



Reported Officially for the Scientific American

### LIST OF PATENT CLAIMS

Issued from the United States Patent Office. FOR THE WEEK ENDING NOVEMBER 30, 1852.

**SCREWING BOLTS, &c.**—By John Caswell, of Syracuse, N. Y. (assignor to A. C. Powell): I claim, first, the movable ways running in yielding bearings, back and forth, under the machine, and supporting the vise, as set forth.

Second, the adjustable stop or gauge on the side of the friction nut working in contact with the movable finger, or any similar projection in the die chuck.

**ATTACHMENT FOR CONVERTING THE ORDINARY INTO A PAPER VISE**—By J. W. Bliss, of Hartford, Conn.: I claim an attachment to the vise, substantially as described and for the purposes set forth, which attachment is removable at pleasure, and requires no change in the construction of the vise to which it is applied.

**HOES**—By Wm. C. Finney, of Fayette Co., Tenn.: I claim the extension of the blade of the common cotton hoe, upward and backward, in a curve, in such form and manner to enable the laborer, by inserting his instrument and pushing it from him, to remove, by the cutting edge, any grass, weeds, superfluous plants, &c., as described.

**MORTISING MACHINES**—By Jos. Guild, of Cincinnati, Ohio: I claim the sliding wrist connected with the chisel and also with the driving power, in the manner described, in combination with the mechanism described, or its equivalent, for sliding said wrist, so that the operator can, during the motion of the machine, vary the depth of cut of the chisel, or cause it to be suspended without disconnecting the driving power.

**ENDLESS BELTS TO THRESHING MACHINES**—By J. R. Moffitt, of Piqua, Ohio: I claim the continuous open apron, having its belt formed of links, whose cogs are at one part of their rotation (in connection with the pinions), or means of propulsion, and are, at another part of their rotation (in connection with the rollers or other stationary objects) a means of agitation of the said apron.

**PLOWS**—By F. B. Richardson, of Hicksford, Va.: I claim mounting the double pointed share upon the central shoulder-piece, and fastening the same by a link piece, as described.

**ROTARY KNITTING MACHINES**—By Horatio G. Sanford, of Worcester, Mass.: I claim the combination of the mechanism termed the stop-motion, with the rotary knitting machinery of the kind, as specified, the object of the stop-motion being to arrest the operations of the machine on breakage of the yarn.

**ROTARY KNITTING MACHINES**—By David Tainter, of Worcester, Mass.: I do not claim the combining one or more draft rollers and a take-up roller, or drum, in one frame, which, when put in rotation, shall carry them simultaneously around with it, so as to draw forwards and wind up a rope or cord, or like manufacture, formed of strands twisted together.

Nor the application of a take-up roller or mechanism as used on either a common warp or flat braid knitting machine; but I claim to combine a draft and take-up roller, and mechanism for revolving it, with a rotary series or set of needles and other mechanism of the peculiar kind mentioned for knitting, that such draft roller shall rotate simultaneously, or with the same velocity, with such series of needles, so as to prevent the longitudinal rows of stitches from being produced in helical lines, and the evil consequences resulting to the fabric therefrom.

Also the arrangement of the draft and take-up mechanism, in connection with the knitting mechanism, supported by two separate frames, and also their connection with the mechanism for producing an equal and simultaneous rotation of these frames, all substantially as described, whereby there shall not only be no connection between the frames to extend through the fabric but no projection from the frames come in contact with the presser, stitch wheels, and cam bar, or their respective supports, during the simultaneous and equal rotations of both or either of the said frames.

**COOKING STOVES**—By H. J. Ruggles, of West Poughkeepsie, N. Y.: I claim the combination and arrangement of the front and rear flues and air chamber, as set forth.

**STONE AND EARTHENWARE**—By Jacob & Freeman Wise, of Fredericktown, Pa.: We claim, first, the mode of attaching the mandrel so that it may revolve on its axis, by means of friction with the clay, and at the same time be moved from side to side within the mould.

Second, the mode adopted for varying the relative thickness of the different parts of the manufactured article.

**GENERATING HEAT**—By Wm. Hartell, of Kensington, Pa., and Jos. Lancaster, of Spring Garden, Pa.: We claim the adaptation of, or rendering available tar as a fuel, for the production of the intense and steady heat required for the melting and manufacturing of glass, by introducing water or the vapor of water into the furnace in contact or in close proximity, or in combination or mixture with the tar, in the manner set forth.

#### RE-ISSUES.

**CREAM FREEZERS**—By Eben C. Seaman, of Philadelphia, Pa. Originally patented Oct. 3, 1843, and ante-dated April 3, 1843: I claim the arrangement of two scrapers at an angle with the bottom and sides of the vessel, as described, so that the action of the rotation shall throw the scrapers against the sides and bottom of the vessel.

**WELDING CAST-IRON TO MALLEABLE IRON OR STEEL**—By Mark Fisher & Wm. Martin, Jr., of Newport, Me. Originally patented Oct. 16, 1847: We claim uniting the steel and cast-iron, as described, by first preparing the steel, in the manner set forth, and then causing the cast-iron to flow over and upon the surface of the steel thus prepared, in the manner and for the purpose set forth.

#### DESIGNS.

**PARLOR STOVE**—By D. Arnold, of Providence, R. I.

**FRANKLIN STOVE**—By Saml. F. Pratt, of Boston, Mass. (assignor to Jagger, Treadwell & Perry, of Albany, N. Y.)

**WINDOW BLINDS**—By Nathan Chapin (assignor to Nathan Chapin & J. F. Driggs), of New York City.

#### A New Steamboat Paddle Wheel.

The following is the description of a new paddle wheel, copied from the "N. Y. Tribune," which copied it from the "Detroit (Mich.) Advertiser." The wheel is the invention of Capt. W. A. Bury:—

"The wheel which he has invented is formed, in all its parts, exactly like the paddle-wheels of a steamboat, with the exception of the paddles or buckets. In the common paddle wheel the paddle or bucket is a solid oblong board, fastened firmly across the two parallel arms. In this new wheel a paddle or bucket is affixed to each arm by a strong hinge in the inside corner of the arm. The two paddles being equivalent to one common one. The paddle itself is an oblong piece of wood, shaped like a wedge and hung in the arm, so that the heavy end is between the arms, and the light end is outside. But the lightest division of the paddle has the most surface, and it is upon this fact the utility of the invention depends. For instance, the wheel revolves, the paddle strikes the water, but it is so hung on the arm at a certain angle, that the outside corner gradually sinks in, and as the wheel revolves, the surface of the paddle meets the water gradually, but so as to press it back against the arm, where it is firmly held by the pressure caused by its own motion through the water; as the paddle rises to the surface, the angle at which it comes out of the water, permits the heavy end to fly back against the inside of the arm, and it thus comes out edgewise, exactly on the principle of feathering an oar. The paddle, by the simple operation of the principle of gravitation, remains with its edge directly in the line of the revolution of the wheel till the arm passes the perpendicular, when the paddle falls into its place ready to meet the pressure of the water again."

[Paddles with wedge-shaped extremities are not new; neither is the hinging of them; we have seen a number of models with hinged paddles. They will not answer; they may do very well on a model, but on a large scale will soon go to pieces. The water lift, to obviate which so many paddle wheels have been invented, is obviated by making the wheels of large diameter, or on the Galloway feathering principle. In Vol. 2, page 169, Scientific American, there is an illustrated feathering wheel of Mr. D. G. Smith, of Pennsylvania, and on page 249, same volume, there is a paddle-wheel with jointed paddles the invention of Mr. McCarthy, of Saugerties, N. Y.]

#### Recent Foreign Inventions.

**WAX CANDLES**.—T. H. Smith, of Hammer-smith, England, patentee.—The improvement is in the wick preparation. They are saturated in a solution formed of 4 ozs. borax, 1 oz. chlorate of potash, 1 oz. nitrate of potash, and 1 oz. of salammnia dissolved in three quarts of water. After this they are dried and fit for the waxing.

**HAT BODIES**.—J. Johnson, London, patentee.—He mixes cork dust mixed with wool or the substances now used for hat bodies, employing fine whalebone for stiffening.

**NEW COMPOSITION**.—J. Hinks and E. Nicholl, of Birmingham, England, patentees.—The new composition is for making boxes for holding steel pens, &c. It is composed of 3 parts of gutta percha mixed with one part of wheat flour, or with other farinaceous substances by heated rollers, and then stamped into shape.

#### Ventilating and Warming large Buildings.

The following process for the above purpose, is adopted in the Northern Hospital of France:—The air is taken from a tower on the top of the building, so as to be always pure, and in summer cool. It is sent inside in a quantity invariably equal and of the same power, by numerous apertures in the centre of the rooms which it passes along from one end to the other, and issues by eighteen orifices without its action being neutralized by opening one or all the windows. The steam engine is relieved in case of stoppage by another auxiliary one, and in cases of epidemic both act together to increase two-fold the supply of injected air. This engine sets in motion the ventilators for driving the air in all directions and likewise raises the water required for the

hospital. The steam is likewise used for warming baths of every kind, as well as for the laundry use, the ventilation, during the whole year, consequently costs nothing. Several boilers are employed to produce the steam for the different duties of the hospital,—to warm the rooms by means of hot water stoves, independent of each other, to ventilate the six wards by a steam engine, to heat the office stoves, the baths, &c., to raise the water and wash the linen. These are placed in a court behind, away from the patients and conveniently to the kitchen. There is an open grate on the ground floor of each building, for those preparations that must be made over a fire, and the heat from the smoke is employed to ventilate the water-closets. The expense of warming the hospital in winter is \$2,805, and that of ventilating it in summer \$935, which is paid for by the employment of the steam for warming the baths.—[Genie Industriel.]

#### Improvements in Machinery Benefit the Working Man.

There are many ignorant men who speak of the evils which have been brought upon working men by improvements in machinery; there are others also who say that in old times, when ignorance in the arts and everything else was bliss, that the working men had more to eat and drink than now, and that old England was then "Merry England," her people having plenty of roast-beef and plum-pudding, while now, owing to machinery and so on, it is no more Merry England; her mechanics are half starved, and her working men are whole starved. This is all nonsense, improvements in machinery have improved the conditions of all classes, as the following extract from the London Builder will show:—

**OUR ARTISANS AND THEIR PRESENT PROSPECTS**.—It certainly seems to us that the artisans of the United Kingdom have never had a better prospect before them than they have now. Nothing is to be done without industry, right endeavor, and good conduct; but with these they all may, if they please, maintain themselves respectably, and make satisfactory progress. At the present moment we are disposed to think there are comparatively few really good workmen out of employ, and while bread and other necessaries of life are cheap, wages are high.

"At the present day, a Manchester joiner, who earns 4s. 4d. for ten hours' labor, can purchase a day's food for one-fourth of that sum; hence it follows that his disposable wages are 200 per cent. higher for ten hours labor, than a man could have earned in 1725 by working twelve hours. Compare the prices of things even forty years ago, with the prices now—salt, sugar, tea, butter, soap, flour, clothes;—examine, too, the increase in the average length of life (an important point,) and the improvement in the material condition is made evident; while, if you notice the establishment of elementary drawing schools, artisans' schools, schools of design, and free libraries, you will see a good prospect opening for intellectual advancement. At all events, and we offer the advice only to such as are disposed to take it from us, and will not think it impertinent, do not fail to give your children the advantage of the means of improvement and ultimate advancement which offer themselves; send your sons to the elementary drawing schools, and encourage in them a taste for reading.

#### Explosion of Lime Barrels.

George Dragan, for the last six years employed in the shops of the Mad River Railroad, was killed at Sandusky on Thursday morning last, by the explosion of a barrel, into which he had put unslacked lime for the purpose of cleansing it. On pouring boiling water upon the lime and shaking the barrel after closing the bung, it exploded with great force, and so badly shattered the German's head as to cause his death in a few moments. He leaves a wife and four small children.—Here then is another question for savans—"Will lime explode.—[Ex.]

[This is no question for savans at all; everybody knows that lime will explode by pouring boiling water upon it. The gas given out by lime when water is poured upon it,

is active steam—one exceedingly sensible of heat, and which has a most extraordinary expansive power. A large cast-iron cylinder of great thickness, which was employed to contain carbonic acid gas in the Polytechnic Institute of Paris, exploded with terrific force, killing the assistant lecturer in an instant. If carbonic acid gas burst an iron cylinder as thick as a cannon, what is to hinder steam from bursting a barrel. A reader of the Scientific American would have known this, for the information has more than once been propagated through our columns.

#### Mechanics and the Scientific American.

The following is from our excellent contemporary, the Marshall Telegraph, Marshall, Ill., J. G. Jones, editor. It contains plain and kindly spoken truths. No mechanic now can rise either to be a foreman or manager, or a good tradesman, or can be qualified to do business for himself intelligently, unless he takes a paper devoted to the progress of invention and the arts:—

"We acknowledge the receipt of the Scientific American from the commencement of the present volume, and most cordially recommend it to the patronage of the mechanics and others in this section.

Whilst on this subject we must confess that we have been pained to witness the indifference manifested by our young mechanics generally, and those who are learning mechanical occupations, in qualifying themselves to become completemasters of their business.—This is not right. When a young man starts out in life to learn a trade, he should do it with a determination to excel in his particular branch. This can only be effected by reading the observations of others, and profiting by their experience; and at the same time deep thought and close application on the part of the student. If a young man desires to become completemaster of his business, he should not consent to be satisfied with the instructions of his employer only—imagining that all has been learned that can be; but he should read, study, reflect, investigate, and inquire into the whys and wherefores—become acquainted with first principles. Why have we so few superior workmen in the different branches of mechanics? Simply for the want of the right kind of application on the part of those who follow such pursuits. They have the ability, the intelligence, and the energy if they would but bring them into operation. Young men! instead of idling your time in reading foolish, simpering, mawkish love stories and novels, get good scientific works, connected with the branch of business you are learning, and store your minds with facts which will last you as long as you live, laying the foundation for future usefulness, and bring to you honor, fame, and competence. What made a Franklin, a Fulton, an Arkwright, and a Watt? Was it foolish, trifling reading? or was it a proper direction of their leisure hours to the right kind of study?—That which has been done by others can be accomplished by you; the positions they have filled in community can be attained by you, if you use the same industry and persevering application.

Throw away your love-sick novels and procure good scientific works. We know of none better to recommend than the Scientific American."

#### Shawl Fringes.

M. Blanquet, a French manufacturer has invented an ingenious apparatus for giving a double twist to the fringes of shawls, tartans, &c. This has been contrived in order to imitate in French shawls, the fringes of the common English shawls, which were eagerly purchased by French ladies at the World's Fair in London, on account of their superiority in this respect.

#### Coining Machine.

M. Bovy, of Geneva, has just introduced into France, with the authorization of the State, a new coining press; having an eccentric and direct action, and of simple and economical construction, which appears to unite all the advantages of regularity, precision and firmness that are required in a similar machine. It is now being tried in the government mint at Paris, and will be specially employed for striking a new copper coinage.