



[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office
FOR THE WEEK ENDING NOVEMBER 29, 1853.

FLUID LAMPS—By Samuel Allen, of New York City: I claim the horizontal flame tube, for burning camphene and like fluid, having a long slit cut in its top, in combination with the wick, when incased in wire gauze, the incasing of the wick in gauze causing the fluid to be discharged and burned in a sheet the full length of the slit, as described.

[See notice of this invention on page 268, Vol. 8, Scientific American.]

CONDENSING SMOKE AND GASES—By J. Bloom, of East Woburn, Mass.: I do not claim the use of revolving fans or blowers, for the purpose of forcing air or smoke down through water, for the purpose of purifying the same, as this has been tried before and found incapable of producing the desired result, there being powerless for the production of pressure to any practicable or useful extent and will not answer for the purpose. But I claim passing the smoke of furnaces or other fires through water, by means of air pumps, in the manner set forth.

GOLD SEPARATOR—By M. C. Gritzer, of Washington, D. C.: I claim the arrangement of the screens (two or more), one having oblong and the other square meshes, the square meshes being of the same size of the short diameters of the oblong meshes, for the purpose of separating and retaining the leaf or flake gold, and permitting the balance of the material to be subjected to the blast in uniform or nearly uniform sizes, so as to be differently operated upon by their different specific gravities, as described.

I also claim the interposition of the guide rollers, or their equivalents, between the shaking hopper and the blast, for the purpose of guiding or bringing the material in a proper manner to the blast, as described.

IRON FENCE—By B. F. Miller, of New York City: I claim constructing the top and bottom rails in lateral halves, and holding said halves together by screws, rivets, or bolts, in combination with bosses or pivots cast on the inside of the respective halves of the rail with corresponding countersinks or perforations near the ends of the filling bars, as shown.

TRIP HAMMER—By John W. Peer, of Schenectady, N. Y.: I claim the arrangement of the screw cam, and the adjustable table to which it is attached for the purposes described.

[See notice of this improved hammer on page 76, this volume.]

ATTACHING HANDLES TO THE BLADES OF TABLE KNIVES—By D. N. Ropes, of Meriden, Ct.: I do not claim the exclusive right of soldering or brazing metallic handles on the blades of knives and forks, nor of uniting handles made of other materials in the ordinary way to the bolsters of table knife and other blades by mechanical means.

But I claim the use of the metallic cap interposed between the handle and the blade of the knife or fork, and secured to each, as described.

ARRANGEMENT OF VALVES, PORTS, AND PASSAGES FOR OPERATING STEAM HAMMERS—By R. R. Taylor, of Reading, Pa.: I claim the arrangement, as described, of the steam ports and passages, the variable automatic valve for directing the steam alternately above and below the piston, and for admitting a variable quantity of steam beneath the piston and the adjustable hand valve, to exclude altogether the steam from above the piston, or to admit a greater or less quantity of it, both valves being adjustable, while the hammer is in operation, so that the steam can be made to act with a variable force, on either the up and down strokes of the piston, or of both, or prevented from acting on the down stroke, without interrupting the action of the hammer, as set forth.

VIBRATORY SPRING OF BALANCE CLOCKS—By S. B. Terry, of Plymouth, Ct.: I claim making the crutch spring perform the office of the common hair spring in producing the vibrations of the balance, as set forth.

SHED PLANTERS—By R. C. Wrenn, of Mount Gilead, Ohio: I claim the combination of the slides, cams, and elbow levers or shifters, arranged and operating as set forth.

[See notice of this invention on page 276, Vol. 8, Sci. Am.]

COUPLING SHAFTS TO AXLES—By E. B. Benedict, of Clinton, N. Y.: I claim the combination of the clip, tumbler, and draught iron, as described, for the purpose of a secure and expeditious attachment of the shafts or pole to carriages and other vehicles.

COMBINED INDIA RUBBER AND STEEL SPRINGS—By E. T. Bussell, of Shelbyville, Ind.: I do not claim surrounding a column of vulcanized india rubber with a helical spring, as that is the subject of a patent granted to F. M. Kay.

But I claim the fluting a column of vulcanized india rubber longitudinally, and then so surrounding it with the helical spring, mine being an improvement upon Kay's spring.

STONE SAWS—By Samuel Chapman, Jr., of New York City: I claim the application, adaptation, and arrangement, as described, or in similar manner, a series of circular saws, whereby I obtain from this combination of parts and motions the desired mode and effect of sawing or severing stone.

MACHINES FOR WASHING ORES—By Richard Edwards, of Eagle River, Mich.: I claim the rotating hopper and the suspended oscillating basin, arranged and operated as described.

[See notice of this invention on page 52, this Vol.]

TIGHTENING PACKING OF ENGINE AND PUMP PISTONS—By John Crabtree & Joseph Hopkinson, of Philadelphia, Pa.: we claim tightening the packing of the piston by the rod passed down through the hollow piston rod and attached to the follower, the nuts, key, and hollow piston rod, combined and operating as described.

SINGLE MACHINE—By Israel Graves & C. A. Bogert, of West Dresden, N. Y.: We claim a machine for sawing shingles, and which may be adapted to sawing other irregular shapes, constructed with a gang of stationary and movable saws, arranged vertically in a saw gate, which moves up and down, the movable saws of said gang being caused to have a gradually lateral movement from and toward the stationary saws, while cutting by means of grooved cams, which operate upon the pintle of the sliding bars, carrying the movable saws, and thereby communicating said lateral movement to the said saws, at the same time having a movement slightly out of a parallel line with the direction of feed communicated to them by other cams, which operate upon the pintle of the sliding bars, the said movements causing the stuff to be cut tapering, or of any required form, as described.

[This is an ingenious and we think useful improvement in shingle machines.]

SUPPORTING FALLING TABLE LEAVES—By Chas. Phelps, of Salem, Mass.: I do not claim the application of a hinged brace for supporting the leaf of a table, nor making it slide in a staple or guiding aperture, nor the use of a spring for throwing it into its catch, merely as such. I claim the application of the falling leaf of a table of a hinged supporting brace, in the form of a bent lever combined with a spring on the under side, for throwing it upward into its catch, whereby the table-leaf can be

conveniently released to let down by a pull at the short arm of the bent lever, as described.

HYDRAULIC CEMENT PIPES—By J. B. Poague & Wm. F. Poague, of Fancy Hill, Va.: I claim, first, in combination with the moulds permanently lined with cloth or other porous flexible material, the air spaces immediately placed between the fastenings of the cloth, so that it may give to the pipe or mould as it is stripped from the pipe, as described.

We also claim the manner of withdrawing or stripping the cloth from the inside of the freshly formed pipe, by attaching it to the end of the mandrel, the cloth will turn inside out, and strip from the pipe, as described.

MACHINES FOR POLISHING LEATHER—By Frederick Seibert, of Williamsburgh, N. Y.: I claim a circular or curvilinear glass rubber combined with giving it a tilting motion for the purpose of enabling it, after passing off the edge of the leather at the end of the stroke, to roll back and mount upon the leather without scraping it up, as described.

MACHINES FOR SCOVING BOOT COUNTERS—By S. J. & C. H. Trofatter, of Salem, Mass.: We are aware that there is nothing new in combining pressure rollers with guides and plane irons or cutters, for the purpose of reducing strips of board or other material. We do not claim such.

But we claim the peculiar arrangement of the axes of the pressure and draught rollers in convergent lines, in combination with the curved guides as applied to the knives, the whole being made to advance a curved piece of leather between the guides with an equality of pressure against the guides, or without such undue pressure against either as would cause one edge of the leather to be bent up and injured or imperfectly cut by the knives while passing through the machine.

COMBING FIBROUS MATERIALS—By J. Heilmann, administrator of the estate of Joshua Heilmann, deceased, of France. Patented in France Dec. 17, 1849: I claim, first, the segment drum, constructed as described.

Second, I claim the jaws for gripping and presenting the wool properly to the combs to be combed, and in connection therewith the bars and comb for delivering the wool.

Third, I claim the rollers, or their equivalent, for seizing and retaining the wool, as it is combed, and forming it into a continuous sliver, as described.

POWER LOOMS—By Wm. Baird (assignor to J. J. Hepworth), of Philadelphia, Pa.: I claim the arrangement of the plate with its spring, link, staple, and pin, so that when a picker strap breaks, the picker staff will relieve the plate and thus immediately arrest the forward motion of the lay, as described.

SCREW JACKS FOR RAISING BUILDINGS—By Frederick Nicholson, of Warsaw, N. Y. (assignor to N. A. Hume, of Rushford, N. Y.): I claim the peculiar combination and employment of the hook, the lifting frame, the screw, the divided nuts, and the supporting frame, their combination being such that by the alternate employment of a pair of divided nuts, held stationary in transverse notches of the supporting frame, the screw may be continued up to any desired height, carrying with it the lifting frame, in which it is confined, and which slides in the longitudinal grooves of the supporting frame, and carries along with itself the hook, as described.

DESIGN.

COOKING STOVES—By S. F. Moore, of Batavia, N. Y.

NOTE—Six of the patents in the above list were secured through the "Scientific American Patent Agency." We have constantly in our employ a large and efficient examining force, which enables us to dispatch a large amount of business, and inventors who wish to employ us to prepare their applications for patents, can rely on receiving prompt and efficient attention. A circular of information is distributed gratuitously to those who may wish instructions how to proceed with an application.—It affords important information to those who prepare their own specifications and drawings. Address Munn & Co.

[For the Scientific American.]

Foreman's Process for Raising Ships.

The remarks in your issue of the 26th Nov., on the subject of my experiment in raising a sunken vessel at the Atlantic Dock, Brooklyn, call for explanation on my part, for which I trust you will find room in your estimable paper.

The term "Electric" is used in connection with this process to convey concisely an idea of its rapidity, and nothing more; at the same time this rapidity is a very important feature in my plan, and in practice an item of much value.

The generating apparatus employed on that occasion is capable of lifting, without recharging, 100 tons dead weight, from a depth of 33 feet of water, in from 10 to 15 minutes, and as you may infer, can lift by re-charging 6 times that weight, or more, in 2 or 3 hours time.

In practice, generators will be employed having a lifting capacity of about 1,000 tons for that depth of water, and the consumption of time will be about 20 to 30 minutes, and the vessels will be by no means bulky.

In that experiment the hose used was collapsible, but able to withstand an inside pressure of 60 lbs. per inch, it did not burst, but was pressed or pushed off an iron union, 3 inches long (connecting two lengths of hose) to which it was lashed with twine, and was disengaged therefrom by the jamming of the gas caused by "kinking" of the hose, produced by its collapsibility.

It would have been preferred by me to have had the full amount of ballast on board the vessel, that the lifting capacity of the casks would warrant, but that plan was precluded by opposition over which I had no control.

I have only to add that inventors are not always able to secure what they deem necessary to develop publicly an idea or a principle in thorough working order; that this experiment was made with apparatus, two-thirds of which were merely employed in place of something better, but costly, and that the apparatus now constructing for "The New York Submarine Wrecking Co." will, so far as my judgment

can ensure, be of such substantial character, that in less than 60 days, the public shall have ample and practical proof that the principle is tolerably well developed, and the Company be positive of the fact by the most telling evidence—a liberal credit margin in its ledger.

YELLARD FOREMAN.

New York, Nov. 30, 1853.

[For the Scientific American.]

The Cincinnati Steam Fire-Engine.

Having recently had the pleasure of witnessing the Steam Fire-Engine, at Cincinnati, I send the following notice in regard to it. I would observe, that the trial or exhibition of its powers were quite unexpected, on the part of those who operated it; in fact we (for there were six or eight of us) were obliged to await the return of the horses, from drawing fuel for the engine, before it could be taken out.

The notes of time were as follows:—At 11h. 45m. A. M., the fire was lighted under the boiler, and horses harnessed; at 11h. 48., horses started out with engine, and ran with it about three squares, to a public cistern; at 11h. 51½m., small engine for pumping boiler started; at 11h. 57m., the fire-engine started under steam; at 11h. 58½m., commenced playing one stream 1½ inch nozzle; at 12 M., commenced playing two streams 1½ inch; these streams were played through 100 feet of hose, and from 80 to 100 feet in height. After playing a short time through these nozzles, they were taken off and one nozzle of 1½ inch diameter was substituted, and played through the same length of hose to a height of about 90 feet. It will thus be seen that in 15 minutes from the time of lighting the fire and starting out of the engine house, it was playing two streams 1½ inch diameter.

I consider that the rapidity with which this engine is brought into operation is its great recommendation; this is accomplished by the peculiar boiler used, viz., a coil of pipe to which the heat is applied, and into which water is slowly injected as soon as the fire is lighted; after steam is raised, this supply is furnished by a small pumping engine driven by steam.

It is intended to so regulate the quantity of water that it shall only be supplied as fast as evaporated, there being in reality no reservoir of water within the boiler, and this is one reason for the boiler being very light. The machine has two steam cylinders 10 inches in diameter, and two feet stroke; driving two fire pumps 6 inches in diameter by two feet stroke.

The whole weight of the machine, in running order, I was informed, is five tons; but I understand that the Messrs. Latta, the inventors of it, are now building another of the same size, the weight of which, they expect, will be but little over four tons.

I should mention that the machine is run on three wheels—the forward end being supported by a single wheel only, secured on a pivot, thus they are enabled not only to turn very short corners in running through the streets, but when standing, to rest firm on its "three legs."

The machine, as a whole, shows much ingenuity in its general arrangement and adaptation for its special purpose.

While I thus pay what I deem no less than a just compliment to the ingenious inventors and builders, I would not, as a candid observer, omit to mention what I deem to be its faults:—

First, its great weight; but as I am informed this will be very much reduced in new engines, I may say of it, "it was, but is not."

Second, I noticed that the pressure of steam was very irregular, and as a consequence the operation of the engine partook of the same irregularity; this should be remedied in such a manner as to have perfect control of the pressure of steam, which perhaps might be done by simply increasing the size of the steam chamber.

Third; the last defect I would mention is, that there being but two cylinders, and these of course connected at an angle of 90 degrees, and there being no fly wheel or regulator of the power applied, the pistons moved by starts and jerks. It occurred to me while watching their operation, that the addition of another cylinder, so that there should be three cylinders, with the cranks at an angle of 120°, the motion would be rendered nearly uniform, though

there might be no fly wheel. At no time, however, during these experiments, was the engine put up to its full power. I was informed that it had, upon a previous occasion, thrown water through 100 feet of hose, and two 1½ inch nozzles to a height of 120 feet, and also through the 1½ inch nozzle to the same height, and horizontally 230 feet. It requires steam of 100 lbs. pressure to the square inch, at least, to produce these results. OBSERVER.

New York, Nov. 26, 1853.

Good Gum Paste.

MESSRS. EDITORS—In the several communications which have recently appeared in your journal, with reference to a method of preparing a paste of gum arabic that will not deteriorate by keeping, there seems to have been no formula given by which a really permanent paste can be made. I offer the following recipe:—Take of gum arabic 3 oz., sugar (white) 1 oz., water (cold) 4½ oz.; acetic acid, ¼ oz. The gum should be first dissolved in the water, then add the sugar, and lastly the acid. This affords a beautiful, almost colorless, and permanent paste, possessing the adhesive qualities of the gum, and will answer almost all purposes for which a paste is required. A. TATEM.

Philadelphia, Pa., 1853.

Splendid Carriage for the Secretary of State

We visited the store of Lyman J. Lloyd, on Saturday last, to see the set of harness which he made to order for the Hon. Wm. L. Marcy, Secretary of State. The polished trappings were produced and laid before us. The harness are manufactured from the best piece of leather we have ever seen—the dazzling surface of which reflects your picture as distinctly almost as a mirror. The mountings are of silver plating, and the crests are selected with superb and faultless taste. If anything that is worn by the caparisoned steeds of Washington Avenue can excel this harness, we are greatly mistaken. The harness is worth two hundred dollars. After leaving Mr. Lloyd we visited Gould's Coach Factory, and were shown the carriage of the premier. It is certainly a dashing affair. The panels are highly polished; the lamps elegant; the turning gear light, symmetrical, fantastic, and firm; the wheels striped with a delicate white line; after the latest European fashion; and the trimmings luxuriously comfortable.—There are many improvements connected with it—for instance, a speaking trumpet leading to the coachman's box, a card drop in the door, and the body is so constructed as to admit of the panel being removed in the summer season, when it can be converted into a delightful open vehicle.

[The above is from the "Albany Knickerbocker;" we suppose the carriage is a present by some of the citizens of Albany. We notice it particularly for the speaking trumpet mentioned; it is a decided improvement.]

Supper in a Gasometer.

A unique entertainment was recently given in Paisley, Scotland, by Messrs. Hanna, Donald & Wilson, who, having just finished the erection of an enormous gasometer at the Paisley gas works, resolved to celebrate the occasion. Accordingly, in accordance with their invitation, 180 of the leading gentlemen of the neighborhood assembled to sup in this singular supper room. Entrance was obtained through a hole in the side of the holder, and thence by a flight of steps to the bottom—a distance of 20 or 30 feet. The inside was neatly decorated with flags and evergreens, and brilliantly lighted with gas, presenting somewhat the appearance of a circus.

The above is paralleled by an entertainment which was given in Connecticut about a year since, by the proprietors of a soap factory. An excellent dinner was served up in a mammoth soap boiler, to some fifteen or twenty admiring guests.

Instantaneous Black Ink.

Dissolve one ounce of extract of logwood in 72 ounces of warm rain water, then filter and add, while warm, a solution of 80 grains of neutral chromate of potash in a very little warm water; shake it well and the ink is made. This recipe will enable any person to make his own ink.