



[Reported Officially for the Scientific American.]

**LIST OF PATENT CLAIMS**  
Issued from the United States Patent Office  
FOR THE WEEK ENDING SEPTEMBER 20, 1853.

**SAWING STICKS FOR BROOM HANDLES**—By T. J. Alexander, of Westerville, Ohio: I claim the method described, of handling and adjusting the log to its place, and to its various positions for the several cuts, by means of the radius rods or clamping screws, coupled and operated as specified, and suspended by a swinging frame, from above, arranged and operating together, as set forth; so that by bearing laterally on the screw lever or handle, whilst turning it, the clamping screws are swung laterally and raised or lowered simultaneously to approach the log on the table, and convey it with facility to the gauge, and to adjust the log expeditiously when under operation to its various sets, laterally and vertically, as described.

**PLANETARY HYDRAULIC STEAM ENGINE**—By Jas. Black, of Philadelphia, Pa.: I claim the Planetary Hydraulic Steam Engine, the arrangement of the vessels, pipes, and diaphragms, or their equivalents, upon a shaft, so as to revolve with or upon said shaft, as set forth.

**TURBINES (No. 1)**—By Uriah B. Boyden, of Boston, Mass.: I claim, first, the leaning and inclining of the leading curves or guides to the plane of the wheel, as described.

Secondly, the making of the inside of the garniture, or the part of the gate next the disc, or both, of such a curvature or form, that the water at the upper part of the stream or streams, where it leaves the garniture or gate, will have a downward motion, or a direction inclining to the plane of the water-wheel, ascending or inclining to the plane of the wheel from the commencement of the passages next the gate to about half way from the inner to the outer edge of the upper rim of the wheel, where they are nearly or quite horizontal, or nearly or quite parallel with the plane of the wheel; the inclination of that part of the lower surface of the upper rim of the wheel, which is next the gate being the same or nearly the same as that of the lower surface of the gate next said upper rim, and the change from inclining to horizontal being gradual, as by a curve, or making the upper surface of the disc, next the lower rim of the wheel, to incline up towards this rim, and making the lower sides of the part of the disc, through the wheel, which are next the disc, ascending or inclining to the plane of the wheel, so that the stream or streams will gradually diminish in height, at the entrance or entrances into the wheel, so that the water which passes in the upper parts of the stream or streams, will converge toward that which passes in the lower parts of the stream or streams, before striking the floats, and continuing this converging into the wheel to about one half the distance from the inner to the outer edges of the rims of the wheels.

Thirdly, forming of the lower part of the tube which sustains the disc, and the forming of the top of the disc, on that part of it next the tube, and fastening these parts together, as described.

I have, in sundry parts of this description and claim, for brevity, written of the turbine as having its common position, in which case the water descends, to pass between the leading curves without alluding to its ever having any other position, but I do not limit either division of my claim to the case, when it has the common position, but I extend my claim to the cases in which the wheel is vertical or inclined to the horizon, and to the case, when the water ascends to pass between the leading curves, nor do I limit either division of my claim exactly to the forms above described, but I extend my claim to all forms which are essentially the same.

**TURBINES (No. 2)**—By Uriah A. Boyden, of Boston, Mass.: I claim, firstly, the arrangement of a gate at the entrance of the water into the turbine, with a part or all of the garniture or lining and other parts of the turbine within, over, and about the gate, such that the gate and a part of the garniture, if any, be attached to it, may move freely, while the part of the garniture not attached to the gate, and other parts over and about the gate remain stationary, as so closely that little or none of the water in the flume can rise to the upper part of the gate, excepting by passing under the stationary garniture, and afterward upward, so as to diminish the liability of sediment, dirt, or other substances, being carried by the water to the upper part of the gate, or movable part of the garniture, if any, be attached to the gate, so as to obstruct the motion of the movable part of the garniture, essentially as above described.

Secondly, the leaning or inclining of the floats or buckets of turbines to the rims of the wheels, so that when the wheel of a turbine is working, with the gate next the wheel partially open, the parts of the floats opposite the aperture formed by such partial opening of the gate, will be forward of those parts next the other rim of the wheel, so that the leaning of the floats will diminish the spreading or deflecting of the streams into the part of the wheel opposite to the gate, essentially as above described, though I do not limit my claim to any degree of but extend it to any inclination in which will substantially answer the same purpose, as this effect of inclining the floats, depends upon the streams only partially filling the wheel. I do not extend my claim to inclining the floats to any such turbine or hydraulic motor as has no gate at or near the water wheel, or other means of varying the width, thickness, or number of streams which enter the wheel.

Thirdly, the arrangement of the diaphragms or partitions in re-acting wheels, and in the wheels of turbines at different distances from the rims of the wheels, in the spaces between the floats, to facilitate the regulating the motions of the wheels essentially as above described, though I do not limit my claim to any particular arrangement as to the distance of these diaphragms from the rims of the wheels, but extend it to all arrangements which operate substantially as above described. But as the effect of these diaphragms depends on the streams only partially filling the wheels, I do not extend my claim to the arrangement of the diaphragms to such motors as have no gate next or near the water wheels or other means of varying the width, thickness, or number of streams which enter the wheel.

Fourthly, the combination of the device of making the gate at the entrance of the water into the wheel, to move separately from the garniture with leaning the guides or leading curves, which direct the water into the wheel, so that when the gate is partially open, the part of the water which passes by or near the surface of the gate, in flowing toward this passage into the wheel, made by such partial opening of the gate, has its motion directed the way the wheel turns, in consequence of the leaning of the said guides. I do not confine my claim exactly to any degree of leaning, but extend it to all degrees of leaning, which will essentially answer the same purpose. I do not limit either of these four branches of my claim to such turbines or hydraulic motors as discharge the water at their peripheries, but I extend them to such as have the water enter their wheels at their peripheries.

**HYDRAULIC MOTORS**—By Uriah A. Boyden, of Boston, Mass.: I claim, first, the arrangement of the gates around and next outside of the peripheries of the water wheels, between the wheels and the guides, or other things which cause the water to move obliquely toward the wheels, in the way the wheels turn, when the water first strikes the floats or buckets, as described.

Secondly, the device to cause the height of the wheel or the position of the parts which partially confine the water which presses the wheel upward to vary, as the height of the water or fall varies, so that the width of the aperture, which lets the water escape from the place where it presses the wheel upward, varies proportionally to the quantities of water pressed into it, so that the force with which the water presses the wheel upward will be nearly or quite constant, though the height of the fall varies greatly.

Thirdly, the combination of a gate around and near the periphery of a water wheel, between the wheel and the guides or other things which direct the water the way the wheel turns into the wheel, with the parts of the floats near the gate, curved so that the water will strike

their concave sides, as described, though I do not limit my claim exactly to any curvature of the floats, but extend it to all curvatures which will essentially answer the same purposes; nor do I limit my claim to an annular gate between the wheel and the things which cause the water to move the way the wheel turns, before it enters the wheel, but I extend it to all things which will substantially answer the purpose of a gate, in varying the height, thickness, width, or number of streams that enter the wheel.

Fourthly, the shape of the spaces between the rim of the water wheels, which the floats are fastened to, in which they flare toward the axis of the wheel, as above described; though I do not limit my claim to exactly the flaring described, but extend it to all flaring, which will essentially answer the same purpose.

The first, third, and fourth branches of my claim apply only to such hydraulic motors as have guides or other things which cause the water to move obliquely toward the wheels, in the way in which the wheels turn, and pass into the wheels at their circumferential parts, and after acting on the floats, discharge from the floats inward; I do not extend these divisions of my claim to the class of tub wheels and under-shot wheels, in which the water generally flows into the wheels in streams, with spaces between the streams, at which spaces the water does not flow into the wheels.

Though I have described these water wheels as being horizontal, and the gates as being opened by raising, it is obvious that all these four branches of my claim are quite applicable to wheels in other positions, and to cases in which the gate is opened by lowering, and I do not limit either branch of my claim to cases in which the wheels are horizontal, or to cases in which the gates are opened by raising.

**RAZOR STROPS**—By Alfred F. Chatman, New York city: I claim the metallic renovator in combination with the spring barrel, or its equivalent to operate on the strop, as specified.

I also claim the convex end and rest to elevate the center of the strop, as described and shown.

**RAILROAD CAR SEATS**—By Isaac Fay, of Cambridge, Mass.: I claim the combination of the groove, and one or more dogs as applied thereto, and a made to operate for the support of the back, and to enable it to be elevated or its supporting pin raised out of the groove a, as described.

And in connection with the inclined notches and long slot of each bar, I claim the sliding bolt or slide as applied thereto, and used substantially in manner, and for the purpose as specified.

And I claim the convex and concave toothed racks in combination with the seat and the chair frame, the same being for the purpose of enabling the seat to be set with such inclination either forward or backward, as may be conducive to the ease and comfort of the setter, whether he be in an upright or recumbent position.

**TOILET FURNITURE**—By David Freed, of Huntington, Pa.: I claim the attaching or combining with a wash-stand, or any other toilet or chamber furniture, the brackets and bolts when said toilet is thrust against the brackets by means of a crank or knob at or near the top of the stand, through the levers or their equivalents, in the manner and for the purposes set forth.

**PLOVS**—By Samuel Hulbert, of Ogdensburg, N. Y. Patented in Canada, Sept. 20, 1852: I claim constructing a mould board of a plow so that a horizontal line drawn at any height across its working side shall describe the convex arc of a given circle, and any line drawn across its working side at right angles to the base, shall also describe the convex arc of a circle, substantially as set forth.

**SEED PLANTERS**—By Samuel Jenkins, of Portsmouth, Pa.: I claim the peculiar shape and construction of the adjustable cutter, its passing through the drag bar and fitting in a socket in the point of the shovel, all in combination as described, for the purpose of allowing the tooth to pass easily over any obstructions, and especially to regulate the depth of furrow.

**HEMP BREAKER**—By Oliver S. Leavitt, of Marcellus, N. Y.: I do not claim as my invention the beating of flax or hemp straw into grooves for the purpose of divesting it of the shives or the woody portion thereof, or the use of rollers for moving the material to be broken, as that has been done before.

But I claim the combination of a reciprocating beater with parallel blades, set at decreasing distances from each other, with a fixed bar fluted or serrated, to correspond with the blades and spaces of the beater.

**DRAWING FRAMES FOR HEMP AND FLAX**—By Oliver S. Leavitt, of Marcellus, N. Y.: I make no pretension to the use of gill bars attached to chains or wheels, in drawing flax, hemp, and other fibrous substances, as this has been often done before.

But I claim first, the particular form of gill bar described in combination with the rocking lever, the dog and cam, or the thumb or finger, or the drawing the gill pins from the material, and directing the bars backward movement set forth.

Second, the device by which the rods are pressed down for the purpose of making the gill pins penetrate effectually the material to be drawn, being operated by the lever in the manner set forth.

**METAL DRILLS**—By Warren Lyon, of New York city: I do not claim the weight attached to the arbor irrespective of the levers and counterpoise, nor do I claim any of the within named parts separately.

But I claim the combination of the weight, levers, and counterpoise constructed and operating in the manner, and for the purpose as substantially shown and described.

**FLUID CASES**—By James R. Nichols, of Haverhill, Mass.: I do not claim as my invention, the helical spring and cork valve, as applied to other purposes than that of a decanting vessel or lamp feeder, but I claim the improvement upon the decanting vessel in the application to the same of a spring valve or valves, easily and conveniently opened by the thumb or finger, while replenishing lamps, or decanting therefrom, whether said spring and valves be made and arranged in the manner as described, or other mode substantially the same, by which similar results shall be produced.

**SEED PLANTERS**—By Henry Perrin & Wm. Ruduck, of Wilmington, Ohio: We claim the method of supplying the distributing tube with grain or seed from the hopper by means of the reciprocating vibratory valve in the hopper, in combination with the cap and the discharging plate and receiving chamber, as described.

**GRAIN AND GRASS HARVESTER**—By Philo Sylla & Augustus Adams, of Elgin, Ill.: We claim first the weighted levers or their equivalents substantially as describe which carry the sickle bar and sickle, and allow them to vibrate perpendicular to the ground, at a constant rate to uneven ground, in cutting grass, which levers may be made permanent when cutting grain, as described.

Second, the linked or hinged brace, or its equivalent in combination with the levers, which brace prevents the sickle bar from being traversed longitudinally by the action of the sickle, but allows it to vibrate perpendicularly, and accommodate itself to uneven ground, as described.

Third, the stands of the binders constructed so as to allow them to stand so much lower than the horizontal platform that they can bind the gavels into sheaves with greater facility, far less labor, and much faster than by any of the modes heretofore practiced.

**BLOW PIPES FOR ENLARGING BLASTING CAVITIES**—By Ancil Stickney, of Norwich, Vt. Ante dated May 10, 1853: I do not claim the enlarging a drill hole by the use of heat or a blast of air thrown upon charcoal or other fuel in a state of combustion.

But I claim the process of enlarging the drill hole by means of an air blast and charcoal or other combustible fuel placed in the hole—the same consisting in the employment of a blast tube made with lateral perforations, and a closed or nearly closed bottom, as described—the same enabling me to attain the enlargement of a hole with a great saving of labor and time, as set forth.

**COMPOUND BLOW PIPE FOR ENLARGING BLASTING CAVITIES**—By Ancil Stickney, of Norwich, Vt. Ante dated June 11, 1853: I lay no claim to the use of a blast of air or gas in connection with coal or fuel, for the purpose of supplying such with oxygen; but I claim an instrument for enlarging the drill hole by the employment of gases as specified, meaning to claim the combination of the two jet chambers, the perforations or orifices and supply tubes, for communicating the gases and disseminating flame therefrom, entirely around and against the side of the drill hole, whereby the enlargement of it into a suitable charge chamber may be speedily effected.

**STEAM GENERATORS**—By Abel Shawk, of Cincinnati, O.: I claim a tubular generator which has a forced circulation, and which while it lines the fire box, and is expan-

ded in its diameter from above the fire box, to its termination, is connected to a steam chamber or receiver outside of or exterior to it, arranged in the manner described.

**SAW FOR WATER WHEELS**—By O. Willis, of McDowell, Co. N. C.: I claim an adjustable apparatus for sawing out the grooves or fillets in water wheels for the reception of the buckets composed of a two edged saw sprung between clamps, and connected by a screw rod to a sliding bar; when said sliding bar is made adjustable upon a radius arm hung to the center of the wheel, the whole being combined and operating as described.

**COTTON STALK CUTTERS, OR PULVERIZERS**—By George Gorman, of Lamar, Mass.: I claim the construction and arrangement of a machine consisting of rotary whippers or reels on bars supported in a frame admitting of elevation and depression; said whippers being driven by hand wheels on one or both supporting wheels of said machine, in the manner set forth for the purpose of effectually reducing the stalks of cotton and thus rendering them useful as a manure and in a condition to offer no obstruction to the plow in the after-cultivation of the land.

**Preservation of the Eyes.**

**MESSRS. EDITORS**—An article in No. 51, Vol. 8, "Scientific American," having the above title, interested me much, as it is a subject that has occupied some of my attention. In my researches on this subject I have come to a different conclusion, in some respects, from that which is left on the mind by reading your article. While I can subscribe to most that is there said, I have had some confidence in properly rubbing the closed eye balls. If rubbed gently, or rather pressed from the temples towards the nose, in such a manner as shall have a tendency to keep up their roundness, by pressing the eye-balls (not on their surface, which will only serve to flatten them, and thereby injure the sight) against the nose as much as possible, but not so as to injure them by hard pressure, the sight may be preserved in this way to old age. It is said that this is the way that J. Q. Adams preserved his sight until he died, having no need of glasses. Also my grandfather, who died at the age of 93, could read all day in his Bible without glasses, having never used them. He said that at fifty years of age his eyes began to fail him, so that he felt the need of glasses; but hearing of the above remedy, applied it, and soon found his eye-sight improving, so that at sixty he could see as well as he ever could, and never lost his sight again while he lived. By severely taxing the eyes by reading or writing a great deal by candle or lamp light, the tendency is to flatten the eye-ball and weaken its power to adjust itself to distances. Anything that has a tendency to flatten the eye-ball throws the focal distance further off. Rubbing the eye-balls, as is usually the case with most people, and especially those of weak or inflamed eyes is exceedingly injurious. If they rub them at all let care be taken not to rub them on the pupils, but press them gently towards the nose, so as not to flatten them, but to preserve their roundness. The reason why so many young people lose their eye-sight, I think, may be attributable to two causes, namely, over-taxing them, which makes them painful, and then rubbing them. If these two evils are guarded against, I think there would not be such demand for glasses.

I would recommend those who are naturally short-sighted, to take Ball's eye-cups, and draw a piece of thin india rubber over one end, instead of the balls; then tie it over the eye so as to press gently upon the eye-ball, and wear it 5 or 10 minutes before going to bed; this will flatten the eye-ball, and thus lengthen the focal distance.

T. S. I.  
Elyria, O., Sept. 1853.

**Singular Plan for a New Line of Steamships.**  
**MESSRS. EDITORS**—Being a subscriber to your valuable paper, and admiring the manner of your dealing with new suggestions in science, arguing dispassionately, and giving reasons for or against, without foolish sneers or personalities, I take the liberty of sending you the following for thy opinion. Seeing the gigantic efforts of late for rapid and safe communication between the nations of the earth, I am induced to make the inquiry—"Would it be possible to construct a 'train' of steamers, say of 25,000 feet, or more, by connecting a number of vessels by joints, so as to make it one great flexible vertebral column;"—of course there could be no stem or stern, as at present, to each vessel, only batted to each other and secured by a large band of India rubber, say ten or twelve inches thick, by three or four feet wide, all round inside, with a close ladder of strong slack chains all round outside, with as many pairs of steam paddles along the 'train' as would be thought necessary. The question arises, could it be made sufficiently flexible to adapt itself to the

ridge and hollow of large waves in rough weather, and also be under command for alteration of course, &c. I take it there would be room enough on the line without danger of running off. I need not enter into the many details that would suggest their adoption, except merely to say the india rubber bands might be secured by broad washer-plates, with some substance between, say leather or gutta percha to preserve the india rubber. W. C. Clonmell, Ireland, Sept. 8, 1853.

[Provided the plan proposed by our correspondent were carried out—a band bridge of ocean steamships—we do not see what benefits could be obtained—what evils such a line would remove, or what new objects it would accomplish. Such a line of steamship, however, would be entirely impracticable.

**Labor and Money Power.**

The eloquent Rev. Mr. Chapin, thus speaks of the achievements of labor. He asks "who can adequately describe the triumphs of labor, urged on by the potent spell of money. It has extorted the secrets of the universe, and trained its powers into myriads of forms of use and beauty. From the bosom of the old creation, it has developed anew the creation of industry and art. It has been its task and its glory to overcome obstacles. Mountains have been levelled and valleys been exalted before it. It has broken the rocky soil into fertile glades; it has crowned the hill-tops with fruit and verdure, and bound around the very feet of ocean, ridges of golden corn. Up from the sunless and hoary deeps, up from the shapeless quarry, it drags its spotless marbles, and rears its palaces of pomp. It tears the stubborn metals from the bowels of the globe, and makes them ductile to its will. It marches steadily on over the swelling flood, and through the mountain clefts. It fans its way through the winds of ocean, tramples them in its course, surges and mingles them with flakes of fire. Civilization follows in its paths. It achieves grander victories, it waves more durable trophies, it holds wider sway than the conqueror. His name becomes tainted and his monuments crumble; but labor converts his red battle-fields into gardens, and erects monuments significant of better things. It rides in a chariot driven by the wind. It writes with the lightning. It sits crowned as a queen in a thousand cities, and sends up its roar of triumph from a million wheels. It glistens in the fabric of the loom, it rings and sparkles from the steely hammer, it glories in shapes of beauty, it speaks in words of power, it makes the sinewy arm strong with liberty, the poor man's heart rich with content, crowns the swarthy and sweaty brow with honor, and dignity, and peace.

**An Important Fact in Connection with the Yellow Fever.**

The New Orleans "Delta" states that Capt. Baxter, of the steamer "Cherokee," left that city on the 12th of last month, when the epidemic was at its height, with one hundred and sixty-nine passengers, the majority of whom were unacclimated, and liable to the yellow fever. When the Cherokee emerged into the Gulf, the sea was rough, and the passengers suffered a great deal from sea-sickness. Every one of them were compelled to vomit, and the Captain says he never had a more unanimously sick set. Soon, however, it was all over, and health and hilarity reigned on board, when the yellow fever made its appearance among the crew, none of whom had suffered from sea-sickness. During the voyage, there were ten of the crew down with the fever, and on the arrival of the Cherokee in New York, there being two still sick, they were ordered into the hospital, where one of them died. The other recovered. Not one of the passengers had the fever. They were all permitted to land in New York after eighteen hours, and the sick members of the crew were alone compelled to go into the hospital detention. Here is an interesting fact for the doctors. A general vomiting saved over one hundred persons from a disease which attacks nine out of ten of the unacclimated. Is not, too, the universality of the sickness a fact of some significance from which the physicians may extract some light on the subject of the character of the disease?