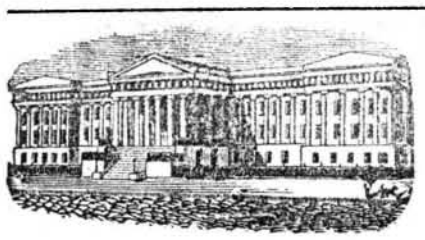

[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office,

FOR THE WEEK ENDING JULY 31, 1855.

WASHING MACHINES—John H. Atwater, of Kalamazoo, Michigan: I claim the arrangement of the washing frame, m, n, o, v, and the endless platform of slats, h, h, together with the respective parts combined therewith, in such a manner, that the same first mover, will, at the option of the operator, simultaneously imparta reciprocating movement to the washing frame, and a forward or a rearward movement to the said platform, or operate the said washing frame substantially in the manner, and for the purpose set forth.

FEEDING PLANKS TO PLANING MACHINES—Nelson Barlow, of Newark, N. J.: I claim the self-adjusting frame, B, connected by axles or any equivalent means, to the main frame, when combined with the cylinder and fixed rollers, as specified.

FAN-BLOWER—Simon Barnhart, of Chillicothe, Ohio I claim, providing each of the blades of the fan with a lip or flange, b, c, substantially as, and for the purposes set forth.

[In this improvement the blower is arranged in the usual manner, except that the fan blades are furnished, at one end, with lips, spirally curved, something like a screw propeller; so that when the fan revolves, the lips act on the air and draw a larger quantity into the blower than could otherwise enter. In this simple manner the blast of the blower is considerably augmented, without perceptible increase in the propulsive power, or the cost of construction. It is an effective improvement, and applicable with great advantage wherever blowers of any kind are employed.]

WASHING MACHINES—Oliver D. Barrett, of Fulton, N. Y.: I claim providing a pail with a foot piece and treddle, in combination with the connecting rods, lever, and sectors operating the rollers, by which combination the rollers are thrown apart by their own weight, and brought together by means of the foot, and the action of the mop in being pulled out between them.

AIR ENGINES—John Ericsson, of New York, N. Y.: I claim the method of supplying fresh air to the engine, compressing and transferring it to the regenerator and heater, or either, by the action of the supply and working pistons within the one cylinder, operating on the principle and in the manner substantially as described, whereby the air is admitted under atmospheric pressure, as the supply piston is moving from the working piston—as the previous charge of heated air is exhausting; so that the said supply piston moves in equilibria, or nearly so, and by which also the supply air is finally compressed and then transferred to the regenerator and heater, or either, as the supply piston moves between the supply air and heated air, during the periods of the nearly stationary position of the working piston.

I also claim, in combination with the double piston movement of each cylinder, the methods of connecting the working pistons of two single acting engines, to constitute a double acting engine, by means of two sets of vibratory arms attached to each other, and vibrating on a common center, connected with the two working pistons, and with the two cranks on opposite sides of the crank shaft, the two sets of arms acting on the principle of the bent lever, and the crankshaft being so located relatively to the cylinders and the centers of vibration of the arms, substantially as described, that the working piston shall be at the end of its inward stroke, at the time the crank is passing the dead point furthest from the point of connection of the connecting rods with the vibrating arm, as described, by which the power of that working piston, which is being impelled by the heated air, is applied to the best advantage to operate the other working piston during its return stroke, and by which, also, the working piston remains nearly at rest, during the time the supply piston is making that part of its outward stroke during which the partially compressed air is finally and fully compressed and transferred to the regenerator and heater, or either, as described.

FOR RULING AND PAGING PAPER—John A. Elder, of Westbrook, Me., and John Richardson, of Portland, Me.: We claim, first, the arrangement of machinery for the ruling, printing, and paging paper for the manufacture of blanks, books, or other like purposes, when the ruling, printing, and paging is done before the paper is removed from the car or table where it is ruled, as specified.

2d. We also claim the combination of a car or table, B, and ratchet bar, with its type rods, 5, or their equivalents, for the purpose described.

3d. We also claim the pliers or nippers, for the purpose of removing the paper from the car or table, when operated as described.

SIZING AND DRESSING WARPS—John A. Elder, of Westbrook, Me., and Ephraim Wood, of Winthrop, Me.: We are aware that other modes of construction and other forms and positions of the several parts might be adopted to produce the same results from the same acting principles, for instance, springs may be used instead of weights, and screws may be used instead of ratchets and catches for increasing the power on friction straps. We do not claim these devices as such, or any of them.

We claim the regulation of the speed of the yarn beams and roilers of the dressing frame, by the tension of the warps, in the manner substantially as described; namely, by the combination of the vibrating roller, U, with the rollers L, and I, rod G, and the hook, E, or the equivalents thereof; and these in combination with the ratchet, P, levers, 16 and 13, friction pulley, 10, and weight, 15, or their equivalents, when arranged in the manner substantially as described.

CROSS-CUT SAWING MACHINE—Frederick Field, of Toledo, Ohio: I claim the arrangement of the two circular saws, hung in a vibrating frame, and operated substantially in the manner set forth. In combination with the mode, substantially as described, of throwing the feed motion in and out of gear.

VAULT COVERS—James Harrison, Jr., of Milwaukie, Wis.: I claim attaching the cover, D, to the upper part of the opening or passage, A, of the vault, by means of the jointed arms or rods, d, d, f, f, arranged as shown, or in an equivalent way, for the purpose set forth.

[The design of the above invention is to protect foot passengers from falling down the holes of coal vaults—accidents that are of frequent occurrence in cities, and often attended with serious consequences. In this improvement the vault cover is permanently connected with the pavement by means of a couple of jointed levers, which permit the cover to be lifted, say two or three feet from the ground, where it will remain, erected on the levers. The hole is thus opened sufficiently for the deposit of the coal, while the unwary foot passengers cannot step down the opening, since the cover and levers form a sort of railing and protection. When the cover is replaced, the joints fold up, and, if tied together by a cord, the cover cannot be lifted from without, and is therefore burglar proof.]

COMPRESSING PUDDLERS' BALLS AND OTHER MASSES OF IRON—Solon S. Jackman, of Lock Haven, Pa.: I claim the compressing puddlers' balls or similar substances, by means of circular compressers, B, and C, so arranged that their peripheries shall have different degrees of speed, and their surfaces in contact with the mass to be operated on, shall cause its rotation on its own axis, and by compression between them reduce the metal into a bloom, in the manner substantially as described.

SEWING MACHINES—Jas. Harrison, Jr., of Milwaukie, Wis.: I claim, 1st, Feeding the material to be sewed, by means of a feed plate, B, which is guided substantially as herein described, in the direction of any curved, circuitous, or irregular line of sewing, by means of grooves, d, d', or their equivalent, on its back side, of a form corresponding to the said line, receiving or working in contact with fixed pins, c, c', or other equivalent fixed guides, whereby motion is only allowed to the said feed plate in such direction as to make the material describe, in passing the needle, the intended line, the said feed plate receiving, motion by any mechanical device suitable for the purposes

2d. Combining the guide pins, c, c', or their equivalents with the shoe, C, which confines the feed plate and produces the necessary pressure of the plate on the material, substantially as specified.

[This invention consists of a very ingenious method of feeding and moving the material to be sewed. Its construction is as clearly set forth in the claims as can be, without drawings. By its use, the sewing of button holes, —a labor which no practical machine has ever before been able to accomplish—is done with extraordinary speed and astonishing precision. The graduation of the apparatus, so that it will sew holes of various sizes, from shirt button holes up to those of dress and overcoats, is perfect. The inven or informs us that it may be set to sew holes of a given size and all of them will be done unerringly alike, even to exactly the same number of stitches. Embroidery and all other kinds of curved or crooked sewing, may also be executed with equal facility. Any desirable number of duplicates or different pieces of work, all of them sewed or embroidered alike, according to any given pattern, or at any particular place, may be turned out with the utmost convenience. Simple in construction, easy of management, and applicable, at small expense, to nearly all the various kinds of sewing machines now in use, the improvement can hardly fail to find a very general introduction. The apparatus can be put on or detached in a minute's time; so that the common sewing machine may be used for embroidery, button holes, or ordinary plain work, at the pleasure of the operator. We regard this as one of the best and most valuable improvements in sewing machinery that has been made for a long time.

SAWING RATTAN—Liveras Hull, o. Charlestown, Mass.: I am aware that machines have been contrived for splitting a rattan longitudinally with one or more knives, the rattan having been supported between a series of rollers.

I am also aware that timber, attached to a rectilinear moving carriage, by dogging contrivances applied to its end, has been cut diagonally, by means of a saw.

I am aware, also, that it is not new to use an adjustable gauge bar in connection with a movable carriage and saw.

I am also aware that pressure rollers are used in planing machines for maintaining a board against a movable carriage or bed, during the operation of planing or dressing it.

The employment of such parts in a machine for sawing rattan, requires a specific arrangement of them, or one which differs essentially from their arrangement in various other kinds of mechanism, such an arrangement having been before explained.

I therefore claim the above described arrangement of the rectilinear moving carriage, B; the adjustable holding bearer, D; the groove pressure roller, and the saw, whereby, when a stick of rattan is clamped to the adjustable bearer, and the carriage, B, is moved forward so as to carry the said stick endwise against the saw while the latter is in revolution, such stick shall be sawed in a diagonal direction, in manner and for the purpose as specified.

CIRCULAR-SAW MANDREL—Fielding H. Keeney, of Newport, Ky.: I claim the mode of making a mandrel, as set forth, not confining myself to exact size or shape, as described, but to the principle of the machine, as herein set forth, or any other equivalent device, to produce the same effect.

DISTILLING COAL WITH HYDROGEN GAS—Stephen Meredith, of Meadville, Pa.: I claim the production of Naphtha, Benzole, and other Hydro-carbon liquids, by the distillation of Cannel, or other bituminous coal, in an atmosphere of heated hydrogen gas, or in a retort to which a stream of heated hydrogen gas is admitted during the distilling process, substantially as, and for the purposes set forth.

[It is well known to chemists and others who have experimented in the destructive distillation of coal, that at different degrees of temperature products of very different character are produced—gaseous, liquid, and solid. The gaseous products consist of Marsh gas, Olefiant gas, Carburetted hydrogen, and carbonic acid. The liquids consist of bodies closely analogous to Petroleum, and the solids are Coke and Mineral Pitch. The relative proportions of the above products vary with the temperature of the retort; the lower the temperature the less gas and the more liquid produced, and the higher the temperature, the larger the volume of gas.

The object of Mr. Meredith's invention is to expedite the process of distillation, and this is accomplished by the admission to the retorts, during the distilling operation, or a jet of heated hydrogen gas. In this way the liquids are distilled in an atmosphere of hydrogen, and thus preserved from igneous decomposition, while the hydrogen at the same time takes up a portion of the sulphur and ammonia, contained in the coal. The result is the production of Naptha, Benzole and Coke, all the very best quality, at small expense. This is an important and useful invention.]

CUT-OFF VALVES FOR STEAM ENGINES—Frederick Perry, of Newark, N. J.: I claim the combination of the channels, a, a, and holes, p, p, with the cut-off valves, D, D, and exhaust recess, O, as described, or their equivalents, for the purposes herein set forth, or any other purpose for which they are suitable, merely modifying the parts to suit circumstances, while the principles involved are the same.

VENTILATING HATS—William Sellers, of New York, N. Y.: I claim, first, making the hat or other similar head covering to open at its side or sides, by dividing the body of the hat, and connecting or arranging the separated portions or sections of the body, so that the one portion of the body may be adjusted to form an open or close connection with the other portion of the body, substantially as, and in the manner specified.

Second. Providing the divided body, at the junction of the two sections, with a gimp guiding strip, or reticulated telescopic lining or casing, D, arranged for operation in connection with the movable section of the body, essentially as, and for the purposes set forth, and whereby an ornamental and unbroken appearance is given to the hat all round, when the body of it is open for ventilation, as described.

[It is said that one of the principal reasons why men become bald headed so much sooner than women, is on account of the universal practice, by the former, of wearing tight hats. It is alleged that such hats are the means of keeping the head hot and the hair in a continual bath of foul moisture and bad atmosphere; whereas, the light bonnets of the fair sex, permit a free circulation of air and thus prevent all the foregoing injurious effects.

The patentee of the above improvement by a very ingenious contrivance, ventilates a gentleman's hat in the most perfect manner, and enables the wearer to regulate the temperature of its interior at pleasure. The crown of the hat is made into two parts, connected by slides, so that the upper portion can be lifted apart from the lower, and held up by the slides; a free opening is thus made for ventilation. When the wearer wishes to close his hat, he merely presses down the top of the crown with his hand.

This invention is very simple, cheap, and useful. It must greatly promote one's comfort—in warm weather especially. It is a good improvement and should come into extensive use.]

SEWING MACHINES—Isaac M. Singer, of New York, N. Y.: I claim the combination of the lifter, substantially as specified, with the vibrating feed plate and pressure pad, substantially as, and for the purpose specified.

[Mr. Singer has become a Nestor in the discovery of Sewing machine improvements. Hardly a week passes without the issue of one or more new patents for his inventions. His sewing machines have been greatly improved within the past year, until now they are in the highest degree perfect. Himself and partners have already made large fortunes from the sale of their machines, and their business is rapidly increasing. We are glad of it. No one man has done so much towards the introduction of these great labor saving machines as Isaac M. Singer. He ought to be well rewarded.]

WATER GAUGES, FOR STEAM BOILERS—Paul Stillman, of New York, N. Y.: I claim the described glass water gauges, in their construction and arrangement as specified, with the cocks having the axes of their chambers and keys in line with that of the glass tube, and the chambers having double water ways, for the purposes set forth, and the movable guard rods supported by lugs on the chambers, in the manner described.

EXCLUDING DUST FROM RAILWAY CARS—Elam C. Salisbury, of New York, N. Y.: I do not wish to limit myself to any special mode of inclosing the sides of cars, or connecting the sides at the junction of the several cars of a train, nor of inclosing the space between the platforms at the junction of the several cars, as these separately make no part of my invention, and they may be variously modified within the range of my invention.

But I claim the method, substantially as specified, of preventing the dust which is agitated and thrown upon the track by the passage of a train, from rising up and entering the doors, windows, and other apertures of cars, by inclosing the sides of the train from the bottom of the cars to within a short distance of the track, and closing up the spaces between the platforms of the several cars, substantially as, and for the purpose specified.

[This invention is in use on the Hartford and New Haven Railroad, Ct., and is said to operate very advantageously. It is the cheapeest apparatus for the purpose that we know of.]

MUSICAL REED INSTRUMENTS—George S. Shepard, of Canaan, N. H.: I claim the combination of the auxiliary sounding chamber, B, and the swell chamber, A, with the valve chamber, I, substantially in the manner and for the purpose set forth.

BUCKET FOR WATER WHEEL—C. C. Taylor, of Delafield, Wis.: I claim swelling the outer portion of the bucket into a conical surface, as described, and combining the same with the double inclined plane, e, d, substantially as, and for the purposes specified.

SOAP CUTTING MACHINES—Anton Van Haagen, of Cincinnati, Ohio: I claim the ranges, f, f', of vertical wires, at right angles to each other, in combination with the drivers, b, b', moving at right angles to each other, and the ranges of rollers, k, l, and j, for the purpose of cutting blocks of soap directly into slabs and bars at one operation, and without handling thereof, when once on the machine.

SOAP CUTTING MACHINES—Anton Van Haagen, of Cincinnati, Ohio: I claim, first, the arrangement and combination, substantially as described, of a series of wires for cutting soap; said wires being stretched by means of springs, for the easy formation of a loop at the commencement of cutting, and gradual increase of tension until the wire has entered the block.

Second. The combination, substantially as described, of grooved carriage, grooved driver, stationary and vertical range of horizontal wires, and descending horizontal range of horizontal wires, for the purpose of slabbing and barring a block of soap, without handling the latter after it is once placed upon the machine.

Third. The bed or carriage, and driver scored transversely by grooves, adapted to the loop of the wires, for the purposes explained.

OPERATING STEAM VALVES—Norman W. Wheeler, of Cincinnati, Ohio: I am aware that valves of steam engines have been actuated by steam pressure applied to pistons other than the main working pistons in the "starting gear" of the early German and English river and marine engines, and that the separate and individual parts of the engine are old and well known, and do not claim them; neither do I claim closing cut-off valves by steam pressure released from the working cylinder through a passage opening into said cylinder, near the desired point of cutting off.

I claim, first, actuating the induction and eduction valves of any double acting reciprocating steam engine, by means of steam pressure derived from the working cylinder, and released therefrom by the passage of the working piston over and beyond appropriate ports, when the pistons, or their equivalents, upon which such pressure acts, are so arranged that no movement of the valves shall result from the passage of the working piston over the first of two or more such ports in any full stroke.

I claim releasing the steam contained between pistons of unequal areas, by the passage of the larger one over its exhaust port, and stopping the supply between the same pistons, by the passage of the smaller one over its induction port, substantially as described.

DIRECT ACTING HYDRAULIC STEAM PUMPS—Henry R. Worthington, of Brooklyn, N. Y.: I claim the described mode of counteracting the resistance to the motion of the pump piston in direct action pumping engines, by which the steam valve is moved, that is to say, by making a passage into the pump chamber or cylinder, so arranged that said passage or opening shall for a time be uncovered or disclosed, at or near the end of each stroke of the piston, by which the fluid which is beyond or above the force valves passes behind the water piston and makes pressure thereupon in the direction of said piston's motion, for the purposes set forth.

WRITING DESKS—William G. Wolf, of Philadelphia, Pa.: I claim the horizontal inclined levers, E, and inclined and declined planes, J, with the upright traveler, H, working thereon, which causes a graduation, that of a desk to be formed, or else entirely concealed, at pleasure, as described, using for that purpose the aforesaid horizontally inclined levers, inclined planes, and upright traveler.

WASHING MACHINES—Samuel M. Yost, of Connersville, Indiana: I claim the arrangement of two corrugated rollers, one above, and washing into the other, without coming in contact with the lowest lines, and each being tightly covered with canvas or other strong material, the whole combined and operating in such a manner as to effectually wash any cloth submitted to it, and without breaking the buttons or other hard substances upon the linen or cloth.

SEEDING MACHINES—Lucian N. Bigelow, of Cuba, N. Y.: I claim the use of a screen for the purpose of sowing grain broadcast, so arranged with a feeding hopper and slides, as to regulate the quantity of grain to be sown, when acted upon by trip-hammers, to secure its uniform and proper distribution, in the manner set forth.

HOT AIR FURNACES—Samuel A. Briggs, of Providence, R. I.: I claim the passage, R, leading from the chamber, M, to the hot air chamber, E, in combination with the damper, S, crank, T, and rod, U, operated in manner as described, and for the purpose as specified.

OVENS—John P. Hayes, of Philadelphia, Pa.: I do not claim arranging or combining two ovens together, the one over the other, nor a movable box fitting within the same, and forming the inner lining of an oven, as these have been known and used before.

Nor do I claim causing the hot air of one oven to pass into the other, nor the application of a partition plate so as to divide the space above the movable lining box into a direct and returned flues, nor the combination of direct and dumb flues for heating the ovens, nor ventilating and producing a circulation of hot air within an oven irrespective of the peculiar construction, arrangements or combinations of the several devices, as specified.

But, first, I claim the pipes or hot air flues, P, P, extending up one or more of the heating flues of an oven, the same opening into the oven near both the top and bottom of the same, so as to form a communication between the upper and lower strata of air in the said oven, through the gas flue or flues in which they are located, and the said flues, P, P, opening also near the bottom of the same to the outside of the said oven, for the purpose of admitting fresh air into the said oven, substantially in the manner as described and set forth.

Second. I claim making the partition plate, K, so as to move or yield upward, substantially as described and set forth, when the same is used in combination with the movable box or lining, d, of an oven, for the purpose of allowing the ready admission or withdrawal of the said movable box, as occasion may require.

ARTIFICIAL LEGS—William H. Rhodes, M.D., of Berlin, N. Y.: I claim the knee joint as described in specification and drawing, and ankle joint, as set forth.

Secondly, I also claim the standard, f, f, and brace, g, with their hinge joint connection to foot plate: coiled spring, with rollers to hold the same, which retains the brace and standard in position when walking, as set forth. These principles and improvements united, forming the within apparatus, which is of great utility to the afflicted.

WASHING MACHINES—Josee Johnson, of Washington, D. C.: I claim the arrangement and combination of disk, D, pestles d, and spiral springs, J, or their equivalents, which form the pounder, as described and set forth.

ADDITIONAL IMPROVEMENTS.

FIRE ARMS.—Frederick Newbury, of Albany, N. Y.—(Patented, originally, March 20, 1855): I claim the following parts of the apparatus described, as substitutes for certain parts of the apparatus described in the Patent of the 20th March, 1855, referred to in these specifications, viz:

The construction and arrangement of the hammer and trigger, with their parts as substitutes for the sear lever and tumbler.

The ratchet action plate with its cam slot, as a substitute for the ratchet lever, and ratchet pawl. The cylinder-spring stop-lever, as fitted and applied, as a substitute for the united actions of the click lever and stop catch lever.

I claim the combination of the hammer, trigger, ratchet action and cylinder spring stop lever, to operate jointly in the process of firing.

I also claim the apparatus for detaching and re-attaching the barrel to the stock, viz.: the bent lever lying in a recess within a metal projection from the barrel, with its catch at its back end, fitted to hold into a notch in the stock, and kept in place by a spring lying within the said recess, in combination with the hinge plate, (which plate I disclaim)—this arrangement being a substitute for the thumb connecting plate. The whole of these various devices, substantially as set forth.

DESIGN.

FRANKLIN FIRE PLACE—Nathaniel P. Richardson, of Portland, Me.

Trial of Agricultural Implements at the French Exhibition.

Horace Greeley, Esq., Editor of the *N. Y. Tribune* attended a trial of Plows and Mowers on the 7th July last, at Guignen, the "Imperial" College of Agriculture, some twenty-five miles west of Paris. He says:—"A great number of Plows were taken from the Exhibition and tried here, and that of the Messrs. Howard, Bedford, England, was pronounced the most effective. I understood Mr. James Howard, one of the makers, to state that, as carefully tested by the dynamometer, on clover sod, being drawn by two smartly-walking horses, it turned a furrow ten inches wide and six and a half deep, with a medium draft of only 182 pounds, or a little more than half its own weight. There are a good many men who could draw this plow at that gait, and almost any two men could easily do it. There was no plow entered from our country, (we have none in the Palace,) but one from Canada was tried and did good work. Most of the plows entered from the continent proved beneath contempt, as was to be expected. Some of them required over *quadruple* the power to propel them that was exacted by the winner, and one from Austria, that was confidently bragged on before the trial, actually twisted around, broke off, and gave up the ghost, in light clover soil free from root or stone, and with but a single span of horses before it!

We all went out in the afternoon to a large clover-field, where quite a cluster of the farmers of the vicinage had assembled to witness the operation of Mr. McCormick's Mower—one of the very few (I regret to say) Yankee farming implements on exhibition. There was no competition at this time, but the machine worked admirably, cutting very smoothly, closely and clearly, a swath five feet wide as fast as the span of horses drawing it could walk, and evidently making very moderate demands on their muscles. The ground was quite uneven, and at one place the grass was vigorously stamped down by the spectators, in order to test the machine under the most adverse circumstances. In this way some stalks were made to escape cutting, but the machine was nowise choked nor impeded. The most satisfactory feature of the performance was the entire abstinence of Mr. McCormick's agent, after the first round, leaving the machine to be operated entirely by French laborers who never saw it before that day. There was a very general and hearty manifestation of delight from the assembled farmers, and I trust that not this only but other American machines also will be tested again, and put in competition with those of Europe, under the eye of a critical committee. If the Exhibition is to be anything better than a novel show, here is (in fact) its proper element.

A New Way to Raise Beans.

A gentleman in Seneca Falls, N. Y., last spring, planted some Lima beans. Not being provided with poles, he supplied their place by planting in each hill sunflowers, trimming them up so that they served the purpose of poles For a time all went on well, till, at length, the sunflower growing so much faster than the beans, the latter were absolutely drawn up by the roots.