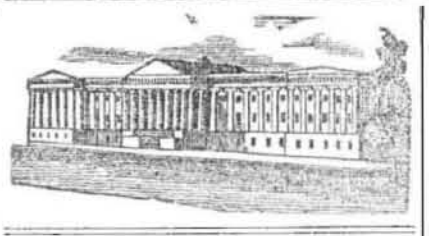

☞ Our weekly List of Patents and Designs contains every new Patent, Re-issue and Design emanating from the Department, and is prepared officially, expressly for the Scientific American, and for no other paper in the city, consequently other journals are obliged to wait the issue of the "Sci. Am." in 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 July 2, 1850.

To B. Barstow, of New York, N. Y., for improved method of fitting the bows of vessels.

I claim making the rear edge of the cutwater to project on each side of the stem, to form a recess on each side, substantially as described, in combination with the sheathing pieces which fill up such recesses, and which cover and protect the ends of the plankings, and which also admit of giving better lines for the passage of the bow of the ship or other vessel through the water, substantially as described.

To Ernst Buckup, of New York, N. Y., for improved method of distributing the air over the heating and cooling surfaces of air-engines.

I claim causing the air entering and leaving the cylinder to pass over the heating and cooling surfaces in a thin stratum, by means of plates or their equivalents, substantially in the manner and for the purpose set forth.

To C. C. Cameron, of Harper's Ferry, Va., for improved sash stopper.

I claim the triangular shaped double acting wedges or fasteners, placed within recesses of corresponding shape, formed in the front or rear sides of the sash side bars (or in the side slats of a window frame) acted upon by any kind of handles or levers in such a manner that they will press the sashes inwards or outwards, in contradistinction to sideways, and thus retain them in any desired position, and render them air-tight within the window frame.

To R. Daniels, of Woodstock, Vt., for improvement in Straw Cutters.

I claim the method of feeding straw, fodder and other substances, to a series of rotating cutters by means of a continuous motion by a roller armed with pointed teeth and hung in a swinging frame, substantially as described.

I also claim the method of cutting straw, fodder, and the like substances, by means of the cutting cylinder, provided with cutters, the outer faces of which, from the cutting edge, are curved or inclined in towards the axis, so as to admit of continuous feed, the blades of the cutters acting as gauge plates for the length of the cut, in combination with the feeding the straw, fodder, or other substance to be cut, by a continuous motion, substantially as set forth.

To J. E Erb, of Baltimore, Md., for improvement in the feeders of a Straw Cutter.

I claim the guard piece, in combination with the feed rollers, to carry the straw or other material to the cutters, as described.

To J. Hibbs, of Pristol, Pa., for improvements in setting the teeth on the concave of a clover thresher.

I claim the right to use and manufacture machines for the purpose of threshing and hulling clover and other seeds of a similar nature, having the teeth of the concave, or the stationary set of teeth so inserted in leather on a bed of cork, as to give them an elasticity sufficient to cause them to resume their original position when misplaced by the passage of any foreign substance which may be introduced by accident or otherwise into the machine.

To H. Knowles, of Washington, D. C., and H. C. Bevington, of Holmes County, Ohio, for improvement in the cutters and rakers of a Grain and Grass Harvester.

We claim, first, making the pointed cutters concave on the faces toward each other, in the manner and for the purpose set forth, by which the cutters are rendered self-sharpening and bending the upper plate over the back of the lower or sliding cutter plate, and bringing the notched or turned edge against the lower plate in the manner and for the purposes described.

Second, the arrangement of the stationary cyma reversa fingers in combination with the vibrating hook teeth or claws, bands and the appendages for operating the same, by which the grain is collected into sheafs or gavels, before being discharged upon the ground.

Third, The combination of the hook teeth or claws, rock shaft, bent arm, lever, spring and revolving arm for arresting the grain whilst removing the gavel or sheaf from the cyma reversa fingers on to the ground, as described.

We likewise claim the combination of the pinion, perch and axle, the former working into the segment on the front axle-tree, for steering the forward part of the frame and cutters.

To B. J. Lane, of Cambridge, Mass., for improvement in Respiring Apparatus.

I claim a valve made of any metallic substance, and a nose-piece having an air-tight tube surrounding that part which is designed to fit about the nose to accommodate the features of any person, and the use of these together with a cylinder vessel, air-chamber, or bag, for the purpose of enabling a person to breathe with perfect ease, air which has been condensed more or less in any such cylinder vessel, air-chamber or bag, which is to be confined to the person of the wearer while the surrounding air is impure from any cause.

To John Locke, of Cincinnati, Ohio, for improvement in collimating levels.

I claim the mode substantially as herein described of forming a levelling instrument by combining the spirit level with the collimator having a partial lens, viz., by means of a partial reflector so placed as to reflect both the cross wire and the spirit level bubble in such manner that the image of the latter may be seen bisected by the image of the former when the instrument is horizontal, the image of the cross wire being at the same time seen in optical contact with the distant point which marks the level with the observer's eye.

To J. R. Miller, of Fredericksburg, Va., for improved re-immersing amalgamator.

I claim the combination of the revolving basin and its attached tubes or spouts with the trough containing mercury, the tubes having sufficient length to force the issuing currents to the bottom of the mercury, or nearly so, and their discharging orifices being above the surface of the mercury, which latter peculiarity causes the streams as they pass and enter in succession, to force below the surface any particles of metal which may not have been amalgamated by the first immersion.

To L. Moore, of Bart, Pa , for improvement in the seeding apparatus of seeding-apparatus.

I claim, first, the employment of a reciprocating sliding gauge plate, when said plate is provided with oblique feed openings, in combination with openings in the grating plates of different obliquity and bottom of the hopper, for increasing or diminishing the quantity of seed to be sown while the machine is in motion, by adjusting the end of the connecting rod nearer to or farther from the fulcrum of the vibrating bar, and thus increasing or diminishing the traverse or sliding movement of the gauge plate.

Second, I also claim the combination of the hooked connecting rod, arm, vibrating plate provided with a series of holes (arranged in the arc of a circle scribed from the pivoted end of the rod) and undulatory cam, with the reciprocating sliding gauge plate, by which the reciprocatory movement of the sliding gauge plate is regulated for the purpose of increasing or diminishing the feed or sowing of the seed.

To J. Nock, of Philadelphia, Pa., for improved lock bolt for shutters.

I claim the bolt having a slot through which the key passes, which will admit the bolt to be moved back sufficiently far to prevent the spring catches from catching in the notches in the bolt in combination with a key hole in the guard, which renders it necessary to remove the key before the shutters can be opened substantially in the manner and for the purpose set forth.

To J. Peirson, of Wilmington, Del., for improved arrangement of cutters in a grain and grass harvester.

Having thus fully described the nature of my improvements in mowing and reaping machines, I claim the arrangement substantially as described and represented, of cutters bolted to an endless belt, revolving in a vertical orbit and moving on a rail, guarded and disposed after the manner described.

To J. W. Pepper, of Salem, Mass., for improvement in machinery for cutting lozenges.

I claim the adjustive spring fingers connected to the two wheeled car, said car being appended to an axle of the revolving cutters—the wheels and the screws that fasten the finger plate to the transverse bar preventing the finger plate from touching the sheet of paste during the operation of cutting the lozenges therefrom, as herein fully set forth.

To S. H. Ransom, of Albany, N. Y., for improvement in the construction of cooking stoves.

I claim making the fire bottom and front hearth, or summer arrangement of the class of stoves herein specified, in one piece, connecting the two with inclined plates placed within the front plate of the stove, substantially as described, whereby I am enabled to have the hearth below the level of the fire-bottom, whilst the inclination given to the connecting parts are visible, thereby effecting the purposes herein specified.

I also claim the above method of making the hearth and fire bottom in combination with the method of connecting them with the oven bottom and stove bottom by means of tongues and grooves, whilst the fire bottom extends under the fire back, substantially in the manner and for the purpose specified.

And I also claim in combination with the above described method of making the hearth and fire bottom, the extension of the front stove plate down in front of the parts which unite the hearth and fire bottom, the said front stove plate being provided with projecting pieces to rest against the inclined joints to aid in securing in place the said united hearth and fire bottom, substantially as described.

To F. Stewart, of Philadelphia, Pa., for improvement in safety-tubes for lamps.

I claim the application or addition of inner pipe or pipes (one or more as the case may be) inserted into a piece of metal or other material as before described, being either stationary or revolving, thereby preventing the top of the lamp from being removed without drawing it over the inner pipe or pipes, and thus extinguishing the flame.

DESIGNS.

To J. Crandall, (Assignor to E. Johnson & D. B. Cox) of Troy, N. Y., for design for ststoves.

Scientific Memoranda.

A cement that will neither crack nor crease, may be made with a solution of pearlash and sulphuric acid, mixed to the exact point of neutralization with powder of gypsum.

All beams have a greater resistance when firmly fixed than when merely supported at their ends, the proportion being as 3 to 2.

Lenz has ascertained by actual experiment that electricity is as capable of producing cold as heat, to the degree of freezing water rapidly.

Frost cannot penetrate through a thick covering of snow, below a sheet of ice, or through a covering of grass on pasture, all of which act as non-conductors.

The wild pine of the West Indies, which grows on the branches of trees in hot climates, where there is little rain, has a mug which will hold a quart; when the dew falls it is received, and a valve closes at the top and prevents evaporation. Often are birds seen to insert their beaks and procure water therefrom.

One of the common methods of making saleratus is to suspend the carbonate of potassa in suitable vessels over the fermenting liquor in distilleries and breweries, but it is proposed to impregnate the salt by means of the carbonic acid from anthracite coal, as a readier method of effecting the desired end.

The forces of compression and extension are equal within the elastic limit, and consequently a triangular beam, provided it is not loaded beyond that limit, will have the same amount of deflection, whether the base or apex be uppermost, and a flanged beam the same deflection whether the flange be at the top or bottom.

Sheep may be fed on horse-chestnuts; in Switzerland the chestnuts are bruised in a machine for the purpose, and two lbs. of them given to each sheep morning and evening, a little at a time. They impart a rich flavor to the mutton.

Scientific experiments show that the increase of resistance from the atmosphere is in a higher ratio than that generally received, viz., the square of the velocity; for while the squares of the velocity increase in the ratio of 100 to 107, or 7 per cent.; the resistance is increased in the ratio of 100 to 115, or 15 per cent.

To cure a felon, take some flour and mix it with cream into a paste and put it on as a poultice: then lance it when ripe.

The phenomena attending the extinction or cessation of life by submersion in water, render it impossible to say at what distance of time after submersion the attempts at resuscitation will be fruitless. In a late case of drowning, after four hours of indefatigable exertion, animation was so far restored that the individual was able to articulate.

The paper making of the wasp shows instinct to be as great in manufactures as the honeycomb proves it to excel in architecture. The wasp makes a paper as excellent as any paper maker in *its* line; and she has for sixty centuries been acquainted with what was only discovered by men between five and six centuries ago. She makes two kinds of paper, the white and the brown; and the white takes the ink as well as if it were sized.

In a fine dry climate the sky is of much deeper blue than we ever behold it in this country, and at the tops of high mountains, above the misty exhalations of the earth, the sky appears of a still deeper color. If the air was perfectly transparent the sky would appear almost black.

The fresh leaves of the cabbage contain from 90 to 92 per cent of water.

The expense of fuel to do the same amount of work with steam engines now, is only one-third of what it was in 1815.

The aurora borealis occurs at an elevation, it is calculated, of about seventy miles above the earth's surface, at which elevation the air is rarified to a degree far above that afforded by our best constructed air-pumps.

Borax.

The boracic acid lagoons of Tuscany are an interesting instance of the conversion of a natural phenomenon, which seemed only a subject of wonder, into a productive manufacture. These lagoons are depressions or mud holes in the soil, from which issue hot vapors highly impregnated with boracic acid were formely regarded with terror by the inhabitans of their vicinity, and they sought by public prayers a deliverance from this scourge. In 1818, Mr. Landerel conceived the idea of rendering these vapors a source of profit. The lagoons being situated upon the declivity of a mountain, they were surrounded by a basin of a mason work, and water from the mountain stream conducted into them, so as to form a series of artificial lakes at different levels. The water is let into the upper basin, where it remains some twenty or thirty hours and becomes impregnated by the acid vapors; at the end of this time the water is drawn off into the second basin, when it receives a further pregnation, and so on successively through six or eight, until it reaches the evaporating reservoirs. These are of lead, and the heat for carrying on the evaporation is obtained from the vapors themselves, which are brought in pipes below the boilers. All the means of manufacture are furnished by the locality itself. The annual product of these lagoons is two and a half millions of pounds. The boracic acid is coverted into borax by combining with soda.

Polishing Marble.

MESSRS. EDITORS:—I wish to inquire of your numerous scientific correspondents for the best mode or process of polishing marble; also what would be the most suitable and durable mixture to paint or stain letters on white marble a deep and durable black, &c. E. K.

[Our correspondent wishes to know the best way of polishing, &c.,—the common method, we presume, being known to him.