



Our weekly List of Patents and Designs contains every new Patent, Re-issue and Design emanating from the Department, and is prepared officially, expressly for the Scientific American, and for no other paper in the city, consequently other journals are obliged to wait the issue of the "Sci. Am." in order to profit by the expense to which we are subject, and of course must be one week behind. Those publishers who copy from this department in our columns, will, in justice to us, give proper credit for the same.

#### LIST OF PATENT CLAIMS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending June 4, 1850.

To J. Bohrer, of Philadelphia, Pa., for improvement in suspending Venetian Blinds.

I claim the combination of three pulleys with cords, for the independent movement of the supporting slat, in the manner and for the purpose described.

To H. Bradford & E. Morris, of New York, N. Y., for improvement in ventilating railroad cars.

We claim the method of ventilating the cars of a railroad train and keeping out dust, smoke and sparks, by combining therewith a tube made in sections, and united by flexible joints at the junctions of the cars, which tube receives a current or currents of air forward of the chimney of the locomotive and discharges it into the cars, through apertures, all substantially as described.

To R. Brown, of New London, Conn., for improved Gun-harpoon.

I claim attaching the line to both the shank and the head of the harpoon in such manner that the extremity of the line is loaded with the harpoon into the gun, and lays in recesses made in the shank, and when the gun is fired the line will trail from the butt of the shank, and will not tend to depress the head during its flight.

To Gardner Chilson, of Boston, Mass., for improvement in Fire-place Grates.

I claim, first, the combination with the open fire place or grate, having the side draughts as described, of the air-heating chambers, consisting of an air chamber surrounding the fire and a projecting chamber above, surrounded by heat, substantially as set forth.

Second, I claim dividing the draught of an open fire, and causing the products of combustion, to be drawn off at each end of the fire, as herein described.

I also claim the sliding collar, at the exit pipe, in the manner and for the purposes specified.

To C. F. Fisher, of New Orleans, La., for improved method of making shafts, &c., of sheetiron.

I claim the constructing of hollow plate iron shafts of short cylinders combined and connected together in the manner and for the purpose above described.

To C. W. Hawkes, of Boston, Mass., for improvement in Printing Presses.

I claim, first, the application of the toggle lever working on the stationary cam, to raise the platen in the manner and for the purpose herein described.

Second, I claim the combination of the toggle lever and toggle W and V, with the stationary cam, substantially in the manner and for the purpose herein set forth.

Third, I claim the combination of the toggle lever and toggle W and V, with the swing platen as herein set forth.

Fourth, I claim the combination of the spiral springs and the trip, when used in combination with the swing platen, substantially in the manner and for the purpose herein described.

To J. W. Hope, of New York, N. Y., for improvement in Brick presses.

I claim the roll for holding the mould box, the gate for regulating the discharge of clay, and the piston for compressing the clay into the moulds, by means of a wheel furnished with series of teeth, secured to it, and acting through bundles, shafts, cranks and connecting rods, connected with the roll, the gate and the piston, respectively, substantially as herein set forth.

To J. D. Hope, of Philadelphia, Pa., for improvement in gang-plows.

I claim the spur-wheel, so constructed and arranged within the periphery of the driving wheel, that it may be made at pleasure to pass its rowels through the holes or notches in the tire into the surface of the ground when under compression and thereby grapple and gain adhesion to the ground, substantially in the manner herein set forth.

Second, I also claim the combination of parallel bars to regulate the breadth of each separate furrow, with the adjusting curve for determining the horizontal direction of the draught, so as to adapt the amount of work done by a single traverse of the engine, to the adhesive power of the wheels when applied to the particular kind of land under cultivation, substantially as herein set forth.

Third, I also claim preventing the choking of the plows by means of the recurved point of the mould-board, acting to turn aside and guide backwards the choking material, as herein set forth.

Fourth, I also claim the manner of connecting the harrow to the locomotive so that the conductor may at pleasure, by turning a crank, reverse its advancing side for the purpose of freeing the harrow teeth from choking materials in the manner substantially as herein set forth.

To C. B. Hutchinsen, of Waterloo, N. Y., for improvement in Beard and Log Rules.

I claim the combination with the inner revolving plate of the rotary tape measure with the several tables thereon, substantially as described.

To O. A. Kelly, of Woonsocket, R. I., for improvement in shuttle-motion of looms.

I claim the "bat-wing" by an adjustable connection to one extremity of a lever whose outer extremity is connected by a short strap with the picker-stick, the lever turning on a single adjustable vertical pivot and being interposed between the wiper operating as described and the picker-stick, motion from the wiper being transmitted through this lever strap and picker-stick to the driver, so as to cause it to throw the shuttle with the proper degree of suddenness and velocity when the loom is working at a high speed; this arrangement admitting of the easy and quick graduation of the suddenness and velocity with which the shuttle is thrown as herein set forth.

To S. S. May, of Sterling, Mass., for improvement in Nursery Chairs.

I claim the improvement of the movable back piece and its sustaining fixtures, in their application to the back and seat, substantially as specified, and for the purpose of using the chair either as a cradle or as a lolling chair, as specified.

I am aware that the seat of a lounge has been made so as to be capable of being lengthened or shortened by means of a slide applied to it, I therefore lay no claim to the invention of such, but I claim the above described improvement in the arm chair, the said improvement consisting in so combining one of the arms with the seat, by means of a slide adapted to such seat, that both the arm and slide may be moved in a direction away from the other or stationary arm, so as not only to lengthen the seat so as to enable it to support a mattress or bed disposed on it, but to render the arm a foot guard, for an infant or child placed on the said mattress or bed.

To E. S. Scripture, of Greenpoint, N. Y., for improvement in flying-horses.

I claim the combination and arrangement of the undulated cams with the levers, and these with the flexible connections to the front part of the horses, for the purpose of and by which I produce the rising and falling motion which I term the galloping motion, as herein before described.

To S. B. Smith, of New York, N. Y., for improvement in electro-magnetic machines for shocks.

I claim separating the shock derived from the initial secondary current of the double coil Magneto-Electric Machine for that of the terminal secondary, by causing the latter to pass through a closed circuit, substantially in the manner and for the purposes set forth.

I also claim the manner of adapting the same machine to transmit both the initial and terminal secondary currents, at pleasure, by

bearing off the spring by the arm, substantially as described.

#### DESIGNS.

To W. Bryant, of Boston, Mass., for design for umbrella stands.

To J. T. Davy, of Troy, N. Y., for design for coal stoves.

#### John Bull Turning Yankee.

"Homage to the mercantile genius of Great Britain!" thus exclaims a French writer in a recently published article on the export provision trade from the channel ports of France. "Cargoes of apples were ready to be shipped for London, when orders came to pack them all in chests of uniform dimensions. So, with seven boards, a stroke of the saw, a few nails, and sundry hammer-blows, chest after chest was made; and the stowage on board became as rapid as regular. In all this there is nothing that strikes you as beyond the comprehension of continental apple merchants. But John Bull has ordered his fruit-boxes of such dimensions as are required for a corpse of average stature. No sooner are they emptied, than he hands them over to the undertaker; the latter shapes them, makes the old nails serve again; and three hundred per cent. is gained in the matter of cheap funerals. Provisions from all parts of the coast are now forwarded under this ingenious envelope, and each season of the year bears to the consumers of London, its tribute of eatables and of dead-boxes."

One would almost fancy this a compliment paid to some of Sam Slick's clever compatriots, rather than to the plodding and unimaginative race who respire under the shadow of the British lion. But it is true, nevertheless, as I have seen with my own eyes; and as the relaxed tariff brings us thousands of rabbits and heaps of cherries from Ostend, tons of butter and cheese from Rotterdam, millions of eggs and bushels of apples from Dunkirk, so there is no lack of coffin-wood to be put underground, and dug up again a few months afterwards by enterprising sextons for firewood.

[The above we copy from an exchange and must say that, both the Yankee and John Bull characters are misunderstood. If there is any mortal on earth, who supposes the English unimaginative, it shows he has never been beyond the tie of his mother's apron string, and if there is any person who supposes that the real Yankee would lie down in anything else than a hard-wood coffin of good manufacture, why he don't know the race, that is all.]

#### The Solvent Properties of Caloric, Similar to Acid Gases.

The acid gases are those acrid vapors which, when united with water, form acids. As water approaches towards the point of saturation by the acid gases, it becomes a more powerful solvent, and as it combines with a greater quantity of caloric, it possesses the same qualities. Some acids have a great attraction for water. New concentrated vitriol, if exposed to the air, will imbibe a great deal of moisture, and so will tartaric acid. Nitric acid is water combined with a gas obtained from the distillation of nitre. It is not, as some have supposed, an affinity of some gases for oxygen, which forms the basis of acids, for muriatic acid, is composed of chlorine united with hydrogen. Hydrochloric acid gas has such a tendency to combine with water, that whilst transferring it from the mercurial trough to the water trough, it rushes towards the water even with such violence, which, in a short time is found to have taken it up to an extent of not less than 480 or 500 times its own bulk.

Caloric has also a great affinity to combine with water, although not generally known. Water, at the common temperature of the atmosphere, not only contains caloric, but even ice itself is known to possess it also in prodigious quantities, or so much so, that it is not only impossible to obtain ice that is altogether freed from it, but the probability is, that if this feat could be accomplished, we should obtain a substance quite as dissimilar from that material, as ice is from water, or water is from steam.

The solvent properties of the acid gases, and those also of caloric, the solvent properties of water, it has been observed, become more energetic in proportion as such water is the more

nearly saturated either with the one or the other.

The property of acid to dissolve metals is well known, and this property increases when they are heated, which is analagous to the combination of one acid with another; thus a leaf of gold may be placed in a vessel, containing either aqua fortis or spirits of salt, and although the acids may be even highly concentrated, the gold if pure will continue to be unaffected, but no sooner are the two acids mixed together, forming what is called aqua regia, than the gold will disappear, because the combination of the acids retain more specific caloric than either of the acids did separately, or much in the same manner as hot water retains its caloric with more difficulty than cold, for it is no doubt true that water, even at the common temperature of the atmosphere, contains a sufficient quantity of caloric to produce similar effects, and perhaps not inferior even to those produced by the acids themselves, provided it had the like disposition to part with it. What, for instance, is the cause not merely of the fluidity, but of the solvent properties of spirit, of oil, or of mercury? what but their inherent caloric, and because the tendency of these fluids to part with such caloric is either more or less increased according to circumstances; thus the affinity between water and caloric, however great it has been shown to be, is nevertheless feeble compared to that existing between caloric and ice; consequently, when a substance is thrown into water, the affinity is more easily broken than when it is thrown upon ice, or the water; in other words, it will part with its caloric more readily, which accounts, for the easy solution of such substances, as in the case of sugar, or of salt, &c., but which only goes on, nevertheless, to a certain limited extent, when the water being incapable of taking up any more, is said to be saturated with that substance, but only increase the heat of the water, and it will be found to take up more immediately, plainly showing that its solvent property is owing to the caloric with which it is charged.

If mercury then is known to dissolve at the common temperature of the atmosphere several of the metals, and if the exertion of this property is attributed to the caloric that it contains, why should we go a round-about way to account for the solving properties of the acids, when it probably arises, in every instance, from the same cause, and when the solvent properties of caloric will, moreover, account for all.

That the metals are capable of being dissolved or liquified by the action of unassisted caloric, or by simple exposure in the furnace, is well known, the amount of heat required for producing the effect upon any given substance, depending upon some inherent property for absorbing and retaining for a time such heat, with which we are at present unacquainted; but the solvent property is found to depend, nevertheless, upon the amount of heat so retained, thus copper will disappear in molten silver, and even platina, if first reduced to the state of spongy platina, will mix or amalgamate kindly enough with molten gold, &c.

Water however, even at the common temperature of the atmosphere, is, as well as mercury, not only an active solvent, since not only will it dissolve salt, sugar, gums, and many other substances, but if more caloric is applied, and more especially when under pressure, it will take up even bones and other dense bodies, as in a common Papin's digester; and was the heat to be applied still further, and under a pressure vastly augmented, it seems scarcely possible, indeed, to set any limits to these dissolving properties of water, neither has the geologist any occasion for the supposition of any other menstrum than the action of caloric combined with water, and acting under a great superincumbent pressure, for the dissolution of the hardest rocks, or even of the metals, as well as of their subsequent crystallization upon cooling into basalt, &c. &c., so that the Vulcanists and Neptunists may indeed shake hands.

Steam under pressure, (caloric and water) is now employed to dissolve bones and the very rocks, one kind from another, in the manufacture of potash.