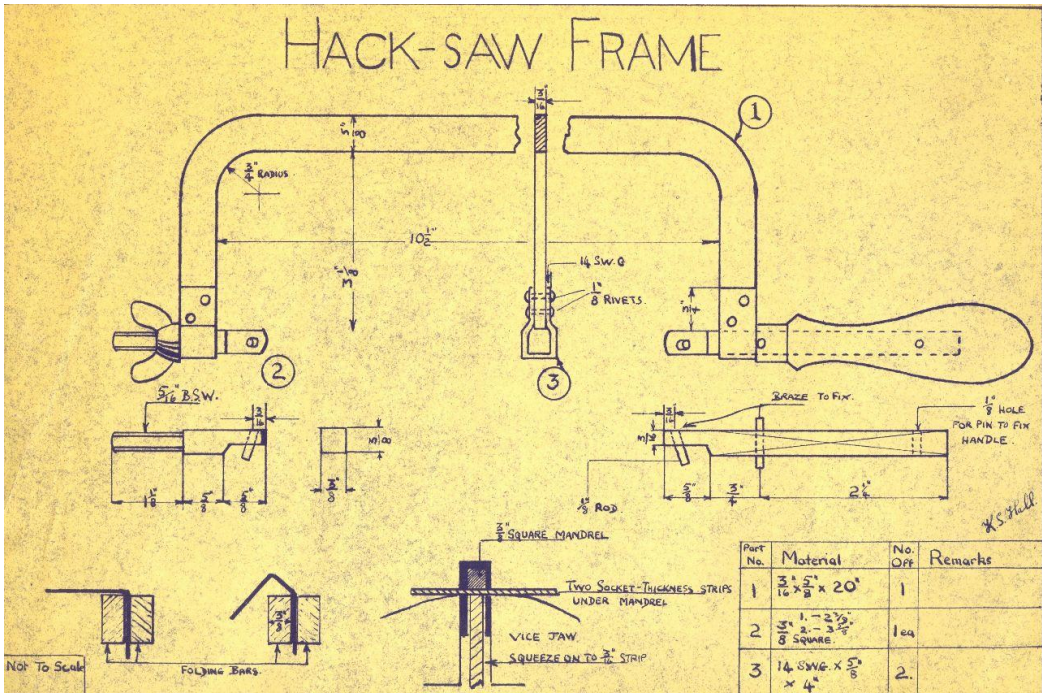
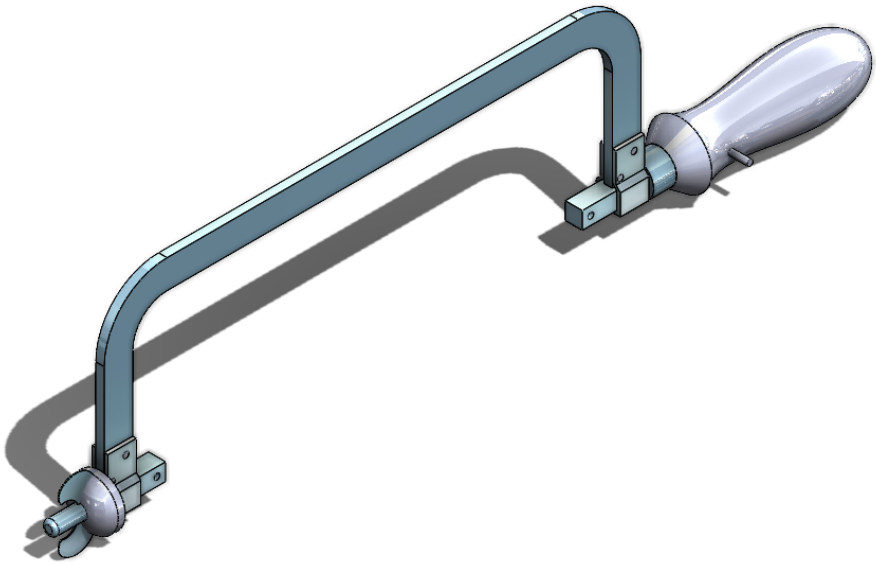
Patel Uzair Ruhulamin (B21ES020)

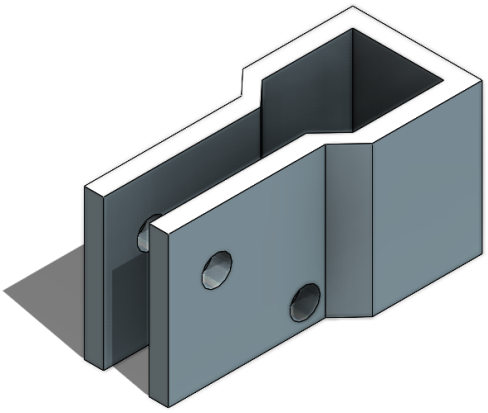
Hack-Saw Frame

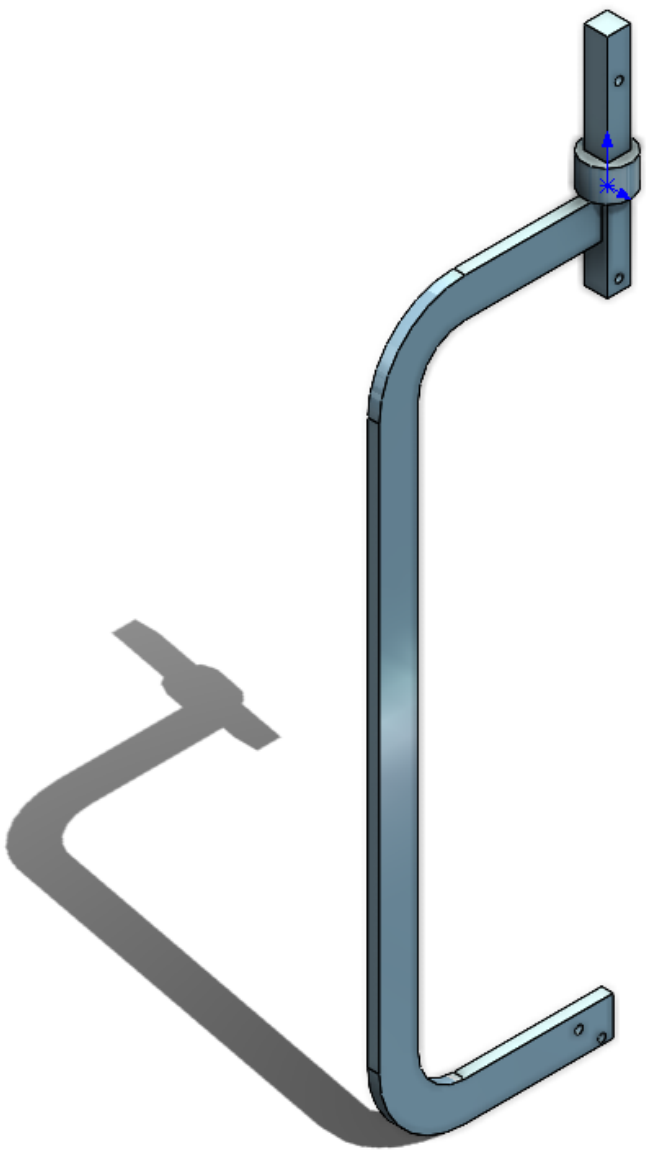


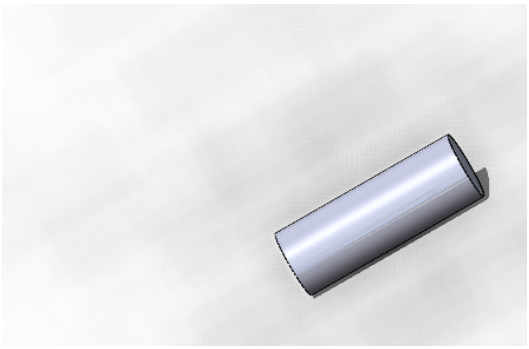
The Final Model:

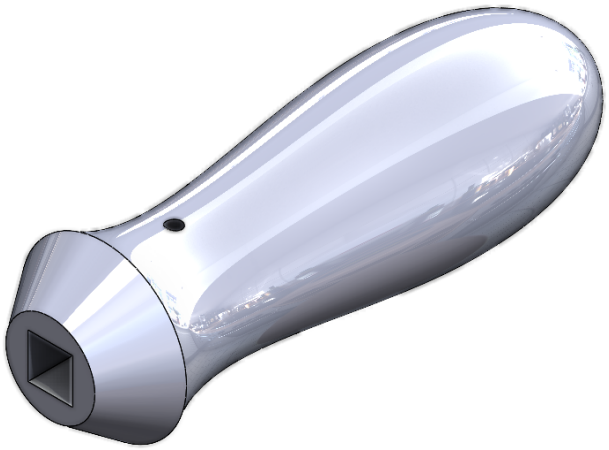


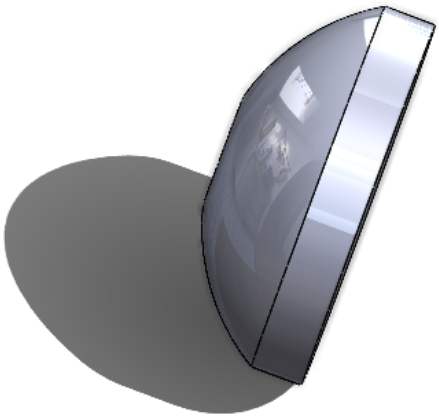
Components:

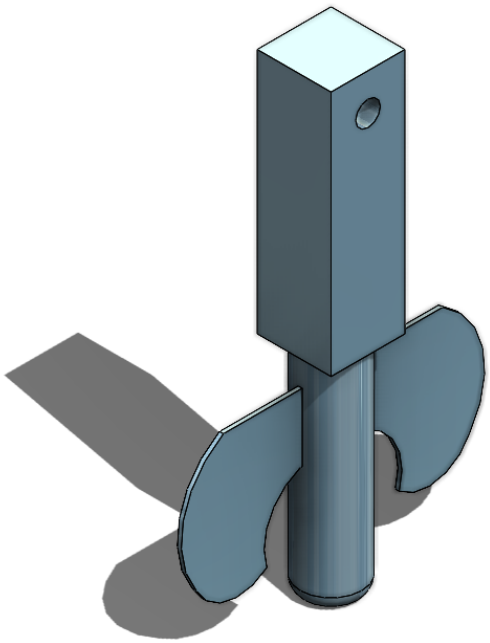






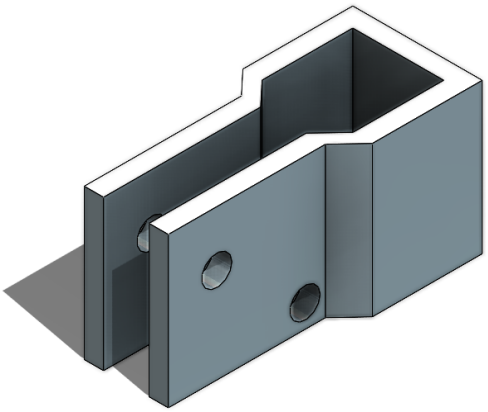






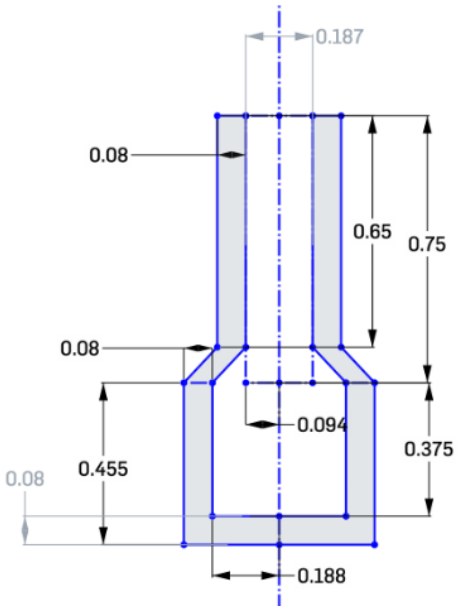
Steps For Construction:

Steps to make Brackets:



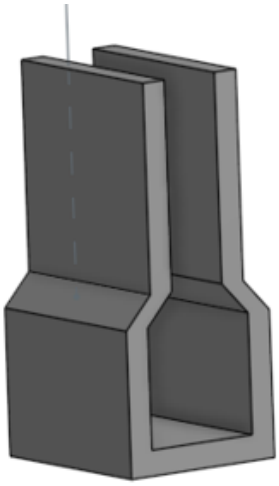
1.

Draw the sketch of the part on an offset plane at a distance of 11.75 in from the front plane.

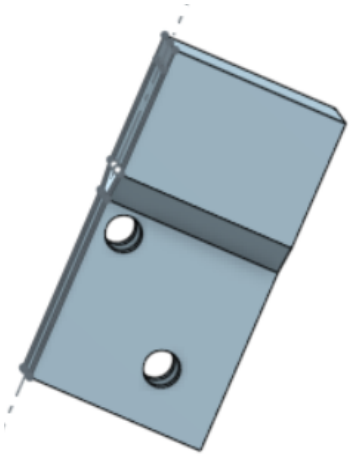


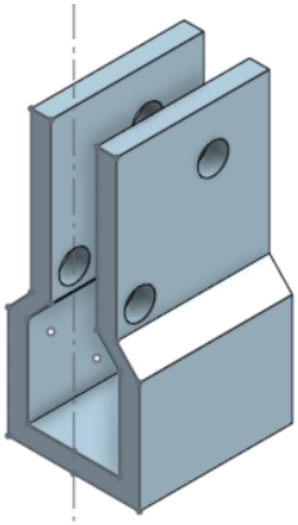
The sweep for the main body is made along the outer edge so the distance here is 11.75 inch i.e. (10.5 + ⅝+⅝).

2. Now extrude the sketch with a depth of ⅝ inches.

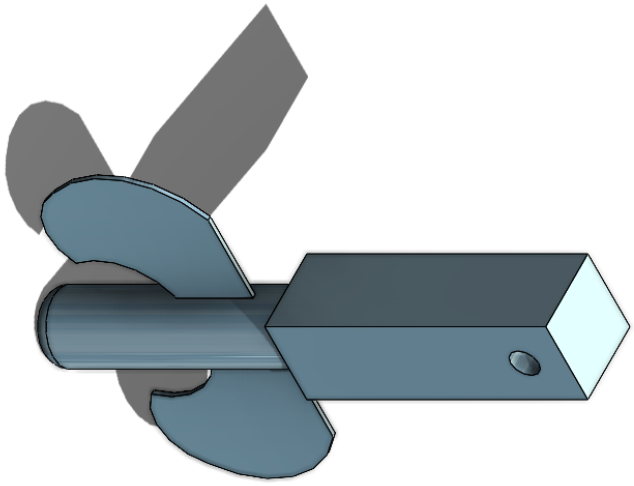


Now make two circles of diameter ⅛ inches on the upper surface as shown in the provided figure and then extrude the circles. through all.





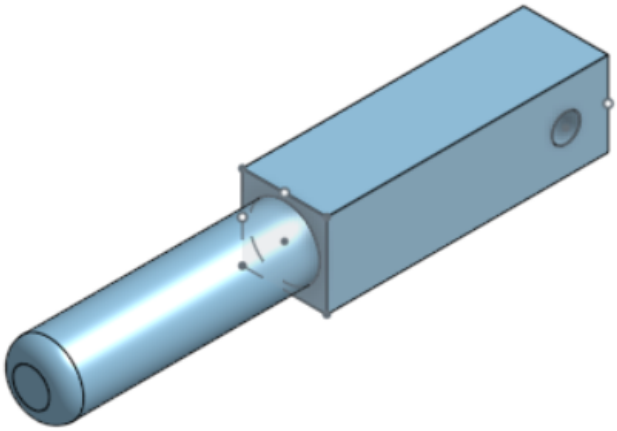
Steps to make Part 2:



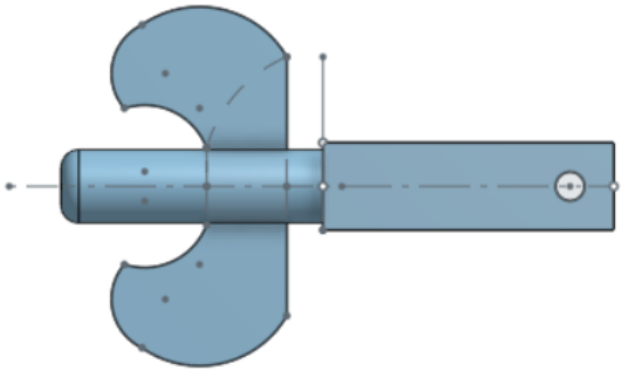
Steps:

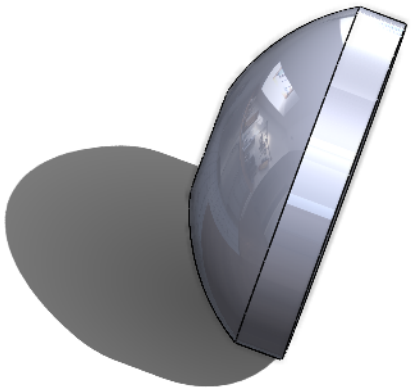
1. Make a square of side length ⅝ inches and extrude it with a depth of 5/4 inches.

2. Now cut extrude a hole of diameter 0.125 inch at a distance of 3/16 inch from one edge.
3. Now on the other surface extrude a cylinder of diameter 5/16 inch for a distance of 1.125 inch.

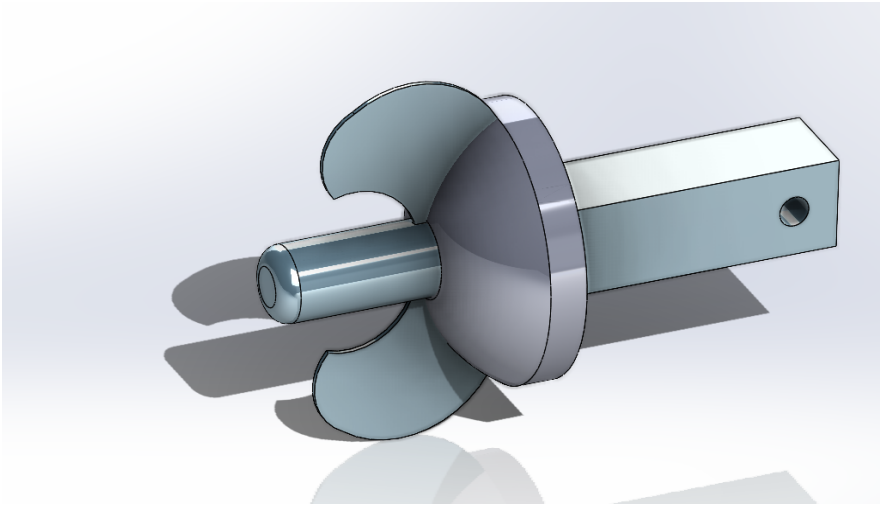


4. I have made the flattened hemisphere separately and fixed it using assembly.

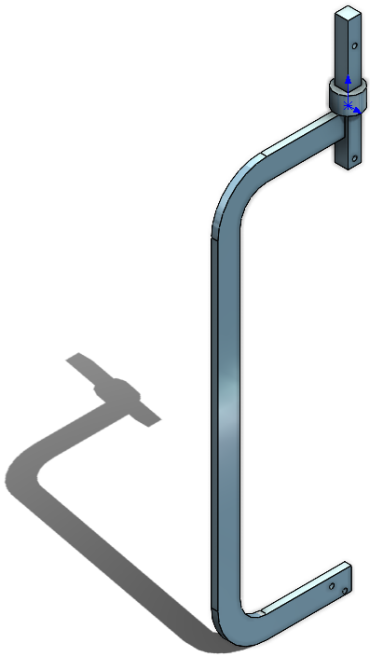




5. Now sketch the grippers and extrude them after hiding the hemisphere.



Steps to make Main body:

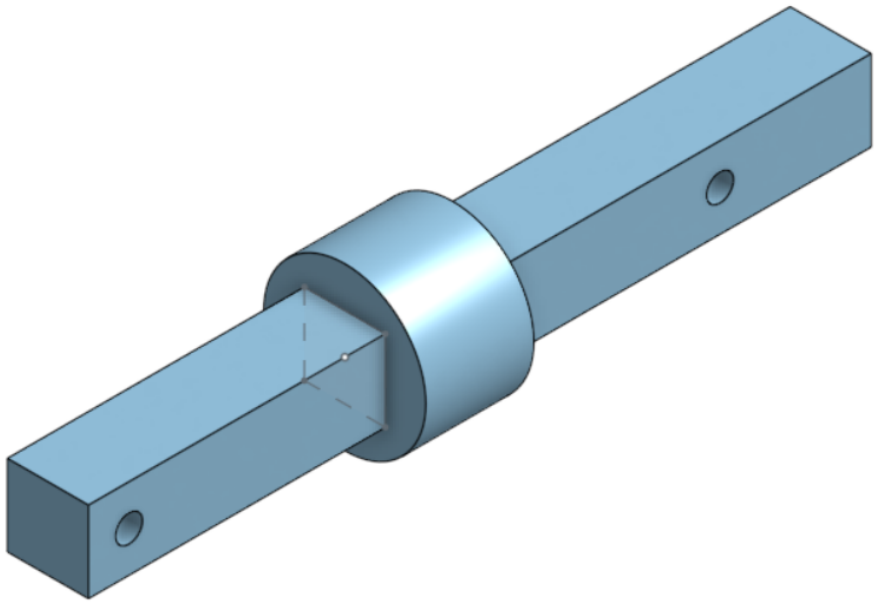


Steps:

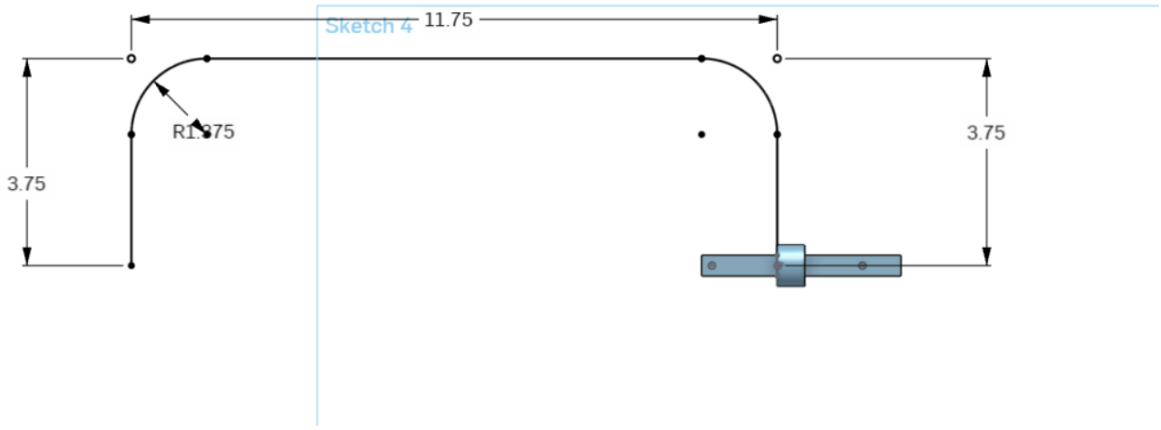
1. Extrude a square of side ⅜ in two directions:

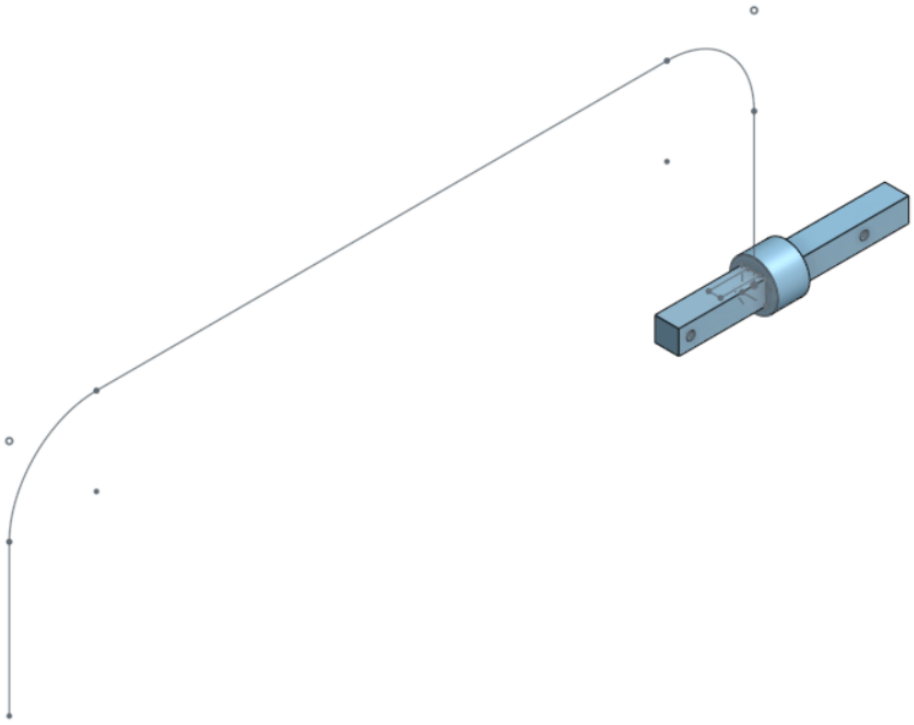
11/8 inch towards left
9/4 inch towards right
Now cut extrude 3 holes of diameter 0.125 inch through the whole body as shown in the figure on the right plane

2. On the front plane, extrude the cylinder for the metal part of the handle.

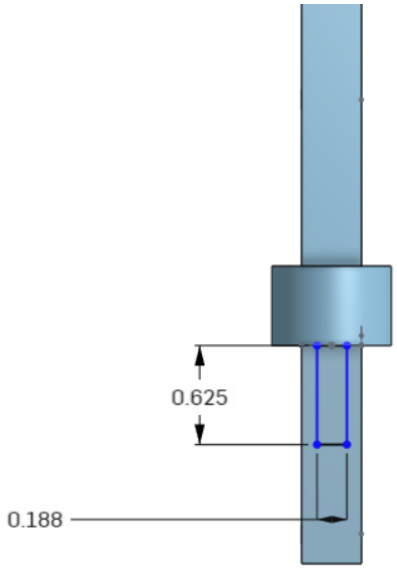


3. Now sketch the path along which the main body of the hacksaw will be sweeped and the frame will reside. Here the dimensions are taken with respect to the outer edge as a result the height will be 30/8 inch and the width will be 11.75 inch.

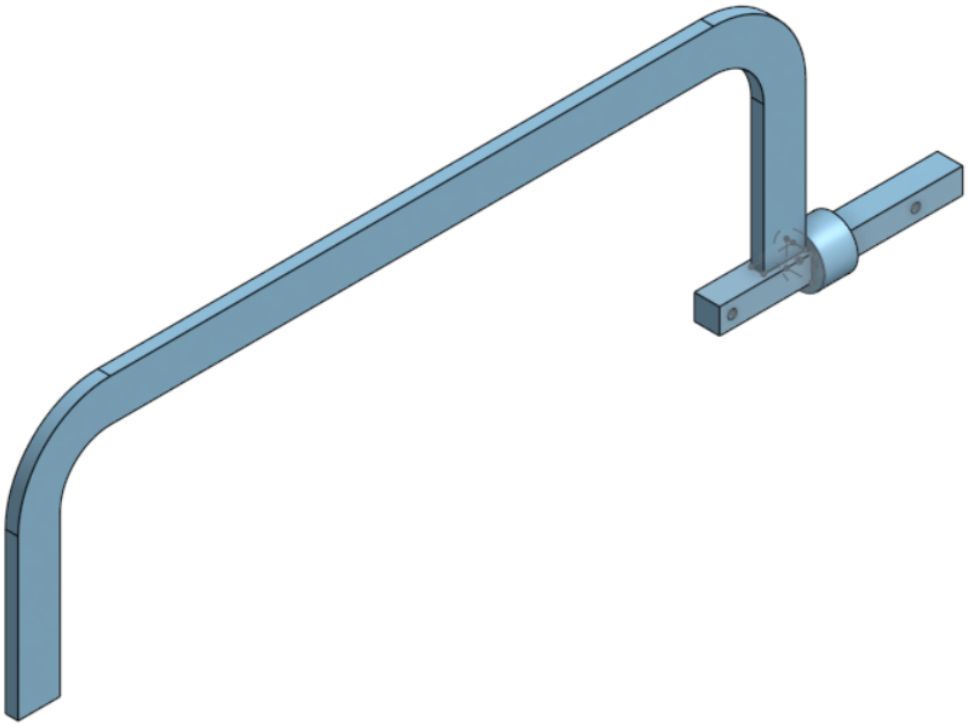




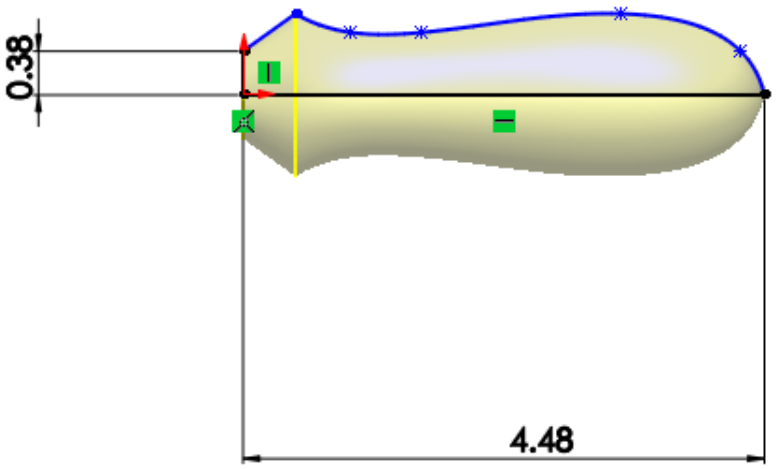
4. Draw a rectangle on the top plane of length ⅝ inch and width 3/16 inch.

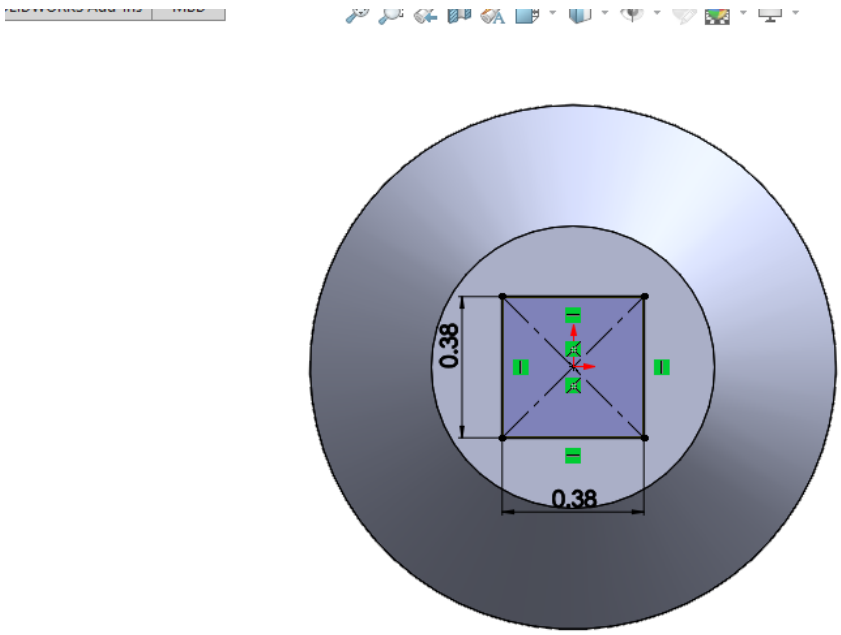


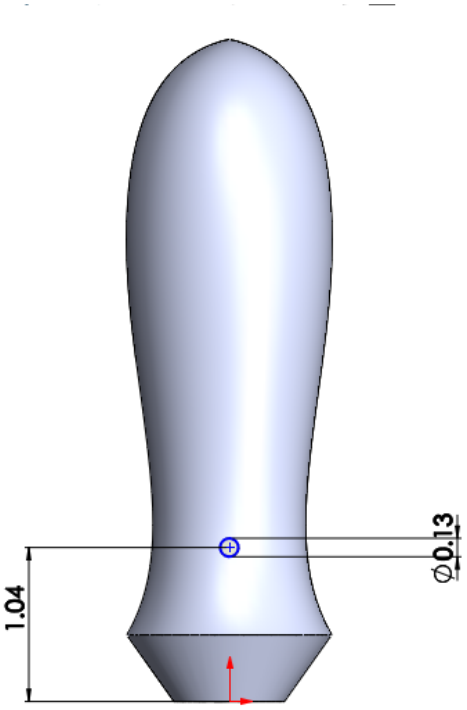
5. Now sweep the rectangle along the drawn path to form the main body of the frame.



6. The sketch of the handle was drawn with the help of approximate measurements and then joined it to part 1 using assembly.







Note: The holes in both the brackets and one in the handle are joined using the joining rivets of diameter ⅛ inch and length 0.3475 inch.

After assembling all the parts made above, with reference to the figure provided along with the problem statement, the model looks like: