**What is a draw knife bench and how do you use one**

**Why would you want one**

A drawknife is mainly used to remove large slices of wood for flat faceted work, or for debarking trees, or to create roughly rounded or cylindrical billets for further work on a lathe. A drawknife bench can also be used to shave like a spokeshave plane, which can be used to produce rapid results.

Drawknives can be used to shaped spindles, chair legs, and other curved forms, e.g. handles and arches. Drawknives can remove a lot of wood with little finesse, so it isn’t very work-intensive. Most use drawknives to make chair parts or tool parts.

**Parts of a bench**

Draw knives have many variations as they’ve existed over the years. The knife has nine main variations, including carpenter’s, carriagemaker’s, jigger, and many others. There are many modifications available for this tool, and the bench likewise.

Like the variations of the knife and bench, the blade can also be straight or curved, however the curvature of the blade doesn’t make a major difference, a curved knife eases deeper cuts and bark removal over a straight blade, however this might entirely depend on the user of the knife, and to reiterate, despite the many variations and the niche’s they serve, a drawknife is a drawknife at the end of the day.

Drawknife, although not necessarily a part of the physical bench, will be the main purpose of said bench, is simply a blade anywhere between 6 – 12 inches long and 1 inch wide, and not very thick. A traditional English Drawknife bench, or “shaving horse” will come with a clamp pin for the wood you are cutting, w legs, not counting the foot pin legs, A platform where you will lay the wood you are cutting upon, a saw stop, a plank which is the main piece holding all these components, and where you will sit, a peg and a wedge, both located on the plank.

Draw knife benches are best made from durable hardwoods such as Oak, ash, elm, hickory, hard maple, birch or beech. They can also be made from less durable hard and soft woods as well as durable softwoods, and I shall list them in order of preference.

Less durable hardwoods: Cherry, soft maple, walnut, poplar, tulip, butternut,

Basswood, and alder

Durable softwoods: Douglas fir, tamarack, hard pine (southern yellow or red)

Less durable softwoods: White pine, fir, spruce, cedar, hemlock

Draw knives can be compared to spokeshaves, because they have similar uses and purposes, although they do have major differences. A spokeshave resembles a hand plane with an adjustable, replaceable blade fitted to the main body. A spokeshave can be pushed or pulled and offers the most comfortable working position.

The handles on a Drawknife, however, allow for much more control over the blade, as well as a wider effective area for use. It can also, like a bench chisel, be used to hog off large chips, and flipped to bevel down for more finer, more controlled work.

**Where to get one**

Draw knife benches are usually custom made, so they are usually made by the people who desire them which also makes them cheaper, but they can be bought on arts and craft websites, such as etsy.com or fineartamerica.com among other online stores. They can also be purchased from any wood craftsman in your local area willing to sell it or create one for you.

A draw knife bench is a mount for a draw knife, which is a woodworking tool used to shape wood by removing shavings.

A draw knife bench, or shaving horse, is very easy to operate. The user sits on top of the bench, and the clamp is clamped down by a pedal activated with the user’s foot.

**How to make one**

It is recommended to have an intermediate woodworking level of experience, because you must be able to follow orthographic drawings, cut and dress material flat, straight and square by machine or hand( depending on what you have available and preference) drill accurate holes in relation to diameter and location square to a reference surface and shape or lathe-turn parts accurately.

Recommended tools include a table saw and lathe are recommended, but this entire project can be completed with just hand tools. Assuming you have a basic blueprint, drilling and shaping tools, here is a list of other basic tools that are required:

This bench can be made from any strong wood, e.g. oak, ash, hard maple or Douglas fir. In this example, all the pieces can be made from one 10 ft long 2 x 10 piece of yellow pine construction lumber. These tools listed below may be helpful as well in the construction of your bench:

* Protractor
* Sliding bevel
* Tapered reamer, 12degree included angle, min. 1 1/8 diameter at large end
* 1” bit, any type
* ¾” forstner bit
* 7/8” bit
* 9/16” open end or adjustable wrench hand planes as desired for dressing rough stock(necessary if a 10” wide jointer is unavailable)
* Bit brace

Optional:

* Framing square
* 5/8” forstner bit
* Flush-cutting saw

**Starting off**

Starting with a 2’x 10’ piece, you want to cut it into 3 pieces, 2 4ft long, and the last 2ft long. Next, lay out and cut all solid-wood pieces to size. The back legs require special attention, as both legs are made from one blank. On the miter saw, tilt the blade to 15 degrees and rotate the table to 15 degrees. Make 3 cuts at this setting to procure both legs. Then, stand the legs together so that they make a matched pair. For the legs to splay out and rake back, you’ll saw off a wedge-shaped piece from one side of a leg and glue it back to the opposite side. Draw the wedge all around the left leg, and then draw the right leg as a mirror image. Next, saw the legs to the top end leans forward, and all that’s left for you to do, is make the cut using a bandsaw and follow the line on the board’s top edge. There will be no tilt to the bandsaw table even though the layout lines may appear to point one out. It’s a 90-degree cut. If the wedge-shaped cutoffs distort or cup, sand them until they’re flat. Glue the pieces to the opposite sides of the legs they came from.

**Drill holes**

To prevent slippage when you clamp, nail some short brads into a single piece and clip off their heads near the surface. Press the pieces together by hand before applying clamps. Temporarily screw the two rails together. If your stock is a full 1- ½ in. thick, plan on drilling shallow holes on both rails to accommodate washers for the bolts that hold on the front leg. Lay out these washer holes on both rails and drill them before drilling the smaller dia.

**Start assembling**

Bolt-holes completely through the rails. If your stock is 1 3/8 in. thick, you can omit the large diameter washer holes. Lay out and drill all the ½ in. holes for bolts and 5/8 in. holes for dowels all the way through both rails. Separate the rails then clamp each back leg to the appropriate leg to the appropriate rail and drill through the leg, using the holes in the rail as a guide.

Use the same method to drill holes through the rear spacer and front leg. Temporarily assemble the horse and test the fit of the backup bar between the rails. Glue the backup together, clamp it to one rail, and drill the dowel holes through it. Use a drill press to make the 3/8 in. bolt hole that passes through all three pieces of the backup. Rout a 5/16 in. wide chamfer on all the exposed edges of the rails and legs.

Support the rails with boxes or blocks and assemble the rear end of the horse. Install the backup. It isn’t glued, so you can remove it later for modifications, if necessary. Make the pivot, it should be 1/8 in. thinner than the front leg and rear spacer, so it may swing freely. Drill its hole using the drill press. The pivot is spring loaded with an elastic shock or bungee cord, so that it will automatically tip forward into the ratchets. Attach a 6-in. long cord halfway up the pivot’s front face using a large electrician’s staple. Place the pivot between the rails and pound in the dowel on which it rotates. Clamp the pivot in a horizontal position. Grip the free end of the cord and stretch it back underneath the pivot an extra inch or to some point on the underside of one rail. Mark the point, then release the cord and remove the dowel and pivot. Fasten the other end of the cord to the rail, then re-install the pivot. Make sure the pivot rotates easily; sanding the middle of the dowel to achieve proper fit may be necessary.

**Make the lever arms**

Drill holes in the levers and notch their bottom ends to receive the treadle support. Chamfer all four sides of both levers. Not the distance between the levers is about ¼ in. greater than the width of the horse’s body, so the levers are free to swing without binding. Glue a piece of thick leather to one side of the rotating jaw to help it grip a workpiece. The rotating jaw may be placed in one of three positions; install it in the upper position for the moment. The treadle slides in between the treadle support and the treadle cleats. Use a loose-fitting duplex head nail in a pre-drilled hole or a screw to fasten the treadle in place. Next, Bolt together the lever arm assembly. There are two washers that act as spacers between the lever arms and the backup. To install these washers, tape them to the inside faces of the lever arm assembly. Slide the assembly over the horse’s front end. Install the bolt through the levers and backup, then remove the tape. Bolt on the horse’s front leg.

**Build the work support**

Glue together the ratchet bar and ratchet. Plane them 1/16 to 1/8 in. thinner than the space between the horse’s rails. Test the fit of this assembly between the horse’s rails. It should easily slide up down. Lay out the ratchets and cut them on the bandsaw. Next, screw and glue the ratchet cheeks to the ratchet bar. Glue and screw the lower part of the work support to this assembly. Saw a v-shaped notch in the upper half of the work support, then glue and screw it to the lower half. The notch will help hold rounded workpieces. Then, tilt the lever arm assembly forward to install the work support. Push down on the back end of the pivot’s back end and slide the support down between the horse’s rails. When you release the pivot, it will spring into one of the ratchets and secure the work support in position.

Lastly build the seat using plywood, foam rubber, and leather or any other durable upholstery material. Make the cleat 1/16 in. thinner than the distance between the rails, so the seat is free to slide back and forth. Nice work!

**Conclusion**

Building a drawknife work bench is very rewarding for when you are regularly using a drawknife in your woodworking. A bench will not only improve the accuracy and consistency of your work, but it will make you more comfortable an your work more enjoyable by comparison.