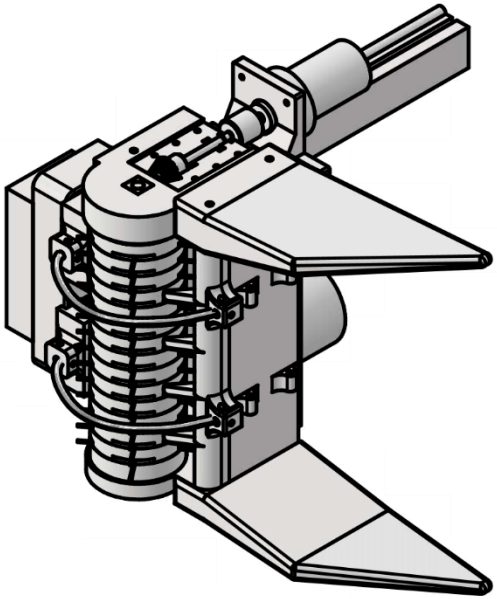
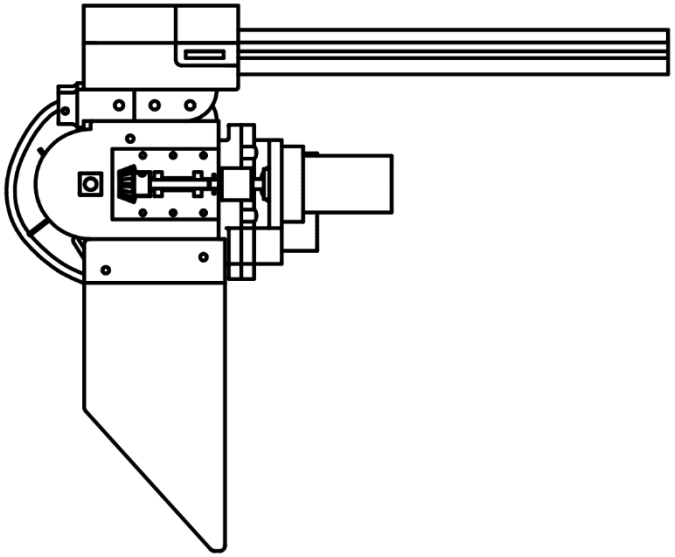
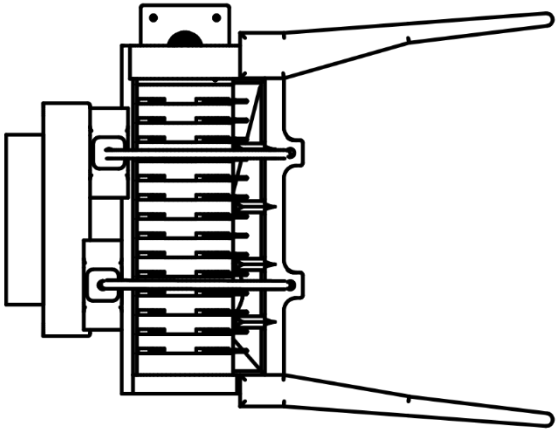
APPENDICES

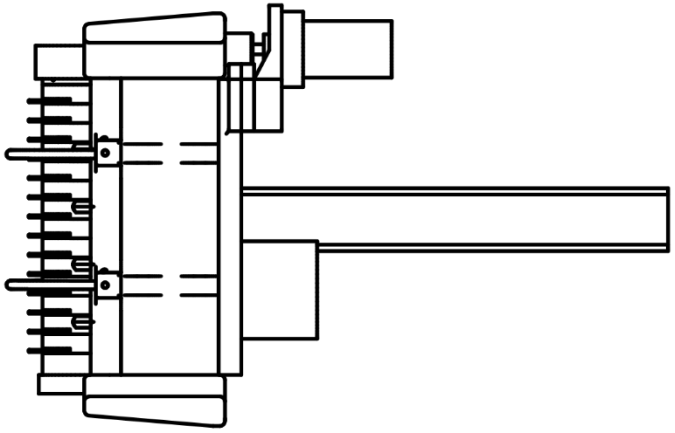
A. SUPPLEMENTARY INFORMATION (Detail Drawings)

End-Effector Assembly









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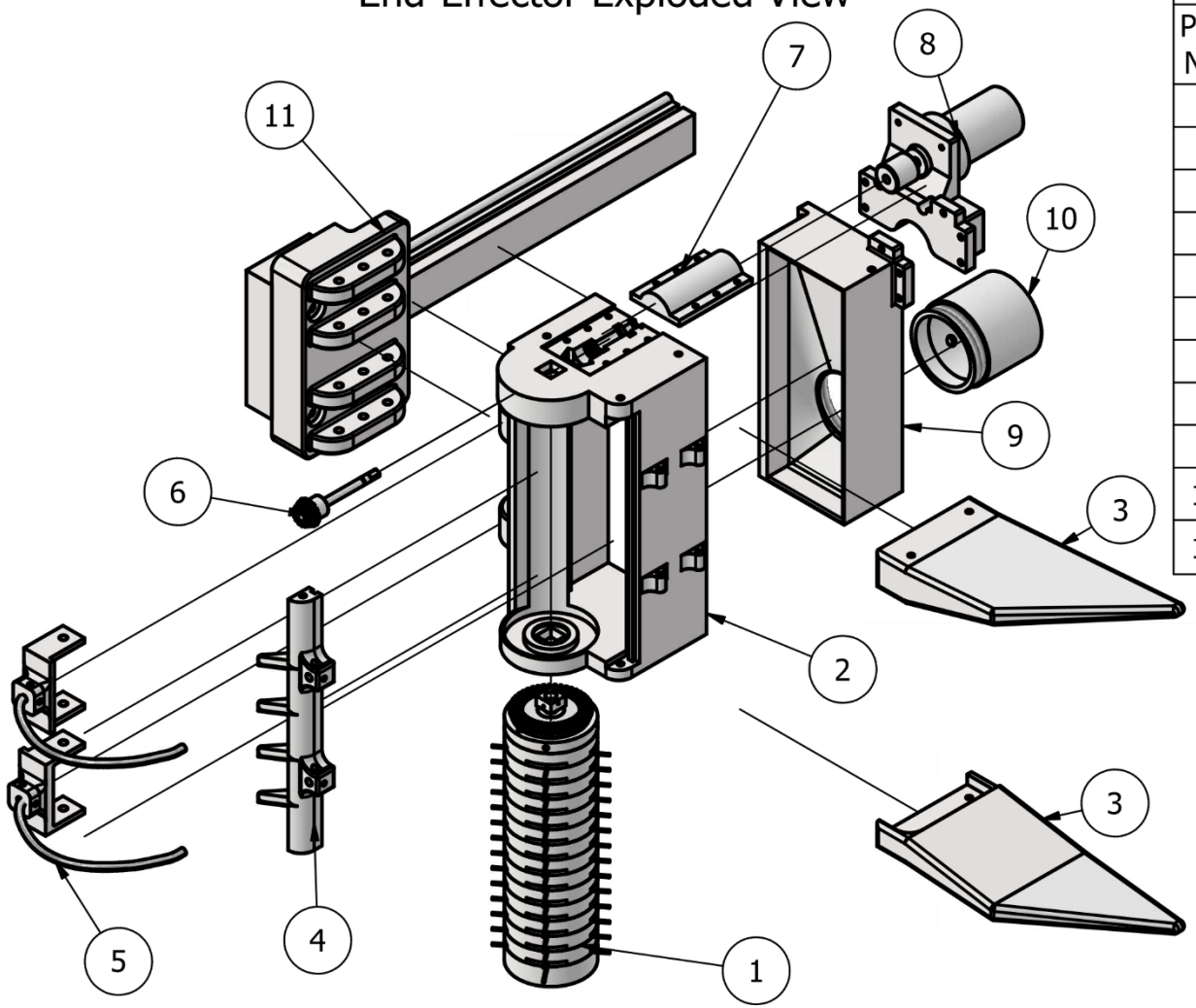
Thesis Title on:
"Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"

DESIGNED BY: SHEKHAR THAPA	Project Title: End-Effector Assembly	Scale:1 / 6	Unit: mm
2/24/2023	Filename: End-Effector- v2.iam	Sheet #: 2	

End-Effector Exploded View



PART LIST		
Part No.	Part Name	QTY
1	Roller & Tines	1
2	End-Effector Casing	1
3	Guide Plane	2
4	Vertical Screen	1
5	Aluminum Rings	2
6	Pinion Gear	1
7	Gear Box Cover	1
8	DC Motor	1
9	Funnel	1
10	Hose Attachment	1
11	Horizontal Robotic Arm	1

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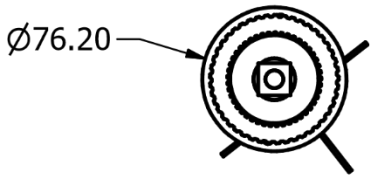
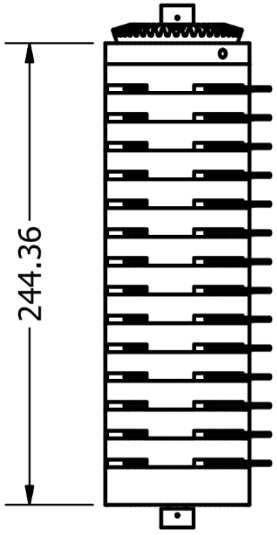
Thesis Title on:
"Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"

DESIGNED BY: SHEKHAR THAPA	Project Title: End-Effector Assembly Exploded View	Scale:1 / 6	Unit: mm
2/24/2023	Filename: End-Effector- v2.iam	Sheet #: 2	

Roller & Tines



TOP VIEW



FRONT VIEW

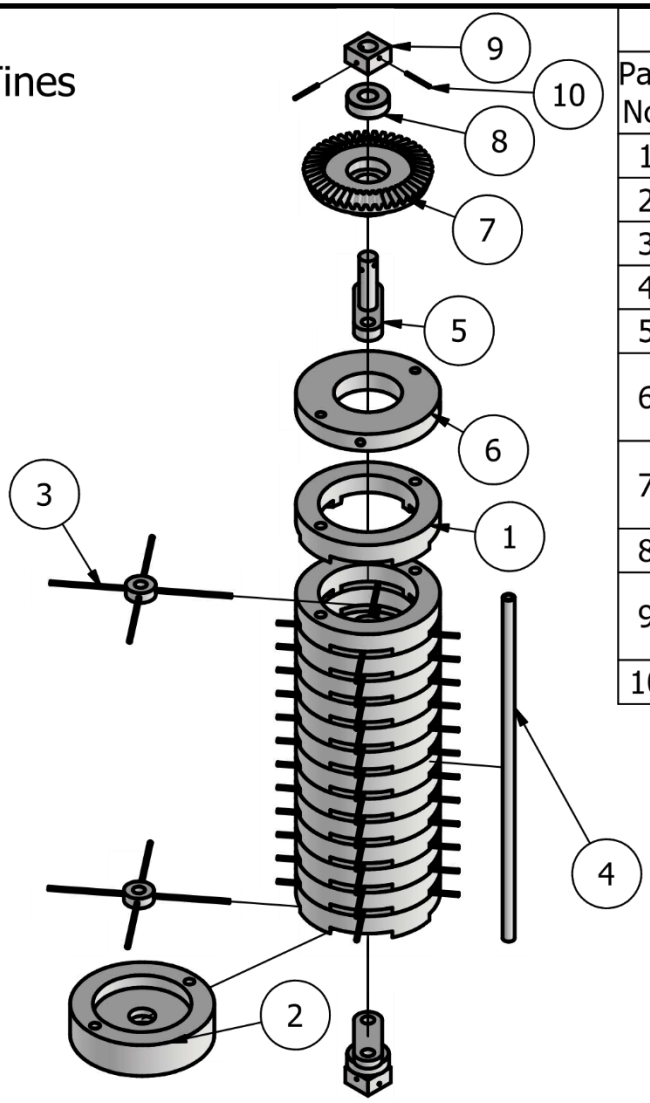


TABLE		
Part No.	Part Name	QTY
1	Roller Ring	14
2	Roller Cap	1
3	Tines-new	14
4	Cam Rod	1
5	Cam	2
6	Bevel Gear Holder	1
7	Metal Bevel Gear	1
8	Bearing	2
9	Cam Square	2
10	Pin	4

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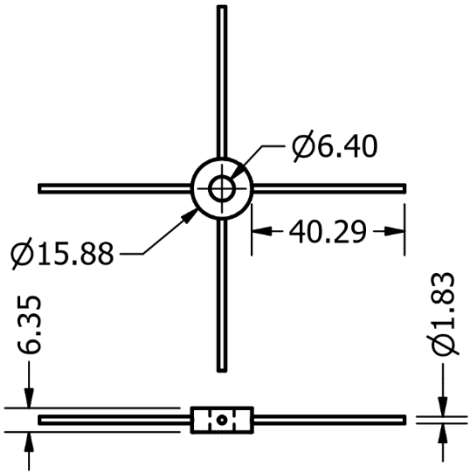
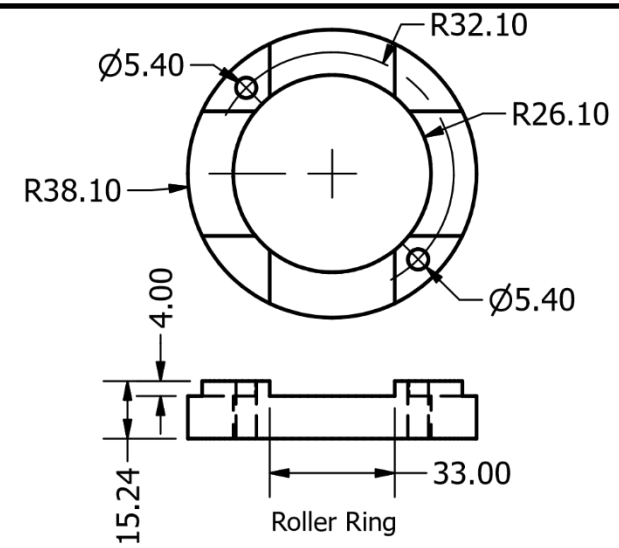
Thesis Title on:
"Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"

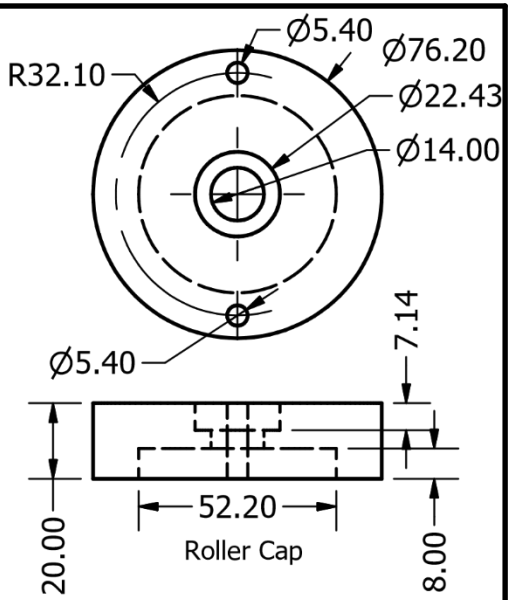
DESIGNED BY: SHEKHAR THAPA	Project Title: Roller & Tines	Scale:1 / 4	Unit: mm
2/24/2023	Filename: Roller and Tines.iam	Sheet #: 3	



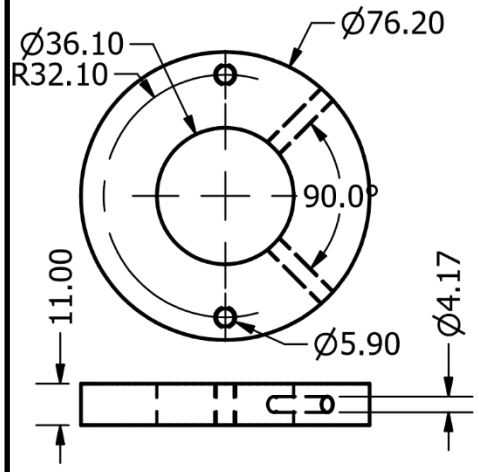
Tines



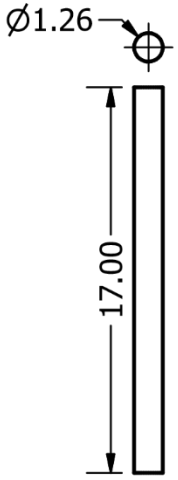
Roller Ring



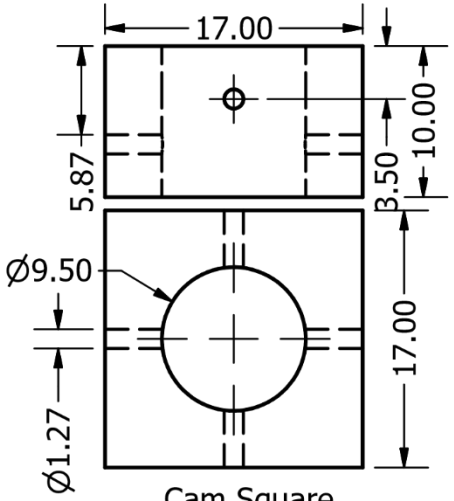
Roller Cap



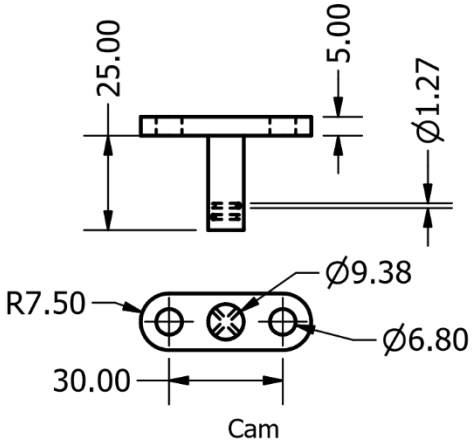
Bevel Gear Holder



Pin



Cam Square



Cam

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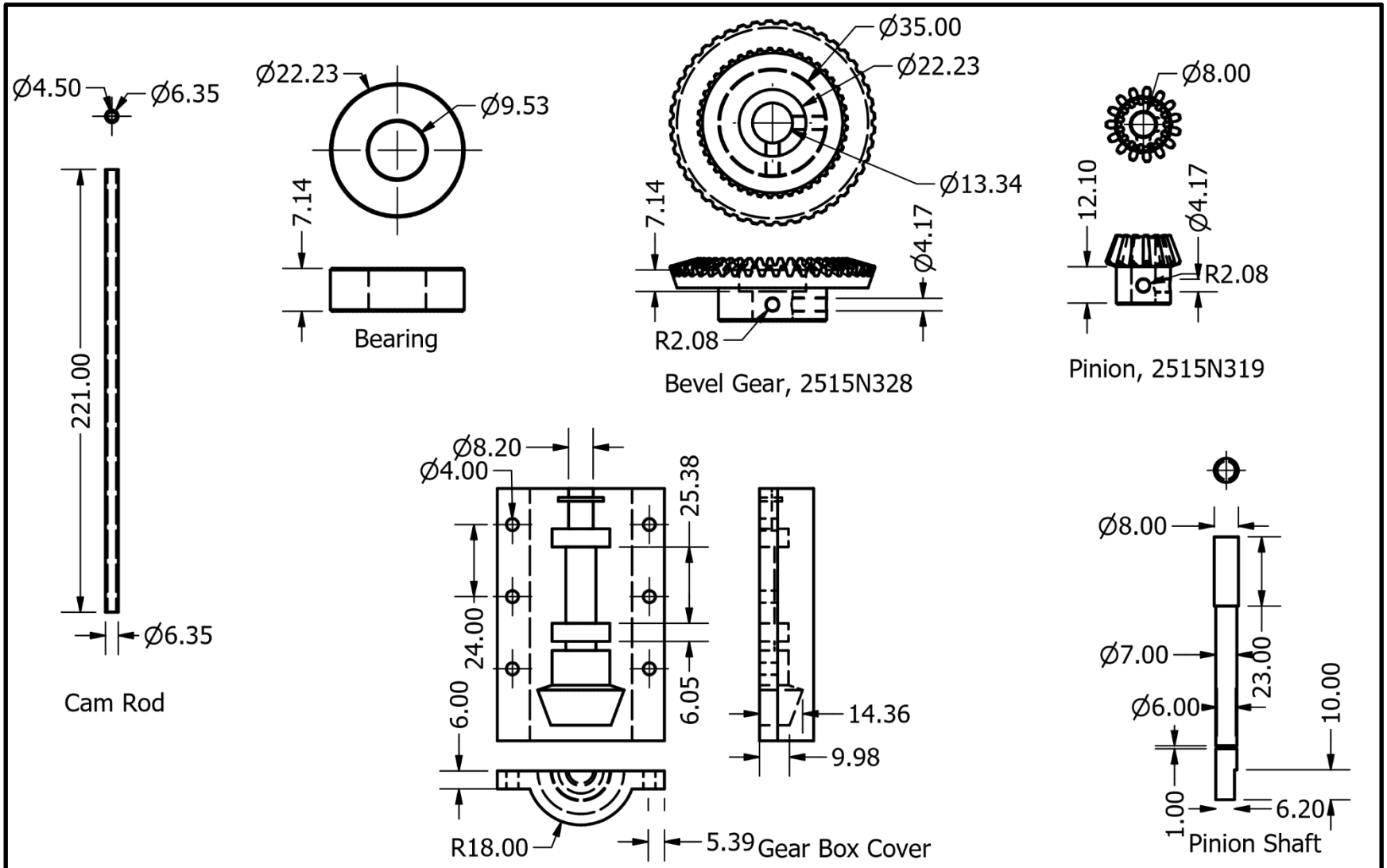
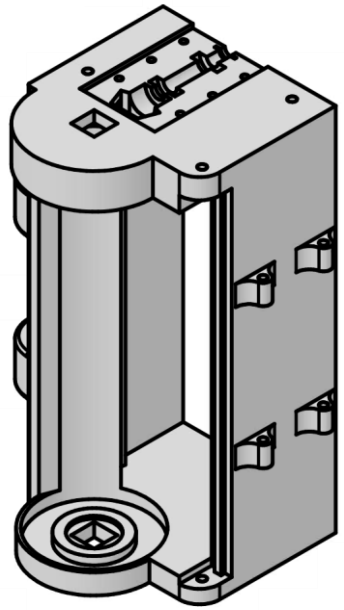
Thesis Title on:
"Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"

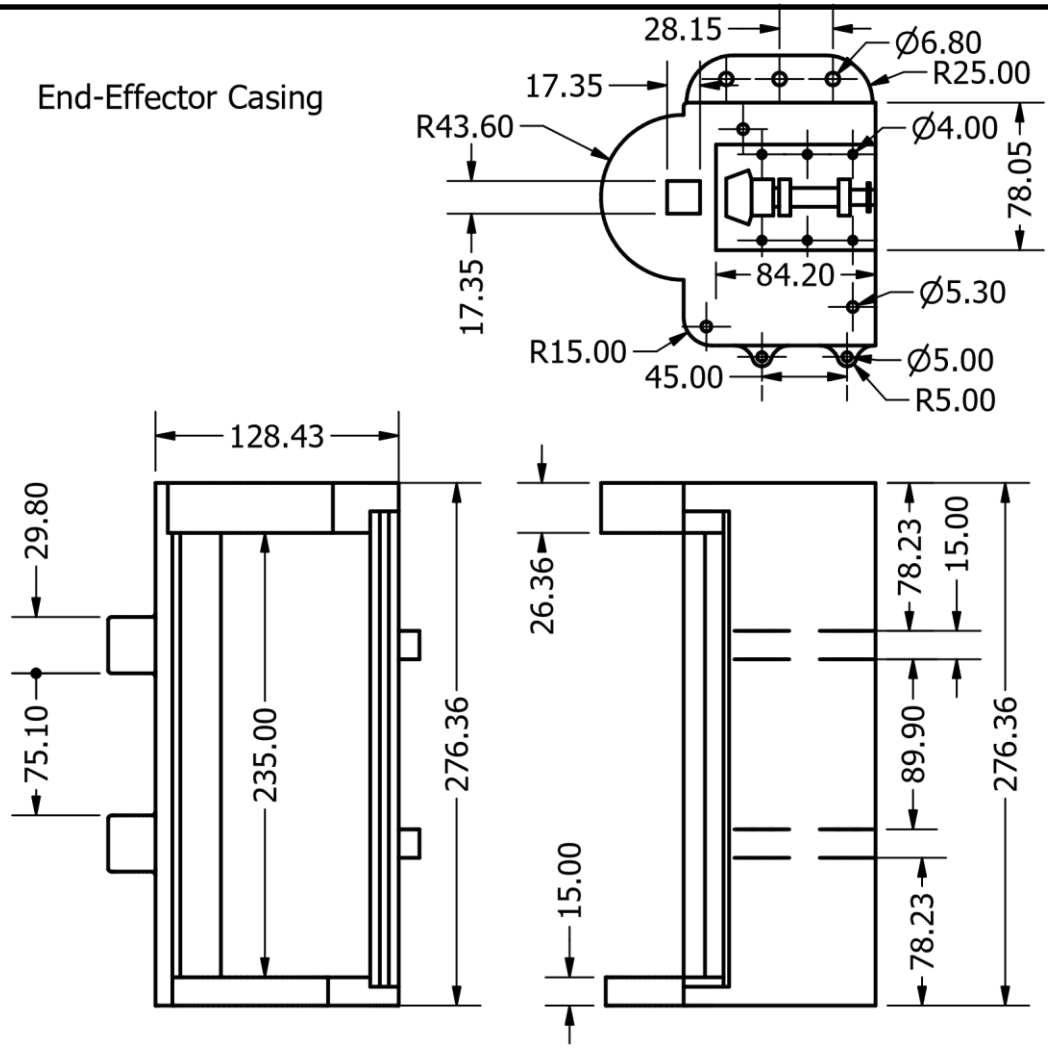
DESIGNED BY: SHEKHAR THAPA	Project Title: Multiple Parts	Scale:1/2	Unit: mm
2/17/2023	Filename: Tines-new.ipt	Sheet #: 4	



UNIVERSITY OF GEORGIA	Thesis Title on: "Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"			
DESIGNED BY: SHEKHAR THAPA	Project Title: Multiple parts		Scale:1 / 3	Unit: mm
2/21/2023	Filename: cam rod.ipt		Sheet #: 5	

End-Effector Casing





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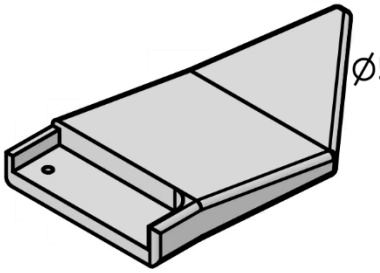
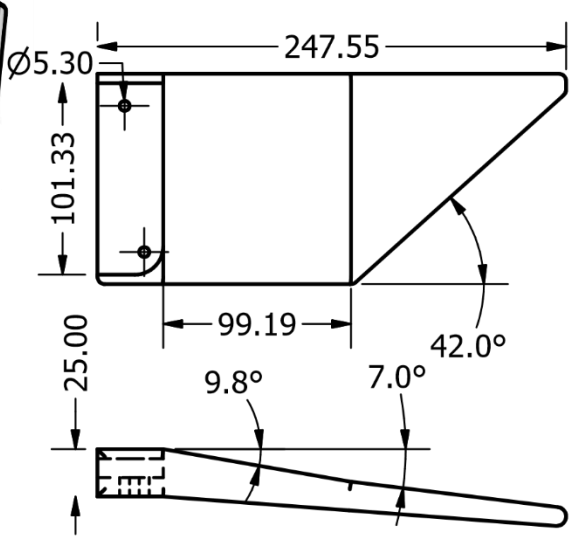
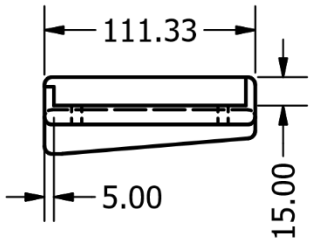
Thesis Title on:
"Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"

DESIGNEDBY: SHEKHARTHAPA	ProjectTitle: End-EffectorCasing	Scale:1 / 4	Unit: mm
7/23/2023	Filename: shaftcover(case).ipt	Sheet#: 6	

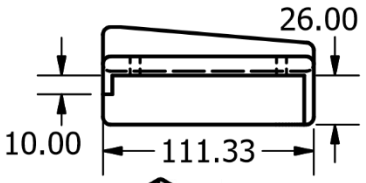


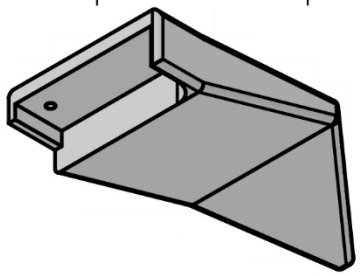


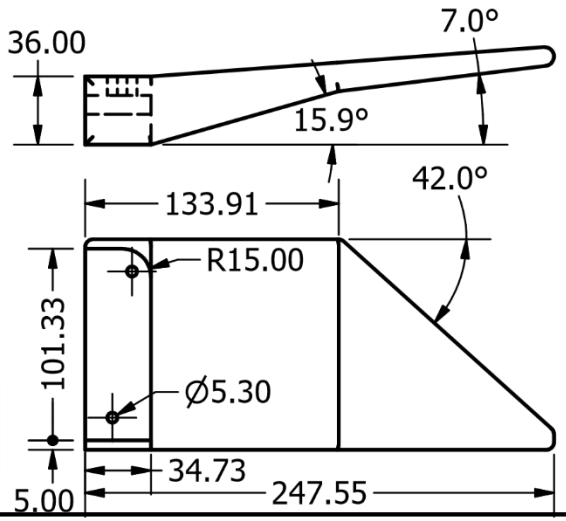


Lower Guide Plane

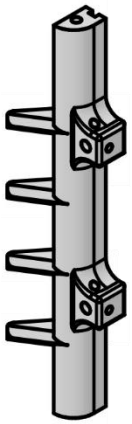
Upper Guide Plane



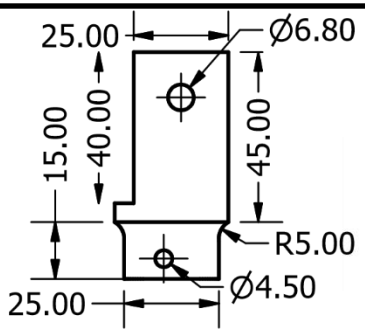


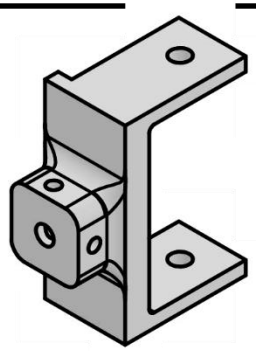


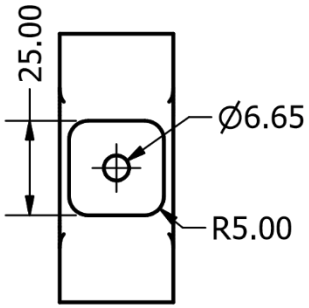
UNIVERSITY OF GEORGIA	Thesis Title on: "Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"		
DESIGNED BY: SHEKHAR THAPA	Project Title: Lower and Upper Guide Planes	Scale:1 / 4	Unit: mm
10/8/2023	Filename: lower guide.ipt	Sheet #: 7	

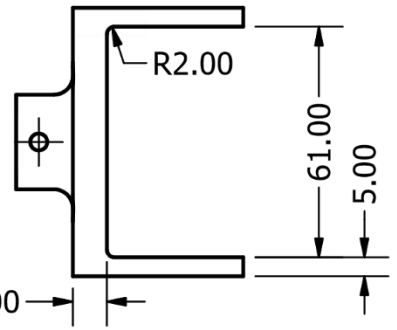


Vertical Screen

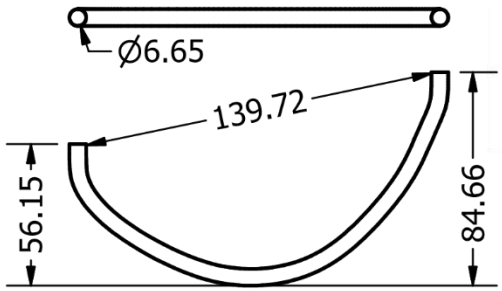


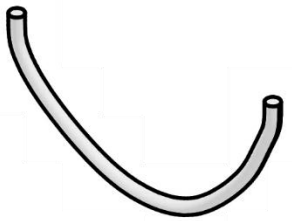






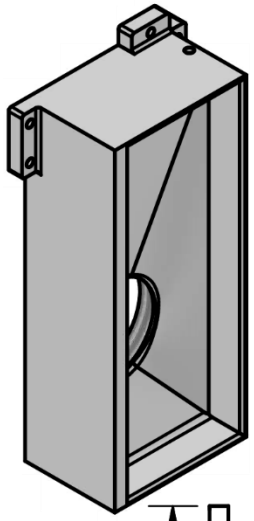
Aluminum Ring Holder

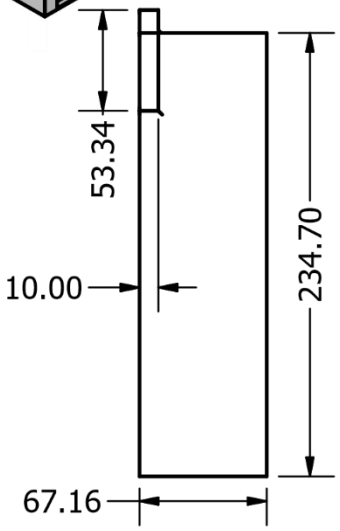


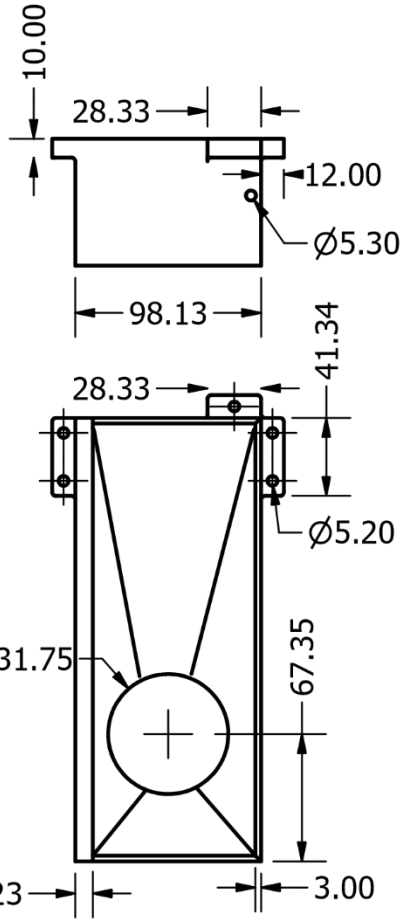


Aluminum Ring

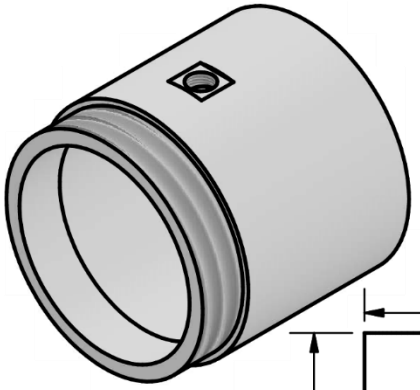
UNIVERSITY OF GEORGIA	Thesis Title on: "Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"		
DESIGNED BY: SHEKHAR THAPA	Project Title: Vertical Screen, Aluminum Rings and Holder	Scale:1 / 4	Unit: mm
7/23/2023	Filename: screen.ipt	Sheet #: 8	

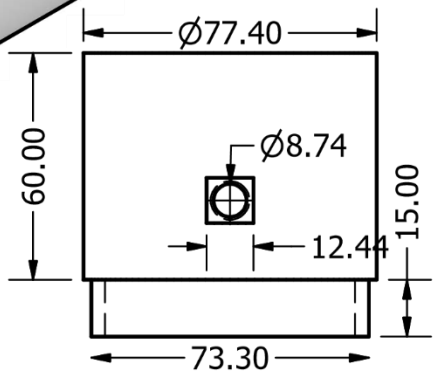


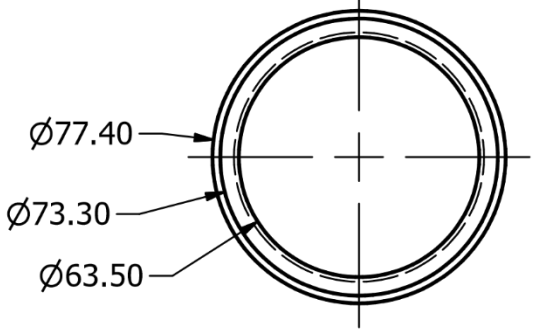




Funnel







3 in Hose Attachment

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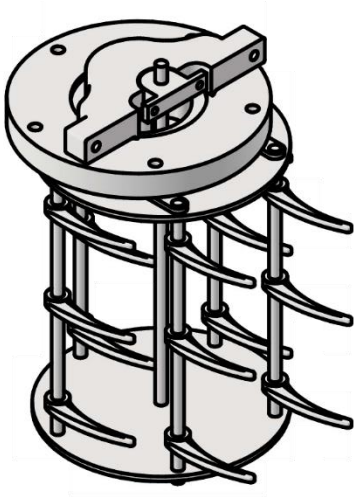
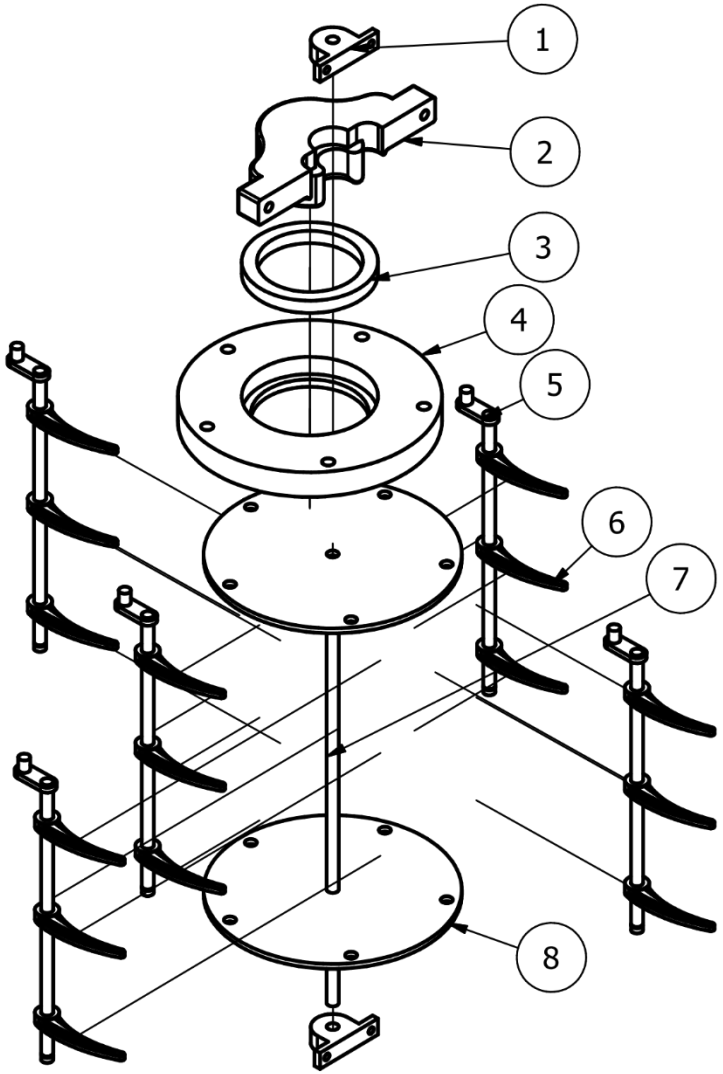
Thesis Title on:
"Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"

DESIGNED BY:	Project Title: Funnel and Hose Attachment	Scale:1 : 2	Unit: mm
8/7/2023	Filename: 3 inch vac and endeffector attachement.ipt	Sheet #: 9	



Pullback Reel



PART LIST		
Part No.	Part Name	QTY
1	Shaft Mount	2
2	Bearing Mount	1
3	Bearing	1
4	Offset Disk	1
5	Peripheral Rod	5
6	Finger	15
7	Shaft	1
8	Disk	2

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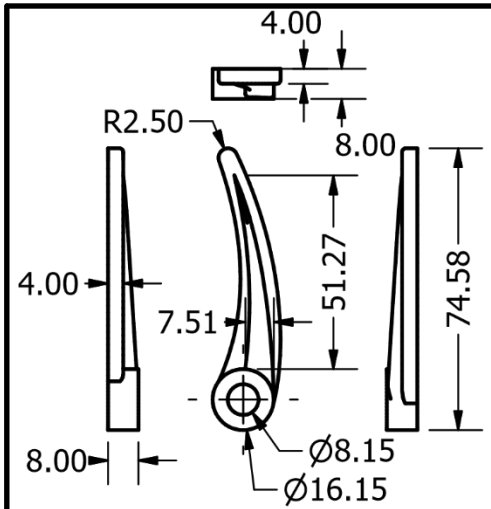
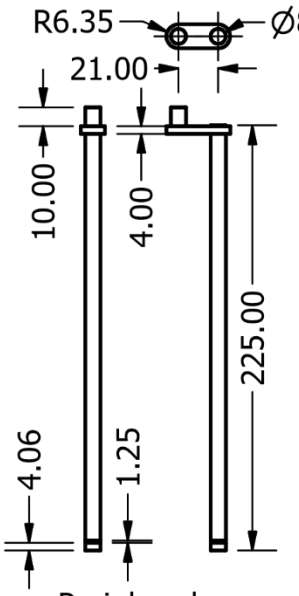
Thesis Title on:
"Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"

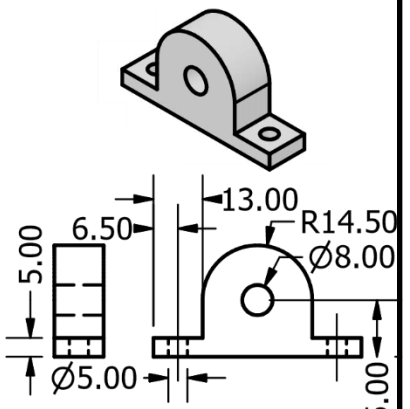
DESIGNED BY: SHEKHAR THAPA	Project Title: Pullback Reel Exploded View	Scale:1 / 5	Unit: mm
8/22/2023	Filename: Pullback Reel.iam	Sheet #: 10	



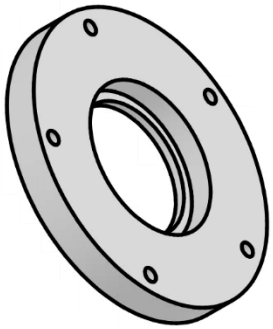
Finger

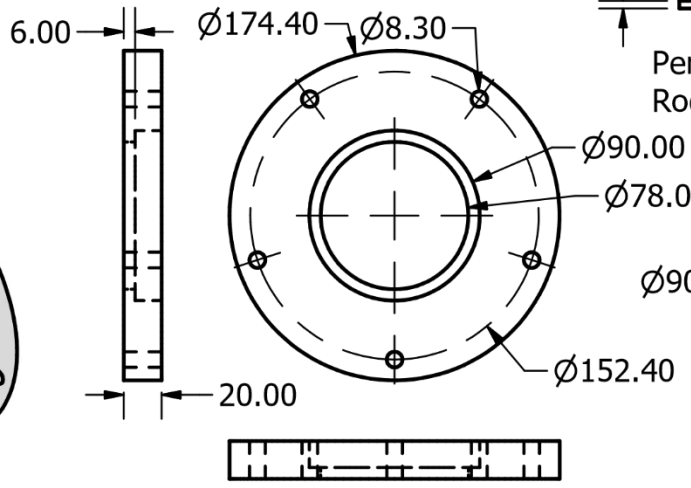


Peripheral Rod



Shaft Mount





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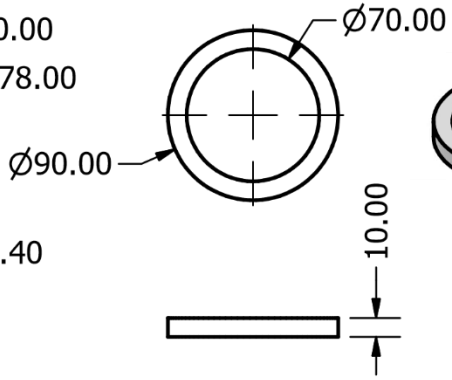
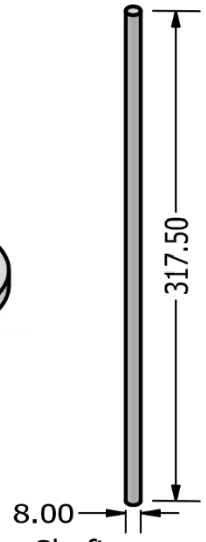


Bearing

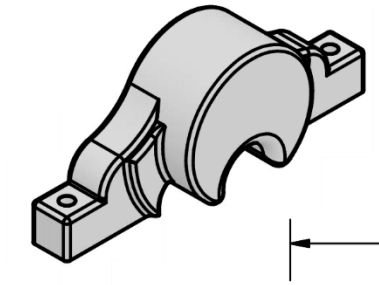


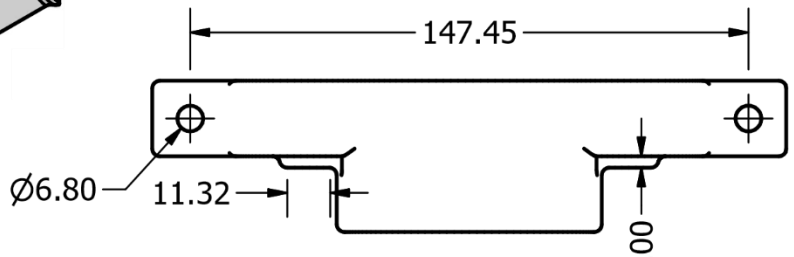
Shaft

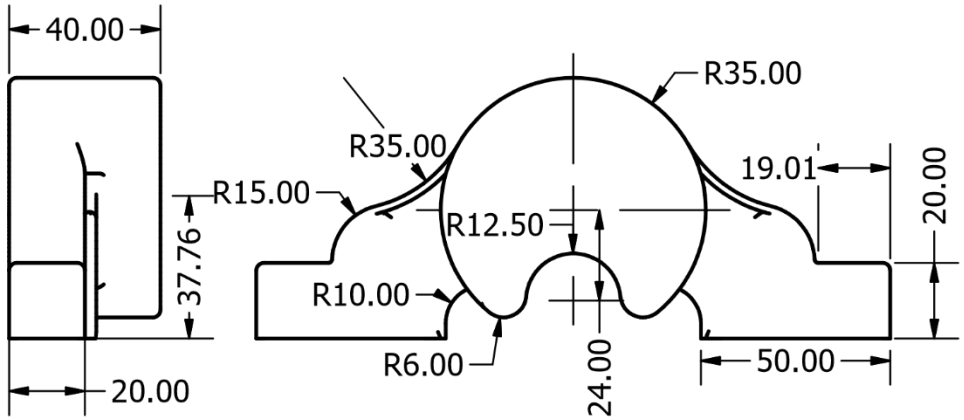
UNIVERSITY OF GEORGIA

Thesis Title on:
"Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"

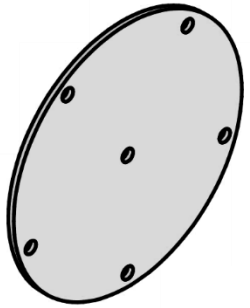
DESIGNED BY: SHEKHAR THAPA	Project Title: Multiple Parts	Scale:1 / 2	Unit: mm
8/26/2023	Filename: draper finger.ipt	Sheet #: 11	

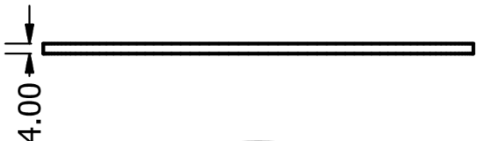


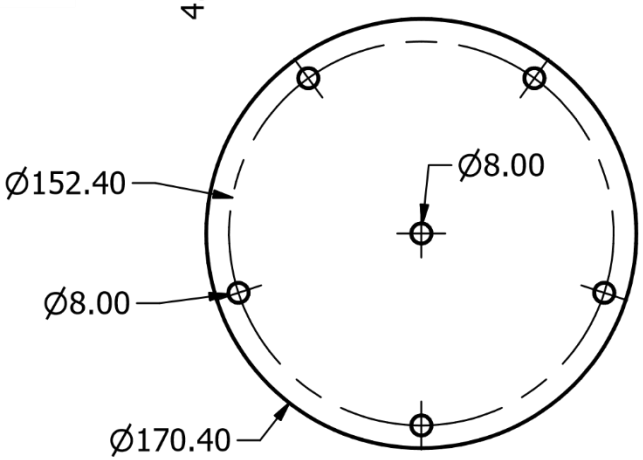




Bearing Mount







Disk

UNIVERSITY OF GEORGIA	Thesis Title on: "Development of a Robotic Cotton Harvesting System Based on the Approach of Harvesting Multiple Cotton Bolls at a Time"		
DESIGNED BY: SHEKHAR THAPA	Project Title: Bearing Mound and Disk	Scale:1 /2	Unit: mm
8/22/2023	Filename: big shaft.ipt	Sheet #: 13	