



# CO2 Car Blank

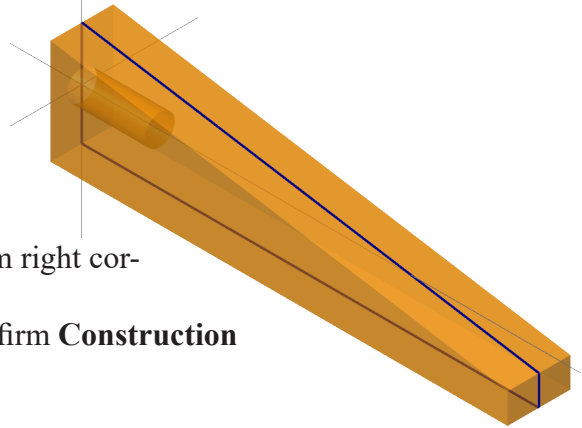
## A. Create Sketch.


Step 1. If necessary start a new Mastercam file, click

**New**  (Ctrl-N) on the Quick Access  
Toolbar QAT.

Step 2. Confirm **Metric units**. To confirm, in the bottom right corner of the display confirm units are **Metric**.

Also, on the Status bar at bottom of display confirm **Construction Mode is 2D** .

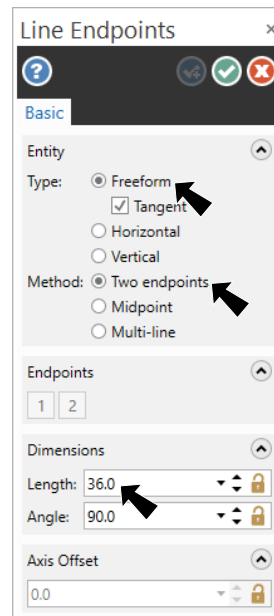


Step 3. Change to **Front View**. **Right click** in the graphics window and click  **Front (WCS)** (Alt-2).

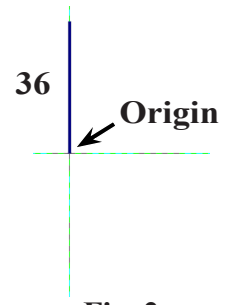
Step 4. If necessary display the Origin. Use **F9**.

Step 5. On the Wireframe tab  click **Line**

**Endpoints** 



**Fig. 1**



**Fig. 2**

Step 6. In the Line Endpoints function panel:

under Type, **Fig. 1**

select **Freeform**

under Method

select **Two endpoints**

Sketch line from Origin **up**, **Fig. 2**. To sketch line, click Origin and then click directly above.

under Dimensions

set **Length 36 (L)** and press **ENTER two times**

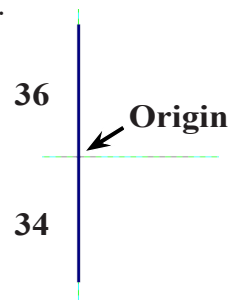
or click **OK and Create New Operation** .

Step 7. Sketch line **down** from Origin, **Fig. 3**.

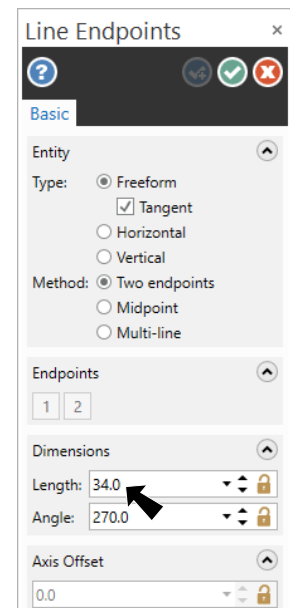
under Dimensions, **Fig. 4**

set **Length 34 (L)** and ENTER two times or


click **OK and Create New Operation** .



**Fig. 3**



**Fig. 4**

Step 8. Sketch line **across to right of endpoint of line, Fig 5.**  
 under Dimensions, **Fig. 6**  
 set **Length 305** and ENTER two times or  
 click **OK and Create New Operation** .

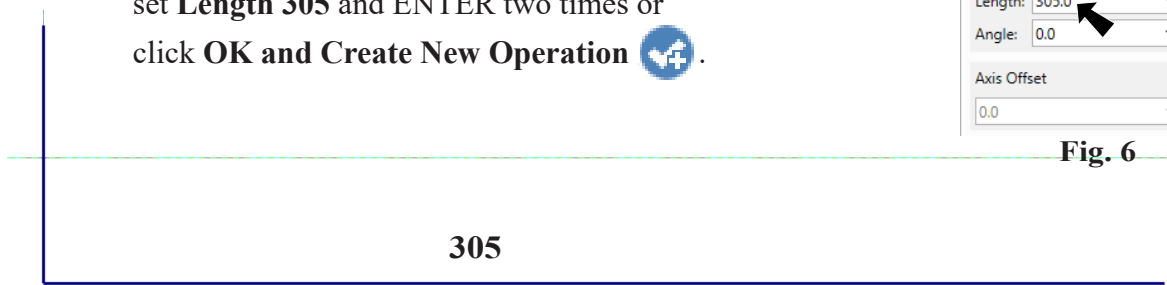


Fig. 5

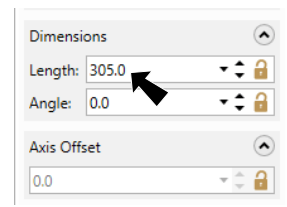




Fig. 6

Step 9. **Right click** the graphics window and click **Fit**  (Alt-F1) or **Page Down** key.

Step 10. Sketch line **up from endpoint of line, Fig 7.**  
 under Dimensions, **Fig. 8**  
 set **Length 20** and ENTER two times or  
 click **OK and Create New Operation** .

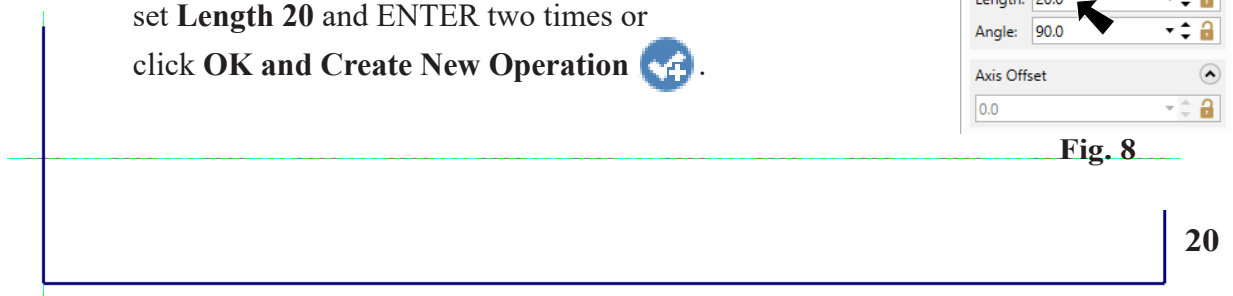


Fig. 7

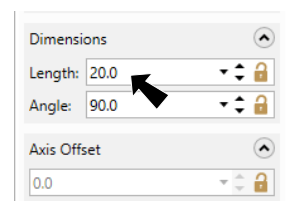



Fig. 8

Step 11. Sketch line **between endpoints, Fig 9.**  
 Click OK  when done.

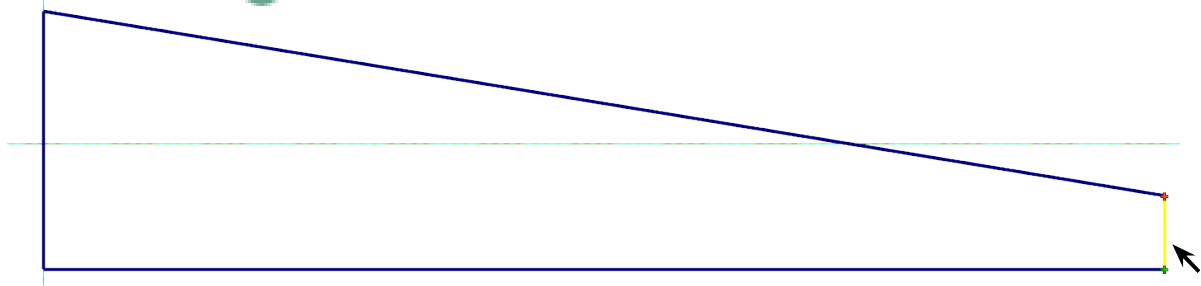


Fig. 9

Step 12. Click **Save As**  (Ctrl-Shift-S) on the Quick Access Toolbar QAT.

Step 13. Key-in **Blank** for file name and press ENTER.

**Tip:** Use **Analyze (F4 key)** to confirm a length, **Fig 10.** To use, press **F4** and click a line, **Fig 9.** Set units to mm. You can also change properties such as length in the Analyze function dialog box (2D Construction Mode only).

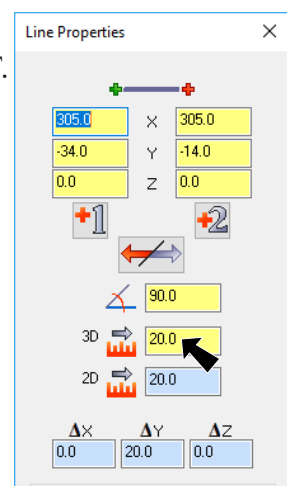


Fig. 10

## B. Levels.

Step 1. Display Levels Manager. Use **Alt-Z**.

Step 2. In the Levels Manager:

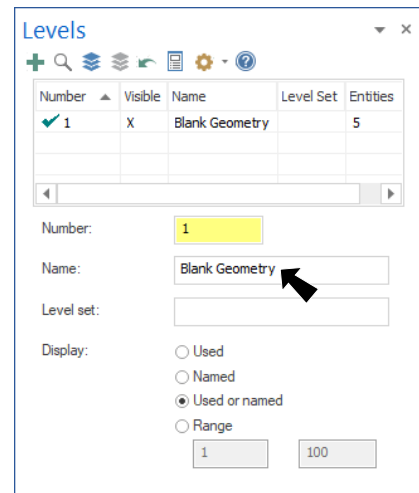
Key-in **Blank Geometry** in the Name field, **Fig. 11**.

Key-in **2** in the Number field and **Solids** in the Name field, **Fig. 12**.

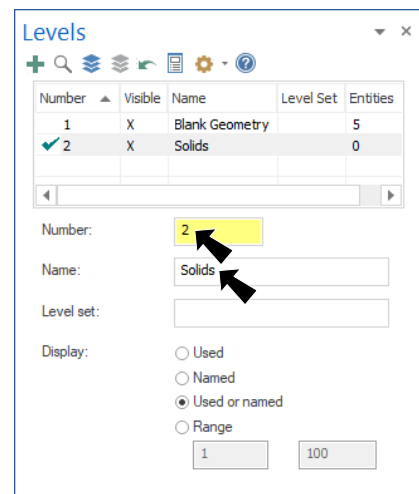
Key-in **3** in the Number field and **Geometry** in the Name field, **Fig. 13**.

Click **2** in Number column to make **Solids** level active ✓, **Fig. 14**.

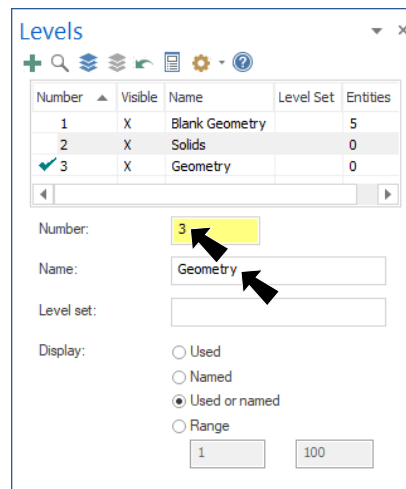
Step 3. Save  (Ctrl-S).



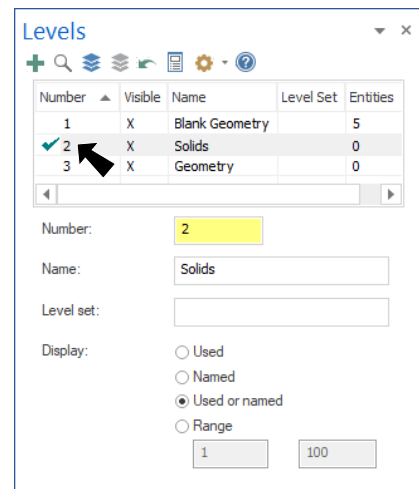
**Fig. 11**



**Fig. 12**




**Fig. 13**



**Fig. 14**

### C. Extrude Solid.

Step 1. **Right click** in the graphics window and on the Mini Toolbar click **Solid Color**  drop down arrow, then click **orange**, Fig. 15.

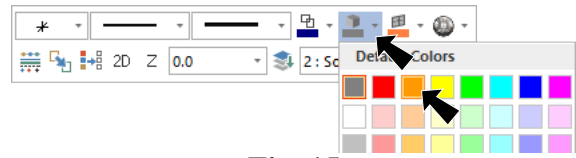

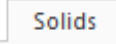
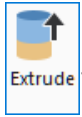



Fig. 15

Step 2. Change to the Isometric View. **Right click** in the graphics window and click  **Isometric (WCS)** (Alt-7).

Step 3. On the Solids tab  click **Extrude** .

Step 4. Click **Chain**  (C) in Chaining dialog box, Fig. 16.

Step 5. Click **any geometry**, Fig. 17.

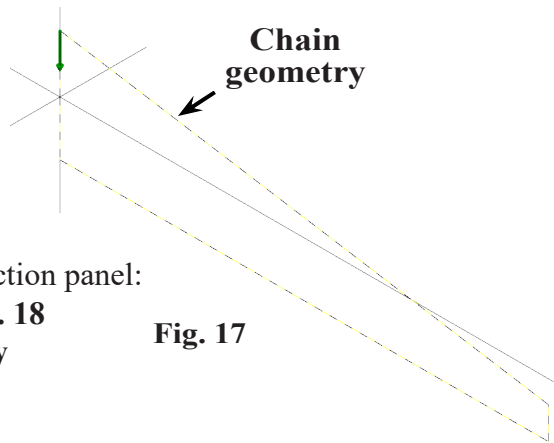


Fig. 17

Step 6. Click OK  in Chaining dialog box.

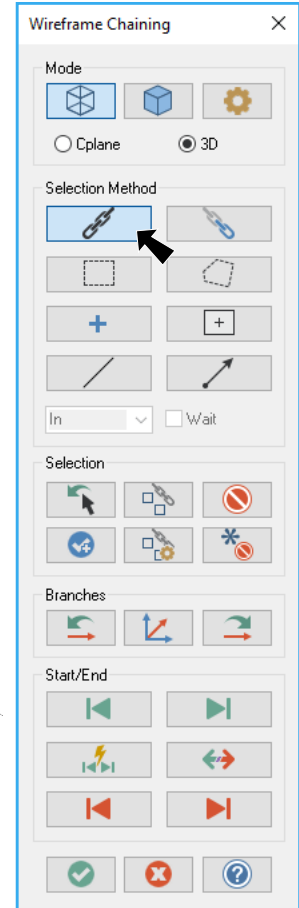



Fig. 16

Step 7. In the Solid Extrude function panel:  
 under Operation, Fig. 18  
 select **Create body**  
 under Distance  
**Distance 21**  
 check **Both directions**  
 Click OK .

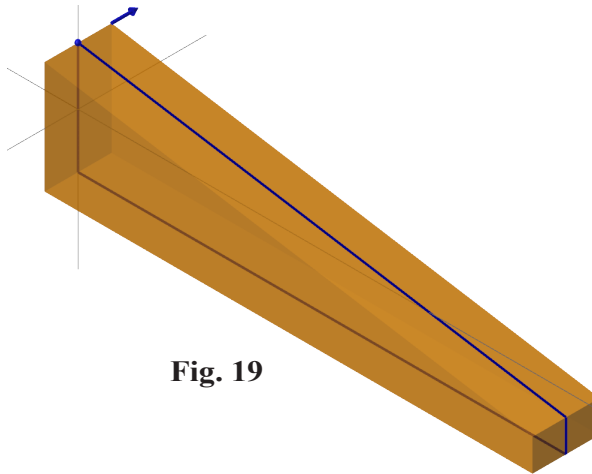


Fig. 19

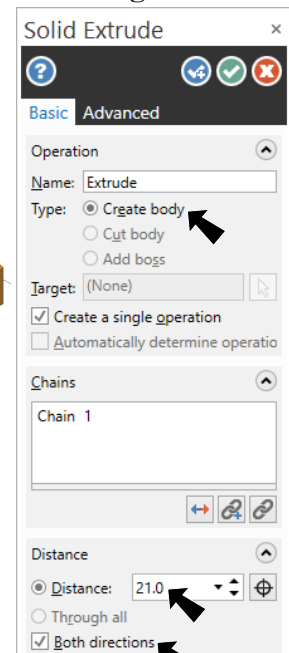

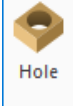



Fig. 18


## D. Hole.

Step 1. Use **Ctrl-T** to toggle **Translucency on**.

Step 2. **Right click** in the graphics window and click **GView > Left (WCS)** from the menu.

Step 3. On the Solids tab  click **Hole** .

Step 4. In the Hole function panel:  
under Plane Orientation, **Fig. 20**  
click **Select Face**  button  
click **rear face on solid body**, **Fig. 21**  
under Position

click **Add Auto Cursor Position**  button  
click **Origin** on solid body and **press ENTER**, **Fig. 21**  
under Depth

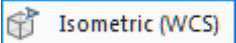
**Distance 52**

**Bottom angle 0**


under Hole Style

**Type Simple**

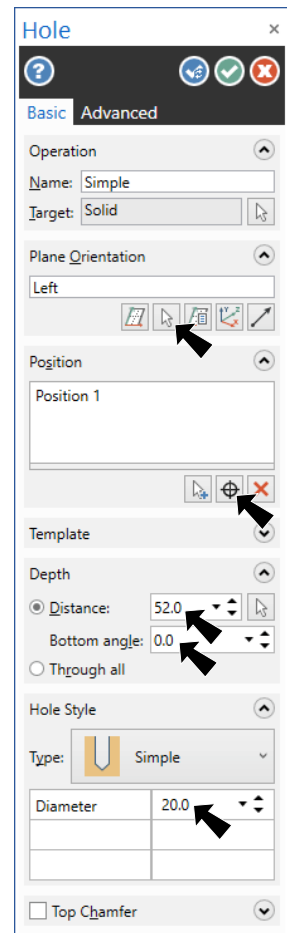
**Diameter 20**

Change to the Isometric View to get better view. **Right click** in the graphics window and click  **Isometric (WCS)** (**Alt-7**).

Click OK .

Step 5. Save   
(**Ctrl-S**).

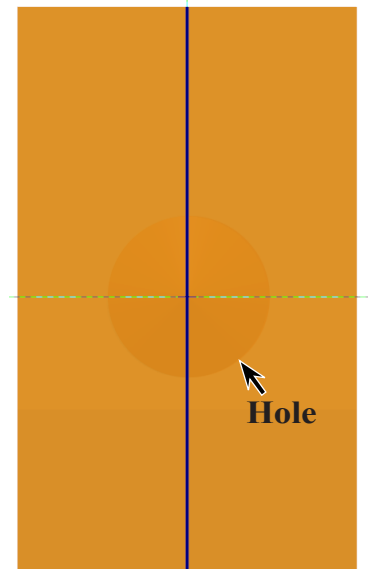
**More Levels on next page.**



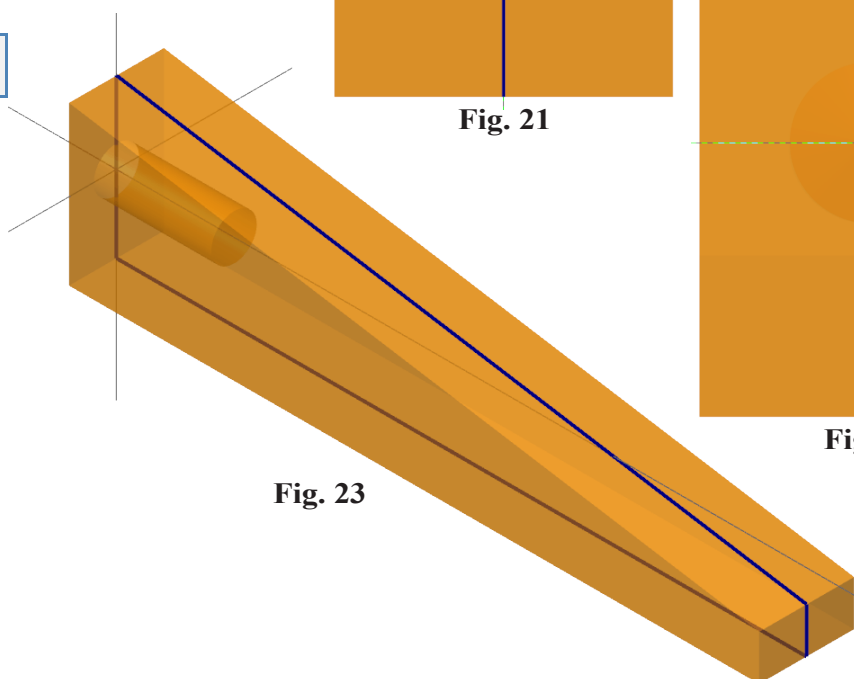
**Fig. 20**



**Fig. 21**



**Fig. 22**



**Fig. 23**

## E. Copy Blank Geometry to Level 3.

Step 1. If necessary, display Level Manager (**Alt-Z**).

Step 2. In the Levels Manager:

Click **Blank Geometry** level in the Number column to make active ✓, **Fig. 24**.

Use **Ctrl-C** to copy the geometry on Blank Geometry level.

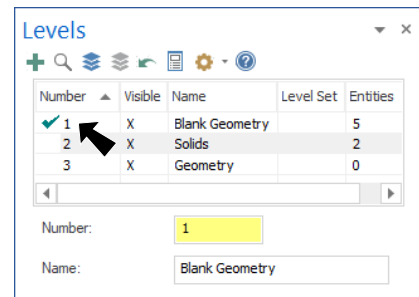
Click **Geometry** level in the Number column to make active ✓, **Fig. 25**.

Use **Ctrl-V** to copy the geometry into Geometry level.

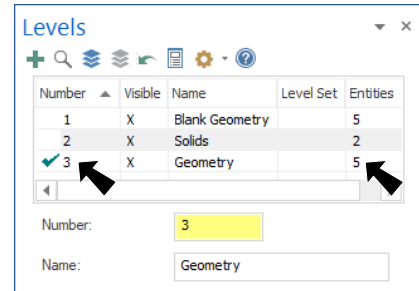
Confirm **5 entities** on **Geometry** level, **Fig. 25**.

**Hide Blank Geometry and Solids levels.** To hide, click to remove X in Visible column of **Blank Geometry** and **Solids** levels, **Fig. 26**.

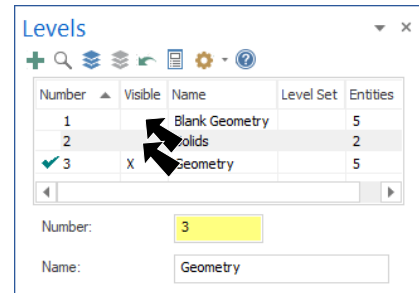
Step 3. Save  (**Ctrl-S**).



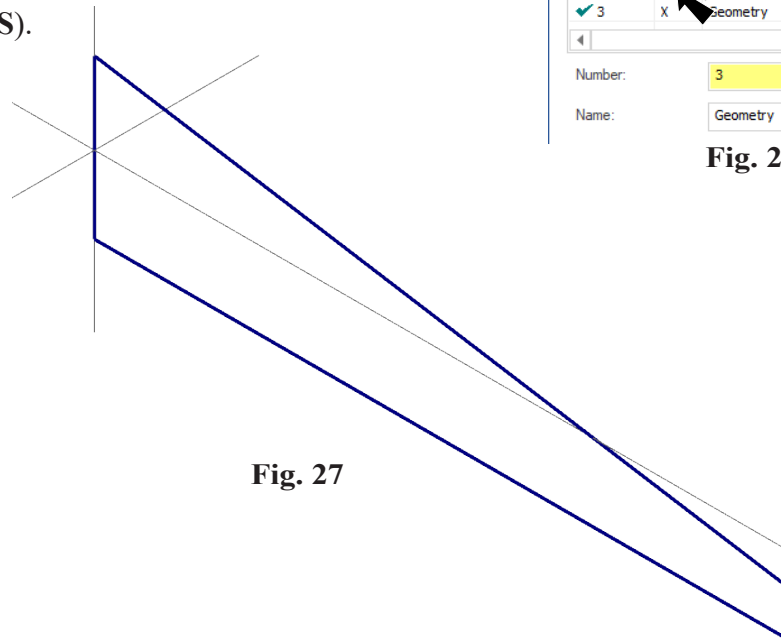
**Fig. 24**



**Fig. 25**



**Fig. 26**



**Fig. 27**