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Ames Research Center



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New System for Bathing Bedridden Patients

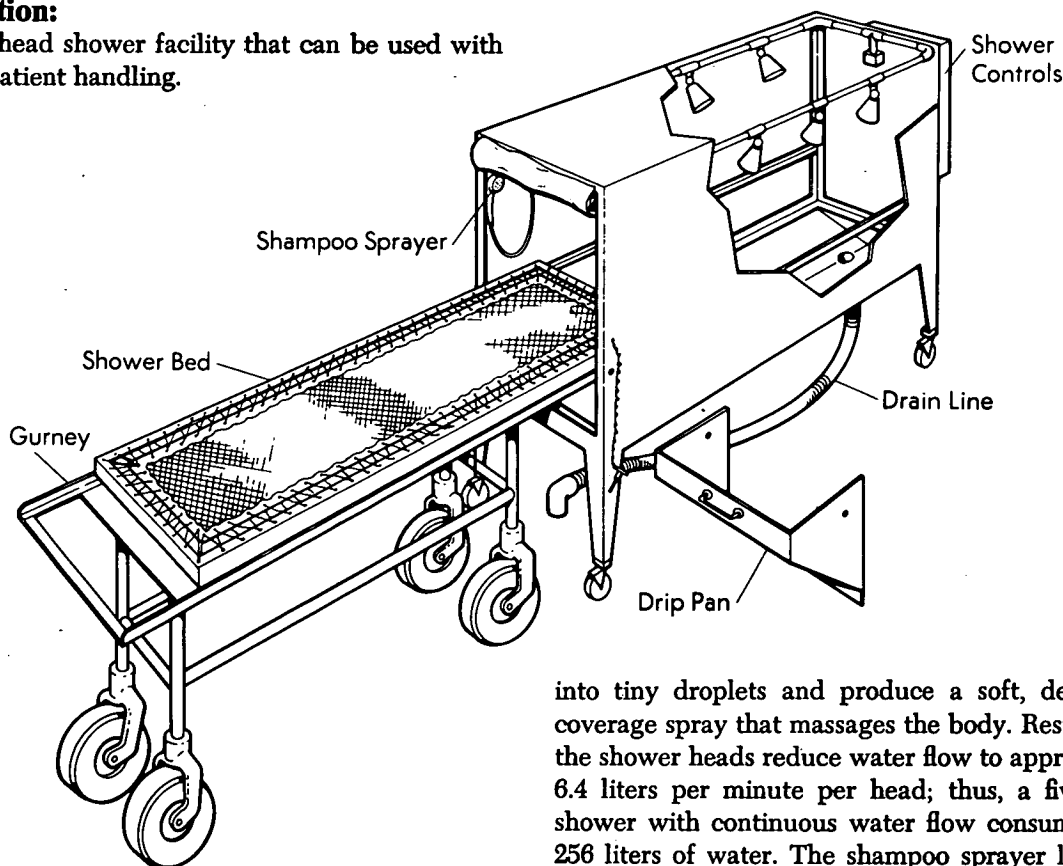
The problem:

To provide fast and thorough bathing of patients who must remain in the horizontal position.

The solution:

A multihead shower facility that can be used with minimal patient handling.

on four wheels. Eight shower heads (four on each side) are attached near the top of the box; the shower heads have inner rotating vanes which spin the water



How it's done:

The shower is basically a stainless steel box 71 cm wide, 183 cm long, and 122 cm high that is mounted

into tiny droplets and produce a soft, dense, full-coverage spray that massages the body. Restrictors in the shower heads reduce water flow to approximately 6.4 liters per minute per head; thus, a five-minute shower with continuous water flow consumes about 256 liters of water. The shampoo sprayer located at the entrance to the shower operates with the shower on or off. The opening of the shower is covered with a light, flexible, waterproof curtain which allows the patient to bathe with his head out of the shower; he

(continued overleaf)

can move completely inside the shower to wash his face and hair. The shower is drained by a 5-cm flexible hose.

Water temperature is controlled within a range of 31° to 46°C by a commercially available regulator. The regulator is equipped with a fail-safe device which prevents the patient from being scalded by hot water. The water temperature is set to suit a given patient by controls which are located at the back of the shower box; they cannot be operated from inside the shower. Standard garden-hose connections are used to conduct hot and cold water to the shower.

The patient is transported to the shower by a gurney which has a nylon-web shower bed on rollers that ride on rails made of aluminum angle. The rails on the gurney are locked to mating rails on the shower and the shower bed (with patient in place) is pushed into the shower. The gurney is then unlocked from the shower and moved away. The head drip-pan is swung up and locked in place on the front of the shower with spring-loaded pins.

If the patient is unable to bathe himself, he is first made wet in the shower and then returned to the gurney where a nurse can wash him; subsequently, he is returned to the shower for rinsing. If for some reason the patient cannot be dried with towels, heat lamps could be used.

The main advantage of this shower system is the time saved in giving a bath, but water usage is some-

what higher because of the eight shower heads. Water could be conserved by wetting the patient, turning off the water while he washes himself, and then turning on the water again for rinsing. The shower has been used with very good results by 15 subjects participating in two extended bed-rest studies; they particularly liked the massage effect of the water and felt it was an aid to inducing sleep.

Note:

Requests for further information may be directed to:

Technology Utilization Officer
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Reference: TSP 73-10272

Patent status:

This invention is owned by NASA, and a patent application has been filed. Inquiries concerning non-exclusive or exclusive license for its commercial development should be addressed to:

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