

Atlantian Style Trebuchet

By Lord Jonathas Reinisch

These are instructions to build an “Atlantian Style Trebuchet”. “Atlantian Style” in the sense that the Atlantian Army is highly mobile and fast moving, so any siege engines need to be the same if they are to directly support the army.

Included at the end of these instructions is a drawing of the central portion of this trebuchet. It is drawn at half scale, that is ½ inch in the drawing equals 1 inch.

The most important dimension of any trebuchet is the length of the throwing arm and sling. For this design I used an overall arm length of 9 ft. From the center of the Axle to where the pull ropes tied on is 27 inches. From the center of the axle to the point where the sling was tied on is 78 inches, which is 2 inches from the end of the arm. The sling I used had ropes of approx 28 inches after being tied off, and a cloth sling of 19 inches between the rope knots. The loose rope of the sling was tied to a single link of lightweight chain. That link hooks on the finishing nail that is on the end of the throwing arm and is bent slightly to get the proper release. Using the same dimensions in all Atlantian traction trebuchets will help ensure the same range of throw for all of them. This, in turn, will allow the different crews to better calculate their range of attack, especially when working as a unit.

For photos of this engine please visit the Atlantian Siege Guild’s website (siege.atlantia.sca.org) go to the “Engines” page and click on “Tiny”. Please note the axle that holds the throwing arm in these pictures is different than what the directions show. The original axle design caused the throwing arm to break after about five good throws. These directions have the redesigned axle.

Supplies needed:

- 7’ - 1” x 3” Red Oak
- 3 - 1 ½” U Bolts
- 8 - Hex Head Lag bolts (approx 2~2 ½” long)
- 9’ - 2” Dia. Closet Pole
- 9’ - 1 ½” Dia. Closet Pole
- 1 - Large Quick Release Pin (to be used to hold the 2” Dia. Pole in place)
- 1 - Bottle of wood glue
- 1 - 25’ bundle of 3/8” nylon rope
- 1 - 2” finishing nail
- 1 - piece of heavy fabric about 2’ x 1’ (to make sling)
- 1 - 6” piece of ½” hardwood dowel (optional, but helpful)
- 1 - 12” x 4” piece leather (optional, but helpful)

Tools needed:

- 1 ½” Dia. Hole Saw
- 2” Dia. Hole Saw
- Miter Saw
- Clamps
- Carpenters Square

Cutting the Wood

Carefully Measure then Cut (how they are marked on the drawing)

- 2 - 16" pieces (A)
- 2 - 6" pieces (B)
- 1 - 6" pieces (C)
- 1 - 8" piece (D)
- 1 - 12" piece (E)
- 2 - 2 ½" pieces (F)

After cutting the wood sand all the edges and corners so that they are not as sharp.

Drilling the Holes

- In 2 of the 6" pieces use the 2" Dia. hole saw to cut a hole in the center of the piece. These will become the pieces marked as (B) on the drawing.
- In the 2, 16" pieces use the 1 ½" Dia. hole saw to cut a hole, centered across the 3" dimension, but 13 ½" inches from one end in the other dimension. Be sure the two pieces are the same as these holes will be where the axle rests and will greatly affect the throwing arm.
- I would also highly recommend drilling pilot holes for the lag bolts. These should be drilled about ½" inch in from the edge

Base Assembly

- Take one of the 6" pieces with the 2" Dia. hole in it (B), and the 6" piece without a hole (C). Glue these two pieces together (carefully align the edges) then clamp and let dry.
- After the glue is dry, use the two 16" pieces (A), line up and drill the pilot holes for the lag bolts into the cross members, piece (BC) and (B).
- When doing final assembly of the Base DO NOT glue the cross members in place, just use the lag bolts.

Axle Assembly

- Take the 8" piece (D) and the 12" piece (E). Glue (D) and (E) centered across each other at right angles and clamp tightly.
- Take the two 2 ½" pieces (F) and glue them on top of (D) to either side of (E) and clamp.
- When the glue is dry, using the 1 ½" hole saw cut a circle into each end of this assembled piece. Be VERY CAREFUL when lining this up and cutting it, any small mistake will be magnified down the length of the throwing arm. Cut the holes to a depth of slightly more than 1".
- Using a hand saw carefully cut away the excess wood outside the circle that was just cut. Then shoulder that is created should be approximately 1/8" less than 6" from one to the other, with 1" of circular wood beyond it.
- Measure the width of the U bolts you purchased, both between the two ends and the diameter of the ends themselves, and drill three sets of holes. One set right in the center of the axle, and one set approximately 1" in from each end.

Pole Prep

- For the Throwing Arm I drilled a hole 2" in from each end across the arm and glued a piece of ½" Dowel in place that stuck out ½" on either side of the pole. This gave me a place to tie the sling ropes, and the pull ropes that would not slide. Then hammered a 2" finishing nail into the end, leaving about ½ " exposed to hold the loose end of the sling.
- For the Support Pole, I drilled a hole through the pole so that the hole would be just above the lower cross member, the pin goes through this to keep the pole in place.

Final Assembly

- Wrap the piece of leather around the throwing arm where it is to be bolted to the axle.
- Use the 3 U Bolts and bolt the throwing arm onto the axle.
- Use 4 of the lag bolts to bolt the 2 cross members onto one of the 16" pieces (A).
- Put one end of the axle into the hole of the 16" piece with the two cross members bolted onto it. Place the second 16" piece on top, make sure the axle is in its hole, and bolt into places using the other 4 lag bolts.
- Make the sling by tying a rope to either end of the piece of fabric (I punched holes in it then used large grommets). Tie one end onto the throwing arm so that there is about 28" between the arm and the sling. Tie the other end to a single link of chain so that there is about 28" of rope between the sling and the chain.
- Make a loop one end of another piece of rope. Loop it around the support pole below the base, then tie the other end to the pulling arm. Adjust it so that when the arm is at rest the sling is hanging just above the ground.
- Tie two more pieces of rope to the pulling arm and leave the other end loose.

Adjusting

- Adjust the rope between the piece of chain and the sling so that the sling hangs properly.
- Start shooting – the nail that the chain piece is hanging from will probably need adjusted (bent) to throw the rock properly. To bent and the rock will shoot straight into the ground in front of the trebuchet. To straight and it will go straight up and hit you on the head. (for Tiny, when the arm is at rest then nail is bent so it is basically parallel to the ground)

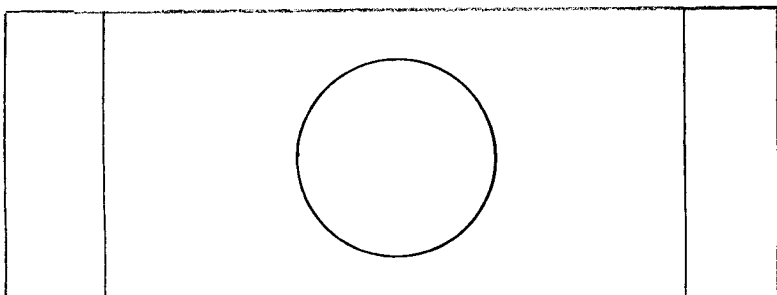
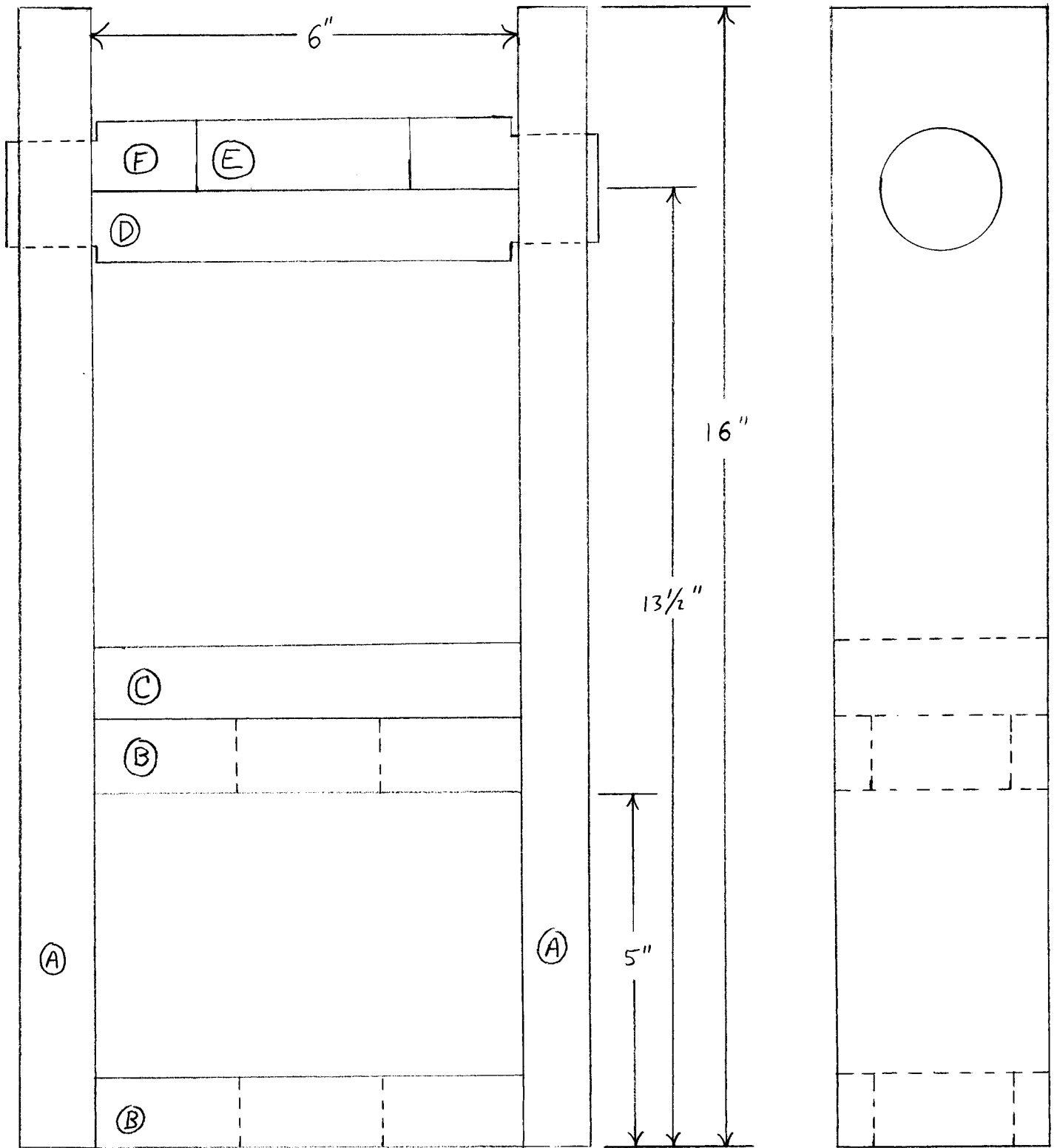
Ammo

- I have mostly played with the 4 tennis ball clusters. Pop 4 Tennis Balls then thoroughly duct tape together.
- I have tried a "Large Rock" but it seriously decreased the range, and a single Tennis Ball is only a sling stone the same as an arrow, so not worth throwing.

You now have a new Atlantian Trebuchet to help support the Atlantian Army with, or to throw water balloons at the neighbors BBQ party with! Don't forget to paint the whole thing, and even more important give it a good and terrifying name like "Tiny"!!

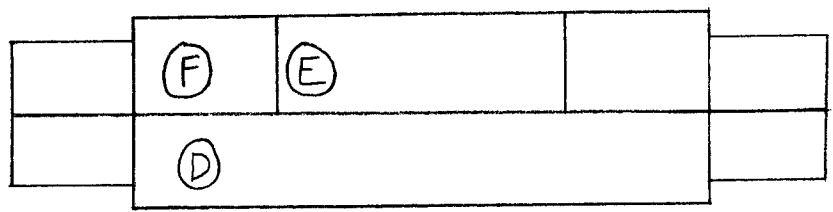
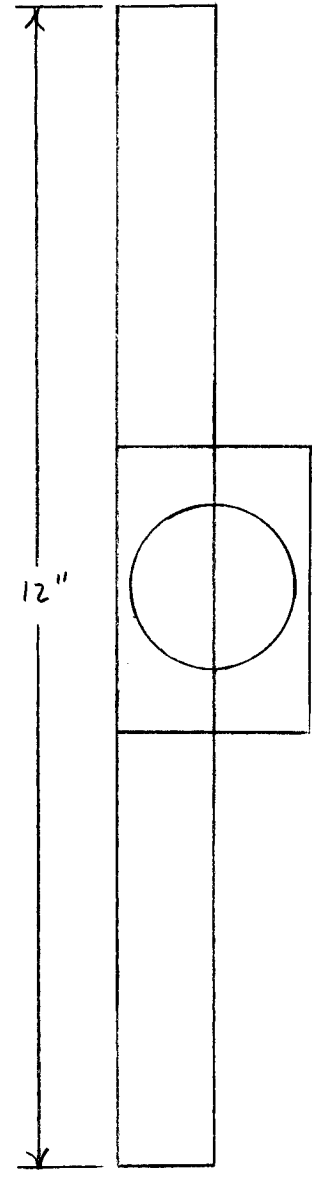
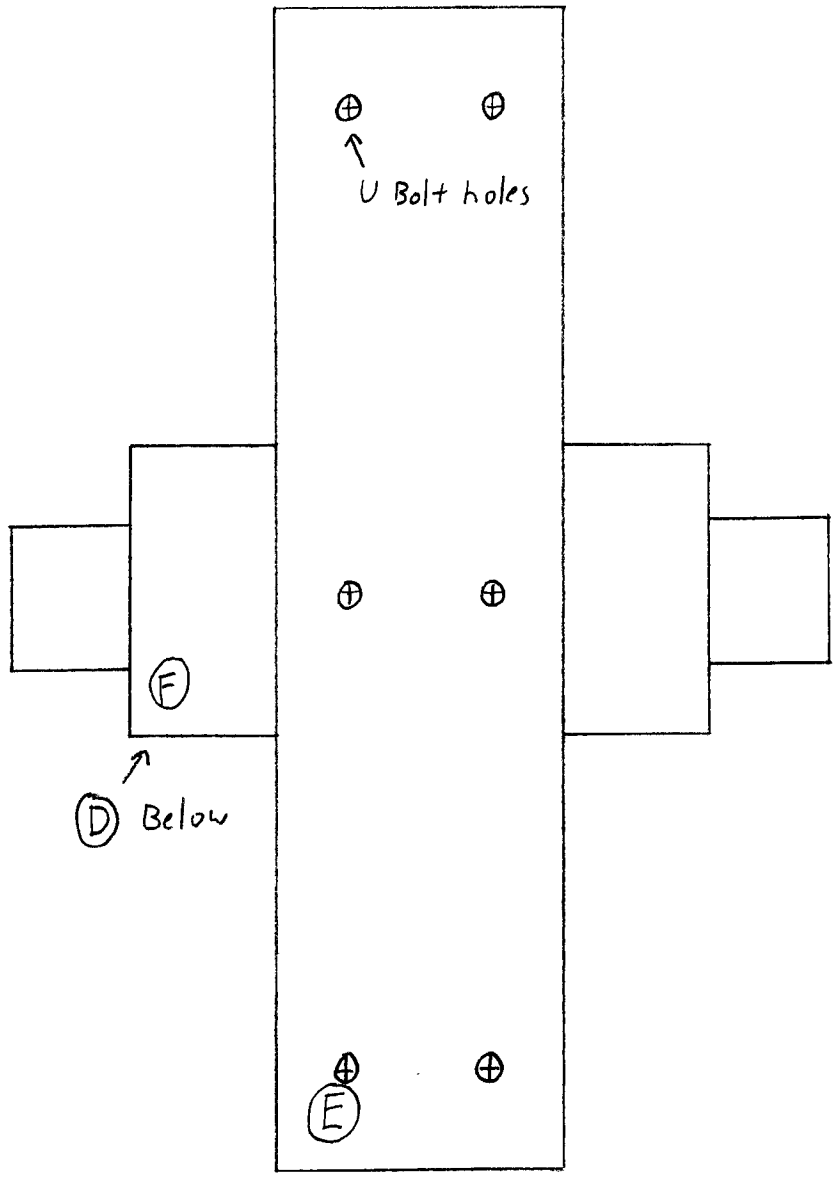
Enjoy Sieging the Day!

Lord Jonathas Reinisch (please e-mail with any questions or comments James@Kriebel.cc)



Atlantian Style Trebuchet
 By Lord Jonathas Reinisch
 All wood is 1"x3" Red Oak

Scale 1 inch



Atlantian Style
 Trebuchet
 Throwing Arm Axle

Scale 1 inch