**Consider the load at joint (2).** The left-hand abutment reaction when the load is in this position will be

$$\frac{1}{4}(8{,}000) = 2{,}000,$$

since the load is $\frac{1}{4}$ th of the total load from the left abutment.

Take a section through the members VB and BJ. Consider the forces acting on the portion of the truss to the left of this section. (This portion to the left may be considered as a solid body.) The forces acting on this body are in equilibrium, and act as represented in Fig. 142.

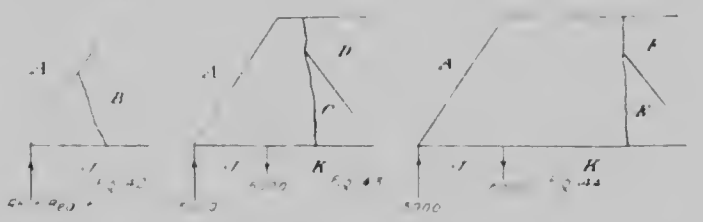
$$\Sigma Y = Y_{LV} - Y_{VB} - Y_{BJ} = 0,$$

$$2{,}000 - 1.5\,VB = 0,$$

$$VB = -1{,}250.$$

VB is evidently in Compression 1,250 pounds.

Consider the forces acting on the portion of the truss to the left of a section through the members VD, DC, and CK. In this case, and all of the following cases, the area underneath the lower chords to the left of the load will be lettered J, and the area to the right of the load lettered K. It is seen that these areas will change whenever the load takes up a new position. (See Fig. 143.)




$$\Sigma Y = Y_{LV} - Y_{VD} - Y_{DC} - Y_{CK} - Y_{KL} = 0,$$

$$2{,}000 - 0 - DC \cdot 1.5 - 0 - 0{,}000 = 0,$$

$$DC = \frac{2{,}000}{1.5} = 1{,}250.$$

The member DC is in Compression 1,250 pounds.

By taking a section through the members VE, EE, and EK and considering the forces acting on the truss to the left of this section (see Fig. 144), the member EE may also be shown to be in Compression 1,250 pounds.

**Consider the load at joint (3).** The left-hand abutment reaction in this case is $\frac{2}{3}(8{,}000) = 4{,}000$ pounds.