



Reported Officially for the Scientific American

### LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING FEBRUARY, 17, 1852

**GRATE BARS FOR FURNACES**—By Francis Armstrong of New Orleans, La. Ante-dated Aug. 17, 1851: I claim the form and construction of the grate bars for furnaces, having jogs, in the blade of the bar, extending from the lower line or edge of the bar, up to the level of the lower line, of the extension through the fire front, thereby securing the advantage of having said grate bars held permanently in their required position, by the said jogs touching each other, and, at the same time, leaving all that section of the openings above the jogs, free for the admission of a poker between the bars, to remove any solid matter produced from the combustion of the fuel.

**PUMPS**—By Abel Barker, of Honesdale, Pa.: I claim the combination and arrangement of the two barrels and the pistons, in such a manner that the water shall flow down through the lower barrel, and up through the upper barrel, thereby enabling one piston to act in descending and the other in ascending, for the purpose of producing a constant flow of water, substantially in the manner described. I also claim the peculiar construction of the lower piston, by which its valve allows the water to pass downward, and closes by its own weight, either with or without magnetizing, substantially in the manner described.

**EXPLOSIVE COMPOSITIONS FOR BLASTING ROCKS**—By Edward Callow, of London, England. Patented in England, Aug. 6, 1850: I claim the explosive compound described; but I would have it understood that some of the materials mentioned as component parts in my improved explosive compound, have been used before by pyrotechnists and others, in the manufacture of various fire-works, and that, as regards such use, I do not claim anything in my invention, except so far as regards the combination I have given and for the purposes mentioned. The shape and material of the cartridge cases have nothing to do with invention, they being optional with the party using them. I have only given drawings of and described what I have found to be the most convenient for the purpose.

**FENCES**—By John Card, of Gainesville, N. Y.: I claim the construction of the posts in pairs, and their combination with the rails, in such a manner as to render the fence strong and firm, by balancing the weight of the fence, by its construction as described, upon each side, equally, of the centre of each pair of the posts, and securing, at the same time, the advantages of a straight fence, and of posts standing upon the surface and secured from decay. I do not claim the construction of the posts, as described, either singly or in pairs, but the combination of the advantages mentioned, as described.

**RAILROAD GATES**—By E. P. Carter, of Yorkshire, N. Y.: I claim the method described for balancing a railroad or other gate, viz. by means of a spring coiled around a stationary axis, to which it is attached by one end, the other end being attached to the disc that forms the hub or centre of the gate, turning on said axis, substantially as described. I also claim the use of the rock shaft provided with the cam ledges and straight ledge, to be operated upon by the wheels of the passing train and the cam for winding up the chains which draw up the gates, the whole being arranged in the manner and for the purpose substantially as set forth.

**CHAINS**—By J. M. Crawford, of New Castle, Pa.: I do not claim to be the original inventor of the combination of the parts, movements, and operations, in one machine, which are required to make jack chains by one process, from straight wire, after it is cut off into suitable lengths, to the finished chain.

Nor do I claim the stud pin with a recess in it as a mandrel, around which the bow of a link is bent, while the bow of another link is held in the recess, thereby forming a continuous chain. Nor do I claim a partly revolving mandrel, with a stud pin and nipper, and other appendages for bending the last bow of each link, as combined, used, and constituting part of a machine already patented.

But I claim, first, the combination of the welding dies with the swage, for welding or uniting the lapped ends of the link, and dropping the latter upon the suspending arm, the advance of the die moving the link to the face of the swage, where the operation of welding is performed.

Second, attaching the vibrating arm to the bed of the die, and operating the same, in such manner as to receive the finished link, and suspend the same in a position to be seated.

Third, the combination of the slide bar, turning lever, and cross bar, constructed and arranged as described, the said bar and lever operating to turn and push the finished link into its seat.

Fourth, the link seat attached to the lever beneath the swage for receiving the finished link from the suspending arm, and holding the same, until the wire, or rod, for the succeeding link, is fed into the finished link, cut off, bent and ready to be welded.

Fifth, the employment of the curved holding lever attached to a lever, in combination with the pendant cam bars (two) short pendant arms (two), the pin and spring bar, constructed, arranged, and operating as described, whereby the finished link is held in its seat and liberated therefrom, simultaneously with the advance of the die, to finish the succeeding link.

Sixth, the combination of the spring bar, with the shear cutter, whereby the pendant cam bars are attached through the pin and springs (two) to hold or relieve the arm from the seated link, as described.

Finally, I claim making the grooves in the bed dies slightly oblique to their faces, for the purpose of canting the ends of the rod or wire, so as to allow them to lap when bent by the levers, as described.

**BRAN DUSTERS**—By Lewis Fagin, of Cincinnati, Ohio: I claim, first, the arrangement of the vanes in the blast cylinder, substantially as described, whereby I attain a free escape for the blast, and effectually prevent the accumulation of flour within the blast cylinder, and thus keep the cylinder truly balanced on its shaft or axis.

Second, the insertion of vertical rows of beaters on each rib of the bolting cylinder, and on the vanes of the blast cylinder, from top to bottom, for the purpose of beating the offal at each successive rib and

vane, and preparatory to each jet of blast, substantially as described.

**BRAN DUSTERS**—By Abel Hildreth, of Newark, O.: I claim the arrangement and combination of the several parts of a bolt or bran duster, in such manner that the draft generated by the rotation of the beaters within the bolting screen, shall act as a conveyor or elevator, for the purpose of transferring the bran or meal, from any portion of the mill, to the bolting or dusting apparatus, and shall, at the same time, cool the bran or meal thus conveyed.

I also claim the scouring apparatus described, consisting of a series of pairs of toothed discs, arranged in vertical order above each other, at such distances apart, as will admit of the free passage of the meal, or bran, between them, alternately from the centre to the periphery between the discs of each pair, and from the periphery to the centre between the pairs of discs.

I also claim the method described of shielding the current of mixed air and meal or bran, from the centrifugal action of the revolving discs, by means of stationary diaphragms, arranged as set forth.

**STOP MOTIONS OF LOOMS**—By Lora B. Hoit, of Millbury, Mass.: I claim, first, the forked lever and spring, constructed and arranged substantially as described, in combination with the pins (three) and slide, to release the slide when the weft is properly drawn across the pins, and to traverse it to stop the loom, when the shuttle ceases to draw the weft across the said gird.

Second, the spring or its equivalent, to stop the prongs of the lever and raise the catch so as not to stop the loom when the shuttle is in the box at the opposite end, the parts being arranged substantially as described.

**METER FOR STEAM BOILERS**—By W. H. Lindsay, of New York City: I do not claim the special use of a plunger, piston, or pistons, poppet valves, or well known cocks, the same being long known and used; but I claim the means set forth for maintaining the feed to the boiler, etc., and the closing or cutting off the communication to and from the meter, in case of accident, or from other causes, arranged and operating as described.

**STEAM BOILERS**—By James Millholland, of Reading, Pa.: I claim the contracted grate, in the fire-box, in combination with a supplementary chamber of combustion, supplied with air, and situated at a point intermediate between the fire-box and smoke-box, which is connected with the former and the latter by flues, in the manner described.

**GRAIN AND GRASS HARVESTERS**—By R. T. Osgood, of Orland, Me.: I claim the manner of placing the toggle joint purchase (with the transverse acting joint), upon the end of the cutter arm, to act in conjunction with the other machinery, giving it, as it were, a double purchase, by hanging the sweep, so that the arm of the crank will be horizontal or parallel with the toggle joint, when straight, and giving the cutters its double motion, by acting above and below this line. When the crank or hand is up, the purchase is at the upper end of the sweep, when half way down, it is at the lower end or joint, varying like a circular or screw power.

**FEEDING APPARATUS FOR A GRAIN THRESHER**—By Wm. R. Palmer, of Elizabeth City, N. C.: I claim the method described, of preventing accidents to the feeder of a threshing machine, by interposing between him and the cylinder, a roller, or the equivalent thereof, which is arranged across the throat of the machine, and is supported and guided, substantially as set forth.

**BANDING PULLERS**—By R. W. Parker, of Roxbury, Mass.: I claim arranging the driving pulley in reference to two other pulleys, that the band passing over these pulleys is not only pressed with any desired force against the periphery of the driver, but is also pinched between four other pulleys, they operating upon the band as feed rollers, substantially in the manner described.

**CAPSTANS**—By Peter Robertson of New York City: I claim the combination of the following mechanical elements, viz. the vibrating tumblers, acted upon by handspikes, the slide, with its racks, the cog wheels, (two, one of which is formed with ratchet teeth), the ratchet wheel and its hollow shaft, the pawls (two) the whole arranged within the base and with respect to each other, and acting substantially as described.

**ROTARY CULTIVATORS**—By P. E. Roysse, of New Albany, Ind.: I do not claim any of the parts separately considered, or irrespective of the manner, or form in which I propose, in combination, to apply them, to produce the advantages specified. I claim the construction of the teeth on the main or driving wheels, of a chisel-formed bevel, that is to say, one face being a continuation of the line, or plane, of the radius of said wheel, while the other face is bevelled, to meet it at an angle somewhat less than forty-five degrees, for the purpose of striking into and taking a firm hold of the ground, in the manner set forth.

**WEIGHING MACHINES**—By Wm. & Thos. Schnebly, of New York City: We claim the employment of the method or methods of securing the lever or levers, connected with the platform by means of a stop or brake, to hold the platform, substantially as described, when this is combined with the pendulous scale or balance, and the apparatus for registering the extent of motion of the said pendulous scale or balance, substantially as specified, by means of which combination we are enabled to register, accurately, the weight of bodies that roll or slide, or are thrown on to the platform, and prevent the apparatus from registering, in addition to the actual weight, the momentum of the descending weight of the body to be weighed.

And we also claim the employment of the mechanism which registers the number of weighings, substantially as specified, when this is combined with the pendulous balance, or its equivalent, and its register, for registering the sum of the weights weighed by the pendulous balance, substantially as described, whereby an accurate register is kept, not only of the number of articles which have been weighed, but also of the whole weight of what has been weighed, as it is often important to ascertain, not only the sum of the things weighed, but also the number of articles which make up that sum.

**SPOONS FOR ADMINISTERING MEDICINES**—By J. C. Taylor, of West Liberty, Ohio: I claim the particular construction of my spoon with a sliding bottom, and a piston slide, exactly fitting the cavity of the spoon, and the sliding rod, so arranged, that it may be slid in the same moment that the slide tongue or bottom, is drawn out, thereby quickly emptying the spoon of its contents.

I do not claim that my spoon should be a graduating or measuring spoon, but merely for administering medicines already graduated by a physician. I claim, also, that my spoon will secure, from its arrangement, the advantage of preserving the teeth and administering all the medicines graduated by the physician—a difficulty often experienced in treating children.

[Well what next after this?—just think of a patent spoon for supping castor oil.]

#### DESIGNS.

**LADIES' HAIR COMBS**—By Jas. Blackman & Chas. Skidmore, of Newtown, Ct.  
**GRATE FRAME AND SUMMER PIECE**—By James L. Jackson, of New York City.

#### Petitions for Extension of Patent.

**DYEING**—On the petition of Patrick Magennis, of Paterson, N. J., praying for the extension of a patent granted to him for an improvement in the art of Dyeing, for seven years from the expiration of said patent, which takes place on the twenty-first day of April, A. D. 1852.

It is ordered that the said petition be heard at the Patent Office on Monday the 19th day of April next, at 12 o'clock, m. and all persons are notified to appear and show cause, if any they have, why said petition ought not to be granted. R. C. WEIGHTMAN, Acting Commissioner of Patents.

**SPARK CATCHER**—On the petition of Wm. T. James, of New Rochelle, New York, praying for the extension of a patent granted to him for an improvement in Spark Catchers, for seven years from the expiration of said patent, which takes place on the 13th day of April, 1852.

It is ordered that the said petition be heard at the Patent Office on Monday the 12th of April, next, at 12 o'clock m.; and all persons are notified to appear and show cause, if any they have, why said petition ought not to be granted.

Persons opposing the extensions are required to file in the Patent Office their objections, specifically set forth in writing, at least twenty days before the day of hearing; all testimony filed by either party to be used at the said hearing, must be taken and transmitted in accordance with the rules of the office, which will be furnished on application. THOS. EW BANK, Com. of Patents.

For the Scientific American.

#### Wooden Boxes for Machinery.

Mechanics are often called upon to run machinery at such a distance from a furnace or machine shop, as to make it very inconvenient and expensive to go to such places for light repairs, and under such circumstances I have not unfrequently been asked, "what kind of wood is the best substitute for metal boxes for light machinery, with rapid motion?" Perhaps I may usefully serve some one in such circumstances by giving a little of my observation and experience on the subject. From what I can learn from the testimony of others, and from my own experiments, I am satisfied that *fustic* is the best substitute for metal, and I incline greatly to the opinion that it is superior to most, if not all kinds of metal, as an anti-friction substance.

A few years ago I was employed to build a saw-mill under the above-mentioned circumstances, and having a large block of *fustic* at hand, I made all the principal boxes out of it; it was moved by an over-shot wheel, with the segments bolted to its rim, consequently the end of the drum shaft, to which the pinion was attached, rested on its journal close to the edge of the wheel, so as to be constantly wet. After the mill had run almost uninterruptedly for two years, I examined the box in which this journal ran, and although it was connected with the descending side of the wheel, and sustained all the weight or pressure of the water, still I could not perceive that it had worn one-sixteenth of an inch, and all the other boxes, including those of the crank shaft, were in a similar condition; on these oil was used; I have since ascertained however, that tallow is better.

About two and a half years ago I had occasion to repair a smut machine; on examining which I found that half of the box, against which the journal bore, worn out; and the journal, which was about three inches long, worn away at the upper end to about one-fourth an inch less than at the bottom, and much ridged the whole length of it. The proprietor of the mill being unwilling to stop it long enough to have the journal fitted up, I put in a box of *fustic*, which is still in use. A few days ago the miller informed me that for a year past it had not worn sufficiently to need drawing up, nor had it heated any during that time, although the machinery is calculated for two thousand revolutions per minute, though I presume it does not come up to that speed; in this box tallow is used. I have frequently

used boxes of this kind for circular saw arbors, and have invariably had less trouble with them than with any other kind, either of wood or metal. J. C. Elmira, N. Y.

#### TO CORRESPONDENTS.

J. A., of N. Y.—Your ideas about the passing of the oxygen through the pores of the metal, to be mixed with the hydrogen, is new, but we do not see how this could really take place. When water is deprived entirely of its atmospheric air, and heated to 300 degs., it all flashes at once into steam—this is a new discovery of Faraday's, and explains, we think, the cause of many explosions.

J. F. H., of N. Y.—Jewellers' lathes are made in this city by James Stewart, 106 Elm st.; they are operated by crank and treadle. We have sent you the patent laws and some specimens. We are glad your youthful mind finds good food in the Sci. Am.

T. B. W., of Ala.—If you have been a careful reader to the Sci. Am., you must have received all the information you need concerning the treatment of saws.

C. B., of Va.—The time is approaching, undoubtedly, when most of our dwellings will be lighted by gas generated from the fuel used in cooking purposes. We are of the opinion that gas enough escapes from a common cooking range to light an ordinary residence, and we think there is a fine field open for an invention of the description you suggest.

"A Down-East Yankee," Mich.—Many overshot water wheels have been made having buckets which retained two-thirds of the water, when their mouths were at an angle of 45 degs. below the shaft. See plate II., Vol. 4 (plates) Reese's Encyclopedia.

J. N., of Wis.—Your letters on the Inventor's Institute are well written; it does not appear that you are aware of two such Institutes having been organized in 6 years, and under favorable auspices. Both have failed owing to jealousies of the members; your letters would do no good; this we know, but they show that your heart is right on the subject.

W. W., of Washington—It will undoubtedly be an object of importance to have your invention illustrated in our columns: it will reach the right class. \$1 received for the Sci. Am.

J. C. O., of N. J.—There have been quite a number of oval compasses invented; we do not know but yours maybe like some one of them. We suppose you can purchase one at any of the mathematical instrument makers.

S. M. C., of Mass.—We regard both of your inventions as new and patentable. You can make them for two years without invalidating your right to a legal patent, although it is not always safe to do so. If you find they are likely to sell well you had better make your application for a patent.

J. B. W., of N. C.—We have carefully examined yours of the 12th inst. You will find essentially the same principle as you claim embodied in the pumping engine, illustrated and described in No. 1, Vol. 3, Sci. Am. The difference in the construction is not the proper subject of a patent.

C. J. B., of N. H.—If you will drop a note to the Member of Congress from your district, requesting a copy of the Report, he will send it to you if it can be procured. They are public documents, and not to be found at bookstores.

R. J., of N. H.—There is no necessity of making the model of the same material which you would use in constructing an operating machine: it may be made of any material which will properly represent the principles of the invention.

G. W. D., of Vt.—We will send you a Minifie's Drawing Book by Express, on receipt of \$3.

Money received on account of Patent Office business for the week ending February 21.

F. N. C., of Ill., \$50; L. D., of Ct., \$20; D. & K., of Pa., \$20; A. L. F., of Ct., \$20; S. W. A., of N. H., \$50; J. L. H., of N. Y., \$22; C. R., of N. J., \$30; L. McD., of N. Y., \$20; J. I. V., of N. Y., \$30; W. W. B., of N. Y., \$30; J. S., of Ga., \$20; J. T., of N. Y., \$30; W. & S., of Pa., \$45; S. B., of N. Y., \$30; L. F., of N. Y., \$40; G. S., of N. J., \$20; J. A. & G. C., of N. Y., \$20; W. C. Van H., of N. Y., \$30; O. C. S., of Mass., \$23.

Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Feb. 21:—

L. D., of Ct.; C. R., of N. J.; G. S., of N. J.; J. H., of Tex.; A. L. F., of Ct.; J. J., of N. Y.; J. A. & G. C., of N. Y.; W. C. Van H., of N. Y.; O. C. S., of Mass.

#### New Arrangement.

Several of our readers have expressed a wish to subscribe for some literary journal in connection with the Scientific American, not feeling able to take both. We have entered into an arrangement with the publishers of the "American Model Courier," of Philadelphia, and the "American Union," of Boston, which will enable us to furnish either of the two, with the Scientific American, for \$3 per annum. They are literary journals of the first order, and are widely circulated in all sections of the country.

#### An Important Paragraph.

Whenever our friend-order numbers they have missed—we always send them if we have them on hand. We make this statement to save time and trouble, to which we are subjected in replying when the numbers called for cannot be supplied.

The Post Office Laws do not allow publishers to enclose receipts; when the paper comes regular subscribers may consider their money as received.

Subscribers ordering books or pamphlets are particularly requested to remit sufficient to pay postage.