

Computer-Aided Design (CAD) 3D, Engineering

Design Problem:
The Hudson News Corporation owns more than 1,000 airport shops. To help increase their bottom line, the company is anxious to increase the variety of "under \$20.00 travel accessories" that are sold in their shops.

Design Brief:

Since many travelers wash their own clothing during long trips, Hudson wants to be able to sell a portable retractable clothes line that can be used in a hotel bathtub, or shower, and then packed up so that it is ready for future use.

Specifications/Drawing Requirements:

- Include a parts list that identifies all the mechanical and support components of the device;
- Show interior and exterior parts and mechanisms;
- Design a case for travel and storage;
- Include any views or renderings that will enhance the presentation; and
- The maximum paper size is 24" x 36", or smaller sheets mounted on a 24" x 36" sheet with no overlapping papers.

Figure 1: Design Briefing and Constraints

2020 TSA Cad Engineering

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This project consists of two parts. A case with a spring-loaded mechanism and a hook. A string will attach to the spring inside the case and will be pulled on, so it can be attached to the hook. This will create the clothesline. By simply unhooking the string from the hook, it will automatically retract back into the case, making it portable. Both parts of the clothesline are less than 2" X 2" X 2" making it very portable. Both parts of the clothesline can be attached to a wall by a suction cup. All parts of the project are listed in the exploded assembly drawings.

Figure 2: Description of Project

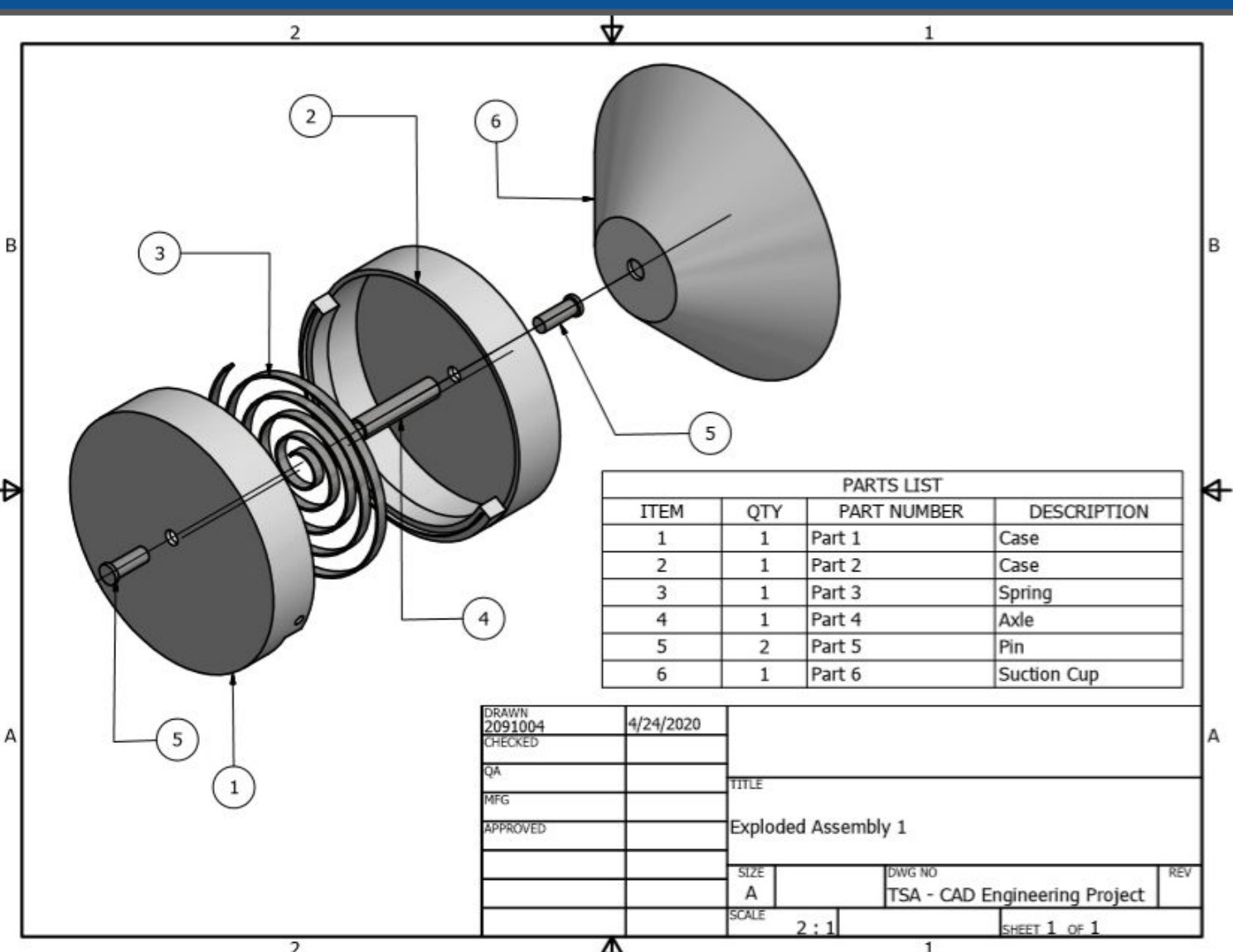


Figure 3: Exploded Assembly of Case with Spring-Loaded Mechanism

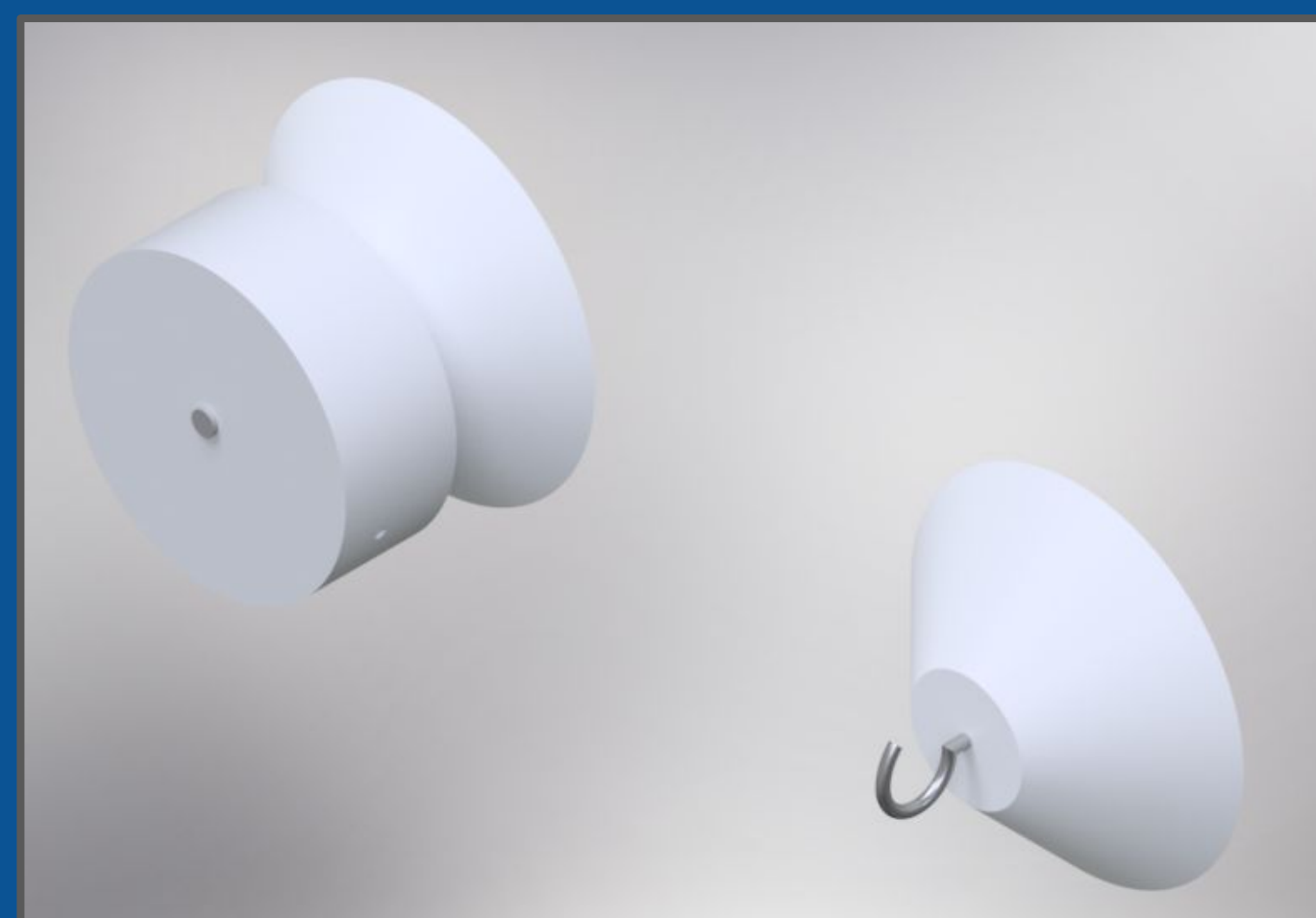


Figure 3: Render of Project



Figure 4: Render of Case with Spring-Loaded Mechanism

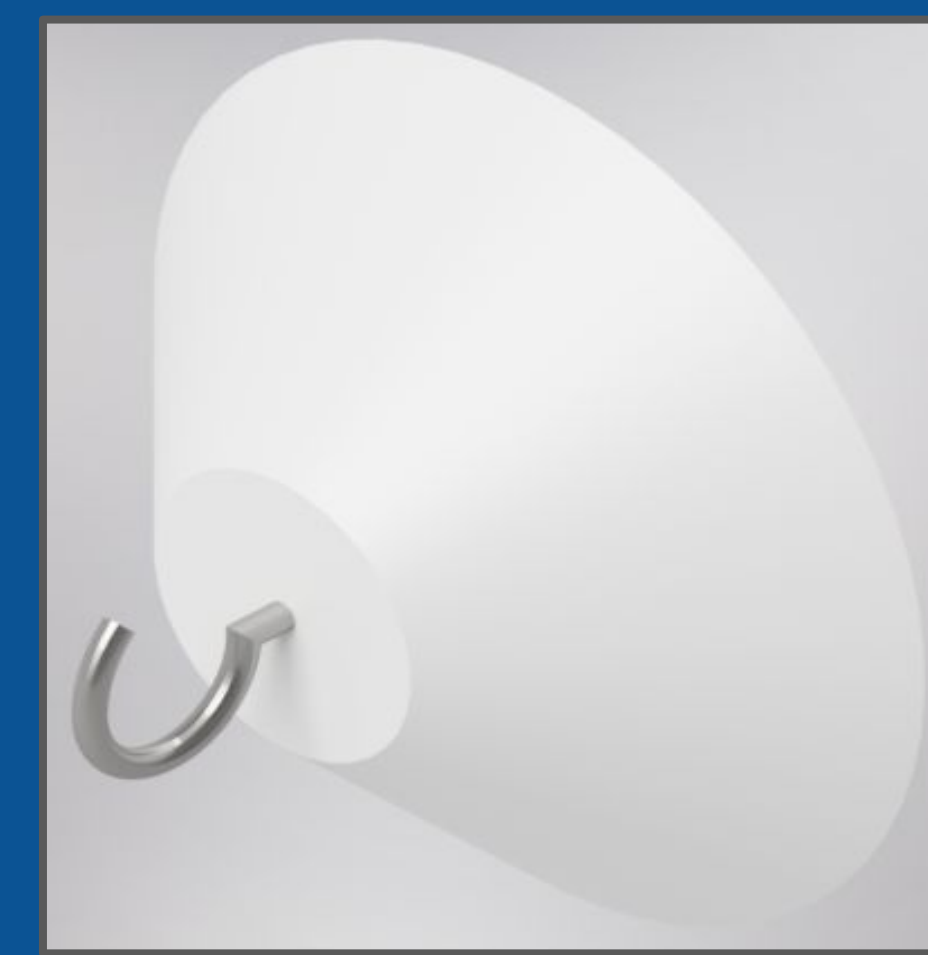


Figure 5: Render of Hook

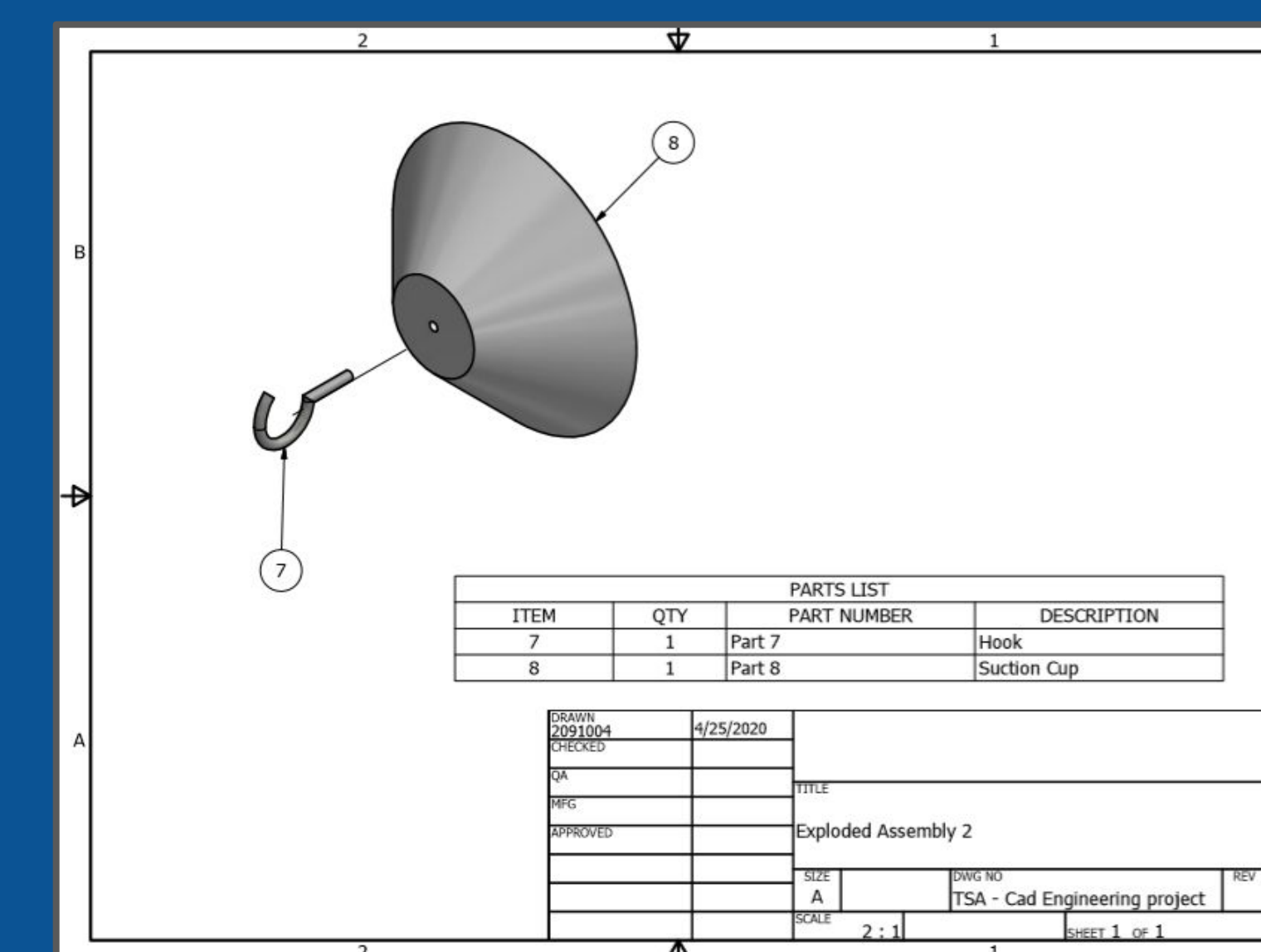


Figure 6: Exploded Assembly of Hook

Figures 6-13: Technical Drawings of Each Individual Part

