NEW INVENTIONS.

Improved Machinery for Making Thimbles.

Mr. Francis Pidgeon, of this city (New York, has taken measures to secure a patent for a useful improvement in machinery for making Thimbles. The improvement consists in the employment of two rollers, of which one is divided transversely to its axis, and in combination with a stationary bar. One of the rollers is convex, and is hung on a shaft, the other two parts forming the other roller, are hung on the ends of two shafts, which are capable of moving longitudinally in their bearings, the said shafts having their axis in line, and the parts of the roller upon them having their peripheries of such a form, that when they are brought together they form a roller with a concave periphery, the reverse, (nearly) of the other roller spoken of. The shafts are geared together, so that those of the concave roller will rotate in an opposite direction to the other roller. When a flat bar of iron, suitably heated, is passed between the rotating peripheries, it receives a curve transversely, and in coming in contact with the stationary bar above named, which is placed near the periphery of the concave roller, it is bent around the said roller, by the revolution of which it is formed into a ring. The roller is formed into two pieces to allow this ring to be removed, which it could not be if it were made in one piece.

Machinery for Riving, Jointing, and Shaving Shingles.

Mr. George J. Wardwell, of Hanover, Oxford Co., Me., has taken measures to secure a patent for improvements in machinery for the purpose indicated in the above caption, and which is also applicable to the making of staves and such like articles. He employs jointing knives attached to springing bars, which serve as guides to bolts of any desired width, and allow the knives to adjust themselves to joint or plane the sides or edges of a bolt, shingle, or stave of any width. He also employs reciprocating shaving knives on sliding gates, which can be set parallel for shaving staves, or inclined or tapering for shaving shingles.

Steamboat Boiler Draught Improvement.

Mr. Wooster Harrison, of Port Washington Wisconsin, has taken measures to secure a patent for a new way of creating draught in steamboat boiler furnaces. The invention consists in carrying the draught-pipe or flue of the boiler furnace into the wheel-house and creating a draught, by a partial vacuum which is produced near the centre of the wheel by its revolution. By this means great advantages are obtained, such as dispensing with the chimney in canal boats and river boats, also the prevention of danger by sparks, which are all blown into the water.

Clothes Line Protector.

Mr. Norman Allen, of Unionville, Hartford Co., Conn., has taken measures to secure a patent for a box named "A Clothes Line Protector." The line is wound upon a reel inside of a portable box by a handle on the outside of it. The cord passes through an opening on the top of the said box. There is a ratchet which catches into a wheel on the axis of the reel, and prevents the cord from winding off backwards, while it is being wound up. This is reversed when the clothes line is to be stretched on the poles.

Improvement in Ships' Furniture.

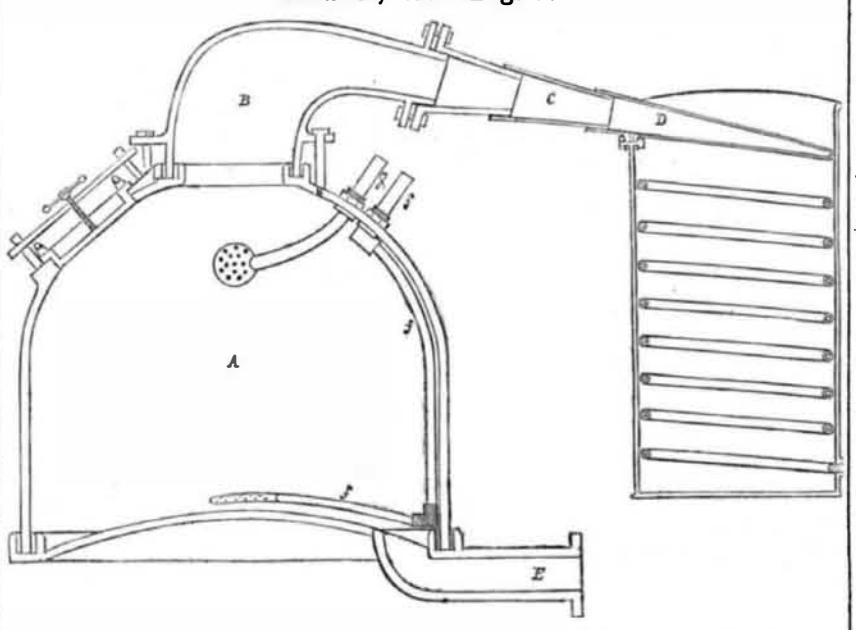
Mr. Charles J. Bradbury, of Manchester, N. H., has taken measures to secure a patent for a valuable improvement in constructing furniture for the cabins of ships, such as tables, &c., so as to make them maintain a horizontal position notwithstanding the changes in the position of the vessel.

Machinery for Making Blinds of Windows.

Mr. Daniel H. Thompson, of Springfield, Mass., has taken measures to secure a patent for valuable improvements in machinery for the manufacture of window blinds. The improvements relate to certain means by which the stiles are bored to receive the tenons or pivots of the slats; the rods and slats are pricked to receive the wires, and the tenons or pivots are turned on the slats at one and the same time; the several parts named, of a single pair, or of a number of pairs of blinds, being placed in the machine and properly adjusted, have the several operations performed upon them without further manipulation. The improvements greatly facilitate the making of blinds, and will tend to reduce their price, beside producing better workmanship than is at present to be found on the majority of blinds.

We do not know of any kind of wooden manufacture so universally useful and used as blinds, and yet we believe there is no species of manufacture, as a general thing, so poorly made. Coarse made, bad fitting blinds are so common that every body seems to count on the same, almost like a natural product. We hope this invention will lead to a general improvement in the blind manufacture.

ROBBINS' PATENT IMPROVEMENTS FOR DISTILLING RESIN, &c.---Fig. 1.



On the 4th of last month (Nov.) Mr. Louis S. Robbins, of this city, was granted four patents for as many different improvements,—one was for Distilling Resin; the 2nd, making Paint Oil; the 3rd, Tanners' Oil, and the 4th, Lubricating Oil. We will endeavor to present the spirit of these four useful inventions in this article; and, first, we will describe the Improved Method of Distilling Resin.

Figure 1 is a vertical section of a distilling apparatus. A is the body of the still; B is a curve pipe connected with the top of the still; C is a movable joint of pipe for connecting the curved still neck with the still worm, D; *f* is a steam pipe, which passes through a close joint in the side of the still, and thence is conducted down the inner side and along the bottom of the same, to near the centre of the bottom of the still, when it is curved into a circular form around it. The annular terminating portion of the said steam pipe that surrounds the centre of the bottom of the still, is perforated with small holes for the escape of the steam during a part of the time of the distilling process. A spiral, or any other form, may be given to the perforated terminating portion of the steam pipe, *f*. A thermometer must be so combined with the still as to indicate the temperature of what may be contained in the interior. Mr. Robbins makes use of Fahrenheit's thermometer. In the distilling of the resin, Mr. Robbins produces therefrom, in a separate and distinct form, acid, naptha, and oil. A sufficient quantity of rosin is put into the still to fill it up nearly two-thirds of its interior space, and then the resin is melted. At the time of making the fire under the still, a sufficient quantity of steam is blown into the still to moisten the rosin; the pipe, C, is detached before the fire is made, because the rosin is violently agitated during the early stages of raising its temperature, and until all the acid and water is expelled. During this agitation the resin is liable to overflow, and should it do so, the worm of the still would be greatly injured, and perhaps an explosion would be the result. The acid will begin to escape when the thermometer indicates the temperature of the resin to be 325°, at which point the fire must be regulated, and the temperature maintained about from 300° to 325°, until the acid shall cease to flow from the neck of the still. When it ceases to flow, the pipe, C, is connected to the still, and the joints of it luted, and steam is then blown in through pipe *f* into the bottom of the still. The temperature is kept at about the same point. As the steam rises through the melted matter, it takes up and carries with it, in the form of vapor, the naptha contained in the resin, and these two mingled vapors pass off into the worm, where they are condensed and flow into a suitable vessel. This operation will continue until all the naptha contained in the resin has been expelled; this is indicated by the character of the discharge, or when about 15 per cent. in bulk, of the contents of the resin in the still has passed over.

Figure 2.

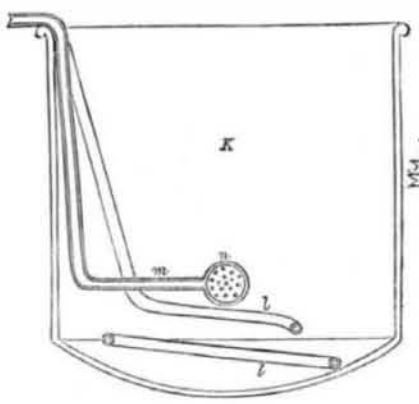
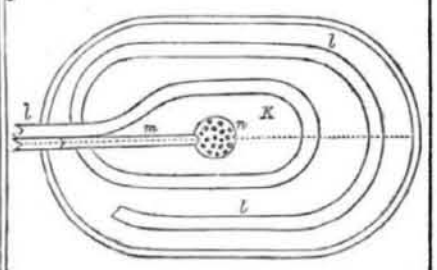


Figure 3.



As soon as the naptha has ceased to flow from the worm of the still, the fire is increased until the contents of the still are raised to 500°, the steam all the while being allowed to flow in, and is kept flowing in during the whole remainder of the process. The oil commences to pass off in vapor along with the steam when the heat is raised to 550°, when the mingled vapors pass into and are condensed in the still worm, from whence they are discharged into a suitable receiving vessel. The temperature of 550° must be kept up until the flow of oil nearly or quite ceases. The bulk of oil should be about about 25 per cent. of the original quantity of resin.

The contents of the still are then raised to 600°, when the flow of oil and moist vapor will re-commence and continue until a second quantity of oil, equal to about 25 per cent. of the resin, is discharged, when the flow of oil will nearly cease. The temperature of the still is then raised fifty degrees higher, when the flow of moisture and oil will again recommence and continue under the same heat, until a third quantity of oil is discharged, equal to about 12½ per cent. of the bulk of resin, originally placed in the still, after which the fire is to be extinguished. The residue left in the still is of a nature like pitch; this is drawn off through the pipe, E. The steam pipe, *g*, which passes through a close joint in the side of the still, and terminates in a perforated coil, *h*, in the upper part of the still, is for allowing steam to be injected through it upon the oil when it is in a state of vapor, and this produces a purifying effect upon the oil.

Paint Oil.—The same still, figure 1 is used for making this oil, but other apparatus (figs. 2 and 3), are also employed. Fig. 2 is a vertical section of a bleaching and purifying kettle, and fig. 3 is a top view of it. *k* is the bleaching and purifying kettle; *l* is a steam pipe, combined therewith in such a manner as to enable the temperature of the oil to be raised when placed in the said kettle, and *m* is a steam pipe terminating in a perforated head, *n*, through which steam is injected into the oil.

A quantity of oil made at 650°, as described, is placed in the still (figure 1), and then the man-hole of the still is closed and luted. The contents of the still are then raised to 650° and kept at that point until the process is completed. At this heat the oil passes off as vapor, when steam is injected into the still through the pipe, *g*. The oil is condensed in the worm, D, and is conducted off into a suitable vessel. The oil thus produced is again distilled in the same way, and when re-distilled it is placed in the kettle, *k*, in which its temperature is raised to about 225°, by steam, through pipe, *l*, and then at that point steam is let in through pipe, *m*, until the oil is freed and until the acid and coloring matter is expelled, when it will be quite clear and fit to be boiled for paint, like linseed oil.

Tanners' Oil.—A quantity of the oil produced, as described, is placed in the still, (fig. 1), also some slacked lime—about 5 per cent. of the quantity of oil. The man-hole of the still is then closed and luted, and the contents of the still raised to 600 degrees, and maintained at this point until the whole process is completed. The steam is introduced through pipe *f*, when the temperature has reached 300 degrees, and through pipe *g* when it has attained to double that heat. The oil passes in vapor into the worm, D, and from thence flows into a receiving vessel. The oil produced by this process is again distilled in the same manner as that described, but instead of slacked lime, the same quantity of caustic lime is employed. The oil produced by the re-distillation is placed in the purifying vessel, *k*, (figs. 2 and 3), and its temperature raised, as described in the process of producing painters' oil. This oil is clear and pure, and entirely free from acid, making an excellent currier's oil.

Lubricating Oil.—A quantity of oil produced as described at 550 degrees, is placed in the still (fig. 1) and a quantity of slacked lime equal to 5 per cent. of the oil is placed along with it. The man hole is luted and the temperature is raised and maintained at about 550°, until the process is completed. The steam is let on as described in making the tanner's oil. The oil passes off in vapor into the condensing worm, D, from which place it is conveyed into a suitable receiving vessel. This oil is re-distilled and treated exactly as that for making the currier's oil, after which it is run into the purifying kettle and treated as before described. It is then pure and limpid.

The claims of these four patents will be found published on page 70, this volume of the Scientific American. The improvements are valuable ones, and are of that kind of products recognized in the old and established charter of patent rights, under the head of "new and useful manufactures." In our country there are fewer patents secured for chemical than mechanical improvements, and much less in number are they than we find in the lists of French and English patents. We hope to see more of them, for it is our humble opinion that, much as we are indebted to mechanical inventions, we are none the less to chemical discovery. The improvements of Mr. Robbins are very valuable.