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### LIST OF PATENT CLAIMS

Issued from the United States Patent Office  
FOR THE WEEK ENDING MARCH 9, 1852

**FLOUR BOLTS.**—By Sam. Cook, of Adams' Basin, N. Y. : I claim, in combination with a series of graduated stationary bolting discs, in separate chambers, the rotating brushes placed above said discs, and the sweeps in a chamber below them, for the purpose of separating the bran, first and second middlings, and the flour, and conveying the meal, &c., through the machine, and for avoiding the use of a bran duster, the whole being arranged in the manner set forth.

**WATER GAUGE OF BOILERS, etc.**—By Benj. Crawford, of Allegheny City, Pa. : I claim the arrangement of the glass index tube, below the point at which the float chamber is connected with the water in the boiler—the water tube connecting with the boiler at some distance from the bottom of the latter, so that it is not liable to become obstructed, which renders the indication of the float certain, while the coolness and quietness of the water in the index tube leaves it transparent, so that the index can be seen clearly and conspicuously.

**CORN SHELLERS.**—By Wm. Linsley, of the Township of Waddam, Ill. : I claim the combination of stationary sectional springshelling plates, with a rotating sectional spring shelling disc, substantially in the manner set forth, the plates and discs having a wabbling or universal motion, caused by the constant varying of the space between them, to accommodate itself, at the same time, to ears of varying size and shape, by which means the cobs are less broken and more thoroughly stripped, than in machines as heretofore constructed, for shelling corn, fed into them promiscuously and in mass.

**CANAL LOCK GATES.**—By Chas. Neer, of Troy, N. Y. : I claim, first, the opening of the lower gates of a canal or river lock, outwards, or down stream, in combination with the means described, or their equivalents, for operating them, for the double purpose of saving length in the lock chamber, with the same walls, and for allowing the gates to be opened before the chamber is entirely empty, so that the escaping water may carry out with it the boat, raft, or other thing, being passed through, with the least possible delay.

Second, I claim the stationary gate at the head of the lock, which forms, with the breast wall of the lock, with the top of which it is level, a recess or chamber, through which the lock chamber may be filled at any desired height above the bottom of the lock, and thus save length of lock wall.

Third, I claim, in combination with the stationary gate, the sinking head gate, extending across the lock and reaching down a little below the top of the stationary gate, when the gate is shut, and which sinks or slides into the recess formed, in part, by said stationary gate, and is on a level therewith, when open, for passing boats, &c., for the purpose of saving in the length of the lock chamber, an amount nearly equal to the width of the gate.

Fourth, I claim the so placing of an adjustable bottom, or water strip, on the bottom of a lock, as that it may be operated upon by the pressure of the water within the lock chamber, and be forced up against the gate, when prevented from being closed tight, by an intervening substance, substantially as set forth.

**SEED PLANTERS.**—By Ira Reynolds, of Republic, Ohio : I claim the peculiarly formed curved lips or feeders and longitudinal grooves or channels, so constructed and tightly fitted to the cast box as to prevent any grain from passing into the chamber, except what is forced through the grooves by the lips, or feeders, as set forth.

**HAY RAKES.**—By Jay S. Sturges, of Litchfield, O. : I claim, first, the arms projecting from the axle, in combination with the joint, for the purpose of adjusting the position of the teeth to the surface of rough or smooth land.

Second, hanging the arms to the axle, by means of the standard and connecting rod, and also raising and lowering the arms, as the teeth may require, by means of the pin and holes in the connecting rod and arms.

**MELODIONS.**—By A. L. Swan, of Cherry Valley, N. Y. : I claim, first, constructing the air-receiving box of a melodeon, or other keyed wind instrument of a similar nature, which is operated by an exhausting bellows or pump, with a vibrating or movable top connected to it by wings or joints, which fold or bend, substantially as described, towards the external air which acts upon them, whereby the external air, acting upon the said wings, counteracts the inequality of the force exerted by the spring placed inside, to open or expand and enlarge the interior capacity of the box.

Second, the manner of hanging the treadle for operating the bellows, upon the two vibrating rods attached to the floor, or to any object under the instrument, substantially as set forth.

[This is an excellent improvement on these instruments.]

**IRON FENCES.**—By J. B. Wickersham, of New York City : I claim so constructing the loops and mortises in the rails and posts of iron fences, as that, when in place, neither of them can be removed, using for this purpose single posts and rails, and neither bolts, wedges, keys, or any other fastening, except what is afforded by the peculiar shape of the said loops and mortises; and this I claim, whether the same be constructed as described, or by any other means essentially the same.

**PLOW.**—By Joshua Woodward, of Haverhill, N. H. : I claim the plate constructed, arranged, and combined with the plow, substantially in the manner set forth.

**DOOR KNOBS.**—By Benj. Nott, of Bethlehem, N. Y. (assignor to J. P. Pepper, of New York City) : I claim, first, the application and use of a metal plug, to be entered into the socket and fitting it, the plug passing up from or through the bottom of the mould for the purpose of preventing the melted material from filling the socket during the pressing operations, and at the same time, facilitating the centering and adjustment of the socket.

Second, I claim the invention of and substitution in the place of pincers, and polishing rods, heretofore known, a polishing rod capable of polishing several knobs, simultaneously and by one operation, substantially as described.

#### RE-ISSUES.

**DRESSING STAVES.**—By Isaac Judson, of New Haven, Ct. : patented originally May 1, 1847 : I claim, first, the arrangement of the wheel and ring of cutters, for the purposes and in the manner substantially as described.

Second, the holding of the stave firmly in position to be dressed, in the immediate vicinity of that portion which is being cut, while all the other portions are left at full liberty to assume whatever position its configuration may indicate, for the purposes and in the manner described.

Third, the employment of the two independent spring rollers, or their equivalent, acting with equal force upon each of the edges of the stave, irrespective of their relative thickness, in combination with the guides and the cutters, as described.

[See engraving of this machine in No. 41, Vol. 2, Sci. Am.]

**MACHINES FOR PLANING, TONGUING, AND GROOVING.**—By Jos. Powell, Nelson Barlow & Edward Holden, of St. Louis, Mo., (assignors to Rob. Eunson, of New York City) ; originally patented Feb., 1847 : I claim, first, the combination of two pairs of feeding rollers with the bed plate, and the rotating reducing

wheel, substantially in the manner and for the purpose set forth, viz., the placing the axes of the first pair of feeding rollers, preceding the reducing cutter wheel and the axes of the second pair of feeding rollers immediately following the same, respectively, out of a vertical line with each other, thereby bringing the upper roller of each pair nearer to the shaft of the reducing wheel, than the lower one, for the purpose of springing the board or plank to the bed plate, as described.

Second, in making the rebates, by which the tongue is formed, I claim the employment of a series of incising cutters, in combination with stationary, planing, and tonguing cutters, the several cutters being so arranged as to act upon both sides of the angle of the rebate, simultaneously, or alternately, and cut the shaving from both the said sides, so as to form, at one operation, a tongue, both of whose sides and shoulders have been subjected to the action of cutting edges, substantially as set forth.

Third, in forming the groove, I claim the employment of a series of incising cutters, in combination with stationary, planing, grooving cutters, substantially as described, for forming the tongue, being arranged so as to cut upon both sides and the bottom of the groove, as set forth.

### HOLLOW BRICKS, FIRE-PROOF BUILDINGS, &c.

Figure 1.

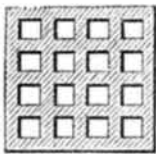


Figure 2.

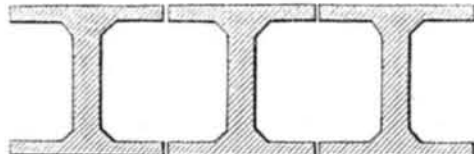
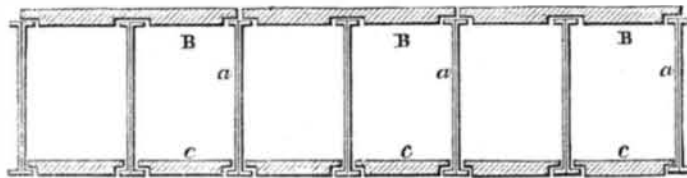


Figure 3.



Fig. 4.



Having, during my visit at "The World's Fair," and since my return, paid much attention to the subjects heading this article,—and having, in company with Mr. F. B. Taylor, of this place invented machinery intended to effect great changes in the manufacture of bricks for building purposes, I propose to speak of the subject of hollow bricks,—tiles for roofs, floors, and ceilings, from fire clay, and of boiler plate for beams, girders, and rafters, introducing a few sketches to enable your readers to better understand the propositions I would make.

Those at all conversant with the subject of Hollow Bricks for dwellings, are well aware of the advantages claimed for that class of materials for the walls of buildings, but as the discussion has engrossed comparatively but little attention in this country, I will introduce a few instances of difference that are now being thoroughly investigated both in England and on the continent. The most important of these comparisons relate to health.

All persons occupying brick houses are aware of the great amount of dampness pervading the interior portion of the walls, during continued rainy weather, giving an unhealthy condition to the atmosphere of the rooms and an unpleasant sensation to all occupying them. Hollow bricks, properly constructed and built in walls, will and do completely obviate this difficulty, by interposing stratas of dry air, which is well known to be, when properly confined, the best non-conductor of moisture, heat, electricity, and sound, of all the substances used to form such barrier.

Another important advantage, in the use of hollow bricks, is, that they may be constructed of any desired dimensions to suit the thickness of walls, with full facilities of thoroughly burning them, thus saving two-thirds to three-fourths the mortar, and consequently much of the labor of preparing and distributing it, which will be found a large item in the account current of building.

A still further advantage is in carrying gas pipes, water pipes, and air to any part of the building.

Another advantage will consist in the diminished weight of the walls, and a consequent decrease of tendency so sink in the foundations. And still another in the saving of clay in the construction of bricks. Some who look over our immense beds of clay, in some localities, may think this a trifling matter, but others who know how high premiums are paid for some clay sections, will not look upon it as insignificant in relation to first cost, and when the labor of digging, mixing, grinding, and handling the clay, for 2,000,000 bricks, instead of 1,000,000, is considered, we shall find the difference, on a ba-

lance sheet, equal to a lucky day's labor in the California placers.

Having thus spoken of the advantages of the hollow over the common brick, I would say that two kinds of hollow brick with the machines for constructing them, were exhibited at the Great Fair, in London, known there as "the English" and "the French" bricks and brick machines. The machines were not particularly dissimilar in the manner of reaching their results, but there was a material difference in the form and quality of the brick, showing a decided advantage in the form of the French brick. I superintended several experiments in testing the strength of the two kinds, which showed that while the English brick was crushed at from four to five thousand pounds, the French brick resisted from seven to eight thousand pounds direct pressure. The surface area was nearly equal, but the French brick was of the greater depth, being about 5 by 6 inches cross section, and perforated in the direction of its length by square holes or interstices of about one inch area, with intervening bars forming and surrounding those holes about five-eighths of an inch, taking away nearly one half the clay. The English brick resembled more nearly the common brick, with an aperture, leaving a shell about seven-eighths of an inch thick. The great objections to these plans of making hollow brick are, the necessity of making them of very wet clay, subjecting them to great liability of being marred in handling, warping, and shrinking in drying and burning, and in proportion to the amount of moisture evaporated, they will be loose and porous, and have the tendency to re-absorb moisture.

It is to obviate these difficulties that Mr. Taylor and myself have entered the field of competition, and hope we have designed machinery, and invented and secured processes that will most effectually accomplish what we wish, and afford facilities for producing hollow bricks so cheaply, that every builder in our country, and in other countries, can be supplied. As soon as the necessary patents are secured abroad, we shall present those plans to the world through the medium of your paper, and abide the decision which science and experience shall award, not grudging if others shall seek better and more efficient ways in reaching a desired result.

I will merely say that we expect to make bricks twelve inches square, cross-section, by eighteen inches long (and as much larger and longer as builders like), with 16 apertures about 1 3/4 inches square, with the relative divisions and surrounding shell, and to make them so accurate, and square and smooth, that, with a proper ornamenting or glazing, they will need no other finish for inner walls than

to be neatly pointed. We expect to make rapidly, when their bulk is considered, and to be able to set them in the kiln from the press, most compact in their texture, and subject to but slight shrinkage.

During a recent excursion in the southwest, I found that fire-clay was most abundantly distributed along the great and important channels, and we propose to convert that material, by patented and patentable processes, into tile for roofs, floors, ceilings, &c., it being a much stronger material than common clay, and may be manufactured into peculiarly formed brick for arches, having lightness and strength combined.

The accompanying diagrams will further explain what I have been describing. Fig. 1 exhibits an end view of the brick we propose to make; fig. 2 is an end view of the three arch brick; fig. 3 is a cross section of the English hollow brick; fig. 4 is an end view showing the plan of constructing and uniting floors together, viz., the boiler plate beams, and floor and ceiling tile.

*a a a* and *c* represent an end view of joists or beams of double boiler plate of any required thickness and width, with short flanges turned outward on each edge, making a broader bearing for the floor tiles, and forming hooks or bearings for sustaining the ceiling tiles.

*B B B* represent flooring tiles with recesses for one bearing in the centre and two recesses at the ends to keep all steady and firm. These may be made of any dimensions to suit the width of spaces between joists or girders, and of any thickness to suit the necessary weight the floor is intended to bear.

*c c c* represent ceiling tile, made with flanges to correspond with the flanges of the iron beam, so that when laid in its place it will come flush with the bottom of the beams, and if moulded rough, will form an excellent base for plaster. With these arrangements, buildings would become indestructible by fire, and rates of insurance go down so as to make it an advantage in a financial point of view, in addition to its other advantages.

We do not allude to the use of beams, girders, &c., of boiler-plate iron, as new,—much of the credit of that suggestion, and tests under it, belonging to Mr. William Remmies, of your city, but we do claim as new, and worthy of notice, the arrangement of the flanges and tile ceilings and floors, and believe public and private health and security will be promoted by the adoption of a more complete system of dry and fire-proof buildings.

JOSEPH E. HOLMES.

Fishkill Landing, March 2, 1852.

An interesting experiment, ordered by the Secretary of War, for the purpose of testing the relative merits of Onondaga and Turks Island salt, has been made here. The occasion of this experiment is, that there has existed a strong prejudice against salt of home manufacture; and for all orders for beef and pork for the use of the government it has been expressly stipulated that it should be packed in Turks Island salt. The experiment was the packing of eight hundred barrels of pork in the two varieties of salt, about two or three months since, which was unpacked and examined by competent judges, and the result is that the meats packed in the two kinds of salt were precisely the same, both being compact and of the same color.

There are two kinds of salt made at Syracuse, and the pork was packed in the pure, large crystal kind.

#### Remarkable Perfection of Instruments.

The chronometers used in the Grinnel Arctic expedition were subjected to the severest tests, yet so exquisitely were these delicately-constructed instruments provided with adjustments and compensations for the great extremes of temperature, that one of them, after having been exposed to a polar winter, is returned with a change in its daily rate, during 17 months, of only the three-hundredth part of one second of time.

#### Cough Drops.

Take tincture of bloodroot, syrup of ipecacuanha, syrup of squills, tincture of balsam tolu, and paregoric, of each one ounce. Mix.

Used in all severe coughs from colds; it is a valuable mixture. Dose, half to one drachm whenever the cough is severe.