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Hydraulic Jack Papermaking Press



This press is meant to press felts 15" x 19", with a 4-ton hydraulic jack. This size fits nicely into the Handmade Paper Drying Box I build. There are those who sell larger presses and they are very expensive and larger than needed for most papermakers. It is adjustable in height from one felt to about a 12" high post of felts. It is simple to setup and operate.

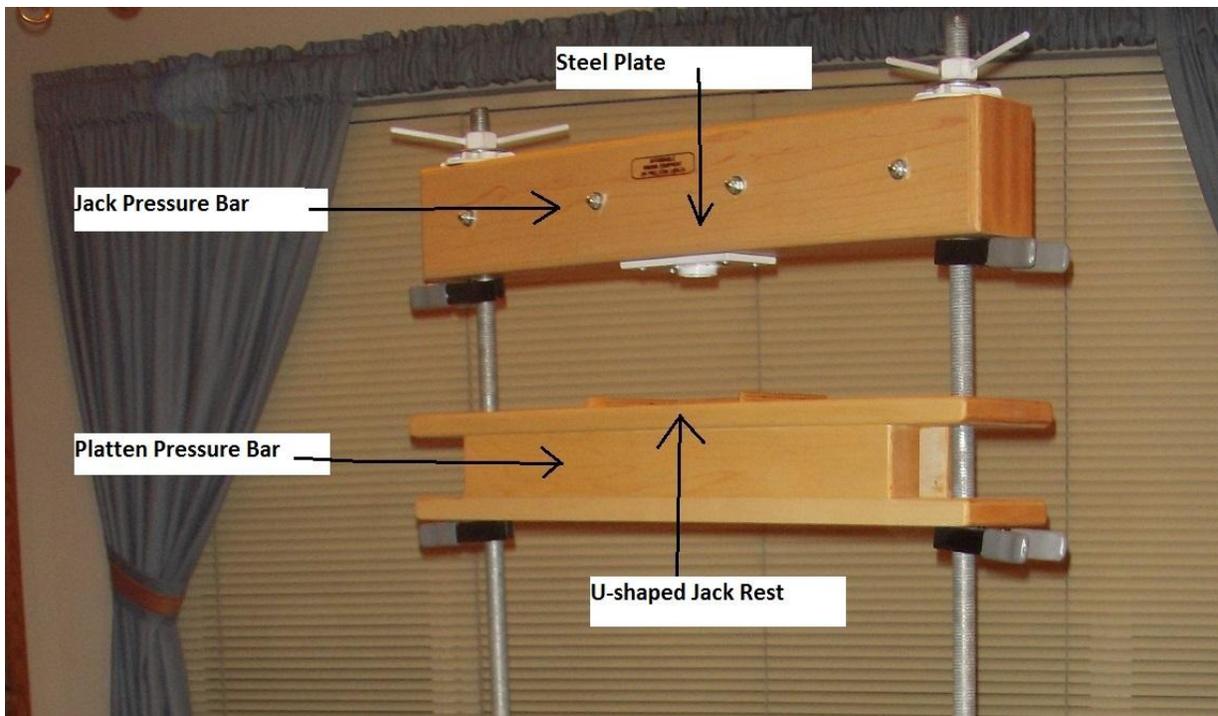
It is built from hard rock maple, and Baltic birch plywood. All flat surfaces are covered with waterproof formica. All lower, exposed wood surfaces have been waterproofed by soaking for 30 minutes in polyurethane and then sprayed with multiple coats of the same. The bottom nuts and washers are hot-dipped galvanized to protect against corrosion. I tried to waterproof as much as possible to keep the press looking nice and usable for years. A coat of paste wax once in awhile on the lower wood areas would be advised to insure good water runoff.

Although this press has been waterproofed, it is *not* weather-proof and should always be used under an overhang, as sun breaks down the wood finish, especially to the upper parts, and the formica will start to delaminate in the sun from the heat.

Instructions:

1. Spin the top large wing-nuts to the top of the threaded rod.
2. Raise the jack pressure bar up to these nuts, and hold in place with the 2 spring clamps provided.
3. Raise the platen bar up to within about 5" of the upper bar and hold in place with the 2 spring clamps provided.

The press should now look like this:



4. With the 1/2" thick, lower, removable platen placed on a workbench, stack your couched felts on it, making a post. Make sure you center these felts on the platen. Couching the paper centered on the felt is also advisable. This creates a centered post and will press more evenly than if the paper is couched in different places on the felts.
5. When your post is complete, place the whole assembly into the press, making sure it's centered.
6. Center the upper platen (has the angled support pieces) onto your post.
7. Lower the platen pressure bar down into the grooves on the platen.
8. Place the hydraulic jack into the slot provided on top of the platen pressure bar.
9. Lower jack pressure bar onto the jack, making sure the top of the jack goes into the hole provided. This is a **very** important safety feature, which insures the jack doesn't come flying out under 4 tons of pressure.
10. Spin down the wing nuts to the top of the jack pressure bar, making sure that the pressure bar is reasonably parallel to the bottom of the press. No need to apply pressure to these wing nuts, just spin them down.



It should now look like this:

11. Close the valve on the jack, turning clockwise. Just a firm pressure is needed, not turning real hard.

12. Pump to create pressure.

13. When you are satisfied enough water has been pressed out, open the jack valve counterclockwise just 1 turn. Make sure you open it only one turn; too many turns will cause the valve to come out and you will have hydraulic fluid all over the place!

14. Spin the large wing nuts up to the top.

15. Raise the jack pressure bar up to these nuts, and hold in place with the 2 spring clamps.

16. Raise the platen pressure bar up to within about 5" of the upper bar and hold in place with the 2 spring clamps.

17. Remove the top platen and your post of pressed felts. The press is now ready to press your next post.

With practice, you will see how far you need to raise the pressure bars, maybe not all the way to the top, if you usually do shorter posts. I can make this with shorter threaded rods, but this gives you the option to do taller posts.

To collapse the jack:

1. Make sure the jack valve is open, counterclockwise, 1 turn.

2. Turn the jack over head down and push it against a hard surface, and the ram will push back into the jack. *Always store right side up.*

Notes:

When raising and lowering the pressure bars, try to keep them level. I know this will be difficult to undo the spring clamps and hold onto the bar at the same time. But if they get tilted, they may get stuck and you will need to do some jiggling to get them loose.

Since water flows out of this when pressing, either you need to do this outside in the shade so it can fall on the ground, or inside with a tray to catch the water. You can buy a commercial heavy-duty 18" x 26" aluminum or fiberglass tray with a lip, which the press will fit in nicely. You can either use the tray as is and towel the water out, or make a hole in one corner and have it drain into a 5-gallon bucket.

Caution:

This paper press has only been designed for, and tested with, a 4-ton jack. A larger jack is not needed for this size of felt. Use of a larger-size jack than the one provided may cause the structure to break suddenly, causing injury. **Do not substitute a larger jack into this press.** If a larger jack is used, I will not guarantee the structure of the press nor be responsible or liable for any injuries incurred.

The below pictures show the press in use from pulp to dried paper. These pictures are from the woman who ordered these and whose idea it was to build them.



Post ready for pressing



Post in press



After pressing



Felts ready for drying



Felts in drying box



Finished paper