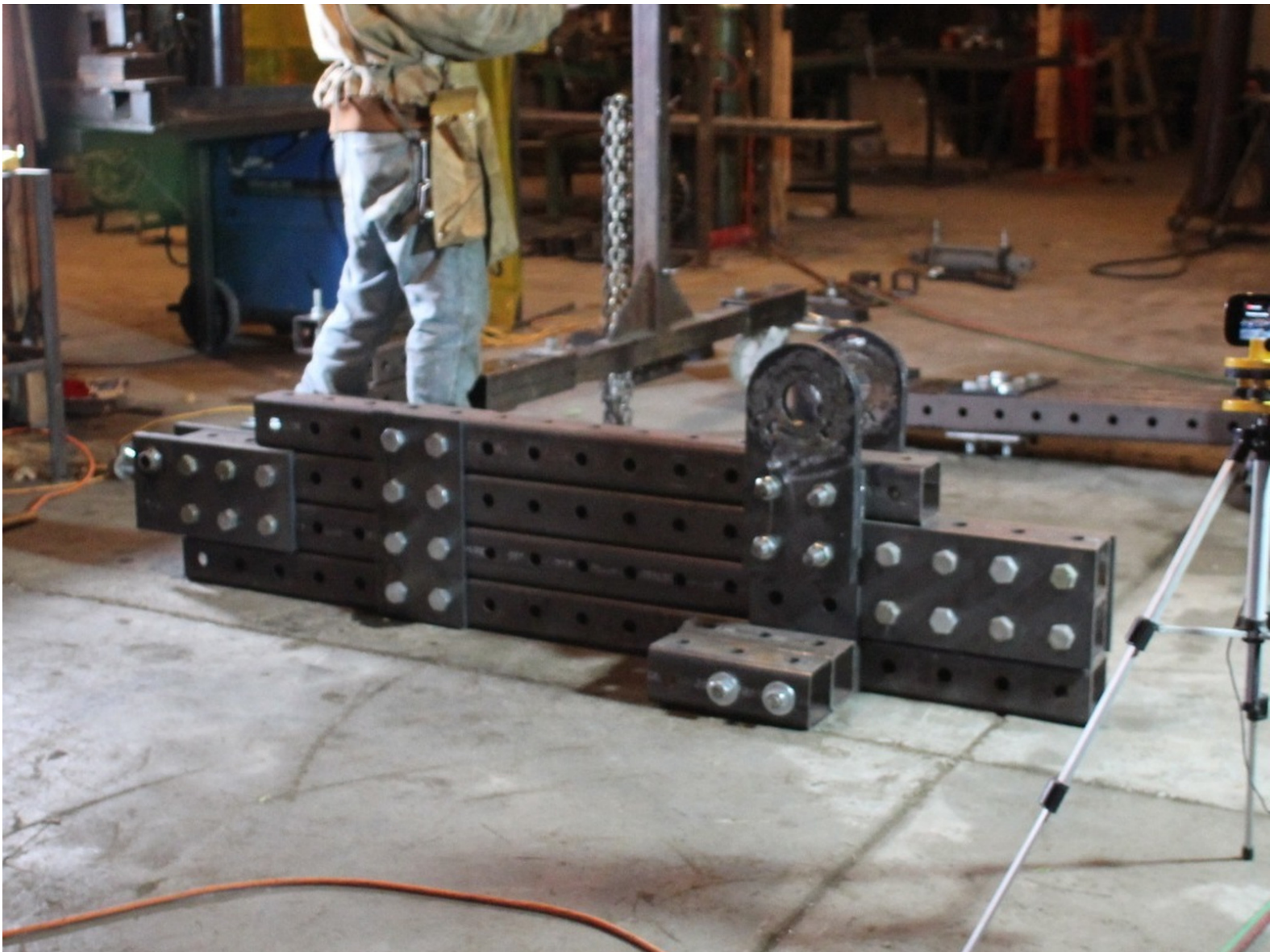


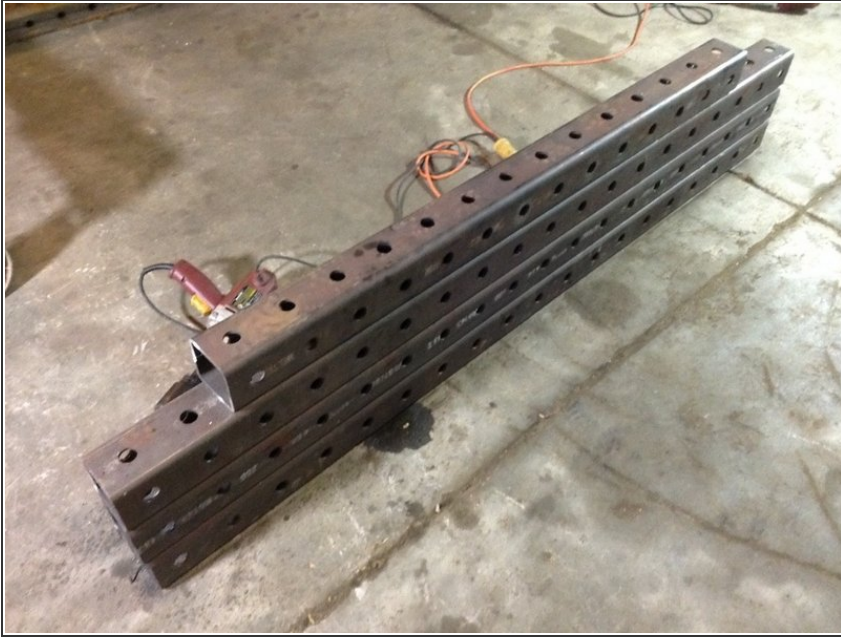


How to assemble the bottom frame of the Ironworker (in progress)

Written By: jeanbaptiste

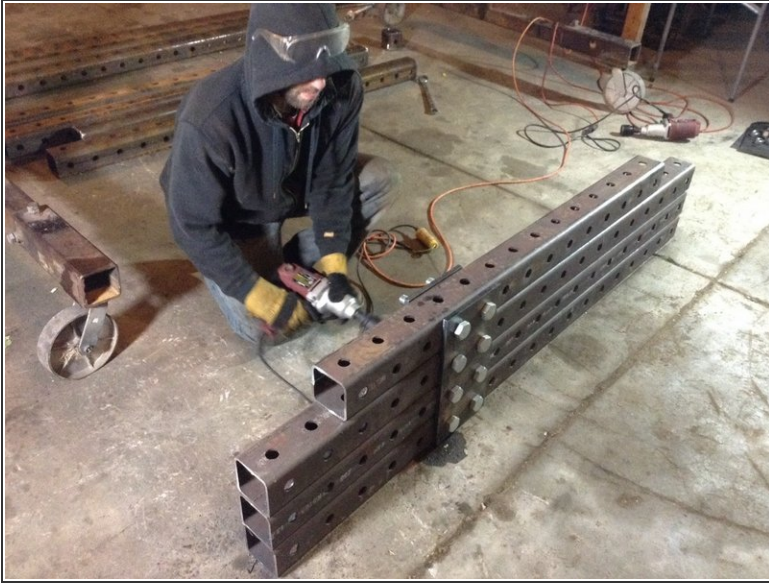


Step 1 — How to assemble the bottom frame of the Ironworker (in progress)



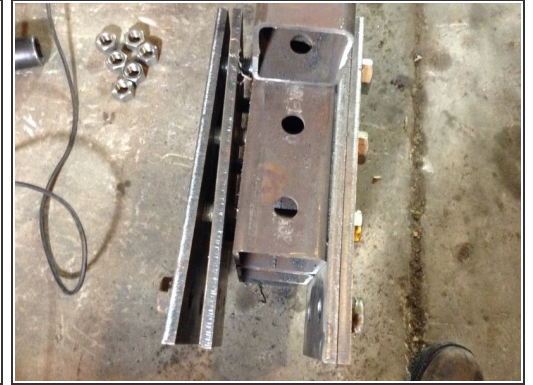
- Parts:
 - 1 14 hole 1/2" tube
 - 3 19 hole 1/2" tube
- Stack the three 19 hole tubes so that the ends line up.
- Lay the fourth tube on top, two holes in from one end of the others.

Step 2



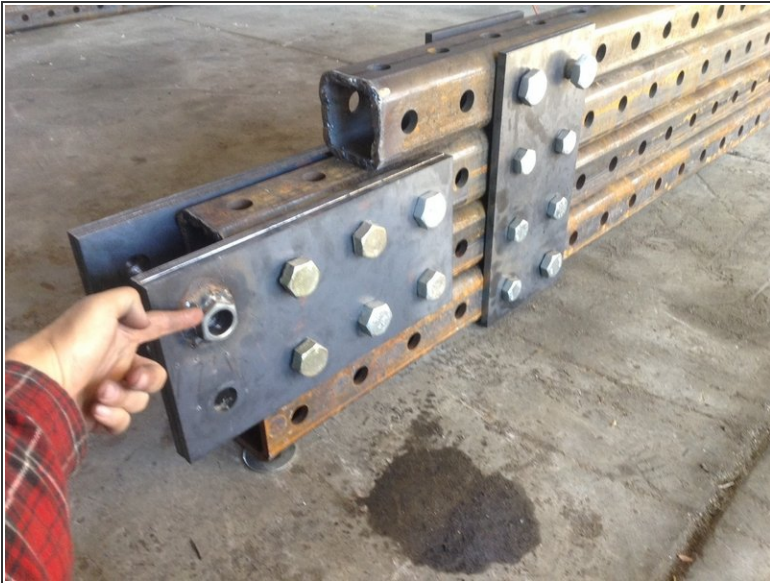
- Parts:
 - 2 2 hole x 4 hole plates
 - 8 7" x 1" bolts
 - 8 1" nuts
- Put the bolts through one plate, through the frame tubes, and through the other plate. Fasten the nuts loosely to finish.
- If you're having trouble getting the bolts through, try putting a couple of washers under the bottom tube to lift it up a little bit.

Step 3



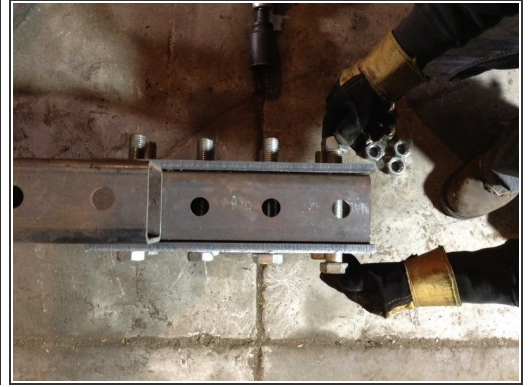
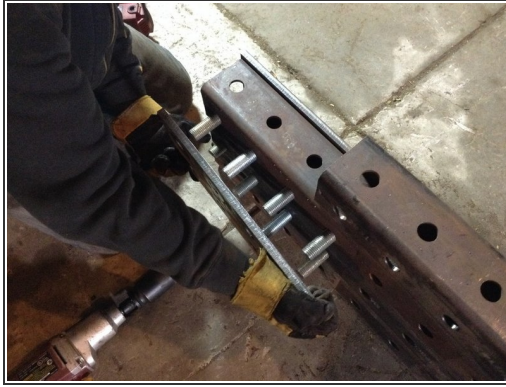
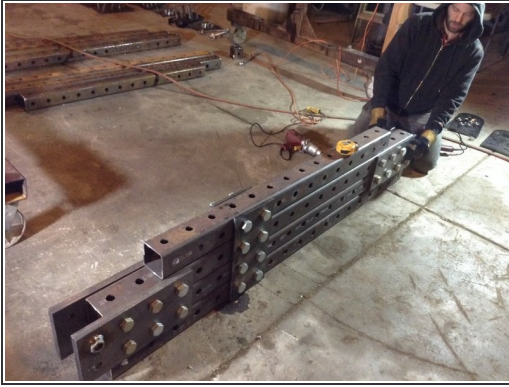
- Parts:
 - 4 2 hole x 4 hole plates
 - 6 8" x 1" bolts
 - 6 1" nuts
- Slide the bolts through two of the plates, the frame tubing, the remaining plates, and fasten the nuts.
- Parts of the plates should stick out past the tubes as shown.
- Leave them a little loose.
- The pictures show a 7th nut welded on. You'll install that later so don't worry about it just yet.

Step 4



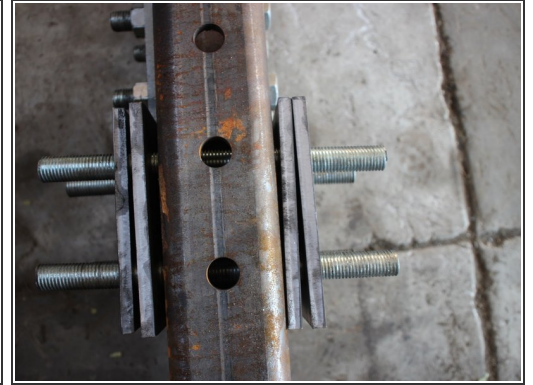
- Weld the drilled out nuts to the plates where shown.

Step 5



- Parts
 - 2 2 hole x 4 hole plate
 - 8 7" x 1" bolts
 - 8 1" nuts
- Put the bolts through one plate, through the second and third frame tubes (from the bottom), add the other plate to the other side and fasten the nuts.
- Leave them a little loose.

Step 6



- Parts:
 - 4 13" x 1" threaded rod (TODO link to guide on cutting threaded rod)
 - 4 2 hole x 4 hole plates
- Put two plates on either sides of the frame tubes and slide the threaded rods through the top four holes so that the rods stick out evenly on each side.

Step 7



- Parts:
 - 2 1" x 8" bolts
 - 2 1" nuts
- Put the bolts through the plates in the 2 holes shown and put on the nuts loosely.

Step 8



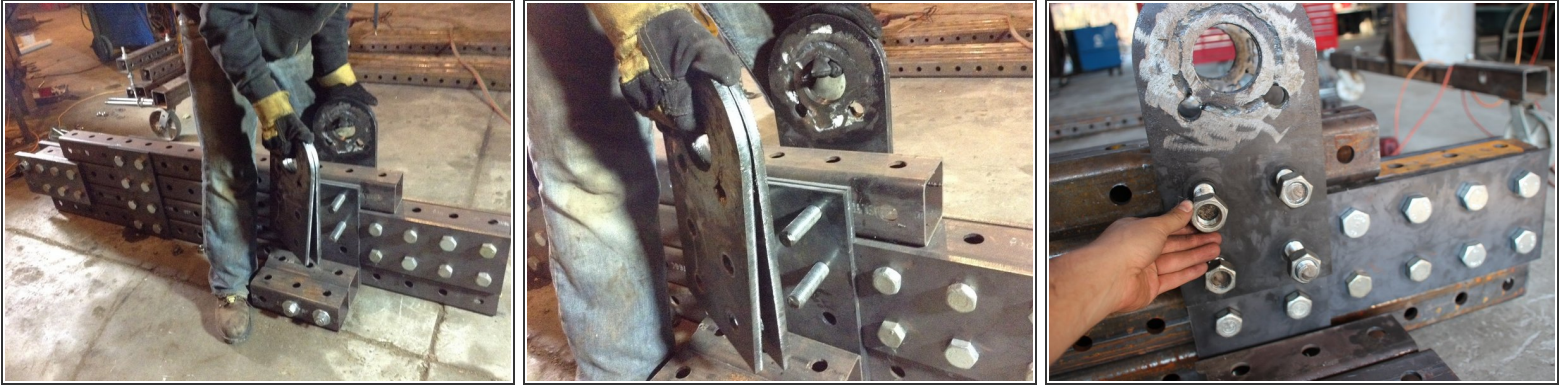
- Parts:
 - 2 26" x 1" threaded rod
- Slide the threaded rod through the bottom holes of the plates and frame leaving half the length sticking out on each side.

Step 9



- Parts:
 - 4 1" nuts
 - 4 1" washers
 - 4 2 hole long 1/4" tube
- Put two tubes (feet) onto the threaded rods on each side of the frame.
- Put a washer and nut loosely on each threaded rod.
- The pictures show feet tubes with three holes, but a two hole long tube will do.

Step 10



- Parts:
 - 8 1" nuts
 - 4 pivot plates (TODO link to guide on making them) (for the ironworker, it's very important that the plates be perfectly flat against each other. If there are any bumps, grind them down.)
- Put two pivot plates on each sides of the frame tubes, over the 4 threaded rods, and fasten them with nuts. Leave the nuts very loose.

Step 11



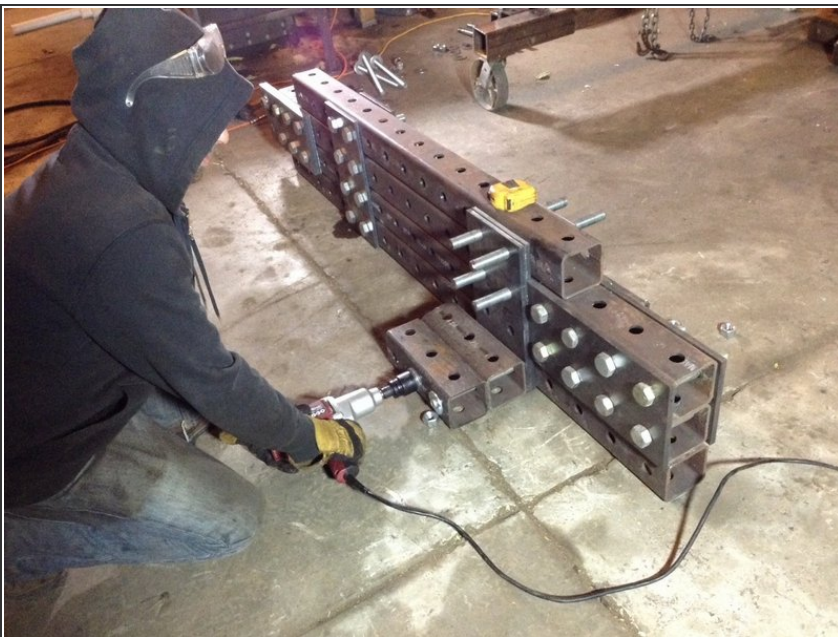
- Cut grease channels in the pivot plates. TODO more details.

Step 12



- Parts:
 - 2 ounces of grease (I made up 2 oz, Marcin should verify)
- Apply grease to both sides of the round parts of the pivot plates on both sides (4 surfaces) and inside the bushing (hole). Squeeze some out using the gun and then smear it around.
- TODO cut grease channels

Step 13



- Tighten all nuts and bolts except for the 4 that go through the pivot plates.
- If you put blocks or spacers under the frame, take it off of them.