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LIST OF PATENT CLAIMS

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FOR THE WEEK ENDING NOVEMBER 16, 1852.

EXPANDING BITS—By Charles L. Barnes, of New York city: I claim so forming and combining the movable and stationary parts of an expansion bit, for boring different sized holes, as that a cutting edge shall at all times be preserved entirely across the bit; and at the same time, the cutting point on the moveable part thereof, shall always be parallel with the shank of the bit, or the line of the hole, as described.

I also claim the rising and falling of the movable part of the bit, as it is contracted and expanded, by means of the inclined slots and set screws or their equivalents; so that the lip on the movable part, shall become the cutter, when boring the largest size of holes, (the other lip being at rest,) and the lip on the stationary part shall become the cutter, when boring small sized holes; the other lip being at rest, by which means I am able to form the lips of the proper shape for different sized holes, without changing the cutters, as described.

SEED PLANTERS—By H. Davis, and Samuel and Morton Pennock, of Kennett Square, Pa.: We claim, first, the employment of the sigmoid, or other similarly curved or angular receiving and discharging openings, in combination with the reciprocating slide and feeding stubs, for the purposes specified; the said reciprocating slide having angular points projecting into the said sigmoid openings, for effecting the discharge of the seed from the outlets from which the stubs are receding, while the latter are feeding the seed toward the opposite extremities or outlets of the openings, during each movement of the slide, by means of the inclined sides of said points, and the movement of the slide.

FLAX PULLERS—By Lewis S. Chichester, of Brooklyn, L. I.: I do not wish to limit myself to the mere construction or arrangement of the parts.—I claim the employment of one or more pairs of rollers, as described, in combination with the fingers or separators, or their equivalents, for presenting the stalks to the bite of the rollers, to be drawn in as described; also, in combination with the rollers—the revolving arm, or arms, for collecting and drawing the stalks to the bite of the rollers, and also the employment of the fulcrum bar, as described.

CARPET LOOMS—By Jno. A. Van Riper, of New York city: I claim, first, actuating a positive let-off for the delivery of yarn, a positive take-up of the woven cloth, and a variable winding upon a beam of the cloth, delivered from the take up rollers, by the combination of the crank pin or cam on the disc, or the equivalent thereof, with the alternating bar and its appendages, as set forth.

Secondly, the method of working the trap-boards, by means of the crank cam, rock shaft, and arms, lifting rods, cam and lever, and the other devices acting in connection with these for raising and lowering and oscillating the lifting rods—the whole operating as described.

Thirdly, the temples, constructed, arranged, and operated as described; so that they will be open during the time the take-up rollers are acting, closed at the time the lay beats up.

MACHINE FOR MAKING THIMBLES FOR RIGGING, ETC.—By Wm. Field, Providence, R. I,: I claim the arranging the two halves of the forming groove, upon the adjacent ends of two independent revolving mandrels or shafts, which are free to slide towards and from each other, so as ao hold the two halves of the groove in contact, while the article is being shaped, and to separate the two halves of the groove, to allow the finished article to drop out: also the combination of the divided shaping groove, with a reciprocating former operating in connection therewith, as set forth.

COTTON SEED PLANTERS—Wm. A. Gates, Mount Comfort, Tenn.: I claim, in combination with a rotary cylinder or box, having apertures in its perimeter, the projecting edges or wings, radial ribs or plates, and projecting fingers or prongs, arranged around the axle; the whole operating to separate or disentangle the seeds to be sown, immediately previous to the disposition thereof, in the furrow—as set forth.

SASH FASTENER—By J. B. S. Hadaway, of East Weymouth, Mass.: I claim, first, the combination of the rocking plate with the angular lever, the swinging lever, and the spiral spring, constructed and arranged and operating in the manner and for the purposes specified.

Secondly, the rocking plate combined with either a simple or compound lever, in the manner and for the purpose specified.

BLIND ANE SHUTTER OPERATOR—By Robt V. Jones, of Birmingham, Pa.: I claim, the tubular shanked box hinge, with roller contained therein, as arranged with respect to the roller within the building, when the rollers are connected by a chain, and the whole is constructed as described.

TANNING—By David Kennedy, of Reading, Pa.: I claim, the use of borax in combination with nitre, alum, and terra japonica, in solutions of tannin, for the purposes set forth.

BOTTLE STOPPER—By E. & D. Kinsey, of Cincinnati, Ohio: We claim, the combination of the ball stopper together with the rod attached to it, and the guides, in the manner and for the purpose set forth.

CYLINDER PRINTING PRESS—By Joel G. Northrup, of Syracuse, N. Y.: I claim, first, such a combination and arrangement of a horizontal bed and cylinder of a printing press, as will enable each forward movement of a bed to impart a revolution to the cylinder, for the purpose of taking or giving an impression, and permit it to remain stationary during the reverse movement of the bed, as described.

Secondly, in combination with a horizontal cylinder moving in one direction, with alternate rest and motion, the inking and flying apparatus as described.

PERSPECTIVE DRAWING APYARPTUS—By Prof. Adolph Richter, of New York city: I claim, delineating natural and other objects, in a diminished or increased size, with a lens, whan used with the apparatus and in the manner described.

PRINTING PRESSES—By Stephen P. Ruggles, Boston, Mass.: I claim, hanging or balancing the bed which holds the form and moves up and down for each impression, upon springs, so as that its own weight shall compress the springs to a great extent, and the entire compression of them be completed by drawing the bed further down whilst in motion and so that the elasticity of the springs, when the bed is to rise, will raise it up to the extent of their power, and the upward motion be completed by a separate arrangement, whilst in motion, for the purpose of relieving the machine from overcoming the inertia in moving the bed from a state of rest, the power to complete its motion being applied near the termination of its movement, as described; also, the arranging of the frisket and the inking rollers in separate carriages, moving on the same ways, with such relative velocities as not to interfere with each other, and so that the frisket may carry off and bring back the sheet quickly, whilst the inking rollers may travel more slowly and do more perfect work, as described; also, the pointing of the sheet, whilst being prepared for receiving the first impression, by an automatic movement attached to some moving portion of the press; also the application of a blast of air, or its equivalent, for the purpose of forcing the sheets upon the registering points, when the paper is being prepared for the reverse impression; also the removing of the sheet from the frisket, or from the press by means of atmospheric pressure, applied in the manner described, or its equivalent; also, making the registering points adjustable in the paper table, by passing it through a friction plate, secured between two plates: also, the combination of the open toggle and adjustable eccentric shaft or pin, which operate the bed.

CARD TEETH—By Cornelius Speer, of New York city: I claim the application of the material herein described, to the front side of the leather fillet, holding the card teeth, for the purpose of bracing and supporting said teeth.

SERVING MALLETS—By Daniel H. Southworth, of New York city: I claim, first, the attachment and use of the clasp or hook to the hollow or concave part of saddle of a serving mallet, for holding it to the rope while the operator brings the end of the marline from the spool over the pulley in the handle and upper edge of the saddle to the rope, where it is made fast without being wound round both saddle and rope.

Second, the attaching to a serving mallet, one or more set or thumb screws, or any analagous devices, for the purpose of pressing upon the spool, for enabling the operator to serve the rope with any degree of tightness the yarn will bear, without winding it round both saddle rope and handle; the said screws being attached and operating in the manner and for the purpose described.

RAIL ROAD CAR SEATS—By Daniel H. Wiswell, of Buffalo, N Y.: I claim the employment of the double jointed slides and jointed rods, with the jointed arms, jointed seat and back, pillars, and supports;—arranged and operating in the manner and for the purposes herein fully set forth.

CORDAGE MACHINERY—By H. S. Jennings and C. S. Collier, of Bethany, N. Y., and T. P. How, of Buffalo, N. Y.; (Assignor to H. S. Jennings, and C. S. Collier, of Bethany, N. Y., D. Perry and A. Beardsley, of Middlebury, N. Y., and A. Hemingway, of Perry, N. Y.:) We claim regulating the speed of the receiving reel, by the tension of the rope, as described.

DESIGNS.

FRANKLIN STOVE—By Joseph Pratt, (Assignor to Bowers, Pratt & Co., of Boston, Mass.)

PARLOR GRATE—By Joseph Pratt, (Assignor to Bowers, Pratt & Co., of Boston, Mass.)

Properties of Iron.

Mechanical Properties of Metals.—By Mr. Fairbairn.

After some preliminary observations, Mr. Fairbairn stated that having been requested by the British Association at their last meeting to undertake an inquiry into the mechanical properties of cast-iron, as deducted from the repeated meltings, and feeling desirous of ascertaining to what extent it was impaired or deteriorated arrangements were made for conducting a series of experiments, calculated satisfactorily to determine this question, and to supply such data and such information as will enable the engineer and iron-founder to ascertain with greater certainty how far these re-castings can be carried with safety, or till such time as the maximum of strength is obtained, and such other properties as appear to affect the uses of this valuable and important material. Mr. Fairbairn further stated, in connection with this subject, that it was his intention to investigate another important process, which, to a considerable extent, affects the stability of some of the most important iron constructions—viz: the rate of cooling as it affects the adhesive properties of the material, and the more complete and effective process of crystalization. On these points it is well known that a rapid rate of cooling is invariably attended with risk, that an imperfect crystalline structure is obtained, and that irregular and unequal attractions are not only present, but they are frequently the forerunne rsof disruption, as well as exceedingly deceptive as regards appearances, or the dangerous consequences which invariably follow in cases of rapid cooling and unequal contraction.

On the Form of Iron for Malleable Beams or Girders.—By Mr. T. M. Gladstone.

It is, said Mr. Gladstone, on the application of wrought-iron beams or girders, that I propose to make some remarks by contrasting their powers and properties with those of cast-iron; to show what form of iron I conceive best adapted for such use, and to state as a manufacturer, what may be expected of the capabilities of iron-works to produce the same beyond previous efforts, so as to meet the increased requirements of the times. It is found, that by converting iron from a cast into a malleable state, the adhesion of the fibres of the metal under tension, becomes increased from 7 to 27, and indeed much beyond that when the best quality of material is manutactured. At the same time it is stated that the compressive strength is somewhat reduced. In this latter assumption I do not altogether concur from a permanent feature in the experiments not being sufficiently taken into account—namely, that in experimenting with wrought-iron, of a given extension, from pressure, it is necessary, before you obtain even a medium value of the resistance, a modicum of deflection must take place to bring into play each of the fibres; consequently, not like as in a rigid cast beam, where the full action of compression acts at once, some allowance must be made for the chance from the first position, in calculating the compressive forces. Assuming generally that the increased strength or tensive power of wrought, compared with cast-iron is 27 to 7, it at once reduces the six-fold area of the bottom web of the iron beam, and nearly reduces to one-half the required sectional area throughout, yet retaining an equal strength, for every purpose. In many cases this increase of strength, enabling to reduce the weight, will fully compensate for the difference in price, so that up to this point the market and effective value of both may be said to be equal. The wrought iron beam, however, possesses this material advantage, and that is, it will always give good warning before the point of danger is reached, and this, mainly from its vastly increased deflective power—indeed, before its maximum is reached a great deflection can safely take place; therefore, both for life and property, its advantage is most conspicuous. With regard to the best form for carrying the greatest weights with the least metal, I have come to the conclusion, from actual experiment on a large scale, that the double T section is the best, provided the flanges are sufficient to prevent lateral action from the load. At the Belfast iron works, the members can see iron of the section shown in the bars, of twenty-six feet long, and weighing nearly half a ton, so that it will be seen that the mills are now constructed so as to roll iron of almost any dimensions which may be required, and such bars, from the breadth of the flanges, have never before been attempted in the three kingdoms. When I had the honor, four years ago, to read a paper at the society of Arts, on the means of constructing bridges without any centreing of such proportions of iron, no iron-maker would attempt to produce such proportion of material, while now I have accomplished it, and would have no hesitation in making them much larger if required. No doubt, for warehouses, mills, public buildings, and bridges its value will now become exclusively applied and appreciated. As these bars are rolled solid throughout, on comparison I have found they will bear nearly one-third more than any made beam of equal sectional area—that is, with a beam of which the centre-rib is of plate iron, and the flanges of angle iron, and riveted thereto, and so distributed as to make the double T form. This is easily accounted for, as you necessarily weaken the whole by its being requisite to introduce riveting, while a due and equal resistance is offered from all parts by the solidly-rolled bar.

[The above are abstracts from papers read before the recent meeting of the British Association for the Advancement of Science. A great many excellent papers on real practical and scientific subjects, were read before the last meeting. Of course we could not publish them all, but as we deem it of interest and profit to our readers, without any continuance from week to week, we will sometimes present other condensed abstracts like the above.

Cheap Fuel.

A noted agriculturist, Mr. Bergen, says that fuel of an excellent quality can be grown quicker, easier, and cheaper from peach-stones, than any other mode within his knowledge. From this source he thinks the settlers upon the Western prairies might furnish themselves, within three or four years, with a constant supply.

Photographic Pictures.

Photography is but in its infancy in our country, and although it is a far more important art, and is as old as the daguerreotype, still it is but little practised in America. The difference between it and the daguerreotype, consists simply in the former embracing sun drawn pictures on paper, while the latter relates to sun-drawn pictures on metal plates. "The Talbotype" is also a name given to sun-drawn pictures on paper, after Fox Talbot, the discoverer.

When we consider that with a number of sheets of prepared paper, an artist may go forth into the woods and wilds, and with his camera copy the gigantic pine, the leaping waterfall, the snow capped mountain peak, or the embowered cottage, we may well conclude that the Talbotype is an art which is yet destined to achieve wonderful results.—Let us explain how the paper is prepared and the process conducted.

White paper of a good quality is selected, which is thoroughly impregnated with white wax by placing it upon a hot clean tin plate, and covering it with the wax in a melted state. All the superfluous wax is removed by pressing the waxed paper between sheets of blotting paper, and pressing upon the top with a hot flat iron, until the waxed paper appears to be evenly saturated. Some rice water is then prepared by intusing about 8½ ounces of good rice in 5 pints of water.—When the glutinous portion of the rice is dissolved, the clear is poured off, and one ounce and 140 grains of the sugar of milk, one-half ounce of the iodide of potassium, 12½ grains of the cyanide of potassium, and 12 grains of the fluoride of potassium are dissolved in it.—This solution is then to be filtered through clear white filtering paper, and the waxed paper allowed to soak in it for half an hour, after which it is removed and dried carefully with a moderate heat in a clean place (not in sunshine.) With these ingredients in the proportions mentioned, it is best to make up a quantity of this liquid, and place a number of sheets in it at once, taking care to have them loose and perfectly covered. When dry, these sheets can be kept in a moderately cool place, wrapped up, for any length of time.

To render them sensitive, a solution is made up as follows:—One-half ounce of distilled water, into which are dissolved 150 grains of the nitrate of silver to which are added 186 grains of acetic acid. (Any quantity of liquid may be made up according to the proportions given, so as to prepare a number of sheets at one time. The quantities given are only for small experiments). In this solution the sheets are immersed for a short time, care being taken to remove all air bubbles from the surface of the paper; which, when it is taken out, must be dried in the dark, and may be kept afterwards (covered up from light) two or three days.

The paper is now ready for the camera obscura, in which it is placed to take the impression of any object desired, like a daguerrean plate. The time required to take an impression is from one up to thirty minutes, as experience determines, which time depends on the character of the light and the object, the picture of which is to be taken. After the paper is taken out of the camera, it is placed in a bath of two pints of distilled watea, and 64 grains of gallic acid; this brings out the picture on the paper, which, when fully developed, is fixed by soaking it for some time in a quart of distilled water, into which have been dissolved two ounces of the hyposulphite of soda. After having been taken out of this, it is well washed in clean water and dried, when it forms a well-defined negative picture, from which any number of positive impressions may be taken.

The best light to work with for obtaining good pictures on the prepared paper is under a clear sky, when the sun is shining, and when the light falls chiefly on the darker shades of the object, or scene, leaving such as are of light color under the influence of diffused light only. It requires practice to judge by the eye how to manage the time in the camera, according to the kind of light, and the object or objects to be represented.