Spill Plane Instructions

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Introduction

Enclosed is a benchtop spill plane, designed to reduce scraps of wood into long, tightly curled shavings called spills. Before matches were available to anyone but the wealthy, people used spills to transfer fire from the fireplace to a candle or pipe. Spill planes were almost always craftsman–made, and the spills themselves were a welcome way to recycle wood scraps in the family, or in exchange for a beer at the local tavern. A cup filled with spills was kept on the mantle for use, and there was even a specific piece of glassware (also called a spill) designed to hold the shavings.

This particular variety is a benchtop spill plane, which means that the plane is affixed to the benchtop (in a clamp or vise) and scraps are passed over it to produce spills. Spill planes were also made to pass over a piece of wood, more like a traditional plane.

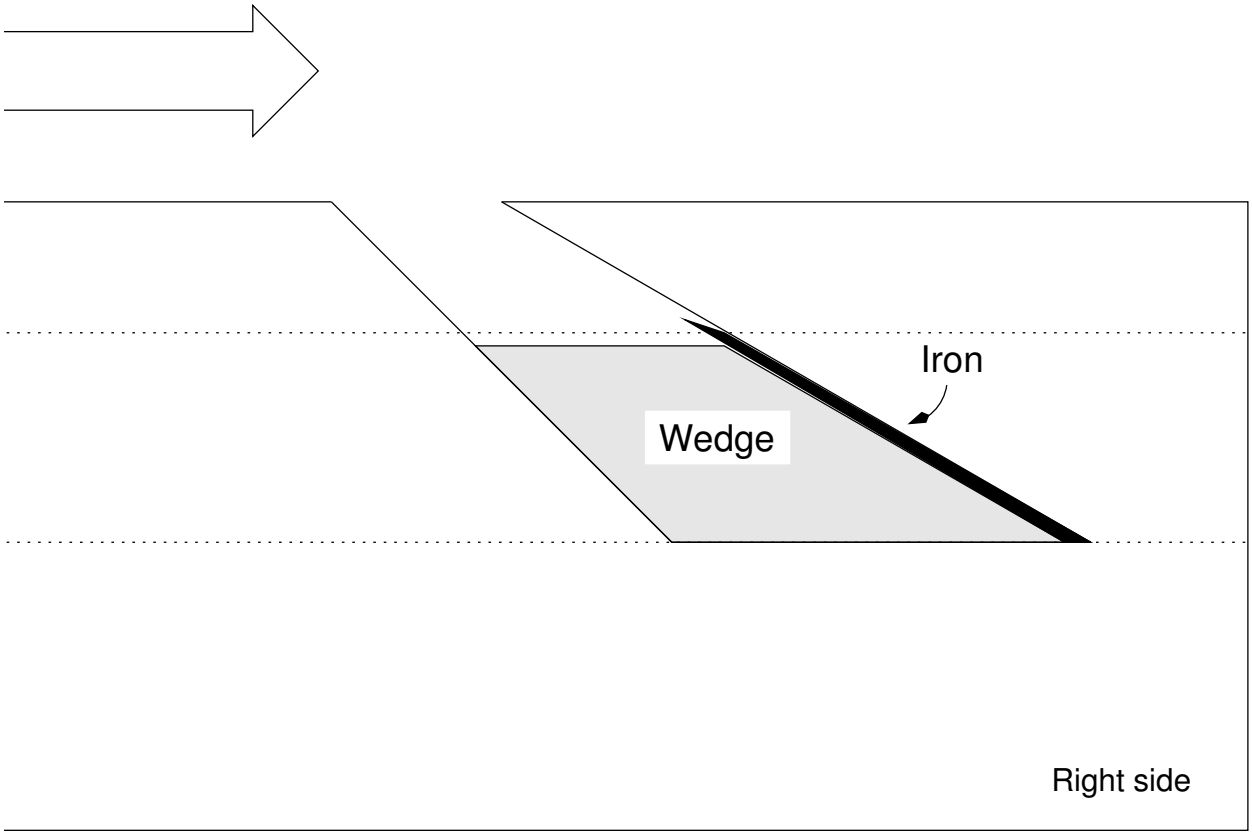
The plans for this particular plane come from a 2002 episode of Roy Underhill's *The Woodwright's Show* which airs on PBS. This version is made from sugar maple purchased in Madison, Wisconsin (and dragged through the Madison and Fairbanks airports), with an iron made from a backsaw blade and a wedge from an old 2×4. The plane body was finished with four coats of boiled linseed oil, and the wedge was dyed dark brown using an aniline dye. The plane was built completely by hand using only traditional tools.

Plans and some images showing the construction of the plane can be seen at `http://www.frontier.iarc.uaf.edu/~cswingle/woodworking/benchtop_spill_plane.php`

Setting up

The iron, wedge, and body of the plane were packed seperately. The iron is bedded against the more steeply sloped side of the mortise through the plane, with the bezel of the iron facing toward the mortise (see the figure below). The wedge is then inserted to hold the iron in place. Once the parts are loosely in place, sight down the plane from the back (the arrow in the figure shows the direction wood is moved – from left to right down the plane) and arrange the iron so only a bit of it extends above the bottom of the groove plowed in the top of the plane. It should project about $1/64$ of an inch above the groove, and be even all the way across the groove.

Once the iron is arranged as indicated, tightly seat the wedge in the mortise by pressing on the right side of the wedge. With this particular plane I have found that you get a better fit if the left end of the wedge is also pushed down against the floor of the mortise at the same time that you seat the wedge from the right. The wedge can be removed by lightly tapping the left end of the wedge, but it shouldn't require tapping on the right side to seat the wedge.



Once the iron and wedge are suitably set, affix the plane to your bench. You can do this by clamping it in a vise, or by attaching a clamp to the plane and then clamping the clamp to your bench. It's also possible to use the plane simply by pushing the front of the plane up against a stop projecting above your benchtop.

To use the plane to produce spills, take a scrap of wood without knots or twisted grain (soft pine of the 1× variety works well) and quickly and firmly slide it down the groove over the iron. The longer the scrap, the longer the spill.

If the wood catches immediately and the wood won't go any further, don't force it. This could either be because you are planing against the grain, or because the iron is set too rank and needs to be lowered

slightly. If the bite of the iron into the wood resulted in a very thick shaving, the iron should be lowered. If the thickness of the shaving is reasonably thin (the thickness of a paperback book cover is about right), try turning the wood around and plane the other direction.

If the plane produces a few good spills but quickly stops making full length shavings, the wedge is probably not tight enough and the iron has shifted due to the force of planing. If this happens you will need to re-set the iron to be parallel across the groove, and tightly seat the wedge again. The first few times you use the plane will probably be a bit frustrating as you try to discover the factors that contribute to good (and bad) shavings. Stick with it. After a few tries, you will be able to produce nicely curled spills over and over.

The groove in the top of the plane was waxed using paste wax. It is possible that poor performance of the plane may be due to increased friction as the wood slides down the groove. A light waxing will help, although the plane will perform even without it.

The iron will eventually dull and will need to be sharpened. The bezel angle is approximately 30 degrees, but I didn't measure it specifically. I ground the original bezel using a hand cranked grinder and then sharpened it using varying grits of sandpaper on glass (stopping at 800 grit). Oil, water, or diamond stones would also work. A knife sharpener will not work because knives have a bevel on each side of the blade. The blade in most planes have one flat surface and one bevelled side. Given that you probably won't be producing thousands of spills, the iron will likely stay sharp enough.

When storing the plane for long periods of time, it's best to loosen the wedge because it will expand and contract through the seasons. The force of the wedge expanding could crack the plane body, although in this case (fir wedge, maple body) I think it's pretty unlikely.

Notes