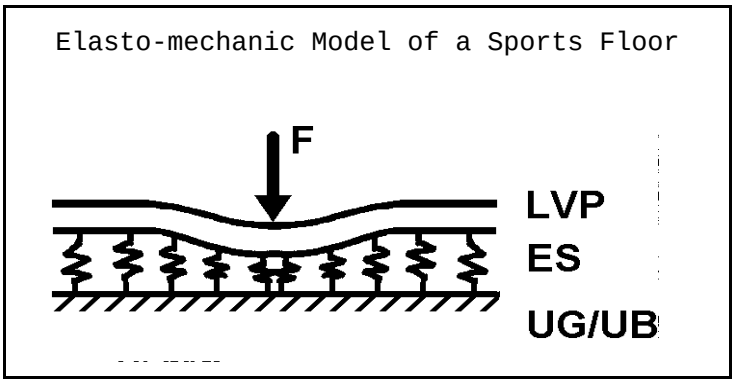

Fig. 1

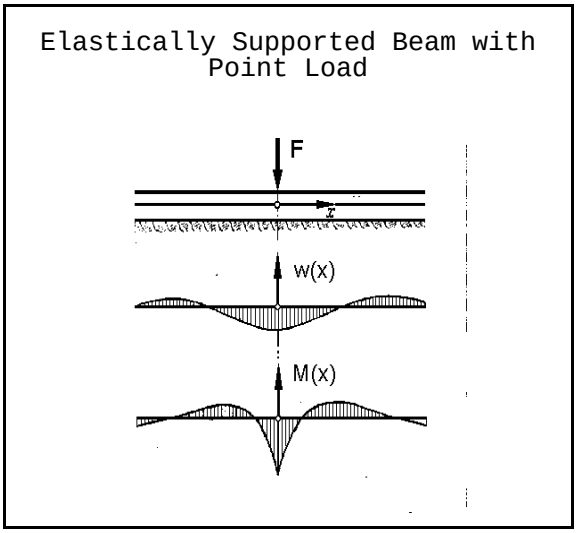

Fig. 2

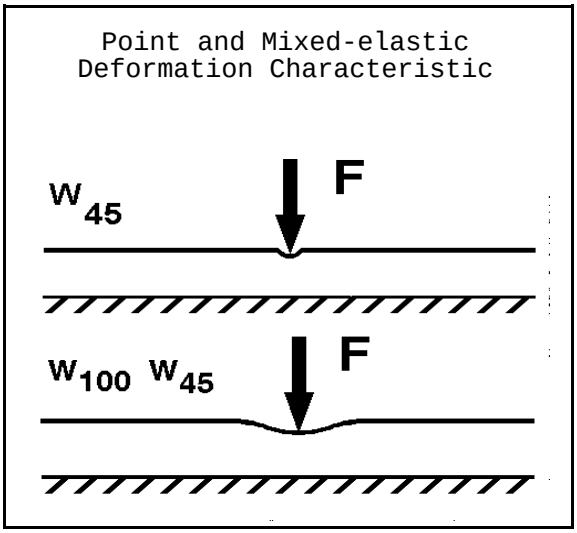

Fig.

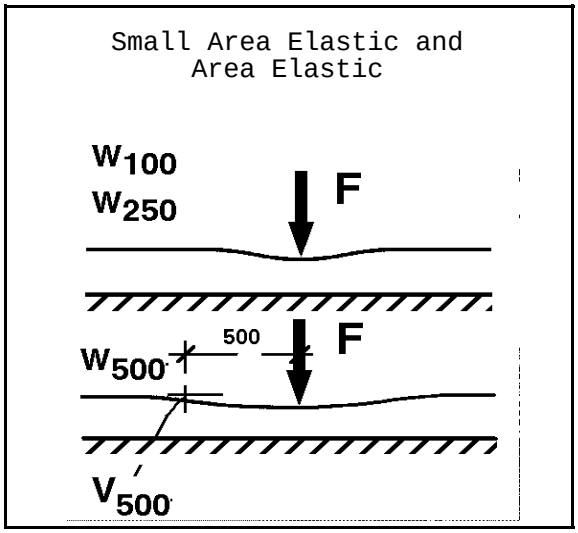

Fig.

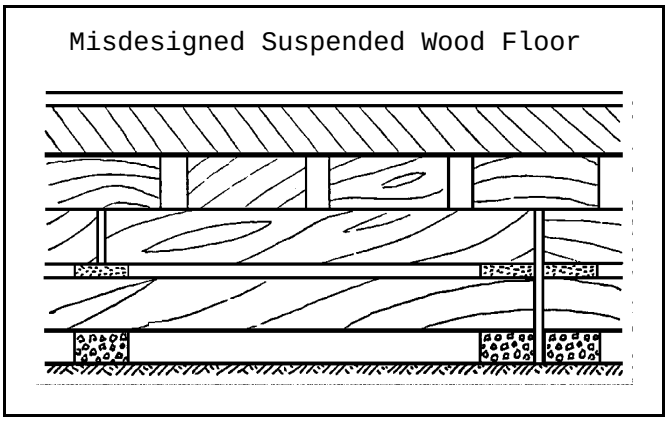

Fig. 6

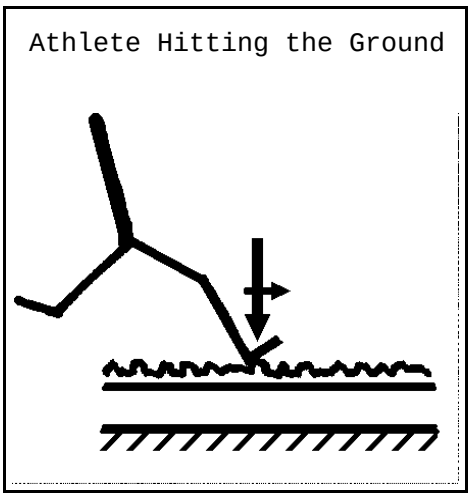

Fig. 9a

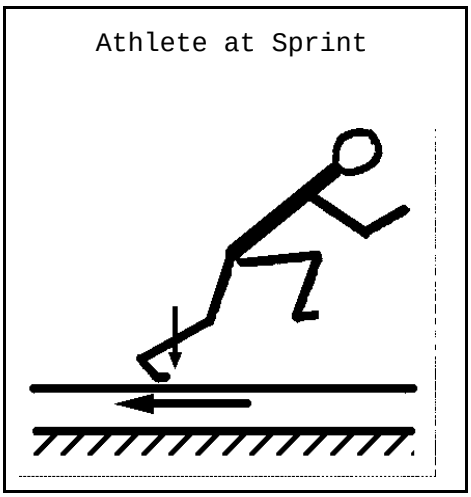

Fig. 9b

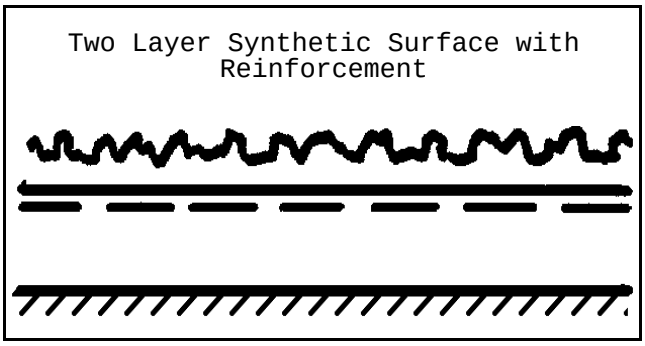

Fig. 10

Frame Structured Suspended Wood Floor

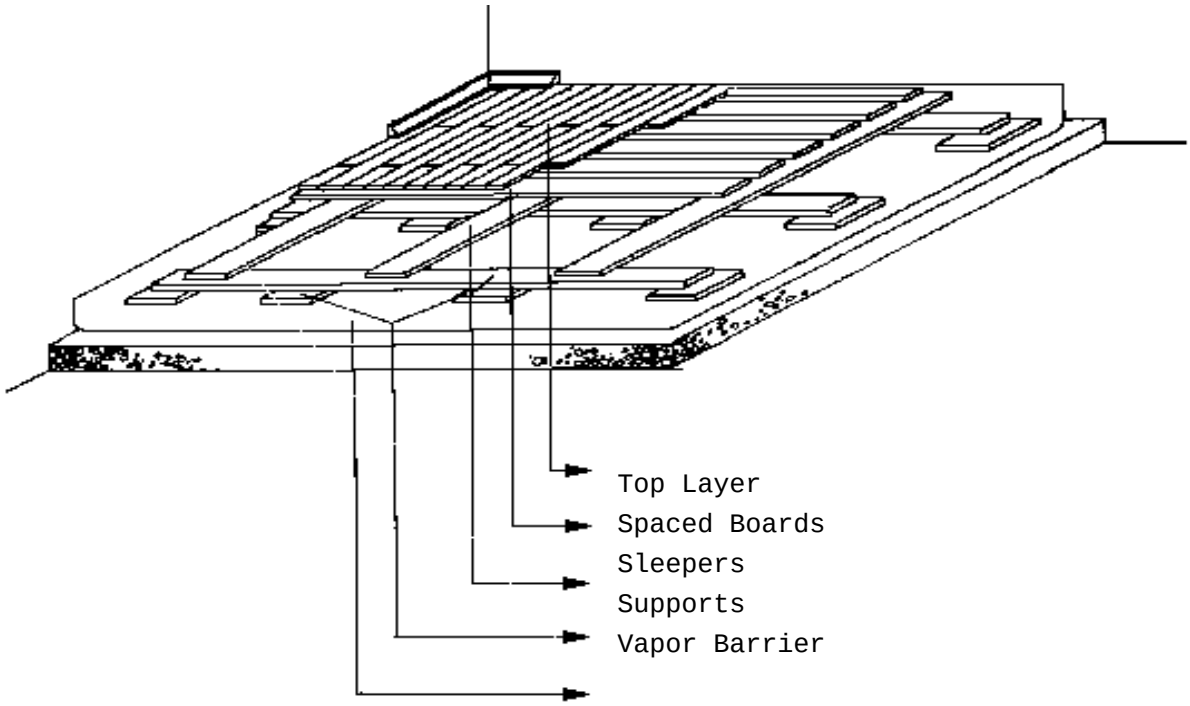

Fig.

Installation of the Misdesigned Suspended Wood Floor

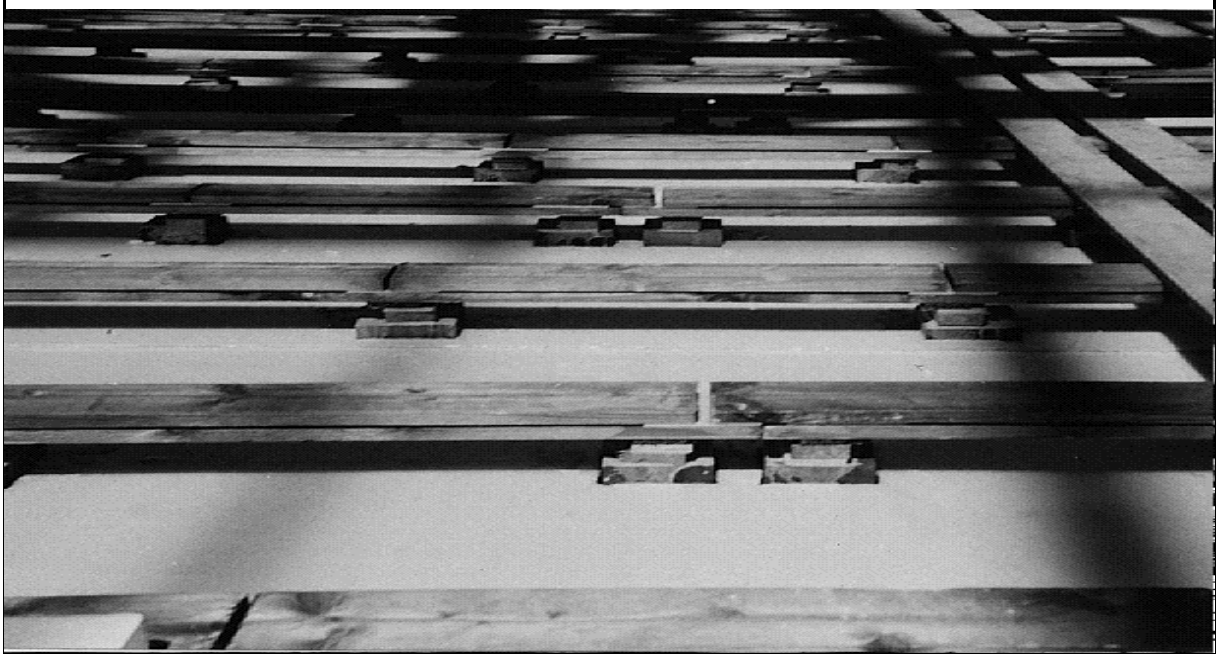

Fig.

Differential Equation of the Elastically Supported Beam

$$w^{(4)}(x) + \frac{K}{} \; w(x) = \frac{q(x)}{}$$

w(x) = Deformation Line
q(x) = Loading Function
E = Modulus of Elasticity
J = Moment of Inertia
K = Spring Number of Elastic Bed

Formula

Moment of Inertia of the Load Distributing Slab

$$J = b * d^3 / 12$$

b = Width of Beam

d = Thickness of Beam

Formula 2

Deformation Line of the Elastically Supported Beam

$$w(x) = - \frac{F}{} + e^{-\delta} * \sin(\delta + \pi/4)$$

w(x) = Deformation Line
F = Point Load

$$\Phi = (4 * EJ / K)^{1/4}$$

$$\delta = x / \Phi$$

K = Spring Number of Elastic Bed

Formula

Maxim. Deformation of the Elastically Supported Beam With Point Load

$$w(x=0) = - \frac{F}{} * 0.5$$

$$(EJ * K^3)^{1/4}$$

Formula 4

Maxim. Stress of the Elastically

$$M(x=0) = 0.25 * F * \Phi$$

$$\sigma(x=0)_{max} = \frac{M(x=0)}{} * d/2$$

J

Formula