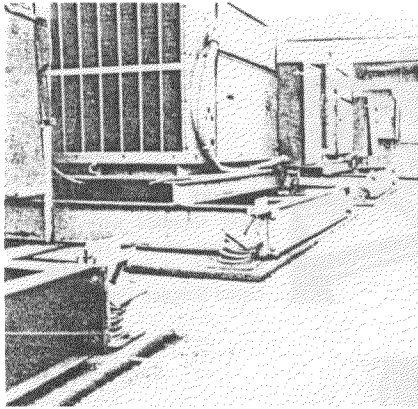
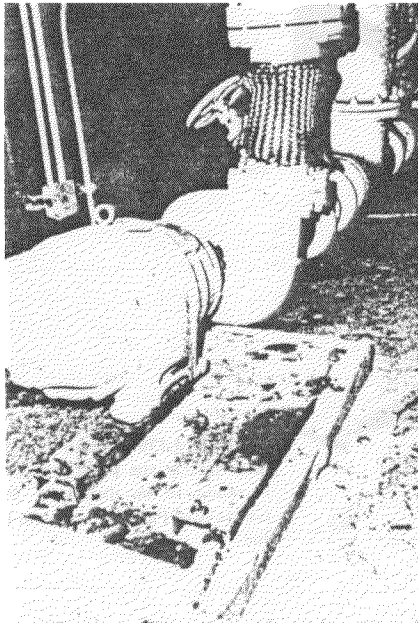


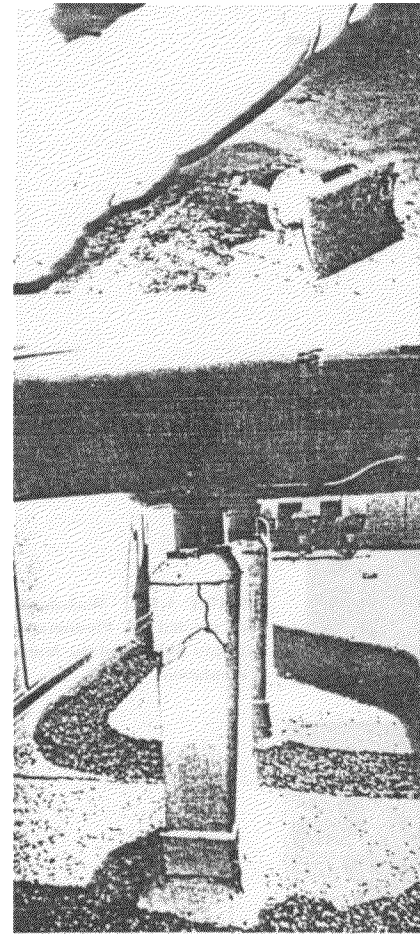
**"Documento original en mal estado"**



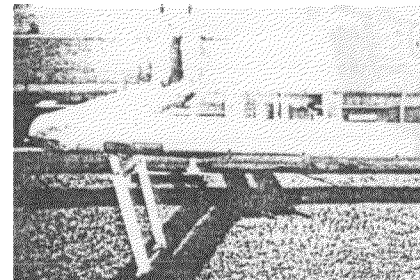
**FIGURE 3.177.** Failure of large vibration isolators at the cap screw. Photograph courtesy of J. R. Harris, National Bureau of Standards.



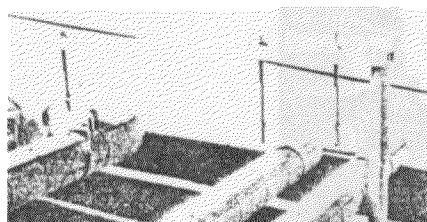
**FIGURE 3.178.** Pump motor that shifted. Note the braided pipe connector. This type of flexible coupling is not intended to resist axial loading. Photograph courtesy of Richard Miller and the National Science Foundation.



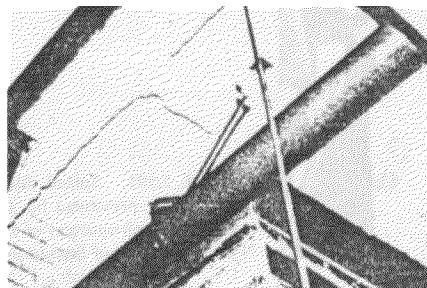
**FIGURE 3.179.** Pipe support stanchions should be anchored and not constructed of brittle material as is this broken stanchion shown here. Photograph courtesy of Richard Miller and the National Science Foundation.



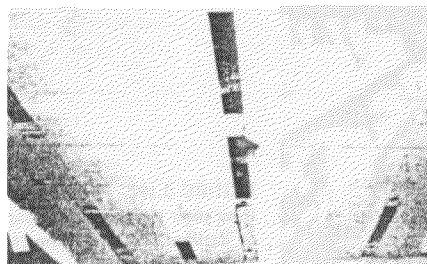
**FIGURE 3.181.** Pipe support with rollers to allow for expansion. Lateral bracing of the stanchion could have prevented this failure. Photograph courtesy of Pat Lama, Mason Industries, Inc.



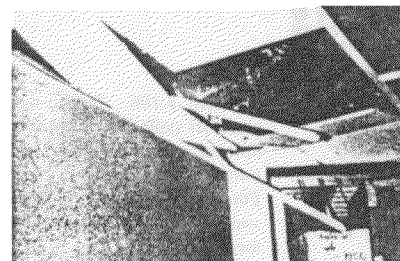
**FIGURE 3.182.** Vertical pipe hanger (without provisions for lateral bracing) failure. Photograph courtesy of Pat Lama, Mason Industries, Inc.



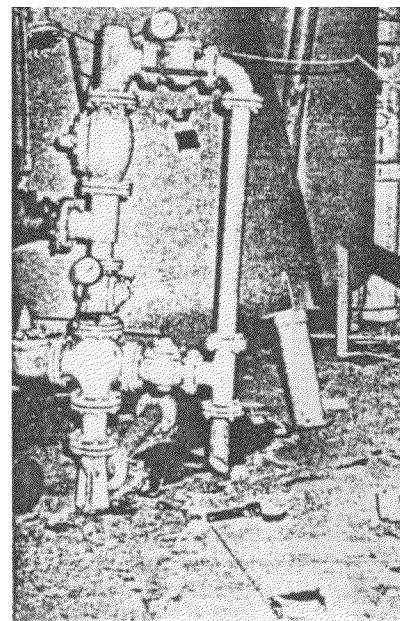
**FIGURE 3.183.** Broken C-clamp vertical pipe hanger without lateral support. Photograph courtesy of Leon Stein, Office of the State Architect, California.



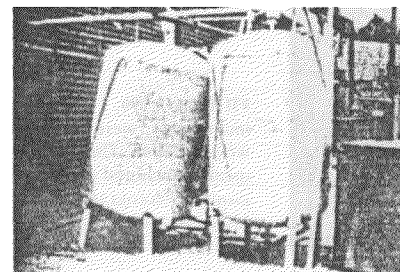
**FIGURE 3.184.** These 8 inch  $\times$  48 inch  $\times$  18 gauge  $\pm$  metal strips dislodged and fell to the seats below. Photograph courtesy of Leon Stein, Office of the State Architect, California.



**FIGURE 3.185.** Perimeter failure of suspended ceilings is common where perimeter support is not provided. Photograph courtesy of Leon Stein, Office of the State Architect, California.



**FIGURE 3.186.** Damaged water softener. Photograph courtesy of Hayakawa Associates and U.S. Department of Commerce, N.O.A.A.



**FIGURE 3.187.** Damaged water softeners. Photograph courtesy of Hayakawa Associates and U.S. Department of Commerce, N.O.A.A.