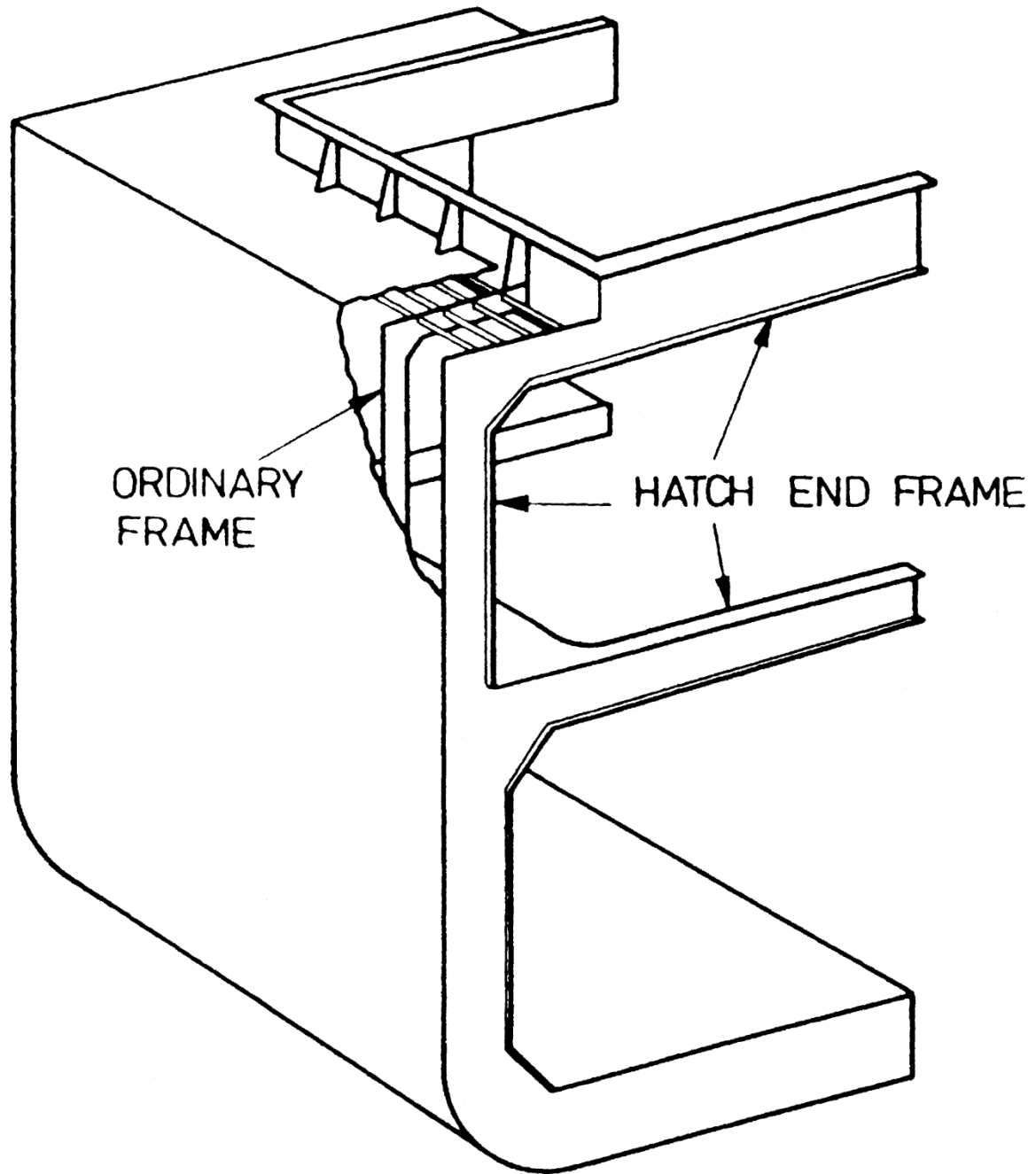
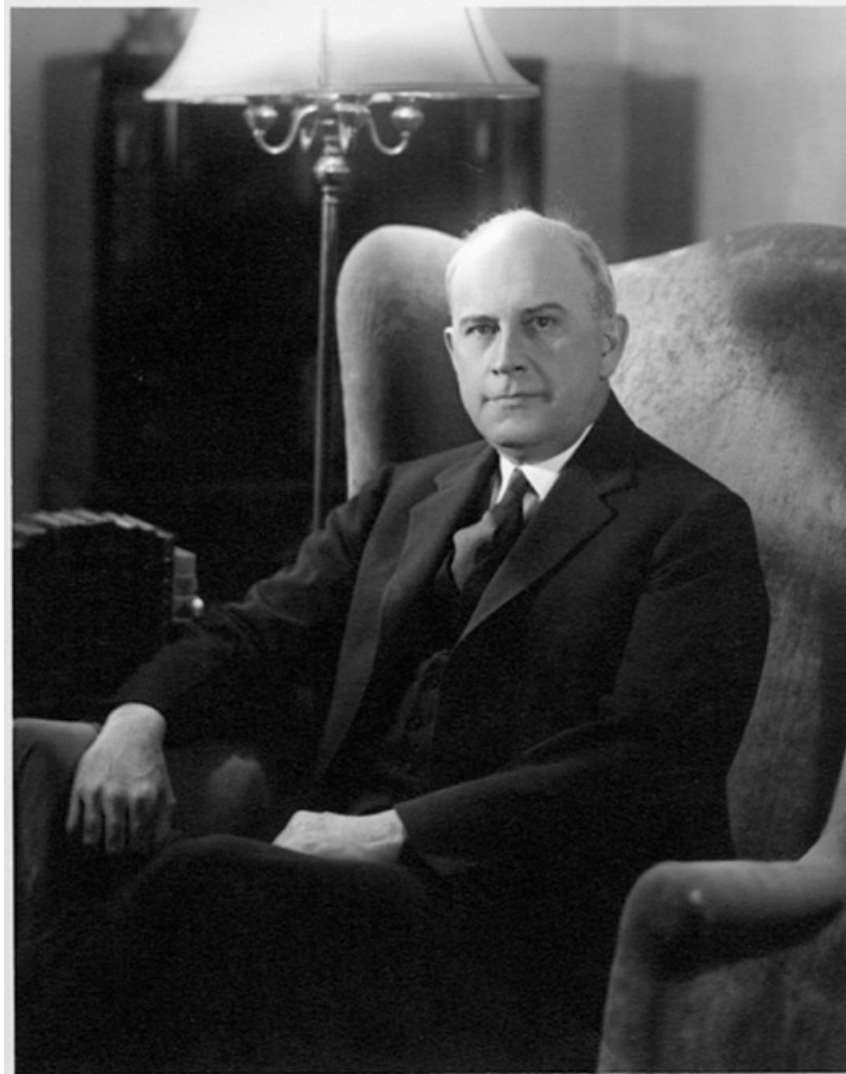


COSTRUZIONI NAVALI II

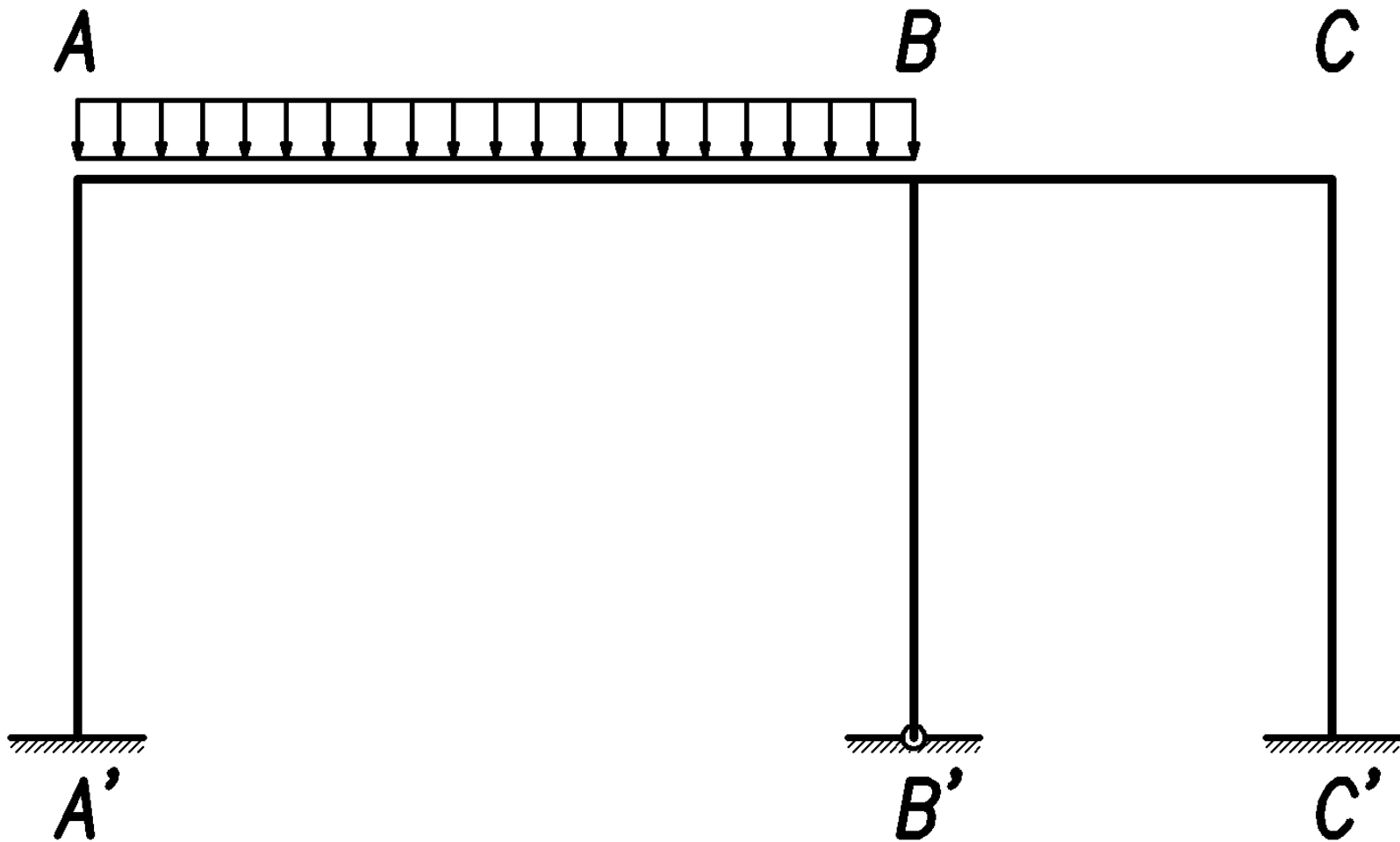
2

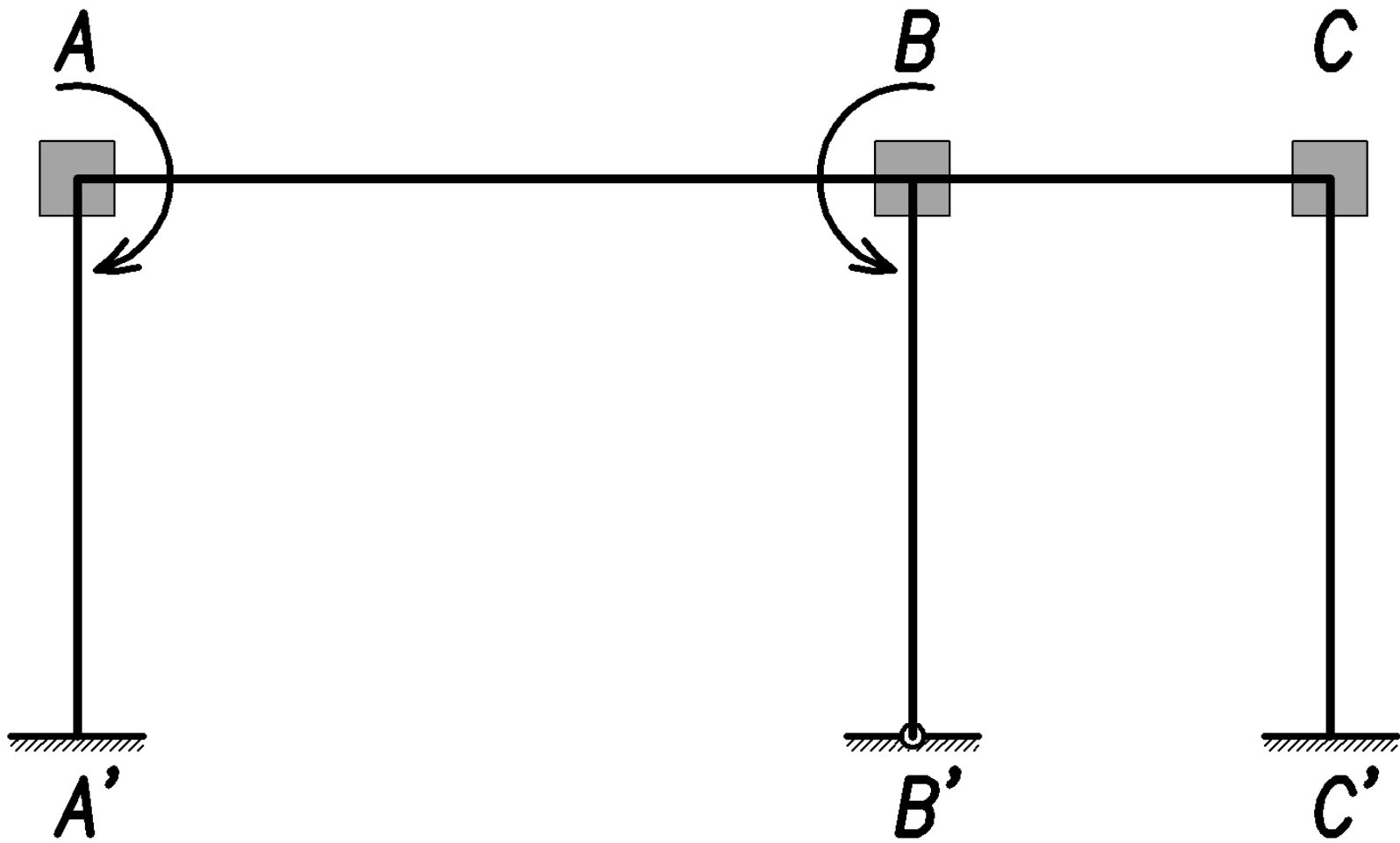


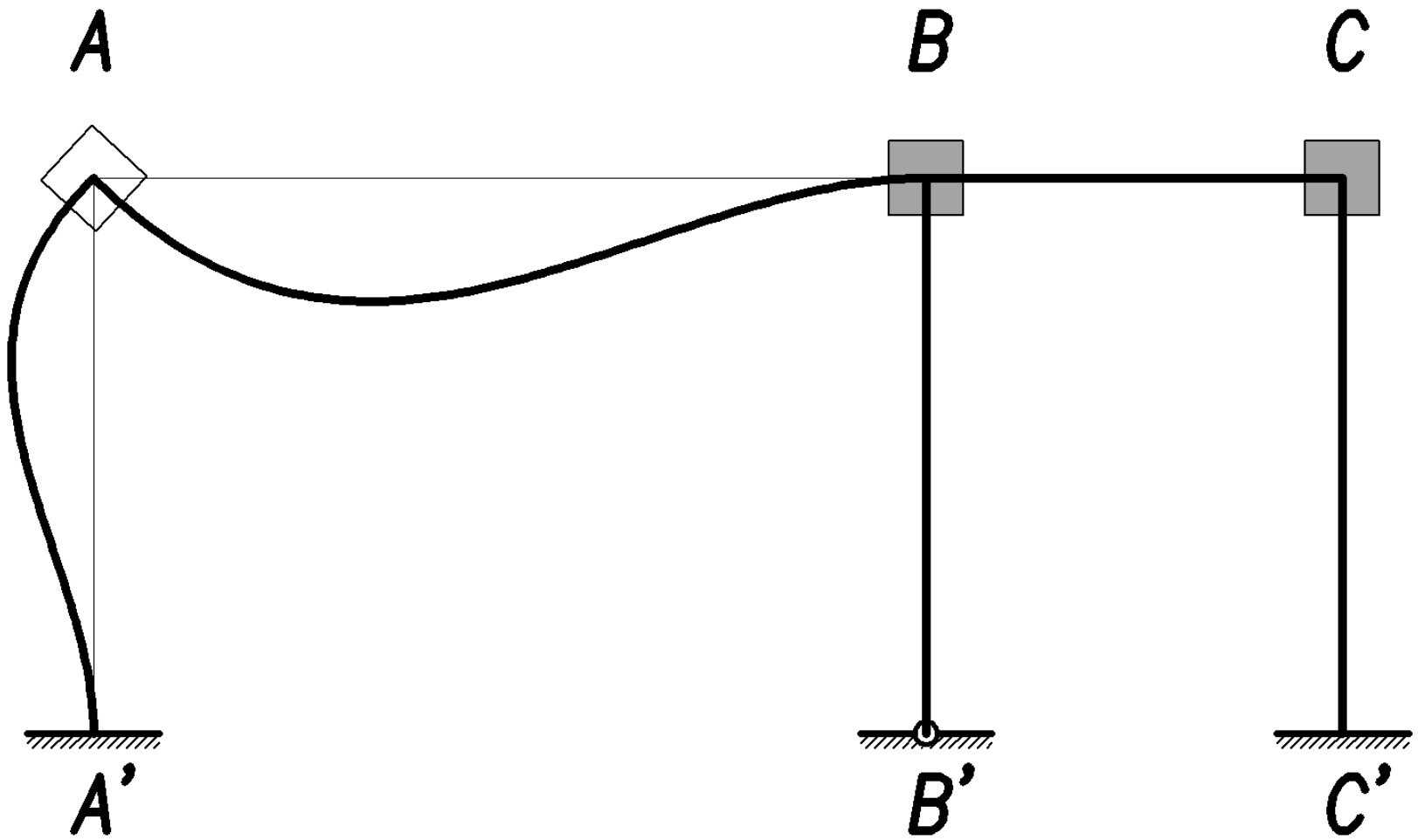


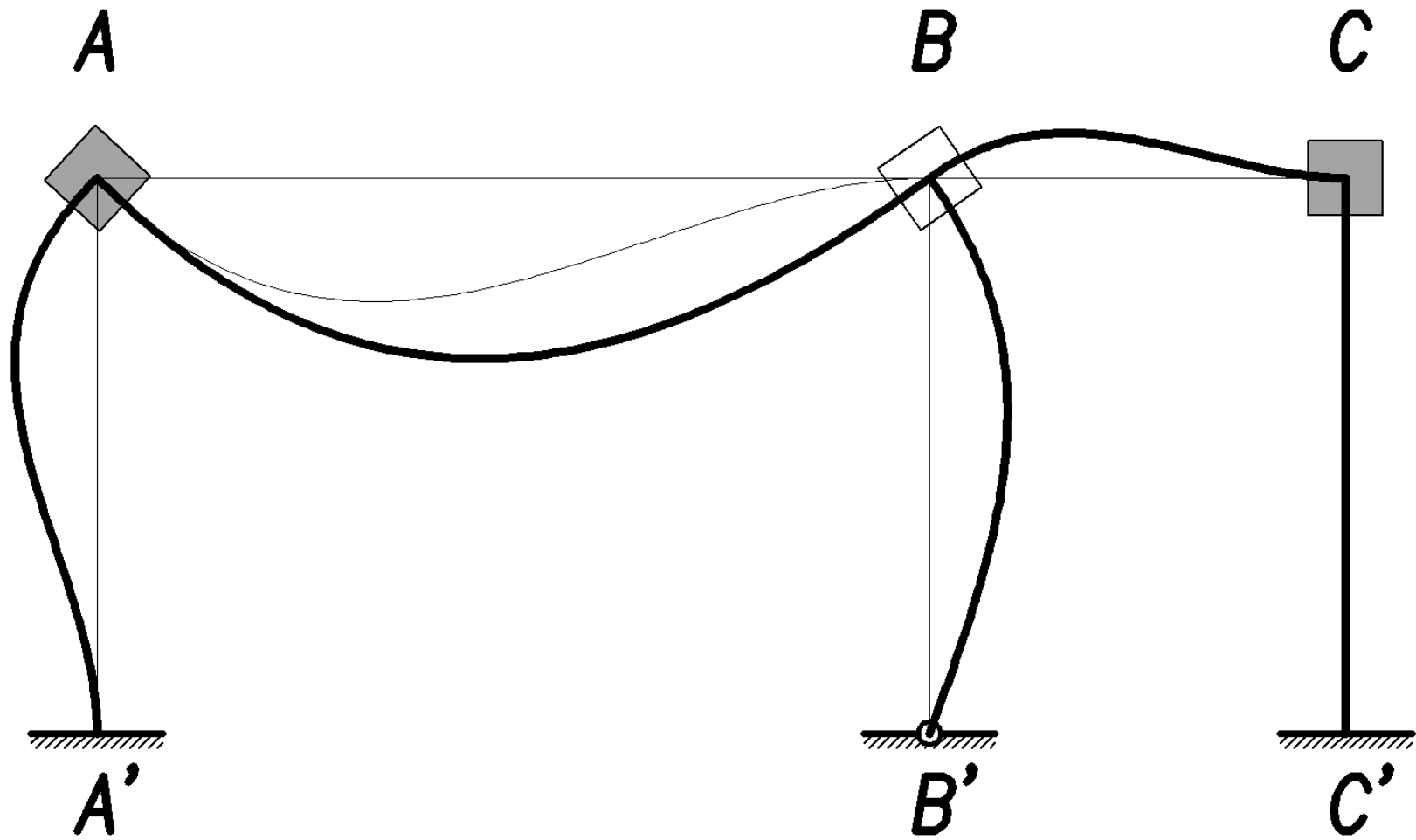
Hardy Cross

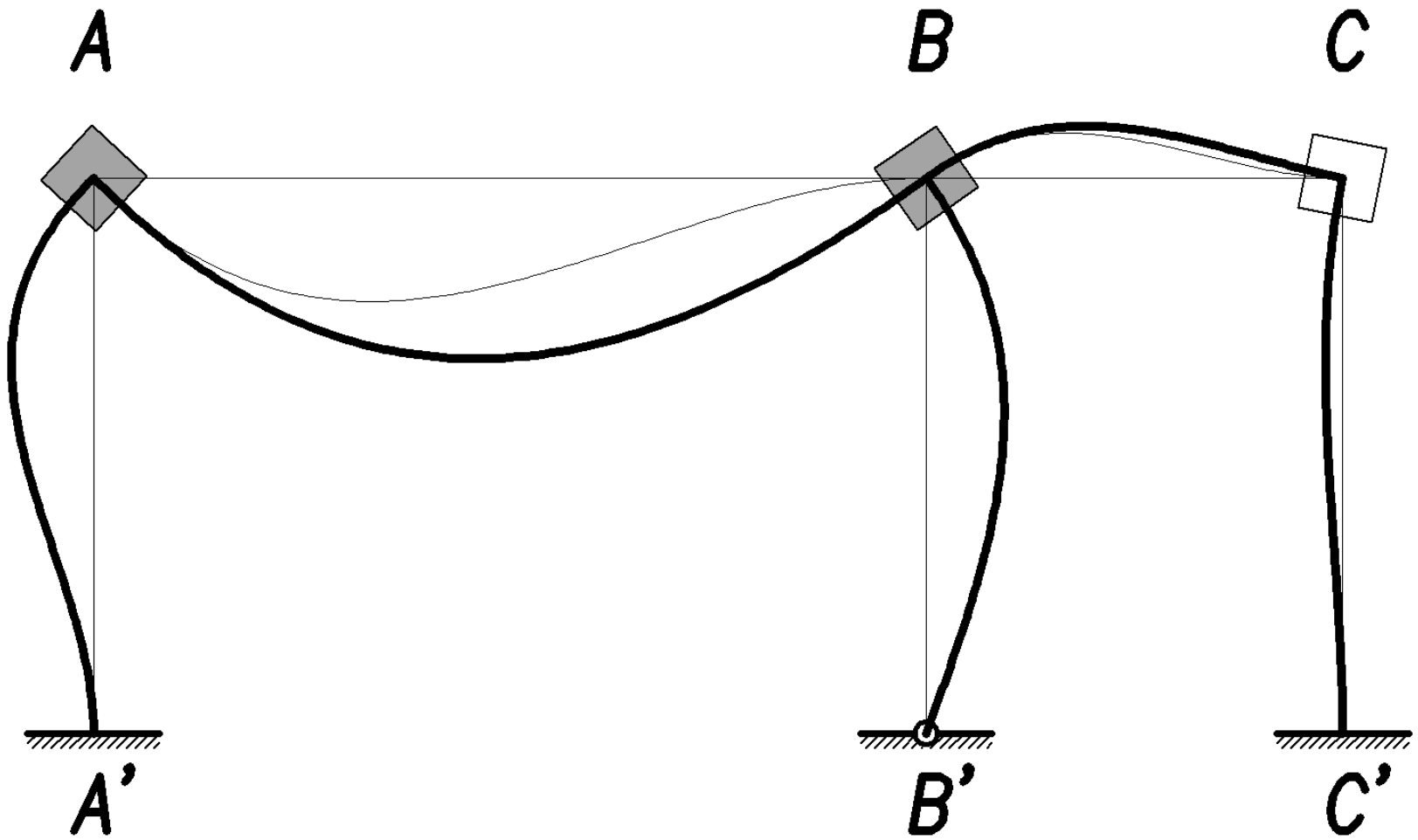
**Hardy Cross
(1885-1959)**

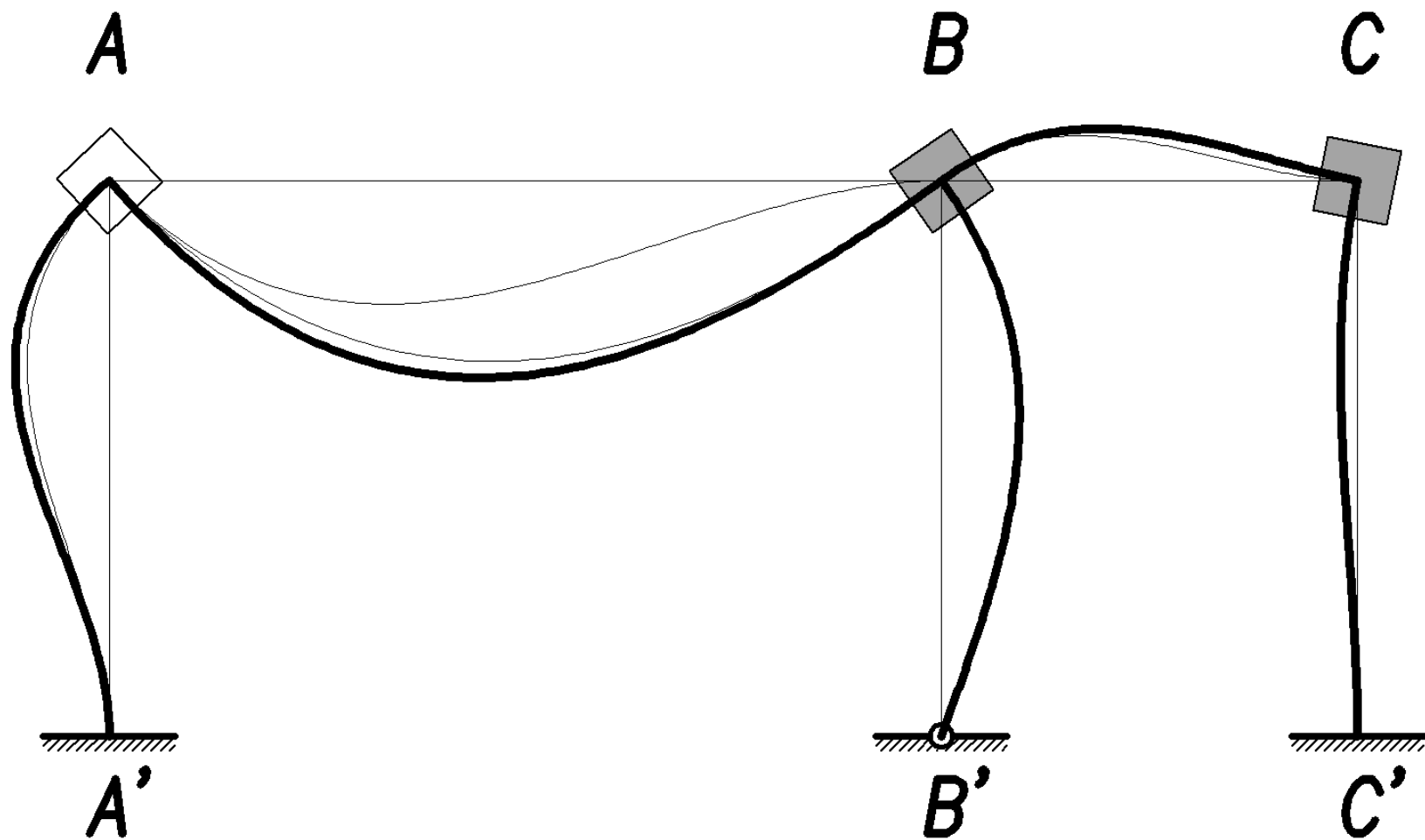


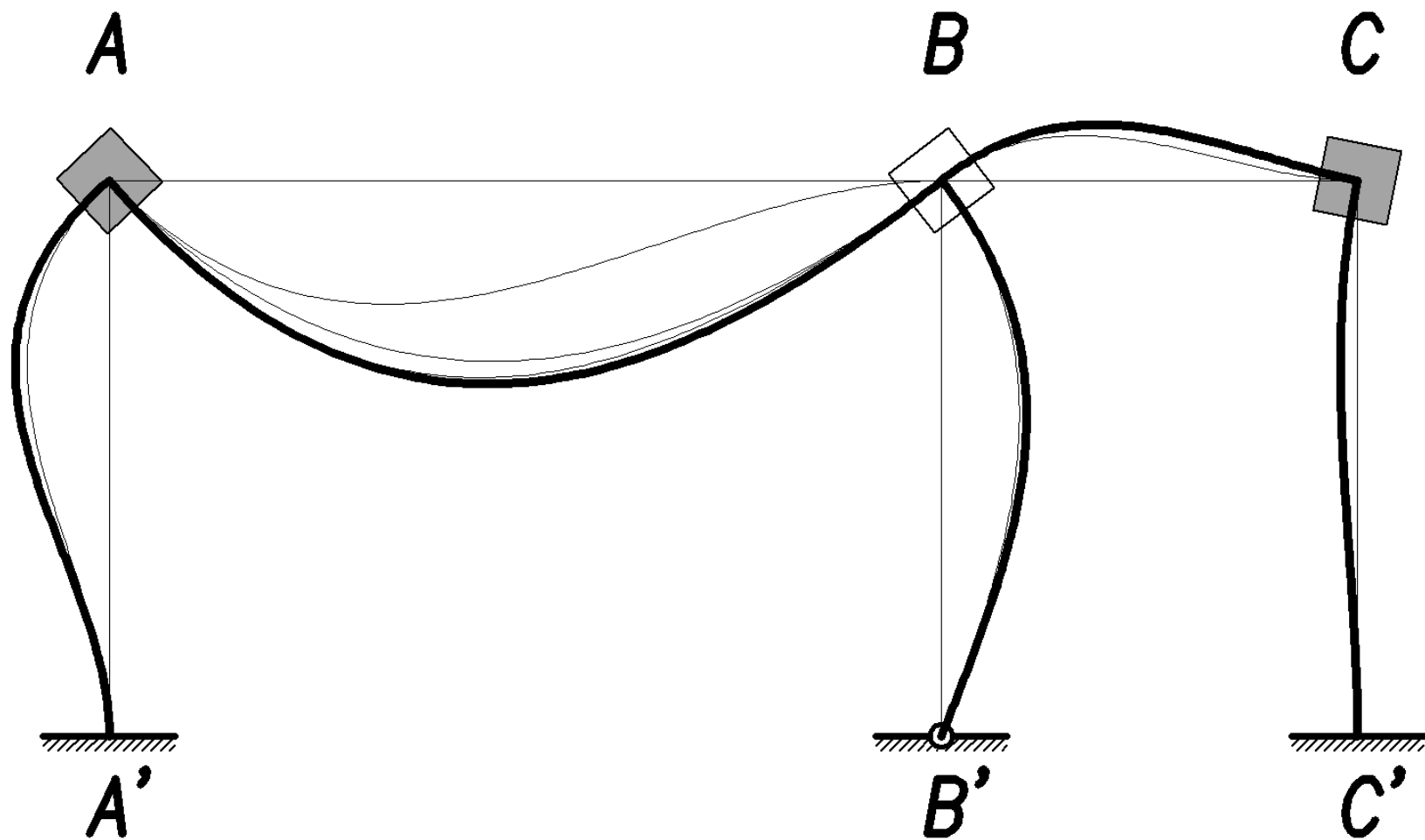


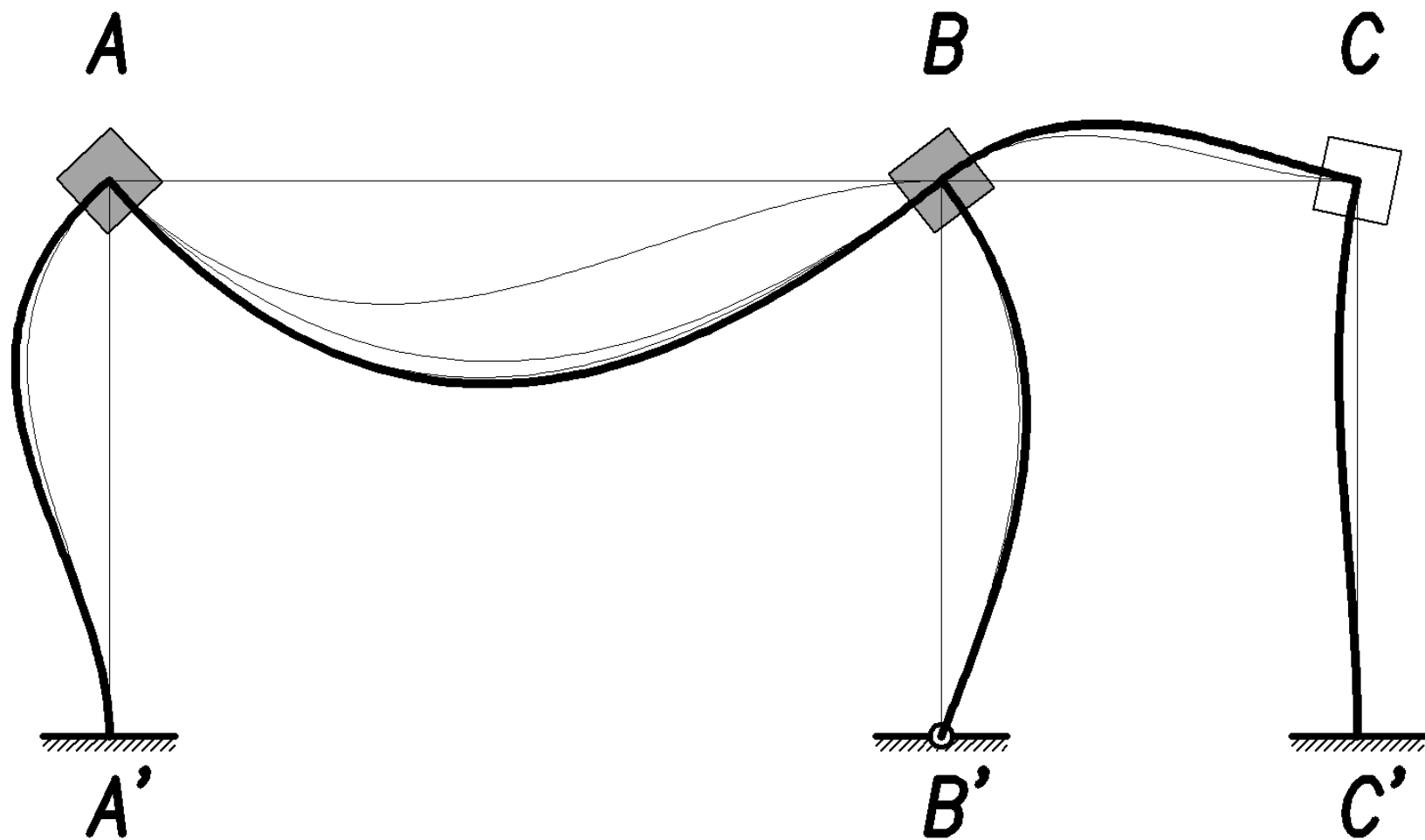


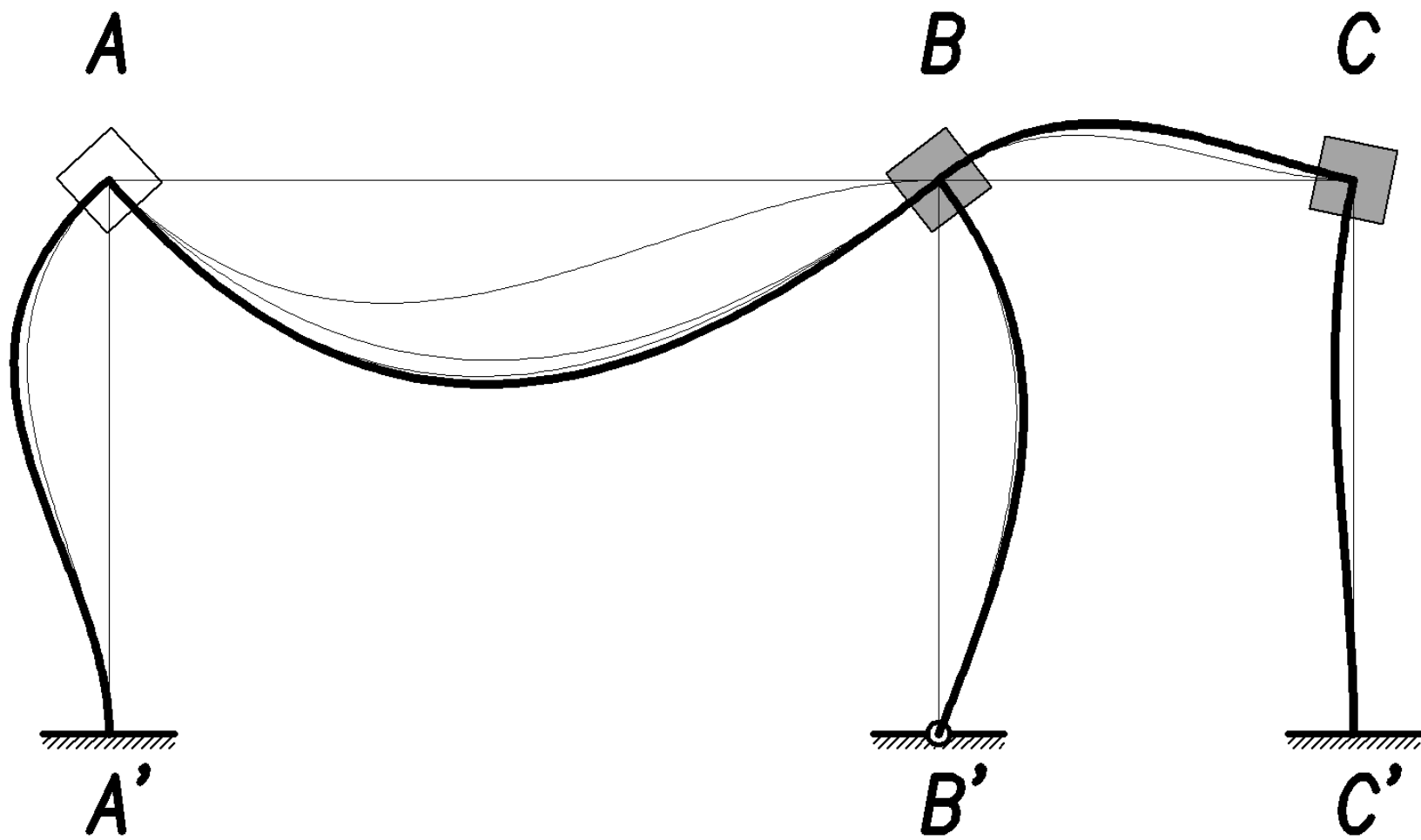


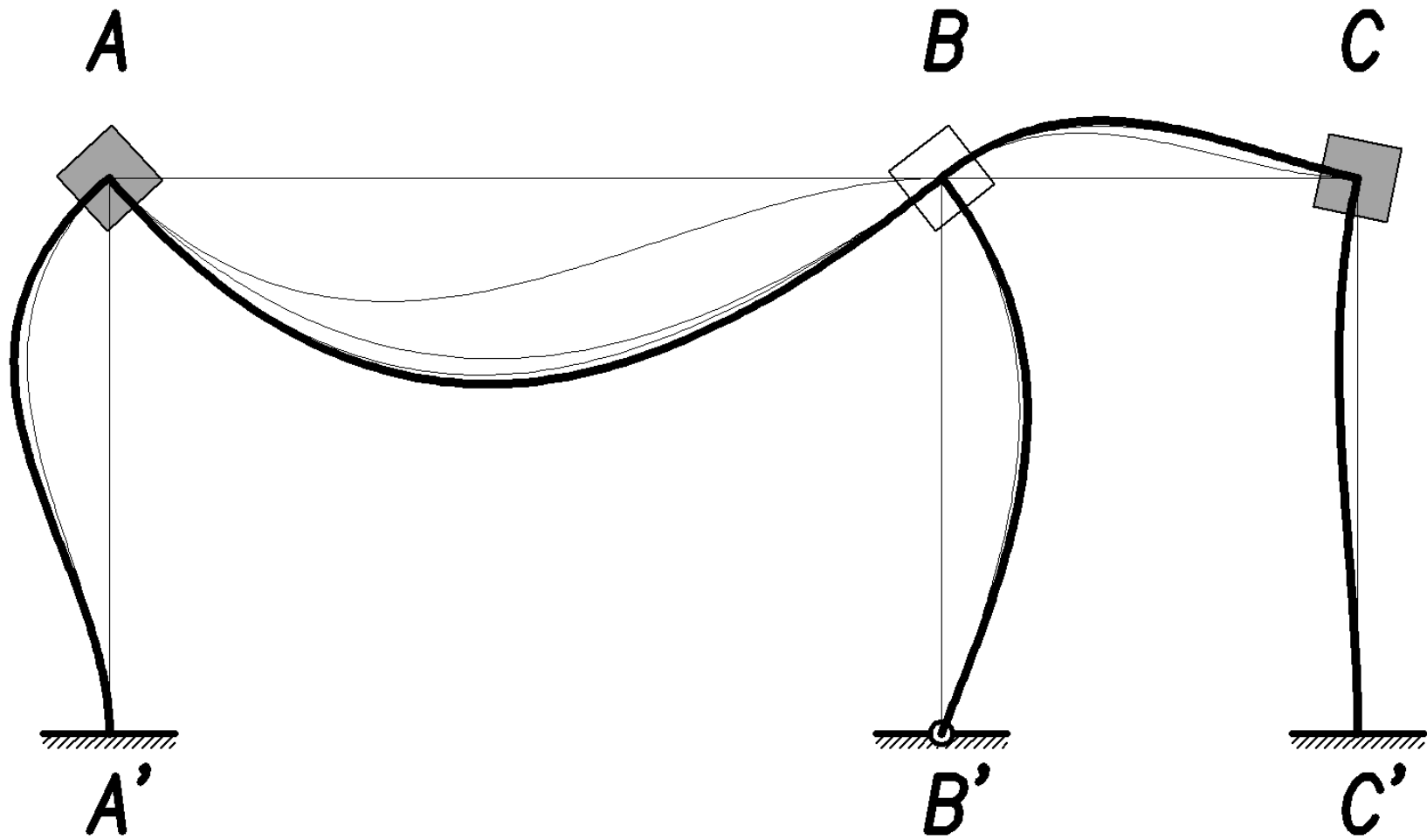


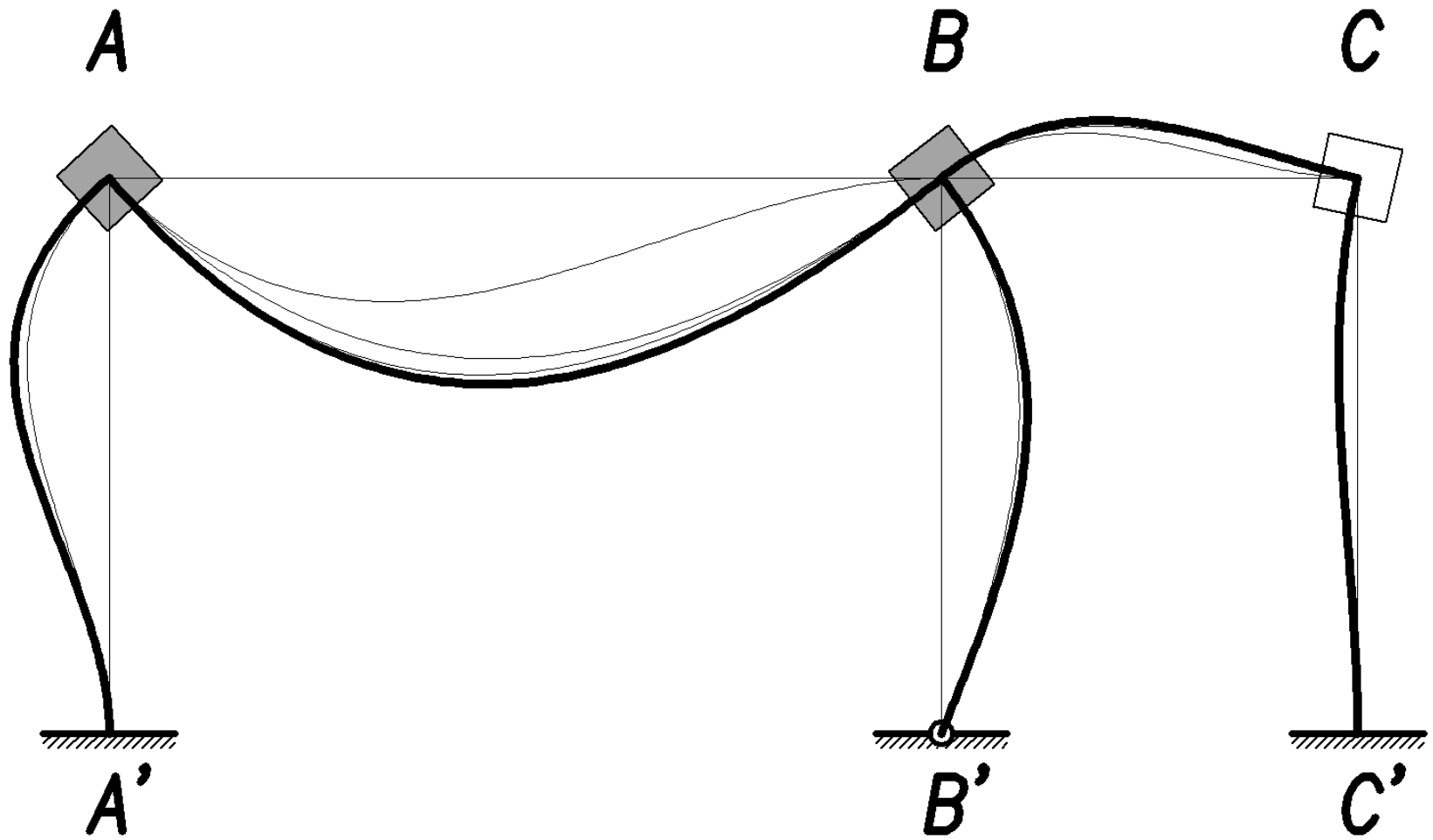


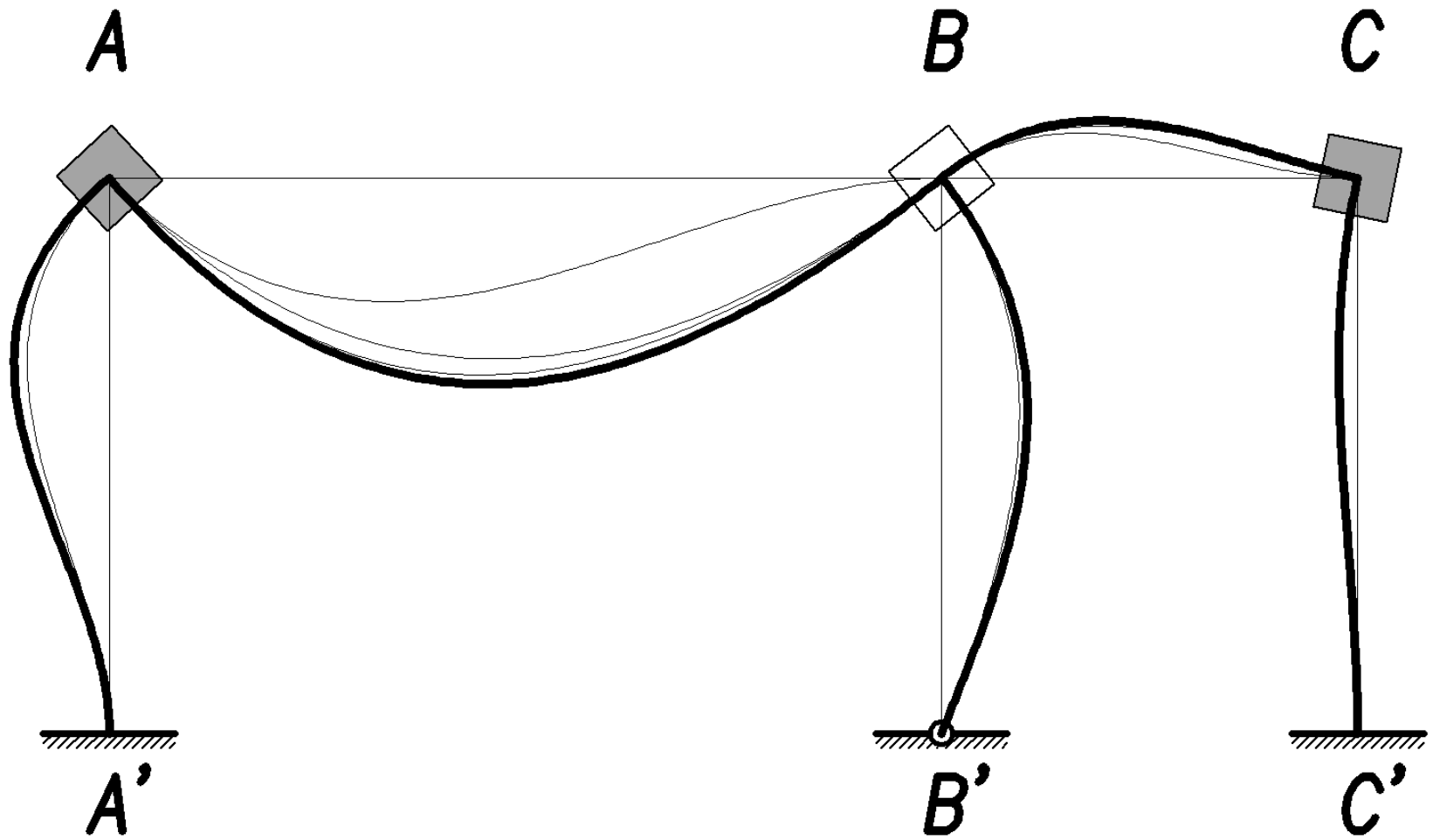


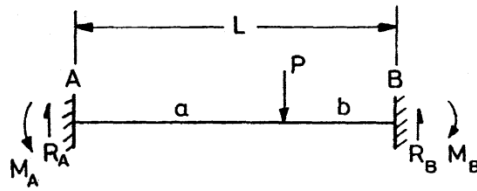






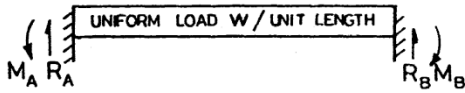






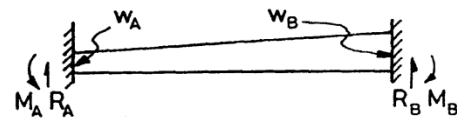
$$R_A = \frac{Pb^2(3a+b)}{L^3} \quad R_B = \frac{Pa^2(a+3b)}{L^3}$$

$$M_A = \frac{Pab^2}{L^2} \quad M_B = -\frac{Pa^2b}{L^2}$$



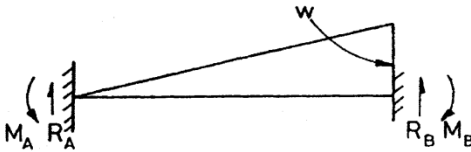
$$R_A = \frac{wL}{2} \quad R_B = \frac{wL}{2}$$

$$M_A = \frac{wL^2}{12} \quad M_B = -\frac{wL^2}{12}$$



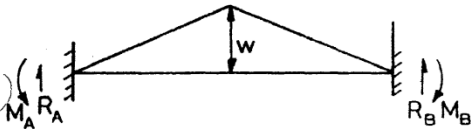
$$R_A = \frac{L}{20}(7w_A + 3w_B) \quad R_B = \frac{L}{20}(3w_A + 7w_B)$$

$$M_A = \frac{L^2}{60}(3w_A + 2w_B) \quad M_B = \frac{-L^2}{60}(2w_A + 3w_B)$$



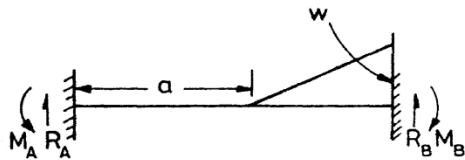
$$R_A = \frac{3}{20}wL \quad R_B = \frac{7}{20}wL$$

$$M_A = \frac{wL^2}{30} \quad M_B = \frac{-wL^2}{20}$$



$$R_A = \frac{wL}{4} \quad R_B = \frac{wL}{4}$$

$$M_A = \frac{5wL^2}{96} \quad M_B = \frac{-5wL^2}{96}$$



$$R_A = \frac{w(L-a)^3(3L+2a)}{20L^3}$$

$$R_B = \frac{w(L-a)}{20L^3} [10L^3 - (L-a)^2(3L+2a)]$$

$$M_A = \frac{w}{60L^2} (L-a)^3(2L+3a)$$

$$M_B = \frac{-w}{60L^2} (L-a)^2(3L^2+4aL+3a^2)$$



$$R_A = -R_B = \frac{12EIv_0}{L^3}$$

$$M_A = M_B = \frac{6EIv_0}{L^2}$$

Fixed-end reaction forces and moments