Plain Planer Disciplane: How to Prevent the Launch of Wooden Rockets in Your Work Shop

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Items to be covered

- Quality of the wood
- Minimum board length
- Minimum board thickness
- Maximum depth of cut
- Number of boards
- Quality of wood
- Miscellaneous

Quality of Wood

- Need one surfaced side, especially if < 1” in thickness; wood should not be tapered >1/4”
- Hardwood is more challenging.
- Figured hardwood tends to chip out.
- Knots can be a problem and should be avoided.
- Nail, screws, etc. have to be avoided at all costs!
- Painted wood gums up the blades.
- Wet wood can be corrosive to iron table and cutter head.

Key Dimensions of the Planer

- Distance of infeed roller to outfeed roller
- Distance from infeed roller to front of machine
- Width of planer

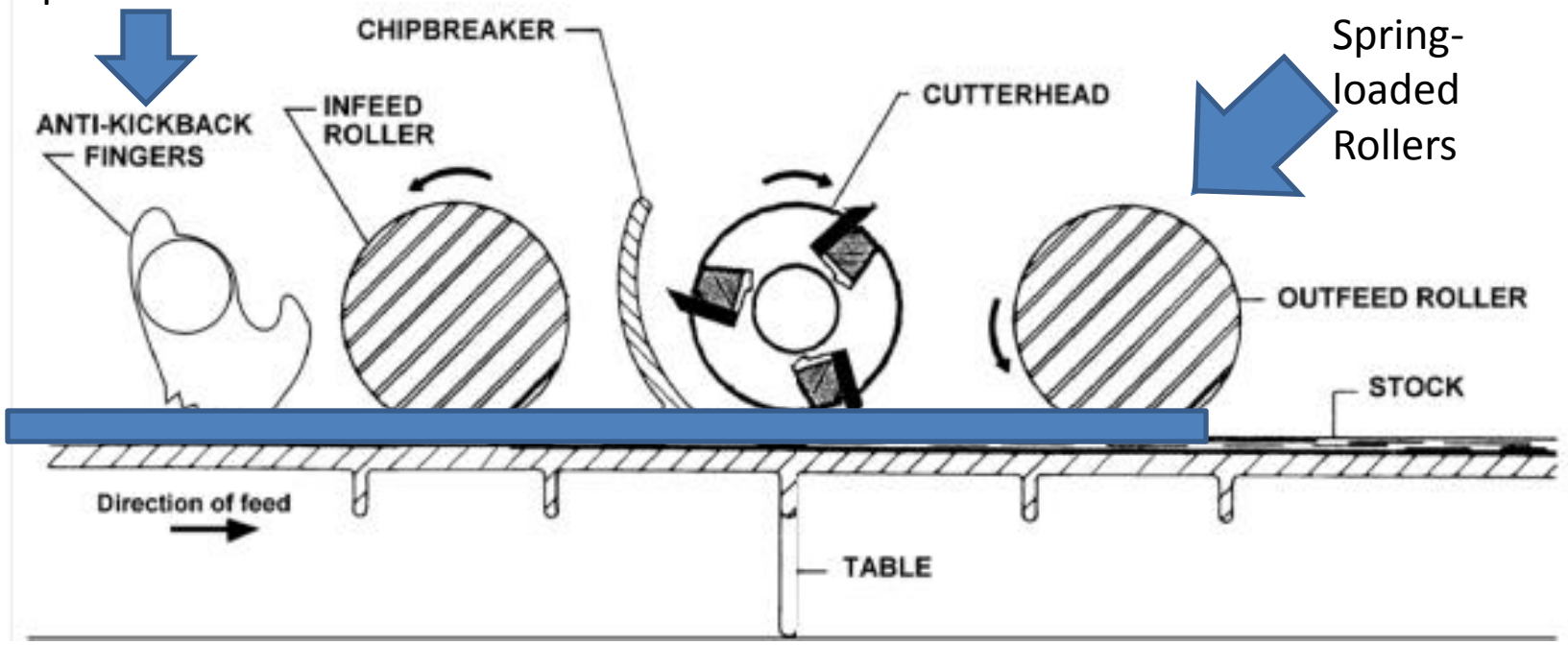
Minimum Board Length

- Have you ever seen a board start to rotate on the table as it is drawn into the planer?
- You need to have enough board sticking out to be able to realign the board. You don't want the board to get turned 90 degrees under the cutter…Things happen!
- At least 1.5 times the distance between infeed and outfeed roller or perhaps 50% longer than the width of the planer. It's like wing walking: one roller should always have control of the board.

Planer Layout

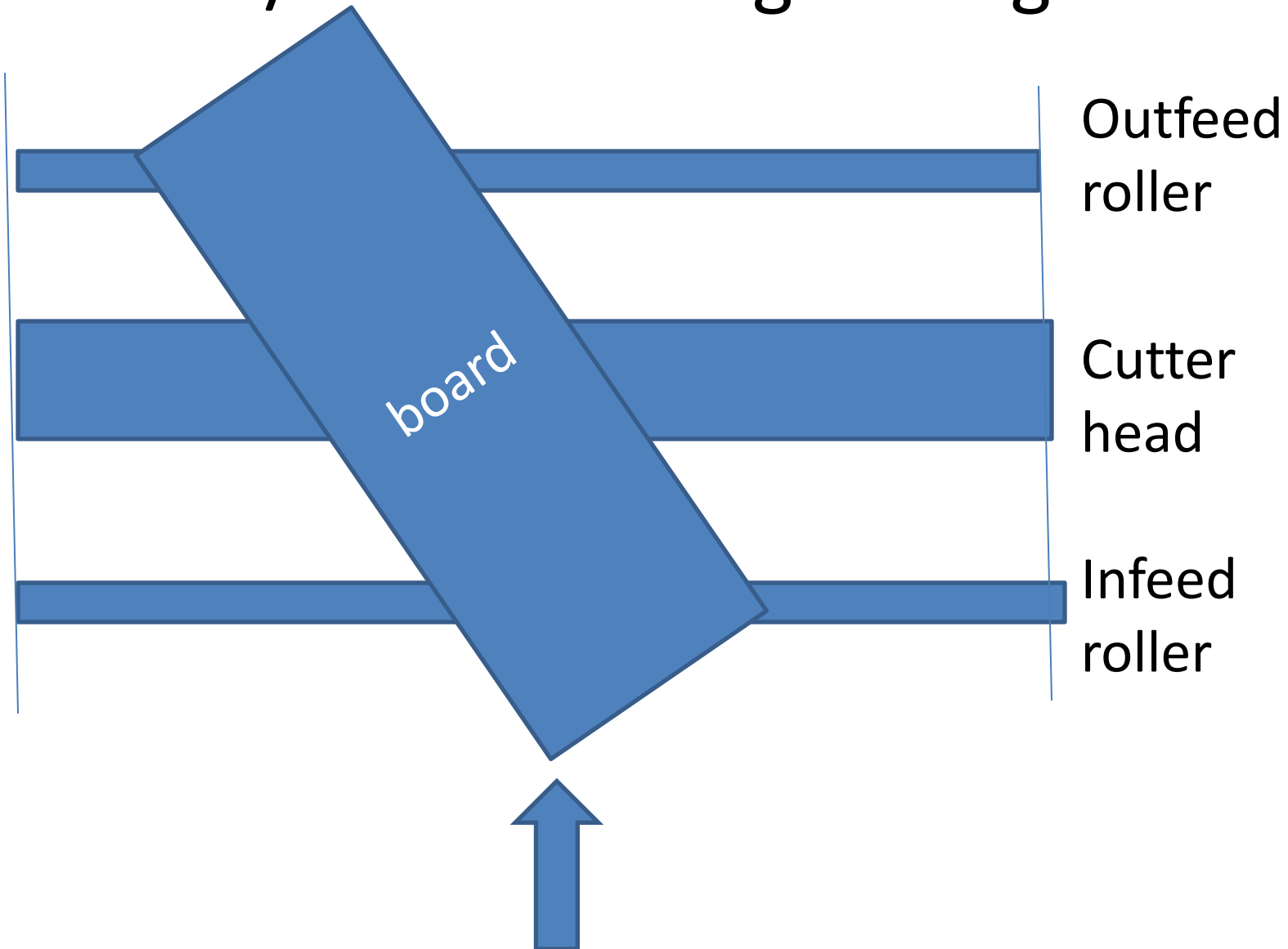
(Powermatic 15)

Not on all planers



Board must be about >1.5 times the distance between the rollers inn order to control the board and prevent it from turning on the table. PM15 recommends >8"…seems too short.

Need to avoid rotation of board on table w/risk of turning 90 deg



Maximum Depth of Cut

- **Generally <1/8” (PM 15) or less, 1/16” is better (generally one turn of the crank), depending on the wood. Harder woods require a more shallow depth of cut.**
- Wider boards are planed easier and better with more shallow cuts.
- More shallow cuts result in a better surface.

Minimum Thickness of Wood

There is nothing in the manuals or on the internet addressing this.

- It is a function of the wood species and quality.
- **Avoid planing wood less than ½" in thickness, especially if hard, variable grain, or knotty.**
- Thin boards tend to chip or explode when milled, especially the harder woods or knotty.
- Passing two thin board in parallel is risky if they cross over before the infeed roller.

How did I come to the ½” Recommendation?

- I was milling 3/8” black oak, not very hard.
- It had a major knot.
- The wood exploded under the cutter, but that’s not all.
- Somehow the in-feed roller (18” wide, ¾” steel shaft) got bent, perhaps due to overlapping boards on the infeed.
- When I fed in a second piece, the roller did not grab the wood and the cutter head rocketed the wood out across my shop!

Feeding Multiple Numbers of Boards?

- If you have a wide planer, it is tempting to feed multiple narrow boards in simultaneously.
- **There is a major risk if the boards are not the same thickness (the first pass): the in-feed roller may not grab the thinner board.**
- That will allow the planer head to fire the board back out the planer (another rocket?)

Other Safety Issues

- Stand to the side of the machine to avoid being impaled by wooden rockets.
- Wax and polish your planer table to help the wood slide through the machine.
- Keep blades sharp.
- Always wear hearing and eye protection.
- Access to main power switch (left side is preferable).
- Dust and chip collection.
- Read your manual, there is much more to learn!

Feed Rate

- The slower the Feed Rate, the better the cut.

Other things:

- The virtues of spiral cutter heads? Better performance, ease of changing out blades
- Not necessarily quieter
- Costly
- Do they inherently cause the wood to rotate on the table?