Chipboard Model Studies

A 12" study model constructed of chipboard and cardboard allowed:

- visualization and clarification of the movement of the seat/shelf component in three dimensions
- demonstration of the manner in which the walker could be collapsed
- analyzation of the form three dimensionally

Model shown with component in seat position.
Model shown with component in shelf position.
Model shown in closed position.
Foam Model Studies

Next, a full scale model was constructed. The legs and arms were modelled in yellow foam, the seat in acrylic. With this model, the form was more fully realized in three dimensions. This made it possible to see how parts could be sensitively modelled to meet ergonomic and aesthetic criteria.

Details such as a removable bag were explored. The bag attaches underneath the seat, enabling the user to store personal items. In both the up and down positions items remain inside the protected area created by the shelf and are relatively secure from theft. Magnets were explored as a mechanism for securing the rotating shelf/seat component in position.
In the first prototype a detail began to emerge in the design of the legs. The hollow cavity of the inside of the collapsible leg nests around the solid front leg when closed. This detail warranted further study in later models.

Details of Foam Model

View of leg and arm in open and closed position.

Close up of legs in closed position. Detail of hollow cavity of leg.
Details of Foam Model

In the initial foam prototype, significant attention was paid to details including that of an ergonomically considered handle. Below one sees the first attempt at shaping a handle to fit the hand. As many elderly walker users experience limited dexterity, careful modelling of handles is significant to the design of the entire object.

Above are photographic studies showing the points of contact between the hand of user and the handle of the walker. Here the importance of material choices in the design and construction of the handles is considered. Molded santoprene or gel handles are possibilities that provide cushioning for the user’s hands.