



How to Make Mill Picks.

MESSRS. EDITORS:—I ran a flouring mill of my own for twenty years with four run of burrs, and at first was much troubled to get picks good for any thing (I was in Indiana). I sent to Cincinnati, Columbus, Indianapolis and some other places, and tried all the smiths about home, to but little purpose. Being in a hurry one day I thought I would try my own luck, and threw a few bricks together on the ground, put some charcoal in the circle thus made, and constructed a blow-pipe by boring an auger endways through a piece of wood (or nearly through), and with a small bit through at the end. I kindled a fire in my forge thus constructed, and with my mouth I heated the pick red hot, and with a broad-ax stuck in a block for an anvil, and a claw hammer, drew the pick to an edge. I heated it again in the same manner and cooled it in water, and when sharpened it proved a first rate pick. This brought me to the conclusion that, in general, picks are made too hot and hammered too hard. In tempering they are heated too hot and the temper drawn to keep it from being too brittle. I put up a shop of my own, and when working on a pick heated slowly and evenly, I hammered lightly and briskly until the pick was pretty cool. I then heated it slowly again and evenly to a low red heat, and dipped point foremost in the water as far as I wished the temper to rise from the edges, and drew it out before it was quite cold, keeping the heat as high as it would bear and not draw the temper until it was cold; then, without lowering the temper, I took it to the grindstone and ground it to a tolerable thin edge, whetted it on an oil stone, and it was ready for use. I directed the miller to strike no harder than was necessary to crack the face of the burr, and the pick would last a long time; when the edge was worn out I repeated the operation, drawing the temper and fling off all the bruised edge to the solid steel. After this experience I had no more trouble with picks. A pick is not worth a cent if the temper is drawn any after it is hardened, the temper must be hit in this heating, or the pick is of no account; at least such was my experience.

N. HOLLINGSWORTH.

Rozetta Precinct, Henderson Co., Ill.

Black Walnut Polish.

MESSRS. EDITORS:—Edward Everett, in your paper of Feb. 3d, inquires how to give to black walnut a dark, smooth, dead surface. Let him try the following method:—

Take asphaltum, pulverize it, place it in a jar or bottle, pour over it about twice its bulk of turpentine or benzole, put it in a warm place, and shake it from time to time. When dissolved strain it and apply it to the wood with a cloth or stiff brush. If it should make too dark a stain, thin it with turpentine or benzole. This will dry in a few hours.

If it is desired to bring out the grain still more, apply a mixture of boiled oil and turpentine; this is better than oil alone. Put no oil with the asphaltum mixture, as it will dry very slowly. When the oil is dry the wood can be polished with the following:—Shellac varnish, of the usual consistency, two parts; boiled oil, one part. Shake it well before using. Apply it to the wood by putting a few drops on a cloth and rubbing briskly on the wood for a few moments. This polish works well on old varnished furniture.

H.

Query for Molders.

MESSRS. EDITORS:—As almost everybody calls on you for information, I thought I would do the same. I would like to have you inform me as to the best method for mixing facing sand for machinery castings. We have been using it lately, but with unsatisfactory results. The castings are not smooth as I have seen at other foundries.

S. V. E.

Waterloo, Ill., Jan. 28, 1866.

MESSRS. EDITORS:—Through the columns of your very valuable journal, will you call the attention of the inventive genius of the country to the great necessity which at present exists for a cotton-stalk

puller. A visit to the South, and careful examination of cotton stalks in various localities, would give one a better idea of what is required than the most minute description could possibly convey; and I am satisfied that a fortune awaits the successful worker in this field.

E. H. B.

LATEST FOREIGN INTELLIGENCE.

TIMBER FOR SHIPBUILDING.—The French Government has given publicity to the following:—"There exists in the territory of Washington, in the United States of America, a channel formed by the waters of the Straits of Fuca, which penetrates 150 miles into the country. This stream known as Puget's Sound, is sprinkled with numerous islands, which contain forests of pine trees of the species so much in demand for shipbuilding. Among these islands is one called Lamano, on which the pines attain gigantic proportions. Some French vessels have already taken freights of timber from this neighborhood. The ships sent to Puget's Sound for spars should be of not less than 700 tons capacity. The cargo may be completed with planks, small spars, and squared wood fit for railway sleepers. It is very important that, in order to save loss of time and money, the shipper should send notice from San Francisco to the timber merchants in the Sound, informing them when the vessel may be expected. The obtaining and shipping a cargo occupies about two months.

COPYING BRONZES.—An application was recently made for permission to take a model in wax and plaster of the splendid bronze door of the baptistry of St. John, at Florence. The authorities, fearing the effect of such an operation, appointed a commission to examine the subject—the result was a refusal to allow the copies to be made. The objections were, that injury was done to the finelines, and also caused the removal of the fine tone which forms on the surface of the bronze, and imparts to it the rich and peculiar effect so highly prized by artists and amateurs.

We understand that the Whitworth and Armstrong guns used in the competitive examination have been subjected to destructive tests at Woolwich, and have been cut in two. On investigation it appears that the initial center tube of the Whitworth is destroyed; that the second coil is cracked; that the third coil is cracked; and that only the outer coil is sound. The inner tube of the Armstrong is split; all the others are sound.—*Mechanics' Magazine.*

WHITE PIGMENT.—Mr. John Dale, of Manchester, proposes to decompose the material called satin white, containing sulphate of lime and alumina by chloride of barium, or strontium, so as to replace, or partially so, the sulphate of lime by the sulphates of barium or strontium. The proportions to be used of the chlorides of barium or strontium will be according to the amount of sulphate of lime to be replaced. Secondly, he proposes to produce a substitute for satin white, by using caustic baryta or strontia, instead of lime as usual.

ELECTRIC LIGHT.—At the last sitting of the Academy of Sciences, M. Leon Faucault produced a new apparatus for regulating electric light. It keeps the two charcoal pencils at the distance required by an automatic motion, which pushes them forward or draws them back, as occasion requires. The two sets of clockwork which produce this effect, communicate with an electro-magnet, which, as it bends either to the right or left, puts the corresponding set in motion, and when in an intermediate position stops the motion of both. But in order to establish a connection between the two sets, so that the one may not be independent of the other, M. Faucault has introduced a sun-and-planet wheel, which acts on the catch of the electro-magnet.

The Admiralty has accepted the tender of Messrs. John Brown & Co. for the manufacture of the rolled armor plates of 8 inches and 9 inches in thickness for the new iron-clad frigate *Hercules*; also the tender of Messrs. Cammel & Co., as well as that of the Mersey Iron Company, for the manufacture of the 6-inch plates required for the same ship. The contract to be paid for the 8-inch and 9-inch plates is \$165, and for the 6-inch plates \$146 and \$145 per ton.

"CHEMICUS" writes to a foreign cotemporary that he practically tested the American clock-boiling recipe and found it answered well. He boiled his clock for some hours in caustic soda, washed copiously, hung on the jack and dried quickly. The clock was an eleven shilling one, had gone regularly for ten years, but lately taken to stopping through clogging up of the pinions; it has since behaved itself well, gone regularly, and kept good time. The treatment is peculiarly applicable to these clocks, for, owing to their low price, our professional clock cleaners do not like to meddle with them.

THE *London Engineer* says:—Esparto, the newly imported spanish grass, is likely to be largely used, with cotton, hemp, and wool, as one of the staples of manufacturing industry, in addition to the valuable resource which it seems likely to prove to our paper manufactures. About 160,000 tons have already been imported, at an estimated price of 82 shillings per ton.

CORNISH PUMPING ENGINES.—The number of pumping-engines reported for November is 31. They have consumed 2,307 tons of coal, and lifted 17.8 millions tons of water 10 frames high. The average duty of the whole is, therefore, 51,900,000 lbs. lifted 1 foot high, by the consumption of 112 lbs. of coal.

The population of the principal cities of England has been returned as follows:—London, 3,025,936; Manchester and suburbs, 668,001; Liverpool, 479,806; Birmingham, 330,004; Leeds, 225,577; Bristol, 162,508.

THE *London Punch* says:—"A Yankee baby crawls out of his cradle, takes a survey of it, invents an improvement, and applies for a patent before he is six months old."

Breech-Loading Firearms.

The following special order has been issued from the War Department:—

"A board of officers will assemble at Washington, D. C., on the 10th day of March, 1866, or as soon thereafter as practicable, to examine thoroughly the following questions, and make recommendations thereon:—

"1st. What form and caliber of breech-loading arm should be adopted as a model for future constructions of muskets for infantry.

"2d. What form and caliber should be adopted as a model for future construction of carbines for cavalry.

"3d. What form of breech-loading arm should be adopted as a model for changes of muskets already constructed to breech-loading muskets.

"Each person who submits an arm to the above board will be required to state in writing the lowest price at which it will be furnished, in the event of its being adopted by the Government.

"The Chief of Ordnance will furnish the board all the information in his power, and will also provide it with office room, stationery, and a place for experimental firing, targets, ammunition, etc.

"The report of the board will be made through the Chief of Ordnance.

"DETAIL FOR THE BOARD.—Major General W. S. Hancock, U. S. volunteers; Brevet Major General R. C. Buchanan, colonel First U. S. infantry; Brevet Brigadier General P. V. Hagner, lieutenant colonel ordnance department, U. S. army; Brevet Brigadier General Charles Griffin, captain Fifth U. S. artillery; Brevet Colonel J. G. Benton, major ordnance department, U. S. army; Brevet Colonel Horace Porter, lieutenant colonel, aid-de-camp; Brevet Lieutenant Colonel Wesley Owens, Fifth U. S. cavalry.

"By order of the Secretary of War.

"E. D. TOWNSEND.

"Assistant Adjutant General."

LICE ON CATTLE.—A correspondent of the *American Agriculturist* says that "knowing larkspur seed would destroy lice on human beings, he collected a quart of seed, ground it fine, soaked it a week in one gallon of strong vinegar, and then applied it with a sponge to all parts of the animals; has never seen louse or nit since." On the same subject T. F. Haynes, Hartford Co., Conn., writes to the *Agriculturist*:—"I keep lice off my cattle by keeping sulphur and salt in winter where they can lick it when they choose; my cattle have had none since I practiced this."