



[Reported officially for the Scientific American.]

**LIST OF PATENT CLAIMS**  
Issued from the United States Patent Office  
FOR THE WEEK ENDING AUGUST 18, 1857.

**TUBULAR SHAFTHING**—Zachariah Allen, of Providence, R. I.: I claim the improved hollow shafting described, for connecting a gas regulator, or pulley or belt drum, substantially as set forth.

**ROTARY PLANING CUTTERS**—H. H. Baker, of New Market, N. J.: I would not wish to be understood as claiming the use of rotary cutters as used by Daniel, Woodworth, Fay and others. Neither do I claim a rotating disk, as I am aware of its having been previously used. But I claim the recess, b, in the face of the cutter wheel, substantially for the uses and purposes set forth.

**GAS REGULATORS**—John H. Cooper, of Philadelphia, Pa.: I do not desire to claim exclusively the employment, in connection with a gas regulator, of a double reservoir, and double rimmed inverted cup.

Neither do I claim, broadly, the employment of an adjustable spring for balancing the pressure on the cup. But I claim the double rimmed inverted cup, C, with an inclined surface, said cup having a valve, m, and an opening formed by the inner rim, h, when the said opening and valve are concentric with the inlet formed by the inner flanges, e, of the casing.

**RAKING APPARATUS FOR HARVESTERS**—Israel Dondorf, of Bloomington, Ill.: I claim the rake, H, in combination with the platform, A, and stationary and elastic guides, the whole being constructed and operated substantially as described.

I also claim the gate, I, in combination with a rake, H, traveling in a horizontal endless track, the whole being constructed and operated in the manner substantially as and for the purposes set forth.

**GRATE BARS**—Edward Dugdale, of Burlington, N. J.: I am aware that turning or swinging grates have been used in stoves for the purpose of clearing the grate, but these work very imperfectly, chiefly when applied on a larger scale, as in the case of the invention, in that coal will always be wedged in between the bearings and the rim of said grates, which prevents them from being closed again.

I do not confine myself to the use of chains, as any flexible metal combination, such as metal rope, or linked rods, may be used with the same advantage.

Nor do I confine the application of my invention to locomotive furnaces only, as it may be applied with equal success to the furnace of any steam boiler, or any furnace in general.

I am aware that shaking and hinged grates have been used, and that a fire box has been made to raise and lower, so as to change its position in relation to the boiler.

I am also aware that endless chains have been used for conveying coal into a furnace or fire box—I do not claim any of these things.

But I claim the flexible grate bars described, when used in connection with a raising and lowering, or shaking apparatus, so as to change the position of the grate, prevent the baking of the coal, and sift out the ashes, cinders, &c., as set forth.

**BENDING METAL PLATES**—E. L. Gaylord, of Terryville, Conn.: I am aware that rollers have been arranged in various ways for rolling metals.

I also am aware that dies of various kinds have been used for drawing and bending metal bars and plates. I therefore do not claim separately any of the parts shown and described.

But I claim the combination of the reciprocating bed, B, forming or bending die, M, and rollers, J, N, arranged so as to operate conjointly, as shown, for the purpose set forth.

[The principal use of this invention is to bend metals so as to form perfect corners, such as are desired for lock cases and the like, instead of round and imperfect ones. The sheet metal is held by both edges, and the angle is produced by rollers operating on an edge of a bed or die on which it rests.]

**BENDING METAL PLATES**—Julius Perry, of Plymouth Hollow, Conn.: I claim the two rollers, I, F, and bed, H, placed in positions relatively with each other, as shown and described, for the purpose specified.

I further claim the rollers, I, F, and bed, H, in combination with the die or draw plate, A, arranged as and for the purpose set forth.

[The object of this device is quite similar to that in the patent noticed above, but the end is accomplished by a different arrangement of the parts. These appliances will tend to improve and cheapen the manufacture of locks by substituting neat, strong, and light wrought metal for the cast frames now by preference generally employed.]

**COOKING STOVES**—Sidney Godley, of Lockport, N. Y.: I claim the arrangement of the stove, A, with the movable adjusting plate, M, which is one of the entire sides of the stove, and detaching it for a cover to the baker, B, when the same is used with stove A, the whole being arranged forming a complete cook and baker, as set forth.

Second, The adjustable extension chamber, B, to be attached to stove A, when it is desired to extend its cooking and heating capacity—the stove, A, being a complete stove, with or without the attachment as set forth.

**HOOPS FOR LADIES' SKIRTS**—Charles S. Goodman, of Washington, D. C.: I claim constructing the hoop of spools or tubes strung upon an elastic cord, or its equivalent, to give elasticity to the hoop, with the ends of the spools cut on a line radiating to the center of the hoop, whether the same be made of wood or any other substance to produce the same effect, the whole being arranged substantially in the manner and for the purposes specified.

**METAL BUTTONS**—Jared O. M. Ingersoll, of Ithaca, N. Y.: I claim the manner of securing the points to and through the button, by passing said points, when bent, through openings in the collet of such buttons, and fastening said points and collet securely in place by pressure, substantially in the manner and for the purpose set forth.

**EYE-SHADING APPARATUS**—Francis H. Jones, of Federalburg, Md.: I am aware of the use of tubes in picture galleries, and also of the employment of shades above the eyes; such, therefore, I disclaim.

I claim the arrangement in the top of the tube of the ventilator, e, and light graduating contrivance, c, d, when the tube is designed for use as stated.

**PERCUSSION POWDER**—Magnus Kling, of Reading, Pa.: I claim the combination of antimony with chlorate of potassa, oxalic acid and glue, mixed in the named proportions, for a composition for the manufacture of percussion caps for fire-arms.

**DRESSING SAWS**—Philo Maltby, of Dayton, Ohio: I claim the described devices, or their equivalents, for clamping and holding the plate of the saw, in combination with the devices or their equivalents, for holding, operating, and feeding the tool to plane the teeth of the saw, substantially as described.

And in combination therewith I claim the described apparatus, or its equivalents, for operating and feeding the drill by power or motion derived or communicated from the planing apparatus, so as to drill the holes in the plate at the same time the teeth are planed.

**R. R. CAR BRAKE**—Jas. Mitchell, of Osceola, Iowa: I do not claim the use of movable shoes as stated. Neither do I claim, broadly, the actuating of the braking apparatus by the removal of a detent.

But I claim the combination of the lever detent, f, hooked rod, h, adjustable collar, l, standard, p, rod, o, slotted table, g, and bent lever, s, when said parts are arranged for joint operation with each other and with the shoe-suspending apparatus, substantially as set forth.

**INHALING APPARATUS**—J. C. Schooley, of Cincinnati, O.: I am aware that inhalators have heretofore been made and used, with ingress and openings, also a tube through which to inhale.

I also am aware that inhalators have been heretofore used, from which to inhale gas, vapor, &c., but in no case have I ever known them to contain ice or its equivalent over which air was passed and then inhaled.

I disclaim the use of the ingress and egress openings separately from the ice receptacle. I also disclaim the use of an inhalator for the purpose of inhaling from it any kind of gas or vapor.

But I claim so combining the ice receptacle, A, with the openings, b and c, and so arranged that the outside atmosphere after being cooled and dried by passing over ice or its equivalent within said receptacle, can be inhaled into the lungs, in the manner and for the purposes substantially as set forth.

**ARTIFICIAL HANDS**—William Selpho, of New York City: I am aware that the fingers of artificial hands have been opened by a motion derived from pressure of the arm or stump against the person, and also that the hand has been closed by a spring; therefore I do not claim the same.

But I claim constructing the skeleton fingers on the meta- and meta-epiphysis, and in the line of the knuckle of the hand, and provided with the contactable spring acting on one side of said pipe to close the hand substantially as specified.

Second, I claim opening the artificial hand on one arm by a motion derived from the shoulder of the other arm of the wearer, said motion acting through the shoulder loop, l, strap m, and cord, k, or their equivalents substantially as specified.

**TELEGRAPHIC REPEATERS**—J. E. Smith, of Troy, N. Y.: I do not claim the opening and closing of the local circuit by magnetism produced by the opening and closing of the main circuit.

But I claim the connection of a battery at each station with the line wire, and with two local cross connections in such manner that by means of the key and relay lever the cross connection through the register magnet and the other cross connections are alternately broken, and the battery thrown upon the main line, and its current caused to operate the relays on the line wire, like a main current till shut from the line by the relay lever as described, whereby each battery is made to perform the duty of an ordinary local battery while not wanted on the line wire, and to perform the duty of a main battery while not wanted as a local.

Second, The key placed in the local circuit and constructed as described to open and close the said circuit in two branches to give two directions to the current over the line wire, substantially as and for the purpose set forth.

[This ingenious modification of telegraphic apparatus dispenses with the use of a main battery continually on the line, and overcomes much of the difficulty arising from the escape of current to the ground where large batteries are in constant connection with the line wire.]

**RAILROAD RAIL**—Edw. W. Stephens and Richard Jenkins, of Covington, Ky.: We are aware that it has been proposed to construct railway rails by bending the sides of a U rail, in such manner as to meet at their ends at the base as in the English patent of T. A. Kinder, No. 273,183, and do not wish to be understood as claiming any devices where the sides remain unweilded, an essential feature of our invention being the formation of an entire and complete T rail web.

We claim the tubular T railroad rail, constructed in form and manner substantially as herein set forth, that is to say, having the two portions of its web welded together at the neck, and branching to the outer and inner edges respectively of the tread or track of the rail.

**BAKERS FOR COOKING STOVES**—P. P. Stewart, of Troy, N. Y.: I claim the employment of the plate or pan with its legs to rest on a stove plate, its projecting wires at the angles to guide the reflector, and its aperture or slot in the middle of the length, in combination with the tin reflector enclosing the whole and leaving a space all around, which, together with the slot in the middle of the plate or pan, will permit the heat radiated from the stove plate to be reflected on to the top of the articles to be baked or roasted, all substantially as specified.

**SHEARS FOR CUTTING METAL**—T. F. Taft, of Worcester, Mass.: I claim the rolling lever upon an incline plane which is upon the side or blade holder, substantially as specified.

**HOT AIR REGISTERS**—J. V. Tibbets, of New York City: I wish to be understood as not claiming a register with a valve for turning the heat, as such has been before essayed.

But I claim the valves, d placed in the ascending pipe at or near the center with independent movements as and for the purposes set forth.

**TWISTING CURB CHAINS**—Lauriston Towne, of Providence, R. I.: I claim the combination of the vibrating spiral die, N, and stationary holding die plates, m, m, or their equivalent, arranged and operating substantially in the manner and for the purpose specified.

**PORTABLE HORSE POWERS**—Danl. Woodbury, of Rochester, N. Y.: I claim poising the frame of said horse power upon a pair of journals or spindles which are received into the hubs of suitable transporting wheels, when the said frame is combined with the jointed bars, K, K, and the jointed frame, J, J, substantially in the manner and for the purpose set forth.

**TANNING LIQUIDS**—Leo de La Peyrouse, of Paris, France, assignor to Michael J. A. Guiet, of New York City: I claim combining with the tanning solutions or liquor the chloride of tin or its equivalent, substantially in the manner and for the purposes set forth, in which the skins are handled as made known.

**SELF-ACTING MULES FOR SPINNING**—Geo. Wright, of Grafton, Mass.: I claim giving a second draft to the yarn after the delivery of the ends has ceased, for the purpose and in the manner substantially as set forth.

Second, I claim operating certain motions upon the carriage, such as braking up the spindles, backing off the yarns, and operating the upper faller by the taking-in scroll chain as set forth.

Third, I claim running the drum band over a vibrating arm upon the carriage, and clamping it thereto at intervals for the purpose of backing off and winding up the yarn as set forth.

Fourth, I claim hanging the stop which holds the carriage stationary while the second twist is put in to a spring, so that it may yield in the manner described to prevent injury or breakage of the yarn as set forth.

Fifth, I claim varying the obtuseness of the cone upon different portions of the cop by means of the block, F, operating in the manner substantially as set forth.

**RE-ISSUE.**

**REED MUSICAL INSTRUMENTS**—Jeremiah Carhart, of New York City, patented Dec. 23, 1846, reissued June 24, 1856: I claim so connecting the board which contains the reed seats or perforations for the reeds with the exhausting bellows, that it shall form substantially a part of the stationary leaf or cover of the exhaust chamber thereof, while the exhausting or pumping chamber is placed in immediate connection with the said exhaust chamber without the intervention of tubes, thus improving the tone of the reeds, expediting their speaking and giving a compact, light, convenient and graceful form to the instrument substantially as described.

I also claim the reed cells, in combination with the reed seats or openings substantially as described.

I also claim the concentrating chamber in combination with the reed cells and reed seats, substantially as described.

I claim the last two combinations specified only when they are to be used with a suction or exhaust bellows, capable of producing a continuous current of air through the reed opening as set forth.

Note.—The above short list of claims indicates the state of the Patent Office at the present time. The wheels of all government departments move slow at this season of the year, many of the officers and clerks being absent from

their posts. There is no lack of business to be done at the Patent Office, but the building is undergoing repairs—painting and cleaning. Several of the examiners are absent, and until cool weather returns, inventors who have applications pending must have patience, consulting themselves that their business will be better attended to on an autumn morning than it would likely be during the dog-days, which is an unpropitious season for doing business at any government office. It is a good time to have cases prepared and deposited in the Patent Office, and all who have inventions matured are advised to avail themselves of this opportunity to get their cases ready.—Ed.

**Sand Bars and Dredging.**

**MESSRS. EDITORS.**—I am informed by a very intelligent scientific gentleman connected with the United States Revenue Service, that the sand which composes the whole Texas coast is so near the weight of the sea water that it will not sink below the depth of twenty-four feet from the surface, consequently no sand is found below that depth on this coast. It is inferred from this fact that when the inner harbors are more than twenty-four feet in depth, like that of Galveston and St. Joseph or Aransas, if the bars were excavated below that depth, they would never be liable to fill up, as this peculiar kind of sand is the heaviest material brought down by our rivers or thrown up by the Gulf sea.

The fact that the Pensacola Pass has never been liable to fill up where this same kind of sand prevails seems to strengthen this inference. The subject is of so much importance to all harbors similarly situated, that I think you would be doing a great public service by calling public attention to it through your widely circulated paper.

From my own personal knowledge, I am confident that with a dredging machine that would work in a sea way, which would not cost over \$50,000, the bar at Aransas could be excavated to the depth of thirty feet (which is the water inside) in less time than three months, at an expense not exceeding \$10,000. With the same machine, numerous other harbors on the Gulf could be permanently improved in a similar manner, which would be of incalculable value to the great country of the Gulf coast.

D. S. H.  
Corpus Christi, Texas, August 1, 1857.

[We are not prepared to offer an opinion whether any particular sand is found below twenty-four feet from the surface of the sea, but if it is not it cannot be for lack of specific gravity. Particles which will sink below the surface will continue to sink to any depth required, as water is very little denser even at a depth of a mile than at the surface. It has been demonstrated that solids are never supported at any levels below the surface of the ocean. It is a popular fallacy—or rather one which is rapidly becoming unpopular—that sunken vessels descend to a certain depth and then stop without reaching the bottom. There are two reasons why this result cannot obtain. First the wood is elastic and under great pressure would actually be condensed faster than the water, and second, wood is porous and allows the water to be forced into it. Even cork, one of the most buoyant substances known, becomes so much compressed at a great depth, that if detached from a sounding lead under such circumstances, it will continue to sink instead of rising.]

The action of currents and waves takes the deposits of rivers and the wash of coasts to certain localities more than to others, and the localities where such earthy matter is deposited soon fills up to above that level. Sand is most troublesome in those localities, (and they are in the aggregate very extensive,) where the material is by one great class of agencies induced quietly to deposit itself, and by waves and occasional great storms is frequently agitated and changed. This is the case we presume on the Texan coast, and we think it probable that our correspondent has got a wrong impression respecting the views of the scientific gentleman referred to.

The laws which control the formation of bars at the mouths of rivers have been much studied, and although as yet but imperfectly understood in all their bearings, and made to apply uniformly in all cases, it is easy to see that there is a very sufficient cause for their formation. Much earth is held mechanically suspended in the water of a river in consequence of the agitation due to its flow over and around obstacles, but when the water

loses its velocity in the ocean, the mud settles and raises the level of the bottom. The Mississippi discharges about 21,000,000,000,000 cubic feet of water per annum, and according to Prof. Riddell, of New Orleans, about one part in 3,000 is solid matter. This would be equal to 220 cubic feet of earth per second, or sufficient per annum to raise the surface of one square mile 300 feet high.

**Judge Mason to the Scientific American Patent Agency.**

**MESSRS. MUNN & Co.**—I take pleasure in stating that while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE came through your hands. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the Office, a marked degree of promptness, skill, and fidelity to the interests of your employers.

Yours, very truly,  
CHAS. MASON.

August 14, 1857.  
[The above complimentary letter from ex-Commissioner Mason needs no comment, although an inclination prompts us to add a remark or two for the benefit of inventors who may have recently become subscribers to the SCIENTIFIC AMERICAN.]

Judge Mason, in the above terse but expressive note, simply endorses what is set forth in substance in our circulars, and what most inventors throughout the country very well know; but the tribute is so flattering to us as successful solicitors for patents, that we make room for it, trusting it may act as a guide to such inventors as may be in pursuit of competent parties to whom to submit their business. Perhaps the assertion would have been nearer correct had Mr. Mason stated that not less than ONE-THIRD of the entire business of the Patent Office was derived from the SCIENTIFIC AMERICAN AGENCY; but that is a point of no consequence to those desiring to apply for patents, compared with the latter part of his letter, where he refers to the "marked degree of promptness skill and fidelity" which we ever manifest towards those for whom we act as attorneys. In addition to the above, we will simply add that we shall not abate our energies, in the future, to act faithfully and deal justly with all who may seek our counsels or employ us to do their business at the Patent Office.

Our facilities for taking patents in all European countries are unequalled, and we are not far from right in asserting that seven-eighths of all American inventions patented abroad are secured through our office. Circulars of information concerning the proper course to be pursued in taking out patents in this or in foreign countries, may be had gratis by applying to our office. In ordering circulars, state for what countries information is wanted, and a circular giving all necessary particulars will be sent free of postage by return of mail.

**Complimentary to the Scientific American.**

The following extract is taken from a business letter coming from one of the oldest subscribers to the SCIENTIFIC AMERICAN in the South. We highly prize such tokens of good will:—

"In justice to you, I state with pleasure that the information I have received in the reading of your journal for the past ten years I would not have blotted from my memory for five thousand dollars. In fact, it is a mystery how any man of thought and reflection will, for the paltry sum of two dollars a year, be deprived of this great source of useful knowledge.

C. H.  
Chester, S. C., August, 1857.

**That Red Ink Notice.**

All of the mail subscribers to the SCIENTIFIC AMERICAN who have received our new prospectus with the words "take notice that your subscription expires with No. 52, present volume," printed in red ink on the top, are reminded that only one number after the present will complete the volume. Such subscribers should lose no time in remitting their two dollars, if they wish their names continued on our subscription book.