these are of like or different colors) prepared with tongues and grooves in the usual manner required for common flooring, so that the said boards so prepared, as set forth, may afterwards be laid down and secured directly upon the joists in the usual manner, and so produce a marquetry floor of any surface, pattern, or design, which may be adapted to such mode of construction without the use of the sub-floor required by other modes.

SAWING MACHINES—Hiram Wells, of Florence, Mass.: I am aware that various devices have been employed for feeding the carriage to the saw, and gigging back the same by means of friction, and friction and gearing combined, and I therefore do not claim, broadly, such device, irrespective of the arrangement and particular means employed for the purpose as shown.

I claim the arrangement of the rack, V, pinion, S, rack-bar, P, lever, Q, roller, I, slot, e, pin, D, and roller D', as set forth, whereby the shaft, K, will be rotated in either direction at pleasure according as the lever, X, is moved.

[We have noticed this invention in another portion of this journal.]

METHOD OF BUTTING AND POINTING THE BOLT TO BE SAWED INTO SHINGLES—Moses D. and Alpheus Wells, of Morgantown, Va.: We make no claim to regulating the position of the bolt by an oscillating table.

But we claim the vertical knife-edge slides, B B', and horizontal double inclined slide, D, in combination with each other and the carriage and saw, substantially as and for the purposes set forth.

SCROLL SAWING MACHINE—U. B. Vidal, of Philadelphia: I am aware that a cam similar to the one, F, described has been previously used for operating reciprocating saws, but I am not aware that said cam has ever been used in connection with springs applied to the saw, so as to strain the saw, and at the same time prevent re-action or "back lash," which would otherwise attend the operation of the same by means of the cam.

But I claim the arrangement of the slotted slide, H, with a cam, F, embraced by the friction rollers, g, and operated in connection with the springs, f f, c c, all as set forth.

[This is described on another page.]

COMBINED HORSE COLLAR AND HAMES—G. W. N. Yost, of Cincinnati, Ohio: I claim the adjusting breast yoke, E, in combination with the hame bows, A A, for the purpose of making the hames press directly backward and upon the fleshy portions of the shoulders in order to enable the horse to draw with greater ease, and also for more accurately fitting different horses, and thus preventing the chafing, galling, and stiffening of the shoulders, substantially as set forth.

WINDOW BLIND FIXTURES—A. G. Batchelder (assignor to H. E. Pearson and A. M. Butterfield), of Lowell, Mass.: I claim the application of a stand clasping the rail, in combination with the spring and guide rod, in the manner and for the purpose set forth.

SEWING MACHINES—A. H. Boyd (assignor to O. D. Boyd), of Saco, Me.: I claim the combination of the lever, M, with the shoe, and spring, 4, for giving the shoe a vertical reciprocating movement.

Also, in combination therewith, the slide, T, for giving the horizontal reciprocating movement to the shoe, (when the shoe is to be operated in the manner described), arranged as set forth.

RESTORING WASTE VULCANIZED RUBBER—H. L. Hall, of Beverly, Mass., assignor to the Beverly Bubber Company: I claim the process above described, namely, boiling waste vulcanized rubber in water, after it has been reduced to a finely divided state by grinding, for the purpose of utilizing the same, by restoring it to a plastic state, fit to be again used in the manufacture of india rubber fabrics, as set forth.

PUMP BUCKET—W. F. Horton, of Lockport, N. Y., assignor to W. K. Marvin, of New York City: I do not claim any single member of this bucket as new, either shaft, flanges, washer or packing.

But I claim the peculiar arrangement of the flange, D and B, with the corrugated washer, d, and packing C, when all are operated and secured in the manner described, and for the purpose set forth.

COAL SCREENS—Geo. E. Hoyt and F. Neshwitz, (assignors to G. E. Hoyt,) of Brooklyn, N. Y.: We do not claim any form of rotating coal screen.

Neither do we claim any arrangement which requires the dust to pass through a succession of screens before being finally separated from the coal.

But we claim preventing the dust and dirt which have been once separated from the coal from again mingling with it by means of the arrangement before described of the inclined screens, C D E F, in combination with the dust sieves, b, the whole constructed, arranged and operating substantially in the manner set forth, and applied to the purposes specified.

REGISTERING THE SPEED BACK OR FORWARD AND DISTANCES PASSED OVER BY RAILROAD TRAINS BY MEANS OF ELECRO-GALVANIC BATTERIES—Lewis Troost (assignor to John M. Battle) of Mobile, Ala. Patented in England, June 15, 1857—in France, June 18, 1857: I wish it to be particularly understood that I do not confine myself to the use of any of the particular mechanical devices described, nor to the use of any particular marks or characters in the several registrations, as such may be varied and modified without departing from the principle of my invention.

But I claim, first, The method described of recording the performance of a railway train on its journey, by the combination of a registration of time, and one or more registrations of distance, such registrations being made in lines parallel with or contiguous to each other, to show by comparison with each other the speed, movements, and stoppages of the train, substantially as specified.

Second, The indication of the backward movements of the train by a registration of a different character to that of the forward movements, but in the same relation to the registration of time, so as to show the time occupied and the distance passed over in backing and to enable such distance to be deducted from the distance run forward, and the distance run from the starting point to be correctly ascertained.

[A notice of this will be found on another page.]

SPRING PRESSURE GAGES—M. Y. Young, (assignor to himself, H. F. Litchfield and J. G. Hamblin,) of East Boston, Mass.: I claim supporting the piston entirely by an elliptic spring, sustained in position by a cross-bar or partition or the equivalent thereof applied in the case, and making the piston to rest in other respects only against the elastic diaphragm, and have no connection with the sides of the space within which such piston may move, the whole being productive of an advantage, as above stated.

RE-ISSUES.

PRINTING PRESSES—Stephen P. Ruggles, of Boston, Mass. Patented Jan. 1, 1851—Re-issued Jan. 19, 1858. I claim the gage bar for cards above referred to, in combinatiou with the vibrating platen, and stop-finger and crank which operates the same, in the manner and for the purpose described.

I also claim the use of a segment of a cylinder in combination with the stationary form bed, so that the rotary inking apparatus may move over the form, and then after taking ink from the fountain, distribute it on said cylinder as above set forth. I also claim, in combination with the stationary form bed, the revolving cheek plates, I I, for carrying the rolls over the form, as set forth and described.

I also claim the movable bearers on the side of the form bed, arranged and operated substantially as above described, so as to be moved outwards when the inking rollers are passing over the form and drawn inwards when the sheet or tympan is moved up to said form.

I also claim regulating the delivery of the ink, by combining with the delivery roller, a grooved ratchet wheel and weighted pawl band operating with the lever stud, cam roller, and stop lever, substantially as specified.

I also claim supporting the journals of one of the inking rollers on sliding bearers, so that it may be moved up against the delivering roll by means of studs on said bearers and cams, operating the same as set forth.

VAULT COVERS—George R. Jackson, of New York City. Patented April 21, 1857—Re-issued Jan. 19, 1858: I claim combining glasses of an inverted pyramid, polygonal, or conical form with the sash or metallic portion of an illuminating vault cover or its equivalent, for the purpose of producing a wide spread and perfect diffusion of the rays of light which may pass through said cover into the apartment beneath, substantially as set forth.

ECCENTRIC EXPLOSIVE SHELLS—Wm. W. Hubbell, of Philadelphia, Pa. Patented Jan. 22, 1856—Re-issued Jan. 19, 1858: I claim the combination of the head or segment of the solid sphere with flat base uniformly around the fuze hole, with the segment of the hollow part forming a spherical shell with flat-based head and externally smooth, as described.

AIR TIGHT STOVE—Zephaniah Bosworth, of Harmer, Ohio, assignor to J. M. McKinlay, of Dubuque, Iowa. Patented April 6, 1842—Extended for the term of seven years from April 6, 1856—Re-issued Jan. 19, 1858: I claim a fire-pot, a combustion chamber, and descending flues leading from the bottom thereof and between the fire pot and outer casing to a chimney, all arranged in the interior of a box, enclosure, or casing of suitable materials with proper provision for admission of air or fuel, all substantially such as are described, in combination with a properly governed aperture for admitting air into the chimney without passing through the fire-substantially in the manner set forth, the whole constituting a stove substantially such as is specified, and this combination is claimed whether the oven be used or not. The sliding door, L, the drop door, C, and the other parts of this stove do not differ from such as has been previously known and used; no claim is therefore made to them, or in fact any part of the stove taken individually, but the claims are limited to the combination, substantially as set forth and made known.

ADDITIONAL IMPROVEMENT.

CIDER MILLS—Benjamin Mackerley, of New Petersburg, Ohio. Patent dated Nov. 4, 1858—Additional improvement, Jan. 19, 1858: I claim preventing the apples from passing in an uncrushed state from the hopper into the grinding chamber by means of the joint action of the comb, S, and the division plate, t, arranged in relation to the stationary teeth, f, in the concave, A, and the double series of rotating teeth, d and e, of the cylinder, g, substantially as set forth.

I also claim extending the length of the grinding chamber beyond the series of teeth, f, in said chamber and then combining a clearing cam, r, with the correspondingly elongated end of the cylinder, g, substantially as set forth.

EXTENSION.

BOOT CRIMPS—Josiah Copeland, of Weymouth, Mass., assignor to Jonah M. Read, of Boston, Mass., assignor to Josiah Copeland, aforesaid. Patented January 20, 1844—Re-issued August 11—Extended January 11, 1858: I do not claim strictly the combination with a pyramidal frustrum or block, A, of another piece of metal forced down upon or over it, by a screw or other contrivance, separate from the main straining screw, and for the purpose of confining the corners or edges of the leather between the said pieces of metal. Nor do I claim the forcing of the two jaws or pieces of metal together by a screw or other contrivance separate from the main straining screw.

But that which I claim consists in the manner described of arranging the blocks, A, and clasps, C, so that the turning up of the straining screw shall at the same time perform the double operation of confining the ends of the leather between the block and clasp and of stretching the leather over the boot form, the whole being substantially as above specified.

DESIGNS.

TYPES—George Bruce, of New York City.

STOVES—A. C. Barstow, of Providence, R. I.

Table of Patents Issued to Each State in the Year 1856.

CLASSES.	I. Agriculture.	II. Metallurgy and Manufacture of Metals.	III. Manufacture of Fibrous and Textil Substances.	IV. Chemical Processes, &c.	V. Calorifics, Lamps, Stoves, &c.	VI. Steam and Gas Engines.	VII Navigation and Maritime Implements.	VIII. Mathematical, Philosophical and Optical Inst's.	IX. Civil Engineering and Architecture.	X. Land Conveyance.	XI. Hydraulics and Pneumatics.	XII. Lever, Screw, and other Mechanical Powers.	XIII. Grinding Mills and Mill Gearing.	XIV. Lumber and Machines for Preparing.	XV. Stone and Clay Manufactures.	XVI. Leather, &c.	XVII. Household Furniture, &c.	XVIII. Arts Polite, Fine, and Ornamental.	XIX. Fire Arms, &c.	XX. Surgical and Medical Instruments.	XXI. Wearing Apparel, &c.	XXII. Miscellaneous.	Totals.
Me.	3	2	2	0	0	1	1	0	1	0	1	1	0	10	0	2	2	1	0	0	0	2	29
N. H.	7	3	2	0	0	0	1	0	1	5	6	2	1	5	4	1	5	1	3	1	0	1	49
Vt.	6	3	0	0	0	1	0	0	1	3	0	2	2	5	5	0	4	2	1	2	2	0	39
Mass.	17	26	38	22	33	17	8	7	19	16	20	6	1	35	2	22	22	20	10	3	2	8	354
Conn.	5	28	12	8	9	6	6	4	2	2	8	2	1	5	3	2	7	12	10	1	2	7	142
R. I.	1	7	4	1	1	2	1	1	1	1	0	1	0	0	0	0	0	2	2	0	0	0	25
N. Y.	68	74	43	33	42	35	17	10	37	33	32	6	8	47	16	11	36	39	17	6	4	15	629
N. J.	2	14	7	8	5	2	5	1	3	3	1	2	3	3	0	1	1	5	3	0	0	6	75
Penn.	34	30	7	18	22	15	4	1	17	14	12	2	4	18	13	5	19	20	10	2	3	6	276
Del.	1	0	1	0	1	0	1	0	2	0	0	0	0	1	0	1	1	1	0	0	0	0	10
Md.	6	2	2	4	3	1	2	1	2	4	3	0	1	0	2	2	3	1	2	1	0	0	42
D. C.	4	1	1	1	4	1	5	2	0	3	0	0	0	5	3	1	3	2	3	0	0	2	41
Va.	18	1	2	2	3	0	0	0	2	3	3	0	0	5	0	0	4	2	0	1	0	2	48
N. C.	5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	7
S. C.	0	0	0	0	0	0	0	0	0	2	0	1	0	3	1	0	0	1	1	0	0	0	9
Ga.	6	0	2	0	0	2	0	0	0	0	0	0	0	1	1	0	1	0	0	1	1	0	15
Fla.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ala.	1	0	1	0	2	1	0	0	0	1	0	1	0	0	0	1	1	0	1	1	0	0	11
Miss.	8	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	10
La.	0	0	2	3	3	2	3	1	0	2	0	1	1	1	2	0	0	0	4	0	0	0	25
Ky.	5	0	0	0	0	0	1	2	1	2	0	1	0	2	1	0	3	0	1	0	1	0	20
Tenn.	1	0	0	0	0	0	0	0	0	3	0	1	0	0	3	3	1	0	0	0	0	2	14
Ohio	33	10	3	1	7	6	1	1	12	11	4	5	5	18	4	2	9	7	3	2	0	2	146
Ind.	8	1	2	2	1	0	0	1	4	2	0	0	5	7	6	3	3	1	1	0	0	3	50
Ill.	25	2	1	3	3	2	1	1	4	8	4	0	5	13	2	2	2	1	1	2	0	0	82
Mich.	5	5	1	1	0	0	0	1	1	4	0	0	0	1	1	0	0	1	3	0	0	0	24
Wis.	11	2	0	0	1	2	0	0	0	0	3	0	1	2	2	1	3	1	1	0	0	0	30
Iowa	0	0	0	1	0	1	0	0	0	0	0	0	0	1	2	0	2	1	0	0	0	0	8
Minn.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mo.	4	5	3	1	1	2	2	0	3	2	2	0	1	1	1	1	3	0	0	1	0	0	33
Texas	2	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	5
Ark.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cal.	1	4	0	0	1	0	3	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	11
Foreign	0	6	3	6	0	1	3	1	0	2	0	0	0	0	2	2	1	0	1	0	0	2	30
Totals.	288	226	141	115	142	100	65	35	115	123	99	34	39	190	79	63	136	121	78	25	15	58	2292

REMARKS.—There seems to have been no curious inventions for the year 1856. The number of inventions, however, in particular classes, and of articles in some classes, is somewhat remarkable—for instance, in class I, nearly one-third were for Harvesters, being eighty-seven, and Planters being thirty-seven. There was fifty-three inventions in Fire-arms. The offer made two or three years ago, by a firm in Vermont, of $10,000 for a Sawing Machine for Marble, set inventors to work, and was followed by the issue of twenty-six patents for such machines. It would be useful and interesting to inventors especially to know if any of these machines came up to the demands of the gentlemen, and whether the money was paid, as promised.

The Reports for 1856 seem to be carelessly compiled. By the tabular statement (page 2), we have given as the number of patents 2,502

By List of Patentees: Patents	2,304	
Re-issues	83	
Designs	107	
Additional Improvements	27	
		2,521
By List of Patents	2,292	
Additional Improvements	27	
Re-issues	83	
Designs	107	
		2,509
By Index to Vol. III., from 14,008 to 16,323, inclusive	2,316	
Additional Improvements	27	
		2,343

It will be seen, from the above, that out of returns from four different sources, no two agree. Again, in the alphabetical list of patentees, there are several errors. On page 71, the name of James A. Cutting is omitted for a re-issue, dated Aug. 12, 1856. On page 100, the re-issue to B. J. La Mothe, is stated to be in Class X., instead of a re-issue. Page 106, an additional improvement granted to John F. Mascher is placed in Class XVIII. Page 107, patent to W. H. McNary (No. 16,285) is placed as a re-issue, instead of in Class III. Page 125, re-issue to T. J. W. Robertson, is placed in Class III. Page 139, re-issue to A. Swingle, is placed in Class III. These errors have been discovered in forming the above table. It may be said they are slight, and errors must be expected, but the utility of the tables and classification is destroyed, unless they are correctly made up. This must be evident to every one. T. G. S.

Tin versus Gold for Teeth.

MESSRS. EDITORS—In 1841, the second molar tooth in my "working" side of the under jaw became decayed in the center of the crown and forward, so much so that it was very sensitive. Not being where a dentist was accessible, I undertook the job of filling it. I cleaned the cavities and enlarged them slightly sidewise, and filled them compactly with heavy tin-foil, the only thing I could get; thinking that as soon as practicable I would have the thing more artistically done. It is now seventeen years since I did so, yet the tooth has been used constantly, is emphatically a "working" tooth, and is as sound and strong, apparently, as the day it was filled; it has not (owing, I suppose, to the non-conducting properties of the tin) shown the slightest sensitiveness. The metal seems as durable as gold, and if so, is far preferable on several accounts. I shall never have a tooth filled with anything else, if I should need such work done again. R. H. A.

Baltimore, Md., January, 1858.

Steam Ice Boat.

The Janesville (Wis.) *Standard* describes a steam ice-boat, projected by J. Ward, of that place. It is to be a small steamer, minus the wheels, and be placed on runners. The method proposed to propel it, in the absence of wheels, is thus described:—

"There are to be two belts of india rubber passing fore and aft under the deck, over pulleys, driven by the engine; and to the belts, which run parallel to, and near each other, there are connected dogs or poles, inclining upward from the ice to the belts at an angle towards the bow, and while one is passing from front to rear, the other is dragging to the front, and so act alternately, making tracks once in forty feet, or more than the length of the belts."

This method of propulsion appears to be an endless belt grappler.—EDS.

Torsion.

This term is applied to the twisting or wrenching of a body by the exertion of a lateral force. If a slender rod of metal be suspended vertically, and, having its upper end fixed, be twisted through a certain angle by a force acting in a plane perpendicular to its axis, it will, on removal of the force, untwist itself, and return with greater or less velocity, and after a series of oscillations, will come again to a state of rest. The limits of torsion within which a body will return to its original state, depends on its inherent elasticity. A fine wire of a few feet in length may be twisted through several revolutions without impairing its elasticity, but if carried beyond a certain point, the fibers or particles will be torn asunder and assume a new position, as, for example, in a lead wire, before finally breaking.

Atacamite.

Chloride of copper is a mineral of a green or greenish black color, and adamantine or vitreous luster. It occurs in massive fragments, in rhombic prisms and rectangular octahedrons, which give off fumes of hydrochloric acid gas when heated before the blowpipe. This compound is found in Saxony, the neighborhood of Vesuvius, and the desert of Atacama, between Chili and Peru. In Chili this mineral is ground into powder, and sold under the name of *arsenillo*, as a sand for dusting letters.

A NEW COMET.—H. P. Tuttle, of the Harvard College Observatory, discovered a telescopic comet on the evening of the 4th inst. It was first seen at half-past seven P. M., and makes the fourteenth comet discovered at that Observatory. It is in the northern part of the heavens, and can only be seen with a powerful telescope.

We Americans have manufactured 25,965 miles of railroad, which, if it could be stretched in one continuous line around the waist of Mother Earth, would still leave her about a thousand miles for a bow-knot.