### Woodworth's Planing Machine.

*(Concluded from our last.)*

I may add, that my own very carefnl examination of different inventions, that are supposed to interfer e with Woodworth's has not led me to a different conclusion from that which a proper judicial comity invites me to adopt.

3. The only remaining question is that which regards the substantial identity of the machine used by the defendants with that patented by Woodworth

The patent of Woodworth, as defined in his amended specification is for a machine, capable of performing the operations of planing, tongueing, and grooving, at one and the same time, but which admits of their being performed separately. It consists essentially of two parts or systems; one for planing or smoothing the surface ; the other for fashioning the tongue and groove upon the edges. The apparatus for feeding the machine, and the rollers by which the elastic material is held firm while undergoing its action are subsidiary to these.

I shall consider the two systems of machinery in succession.

1. The planing machine.

A practically smooth surface may be given to plank or other substances, by the application of either of three forms of tool :—the chisel, which, with a guage to regulate its action, becomes the ordinary plane; the drawing-knife, which with a simular guage, forms the spoke-shaves ; and the adz. Each of these has its appropriate or characteristic motion ; though by the ingenuity of the workman, the motion of either of them can be modified so as to approach that of another.

The chisel, when in the form of the plane, has its blade fixed at an acute angle with the surface to be reduced, and works parallel to that surface, the edge cutting generally at right angles.

The guaged drawing-knife differs from the plane in this : that by means of two handles, its edge can be made to cut obliquely, or at right angles, at the pleasure of the workman Its general motion is parallel to the surface; though, being more under control of the hand and having its blade sometimes slightly arched, it may be made to deviate upwards or downwards, with a varying angle, or in a curve.

The adz has an arched edge, and cuts only in curves : level surface being attained proximately by a succession of such cuts. The plane and drawing-knife operate by shaving the surface, the adz by chipping.

The chisel-plane was combined with apparatus for giving it motion and direction, in the machines of Bentham, in 1791, Bramah, in 1802, and Muir of Glasgow, in 1827. In the first and the last of these, the character and direction of the motion were those of the same tool when worked by hand. In Bramah's the planing-blades or irons were fixed upon a revolving disc ; the character of the motion thus become circular, but still continning to be parallel with the surface.

The planing machine of Woodworth, though it uses knives or cutters resembling plane-irons in form, is essentially a series of adzes. These are attached to the outside of a cylinder to lines either parallel or oblique to its axis ; and as the cylinder revolves, they cut with an adz-like or dubbing motion ; the knife which is parallel to the axis, presenting its whole edge to the plank at the same moment, and in this respect cutting like the plane ; the knife which is oblique or in the helix form, presenting the parts of the edge in succession, and in this respect cutting like the drawing-knife : but both forms of knife cutting in vertical curves like the adz, not in plain surfaces like the chisel plane, and its combinations by Bentham, Bramah and Muir.

Regarding then the Woodworth machine as substantially different from the three last mentioned I find the substantial difference to consist in this, that they act in planes parallel to the surfacs to be removed, Woodworth's in vertical curves ; that theirs produce an absolutely level surface ; his a surface apparently level, but in fact corrugated or grooved.

2. The tongueing and grooving machine.

The idea of tongueing and grooving by modification of the circular saw is at least as old as 1394, when it was described by General Bentham, from whom Muir copied his machine many years after. The specification of the two concur in describing a thick revolving saw or cutter to make the groove, and two wheel-saws set at right angles with each other on each side the plank making four in all, to cut the rebates of the tongue. The machine of Woodworth is an improvement on these, by substituting a single firm cutting wheel for the four circular tongueing-saws, and combining this with the equally firm grooving cutter on the other edge of the plank to reduce it to an exactly equal width throughout.

I do not see an essential difference between the grooving cutter in this machine, and the circular saw or cutter described by Bentham and Muir. But their tongueing apparatus is clearly not the same as Woodworth's ; and I doubt very much whether the tongueing and grooving could be practically combined in their machines with the same effect as they are in his ; they certainly are not.

These two systems of machinery, the planing, and the tongueing and grooving, seem to me to constitute the essential, and only essential parts of the Woodworth improvement.—The amended specification claims them, in the several combinations of which they are susceptible, as follows :

1. The employment of those planes, in combination with the subsidiary rollers, or any analogous device :

2. The combination of those planes with the tongueing and grooving wheels.

3. The combination of the tongueing and grooving apparatus.

4. The combination of either the tongueing or grooving wheels with the rollers, which by their pressure hold the plank steadily in its place.

Having thus analyzed the patent right under which the complainants claim, it remains to determine whether the machine used by the defendants is in part or in whole substantially the same.

And 1. Of the planing machine.

It is apparent, that so soon as a planing machine, having a general resemblance to the revolving disc of Bramah, ceases to operate in an absolutely plane surface, it loses one of the characteristics of his machine.

On the other hand, it is clear that a machine, sensibly like Woodworth's, may not exactly conform in its structure to the rigid definition of a cylinder. The smallest change of diameter between the two ends of the revolver, on which the planing knives are placed, would convert the cylinder in the frustrum of a cone ; and a corresponding inclination of the axis of motion, or a corresponding adjustment of the plank to be acted on, would make the machines operate as well, or nearly as well, as if the exact character of the cylinder had been retained.

Yet, just in proportion as the sides of the Woodworth revolver approximate to a cone, the machine approaches the planing disc of Bramah. It ceases to cut as the adz merely, but takes in some degree the characteristic action of the chisel plane or of the drawing knife.

So too, when you give a dished form to the disc of Bramah, thus converting the disc into a cone, you lose in part the characteristic action of the chisel plane and drawing knife, and introduce in the same degree the appropriate motion of the adz.

This deviation from the strict form of the Woodworth machine towards that of the Bramah, or from the Bramah towards the Woodworth, may go on increasing, till the appropriate action of the original machine effectively disappears ; the cylinder, by a series of progressive changes, having lost itself in the disc, or the disc in the cylinder. It is impossible to define, for the practical objects of a judicial decree, that angle or degree of deviation at which one of these geometric forms shall be said to pass into the other.

Between the two machines then, the Bramah, unprotected by patent in this country, which cuts parallel to the surface with a planing motion, and the Woodworth, which cuts with the dubbing action of the adz,—where is the line of separation ? Obviously, it is at the point of the first deviation from the free machine to that of which the use is prohibited.

Turning now to the machine used by the defendents, we find it to be a revolving cone, its axis or spindle so arranged as that the tangent plane of its curve shall coincide with the surface to be made smooth. It partakes of the disc character, and cuts as the drawing knife and chisel plane also ; but just so far as it varies from the simple disc of Bramah, it embraces the principle of Woodworth's machine, by involving the dubbing action of the adz. It cuts as the drawing knife and the plane, while approaching the point at which the knives act upon the finished surface, and its cutters continue to revolve with a similar motion after passing that point ; but at the effective moment, it is not the plane or the draw knife, but the adz cut, that finishes the work.

Much stress has been laid upon the fact that the knives in the defendents' machine are not in the lines of the radius, but have a certain obliquity, which brings one part of the edge in contact with the board before the rest, and gives a sloping or drawing action, not unlike that of the pocket knife while cutting a stick. But I see nothing in this action or arrangement, to distinguish it in principle or substance from that of the Woodworth rotary cutter, when placed in the oblique line of the helix. Whether it be the knife, that moves in part lengthwise during its revolutions, presenting the points of its edge to the board in succession, or the board, which moving onwards, presents its face to the several points in succession of the knife edge, or whether the action results from the combined action of the two, the machine and its mode of operation are substantially the same.

I am therefore of opinion that the planing machine of the defendants is an infringement of the complainant's patent-right.

2. As to the tongueing and grooving machine.

This part of the machine in use by the defendants does not vary sensibly in form or character from the tongueing and grooving apparatus claimed by Woodworth. Until his patent shall be invalidated, he has a right to claim of this court the protection of its restraining process in regard to this also. .

It is my duty therefore, to grant the full injunction as prayed for. In doing so, I am not sensible to that which was so ably pressed in argument, that if I am in error, the respondents may be seriously prejudiced. But the court can seldom encounter a case, that does not involve a simlar responsibility for consequences. To withhold judicial action is not to escape from this. The right of a party to the most speedy and effectual protection against a meditated wrong, is as complete as his right to redress for wrongs already inflicted : and the accident of position confers no right on one party, whether he be plantiff or defendant, at the expense of the other. The special injunction of equity, like the arrest on mesne process of the law, may be abused to the injury of an opponent ; but it is no less on that account the duty of the judge, to further them both, when in the exercise of his best discretion, he believes that they are called for by the merits and the exigency.

This is a case of ancient and highly important patent-right. It has been contested at law and in equity with an eagerness and pertinacity proportioned to its value. Yet during the lifetime of the inventor, eleven years, it was "never successfully impeached." (Story, J., in Washbourn v. Gould ) Since his death numerous questions have been raised as to the title of his administrator under the renewal of the patent, which were only settled by the Supreme Court within the present year. It is under the decision of that tribunal, in the case of Wilson v. Rousseau, that the claimants assert their right to come before this court as parties in interest

They have lost no time. The decision at Washington was made in March, and they filed their bill in April. The motion for an injunction, argued before my predecessor in office, and left decided by his death, was brought to my notice on that day I first took my seat on the bench. There is here no acquiesence, no laches ; but on the contrary, all promptness and vigilance.

I accordingly direct a special injunction to issue according to the prayer of the bill, and to remain until the hearing of the cause, or the further order of this court.



### Last Moments of two Great Men of Science.

When the Roman army had at length become masters of Syracuse by stratagem, which the tactics of that consummate engineer, Archimedes, prevented them from taking by force, he was shut up in his closet, and so intent on geometrical demonstration, that he was equally insensible to the shouts of the victors or the outcries of the vanquished. He was calmly drawing the lines of a diagram when a soldier abruptly entered his room and clapt a sword to his breast. "Hold friend," said Archimides, "one moment and my demonstration will be finished." The soldier, surprised at this unconcern at a time of such extreme peril, resolved to carry him to Marcellus ; but as the philosopher put under his arm a small box full of spheres, dials, and other instruments, the soldier, thinking the box to be filled with diamonds, could not resist the temptation, and therefore killed him on the spot.

It is related of the celebrated French chemist, Lavoisier, that when he was condemned to death by Robespierre, he requested fourteen days, in order to mature some important discovery ; but the monster refused the boon, and sent him to the guillotine.

### First Discovery of the California Gold Mine.

From an article in Harper's forth-coming Biographical Cyclopedia, we learn that the gold mines of California were first discovered by the Jesuits, about the middle of the last century. The Jesuits concealed their discovery from the Government and the suspicion that they had done so perhaps had something to do with their expulsion from Mexico. In 1769, Don Jose Galvez, Marquis of Sonora, undertook an expedition into California to ascertain the truth of the reports respecting the gold, "in the rivers, in the soil, and in the rocks" He was accompanied by the celebrated Don Miguel Jose de Arenza, who, discouraged by the fruitless search of a few weeks, recommended the abandonment of the enterprise, and for contending that the Marquis was insane for proceeding, was thrown into prison where he remained several months. Nothing at all satisfactory, however, appears to have resulted from the search of Galvez : though the Jesuits afterwards disclosed, in Spain and in France, that the charges of discovery and concealment made against them, were true.

### Indian Bread.

Take half a dozen eggs beaten, one quart of milk with a little sugar—the amount being regulated by the taste—mix the eggs and meal together first, then put in the milk. The quantity of meal will be regulated by the consistency desired, shorten with butter and mix in a little salæratus. Grease the pan in which it is baked.