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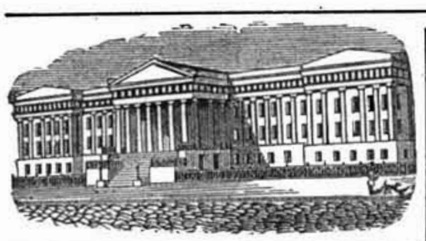

Reported Officially for the Scientific American

LIST OF PATENT CLAIMS

Issued from the United States Patent Office.

FOR THE WEEK ENDING OCTOBER 5, 1852.

GRAIN SEPARATORS—By Jacob Bergey, of Wadsworth, Ohio: I claim the use of a hollow revolving cylinder, so constructed and so moved, as set forth, for the purpose of a straw carrier, by which the advantages enumerated and explained are obtained.

IMPROVED VISE—By Wm. Butler, of Little Falls, N. Y.: I claim the arrangement of the sliding bar with screw attached thereto, with reference to the fast jaw A, and the moving jaw B, when said sliding bar is provided with a series of holes, or their equivalents, and said jaw, B, is provided with a pin or its equivalents, where B can be set at varying distances, with respect to A, and that distance afterwards regulated by the screw.

HAND PRINTING PRESSES—By Charles Foster, of Cincinnati Ohio: I claim, first, the arrangement substantially as described, in a hand power press, of guide bars resting upon adjusting points, or hinged at their rear ends, and guided at their front ends to a vertical vibration, concentric with said points or hinge, so that the entire bed, guide bars, and their appendages shall move bodily upward upon giving the impression, and return by their own weight to the state of rest, whether operated by a shaft extending below the bed, and working a toggle joint beneath the bed or bars, as described, or in any equivalent way.

Secondly, I claim, in connection with the described arrangement, the ascending grade at the fore end of the guide bars, for the purpose of limiting the range of the toggle, at the period of giving the impression.

IMPROVEMENT IN SEED PLANTERS—By D. Haldeman, of Morgantown, Va.: I claim the employment or use of the adjustable tyre, or tyres, for the purpose of varying the diameter of the wheel, to allow the seed to be deposited the required distance apart.

ROTARY STOVE GRATES—By Alex. Harrison, of Philadelphia, Pa.: I claim, first, the combination of the rotary movement of the bottom grate with the vertical annular grating, or its equivalent, surrounding the same, for the purpose set forth.

Second, I claim the rotary movement of the bottom grate, with the controlling tilting movement of the same, substantially as described.

Third, I claim the combination and arrangement of the several parts, whereby the aforesaid rotary and tilting movements of the bottom grate are effected, substantially as described.

SEED PLANTERS—By R. M. Jackson, of Penningtonville, Pa.: I claim the corn planter sieve and its appendages, for the purpose of sifting and depositing the fine earth upon the grain, and throwing off stones and such matter as would obstruct the young sprout in coming through the ground, substantially as described.

SPARK ARRESTER—By Volney P. & B. Kimball, of Watertown, N. Y.: We claim the revolving screen in combination with the chamber, the lower part of said chamber communicating with the smoke pipe at a point below the tops of the exhaust tubes, by which arrangement a downward draught is created within the chamber, and the cinders drawn from the screen, as it revolves, thus preventing the clogging of the screen, as set forth.

BEE-HIVES—By L. L Langstroth, of Philadelphia, Pa.: I claim, first, the use of a shallow chamber, substantially as described, in combination with a perforated cover, for enlarging or diminishing at will the size and number of the spare honey receptacles.

Second, the use of the movable frames, or their equivalents, substantially as described; also their use in combination with the shallow chamber, with or without my arrangement for spare honey receptacles.

Third, a divider, substantially as described, in combination with a movable cover, allowing the divider to be inserted from above between the ranges of comb.

Fourth, the use of the double glass sides in a single frame, substantially as set forth.

Fifth, the construction of the trap for excluding moths and catching worms, so arranged as to increase or diminish at will, the size of the entrance for bees, substant ally in the manner set forth.

UPRIGHT PIANOFORTES—By R. E Letton, of Quincey, Ill.: I claim, first, extending the upper part of the metallic plate or cap at the part where the shorter of the strings, are placed over the sounding board, and supporting it by blocks or supports, which pass through the sounding board to the frame timbers, substantially as set forth, whereby the higher end of the bridge, or that part on which the strings of the higher notes rest, is allowed to be brought nearer to the centre of the sounding board, to get a better vibration.

Second. The combination in the manner substantially as described, of the cushioned block and the adjustable button, on the upright wire, attached to the key for the purpose of preventing the entire descent of the hammer after striking, until the key is left free.

IMPROVEMENT IN MACHINES FOR WRINGING CLOTHES—By Jos. P. Martin, of Philadelphia, Pa.: I claim the keeping of the ends of the clothes' sack distended, during the process of wringing, to equalize the twisting of the same at all parts, by means of the elliptical spring leaves and elastic wings, substantially as described.

IMPROVED APPARATUS FOR PUDDLING IRON, ETC. By James McCarty, of Reading, Pa: I claim, first, the combination of an automatic rable with a revolving or moving basin, arranged and operated substantially as set forth, or with a stationary basin or bottom, whereby much manual labor is dispensed with, for stirring the iron in the process of puddling.

Second, the arrangement of the hollow shaft, cooler, and moving basin, in such manner that a stream of water can be kept circulating round the bottom and sides of the latter to prevent it from being overheated, substantially as described.

Third, the combination of the crank and swinging guides, or their equivalents, which enables the operator to make the rable stir over different parts of the bottom, and at different angles to the side of the furnace, and also to remove it out ot the way when necessary.

PIANOFORTES—By James & John McDonald, of New York City: we claim, first, the combination of the wind chest, and flute or other similar wind-pipes, with the horizontal pianoforte action, in the manner substantially as set forth, to wit, the pipes being placed horizontally at the bottom of the case below the pianoforte action, and the wind chest placed below the front ends of the pianoforte keys in such a manner as to allow the valves to be operated directly by the said keys.

Second, the manner of opening the valves of the flute or wind pipes, to play an octave lower than the piano, either at the same time that they are being played at the same pitch as the piano, or not, by means of the series of levers, arranged and operated upon by the blocks upon the vertical pins under the piano key.

PRINTING PRESSES—By J. G. Nicolay, of Pittsfield, Ill.: I do not claim the use of conical impressing cylinders; but I claim the peculiar arrangement and combination of conical impressing cylinders, one or more in number, each provided with a set of conical distributing inking rollers adapted thereto, and with a rotating wheel or disc, substantially as described.

I also claim, in combination with the conical impressing cylinders, the position and arrangement of the clamp, consisting of the metal plate, spring, and arm or lever, which retains the paper at the required angle to receive the impression and release the same, when the impression is taken, substantially as set forth.

EXPANDING WINDOW SASHES—By Mighill Nutting, of Portland, Me. Ante-dated June 16, 1852: I claim the sash, constructed in two pieces, so that both, when brought together, shall be narrower than the distance between the bottoms of the grooves in the jambs of the frame in which the sash is designed to be placed, by at least the thickness of one of the stop strips of the frame, and connecting these two pieces of the sash in such manner that one will slide past or into the other, so that the sash can be contracted or expanded, as may be required to fit different window frames and to adapt itself to the varying width of the same frame, and also to admit of its being put into and taken out of the frame, without removing the stop strips therefrom, the two parts of the sash thus moving towards and from each other, having springs, or the equivalent thereof, adapted to them, so as to give them a constant tendency to diverge from each other, that the sash may at all times expand promptly and fill the frame, to hold itself firmly in place, substantially as described.

MILLING MACHINES—By Wm. H. Robertson, of Hartford, Ct.: I claim the construction and combination of the vertically moving cutter stock or poppet head, with the driving pulleys, &c., mounted on a swinging frame, hung with a pivot hinge at the bottom, the connection between the two being effected by radius rods, in the manner and for the purpose set forth and described.

METHOD OF PRIMING FIRE-ARMS—By Christian Sharps, of Hartford, Ct. Patented in England, April 22, 1852: I claim the priming of fire-arms, by throwing a pellet of percussion or priming material over the nipple, at the time the cock is descending thereon, so that the priming shall be struck down in its flight between the cock and the nipple, and exploded.

WINDOW FRAMES By Henry C. Smith, of Portland, Me.: I claim the pulley style, constructed of the pieces, as set forth, in combination with the springs, by which means I am enabled to make use of solid or immovable bead strips, and bands, and to remove the sash at pleasure from the frame, in the manner substantially as described.

TIME PIECES—By Silas B. Terry, of Plymouth, Ct.: I claim, first, having the balance of a clock, or time-piece, on a spring or strip of metal, which is fixed, or prevented from turning at both of its ends, but capable of twisting between the ends, substantially as and for the purpose described.

Second, making one part of the fork or crutch wire flat and thin, substantially as shown, to allow it to bend or move in a similar manner, and connecting the said fork or crutch wire, with the balance in any manner, as shown, which causes it to give its impulse in the same direction as the motion of the balance, the said bending or motion of the fork or crutch being for the purpose of allowing it to transmit the impulse in the above direction.

CHURNS—By L. A. Brown & Hubbard Bigelow, of Hartford, Ct. (assignors to H. K. W. Welch): We claim the combination of the tub, including the appendages described, with the frame, and stands, or any other convenient frame work, adapted to the use of the tub, in a vertical and horizontal position, but in the manner and for the purposes, substantially as set forth and describcd.

DESIGNS.

COOKING STOVE—By Chas. B. Tuttle, of Amherst, N. H.

GRATE FRAME AND SUMMER PIECE—By Adam Hampton, of New York City.

TABLE FRAME AND LEGS—By Walter Bryent, of Boston, Mass.

NOTE—Five of the patents issued in the above list were secured through the Scientific American Home and Foreign Patent Agency.

Corrosion of Metals in Water.

Having had some inquiries made of us respecting the amount of corrosion which iron undergoes in water, we present the following remarks of Mr. Adie, of Liverpool, Eng., which were read some time ago before the Institute of Civil Engineers. The object of his experiment was to test the rate of corrosion of metals in fresh water, brine, and sea water.

These experiments were made with weighed pieces of metal immersed in the three solutions under examination. Those which are compared together were tried in every respect under similar circumstances, as to weight and surface of metal; size and form of vessel; quantity of water employed; light and temperature.

The experiments on zinc were made with that metal in connection with a piece of copper, so as to form a galvanic couple; for zinc, when unconnected with a less oxidizable metal, is soon covered with a crust of oxide, so that pieces, after a month's immersion in water, are found to be slightly heavier than at the beginning of the experiment. This is not the case when a piece of silver or copper is in metallic connection with zinc; for then the white oxide of the metal is gradually precipitated to the bottom of the containing vessel.

A plate of zinc, 1 superficial inch in area, immersed for 60 days in sea water, lost 1·6 grains.

A similar experiment in fresh water lost, 1·15 grains.

A plate of zinc, 7 superficial inches in area, immersed for 96 days in fresh water, lost 4·9 grains.

A similar experiment in brine, or the saturated solution of common salt tested as above for dissolved air, lost 1·4 grains.

Wrought iron wire:—

Twenty pieces of iron, weighing 374 grains, immersed for 80 days in fresh water, lost 1·9 grains.

A similar experiment in sea water, lost 2·6 grains.

A similar experiment in brine, lost 0·1 grains.

Cast iron:—

Three rods of cast iron, weighing 787 grains, immersed for 62 days in fresh water, lost 1·6 grains.

A similar experiment in sea water lost 2·0 grains.

A similar experiment in brine lost 0·4 grains.

On comparing together the loss of weight of metal in the fresh water, sea water, and brine, it will be observed, that in sea water the corrosion is about one-third more than in fresh water; while in brine, the loss of weigh is about one fourth part of the loss in fresh water, and one-fifth part of that experienced in sea water; showing that brine possesses considerable power for preserving metals from corrosion. The carbonates of potash and soda are still more effectual in arresting oxidation; for in saturated solutions of these salts, iron wire remained immersed for sixty days without any amount of corrosion being detected. The surface of the plate of zinc, when taken from the brine, was the same as at the commencement of the experiment, excepting in three spots, where there was deep corrosion. The principal of these being around the point, where the copper wire connected the plate with the negative element. The difference between fresh water and sea water, in their power of oxidizing metals, is in the reverse order of the quantities of oxygen dissolved by them, as given in the preceding experiments; where the sea water is to the fresh as 78 to 85. The principle on which the preserving power of alcohol is attempted to be explained may, in like manner, be here applied to pure water. Although the experiments on the corrosion of iron were continued for eighty days, the difference between the action of common water and brine may be made apparent in one day. In the fresh water, the hydrated peroxide of iron is seen forming; while in the brine, only a slight tinge of a greenish infusion can be detected, a sure indication of the scarcity of oxygen.

The experiments given to determine the respective rates of corrosion in fresh and sea water, are only correct for pieces of metal wholly immersed in them. Where the surfaces are subject to be wet and dry, the corrosive effect of sea water will greatly increase; on the same principle that iron once coated with rust decays much faster after the rust has provided a lodgement for moisture. Take for example a bar of iron in a field, and a similar piece on the deck of a ship. On the first, the dew of night deposits water, which corrodes until the return of the sun dries it off. On the second, on the deck, it deposits spray, which acts like the dew, until the sun dries it off; but when dried, there is left a thin deposit of salt, with a powerful affinity for moisture, which on the return of evening will attract moisture from the atmosphere, long before the dew wets the metal in the field. Thus it is that a coating of salt or rust keeps metals much longer in a wet state than if their surfaces were clean.

The steam propeller yacht, Col. John Stevens, has been sold to the Newfoundland Telegrah Co., to overhaul the steamships from Liverpool for New York, and obtain news to be sent over the telegraph wires.

Heat of the Body.

The phenomena of heat in the body is something like that produced by the combustion of fuel, such as coal, only in the body the combustion is slow and the heat far lower than that of flame. The act of breathing is very like the bellows of a smith, and our food is very much the same as the coals which he puts upon his fire. It is probable that some heat may be produced in the various secreting organs of the body, by the chemical action which takes place in them.—From these two sources animal heat is most probably derived. It is positively certain that the blood is heated at least one degree of Fahrenheit in passing through the lungs; and that arterial blood is warmer than venous. Most of the phenomena which occur in the production of heat may be explained by attributing it to a combination or a union of the oxygen of the air with the carbon of the blood in the lungs.

This supply of animal heat enables the body to resist the fatal effects of exposure to a low temperature. In the polar regions the thermometer often falls to 108 or 109 degrees below zero; and yet the power of evolving heat, possessed by our bodies, enables us to resist this degree of cold. The temperature of our bodies in that region is about the same that it would be were they in the warm regions near the equatar. The thermometer, if plunged into the blood of man, in both situations mentioned, would indicate a temperature about the same. Our bodies have nearly the same temperature in both places; because, so to speak, and it is not very absurd, the combustion, or fire in the lungs, gives out more heat, it burns with greater intensity in the polar regions than in the equatorial. We all know that a large fire will warm our rooms, no matter how cold it may be. We can give our rooms the same temperature in winter that they have in summer, if we regulate our fires accordingly. A little more fuel is all that is requisite for that purpose. Nature has so ordered, that when our bodies are in a cold temperature, we inspire more air than when ~~they are in a cold temperature.~~— In other words, she compels us to take in more fuel and increase the combustion in the lungs.

The Esquimaux eats blubber, which is mostly all carbon, and the Laps drink plenty of grease. In warm countries the food of the Lap would kill the negro, and the food of the nations of the West Indies would not be able to keep the Esquimaux from perishing with cold.

The temperature of the human body, and of most warm-blooded animals, is from 98 to 100 degrees Fahrenheit, and is effected but a few degrees by any variation of that of the surrounding atmosphere. Animals are warm-blooded when they can preserve nearly an equal temperature, in despite of the atmospheric vicissitudes from heat to cold, and from cold to heat. They have a temperature of their own, independent of atmospheric changes.

The time will soon arrive when thicker clothing must be worn by our citizens at the north. They must line their vests well along the back bone, and provide against freezing. It is a fact that warm clothes tend to save food, as all animals eat food in proportion to the cold of the atmosphere. This is the reason why cattle that are well housed consume less food, and keep in better condition than those which are shelterless and exposed.

Dangerous Feat.

Quite a sensation was created in the vicinity of Broadway and Fulton st., this city, on Wednesday morning last week, by a man climbing up the steeple of St. Paul's Church, by the lightning rod on the outside. He went up for the purpose of putting a rope around below the ball, by which to haul up the ladders to be used in re-painting the steeple. The extraordinary feat was performed by Joseph Dawson, a man 53 years of age. This is the fourth time he has ascended the same steeple in that manner during the last ten years. St. Paul's steeple is over 200 feet high, and we understand that the painting of it costs about $600.