became an exceedingly attractive consideration from the point of view of monetary as well as logistical economy. However, to use snow on a massive scale in this type of construction required not only a thorough knowledge of its physical properties, but also development of new techniques and equipment designed to handle it rapidly and in large volumes. Further, as snow has low density and strength in its undisturbed state, it was necessary to develop a means for increasing these property values by some processing technique before its use in construction could be considered seriously.

It had been noted that snow cleared from roads by rotary plows gained significantly in density, hardness, and bearing strength as a result of having been handled by these plows. Hence, it was evident that some type of large rotary plow might provide a solution to the processing problem. Such a plow, the Peter snow miller* (Fig. 7), used by the Swiss to clear roads of avalanche snow in the Alps, seemed to offer promise for this application. It not only possessed a capacity to handle large volumes of snow (approximately 780 yd^3/hr in 0.4 g/cm^3 snow), but was also capable of cutting through dense snow containing deposits of ice. Moreover, its milling action produced a high density (0.55 g/cm^3) granular material with a broad range of grain sizes. This snow, called Peter snow, hardens with time into a material of significant mechanical strength.

Figure 7. Peter snow miller in operation cutting a trench.

*The introduction of the Peter miller for this application in Greenland and the encouraging subsequent developments resulting from its use can be credited to Dr. Henri Bader, who was then Chief Scientist of USA SIPRE.