

Making a Simple Lying Press



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Making a Simple Lying Press

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Tony Firman Bookbinding

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Making a Workbench/Tub

Making a Cutting Press

Making a Plough

Making a Nipping Press

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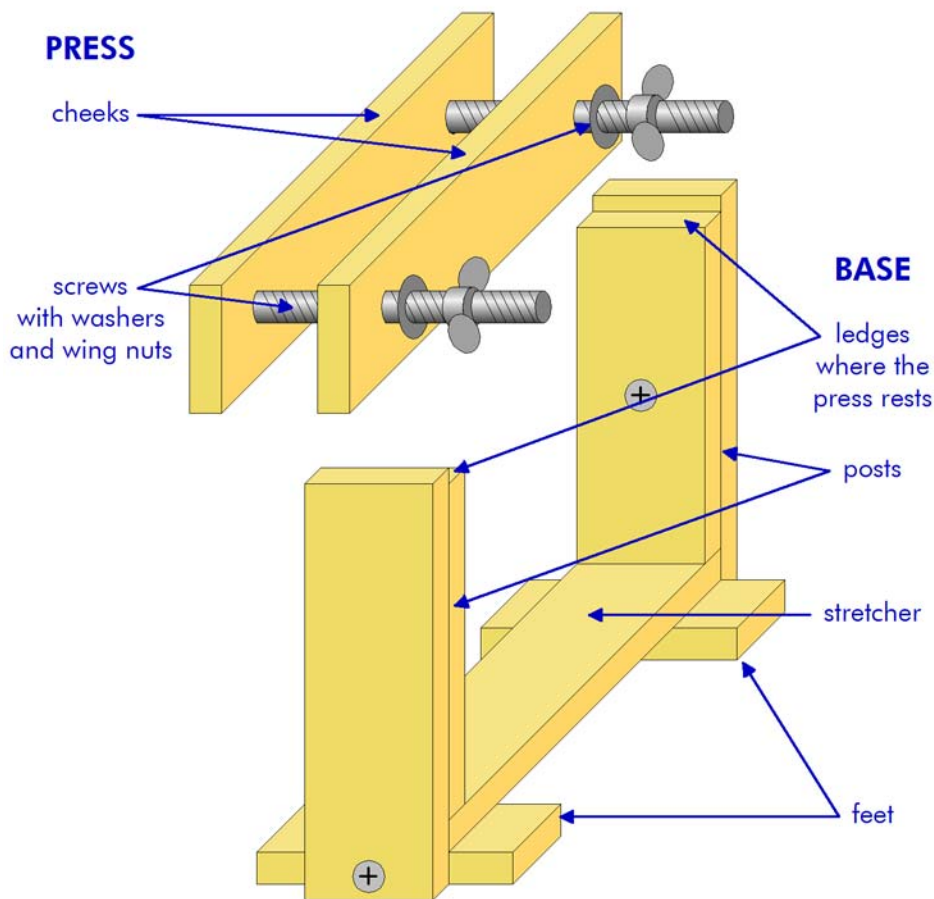
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The lying press

A lying press is used in bookbinding to hold a textblock or a complete book while you work on the spine. A lying press is invaluable for holding a textblock while you glue the spine and apply crash to it. A lying press is also useful for holding a complete book while you label or otherwise decorate the spine.

The press described here is quite simple, and includes a base that makes it easy to work on books up to A size (8½"x11") or A4 size (8¼"x11-3/4"), and up to 2" thick. The press and its base are extremely cheap to make. Anyone can make them for a few dollars, in an hour or so, and using only simple hand-tools.



Making a Simple Lying Press



The photograph above shows the completed lying press on its base, ready for use. The diagram opposite identifies the various parts of the press and its base as they are referred to in this book.

Materials required

To make the lying press you need the following lumber and other materials:

- 2 1"x4"x4' lumber (the type of wood is not critical to the functioning of the press, so pine works well as long as it is clear)
- 2 3/8"x5" carriage bolts, zinc-plated steel
- 2 3/8" flat washer, steel
- 2 3/8" wing nuts, steel
- 6 #10x1 1/4" wood screws, steel

You will also need interior-grade PVA wood glue. You may also wish to coat the press with a clear finish ("varnish"), preferably water-based.

All these materials can be obtained from any hardware store.



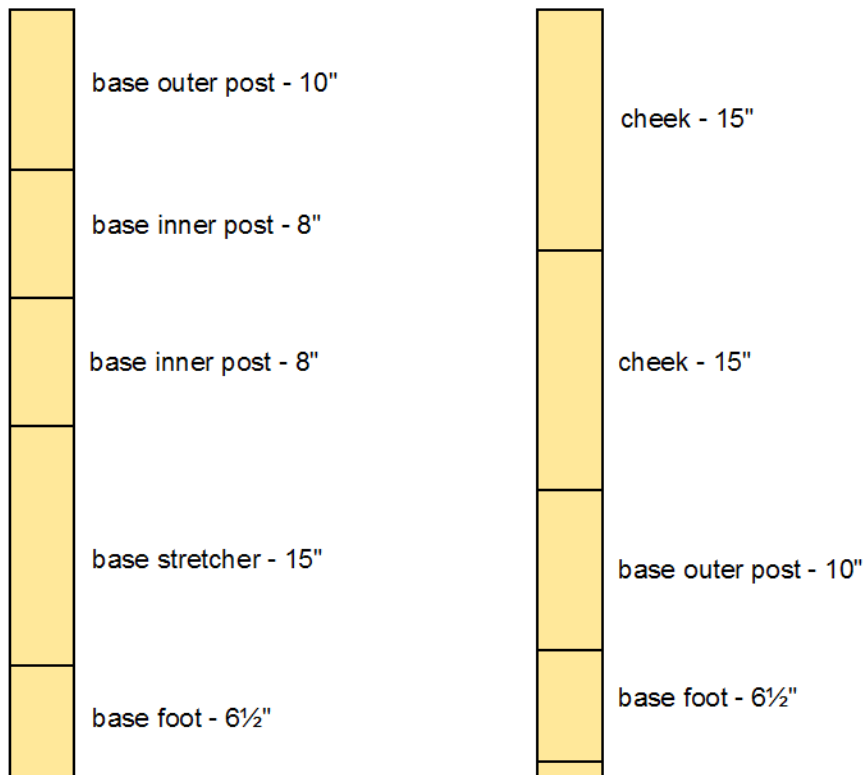
Tools required

To make the lying press you need the following power and hand tools and associated accessories:

- an electric drill or drill/driver with a 3/8" chuck
- a drill press (if possible – it is not essential)
- measuring tape
- square
- screwdriver (as required by the screws you use)
- backsaw and miter-box; or if available a table saw, radial-arm saw, or miter saw
- large pliers
- 3/32" diameter drill bit
- 3/16" diameter drill bit
- 3/8" diameter drill bit
- countersink drill bit
- sandpaper

Cutting up the lumber

Cut the 1"x4" planks as shown in the diagram below. You can of course use a single 8' plank.



You can do this easily using a miter-box and a backsaw. If you have access to a power miter saw, table saw, or radial-arm saw, you can use that instead.

The cut pieces are shown in the photograph opposite.

Go over each piece with sandpaper and remove all splinters and sharp edges.

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cheeks base outer posts base inner posts base stretcher base feet

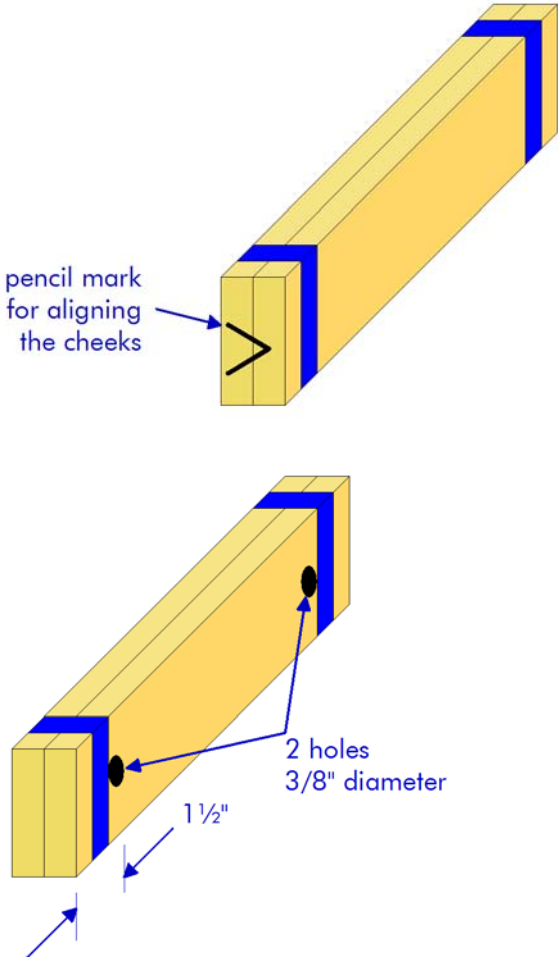


The press: Drilling the cheeks

Start by making the press itself. The press consists of two cheeks, held together by long carriage bolts and wing nuts. Begin by drilling the two cheeks for the bolts.

1. Take the two 15"-long pieces of wood that are to be the cheeks. Place them face-to-face, and strap them together with a strip of masking tape near each end, as shown in the upper diagram opposite.
2. Make a V-shaped mark across one end of both cheeks, as you can see in the diagram: this will ensure that you always put the two cheeks together in the correct alignment.
3. On one face of the cheeks, mark out the locations of the two holes. Each hole should be on the center-line of the cheek, and 1½" in from the end, as shown in the lower diagram opposite.
4. Drill two 3/8" diameter holes right through both cheeks. The masking tape should keep the two cheeks perfectly aligned while you do this. It is important to drill the holes exactly perpendicular to the surface of the cheeks. If you have access to a drill press, it can assure perfection in this respect.
5. Remove the masking tape and separate the two cheeks.

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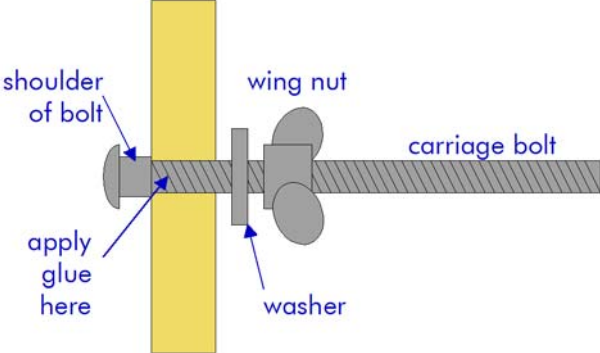


The press: Adding the bolts

Now you will add the bolts to the rear cheek.

1. Take one of the cheeks, and insert a 5"x3/8" carriage bolt through one of the holes from the outside of the cheek.
2. Spread a bead of glue around the bolt-threads next to the shoulder.
3. Push the bolt all the way into the hole, until the square shoulder of the bolt is resting against the wood, as shown in the diagram opposite. The glued area of threads should now be within the wood.
4. Thread a 3/8" flat washer onto the bolt.
5. Screw a 3/8" wing nut onto the bolt, as shown in the diagram opposite.
6. Tighten up the wing nut against the face of the wood as hard as you can so as to force the shoulder of the carriage bolt into the wood. You need pliers to apply enough force to the wing nut. Keep tightening the wing nut until the head of the bolt is up against the surface of the wood, with the shoulder completely buried.
7. Repeat steps 1 to 6 with the second carriage bolt at the other end of the cheek.
8. Slip the other cheek onto the ends of the carriage bolts: this ensures that the bolts are perfectly aligned.
9. Leave this overnight for the glue to set.

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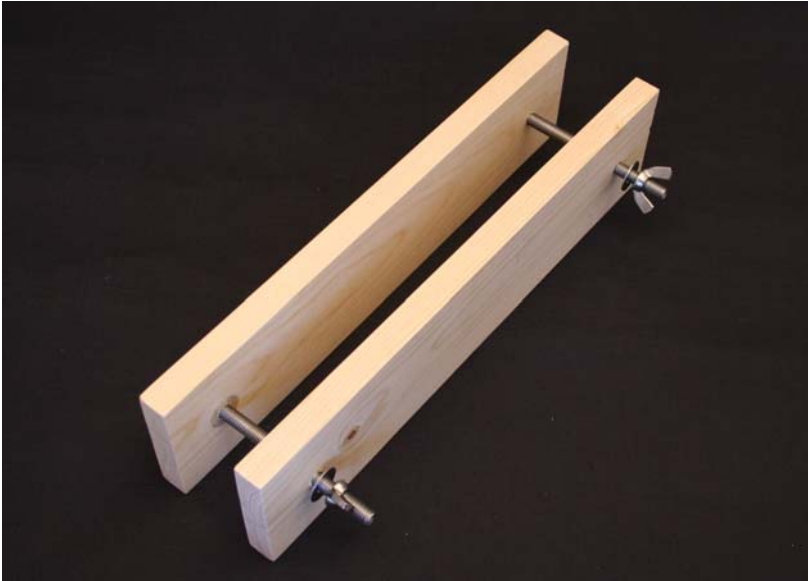
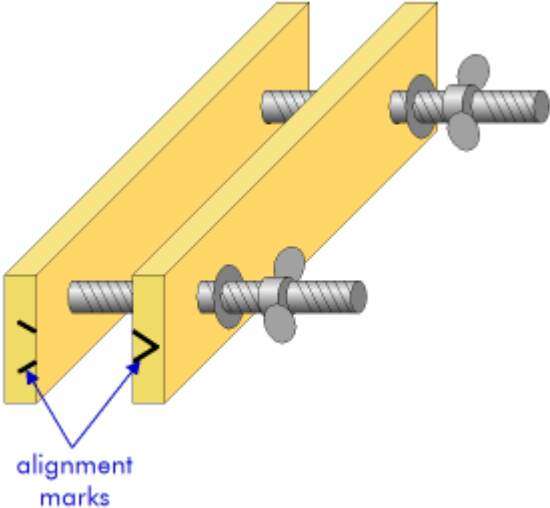
The press: Final assembly

You are now ready to assemble the press, which will look like the diagram and photograph opposite.

1. Remove the second cheek from the ends of the carriage bolts.
2. Remove the wing nuts and washers from the carriage bolts. The bolts should now be thoroughly embedded in the wood and secured by glue.
3. Thread the second cheek back onto the carriage bolts, using the marks on the ends of the cheeks to ensure you have them aligned correctly, as indicated in the diagram opposite.
4. Refit the flat washers and wing nuts to the bolts, as shown opposite.

That's it! Your press is now complete. You are now ready to assemble the base.

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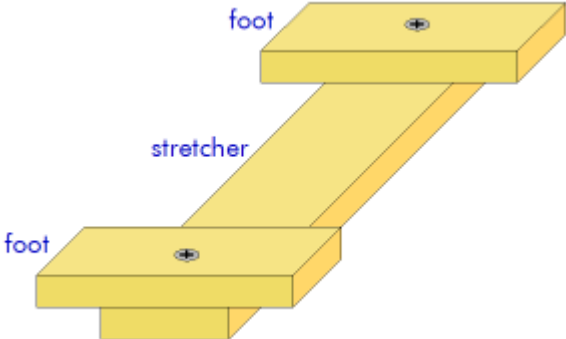
The base: Assembling the stretcher and feet

Begin the base assembly as shown in the diagram opposite.

1. Take one 15"-long piece of wood, which is to be the base stretcher.
2. Take one 6½"-long foot, and place it on one end of the base stretcher, as shown in the upper diagram opposite.
3. Drill a 3/32" diameter hole through the foot into the stretcher. Do not drill all the way through the stretcher.
4. Remove the foot, and drill its hole out to 3/16" diameter, then countersink the hole for a #10 screw.
5. Apply glue to the area of the foot that overlaps the stretcher, place the two together, and drive a #10x1¼" screw into the hole to hold the pieces together. Use a square to ensure that the foot is at a right-angle to the stretcher.
6. Repeat steps 2 to 5 with the second foot at the other end of the stretcher.

You now have a stretcher/feet assembly, as shown in the photograph opposite.

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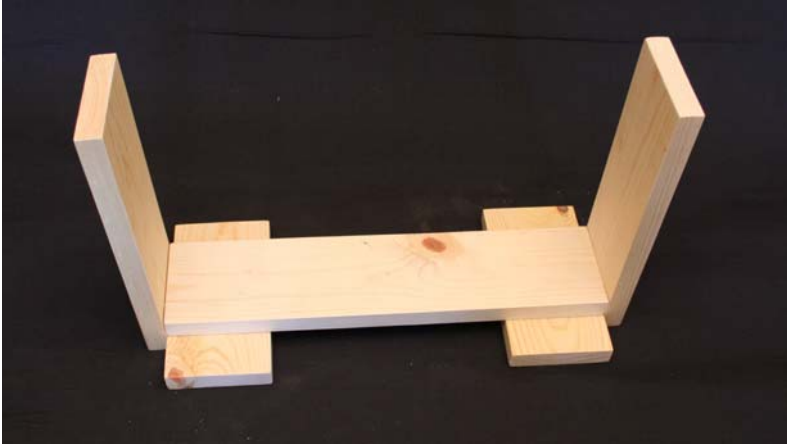
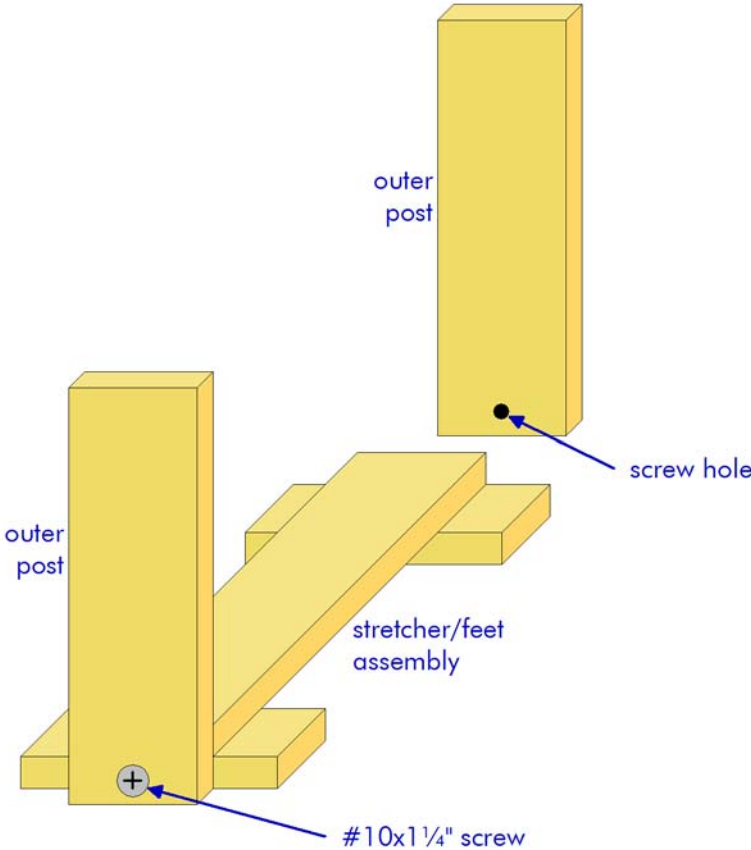
The base: Adding the outer posts

Now you will begin to add posts to the stretcher/feet assembly, as shown in the diagram opposite.

1. Turn the stretcher/feet assembly over, so that it is standing on its feet.
2. Take one 10"-long outer post, and place it against one end of the stretcher/feet assembly, as shown in the upper diagram opposite.
3. Drill a 3/32" diameter hole through the outer post into the foot.
4. Remove the outer post, and drill its hole out to 3/16" diameter, then countersink the hole for a #10 screw.
5. Apply glue to the area of the outer post that overlaps the end of the stretcher and the foot, place the outer post back in position, and drive a #10x1 1/4" screw into the hole to hold the pieces together. Make sure that the outer post is at a right-angle to the foot.
6. Repeat steps 2 to 5 with the second outer post at the other end of the stretcher/feet assembly.

You now have a partial base assembly, as shown in the photograph opposite.

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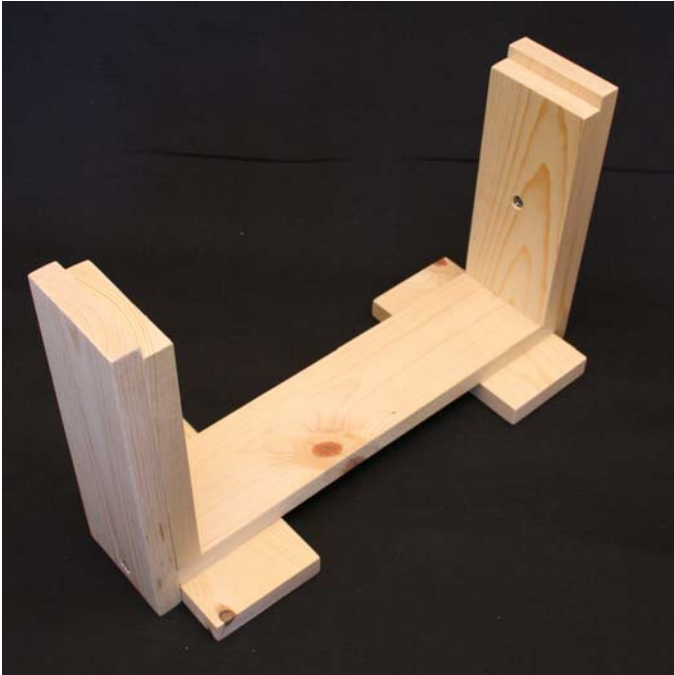
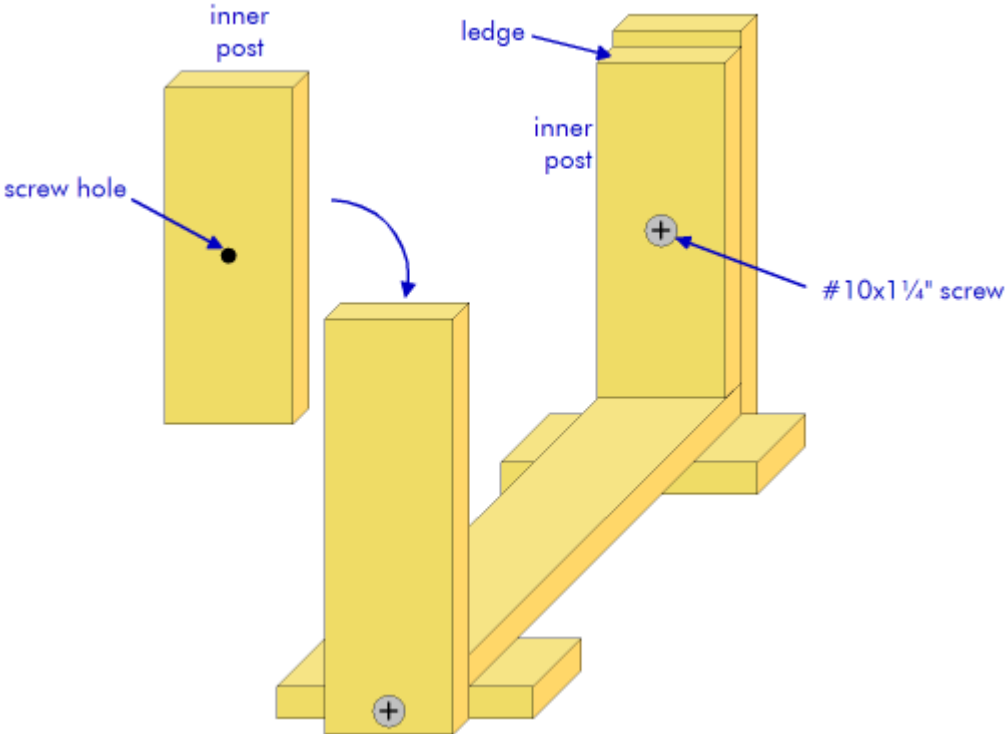
The base: Adding the inner posts

Next you add an inner layer to each of the posts, as shown in the diagram opposite. This will make the posts stronger, and also create a ledge for the press to rest on without slipping off the base.

1. Take one 8"-long inner post, and place it against the inner side of one of the outer posts, as shown in the diagram opposite. This inner post should rest on the stretcher; this leaves it a little short of the outer post at the top, forming a ledge.
2. Drill a $3/32$ " diameter hole through the inner post into the outer post. Do not drill all the way through the outer post.
3. Remove the inner post, and drill its hole out to $3/16$ " diameter, then countersink the hole for a #10 screw.
4. Apply glue to the entire face of the inner post, place the inner post back in position, and drive a #10x $1\frac{1}{4}$ " screw into the hole to hold the pieces together.
5. Repeat steps 1 to 4 with the second inner post at the other end of the assembly.
6. Check that the posts are perfectly spaced to accept the press. Put the press in place with a piece of thin cardboard at one end to ensure a little clearance. It should drop into the ledges on the posts – not too tight, and not too loose. If the posts are leaning inwards, the press plus the piece of cardboard will push them apart. If the posts are leaning outwards, use masking tape to pull them inwards against the press plus the piece of cardboard.

You now have a complete base assembly, as shown in the photograph opposite. Set it aside, with the press in place, for the glue to dry overnight before you begin using it.

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Using the press

Your press and base are now ready for use. Note that the dimensions have been calculated so that you can hold books of A or A4 size for working on the spine, either in portrait format (photograph below) or in landscape format (photograph opposite).



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