As far as the standing gardener is concerned, the main priority was to attach the legs to both stainless steel plates. The top plate was attached prior to spring break, so this week was dedicated to attaching the bottom plate. This task proved to be much more difficult than attaching the top plate was. Due to the fact that the bottom feet of the supportive legs were still warped, the points of contact between the feet and the bottom plate made the legs bend. Clearly this was not acceptable since it would prevent the standing gardener from telescoping properly; an imperative feature of the design. For this reason, each leg had to be manually leveled despite the initial points of contact. When a leg was level, a clamp was used to secure the foot in the required position. After a long time full of aggravation, the feet were finally secured in position in which the legs were straight as was indicated by a level. After a visual inspection was conducted to ensure that the legs appeared to be straight visually as well, the positions of the holes were marked. Correspondingly, the legs’ feet were then unattached from the steel plate and the required holes were made. Wherever possible the hydraulic punch was used to achieve this purpose. However, due to the size of the bottom stainless steel plate, some holes were inaccessible to the hydraulic punch. For this reason, we moved the plate to a drill press and drilled most of the remaining holes. As before, due to the size of the plate, two holes were still inaccessible and needed to be manually drilled.

After this process was completed, the top-plate with the legs attached was flipped upside down to make it easier to secure the bottom plate to the bottom feet. As in the case of the top plate, temporary bolts were obtained, and the bottom plate was secured to the feet using a large amount of torque. The reason for this was to further straighten out the feet of the supportive legs
so that they would make perfect contact with the plate. This step will make future disassembly as well as assembly much easier than it would have been otherwise. The structure, with the bottom plate and top plate attached to the legs can be seen in Figure 1.

![Figure 1](image)

**Figure 1** – Standing gardener with top and bottom plates attached to the supportive legs.

A major concern at this point was whether or not we leveled the legs correctly. If not, then telescoping would not be possible. Our fears ended when the device telescoped effectively giving the ability to support someone of moderate height. Figure 2 shows how the standing gardener can effectively accommodate someone of my height (6’0”).
The next step was to attach the castors underneath the bottom plate to allow the device to be moved easily without being lifted. We decided to place the castors in a position where they would be supported by both the bottom steel plate as well as the feet from the supportive legs. This was done to ensure that when a load is applied from the top the castors will not cause the bottom plate to bend beyond what it is capable of supporting. To accomplish this, we once again flipped the structure over so that the bottom of the steel plate was facing the ceiling. We measured where we wanted the castors to attach and made marks in those locations. Since there were no machines that would be able to support the structure, the eight holes needed to be drilled by hand. This was a challenging task as a result of the toughness of stainless steel, and the possibility of cold working the steel if not done properly making the steel even tougher. In the process of drilling eight holes through both the bottom plate and the feet, one drilling bit was ruined. Nevertheless, eventually all eight holes were drilled.
We then began attaching the castors, and realized that we only had six castors and a total of eight drilled holes. For some reason we ordered 2 castors less than we require and will need to order them in the near future. The remaining 6 castors were attached, and have the ability to support a large amount of weight. Figure 3 shows the castors attached to the standing gardener while I stand on top of it.

![Figure 3 – Castors attached to the bottom stainless steel plate.](image)

As can be seen from this figure, neither the castors nor the steel plate has any difficult supporting my weight. As a final test, I leaned as far towards the front of the standing gardener as possible to ensure it would not tip; which it did not. Finally, I leaned as far back as I could while holding on to the top plate to once again ensure the standing gardener would not tip, and once again it did not. From these tests we can safely conclude that the standing gardener can easily accommodate some who weighs approximately 200 pounds.
In addition, some prototypes of pads were also constructed. Pad assembly, as well as the workspace assembly, is the main task that needs to be completed in the future. Getting the standing gardener to the condition depicted in figure 1-3 was the focus of my work this week. I spent a total of roughly 8 hours while working on the standing gardener. Furthermore, I spent an additional 10 hours looking for the best material to use for the top of the workspace, and obtaining price quotes on numerous materials.