VIEWS AND INTERVIEWS.

Shoe Pegs.

The little town of Shelburne Falls, in Western Massachusetts, enjoys the peculiar distinction of having the products of its peg factory taken exclusively by parties in Germany as supplying a need which that country, for natural reasons, cannot furnish, there being no timber in Germany that equals the American white birch in the manufacture of pegs. The process of manufacture is simple. A four-foot stick is shaved of its bark and sawed into blocks the required length of the peg ; the knots and dead wood are cut out with a pressure auger, and then the thin wheel of wood is ready for the cutting and splitting machines. One operator thrusts two or more blocks into the jaws of the cutter and splitter at a time, and the manufactured article comes out on the other side to be brushed right and left, according to quality, into barrels. The pegs are thoroughly dried in heated cylinders and bleached white and firm. It is no uncommon thing to secure thirty bushels of fine pegs from a cord of white birch, and sometimes a much larger quantity.

A Curious Oak Tree.

Among the ruins of the wall which formerly surrounded the Abbey of Beaulieu, stood an oak, contiguous to a part of the wall, and extended one of its principal limbs in close contact along the summit of it. This limb, at the distance of about three yards from the parent tree, formed a second stem upon the wall by shooting a root into some fissure, in which it probably found a deposit of soil. This root, running along the bottom of the wall, and finding some crannies in it, rose twice again through it, and formed a third and a fourth considerable stem, each at a distance of about three yards from its neighbor. The fourth of these stems shot a branch again along the summit of the wall, and in close contact with it, forming a fifth stem in the same manner that the parent tree has formed the second. This last stem was again making an effort on the wall to extend its curious mode of vegetation still farther. In a great storm which happened in February, 1781, a part of the wall was blown down, and those two stems with it which were nearest the parent tree. Each of these stems was about four or five feet in diameter, and the timber of them was sold for 30s, which shows their bulk was not trifling.

Circular Saw with Diamond Teeth.

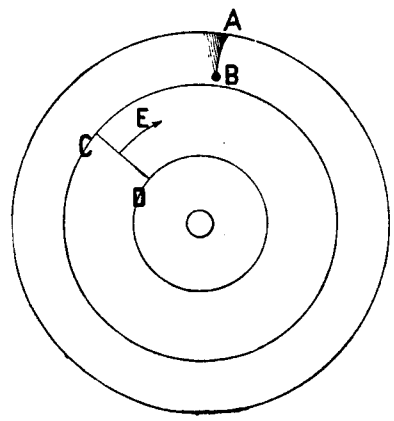
A circular saw with diamond teeth is used for cutting up stone in the quarries of Euville, Meuse, France. These saws consist of circular disks of steel 0.27 inch thick and about seven feet 3 inches in diameter. Rectangular notches are cut in the edge of this disk at intervals of about 1½ inches, into which are fitted blocks of steel carrying the diamonds, these being the inexpensive Brazilian variety used for diamond drills. The blocks are secured to the body of the saw by screws with countersunk heads, while diamonds are fitted in these heads by heating the latter to a bright red heat and forcing them in by pressure. The diamonds are mounted in groups of eight, those on the first and eighth blocks being in the periphery of the disk, the second and sixth at the edges, the fourth and fifth at the sides, and the third and seventh in intermediate positions ; and the instrument is said to be capable of cutting through blocks 3 feet thick, 20-horse power being required to run it. No statement is made as to the kind of stone cut by the apparatus, but it is recorded as having made a cut of 3¾ square feet in one minute. During the first twenty eight months it was at work it sawed over 420,000 square feet of stone, counting one face only, at a total cost of less than 2 cents a square foot, nineteen of the diamond carrier blocks being replaced at an average cost of $2 each.

Uses of Teakwood.

The gathering of this timber store has been an industry ever since man of any color inhabited the country, says the Century Magazine. Teak grows only in India and Burmah, and in old palaces and temples it has held indestructible place for many generations. From the color of sandal wood it changes with age to walnut brown. Big unpainted bungalows standing upon pillars of the wood, sided with it, shingled with it, latticed with it, defy heat and rain, and grow rich upon their poverty of oil and varnish. They stand, as brown as autumn, out of green compounds against summer itself. Vines wrap them, flowers garnish them, years add moss and lichen, but nothing destroys save flame. Railroad car wheels, spikes for laying track, pegs for bolts, implements of all sorts, are made of teak. No one save a shipwright knows just how many parts of a ship are built from this muscle of nature, but every one who has walked the deck of bark or steamer has a consciousness that no amount of holystoning or dragging of cargo over, or wear and tear of feet and traffic, can in an ordinary sense affect a teakwood floor. The Burmese wood-carver knows his art is almost hewn in stone when he coaxes leaf and flower, sacred cow and festival cart, grotesque sprites and elves, gods and Buddhas, out of rugged trunks. The little prow of the sampan, shaped like a wishbone, the stern of the paddy boat, as brown with age as the naked figure upon it is with the elements the strange plinths of stranger pillars, the embellishments of the temples, the playthings of the children—all these are carved from teak.

THE CARE OF CIRCULAR SAWS.

TO locate and take out fast places in a round saw is one of the first and very important things to do. In fact, if the saw is very uneven in tension it will be found very difficult and sometimes impossible to level it up properly without first regulating the tension to a great extent. A case in which this principle needs to be applied is where a saw has been cracked down a piece from the rim by being caught in the timber, and the plate at one side of the crack has been bent out of line,



TREATMENT OF A CRACKED CIRCULAR SAW.

as indicated in the cut from A to B. I have found invariably that the saw would need to be opened between the lines C and D. The steel was stretched at A and B when the saw was broken, and hammering it back would stretch it still more. I have always found that when the "fast" was all taken out of the plate, or a little more between the line C and the center, that there would be no trouble in straightening the rim.

The method that many employ to find the fast places is not always sure. The plan most commonly used is to lift up on the rim and bear down with the straight-edge. But this method will not detect many places that can be found by another way, used by only a few of our best sawmakers. By using a bolt with a head for the opposite side of the saw to catch under, and bearing down on the rim, every fast place will seem to give way from the straight-edge. This process will bring to light many fast places that can not otherwise be found. By getting a nice, uniform tension to commence with, before the saw is made as open as is required for fast motion, the saw will be in much better condition when finished, because, if not done then it will have the same unevenness when opened up, and it will be much more difficult to regulate the strain then.

Before the saw is put on the mandrel the collars should be carefully examined, because they are very liable to wear out of shape. The first thing is to see that there is a good bearing on the extreme outer edge, and just the least bit concave. The loose collar should be a trifle the more so, for when the nut is screwed up it will spring it a little. One cause of the saw's appearing to be sprung when on the mandrel is from raised places around the lug pins, caused by the pressure on them when the saw is in the cut. Of course, that must be removed.—A. Blackmer, in the Wood Worker.

PRACTICAL NOTES.

NOTHING helps the introduction of a new machine or device among practical mechanics more than simplicity of design and the absence of numerous joints and pieces, which tend to shorten the life of the machine as well as impair its efficiency. Joints are good things to avoid where possible, as the inevitable wear is followed by lost motion, which effects the accuracy of the machine.

It is a bad practice to put an over-loaded belt down out of sight, especially where there is any inflammable material. The slipping of a belt on its pulley from overload is a good heat producer, especially if the belt hooks happen to stop in contact with the pulley. The writer saw a case of this kind several years ago, and the streams of sparks that came from that pulley rim would have done credit to a Chinese pin-wheel. Such occurrences are dangerous, and precaution should be taken to render them impossible.—Machinery.

A very bad habit in mills where there are large driving belts, is shifting belts with a square stick, no regular shifters being used. The result of this is the belts are more or less injured on the edges. All heavy machines should have shifters to act so that they shift the belt over steadily, not putting too much strain on the driving belt too suddenly. Two pieces of gas pipe just large enough to revolve on round iron supports, for shifters, will lessen the friction on the edges of heavy belts as these pipes revolve while the belt is being shifted. It effects a great saving in long driving belts ; in fact, any belt at all, leather or rubber.

The transmission of power by ropes has been largely resorted to in England, the preference being given to what is known as the Lambeth cotton rope, which is made of four strands, the center or core of each strand being bunched and slightly twisted, the outside of the strand having a covering of yarns that are firmly twisted. The four strands are further laid with a core in the center to form a rope and twisted in the same way as any four-stranded rope. In this way a rope is formed possessing extreme flexibility, and the fibers will not break by bending on each other when run on pulleys, the rope also standing elongation or stretching some 12 inches in a length of 50 inches before breaking.

Rope transmission is an excellent thing in its way and is applicable under a great variety of conditions and in some cases it will give better results than belts. Where ropes are used the pulleys must be of the proper kind, and set in a manner to conform to the requirements, or the system will give considerable trouble. In one case the action of the ropes, where the distance was only nine feet between the centers of the shafts, was such as to condemn the use of ropes for any kind of transmission in that plant, because the superintendent and his men thought they should work in any way required of them. In this case the distance was too short for the ropes to get a good bearing on the pulleys, one of which was only 12 inches and the other 52 inches. The pulleys, also, were 2½ inches out of line. It was no wonder that the ropes slipped, unless drawn so tight that the bearings heated, and that the strands would fray and break after being in use a very short time. Where endless ropes are employed it is often noticed that one or more ropes are running slack ; this will take place in every case where the pulleys have too many grooves and all are used. More than eight ropes on a single pulley generally cause one or more of the strands to run loose. A speed of more than 5,000 feet per minute will cause the ropes to tend to adhere less closely to the pulley, on account of the centrifugal action, and will not drive as much with the same tension. At speeds lower than 5,000 feet per minute the ropes will give good results if the machinery is properly arranged.—Stationary Engineer.

A despatch from Winnipeg states that two Chicago capitalists are endeavoring to purchase the entire lumber cut of Rat Portage district mills for this year. The pine forests of Minnesota are rapidly being depleted, consequently the United States lumbermen are looking to the Northwestern Ontario woods for their supply.