

BLACKSMITH'S WORK.

As many of our farmers have blacksmith's shops of their own, the following directions for working steel and making edged tools, plain and simple as they are, may be of great value to them, if carefully enjoined upon the smiths, who are frequently great bunglers in this kind of work.—*Southern Planter*.

WORKING CAST STEEL.—We have recently obtained information on this subject from the most skillful and celebrated workman in the United States, Capt. J. Hill, of Billerica, Mass. We were a little surprised to learn the difference in the management of cast steel, from that of the German.

There is something yet remaining mysterious with regard to the nature and management of this article, which no cyclopedia or other vehicle of intelligence have as yet developed.

The process of manufacturing cast steel, it is not our purpose at present to describe; but it is evidently composed of refined iron and carbon in very nice proportions. In the process of shaping it into cutting blades and other articles, it is heated and hammered in the manner of other steel; when tempered for this purpose, it is first heated to a full cherry red, and plunged into water till cold. It may then be held over a moderate charcoal fire, until the color of any part which has been filed or made bright after hardening, changes to a reddish orange color.

This is the temper for cutting tools, but if a spring temper is required, it is heated over the charcoal till the color approaches a blue, or rather blue inclined to red. In either cases when the steel is brought to show these colors, it is to be plunged in oil—common lamp or linseed oil—which will not effect the color.

If the steel is to be rendered soft for turning or cutting, it must be heated to a full red, and left to cool in partially ignited charcoal; in this way it may be made so soft as to be cut or turned into shape as easily as copper, or even common pewter.

But the most curious and peculiar process is that of welding. In welding iron, a white heat is indispensable, as every body knows; but not so with cast steel.—When the steel is to be welded to iron, neither are to be heated above a full cherry red. The two parts are to be previously lashed or gripped together, and in that condition heated: they have then only to be immersed in calcined borax, or to have the prepared borax (borate of soda), sprinkled over the joint, and are ready to adhere by being hammered together.

The borax for this purpose is to be prepared by being previously heated to a full red, and kept heated till it becomes a soft powder like flour.

What the chemical effect of the calcined borax on the metallic surface is, is not perfectly understood farther than that its affinity for oxygen is such as to deprive the jointed surfaces of any portion of oxygen which might prevent a ready union of the surfaces.

When small pieces of steel are to be welded, they are to be heated to a full cherry red, immersed in the calcined borax, and then to be hammered together.

The most extraordinary point in the process is the fact, that if the steel is but a little overheated, it will immediately crack into fragments; but by a shifted process, and with the use of borax, the cracks and defects may be healed and rendered sound and solid. We have witnessed the fact, that by a judicious management, a fine tempered cutting edge of cast steel may be bent, warped, and hammered, and its shape materially

change without breaking or affecting the temper.

More may be said on this subject in a future number, but we close for the present with the remark, that even Anderson & Co., the celebrated manufacturers of cast steel, are evidently unacquainted with all the merits of its peculiar properties.—*American Mechanic*.

TO PREVENT THE DECAY OF WOOD.—Take twelve ounces of rosin and eight ounces of roll brimstone, each coarsely powdered, and three gallons of train oil.—Heat them slowly, gradually adding four ounces of beeswax, cut in small bits. Frequently stir the liquor, which, as soon as the solid ingredients are dissolved, will be fit for use. What remains unused will become solid on cooling, and may be remelted on subsequent occasions. When it is fit for use, add as much Spanish brown, or red, or yellow ochre, or any colour you want, first ground fine in some of the oil, as will give the shade you want; then lay it on with a brush as hot and thin as you can; some days after the first coat is dried give it a second. It will preserve plank for ages, and keep the weather from driving through brick-work. Common white paint may be used on top of it, if required, for the sake of appearance. Two coats should always be given, and in compound machinery, the separate parts should be so varnished before they are put together, after which it will be prudent to give a third coating to joints, or to any other part which is particularly exposed to the action of moisture, such as water-shoots, flood-gates, the beds of carts, the tops of posts, and all timber which is near or within ground. Each coat should dry before the parts are joined, or the last coat applied. The composition should be applied when the wood is perfectly dry. It is necessary to mention that compositions made of hot oil, should for the sake of security, be heated in metallic vessels in the open air; for when the oil is brought to the boiling point, or 600 of Fahrenheit, the vapor catches fire, and though a lower degree of temperature should be used in this process, it is not always possible to regulate the heat, or to prevent the overflowing of the materials; in either of which cases, were the melting performed in a house, fatal accidents might happen.—*Archives of Useful Knowledge*.

TO KILL WHITE WORMS ON CABBAGE.—Strew the bed of Cabbage with the Nitrate of Soda after a rain, so says Mr. Mure of England.

TO TAKE FILM FROM A HORSE'S EYE.—Blow loaf sugar and a little salt into the inflamed eye, and in most cases it will be relieved. Sassafras buds pounded, and put in water to stand till it becomes nearly as thick as cream, applied to the eye is an excellent remedy for inflammation.

TO RELIEVE CHOLIC IN HORSES.—Rub spirits of Turpentine on the breast of the horse, and if he be drenched with it, he will be relieved.

It has been said, that Farmers, Mechanics and Laboring men add to the wealth of any country, and when they are well paid, a nation has genuine prosperity.

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That man is far behind the spirit of the age, who follows a system of husbandry or agriculture, merely because his father followed it before him, and without looking into the reason or propriety of it, or reflecting on its susceptibility of improvement.—It is not reverence for example, but ignorance of improvement, that influences a man to do so.—*Main Farmer*.

AIR-SLACKED LIME is innoxious to growing plants generally, if we except mosses and lichens, to which it is fatal. Hence it is constantly employed by gardeners, to dust their peas and other crops liable to be infested by slugs, and also to remove moss, &c., from gooseberry and current bushes, which it speedily and effectually cleanses. Mixed with coal soot, it causes the extrication of much ammonia, and therefore should never be added to liquid urinous manures, as it volatilises their ammonia.—*Farmers Magazine*.

BE SOMETHING.—Be something—says the talented Kingsbury, no matter what. Throw aside all collateral aids—off with your coats—and determine to work your way up.—Providence has provided the ladder; there it is before you; come mount, mount. Don't fold your arms until you find something that suits your talents. Take the chisel—the saw—the axe—the hammer. We recollect a young gentleman—an intimate friend—who was a few years since wealthy, being worth some fifty thousand dollars—he did an excellent business; but the last panic, like a whirlwind, swept his whole property over board and left him a bankrupt. Did he remain idle? No. He braced himself up for a fresh struggle. He minded not his delicate hands; but worked his passage from a western port to New Orleans. Finding nothing to do there, he worked his passage to New York. There we find him busy and contented as of old.

"What are you at now, Bill?"

"At!—Oh, I'm porter to a broker in Wall street."

"Pay well eh?"

"Why, enough to live on. I receive nine pence a day, and have the privilege of sleeping on the counter at night. Ha! ha! —a broker's counter makes rather a hard bed."

"But, Bill, you ought not to live thus.—Your talents should make you look higher."

"Ay, and so you would have me run the risk of starving, out of respect to my talents? I must do something. All I want is a foothold. Inquire for me in a year from now."

In a year he had worked himself up to be confidential book-keeper in a large New York establishment. He will be admitted as a partner soon, and will acquire another fortune. He adopted the true method to keep out of mischief.—*American Paper*.

THINGS TO BE REMEMBERED.—Horses should never be put to severe work on a full stomach. More horses are hurt by hard driving after a full feed, than by a full feed after hard driving.

If the farmer wishes to have his pork barrel and meal chest hold out, let him look well to his kitchen garden. Plenty of vegetables conduce not more to health than to profit.

In laying in a stock of winter fodder for animals, let it not be forgotten that a little too much is just enough. Starving animals at any time is miserable policy.

As you treat your land so it will treat you. Feed it with manures liberally, and it will yield you bread bountifully.

Avoid debts as you would the leprosy.—If you are ever tempted to purchase on credit, put it off for three days. You need time for reflection.

Never beg fruit, or any thing else you can produce by the expenditure of a little time or labor. It is as reasonable to expect a man to give away the products of his wheat field, as of his orchard or fruit garden.

If you keep your sheep and cattle in your meadows until June, don't complain next winter because you are compelled to purchase hay for your stock.