shown.

I claim, the cutters K, pivoted to the finger bar D, and operated by the cams (a), on the shaft L, when said cams are placed in varying positions, as described for the purpose set forth.

**INVALID CHAIRS**—C. D. Faillant, of New York City: I claim, the combination of the chair and adjustable drop or extension back, with the rack K, and adjusting or supporting rod, P, for the purposes substantially as set forth.

**STRAW CUTTERS**—Shelton M. Thompson, of Barry Co., Ky.: I am aware that the moving knives of straw cutters, have been held up to the fixed knives thereof, by means of springs, set screws, and other devices. I therefore make no claim to an adjustable or a yielding knife.

But I claim, the arrangement of the fixed knife B, the shaft A, and spring F, as described—whereby the revolving cutters are held as rigidly parallel to the fixed cutter, as if they were unyielding, and are as free to yield for the passage of obstacles, as those cutters which yield independently of the arms and shafts, by which they are carried.

**SELF-WAITING TABLE**—Abdelah Watson, of Falmouth, Ky.: I claim, the waiters D D, wire racks C C, and driving cord E, combined, arranged and operating, substantially as set forth.

**CURTAIN FIXTURES**—Ferdinand Waterich and Conrad Hagan, of New York City: We do not claim the application of a scroll spring, wound up by the running down of the curtain, and then drawing up the same by its recoils, as we are aware the same has been done before.

But we claim, supporting one end of the shaft, N, in a movable slide, B, connected with the lever G, which is made to act upon the cam F, as described.

**CUTTING DEVICE FOR HARVESTERS**—C. Wheeler, Jr., of Poplar Ridge, N. Y.: I claim, attaching the fingers, C, to the finger bar, B, and the caps, D, to the fingers, as shown, and having a plate, B, placed on each finger—on which plates, the teeth (f) of the sickle, rest, and work; the whole being arranged as described, for the purpose set forth.

**BORING HUBS FOR BOXES**—Sam'l H. Yocum, of Shelbyville, Ind.: I claim, operating the bits, e, e, by the adjustable feed rods, n, and lever, m, with the mechanism described, or its equivalent, in combination with the eight anti-friction wheels c c c c c c c c, temper screws o o and k k, that confine the hub D, and expose a true circle to the bits, e, e, at any desired distance from the hub.

**HANGING AND STRAINING RECIPROCATING SAWS**—Isaac N. Forrester, of Centerville, Va.: Patented Oct. 30, 1855: I claim, the manner of hanging reciprocating saw-blades, by forming thereon, or by attaching to the ends and front edges thereof, ears or guide flanges n n, fig. 2, look clamps q q, and shank devices, r, r, t, fig. 1; so that the tension or strain, and the draft of the blades will be in a direct line longitudinally, through the base of the teeth and front edge of the blade, whereby the whole of the surface, or the plate part, of the saw-blade is left free, unstrained, and divested of all rigidity, and stiffness, substantially as described.

I also claim the adjustable guide plate, with the slotted or grooved gauge pieces, g, g, fig. 1, and x y, x y, fig. 3, as set forth.

Robert Fulton.

A new biography of this eminent man—the first who built a really practical steamboat, and established steam navigation—has just been given to the world by J. Franklin Reigart, of Lancaster, Pa. The author has devoted much labor and research in producing a complete history of Fulton and his inventions, and he appears to have done so in the spirit of one who loved his subject, and it does him great credit in every particular.

Fulton was born in Little Britain (now Fulton,) in Lancaster Co., Pa., in 1765. His father emigrated from the north of Ireland, and was a descendant of the Covenanters, who emigrated from Scotland to Ireland during the persecution. Robert received a common school education, and at an early age exhibited a fine taste for drawing and mechanism. At 17 years of age he became a professional artist in Philadelphia, but being consumptive, in a few years afterwards he was induced to take a voyage to England for the benefit of his health. In London he was kindly received by Benjamin West, his countryman, and painter to King George III.

His remarkable mechanical genius soon made him known to Lord Stanhope and the Duke of Bridgewater—men of mechanical tastes—and he was soon distinguished by his great neatness in drafting, and ability as a Civil Engineer. He was a dweller and a wanderer in Europe for many years, gaining much experience in courts and camps, but his mind was all the while taken up with the great idea of steam navigation, and rendering his native land immortal by its first successful application. This he accomplished successfully in 1807. His first boat, the Clermont, was built and launched in New York. James Watt, built the engines for it, according to Fulton's plan, and thus the genius of two great men were blended and combined, in this, the glorious result of steam navigation.

Some have endeavored to detract from the justly earned fame of Fulton, by setting up claims against him of not being the original inventor of steam navigation. Mr. Reigart does not set up any such claim for him, but justly places his claims upon the proper basis of having rendered it successful by his improvements, after many others had failed to do so. This is enough to render his name famous forever, as the "Father of Steam Navigation." Much credit is due to Miller and Symington, and others, for what they had done before him, but without detracting from their claims, Ful-

ton's name must rank above theirs in the scroll of great inventors.

The volume is beautifully illustrated with fine colored engravings of the various steamers which Fulton built, and with copies of his original drawings and paintings, and a portrait of himself. It is a valuable acquisition to the literature of our country. Fulton sleeps under a plain slab in Trinity Church yard, in this city; but he has a monument in every steamboat on our waters.

August Storms

It is a remarkable fact that between the 1st and 24th of August a severe storm of wind and rain visits our country every year. It generally commences in the Gulf of Mexico, and proceeds in a curve round the Atlantic coast, and penetrates hundreds of miles into the interior. The storm this year was the most severe that has taken place in a great number of years, and committed great ravages. It is also somewhat remarkable that severe storms visit England in the same month. Great freshets take place, the same as have been experienced this year in so many districts of our country. Of old they have been designated "Lammas floods"—Lammas being the name for the 1st of August.

Making Watches in Switzerland.

A large proportion of the work bestowed upon the manufacture of watches in Switzerland, is done by cottagers, who cultivate the earth in the summer, and in the winter shut themselves up with their families during the inclement season, which lasts three or four months. The whole family then devote themselves to the work of making watch movements. Not only the children work, but the dog turns a wheel and puts in motion a lathe or a pair of bellows. First, the rough part of the movement is made by water power. Particular parts are assigned to the young members of the family; while others are employed in putting the plates and wheels together. When a sufficient number have been prepared, the master transports them on the back of a mule to some town or village, where he sells them to little master watch-makers, who complete the movements, or else they are sold to travelling agents, who case them in silver or gold.

Crops in Europe.

The late news from Europe describe the harvests as being nearly completed, and the crops excellent. In France, where it was supposed the crops would be much reduced by the great inundations in some of the valleys, they have turned out to be very good. It is believed that the average yield will exceed that of 1855.

New Lighthouse.

A screw pile lighthouse has been erected on the spit abreast the Narrows of Boston Harbor. It is a hexagonal structure elevated on seven iron piles, and is surmounted with an iron lantern. The light is designed to clear the spit by vessels passing through the main ship channel. It is illuminated with a lense light of the sixth order, elevated 35 feet above high water mark.

Russian Rails.

The Russians have commenced to manufacture rails for their railroads, and they are said to be superior to the English, although somewhat dearer. Prior to the late war all their rails were imported from England. Two great proprietors of Russian forges have engaged to manufacture all the rails required for the new railroads.

Knives should never be dipped into hot water, as it injures the handles. They may be placed upright in the water in a mug, by which plan the handles will be kept dry.

Never let waste vegetables, bones, &c., accumulate in an ash-pit near to the house; they generate injurious gases.

The human system, in its vital or muscular power, is very analogous to an electric machine.

If metallic iron is boiled in a solution of sulphate of alumina, the iron will dissolve, and a sub-sulphate of alumina is thrown down as a white precipitate.