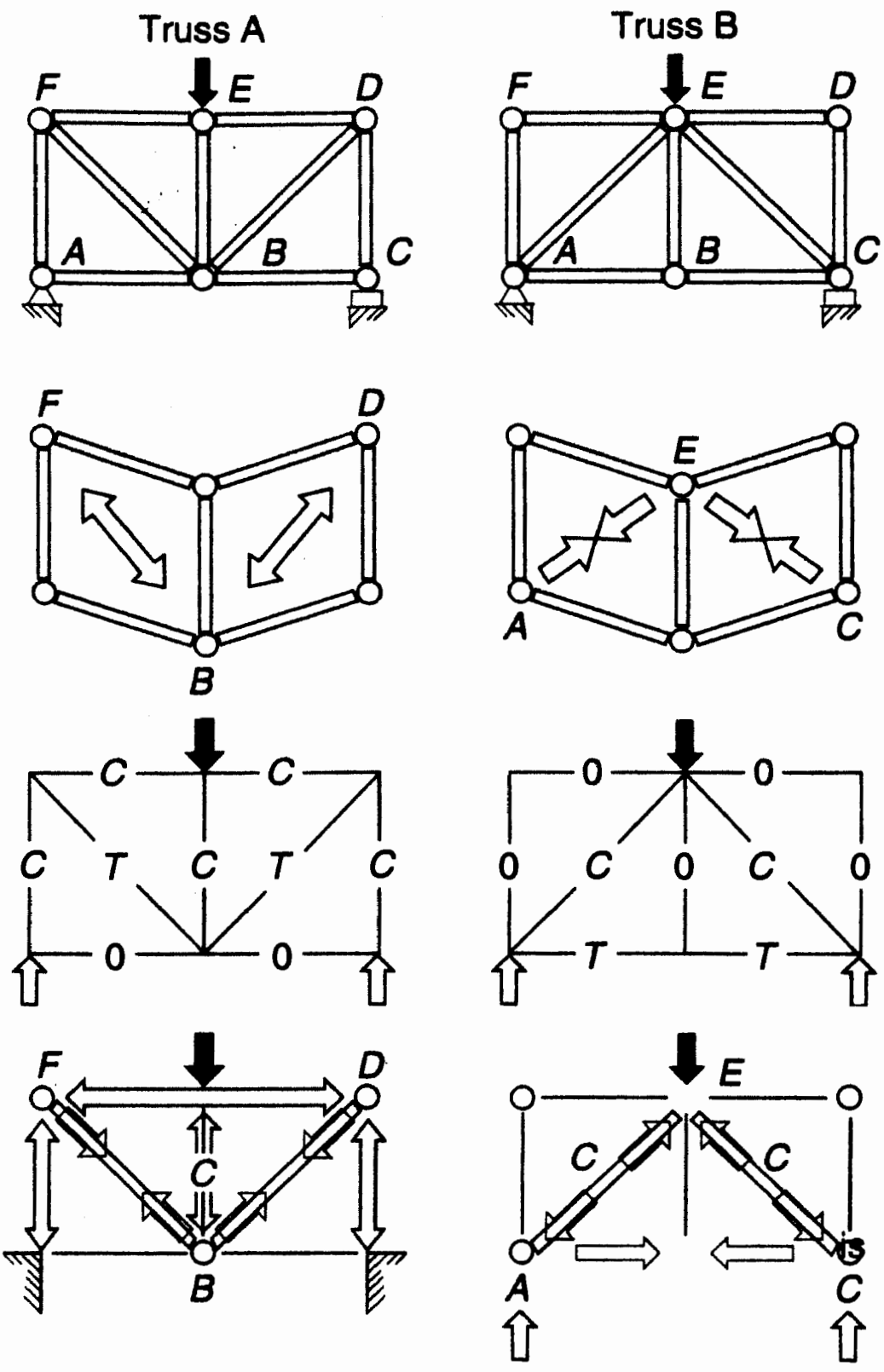
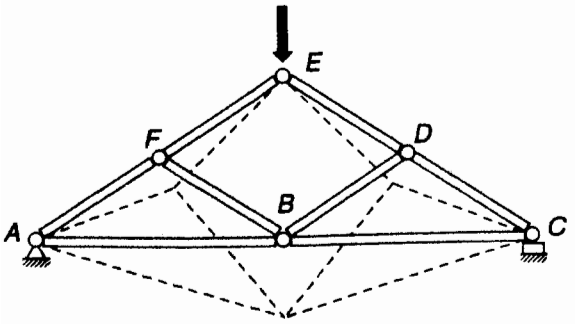
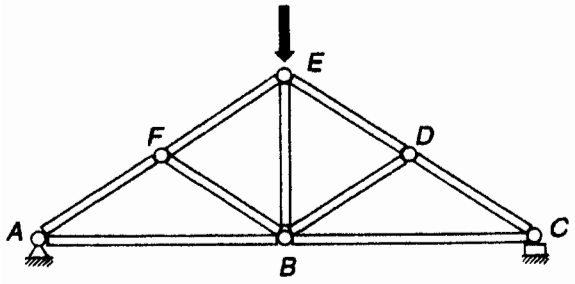
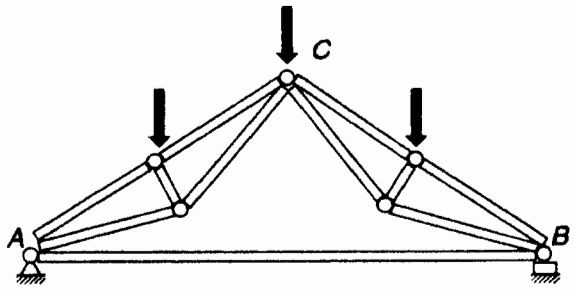

Truss A
Truss B
F
E
D
A
B
C
C
T
0
T



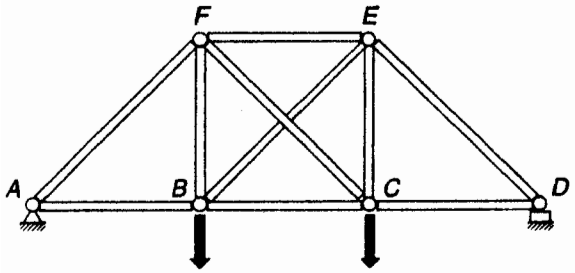
(a) Unstable truss: the nontriangulated central area of the truss will greatly distort under an applied loading, which will lead to a collapse of the entire truss.



(b) Stable truss: the bar pattern is fully triangulated.

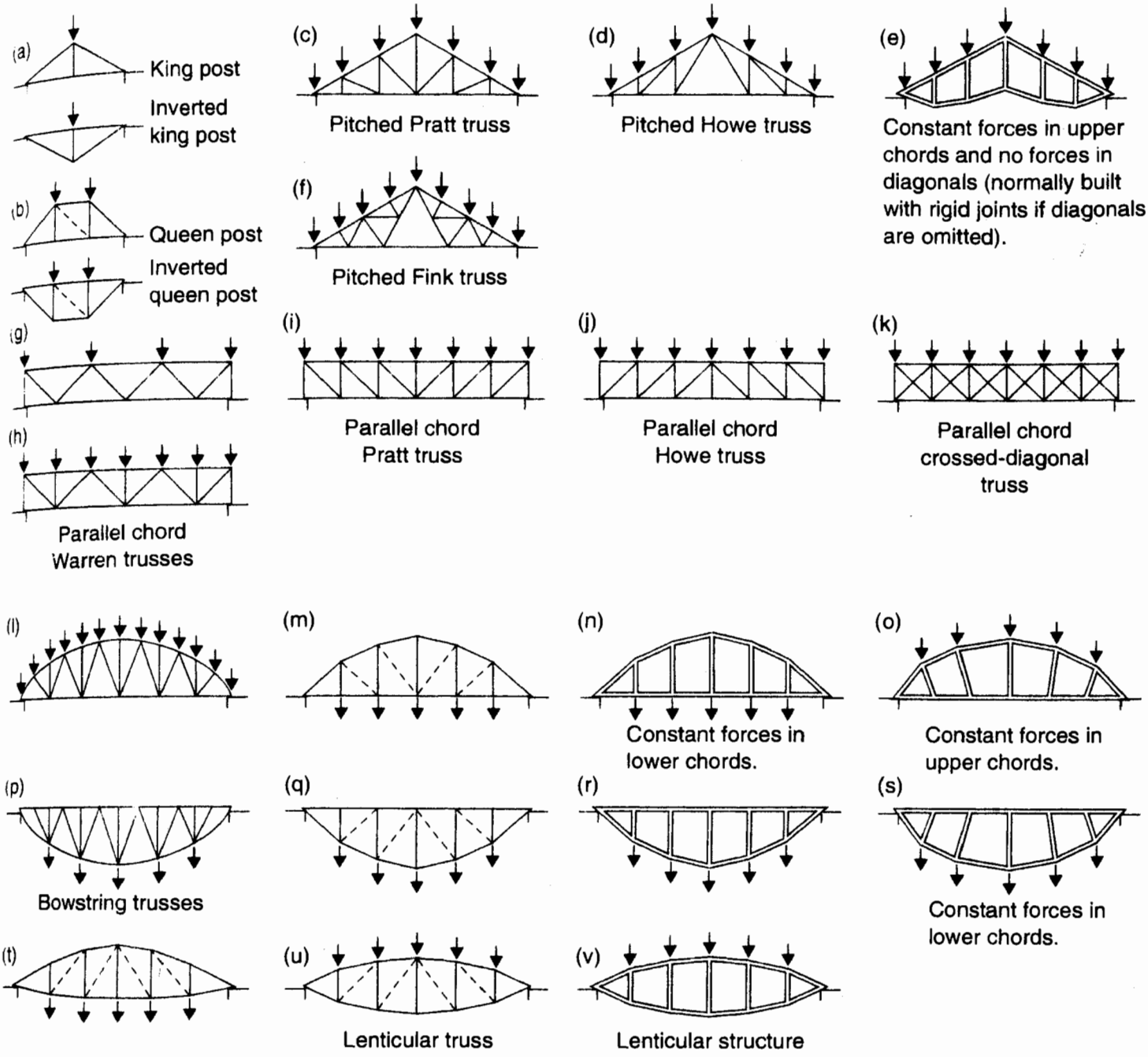


(c) Nontriangular bar pattern that is still stable.

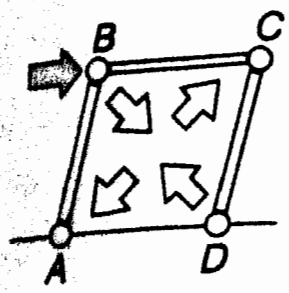


(d) Stable truss with more than the

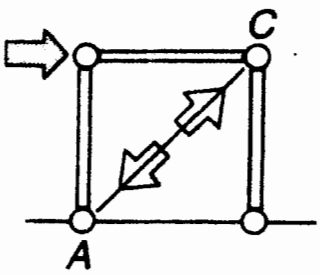
FIGURE 4.6 Internal stability. Nontriangulated forms may collapse.



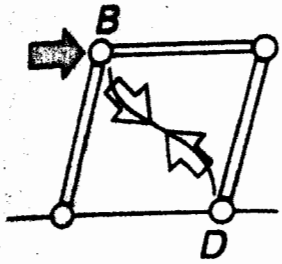
Funicularly shaped trusses: depths vary with bending moment (horizontal components of chord forces are equal and diagonals are zero-force members under design loadings). Shaped trusses with no diagonals are built with rigid joints to handle varying loadings (see Chapter 9 on rigid-frame structures).



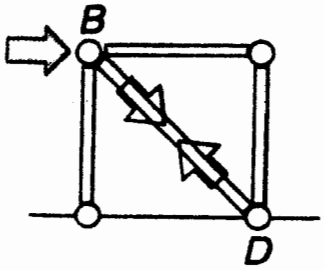
(a)



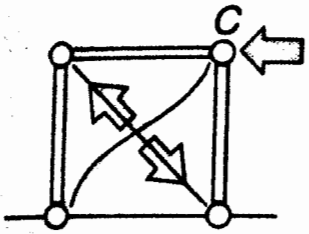
(b)



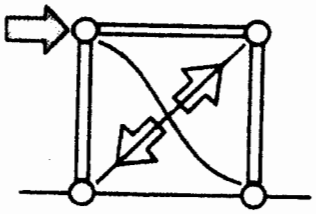
(c)



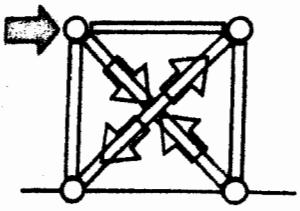
(d)



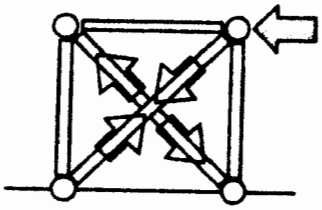
(e)



(f)



(g)



(h)