bottom flange are also symmetrical to the third claw. The bottom flange is used for reinforcing the first right claw and the second right claw to prevent any deformation thereof. In particular, the bottom flange prevents the widening deformation between the first right claw and the second right claw.

[0041] The first right claw optionally comprises a first right arm connected to the pin; a first right adapter connected to the first right arm opposite to the pin; and a first right tip connected to the first right adapter opposite to the first right arm. The first right tip has a first right edge that is used for breaking the felled tree. The first right adapter is used for securing the first right tip. Similarly, the first right arm may have a first right through hole at a top end of the first right arm; and the first right adapter is connected to a bottom end opposite to the top end of the first right arm. The first right tip may also have a tapered configuration in an inclined plane with an angle ranging from minus 30 degrees (-30°) to 30 degrees (30°) at the first right edge.

[0042] The second right claw optionally comprises a second right arm connected to the pin; a second right adapter connected to the second right arm opposite to the pin; and a second right tip connected to the second right adapter opposite to the second right arm. The second right tip has a second right edge that is used for breaking the felled tree. The second right adapter is used for securing the second right tip. Similarly, the second right arm may have a second right through hole at a top end of the second right arm; and the second right adapter is connected to a bottom end opposite to the top end of the second right arm. The second right tip may also have a tapered configuration in an inclined plane with an angle ranging from minus 30 degrees (-30°) to 30 degrees (30°) at the second right edge.

[0043] The right supporting part optionally comprises a fifth plate (plate E) below the pin; a sixth plate (plate F) connected to the fifth plate; a right cylinder (cylinder B) connected to the sixth plate; a seventh plate (plate G) embedded in the right cylinder; and an end plate connected to the right cylinder. The fifth plate, the sixth plate, the seventh plate and the end plate are designed for covering up gaps within the right supporting part in order to hold more woody materials. In this way, the grappler-splitter becomes more efficient

[0084] Fig. 14 illustrates a top view of the right jaw 300. The left jaw 200 is symmetrical to an imaginary central line 309. It is clearly shown that the first right tip 316 and the second right tip 326 are outwardly.

[0085] Fig. 15 illustrates a rear view of the right jaw 300. It is clearly shown that the first projecting portion 367 is connected to an inner side of the first right arm 312 and near the first right adapter 314; and the second projecting portion 368 is connected to an inner side of the first right arm 312 and near the second right adapter 324.

[0086] Fig. 16 illustrates a side perspective view of the right jaw 300. The fifth plate 360, the sixth plate 362, the first right cylinder 372, the seventh plate 364, the second right cylinder 374 and the end plate 366 are connected in sequence. The first right through hole 318 and the first right adapter 314 are located at two ends of the first right arm 312, respectively.

[0087] Fig. 17 illustrates an exploded view of the grappler-splitter 100.

[0088] Fig. 18 illustrates an isometric view of the grappler-splitter 100 mounted on an excavator 400. The excavator 400 has an excavator arm 402 connected to the pin 102 for moving the grappler-splitter 100 in three dimensions. The excavator 400 further has a first hydraulic cylinder 404 and a second hydraulic cylinder 406 connected to the left axle 106 and the right axle 108 for closing or opening the left jaw 200 and the right jaw 300, respectively.

[0089] Fig. 19 illustrates a side view of the grappler-splitter 100 mounted on the excavator 400. The first jaw 200 performs a closing action and an opening action pivoting on the first axle 106 when the first hydraulic cylinder 404 moves backwardly and forwardly, respectively. Similarly, the second jaw 300 performs a closing action and an opening action pivoting on the second axle 108 when the second hydraulic cylinder 406 moves backwardly and forwardly, respectively.

[0090] Fig. 20 illustrates an isometric view of the grappler-splitter 100 connected to the excavator arm 402. A joint hinge 408 is connected between the excavator arm 400 and the first hydraulic cylinder 404 for linking the movements of the excavator arm 400 and