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THE WALNUT BURR.

The burr of the walnut tree, the most valuable and one of the most beautifully figured woods the world produces, is found principally in Persia. The trees of England rarely have much color on account of the climate not being sufficiently hot, but fine walnut trees are found in the south of France, Spain, Italy, and in the same latitude of Turkey, Circassia, and so on to Persia. The burr of the tree is an excrescence, similar to a wart on one's finger, which is supposed to result from disease, and is mostly found growing at the trunk, where it is formed into a mass of what is termed "tis," producing the magnificient figure which is seen on pianos and other furniture.

Few people even in the timber trade have any idea of the value of a fine large burr of superior color, size and soundness. These burrs weigh from about 500 weight to 2 tons or more, and some have been known to produce as much as £2,000 each.

Some 15 years ago walnut burrs were to be found in quantities around the neighborhood of the Black Sea, although not of the best quality, but owing to the great cutting that took place on account of the immense demand, especially from America, there is at the present time a great scarcity of the wood in our markets; another reason is that the transport is extremely difficult, as in the interior of Persia very often there are not any roads, and the cost of making them renders it too expensive. Of late years, being unable to get the burrs out whole, they have taken to cutting them into pieces about six to nine inches thick, termed "platiers." The original cost of the walnut burr is usually very small, from perhaps 10 shillings to a few pounds, so it is solely the heavy expense of transport that makes this wood so very dear. At the present time a very fine lot of burrs in the solid is worth at least £250 per ton here, and would be snapped up at once. Some four years ago a quantity of this wood was cut in Cashmere by a Frenchman who had travelled through Persia buying carpets, etc., for a large Paris house; the weight of the parcel was about 25 tons, and was sold for a considerable sum, but on account of the long time it took to transport this wood, the sun had very nearly cracked it through, as it had only been cut in thickness of about eight inches, so under these circumstances the venture did not turn out very successful. The last year or so fine wood has got scarcer and what pianoforte manufacturers would have had to pay for good figured veneers, one can hardly say, but fortunately for them, black veneers came into vogue. This veneer has had an immense run, and has been sold to the confiding public as ebonized, but in reality it was mostly the refuse sap of walnut and other woods (sold usually as guaranteed pear tree) which underwent a process of dyeing. It is most trying and injurious to the health of workmen, engaged in the making up of this wood, and it is a well known fact in the trade that even when finished it is unsatisfactory, no matter what pains are taken in the finishing and polishing, it very soon loses all its brilliancy, and in a short space of time looks dirty and dull. The price of this once fashionable wood is about 10s. per 100 feet, a slight difference good walnut that costs 1s. 6d. to 2s. 6d. per foot in the veneer.

The walnut burrs upon arriving either at Paris or London, are at once placed on a saw pit and squared, afterwards they are put in a lage wooden house and steamed for about fifty hours; they are then fixed on a knife cutting machine—one of the latest improvements in which can be seen at Messrs. Esdaile & Co.'s city saw mills—and cut into veneers, the thickness of the sheet being about 40 to the inch. Knife-cutting machines were invented in Paris about 50 years ago, but did not cut with the same precision as at the present time, for it is now possible to get easily 150 sheets out of one inch thickness.

The route to the present burr cutting district is upon the road which Alexander Condie Stephens took on his return from Afghanistan, viz., London, Berlin, Dannaberg, Kharkoff, Rostooff, Vladik. as, Tiflis, and on to Baku, where search commences for the timber. An Armenian has just arrived (a Monsieur Krisdosdurian) in London with a parcel of burrs from these parts, and can be seen at the Rum Quay, West India Docks, where anyone having the curiosity to view the goods can do so, and it will be found well worth the pains of any one not knowing what these burrs are like to take the trouble of inspecting them. On following them to the mills one would be surprised to find such rough looking junks converted into figured leaves equalling in appearance probably the finest tortoise shell.—*Timber.*

THE CROSS-CUT SAW.

The following remarks on the cross-cut saw, our indispensable implement in the woods, are given in amusing form, but, nevertheless, they have the right ring about them. The writer says the cross cut saw is at the same time one of the most primitive and one of the most generally used implements. It is one of the advance couriers of civilization, and it remains a useful member of society despite its crudeness. It is its very simplicity that has caused it to be so tenacious of its position among needful implements. It requires no foundations, no motor, no special preparation. Where the axe leaves a tree, there the cross-cut takes it; and from the newly fallen log to the ship yard the cross cut is never hung up. Yet it is an aggravating, fatiguing, slow-working affair.

In the first place it requires great muscular exertion from the weakest muscles of the body. In the second, it not only developes one side of the body at the expense of the other, but by unnecessarily fatiguing one side of the body without giving it any reserve member, it lessens the capacity of the operator, already working at a disadvantage with weak muscles to do heavy work. In the third place, in most positions where the log lies upon the ground, the position of the sawyer is uncomfortable, unhealthy, and still lessens his capacity for work. The have, however, been many improvements made in the cross cut, as in other saws. The heavy bow frame strung into an arc has been abandoned. The curved edge of the blade has been brought from the top to the bottom or cutting edge, in order that as the saw wears away in the middle (as all saws do,) the wear of the blade may be taken up and still leave in a capable tool. The shape of the teeth also have been very carefully chosen to suit the varied requirements. Cross cutting has become a real cutting, and not a mere abrasion. The M tooth has been employed to give the best cutting edge with the best facility for sharpening. Perforations have been introduced along the line of the gullets to lessen the time, labor, and expense of filling, while it insures the teeth remaining at the proper distance and size. The gullets are made deeper at the centre than at the ends, for the same purpose that the cutting edge itself has been made convex. The handle has become a convenient affair, by which the tool may be firmly grasped and guided, and modifications have been introduced by which one man may do very heavy cross-cutting. But with all these improvements, the cross cut wears a man out, makes him lopsided, and brings into use only the muscles of his arms and shoulders. —*Journal of Progress.*

ACETIC ACID FROM WOOD.

It is well known that most of the acetic acid sold in the United States is produced by the distillation of wood, but some details of the operation may be new to our readers. Among other volatile products of this distillation are marsh gas, olefiant gas, and liquid at ordinary temperatures, benzole, toluol, phenol, etc. This distillation is usually carried on in iron ovens or retorts into which the wood is introduced.

In some cases the more volatile matters, such as water mechanically absorbed or contained as sap, are driven off by the application of a lower degree of heat, and in others this is not considered necessary. In some factories wood is treated both for its volatile products, such as acetic acid benzole and creosote, and for charcoal. In these the charge is ignited with free access of air until carbonized, which is predicated when the smoke given off becomes bluish instead of dark and heavy. The air supply is then shut off, and in place of a clean combustion the decomposition desired by the manufacturer is effected. The yield of acetic acid, as well as of liquid products, with the exception of benzole, in general, is less when the wood is rapidly charred.

In operating upon refuse wood, such as sawdust, spent dry stuff and tan bark, retorts of special form are necessary, as the application of heat is almost immediately followed by the formation of an exterior coating of hard carbon, which effectually protects the interior of the mass from the action of heat. This fact prevented, for a time, the utilization of such materials, but the difficulty was overcome by exposing only thin layers of material to the heating surface. The retort for this operation consists of a horizontal cylinder of iron, containing for its entire length a screw, which, while moving the materials steadily on by its evolutions, keeps it evenly distributed over the bottom of the retort. The cylindrical retort is so built as to expose the greater part of its length to the heat of a furnace, while at one end is a provision for feeding the material regularly. The other extremity has two branches, one running directly downwards terminates in a tank of water, into which the carbonized substances falls; the other leads to the condenser.

Where wood is operated in billets, simply cast or wrought iron ovens capable usually of holding about one half cord are used, and the vapors conducted to a suitable condenser. The amount of acid and charcoal obtainable from a given weight of wood varies with the kind of wood employed, but in general may be stated as something under 50 per cent. of charcoal. This acid is the crude product containing tarry and other empyreumatic products known in commerce as pyroligenous acid It is purified by subjecting to a slight heat, to separate benzole, and saturating the acetic acid with lime or soda. The salt is calcined in order to decompose the tarry matter present, and afterward distilled with a sulphuric or hydrochloric acid, which combines with the base and sets acetic acid free. This part of the manufacture is not always carried on by the distiller of wood, who must, from the nature of his crude material, operate near the source of his supply. Therefore, the acetate of lime is a commercial article from which the manufacturing chemist may produce the article in question. One advantage of this is that the solid acetate is more cheaply transported than the liquid acid.

THE *Timber Trades Journal* of August 8th says:—It is somewhat remarkable that notwithstanding the stagnation of trade, prices of Quebec pine have kept so steady, whilst the values of other descriptions on the Baltic side have experienced such fluctuations of an enfeebling character. We are glad, however, to note these latter are showing a firmer tendency now, which will probably get more established as the season advances, and when the lessened import has had time to operate.