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LIST OF PATENT CLAIMS

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MACHINES FOR MAKING FUSES—By A. G. Andrews, of Avon, Conn.: I claim passing the hollow mandrel through the winding spools, in combination with the flyers, which direct the winding thread from the different spools to the interior of said mandrel, for the purpose of winding the fuse as it passes from the forming machine, when combined, substantially as directed.

LOCOMOTIVE BOILERS—By James W. Farrell, of Reading, Pa.: I claim isolating the lower portion of the water space surrounding the furnace from the upper portion and connecting it by a free and constantly open communication with the tank of feed water, in such manner that the feed water of the tank will circulate, without being forced by a pump, in contact with the fire plates, to cool them and to be itself heated, preparatory to being pumped into the boiler, substantially as set forth.

TUMBLERS OF LOCKS—By Henry Blakely, of New York City: I claim, first, the employment of tumblers in such combination with the bolt of the lock, that each and every tumbler, independent of the others, shall have freedom to move laterally as well as vertically, whereby a great number of positions may be assumed by their unattached ends, as described.

Second, I claim the guide pieces upon the key, for the purpose of controlling the lateral motion of the tumblers as described, the whole being constructed and operating substantially in the manner described.

WATCH-CHAIN SWIVELS—By Wm. B. Carpenter, (assignor to W. D. Salisbury & S. Y. D. Arrowsmith), of New York City: I claim making the joint of the opening piece oblique to the eye, so that it will open obliquely to the hook piece, in the manner and for the purpose set forth.

MORTISING MACHINES—By Jno. B. Chambers, of Pittsburgh, Pennsylvania: The main principle of action, involving reciprocating chisels, and by a ratchet wheel feeding on the timber, is not by any means new; nor do I claim such, these being well known and common to other mortising machines; nor yet do I claim reversing the chisels, neither do I claim separately of themselves the devices by which I effect my improvements.

What I claim is, first, the employment of a stop catch or hook, operated on by the reach arm or pawl, to prevent the momentum given to the ratchet wheel from throwing the pawl out from between the teeth, after having performed its pull, and so making irregular the feed, one of the ratchet wheel teeth being beveled or reduced, in order to admit of the pawl entering sufficiently deep to arrest the motion of the feed, in the manner and for the purpose set forth.

Second, the combination and arrangement of the stud, clutch arm, lever, cam, and stop, so that when the lever is thrown in the cam it will unclutch the machine, when the chisel crank is on the full centre, and the chisels are out of the work, and retain them in that position by the clutch coming in contact with the stop, the several parts being made, arranged and operated as set forth.

STONE DRESSING MACHINES—By Simon W. & R. M. Draper, of Roxborough, Mass.: We claim hanging the arm, carrying the pick upon a shaft, which receives a vibratory motion through a cam driven by a mill spindle or other spindle provided for the purpose, and giving the said arm a motion lengthwise along the said shaft, substantially for the purpose described.

[See engraving in No. 4, this Vol. Sci. Am.]

SWIVEL HOOKS—By Albert and Morris Falkenau & Morris Pollak, of New York City: We do not claim to have invented any one of the parts described and shown; but we claim the combination of the spring and its enclosing slide, with a swivel hook, for the purposes as described.

WORM TUBS OF STILLS—Geo. Johnston, of Farmington, Iowa: I claim the division of the worm tub into an upper and a lower compartment, and connecting them to each other by a valve, so arranged that it will be operated by the influence of the temperature of the water in the upper compartment, for the purpose of enabling the distiller to keep the water in the said upper compartment at any elevated temperature that may be required for use, in preparing the distillers beer or fermented wash, or for other purposes in the distillery.

FLOUR BOLTS—By David Marsh, of Fairfield, Ct.: I do not claim to be the first to use a flat sieve or bolter, to separate substances of different sizes. I claim the construction, arrangement, and combination of the shafts and cranks, to receive and move the bolter with the cranks and connecting bar, or the equivalents, as described, to regulate and equalize the movement, the coarser particles being carried off from the bolter by the flexible tube or other convenient means, the whole being substantially as described.

I also claim the application of the breakers or spreaders in the bolting box, to prevent the material working off too fast, and spread it evenly over the sieve or bolter, as described.

LUBRICATING OILS—By Wm. H. Mason, of Boston, Mass.: I am aware that spirits of turpentine and carbonate of potash have been used before my invention in lubricating compounds; I do not, therefore, claim them, except as specific agents to accomplish a definite and specific purpose stated.

I claim the combination of a mixture of camphene and benzole, carbonate of potash and glycerine, with whale or other cheap oil having similar properties, in the manner and for the purpose set forth.

HOMINY MACHINES—By Samuel Null, of Carroll Co., Md.: I claim the combination of the beaters, C C, with the beaters, D D, each moving in opposite directions, as set forth.

RAILROAD CAR TRUCKS AND BRAKES—By E. G. Otis, of Bergen, N. J.: I do not claim the winding of the chain around the axle, for the purpose of pressing the shoes against the wheels; neither do I claim the clutch, nor the collar separately, for they have each been previously used.

But I claim, first, the method of operating the toggle joint by means of the rod having the cam upon it, which works in a slot in the bar, by which the

clutch is thrown in and out of gear, or the cap made to bear against the hub of the wheel in combination with the compensating joints, constructed in the manner and for the purpose described.

Second, I claim the employment of the guards, vertical studs, and rods, arranged as described, for the purpose of enclosing the wheels and preventing them getting off the track, in case of the breakage of a wheel or axle, in combination with the arms and bolts, by which the trucks are suspended to the car bed, in the manner and for the purpose specified.

COOKING APPARATUS—By Jos. Smolinski, of New York City: I claim, first, the peculiar arrangement of the smoke flues, as shown, by which they are made to envelope the centre on all sides, and thus concentrate them in the smallest possible space.

Second, the combination with this machine of the key and valves, for ventilation and supply of air to the furnace from the room, as described.

CAST-IRON CAR WHEELS—By Stephen Thurston, of Scranton, Pa.: I claim connecting the hub and rim of a solid cast-iron railroad wheel, by a single plate, having two series of radial corrugations united by a hollow band or single circular corrugation, substantially as described.

MACHINES FOR JOINTING STAVES—By Dennison Woodcock, of Independence Centre, N. Y.: I claim jointing the staves by means of cutters, set at an inclined position, and converging towards one another in the front, the said cutters having a motion given them perpendicular to the stave, for formation of the bilge, or varying width of the stave, by means of the cam, framing, and their accompanying parts, or devices equivalent thereto, operating substantially as specified.

DESIGNS.

LADIES' HAIR COMBS—By Wm. Redheffer, of the District of Spring Garden, Pa.

TOWEL STAND—By Nathaniel Waterman, of Boston, Mass.

Interesting Patent Case.

A short time ago a motion was made in the U. S. Circuit Court of this district, by Joseph Ritter, and William C. Kneeland to restrain Alfred T. Serrell, John H. Okerhausen and James A. Ferguson, from using a machine for making mouldings.

The plaintiffs, who are the assignees of James G. Wilson, of a right to use the patent heretofore re-issued to William W. Woodworth, as administrator of William Woodworth, for the well-known planing-machine, for making mouldings within the city and county of New York, for the balance of the unexpired term for which the said patent was re-issued, filed their bill of complaint against the defendants, who are engaged in making wood mouldings, in West Thirty-seventh street, and are using four machines built in accordance with a patent granted on the 16th of May, 1848, to the defendant, Alfred T. Serrell. The plaintiffs prayed for an injunction to restrain the defendants, and for an account of the work which had been performed by them since the assignment. The motion for the injunction was heard on the 6th and 21st of May, 1852. The defendants insisted—

1. That they were not using the Woodworth patent, nor were the machines in use either substantially or in any way erected according to the specification of said patent, but that on the contrary, they were using four machines which were constructed in accordance with the patent granted to the defendant, Alfred T. Serrell.

2. That the re-issued patent to William W. Woodworth, did not embrace any claim except for planing, and tonguing, and grooving plank or boards. That the machines used by the defendants could not be applied to such purposes.

3. That the patent granted to defendant Serrell was for making wood mouldings from stuff prepared in a particular way, and not contemplated nor described by Woodworth. That by Serrell's plans thirty per cent. was saved in stuff alone, and that the Woodworth machine was incapable of working stuff in the way patented by Serrell. The injunction was denied, and the bill of complaint dismissed, with costs. For plaintiff, W. Mootry and Charles M. Keller, Esq.; for defendant, Geo. G. Sickles.

[The above appeared in the "New York Daily Times" of Wednesday last week, and the following in the same paper on Thursday. It will be seen that there are some hard statements made by some of the parties:—

"DEAR SIR: in your paper of to-day (the 26th inst.) the report of the above case, relating to the Woodworth Planing Machines is almost wholly incorrect. No such points as therein inserted were advanced or insisted upon by the defendants, or adopted by the court. The only question argued and submitted to the court was a preliminary question as to whether the plaintiffs, being the assignees of James G. Wilson, (the owner of the Woodworth patent), had any right to sue under their assignment from him, he having

in previous assignments to Wm. Van Hook and others, disposed of his entire interest in the city of New York. No opinion on any other point was delivered by His Honor Judge Betts. The merits of the case were not entered into, and the points for defendants, as published, are a pure fabrication. Judge Betts has read the report and pronounced it wholly incorrect. Nor was the bill of the plaintiffs dismissed with costs. In their behalf, I withdrew the suit a day before any opinion was given, in order that their title might be amended and corrected. As soon as this is done a new action will be commenced against the same defendants for the same matter and thing, and the case fully and properly disposed of on the merits. Very respectfully, yours,

WM. MOOTRY, Solicitor for Plaintiffs.

No. 61 Wall street, May 26, 1852."

The great complaint which we have to make against the owners of the Woodworth patent is the inordinate desire to stop all parties from doing business in the same line of work performed by the Woodworth machine. There is something morally blinding in the self-interest of all men; against this we must wage honest and stern warfare. It is very wrong for one patentee to try and stop another from using a machine in the same line of business, when those machines are totally different inventions. This the Woodworth assignees have done very often; it is not doing as they would be done by. Thus they have claimed pressure as the invention of Woodworth, when applied to boards or planks in the act of being planed; how they could do this with the light of the past before their eyes, is something which does not appear very beautiful in the eyes of disinterested parties.

Every inventor has the right to his own invention, and no one inventor has more special rights than another. It makes no matter whether one is nine or ten years older than the other, or not. We have blamed the owners of Morse's patent for endeavoring to break down another telegraph company, seeking for and obtaining an injunction against a patented machine which is different in principle and action from Morse's.

Rotation of our Forest Trees.

We desire here to allude to a subject which has an important indirect bearing, at least on the subject of agriculture, because it illustrates the great rotation principle, in the vegetable kingdom.

The forests in many parts of our county, are about changing their tenants. In our vicinity, the great burden of our forest timber, as found here by the first settlers, was white-oak. This is about giving place to the black-oak, especially on elevated ridges, or where the land is inclined to be sandy. The venerable white-oaks, with diameters from 30 to 50 inches, are, in most instances, surrounded by a crop of sapling black-oaks, leaving beneath their shade nothing to perpetuate their kind.

If we are not mistaken in our judgment, the cause of this is not very hard to define. It is a matter well understood, by those who have given any attention to the subject, that there is, in every portion of the earth, certain elements or principles, which go into the composition of vegetable matter. That any particular species of vegetable will sooner or later consume out of the earth that which is peculiar to its nature, after which that particular kind will not prosper until the principle which nourishes it is reproduced, either by resting the land, or by special manuring.

Some vegetables exhaust from the soil their peculiar food more rapidly than others. Flax, for instance. It used to be said by old farmers, that a piece of ground that had borne a crop of flax would not bear another for seven years.

It is on this principle that the rotation in crops is predicated, a doctrine, for the knowledge of which we are indebted to our experimental farmers, and to book reading. This principle, of the rotation in crops, is probably as well understood, at this time, as anything connected with the science of agriculture. And this is the principle, no doubt, which explains why it is that the white-oak is leaving our forests and giving place to the black oak timber. It has been so long the undisputed tenant of our woods, that, having exhausted from the soil that aliment upon which it

lives, it retires, in the order of Providence, to give place to a successor whose special food yet remains in rich abundance in the earth.

Every farmer who has attentively observed the progress of vegetation in his own lane and yard, must have noticed the operation of this principle. The order of our grounds is something like this—the first occupant was the smart weed—the next a species of white blossomed weed—then the dog fennel, and now the yarrow is coming. As soon as the aliment was extracted that nourished each particular kind, it died for the want of something to live on, and was succeeded by another species, and perhaps mere accident determined the successor.

Since our attention has been directed to this transition in the forest, we have made the subject a matter of inquiry, when favored with the company of men who would be likely to notice things of this kind.

Having been referred, with reference to this matter, to Joshua Copperthwaite, of Medford, New Jersey, where they have timber lands which have frequently been cut off for the supply of wood to the Philadelphia market, we wrote to that gentleman upon the subject, and have received his answer, from which we take the following extract:—"If the pine is cut off the oak will grow, and if the oak is cut off the pine will grow."

At the late State Fair, at Cincinnati, we met with an intelligent fruit grower from Illinois, to whom we mentioned this forest subject, and found that he had noticed this change going on among the trees of the wood. At our request he penciled down and handed us the following statement. He was formerly a resident of Ohio, and his remarks refer to this State:—

"I have long been convinced that two generations of the same kind of forest trees, seldom or never succeed each other on the same tract of land. A crop of trees, nearly all of one kind, which last from two to four and sometimes to five centuries, seem to exhaust the soil of that peculiar nutriment, which is adapted to that sort, and at the same time prepares it for some other.

"Instances: there is the track of an old tornado, which passed through Delaware county, the north-east corner of Licking, and finally into the south-east part of Knox, which, upon counting the annuals on a number of stumps, I ascertained to have occurred about the year 1740. In the track of this tornado, the timber is essentially different from the older timber on each side of it. Again; most of the west part of Knox county, was, thirty years ago, when I first became acquainted with it, covered with a growth of beach, slightly mixed with other timber. That this growth had succeeded an oak forest was quite plain, from the fact, that oak trees of enormous size, in a state of decay, were to be found in every direction.

[The foregoing extract is taken from the Agricultural Report of the State of Ohio, a large volume, for which we are indebted to our respected correspondent, C. Springer, of O., who directed our attention to this subject, which is contained in a letter to E. Harkness, of Muskingum Co.

We have noticed, and we have heard many farmers remark, that white oak and maple came up after pines were cut down. We have seen this in the pine forests in the counties of Albany and Oneida in this State, but we have never examined the subject so attentively as to perceive the existence of a certain law in these changes. The subject, we believe, demands further investigation, for it is one of great interest to every class of our citizens.

The Curculio.

A correspondent of the Boston Journal says, take cotton batting, put three circles six to twelve inches apart around your plum trees, and these will catch the curculio. He caught sixty in the first circle in twenty-four hours; in the second circle but few had been caught, in the third circle scarcely one got so high. He found this a sure preventive, and got lots of fine plums last year, for the first time for many years. He further recommends keeping the ground free from windfalls, as they contain the maggot, which goes into the ground to mature itself.