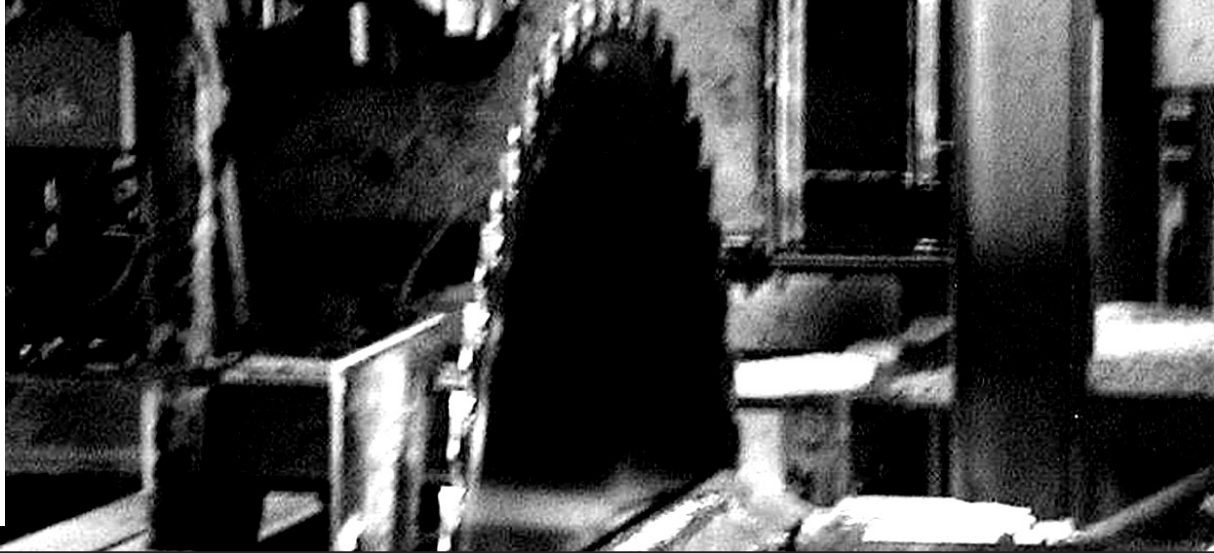


# SAWMILL FORUM

CASEY  
CREAMER

SAW  
DOCTOR



**I have a scragg saw with a sharp chain type of feed. I recently had new collars made for the mill because they tend to get a little sloppy on their shafts. I put two fresh saws back on and tried sawing, and both saws ran out of the log quite a bit. I checked the sharpening of the bits and they looked okay to me. I checked the lead between the saws and the front measures 1/8-inch less than the back of the saws. Do you have any ideas of what my problem could be?**

Scragg saws operate on essentially the same set of principles that any other circular head rig operates on. You need saws that are sharpened accurately and hammered correctly with the log side flat, an acceptable amount of wobble and the right amount of tension in the right location. After that you need the right amount of lead in the saws and you have to have good collars that support the saws without dishing them one way or the other.

When it comes to proper troubleshooting, the first thing we have to do is to rule out possibilities that really couldn't match up with your symptoms.

The big clue here is that both saws are running out of the log. That rules out a sharpening problem because if you were sharpening the bits high to one side, it is inconceivable to think that you managed to get the bits on the right handed saw high to the board side while somehow managing to get the bits on the left handed saw high to its board side—the exact opposite of what happened on the other saw.

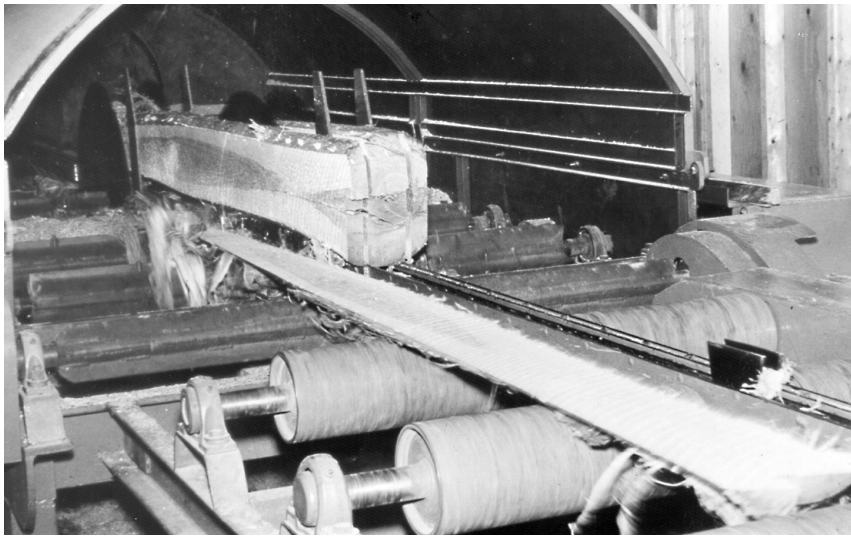
Of course with scragg saws there is always the opportunity to get the saws mixed up. Saw doctors will often mark RH or LH on the saw to indicate which hand the saws are. The problem is that the right handed saw is supposed to be on the left side of the machine while the left handed saw is supposed to be on the right side. When it comes to scragg saws I always mark “log side” on the log side of the saw to avoid that predictable confusion. That particular problem could easily fall right in line with your symptoms, except that I am familiar with your operation and I know that you don't have that specific problem.

It is safe to rule out an alignment problem because if there was an alignment problem both saws would run right or left, but both of them out not run out. You see, when both of these saws are running out at the same time it means that they are actually running in opposite directions. No alignment problem could create that.

We have ruled out sharpening, which also rules out all of the other possible problems in that category such as bent shoulders or mismanufactured bits. We have also ruled out alignment. You said the saws were fresh and in knowing your operation I would tend to rule out the saws too. I could buy one saw running out of the log, while the other runs okay, but not both saws running out of the log at the same time.

That brings me back to another important clue: You said you checked the lead between the saws. The fact that you have 1/8-inch less between the front of the saws than you do between the back of the saws does not necessarily mean that you have a sixteenth of an inch of lead in each saw. With those measurements you could have 1/8-inch in one saw and zero in the other. Worse yet, you could have 1/2-inch lead in one saw and have 3/8-inch negative lead in the other. Lead is about the difference in the measurement from the front of the saw to the log and the back of the saw to the log. Having your lead measurements from saw to saw means almost nothing. The measurements have to be relative to the travel of the log.

In a scragg mill it is not as easy to make this measurement as it is with a conventional headrig, but it can be done. You just need to have an accurate way to measure from each saw to the travel of the log. You can simulate a log by using an I-beam and attaching the magnetic base of your dial indicator to it and then using the dial indicator up against the saw as you push the I-beam from the front of the saws to the back. Measure the distance between that I-beam and the front of each saw and then measure the distance between it and the back of each saw. Both saws should be the same distance from the I-beam and there should be about 1/16-inch less distance between the front of each saw and the I-beam than there is at the back of each saw. With an overhead end dogging carriage you should be able to use the dogs as reference points to measure from.



**Scragg mills have unique maintenance and troubleshooting requirements.**

But we still have the same dilemma: If you have the lead so off that you have too much positive lead on one saw while the other saw has negative lead, it is quite doubtful that both saws would run out of the log at the same time.

There is still one more big clue in what you wrote. You said that you had new collars made. Bingo! Chances are you gave your machinist worn collars to copy, without the benefit of original prints to go by. If he doesn't have a lot of sawmill experience he may not know that we need taper and relief on the inside of the collars so that the eye of the saw is free to move within the collar to react to any lateral movement at the rim of the saw when it needs to.

You can check those collars with a straight edge and a feeler gauge to make sure you have the proper taper on all four collars and then make sure each set has exactly the same outside diameter. Or you can do a variation of the "old tighten the nut trick."

In your case, do this by putting both saws on with both collars and the three bolts just hand tight. Now mark a spot on the rim of one of the saws. Then set up your dial indicator so it is touching that spot. Zero out the dial indicator and make note of the hour hand that counts the complete revolutions of the minute hand. On most dial indicators one complete revolution of the minute hand is .100 inches.

Now tighten all three bolts the same amount you would usually tighten them with a wrench. Rotate the saw so that the indicator is again touching that spot that you marked. Now see how far the rim of the saw moved and in which direction. I am willing to bet that the rim of the saw moved around .030 inch towards the board side and that when you check the other saw it will also move about the same amount towards the board side, which happens to be in the opposite direction from what the other saw was doing. But it does have both sets of collars essentially doing the same thing and creating the same problem. Now you have two saws that are each dished about the same amount towards the board side. No wonder they both run out of the log at the same time.

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Questions about sawmills and their operation should be sent to Forum, The Northern Logger, P.O. Box 69, Old Forge, NY 13420, FAX #315-369-3736.

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