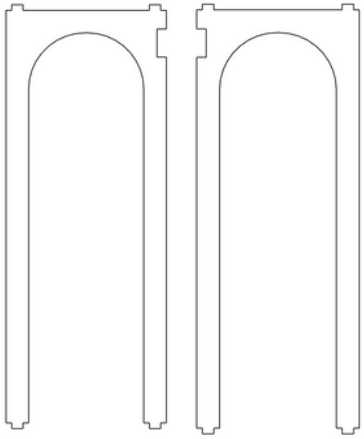
Mine Shaft

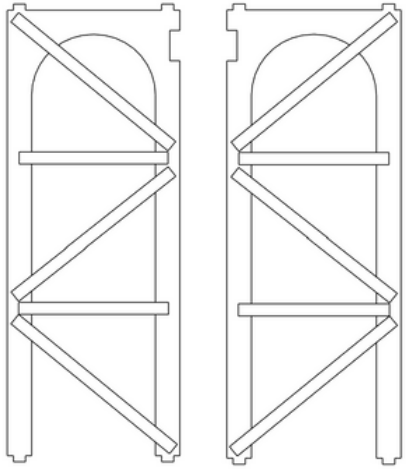
Follow each step in sequence and glue the pieces together as indicated in the images.

1



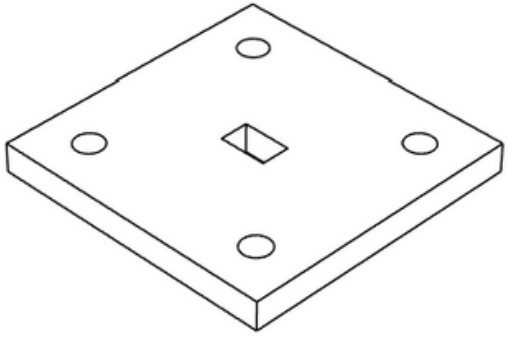
Start with the parts above, take note of the orientation.

2



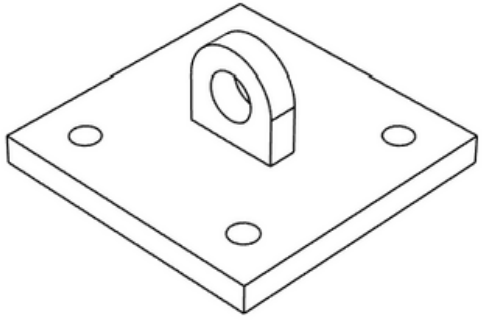
Cut 6 stirrers of 10cm to form the diagonals, and you should be left with pieces of 7.5cm each, for the horizontal beams. Glue them as in the image above, and set aside to dry properly.

3



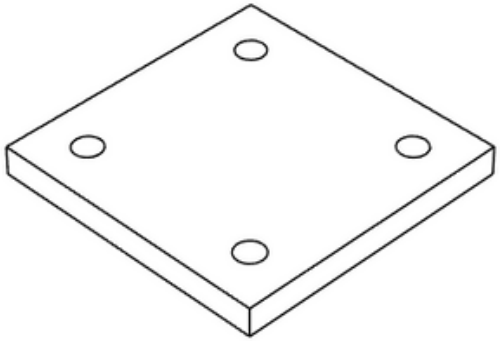
Take the part in the image above, this is the top of the Mine Shaft chamber that will be lifted up and down the shaft.

4



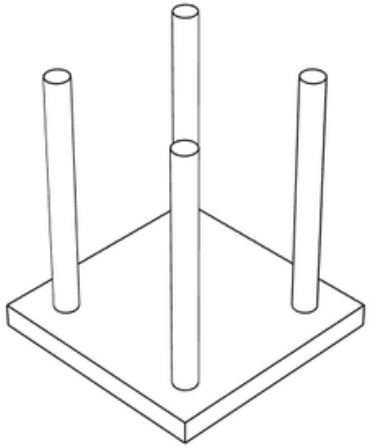
Glue the string anchor into place, as in the image above.

5



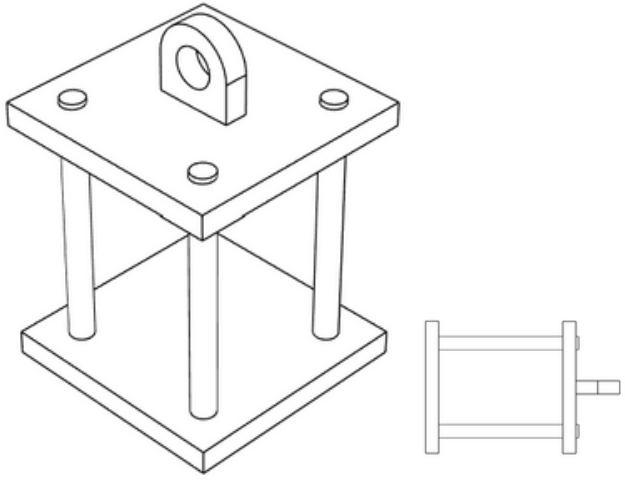
While the top dries a bit, take the bottom square.

6



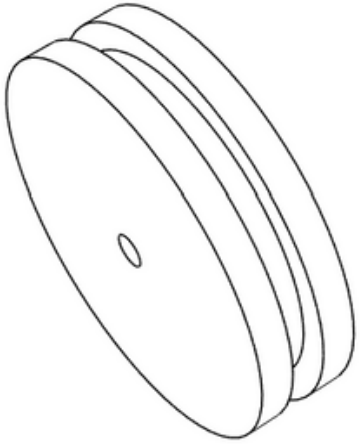
Cut 4 pieces of skewer, of 3.5cm each. Glue one in each hole of the base.

7



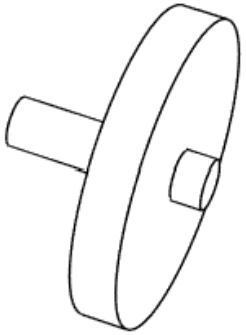
Put some glue around the top of each skewer and slot the top piece on top. Turn the whole thing sideways while it dries, so that the top does not slide down the skewers.

8



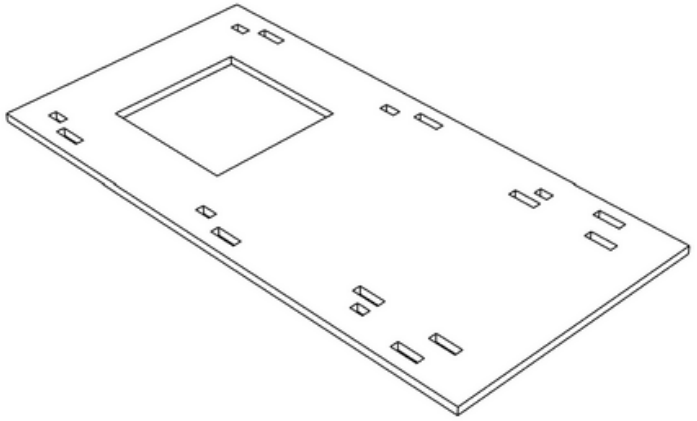
Take 2 large circles and 1 medium circle, and glue the medium one in between the 2 large circles. Take a leftover piece of skewer and stick it through all 3 circles to make sure they are aligned, and use the skewer to remove the excess glue from the inside. Remove the skewer and set aside to dry.

9



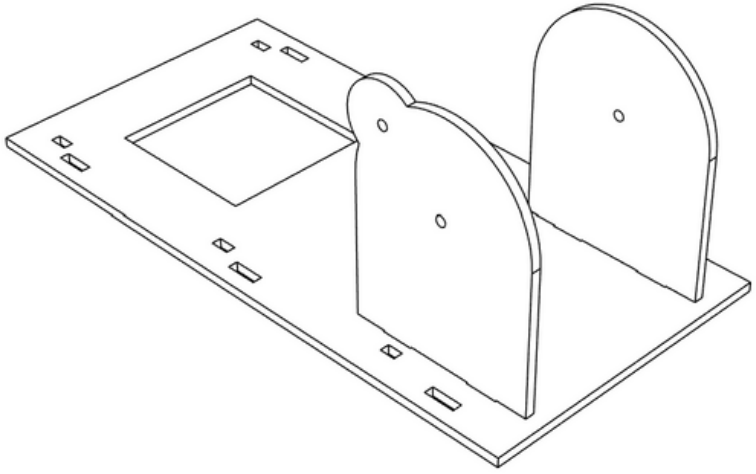
Cut a small piece of skewer, about 1.5cm long, and glue it into a small circle, leaving a little bit sticking out the one end, as in the image above. Set aside to dry.

10



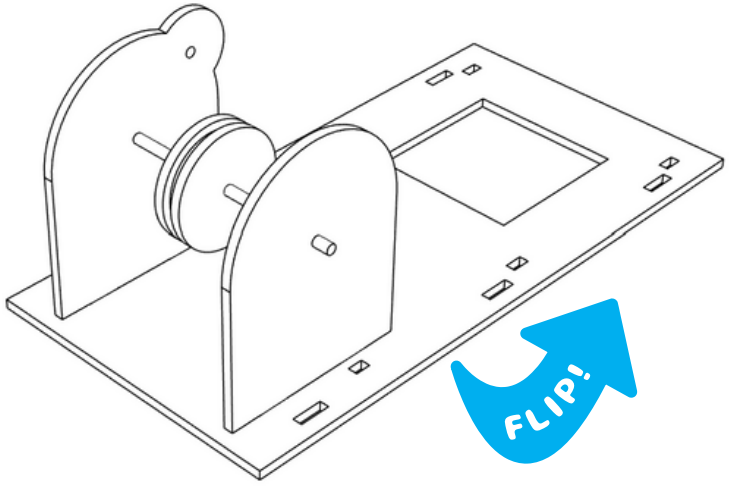
Take the base piece in the image above.

11



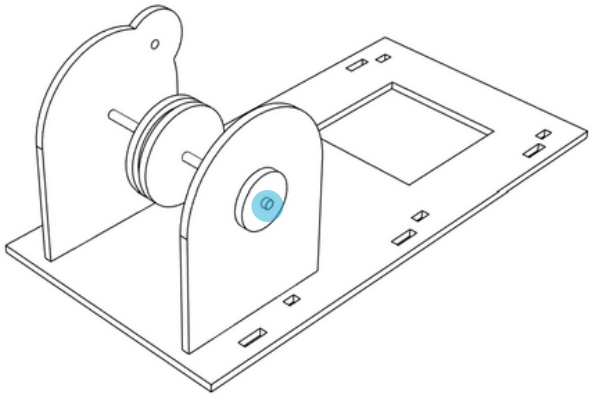
Glue the above pieces into place, take note that the piece with the extra hole is in the front, as in the image above.

12



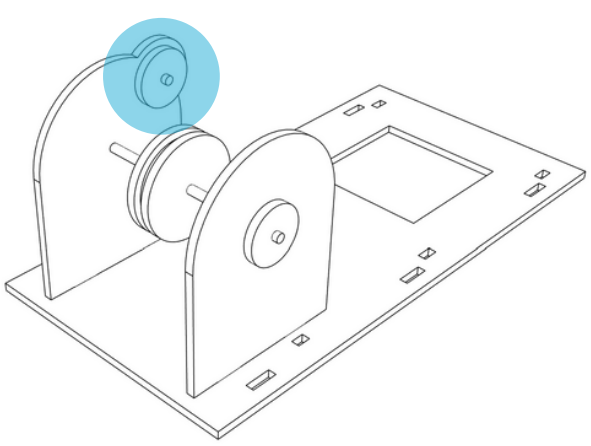
Cut a piece of skewer to 10cm. Thread it through the pulley we made in Step 8, and the 2 pieces we just glued into place. The longer part of the skewer must stick out on the side with the extra hole, and only about 0.5cm should stick out on the other side, as in the image above.

13



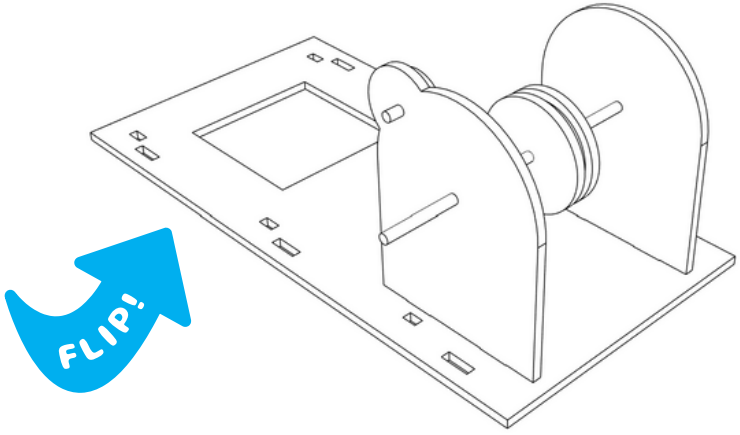
Take a small circle, and glue it on the side with the smaller piece of skewer sticking out.

14



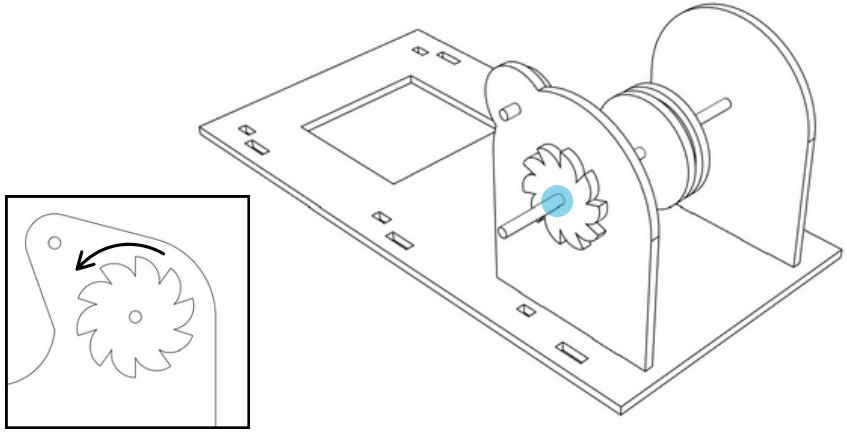
Now take the other small circle with the skewer that we glued in Step 9, and insert it into the other hole, from the back, like in the image above.

15



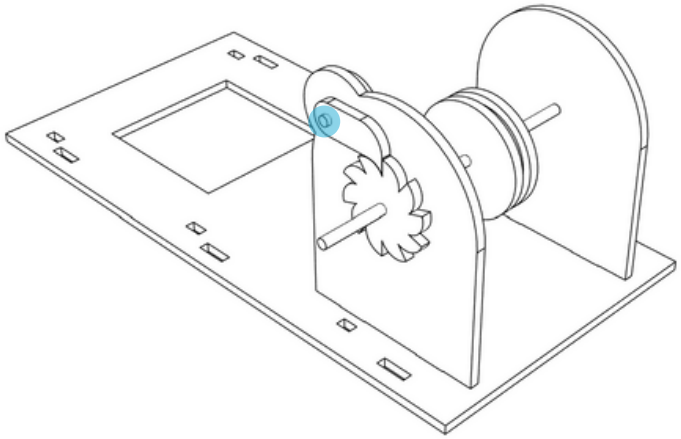
Turn the base back around so that the side with the 2 holes is facing you.

16



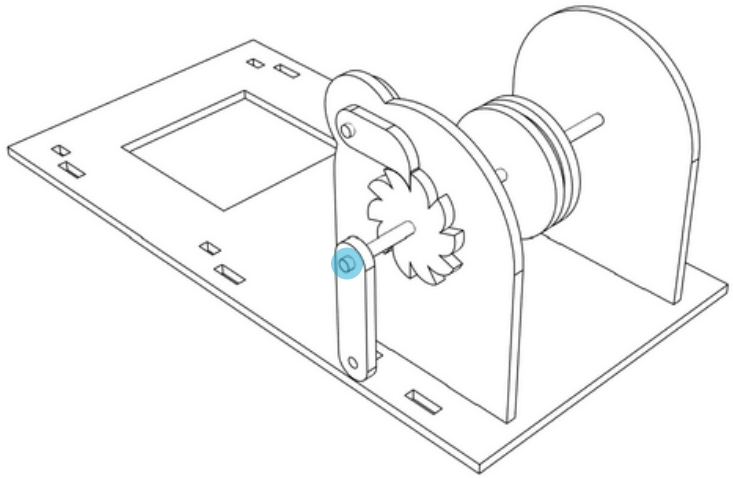
Take your ratchet gear, and slot it onto the long skewer **(the teeth must curve in an anticlockwise direction, as in the image above)**. Glue around the outside of the ratchet to secure it to the skewer, make sure not to get glue on the pulley stand or the wheel won't turn.

17



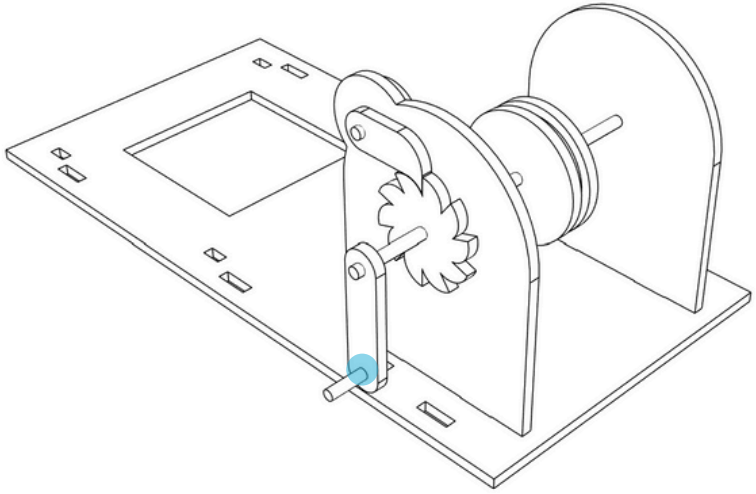
Take your pawl piece and slot it onto the front end of the skewer. Glue around the end of the skewer to secure it to the pawl, make sure not to get glue on the pulley stand or the wheel won't turn.

18



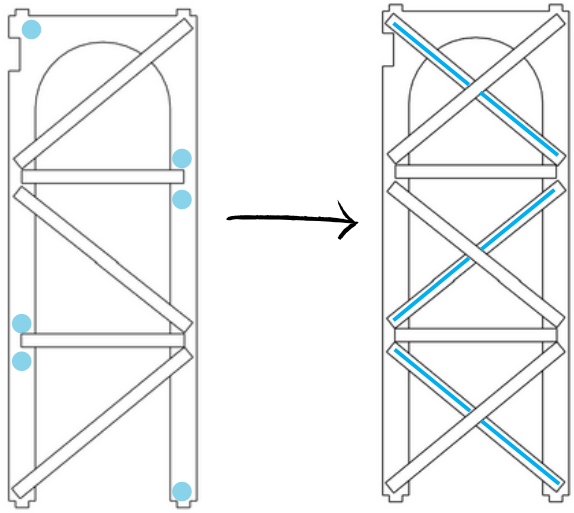
Take your handle arm and slot it onto the long end of the skewer coming through the middle of the ratchet. Glue around the end of the skewer to secure it to the handle.

19



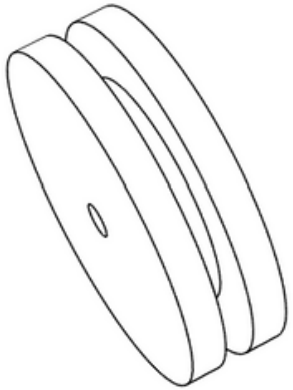
Cut another 1.5cm long piece of skewer, and glue it into the bottom hole of the handle arm. **You can now also glue your pulley wheel to the center of the skewer to secure it.** Leave the whole pulley system to dry properly.

20



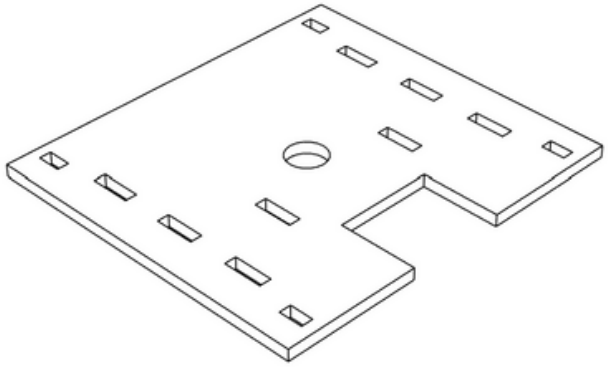
While that dries, cut another 6 stirrers of 10cm to form the remaining diagonals. To complete the strut structure, put a small blob of glue in the remaining corners (see the blue dots). Then slide each piece of skewer behind the existing skewer, and glue it into place. Sliding it behind keeps it in place as it dries, instead of popping off.

21



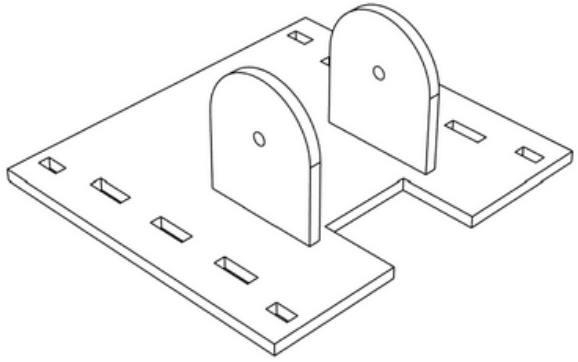
To make the second pulley wheel, take 2 medium circles and 1 small circle, and glue the small one in between the 2 medium circles. Take a leftover piece of skewer and stick it through all 3 circles to make sure they are aligned, and use the skewer to remove the excess glue from the inside. Remove the skewer and set aside to dry.

22



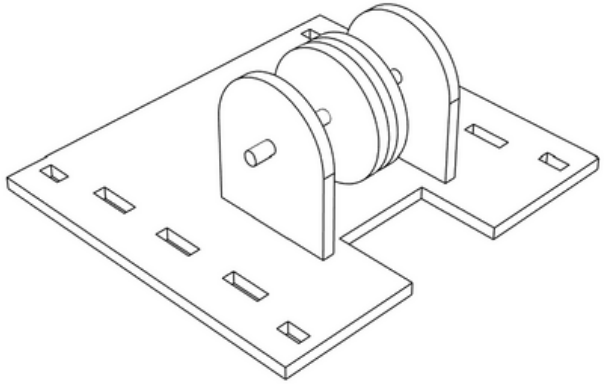
We will now start on the top of the mine shaft. Start with the base piece as in the image above.

23



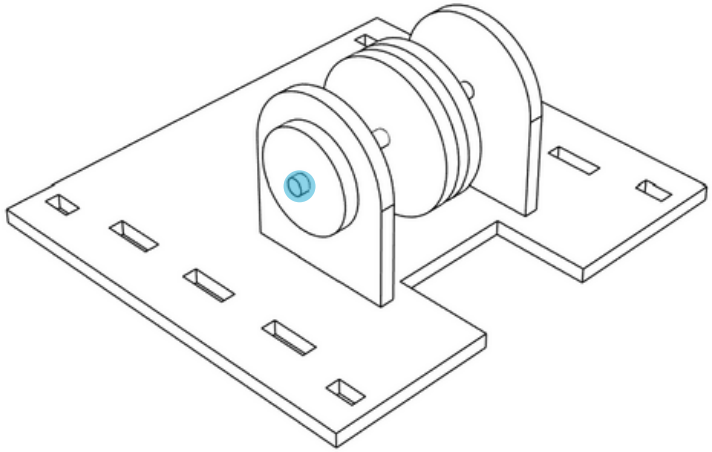
Glue in the 2 pulley-stands, as in the image above.

24



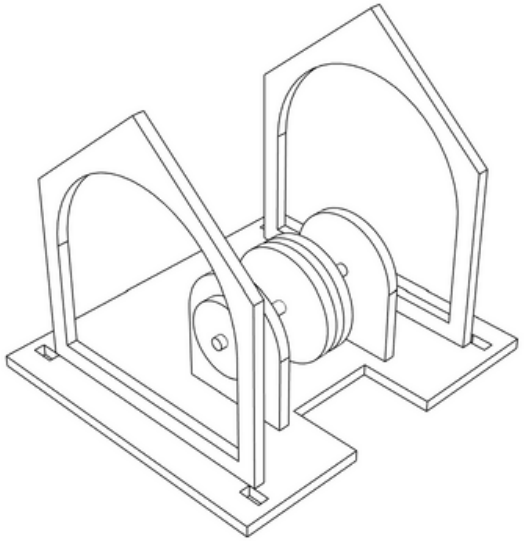
Cut a 5.5cm long piece of skewer, and slot it through the pulley stands and the pulley wheel we made in Step 21. **Do not glue the wheel in place yet.**

25



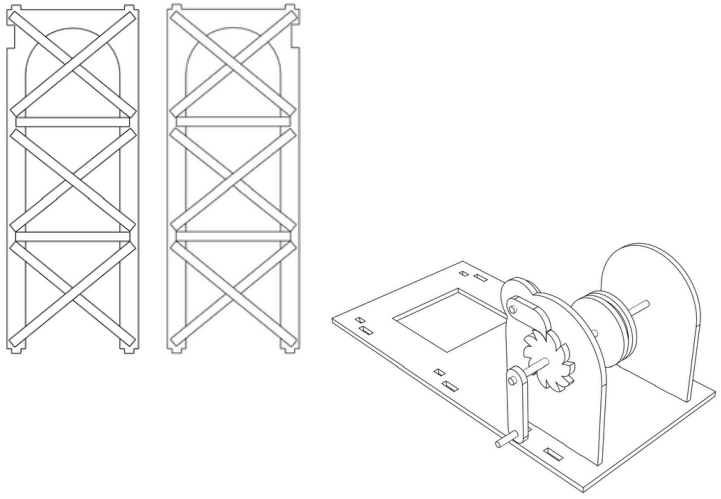
Take the last 2 small circles, and glue them onto each end of the skewer. Glue around the end of the skewer to secure it to the small circle, make sure not to get glue on the pulley stand or the wheel won't turn. You can now glue the pulley to the center of the skewer.

26



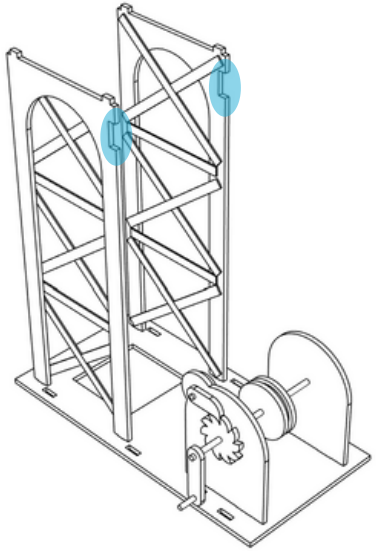
Take the 2 house-shaped pieces, and glue them into the base as in the image above. Set aside to dry.

27



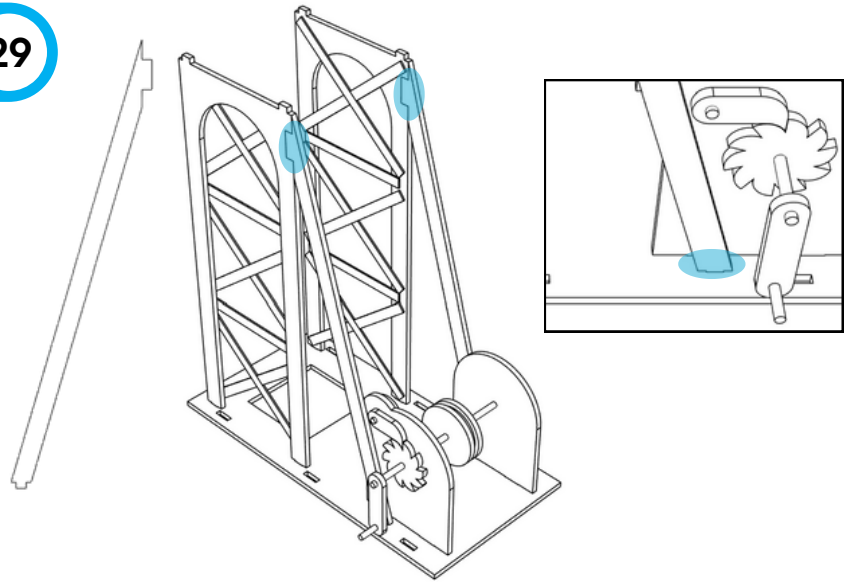
Now we will start putting everything together...
Take your (now dry) shaft sides, and the base we completed in Step 19.

28



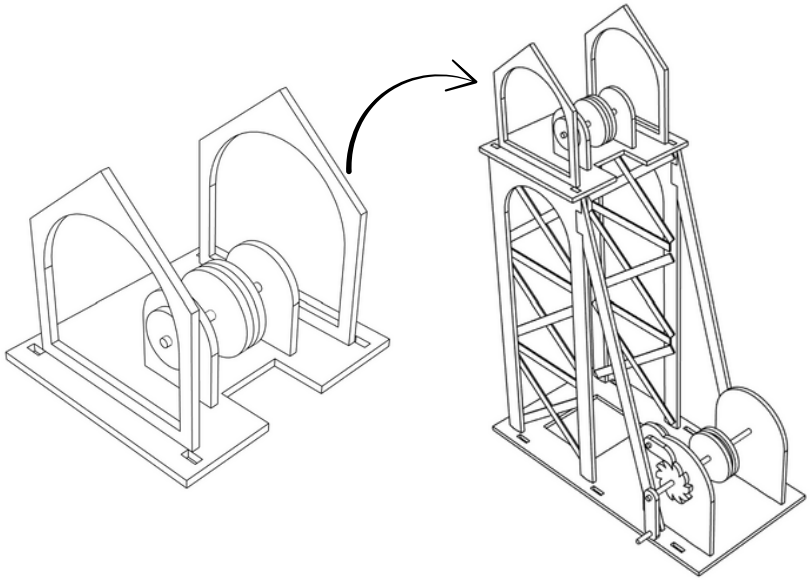
Glue the shaft sides into the base piece, as in the image above. Make sure the slot at the top of each piece aligns with the other piece, and that both are pointing towards the right.

29



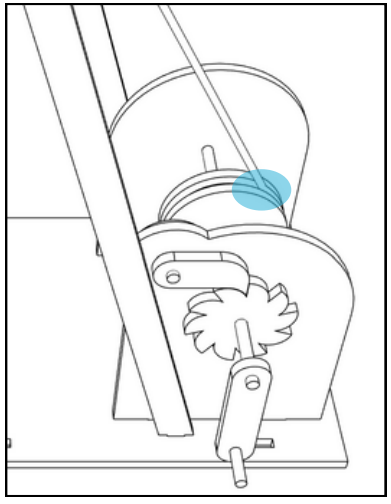
To make the structure even stronger, glue the 2 diagonal supports into place on each side of of the model, connecting the base to the shaft.

30



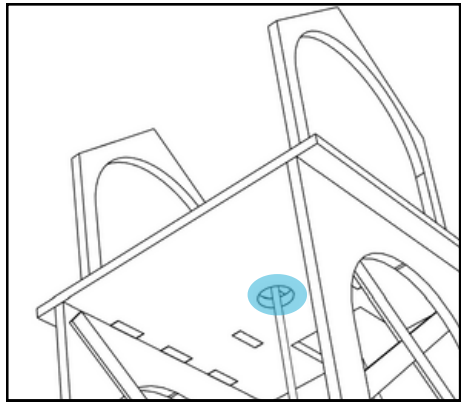
Glue the top pulley housing on top of the shaft, slotting it into place.

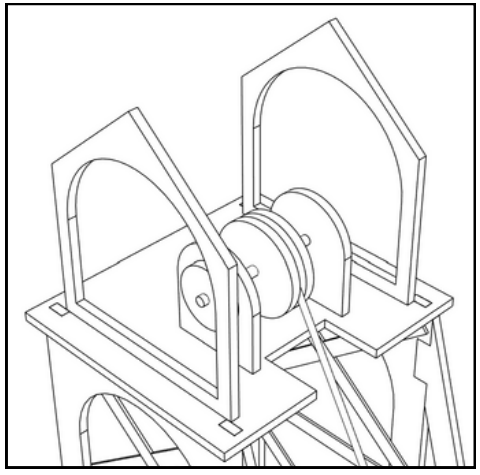
31



Cut a 90cm piece of string. take one end and glue it into the bottom pulley, as in the image above.

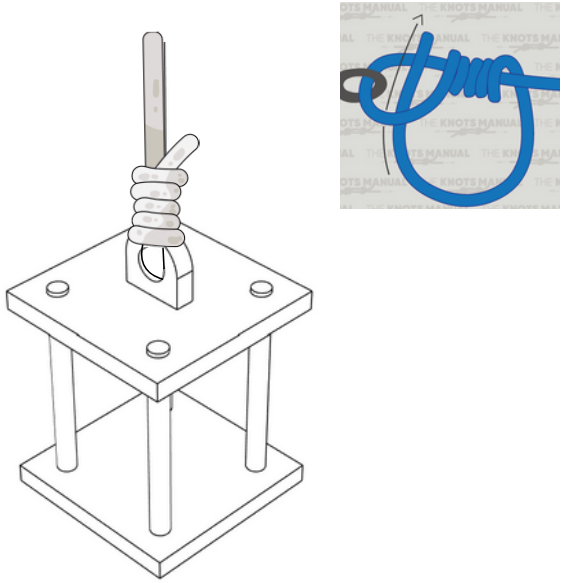
32





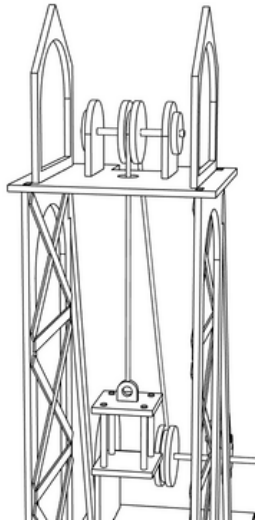
Take the other end of the string and thread it over the top pulley, and down through the hole into the shaft, as in the image above.

33



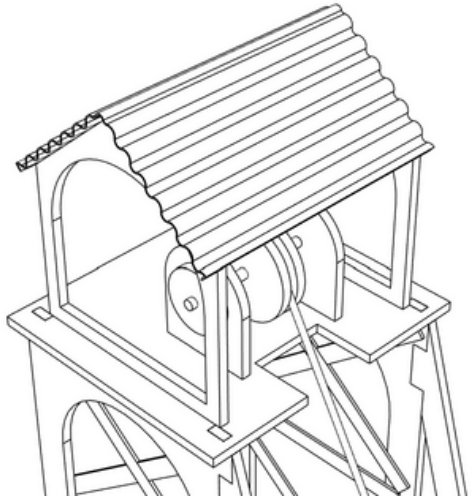
Now tie this end of the string in a knot through the string anchor of the Mine Shaft chamber, using the diagram as a guide.

34



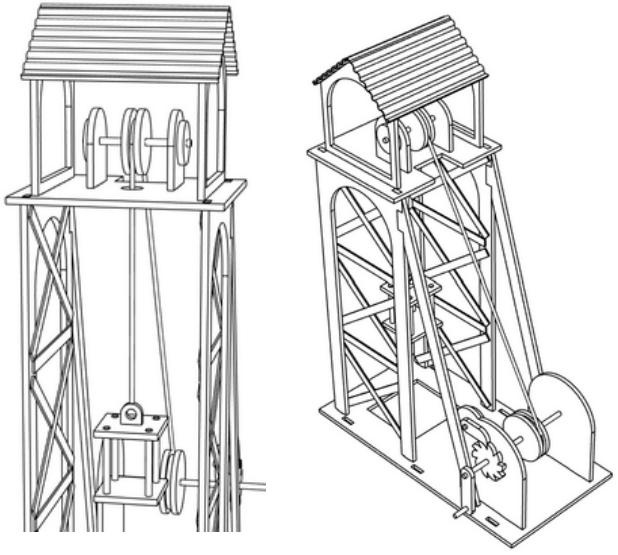
Make sure the string is properly glued onto the pulley from Step 31, and has dried, before continuing with this step. Using the handle attached to the base pulley, reel the string onto the pulley until the chamber hangs suspended in the shaft.

35



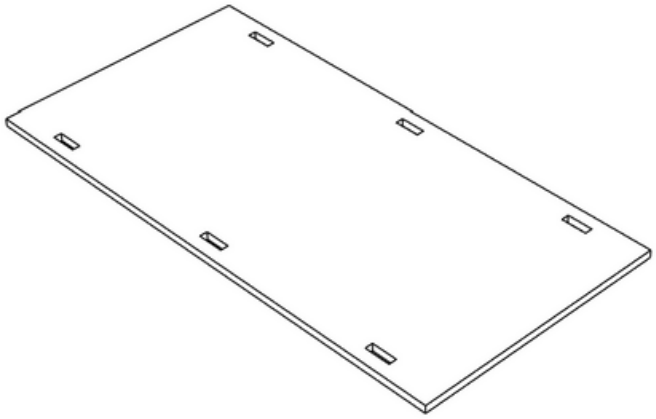
Take the piece of corrugated cardboard, and fold it down the middle, along the corrugations. Glue it onto the top of the shaft to create the roof.

36



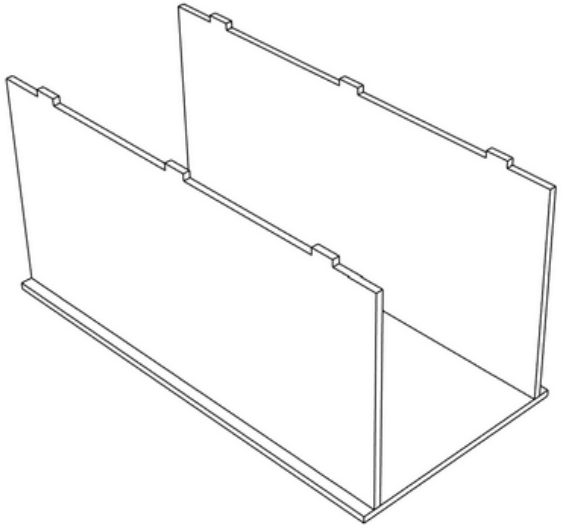
Your model should now look like this.

37



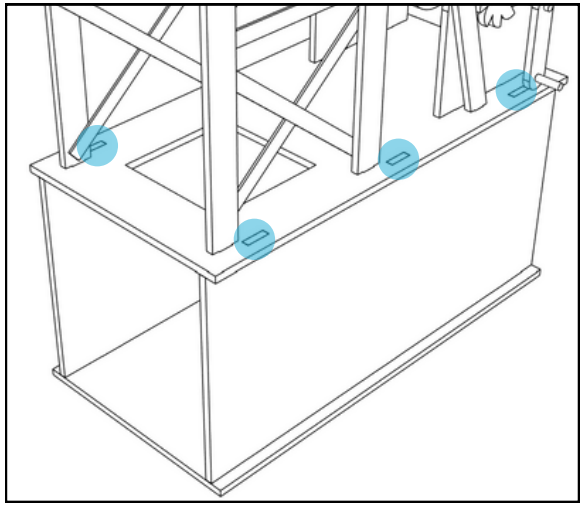
The last part of the model is the mine-shaft base. Start with the large rectangular piece with slots cut out of it.

38



Glue the 2 side-panels into place. Then put glue along the top edges of both panels (not on the tabs).

39



Take your entire model, and align the tabs of the bottom side panels with the slots in the base of your existing model. Glue into place and allow to dry before using.

40