CUTTING BELT HOLES IN THE FLOOR.

To those who have occa ion to belt machinery through floors, a few remarks on the subject may not come amiss. Of course, most machine operators and mechanics have meth ods of their own for doing these things but I have often seen men go at such jobs in such a hap hazard way that a sort of an "Oh, that's good enough" job is apt to be the result There is a right way to do everything, and the right way is always the cheapest in the end Belt holes are often cut through floors as much by guess as anything e'se, and when you get through and find you are not in line, then the hole has to be made twice or three times as large as is neces sary before a belt will run through it. The result is an unsightly job that will always be an eyesore to the one that did it.

The first item of importance is placing the machine to be belted As a general rule, a machine cannot be put in any old place, but must be set in just exactly a certain spot, in order to not conflict with other machines, posts, or other obstacles, sometimes it is necessary to have it right in front of a certain window, in order to get light So first and foremost, place your machine just where you want it, then go below and see that the counter-shaft and the drive belt are not going to conflict with any other shafting, belting, beams, or anything of the kind Also see that you are going to have room on the line shaft to put the drive pulley, for where the pulleys are pretty thickly distributed on the line shaft and where there are hangers and couplings to look out for, you cannot always put a pulley where you would like to These obstacles can generally be overcome by moving the pulleys on the countershaft, or if necessary, by moving the machine a few inches one way or the other

After having seen to these matters, the next step is to line the machine with the line shaft In order to do this, a line should be drawn on the floor directly over the line shaft. This may be done by squaring from the floor to the centre of the line shaft boring a couple of one quarter inch holes up through the floor at each end of the shaft, drawing a tight chalk line from one to the other then plumb from one end of the cylinder or arbor on the machine, to the floor and move the machine till the other end of the cylinder plumbs to the floor the same distance from the chalk line that the first end did When this is right the machine may be bolted down.

It is not advisable to put the countershaft directly under the machine, as this gives such a short belt that if the machine is a planer or other machine requiring a good deal of belt power, it is necessary to run the belts very tight, which is hard on the belts and hard on the bearings It is better, therefore to put the counter a few feet one way or the other from directly under the cylinder, and it should be toward the feeding in end of the machine if possible so the belts will draw from under side of pulleys, and it should be as far in that direction as possible without having it where the belts will be in the way as they come up through the floor

The counter may be put in proper position by plumbing from the centre of end of cylinder to the floor and boring a one quarter inch hole through the floor, then measuring back four, six or eight feet, as the case may be, and put up the counter so the edge of the driving pulley on the counter will come directly in line with the hole through the floor, providing the driven pulley on the cylinder above is flush with the end of cylinder, as is generally the case Then line the counter with the line shaft by means of a long rod or a steel tape if you have one, so that both ends of counter will be just the same distance from centre of line shaft.

Next comes the holes through the floor. You have already plumbed from centre of cylinder to floor and bored a small hole through. You also have the distance from cylinder to counter, which we will say is 60 inches along the floor. Now get the distance from centre of cylinder to floor, which we will say is 36 inches, also the distance from centre of counter to floor, which we will call 24 inches.

Next select a clean spot on the floor, and draw a line six or seven feet long, with a straight-edge. This will be top of floor line. Draw another line parallel to it, two inches below, if the floor is two inches thick. Now at the right hand end of floor line, square up 36 inches, which will be centre of cylinder. Then measure back along floor line 60 inches, and from this point square down through floor lines 26 inches, which will give centre of counter.

We will say the diameter of driving pulleys on counter is 20 inches and the diameter of driven pulley on cylinder is six inches. Draw a line, the diameter of driven pulley, across the end of 36th inch line at an angle of 45 degrees with floor line, also a line 20 inches (the diameter of driving pulley) across the end of 24 inch line, at the same angle, so that the two pulley diameters will be parallel with each other Then with a straight edge draw the belt lines from outside to outside of pulley diameters Where these belt lines intersect the floor line will be the centre of belt holes: or in other words, by measuring back along the floor, the centre of the first belt hole will be found to be 25½ inches from line of cylinder, and the centre of second belt hole 20 inches from the first one. It takes but half as long to lay out this outline on the floor as it has taken to explain it, and when it is done there will be no mistake about location of belt holes.—Woodworker.

WOOL MARKET.

The first series of colonial wool sales for 1903 will open in London on Jan. 20. It is many a long day since the London market was so completely cleaned up as it is now, and it appears all but certain that the quantity to be offered will only be from 100,000 to 115,000 bales, which is little more than half the total available at the corresponding series at the beginning of 1902 This is largely due to the drought in Australia, which happily seems to be about over, as news comes of a copious and widespread rainfall. Prices are likely to rule high under a brisk demand, and British wool is now ½d. a pound dearer than it was two months ago.

Montreal.—Market firm with an advance of 5 to 10 per cent on all fine wools since the first of the year. The market is almost cleaned out of stocks of fine imported wools and medium of good grades are in demand at high limits The demand from the American market has made this market a little panicky.

Toronto.—Conditions are unchanged since our last report. Dealers are awaiting the result of the forthcoming London sales. In fleece, offerings are light. Washed is quoted, 14 to 15c, unwashed, 7½ to 8½c. There is considerable pulled wool in stock, with moderate enquiry from the home mills Extras, 18 to 19c., supers, 14 to 15c.

In the United States wool market trade is exceedingly quiet. Manufacturers do not quite know what lines of goods will be in demand, and therefore cannot tell what kinds of wool they will require. What wool is being sold brings full prices, and dealers are quite willing to sell at quotations. Fleece is firm in Boston at 31 to 32c. for No. 1 and 2. Unwashed, 20 to 27c.