

blers, 1111—using two or more of said tumblers—with the exterior pins, n n n, and the pins, n' n' n', with the springs, a a a, the bolt, E, and locking latch, G, substantially as set forth.

**METALLIC PACKING FOR STEAM PISTONS**—Daniel Lasher, of Brooklyn, N. Y. : I do not claim metallic springs intervening between the piston and the packing rings.

But I claim the manner described of constructing the bent or folded metallic springs, to take an even and extended bearing on the inner side of the packing ring or rings, when provided with the lips or projections, 2, to keep the springs properly in place, substantially as specified.

**IRON TRUSS FRAMES FOR BRIDGES**—Francis C. Lowthorp, of Trenton, N. Y. : I do not desire to confine myself to the precise form of straining plate described, as the same may be adapted to receive a greater or lesser number of lower cord rods, or to any description or number of diagonals and verticals.

But I claim the straining plate, B, in combination with the rods, G and H, when the latter are connected to the plate, substantially in the manner set forth, and when the said plate is arranged to receive the vertical or verticals and diagonals of iron truss frame bridges.

**SELF-ACTING RAKES FOR HARVESTERS**—S. T. Lamb, of New Washington, Ind. : I claim, in combination with a rake having the motions described, the gyrotary beam, M, and the rock shaft L, when the rake is attached to said rock shaft as shown, and the whole operates in the manner set forth.

I also claim in combination with a rake operating as above described, the slotted guide g, for regulating or governing its motions, when combined with the beam M and shaft L, as set forth.

I also claim, in connection with a rake having the motions described, the combined use of the spring K, for holding it in its position, and the screw w, for regulating the extent of descent of said rake, substantially as set forth.

**SAWING MACHINE FOR FELLING TREES**—Matthew Ludwig, of Boston, Mass. : I claim the combination of the vibrating radius, with the pitman I, and saw stack, M, for the purpose of guiding and rocking the saw circularly in its own plane, substantially as and for the purpose set forth.

[This machine is simple and well adapted for sawing down the giants of the forest. It requires but a small amount of power to operate, as the saw is arranged to move over friction rollers, and in its movement back and forth rocks circularly in its own plane, and is thereby caused to take hold of only a small portion of the diameter of the tree at a time.]

**COMPOUND FOR COVERING HAMS**—Carter Van Veeck, of Macomb, Ill. : I claim the described composition for covering hams and other provisions, or other bodies, for the purpose of preserving them from decay or decomposition, consisting of rosin, gutta percha, and tallow, in the proportions substantially as specified.

[This composition is rendered liquid when heated, and is easily applied; and, when cool, it makes a most complete air and water-tight coating for preserving hams, and other animal substances from decay by exposure to the oxygen of the atmosphere. High testimony to its utility and efficiency has been given by persons of long experience in the meat-packing business, who have given it a thorough trial.]

**STARCH FROM MAIZE**—William Watt, of Belfast, Ireland : I claim the manufacture of starch from maize or Indian corn, substantially as set forth, by steeping the whole or uncrushed corn in water heated to a temperature of from seventy to one hundred and forty degrees Fahrenheit's thermometer, such water being changed several times during the steeping, or applied in continuous or intermittent streams, and then grinding or vibrating it with water heated to a temperature of from seventy to one hundred and forty degrees Fahrenheit's thermometer, and then separating the starch as described.

**CONDENSING LIQUIDS IN GAS MAIN PIPES**—John Walton, of Louisville, Ky. : I claim the employment substantially as described at any convenient place or places in the gas pipes of one or more vessels or receptacles containing alcohol or other hygroscopic agent, for the purpose specified.

[This is a useful improvement for remedying a great evil with which those who burn gas are too well acquainted, namely, the choking of gas pipes during winter by severe frost. This evil is caused by freezing the moisture carried off by the gas into the pipes. The improvement consists in placing vessels containing alcohol or other agent having a great affinity for water, in such situations as to absorb all the aqueous vapor in the gas, before it enters the service pipes for distribution to consumers.]

**SLIDE VALVES FOR STEAM ENGINES**—Thomas Winsor, of Baltimore, Md. : I claim the connecting of the passage through the ends of the main valve, denominated the Meyer's valve, by the channel or opening described.

**DECATING CANE JUICE**—Leonard Wray, of London, Eng. : I claim, in Belgium, June 20, 1854, these comprise the whole of my treatment, and I submit that they constitute an entirely distinct and new process, being one whereby excellent crystallized sugar has been, and can always be, made from the plants I have before named; and I therefore claim the process set forth.

**LOCKS**—Ludwig Baier (assignor to Joseph Lippincott and Wm. C. Barr), of Pittsburgh, Pa. : I claim, first, The sliding tumbler box, E, carrying the tumblers, e e, which by the sliding motion of the box are brought into contact with the bits of the key, when arranged and constructed substantially as and for the purpose described.

Second, The three armed "follower" G, when arranged, constructed, and operating on, and in combination with the tumbler box, E, bolt, B, and tumblers, e e, with their slots, n n, substantially as and for the purpose set forth.

I am aware that bit plates of various shapes are used, and a well known device, but the same have been in all cases simple. I do not claim these, but what I do claim is, the key, H, when constructed so as to form a double bit plate, and operating on the tumblers in the manner substantially as described.

**SHIPS' CAPSTANS**—Robert Dunbar and John F. Robertson (assignors to the Buffalo Eagle Iron Works Co.), of Buffalo, N. Y. : We do not claim giving a variable movement to the capstan, irrespective of the particular means employed for effecting the purpose, for capstans have been so arranged as to have a variable movement.

But we claim the arrangement of the cam, J, and eccentric, h, upon the shaft G, operated by the lever, I, for throwing in and out of gear the pinions J and I, as set forth.

[This improvement has for its object the imparting of a variable movement to a capstan, so that it may be operated either by a quick or slow motion, as required; this is accomplished in an effectual and simple manner by a peculiar arrangement of the devices claimed.]

**AUTOMATIC RAKE FOR HARVESTERS**—Joseph S. Manning, of Philadelphia, Pa. : I claim the described raking device, consisting of cross bar I, teeth, 2, 2 and 3, swinging bars, 4, 4, and supporting roller, 5, when the same is used in combination with the peculiarly constructed platform, P P R R, in the manner and for the purpose set forth.

**STRAP PILLOW BLOCK FOR SHAFING, &c.**—George H. Reynolds, of Medford, Mass. (assignor to himself and D. B. Hinckley), of Bangor, Me. : I do not claim dividing journal boxes vertically, as this has been done before.

But I claim the described journal box, consisting essentially of the pieces of bushings, B B', and strap, B, constructed and operated in the manner and for the purpose set forth.

**SEWING MACHINES**—William Sage, of Durham Center, Conn. (assignor to Henry Sage), of Berlin, Conn. : I claim, first, Combining the spring stop plate with the needle, and loop former as described for the purpose set forth.

Second, Giving the point of the loop former an up-

ward motion as the needle rises, and the point of the loop former expands to form the loop, substantially as described, and for the purpose stated.

Third, The construction of the loop former and its arrangement in connection with the trip, h, and slide N, by which it is made to open to spread the loop for the reception of the needle, and close to enter the next loop as set forth.

**VALVES IN STEAM CYLINDERS**—M. E. Stacy (assignor to W. John Way), of Flemington, Ga. : I claim the arrangement of valves in steam cylinders described, operating in the manner and for the purpose set forth.

**CROSS CUT SAWING APPARATUS**—Henry F. Wilson (assignor to himself and Henry B. West), of Elyria, O. : I claim the radius bars in combination with the vibrating bars for the purpose of straining the saw, so as to enable me to give the saw a reciprocating motion without guides.

Second, I claim placing pins, b c, at a greater or less distance apart than pins, d d, for the purpose of giving a rocking motion to the saw while reciprocating, said motion to be graduated according to the kind of wood to be sawed, the whole to be arranged, constructed, and operated in the manner and for the purpose specified.

RE-ISSUES.

**PORTABLE FIELD FENCE**—James G. Hunt, of Cincinnati, O. : Patented Dec. 16, 1856; I claim connecting the panels or sections of a fence by the projection of one or more rails in whole or in part from one section or panel, beyond the slats or battens, and between the slats or battens of the adjoining panel, and supporting and locking the fence by compound triangular braces, substantially as shown and described and arranged with reference to the projection of the rails, or their equivalent keys, for the purpose specified.

**LOOMS FOR WEAVING PILED FABRICS**—Mertown C. Bryant, of Lowell, Mass. (assignor to E. B. Bigelow, of Boston, Mass.) : Patented May 19, 1850; First, I claim the method of transferring the pile wires in series from the cloth to the shed of the warps, substantially as specified.

Second, I also claim the method of successively cutting the rows of loops or pile on the pile wires substantially as specified.

**MACHINES FOR MANUFACTURING HAT BODIES**—Jas. S. Taylor and Elijah Sturdevant, of Danbury, Conn., and administrators of Hiram J. Sturdevant, deceased, assignees of Lansing E. Hopkins, of New York City. Patented Dec. 7, 1852; What is claimed to be the invention of Lansing E. Hopkins, is the method of felting hats by passing them or rolling them between the revolving endless planking table and a series of rollers as described, or their equivalents, whereby a vibrating, reciprocating, and forward motion is communicated to the hats, thereby working it up in a perfect manner. But this we claim only when the vibrating and reciprocating motion is communicated to the hats in the direction of the revolving motion of the traveling belt, so as to give the hats a rolling motion alternately forward and back as they pass through the machine.

Objections to Hollow Walls.

MESSRS. EDITORS—I do not agree either with you or your correspondents in your advocacy of hollow walls, for the following reasons:—

Such a wall must necessarily be weak, it has one vast joint pervading it from top to bottom, the occasional binding or heading bricks recommended not being sufficient to hold it properly together. The great crying fault of American houses (brick ones especially) is, that they are built too weak; this system would lead to still greater evils in this direction. The gable-end walls of ordinary dwelling houses are seldom made more than one brick thick, laid with six or eight courses of stretchers and one course of headers. As a general thing, the brick are now miserably laid as regards strength; the back joints are not regularly mortared, and the bricks are not kept wet during the process of building. Now if the hollow system be introduced, builders will still endeavor to construct the end walls as before, one brick thick, plus the hollow or space in the middle—in short, the wall will be built up in two distinct portions, each entirely of stretchers, with here and there a header, which will, of course, not come flush with the inside of the wall by the thickness of the space allowed in the center of wall; but no matter, they will fill this want with mortar, and when all is finished, who will be the wiser? The ordinary wall is weak enough in all conscience, but still there is some little adhesion between the face and back stretchers, independently of the header courses, as some of the mortar of the bed squeezes up and partially fills the back joint. In the hollow wall, there would of course be no cohesion at all beyond the few headers which might be introduced. In the case of fires, the present kind of wall, when the wood-work, which in a measure supports it, is burned, falls down too readily—then, what would be the chance of the hollow wall standing? We would have more firemen killed and wounded than there now are, though the number is great enough at present. An effort ought to be made to strengthen our walls, not weaken them, egg-shell and flimsy as they are.

Another reason why I object to the hollow wall is, that it forms a receptacle for vermin; it would be an intolerable nuisance to have rats and mice eternally quadrilling up and down these vertical ball rooms. Still greater would be the annoyance when they turned them into cemeteries.

And further, I think the hollow walls are not needed at all, for the very reason why their advocates press their adoption, viz., that they cause greater dryness in the house. The great fault of the climate on this continent is

its great dryness and stimulating qualities. The evil has been much increased by the introduction of close stoves, and, above all, hot air furnaces, or heating apparatuses. I think that it would much conduce to the health of the people, if some measures were taken to make the air of rooms damper instead of dryer than it now is. When I advocate a moderate degree of humidity in the atmosphere, I would be understood as referring only to healthy moisture, not the foul exhalations from damp cellars, which people generally seem quite to ignore. Does any house improver want a giant evil to eradicate?—if so, let him attack foul air. There is one great necessary of life that we want in all our dwellings, that is scientific ventilation. ED. M. RICHARDS. Lebanon, Pa., July, 1857.

[Our correspondent supports his first objection to hollow walls, by facts drawn from the bad workmanship of masons. This is a very poor foundation on which to build solid arguments for solid walls. If the hollow is better than the solid wall, it should stand upon its own merits, and not be condemned, because masons are in the habit of building miserable solid walls upon a principle, never advocated by us, to be applied to hollow walls. We have constantly referred to the construction of hollow walls in connexion with the use of the Flemish bond—(one header and one stretcher, succeeding one another in each row of brick)—and we do not wish to be held responsible for any other view of the question. He also objects to hollow walls, on account of their want of strength, assuming that they must be weaker than solid walls, composed of the same amount of material. We believe he is not correct on this point. Walls constructed with a row of headers to every two rows of stretchers, would be stronger than solid walls, and not so dangerous to firemen in cases of fire. The hollow wall would not be "one vast joint," as he states, but would be formed of a series of cells. It has been found that cellular hollow girders, made of iron, are stronger than those not cellular, constructed with the same amount of material. His objection to such walls, being grand ball rooms for rats and mice, is somewhat musical, and apparently he makes a good opera out of it, winding up, as he does, with the "dead march."

He also objects to hollow walls, because they are drier than those which are solid. The argument he advances is the super-dryness of our climate, which requires moisture to be healthy. This is a strange idea to advance. Every person knows that damp walls are unhealthy; they are frequently the cause of rheumatism and chills and fever. Every means which can be provided against such dampness in walls, should be employed, and if hollow walls afford a remedy, they certainly should be advocated, not condemned.

We are as strong advocates as he is for good ventilation, and have no doubt but he is right in his remarks respecting the want, generally, of the proper amount of humidity in rooms heated by hot air furnaces; but these are questions quite separate from that of "hollow and solid walls."

Natural Self-Printing.

A new era has dawned in the publication and historical representation of scientific objects by the introduction of natural self-printing. This is the most important discovery made in the art of printing since Gutenberg's invention, and the honor of it is due to Dr. Alois Auer, of Vienna. We will here describe the successive steps of this process. In order to obtain a copy from the original corresponding thereunto in its minutest details, be it a plant, a flower, an insect, a piece of cloth, or any inanimate object, we must proceed in the following manner: Place the object to be printed between a well polished copper plate and a lead plate, and then let the two plates pass between two cylinders moving parallel to each other. The pressure produced by the cylinders causes the original to leave a perfect picture of itself upon the lead plate. This lead plate needs no special preparation, but the common lead-plates sold in every tinstore will answer every purpose, if they are only smooth on one side. After being submitted to this pressure between the

cylinders, the lead plate will no longer be perfectly flat, but slightly bent to the form of the cylinder; it must therefore be placed upon a smooth, hard surface, that its shape may be restored both through its own weight and a little mechanical aid. As soon as this is done, one or more copies can be taken from the plates, if it be charged with any colored fluid, and treated generally as any copper-plate form when you wish to get an impression. It is evident that the copies taken directly from the lead plate must be limited in numbers, as the soft lead cannot long resist this pressure, and soon becomes, in consequence, unimpressible. But to obtain a large number of copies the lead form may be stereotyped, or a galvanic precipitate thrown upon it to make a printing plate from which a proper form may be obtained. The lead plates only need to be subjected to the action of a smoothing cylinder to render them again fit for use, and the copper plates may also be used again. N. G.

[Our contributor has furnished us with some beautiful impressions of leaves, which were taken in the manner described.]

Patent Case.

A case was tried before Judge Ingersoll, United States Circuit Court, in this city, on the 2d inst., relating to the machine for cutting moldings, patented by Alfred T. Serrell, May, 1848, re-issued patent June, 1853. An injunction was moved for against Collins & Pell, for infringing this patent. The motion was denied, and the case ordered to be tested by a trial at law, the plaintiff being required to establish the validity of his patent at the next term, before an injunction can be issued; but if the defendants are not then ready to try the case, an injunction will be issued against them without the trial.

Chloroform in Seasickness.

Dr. Landenen, a physician at Athens, informs us that he has discovered a specific for seasickness, viz.: ten to twelve drops of chloroform in water. He says the chloroform, in most cases, stops nausea, and that persons who have taken the remedy are soon able to stand, and get accustomed to the motion of the vessel. Should the sickness return, repeat the dose. This remedy was tried on twenty passengers during a very rough sea voyage from Zea to Athens, and all, with the exception of two, were cured by one dose. The minority (two ladies) recovered on taking a second dose.—*Medical Times and Gazette.*

Fish and Flesh as Food.

Now, when the price of meat is so high, it will not be out of place to call attention to the nutritious qualities of fish. Payen fed a dog on a mixture of 80 grammes of eels and 50 grammes of bread. On comparing the excrement with the digested food, he discovered that 85 per cent of the fat and 92 per cent of the nitrogen of the eel had passed through the intestines. Feeding him afterwards on bread alone, the excrement was found to be much poorer, containing less fat and nitrogen. After being fed on eels and mackerel the animal grew larger and fatter.

Lemon Juice in Drops.

Lemons are recommended for dropsy in a Russian medical journal, and are said to be beneficial in the most hopeless cases. The first day one lemon was given, after taking the peel off, and cutting it up into small pieces in sugar; the two following days three were given, and afterwards eighteen every day. For nourishment, meat was given. In every case the water came off on the seventh day.

Eggs for Burns.

The white of an egg has proved of late the most efficacious remedy for burns. Seven or eight successive applications of this substance soothe the pain and effectually exclude the burned parts from the air. This simple remedy seems to us far preferable to collodion or even cotton.

Lime in the Eye.

If quicklime gets into the eye, so as to darken the cornea by the lime penetrating the coating itself, the best remedy is water saturated with sugar.