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DIY Projects



The Ultimate Indoor Firewood Rack

Produced by the
Log Cabin Directory
www.LogCabinDirectory.com

About the author/builder

Hi, I'm Tom, editor and "chair-man" of the [Log Cabin Directory](#) and the [Log Furniture Directory](#). When I'm not doing geek stuff with the directories, one of my most favorite distractions is building log and rustic furniture and creating projects around our log home. A number of those projects (*such as this one*) have found their way to be included in the DIY section of our websites.

Yes, that's me pictured with the 'finishing' tools found in every good cabinetmaker's toolbox. Truth be told, I have a fairly well-appointed shop where I fritter away every free moment possible. I've spent the better part of the last 40 years honing my carpentry skills and furnishing my shop (sanctuary).



Tom Heatherington, editor and chief tinkerer

Maybe you've seen some of my other DIY projects such as this rustic china closet I made for my bride two years ago. This was the largest furniture project I'd ever attempted, but it turned out to be a beautiful piece of furniture.



If you are so inclined, you can read more about it [here](#). Oh, and by the way, thanks for visiting our websites and downloading this plan. I hope it gives you enough information to build your own project.

Incidentally, if you send me a picture of your finished project, I'd be honored to include it on the website. Send your pictures, or if you have any questions or comments to me@contacttom.com.

In the event these plans were forwarded to you by a friend, you can read more about this firewood rack at this URL - http://www.logcabindirectory.com/firewood_rack/

Thank you and best regards,

Montana Tom

Does size really matter?

Nope. Not with this project. You can build your firewood rack to meet your space requirements or unique floor plan.

Contrary to what you've seen in your spam folder, size really doesn't matter. In addition, the type of wood I chose and your decision to use wrought iron or wood... none of that matters! The only one you need to please with this project is you (*and more than likely your significant other*) so let your imagination run wild and create your own customized **"Ultimate Firewood Rack - Butler - Storage - Time Saver - Furniture - Thing"**. Remember, what I am describing below is how I did it, feel free to plagiarize my total plan or make changes where you think they'll work best for you.

To provide you with some starting points, This picture shows the dimensions of the rack I built, but you can make yours taller, wider, lower, deeper or longer.

The height I chose for my application is approximately the same height as the kitchen counters in your home.

With this open design; one can build such a unit to any dimensions that works for your surroundings.



I arrived at these dimensions by calculating how much wood my stove burns in two days of continuous use. Filling this rack once saves me 10 -12 trips to the firewood cache.

Go with a slab or glue-up some 2 x 4s

A number of "suburbians" have written to me over the years saying that they can't find the kind of wood slabs or logs I've talked about with other projects. I know that your neighborhood **Home Depot®** doesn't stock such products. Try calling a sawmill in rural areas near you, or search online for a supplier - they're out there.

The slab I started with was too wide and my table saw blade couldn't clear the top, so I made my first cut with every cabinetmaker's finishing tool - a chainsaw. After trimming it to approximately 13", I was able to run the slab through my planer to reduce the thickness to two inches.



Preparing the base

The base of the rack will almost always be covered by firewood, so it is pointless to use prime wood for this, but for structural strength, you want this to be substantial. My solution was to glue-up 2x4's for my base. As we touched upon above, you can also use 2x4's for the top of your rack. Be sure to choose straight and dry studs. If you don't have a moisture meter with you at **Home Depot®**, the dry wood will always be considerable lighter.



I chose 2x4's that had some character, but my primary requirement was that they were dry and straight. Before you glue them together, you'll want to plane the edges enough to remove the factory rounded edges. If you don't have an electric planer or jointer, a common hand plane will accomplish this – but with a tad more effort.

Why 2x4's instead of 1" lumber?

The wrought iron 'cage' will be mounted to this base. You will be pushing a fully -loaded rack, which will put stress on the mounting points of the cage. Using thicker wood will permit longer screws to anchor the cage better and absorb the stress of movement.

Gluing-up the carcass

I must assume that you're a DIY type of person and have experience building basic cabinets and furniture. Gluing-up the base is Cabinetmaking 101. A simple box with one drawer. I chose a metal drawer slide common to most kitchen cabinet applications for my drawer – also available at **Home Depot** or any hardware store. I chose a drawer height of 3" and used a jig saw to cut the opening from a 1" board that would be the face of the base.



I also cut all carcass joints at a standard 45 degree angle using my table saw, but a simple squared butt joint (board to board) will work equally as well. I was trying to give the appearance of a solid slab, but I don't think that is as important with the base as it will usually be obscured by firewood.

Preparing the drawer housing

Pictured at right is one of the drawer guide supports being positioned. I cut these boards to close tolerances and relied on "Gorilla Glue" and triangular glue blocks to reinforce the joints. If you have never tried [Gorilla Glue](#), I highly recommend it for such applications. It is incredibly strong and expands to fill gaps and is also waterproof. One caveat... do not use it on finish work such as your top, as it can leave glue lines. Use regular yellow carpenter's glue for such joints.



What you are looking at above is the base turned upside down. In order to mount the metal drawer guides, it is necessary to have perpendicular boards in place creating the drawer housing. These drawer braces can be glued and/or attached with pocket screws.

Do you want wheels with that?

Part of my purpose in building this rack was to lighten the burden of moving wood from there to here. My woodstove is approximately 20+ steps from the door. My rack holds about 10-12 good armloads of wood – thus saving me more than 200+ steps and a sore back 😊

Mounting this on wheels was a big part of my design. I chose to position the height of the casters so that they extend approx. 1” above the carcass permitting it to move freely on carpeting or tile. If your home has high thresholds, you may want to increase this clearance height.

I cut the casters’ mounting blocks from 4x4 stock and used liberal amounts of [Gorilla Glue](#) to attach them to the frame.

Securing the drawer

To keep the drawer from opening while moving the rack, I installed heavy duty cabinet door catches on each side of the drawer. This secures the drawer for those turns or bumps from uneven floors while moving a load of wood to your stove.



The casters need to clear both sides of the carcass and swivel freely. To adjust floor clearance, increase or decrease the thickness of your mounting blocks.



Building the metal frame (cage)

NOTE: Many DIYers dabble in creative pursuits involving woodworking and metalwork. If working with metal is new to you, feel free to use wood dowels or check with a local company that could fabricate the cage for you. Parts are very inexpensive, so you will only be paying for a few simple welds. Show these plans to a shop and you'll probably be surprised how reasonably this can be fabricated for you.

If you look in your local **Yellow Pages**, you will probably find a company that sells steel components such as metal railings. Typically you can buy square or round stock quite inexpensively. The metal I used in my rack cost less than \$20.00 for 4 twisted posts and 2 - four foot sections of $\frac{1}{2}$ " x $\frac{1}{2}$ " steel. These 4' sections became the bottom rails of my cage, and the 10" I cut from the 4 twisted rods became the top and bottom rails of the cage side sections.



Note that the metal rods have been dressed by a wire wheel to remove rust so as to weld easier and accept paint later in this project.

Welding (or brazing) the four small bars to the top and bottom of the twisted rods at 90° angles creates the sides of the firewood rack - as pictured at right.

It is critical that when positioning these pieces for joining, use a framing square to ensure that your welds produce a perfect 90° angle at each corner. If your cage isn't square, the entire project will be jeopardized.



Cross member preparation

The cross members will be attached the top and base of the firewood rack. These are critical, stress bearing components. I drilled 4 holes to accept wood screws to attach the cage.

Measure and drill your mounting holes on one cross member and use that 'master' to act as a guide to drill the 3 remaining members. A simple drill press vise and two clamps will enable you to drill all holes identically.

It is very important that these holes be positioned in the center of the rod as you will next be drilling a larger hole to countersink the mounting screws. See the next picture lower right.

This photo shows the mounting holes and the larger countersink cavities. When this frame is attached to the base and the top, all screws will be below the level of the support rod.

Adjusting your drill press' depth gauge will yield uniform countersink holes. Four screws may be overkill here, but the rack will receive a great deal of stress when being moved with a full load of firewood.

This close-up shows how a mounting screw will rest in its countersink seat. Such attention to detail will mean the difference between your project looking like an expensive piece of custom made furniture or a garage project gone bad 😊



Blacksmithing 101

Get steel hot enough and you can bend it like putty. Grab an acetylene torch, a heavy maul and a carpenter's square and you can fabricate metal like a professional blacksmith.

What these pictures illustrate is the process of readying the bottom rails to be welded to the side supports. Both ends needed to be bent and squared like an "L" so that they provide an area to hold the weld.



I began this phase of the project by heating the bottom braces together – clamped in a vise. By doing both rails at the same time, you will be able to form them alike. Apply heat where you intend to make the bend until it is **red hot**. At this point you can actually bend the rails without needing the maul (yet). Apply pressure to the end of your rails, pulling them to form your "L". When you think you have your angle formed, use a carpenter's square to take a reading.



Fine tuning your 90 degree angle is done using the maul. Tap the rails in the direction necessary to square-up the angle. You will continue to apply heat to the rails until you have completed this step.

Now, grab your hacksaw and cut the ends of the rails approx. 2" from the bottom rail. Your angle will look like the picture at right.



Lather, Rinse, Repeat...

Now repeat this process for the other ends of your rails. When finished, your angles will look like the rail pictured here ►

Before welding, dress the rough edges of your freshly hacksawed ends with a file to smooth and prep for paint.

What you are seeing at right is my set-up to make the “tack welds”. At this point, I want to square my sides with the rails and fasten them together with one minor weld.



Once the cage is assembled in this manner, I can then complete and fully dress all the welds.

This close-up shows a completed joint. Note that it has been filed smooth and worked on a wire wheel to remove all ragged edges and major imperfections.



When painted, this will look like a wrought iron joint created by a Pro... you.

The view from above...

The completed cage should look something like this – prior to painting. Maybe it is overkill, but note that I added an additional horizontal cross member on the top of the frame. I used a piece of scrap angle-iron and welded it flush to the sides. I also drilled two additional holes about 10” from the center point to permit screws to anchor this member to the wood top.



(Pre) finishing touches...

Prior to staining and painting the metal cage, assemble everything. Now is the time to drill all pilot holes to accept mounting screws for the cage. After holes are drilled, you will want to perform one final finish sanding to remove scrap from the new holes - and any errant tool marks acquired during this assembly phase.

- ☑ All parts fit properly?
- ☑ Drawer slides & locks correctly?



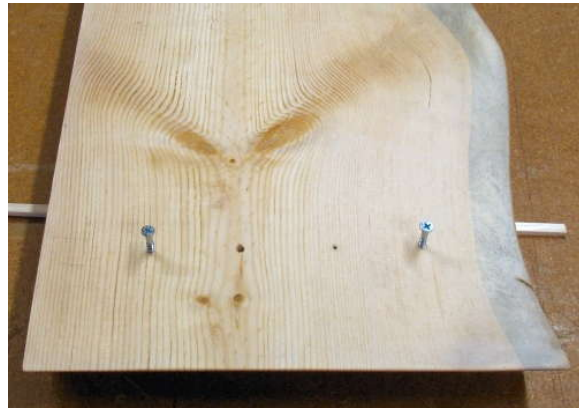
This photo illustrates why I chose to add rails to the bottom of the rack. The rails will keep your firewood from coming into contact with the finish of your wooden base.

During the off-season, you may want to use this rack as an accent piece to hold plants or other decorative items. Keeping the base looking like new is important.



Before you stain...

TIP: I screwed four screws into the holes I previously drilled on the underside of the top to elevate this piece for staining and finishing. Staining (or applying finish) to the underside first, permits the top to rest on the screws while you work on the other side of the board. This also permits air movement to the underside for quicker drying.



If you have already mounted the casters, the base is ready to accept stain and your finish coat(s). The caster will keep it elevated off your workspace.



I mixed a stain to achieve a hue that would blend with our furniture using **Minwax's** "Natural" and "Walnut" commercial stains. Just a few drops of walnut added the right tint for my purpose. For the finish I used **Varathane Clear Satin**.

Drawer pull

I added that extra rustic touch by making a drawer pull from an [antler shed](#). This is fairly easy to make and was the topic of a previous DIY project of mine. You can get the complete instructions here... [How to make antler drawer pulls](#).



Or, for a great selection of rustic cabinet hardware, [visit the Log Home Store](#).

Your masterpiece is finished!

The easy-on-the-eyes satin **Varathane** finish really accentuates the bold look of the Ponderosa pine slab. Such free-form slab cuts can turn a common storage rack into a beautiful work of art. The attention to details like countersinking mounting screws, filing your weld joints and fine sanding the wood makes all the difference.

The metal cage was spray painted with **Rust-Oleum's flat black** for a true wrought iron look.



Close-up of the cage mounted to the base with 1 3/4 # 10 wood screws.



View of the underside of the top slab mounted to the cage.



**The
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Thank you for downloading these plans. I hope this helps you to create your indoor firewood solution. Remember, if you send me a picture of your finished project, I will include it on our website. Send your pictures, or if you have any questions or comments email: me@contacttom.com.

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Thank you and best regards,

Montana Tom

Websites referenced in these instructions:

- Rustic cabinet hardware at [the Log Home Store](#)
- [How to make antler drawer pulls](#)
- [Gorilla Glue](#)
- [Log Cabin Directory](#)
- [Log Furniture Directory](#)
- [About antler sheds](#)