Chapter 2

Working with Splines

Learning Objectives

After completing this chapter, you will be able to:

- *Work with spline primitives*
- *Understand spline modeling techniques*
- *Create geometries using Generators*

Figure 2-1 *The model of door lock system*

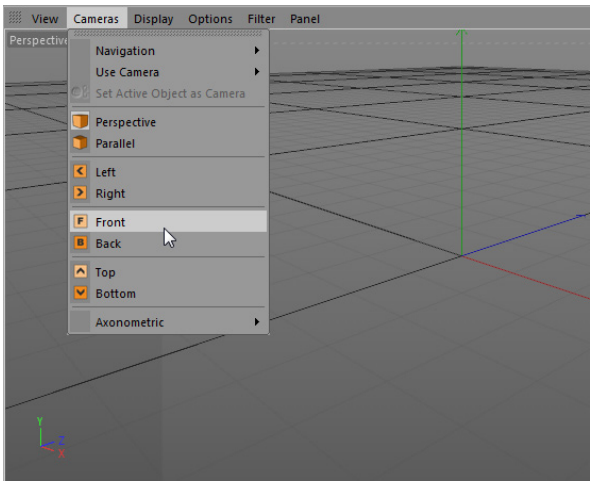

Figure 2-2 *Choosing the* ***Front*** *option from the Menu in editor view*

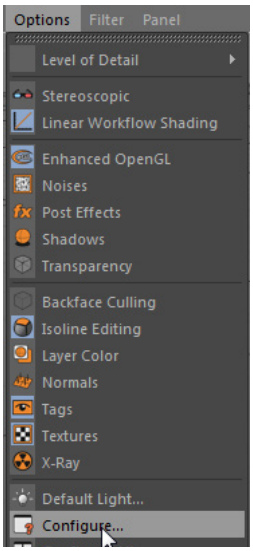

Figure 2-3 *Choosing the* ***Configure*** *option from the Menu in editor view*

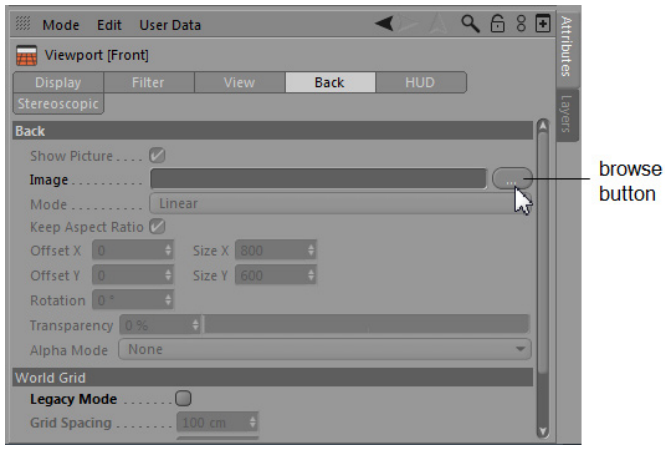

Figure 2-4 *Choosing the browse button next to the* ***Image*** *text box*

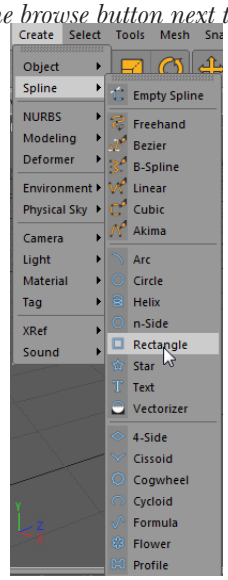

Figure 2-5 *Choosing* ***Rectangle*** *from the* ***Create*** *menu*

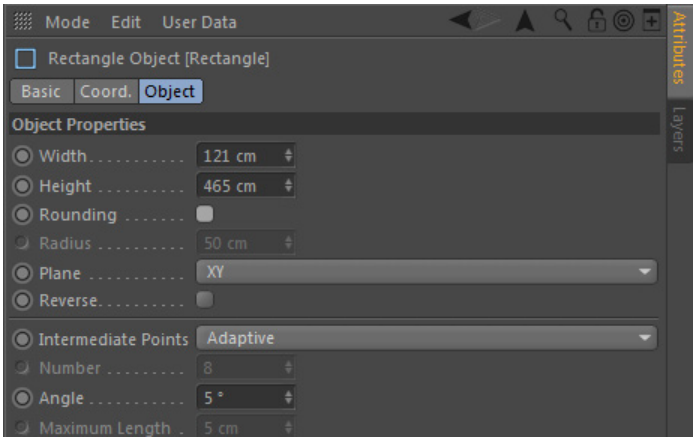

Figure 2-6 *Setting the width and height of the rectangle*

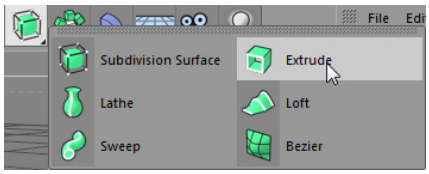

Figure 2-7 *Choosing* ***Extrude*** *from the flyout*

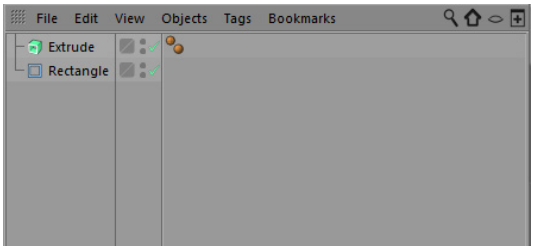

Figure 2-8 *Extrude added to the Object Manager*

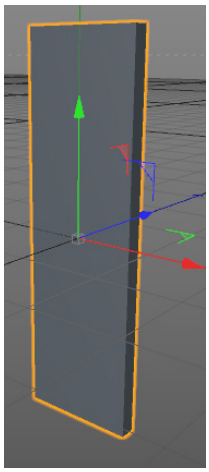

Figure 2-9 Rectangle extruded in the Perspective viewport

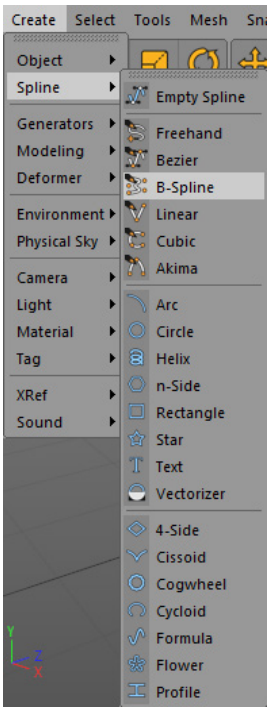

*Figure 2-10 Choosing **B-Spline** from the main menu*

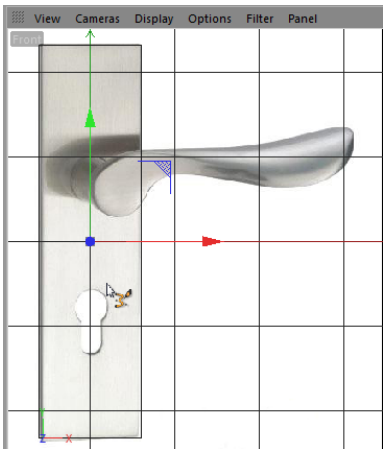

Figure 2-11 The changed shape of the cursor

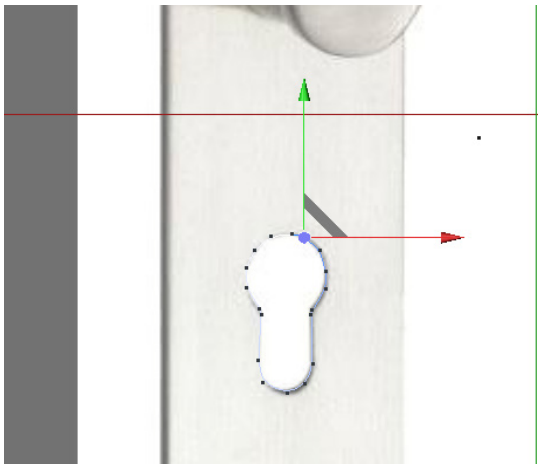

Figure 2-12 Shape of the keyhole

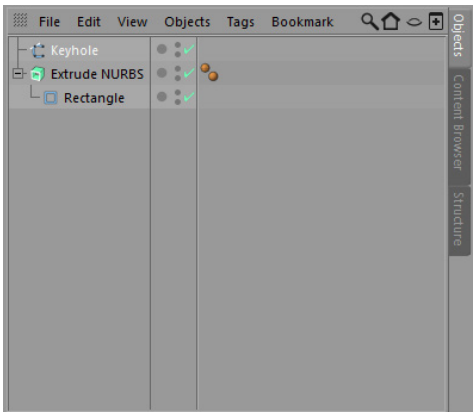

Figure 2-13 *Spline renamed as keyhole*

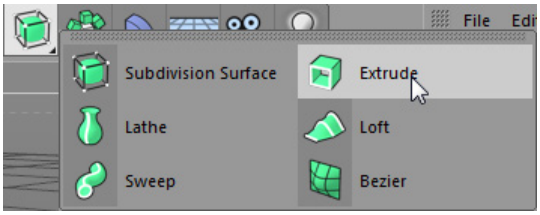

Figure 2-14 *Choosing* ***Extrude*** *from the flyout*

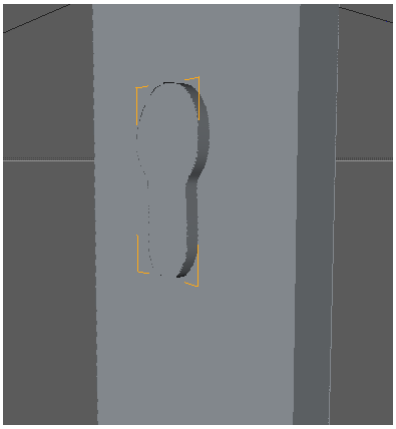

Figure 2-15 *keyhole extruded in the Perspective viewport*

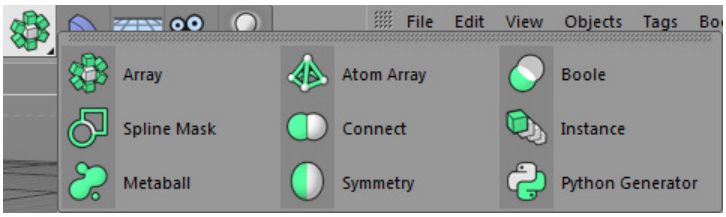

Figure 2-16 *Choosing* ***Boole*** *from the flyout*

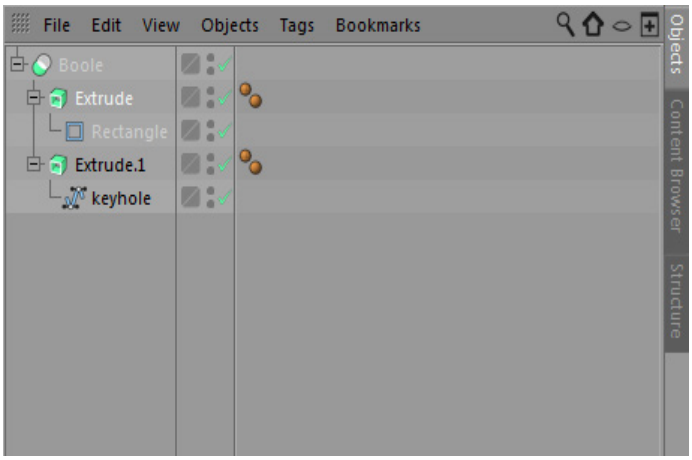

Figure 2-17 *Extrude connected to Boole*

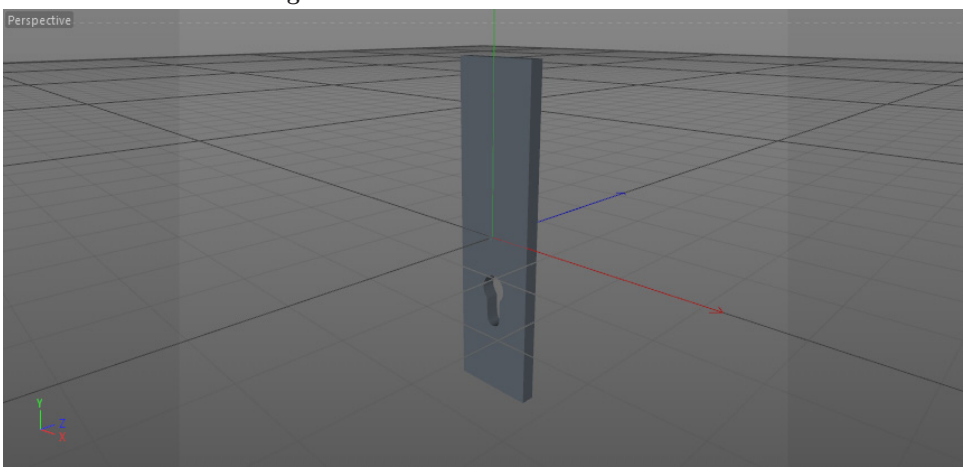

Figure 2-18 *The hole created in the Perspective viewport*

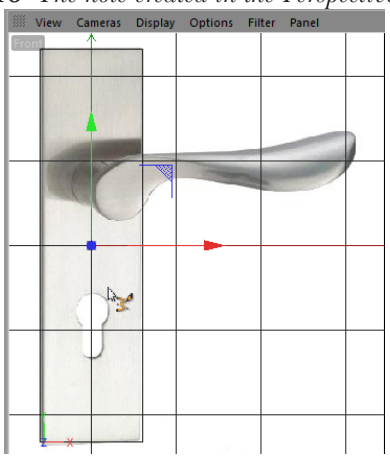

Figure 2-11 *The changed shape of the cursor*

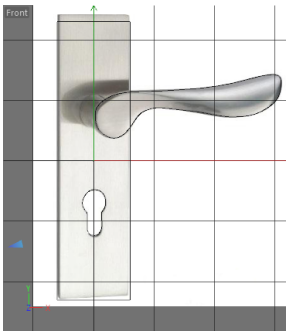

Figure 2-19 *Handle placed in the viewport*

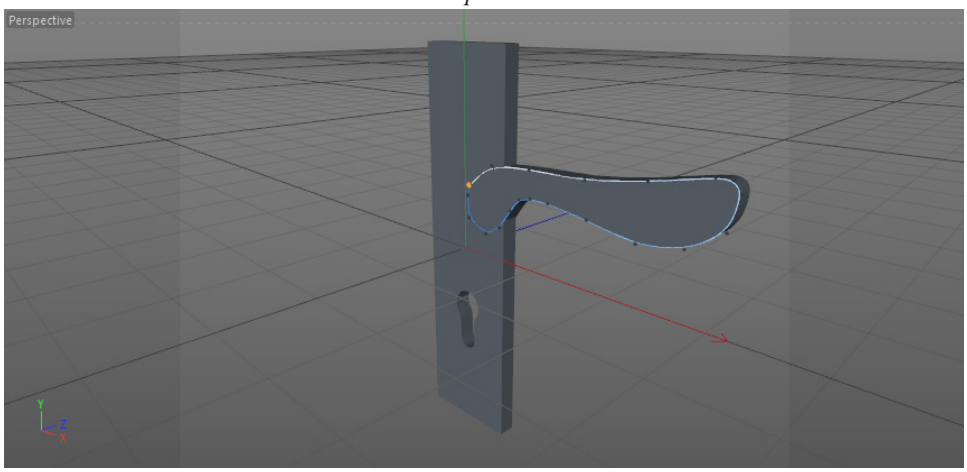

Figure 2-20 *Handle extruded in the Perspective viewport*

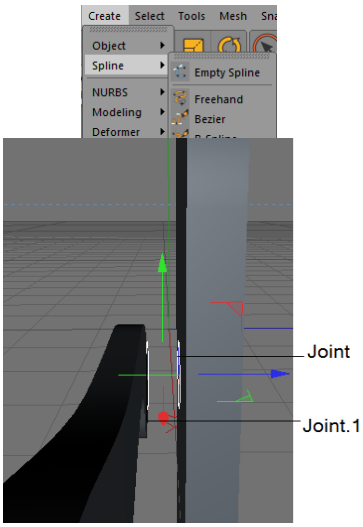

Figure 2-21 *Choosing Circle from the main menu*

Figure 2-22 *The position of Joint and Joint.1 displayed in the Perspective viewport*

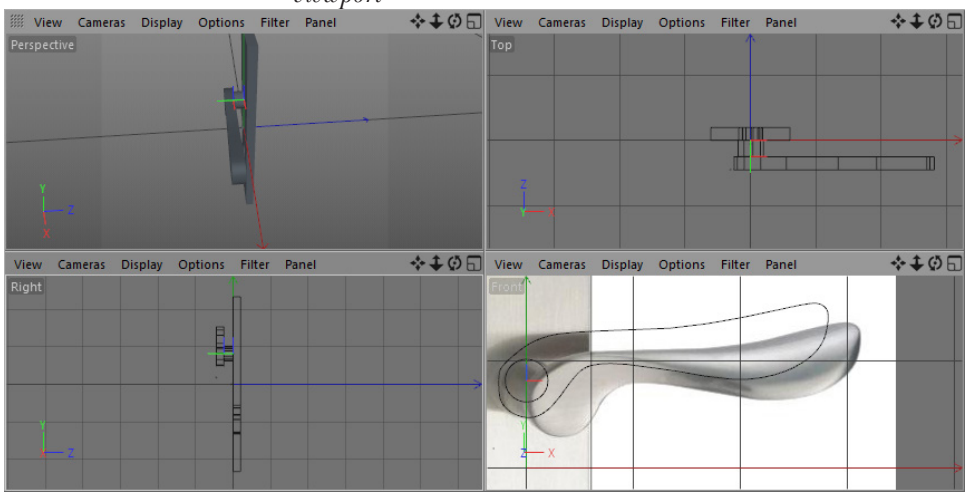

Figure 2-23 *Joint and Joint.1 lofted to create a surface*

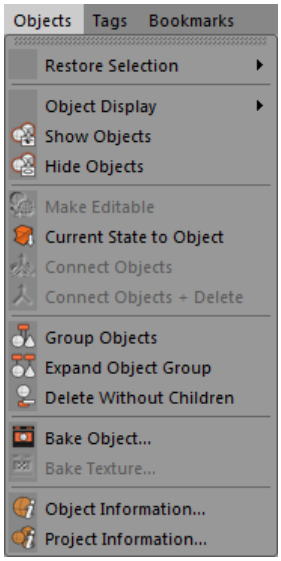

Figure 2-24 *Choosing* ***Group Objects*** *from the* ***Objects*** *menu*

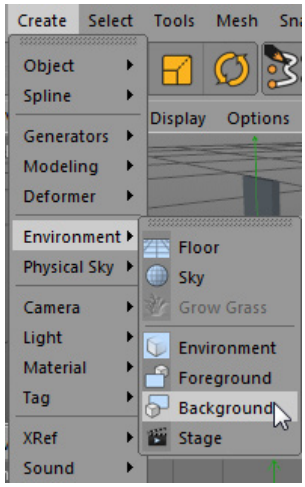

Figure 2-25 *Choosing the* ***Background*** *option from the main menu*

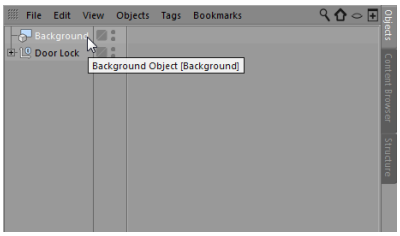

Figure 2-26 *The* ***Background*** *Object selected in the Object Manager*

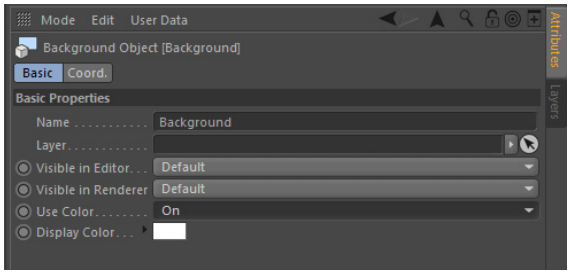

Figure 2-27 *The* ***Display Color*** *parameter activated*

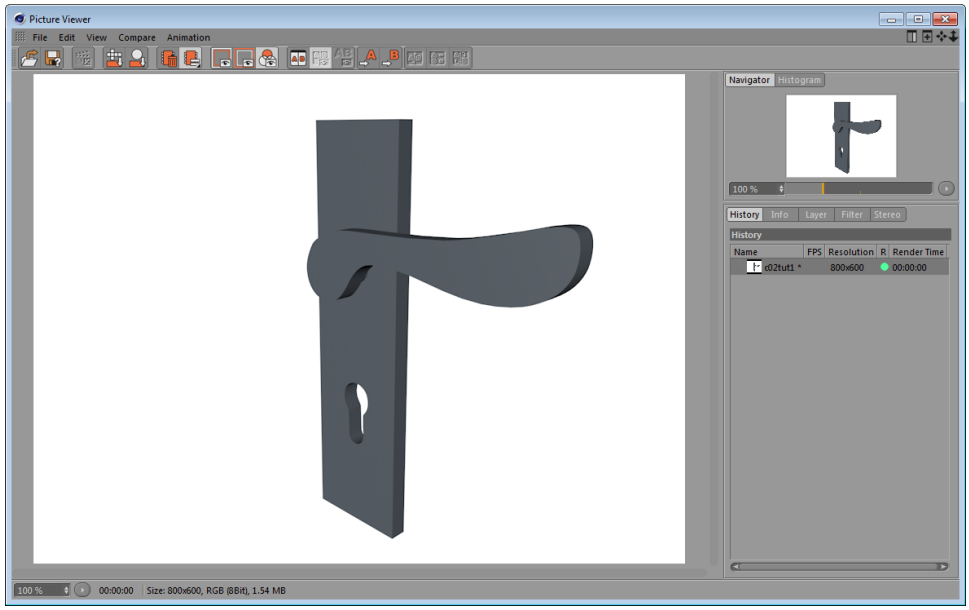

Figure 2-28 *The* ***Picture Viewer*** *window*

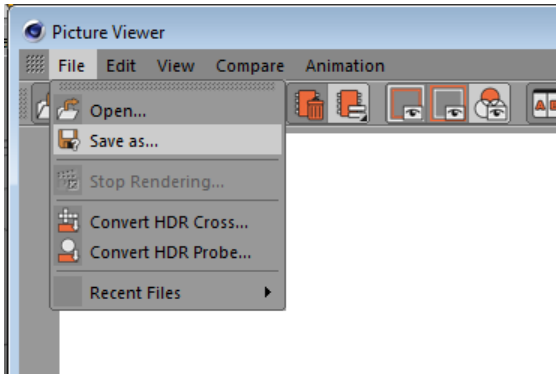

Figure 2-29 *Choosing the* ***Save as*** *option from the* ***File*** *menu*

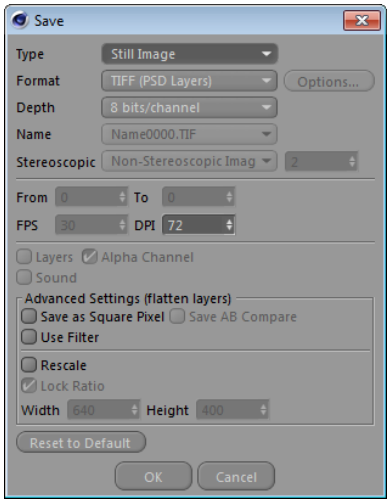

Figure 2-30 *The* ***Save*** *dialog box*

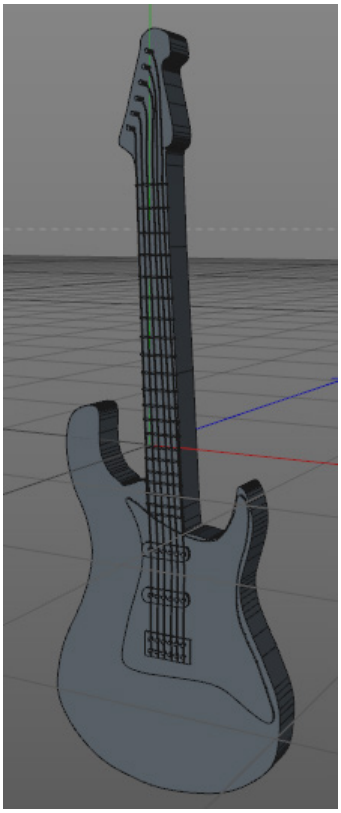

Figure 2-31 *The model of guitar*

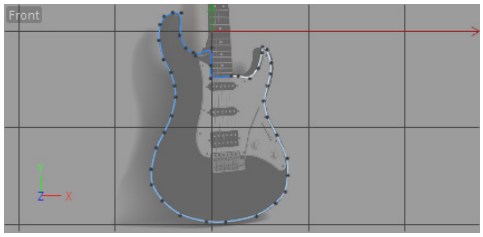

Figure 2-32 *The shape of the body of guitar*

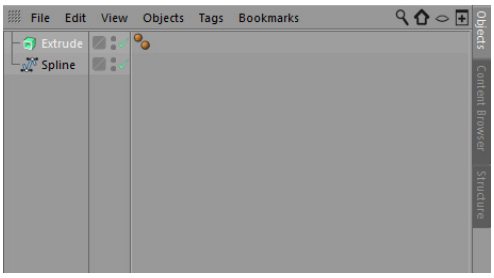

Figure 2-33 *Extrude added to the Object Manager*

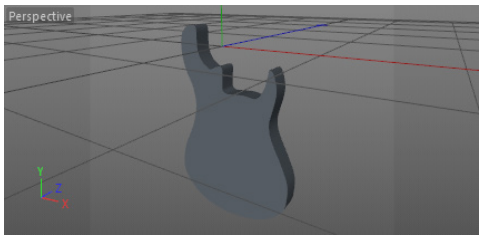

Figure 2-34 *The extruded body of the guitar*

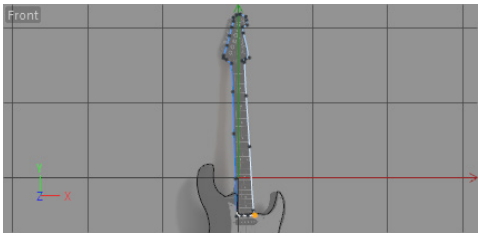

Figure 2-35 *Spline for the neck of the guitar in the Front viewport*

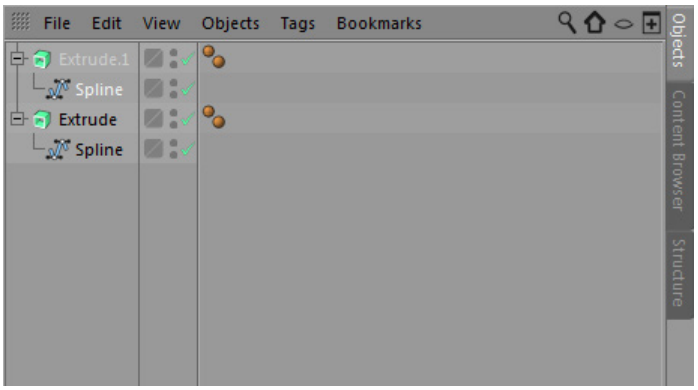

Figure 2-36 *Spline connected to Extrude.1 in the Object Manager*

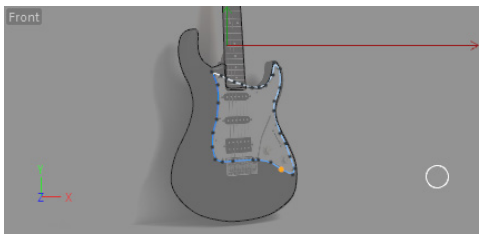

Figure 2-37 *The spline for the design piece*

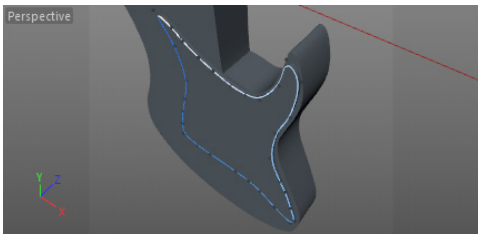

Figure 2-38 *The extruded design part*

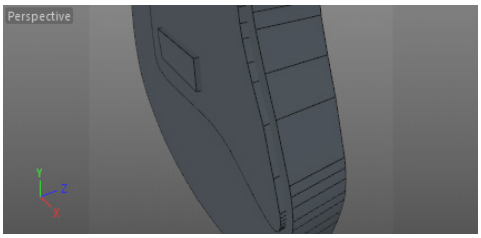

Figure 2-39 *The extruded Rectangle*

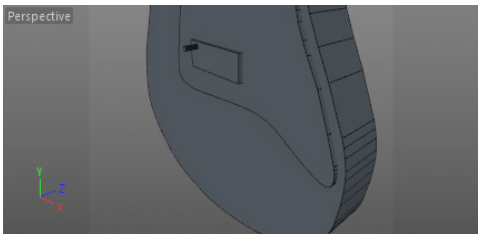

Figure 2-40 *The extruded Circle*

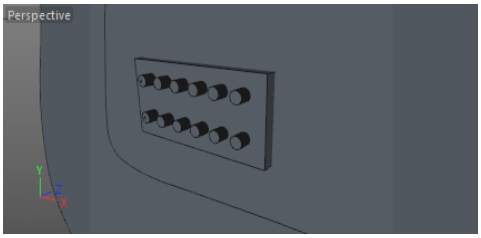

Figure 2-41 *Copies of Extrude.4 aligned*

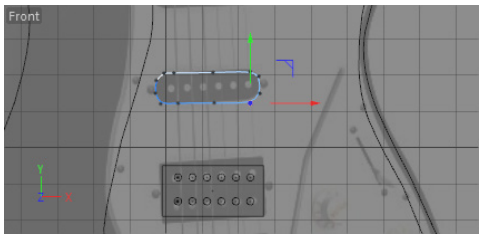

Figure 2-42 *The B-Spline shape displayed*

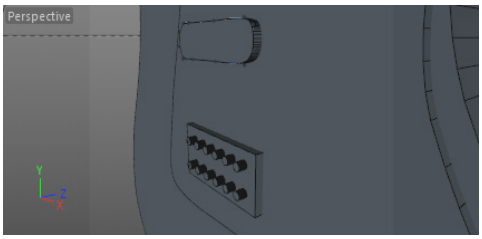

Figure 2-43 *The extruded spline*

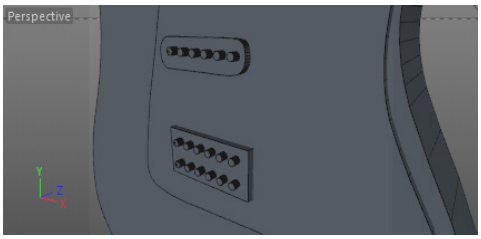

Figure 2-44 *Copies of Null aligned*

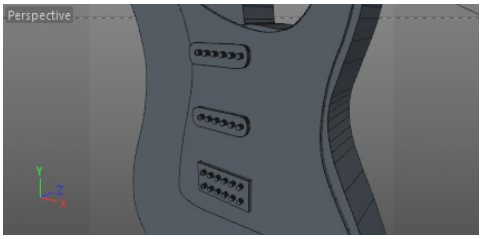

Figure 2-45 *Copies of Extrude.4 and Null.2 aligned*

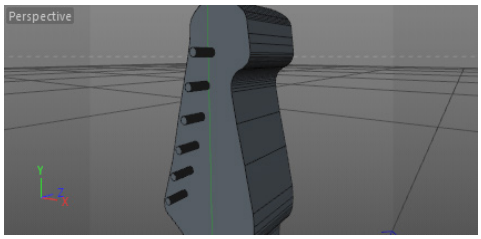

Figure 2-46 *Copies of Extrude.4 aligned with top part of the guitar*

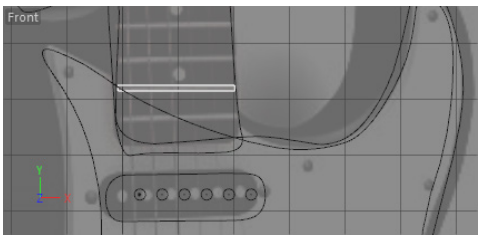

Figure 2-47 *The Rectangle aligned*

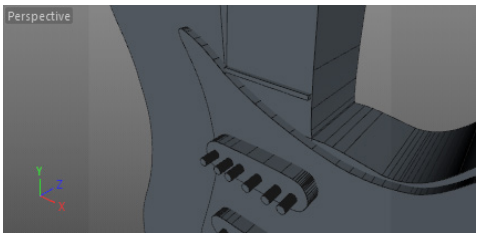

Figure 2-48 *The extruded rectangle*

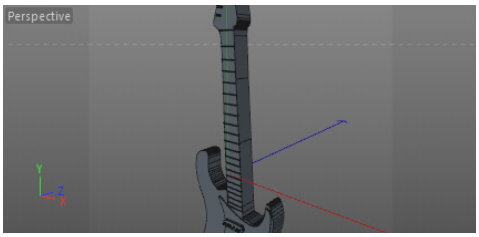

Figure 2-49 *Copies of Extrude.6 placed and aligned*

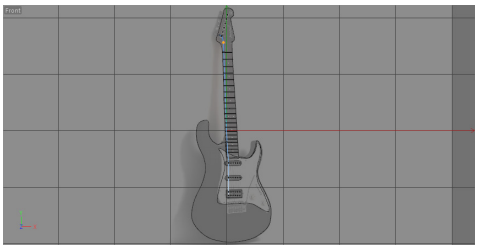

Figure 2-50 *The spline shape displayed in the Front viewport*

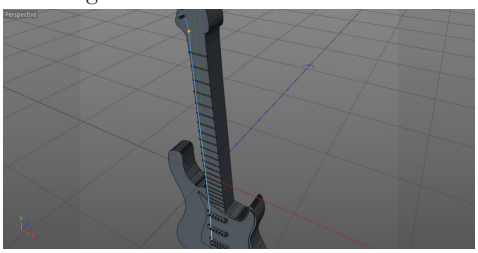

Figure 2-51 *The spline shape displayed in the Perspective viewport*

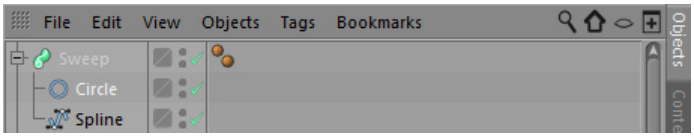

Figure 2-52 *The Circle and Spline objects connected to Sweep*

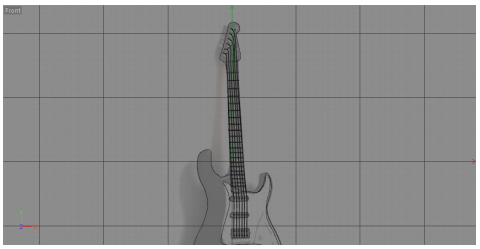

Figure 2-53 *The copies of the Sweep displayed in the Front viewport*

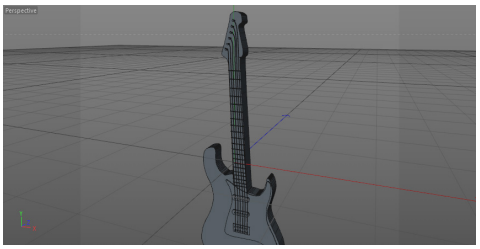

Figure 2-54 *The copies of the Sweep displayed in the Perspective viewport*

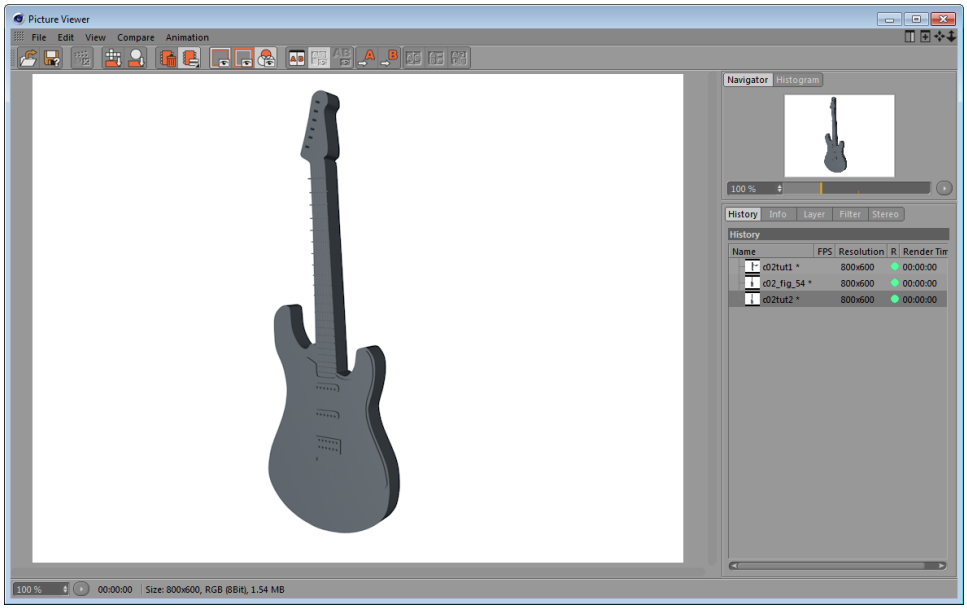

Figure 2-55 *The* ***Picture Viewer*** *window*

Figure 2-56 *Model of a hand bag*

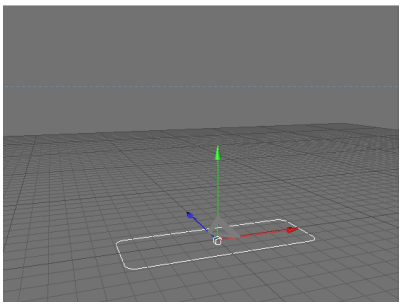

Figure 2-57 *Rectangle placed in the Perspective viewport*

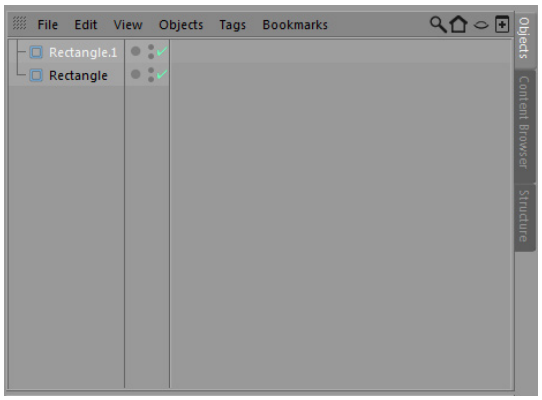

Figure 2-58 *Rectangle.1 added to the Object Manager*

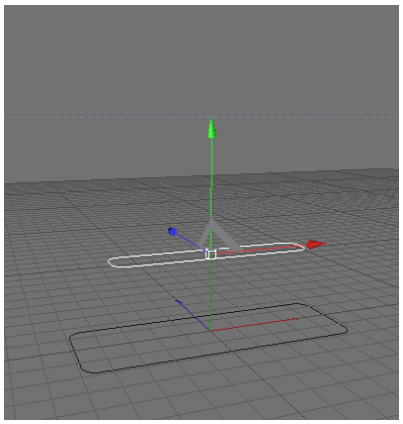

Figure 2-59 *Rectangle.1 placed in the Perspective viewport*

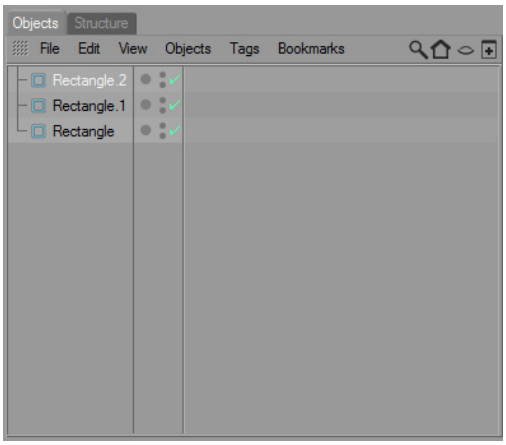

Figure 2-60 *Rectangle.2 added to the Object Manager*

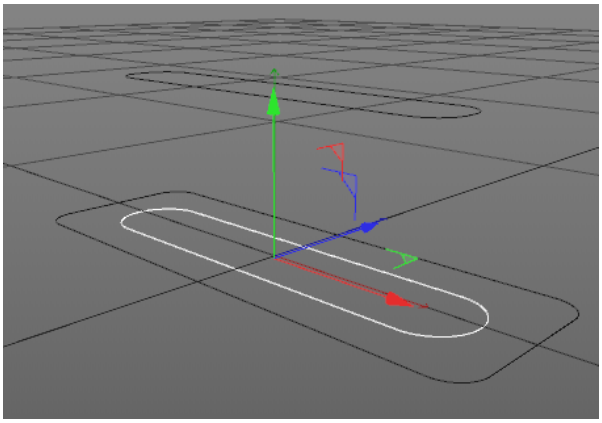

Figure 2-61 *Rectangle.2 placed in the Perspective viewport*

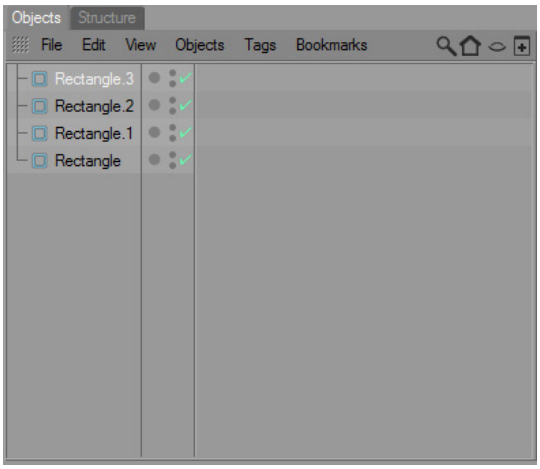

Figure 2-62 *Rectangle.3 added to the Object Manager*

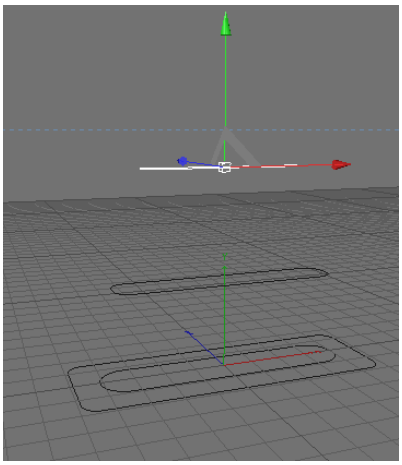

Figure 2-63 *Rectangle.3 placed in the Perspective viewport*

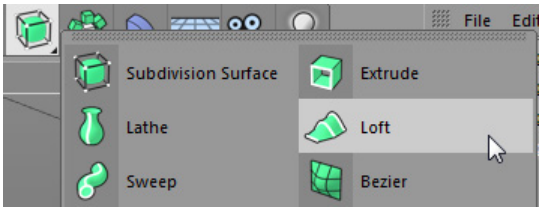

Figure 2-64 *Choosing* ***Loft*** *from the flyout*

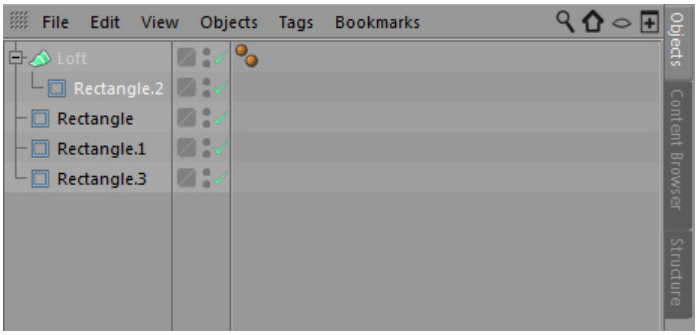

Figure 2-65 *Rectangle.2 connected to Loft in the Object Manager*

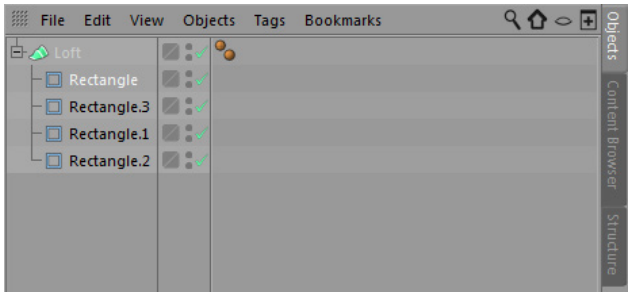

Figure 2-66 *Rectangle, Rectangle.1, and Rectangle.3 connected to Loft*

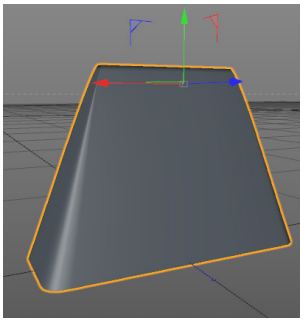

Figure 2-67 *All Rectangles lofted in the Perspective viewport*

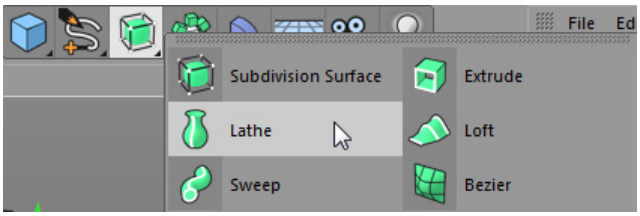

Figure 2-68 *Choosing* ***Lathe*** *from the flyout*

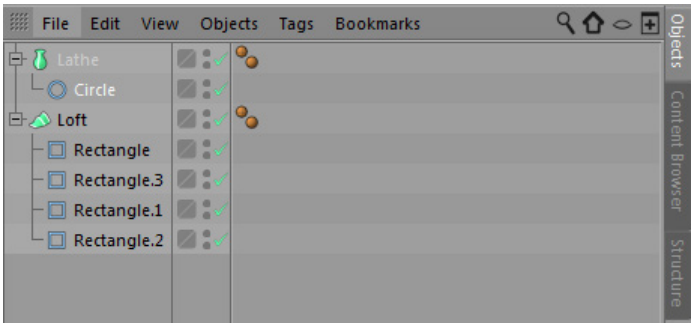

Figure 2-69 *Circle connected to Lathe in the Object Manager*

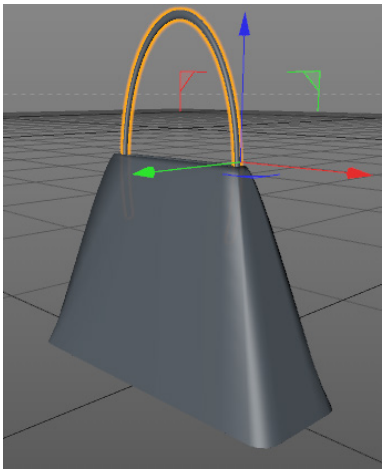

Figure 2-70 *The handle of the hand bag created*

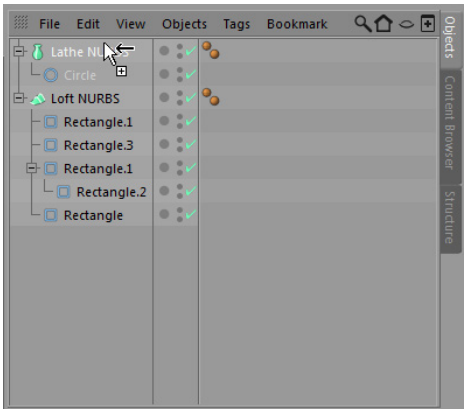

Figure 2-71 *The changed shape of the cursor in the Object Manager*

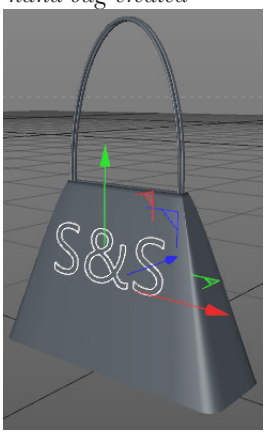

Figure 2-72 *The text placed in the Perspective viewport*

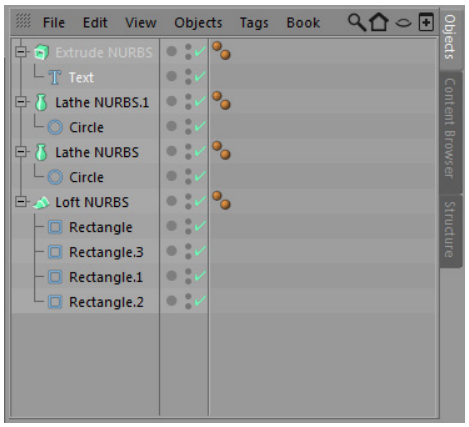

Figure 2-73 *Text connected to Extrude in the Object Manager*

Figure 2-74 *The extruded text on the hand bag*

Figure 2-75 *The model of the cigar pipe*

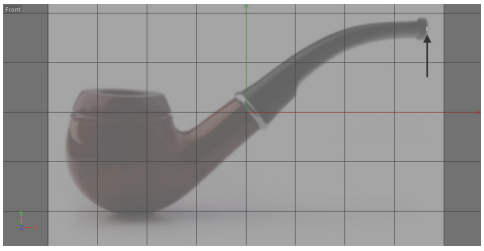

Figure 2-76 *Ellipse displayed in the Front viewport*

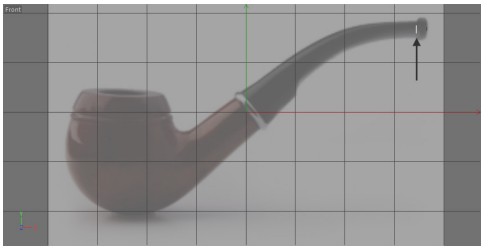

Figure 2-77 *Ellipse.1 displayed in the Front viewport*

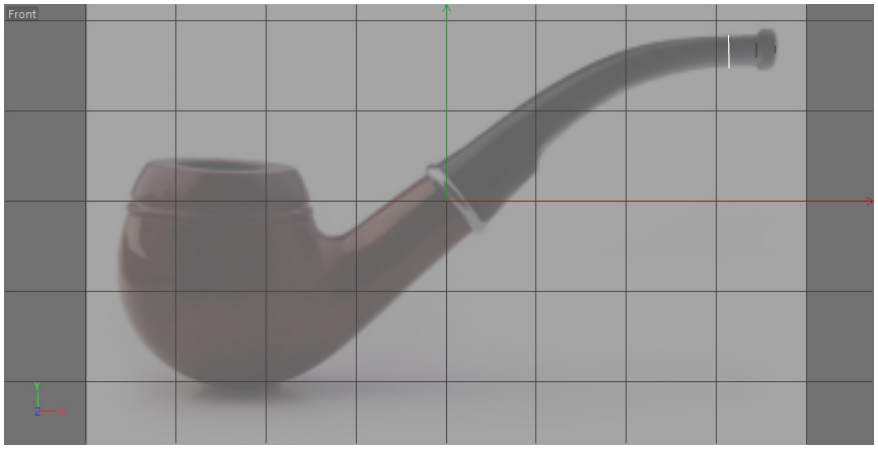

Figure 2-78 *Circle displayed in the Front viewport*

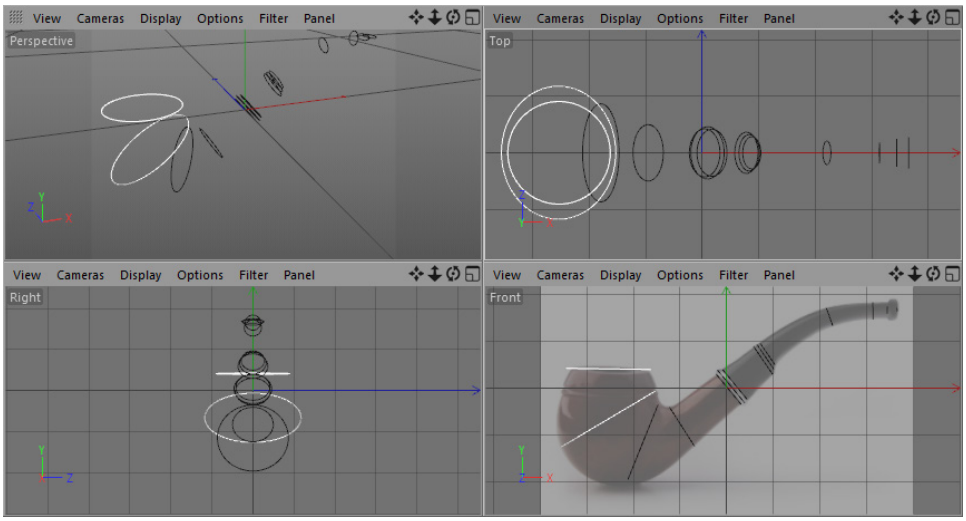

Figure 2-79 *The profile of the pipe displayed*

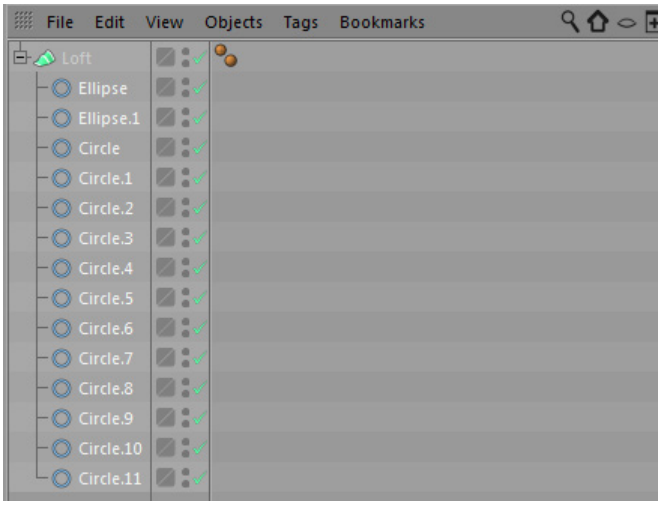

Figure 2-80 *The splines connected with Loft*

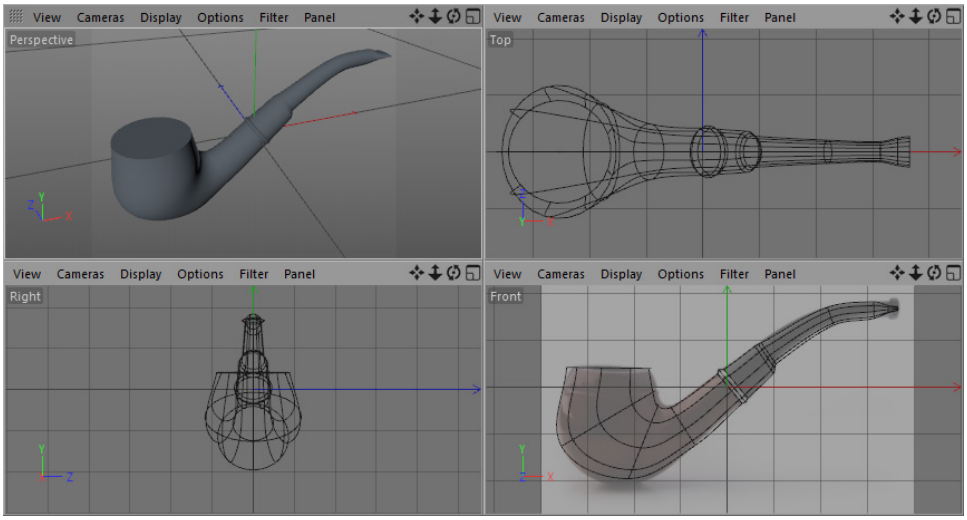

Figure 2-81 *The shape of the pipe displayed*

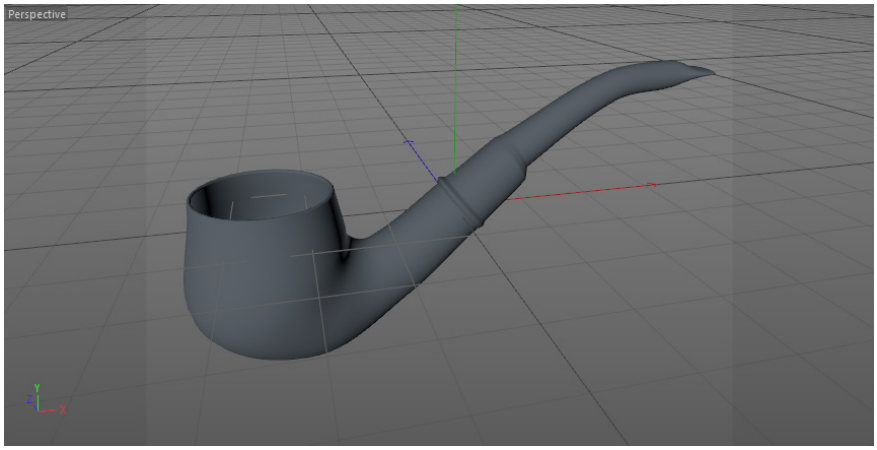

Figure 2-82 *The pipe with the fillet caps displayed*

(Expected time: 45 min)

Figure 2-83 *The model of a chair*

Figure 2-84 *The model of a table watch*