FILE NAME: Asbestos Sacks and Bags (ASB)

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ASBESTOS - BURLAP BAGS

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ASBESTOS - BURLAP BAGS

Concern over the use of burlap bags for wrapping the bases of rose bushes has arisen because the bags were initially used as containers for amosite asbestos. To determine a possible exposure of asbestos fibers to workers who use these burlap bags, a test, simulating the handling of the bags, was conducted in an enclosed room. For a four minute sample, the average asbestos concentration of fibers greater than five microns in length in the worker's breathing zone was 490 fibers per milliliter. Samples taken within two feet of the worker at heights of 6 inches, 33 inches, and 60 inches yielded concentrations of 500, 350, and 470 fibers per milliliter, respectively.

Conditions of the test

One burlap bag was used in the test. It was taken from the middle of a stack of bags at the Elkner Nursery in Tyler, Texas, sealed in a plastic bag, and flown to Cincinnati, Ohio. The burlap bag was kept in the plastic bag until the actual test. To achieve possibly the worst exposure, the test was conducted in a small room (4' x 6' x 8') which has no ventilation, the burlap bag was turned inside out before shaking, and the bag was shaken vigorously for 60 seconds. The four minute sampling time was determined from renersal of the procedure for wrapping a bush, however, the worker could probably wrap one bush in half that time if he worked quickly. --

Procedure

The test room was vacuumed and the equipment was set up as in Figures 1 and 2. Two four minute samples were taken at locations 1 and 2 before the test. These filters were changed, and the burlap bag was placed in front of the chair still in its plastic container. Five minutes later the worker's personal pumps were turned on just as he entered the room. Wearing a respirator, the worker turned on pumps 1, 2, and 3 and then sat in the chair. He took the burlap bag out of the plastic bag and turned the burlap bag inside out. Standing, he shook the bag for 60 seconds and then sat down, spreading the burlap bag on his lap. He then went through the motions of placing a rose bush on the bag and wrapping the bag around the base of the bush. After tying the corners with a wire, the worker placed the bush on the floor and stood up to brush off his clothes. He shut off pumps 1, 2, and 3 and left the room. His personal pumps were turned off as soon as he was outside the room. During the first three minutes after the test, the filters were taken off the pumps, two filters were installed on pumps 1 and 2, and the burlap bag was sealed in the plastic bag. Two four minute samples were taken to measure airborne asbestos concentrations. The room was then opened for cleaning and removal of equipment.

Data - collected and counted on January 11, 1972

		Total	>5μ	>10μ
Before test:	floor level	0.0	0.0	0.0
	chair level	0.0	0.0	0.0
Five Minute Break				
During test:	floor level	580	500	370
	chair level	480	350	230
	standing level	730	470	150
Personal samples		640	570	410
		590	410	260
Three Minute Break				
After test:	floor level	200	130	80
	chair level	380	250	150

Equipment and supplies

Test room - a 4'-0" x 5'-10" x 7'-7" enclosure with two sealed windows and a double door

Burlap bag - approximately 3' x 2' and lined with thin plastic

Tripod - pump support

Ring stand - pump support

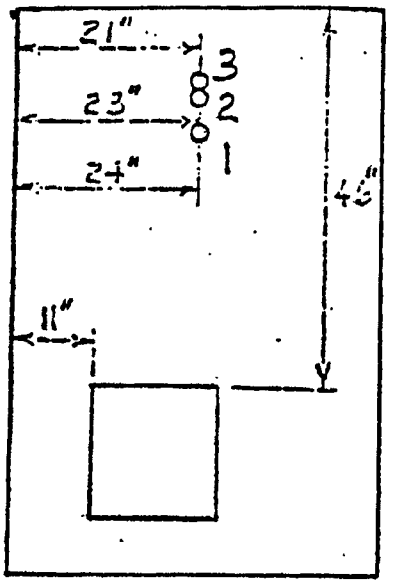
Metal folding chair

MSA portable pumps - Model G, part no. 456058

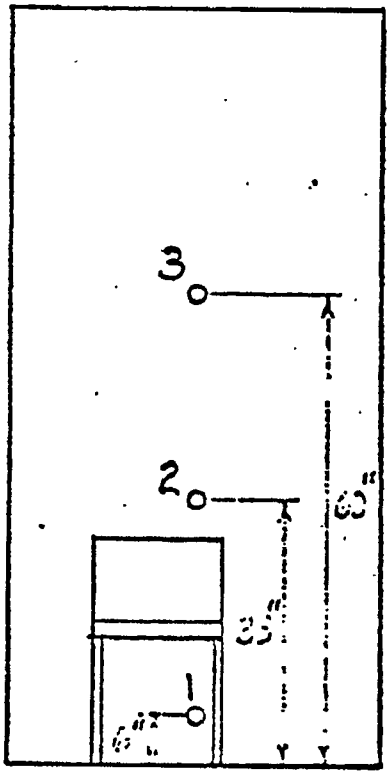
Millipore membrane filters - AA, 0.8μ pore size

Comfo custom respirator - Part no. 86432

Ultra filter cartridges - Type "H", part no. 81051



FRONT



SIDE

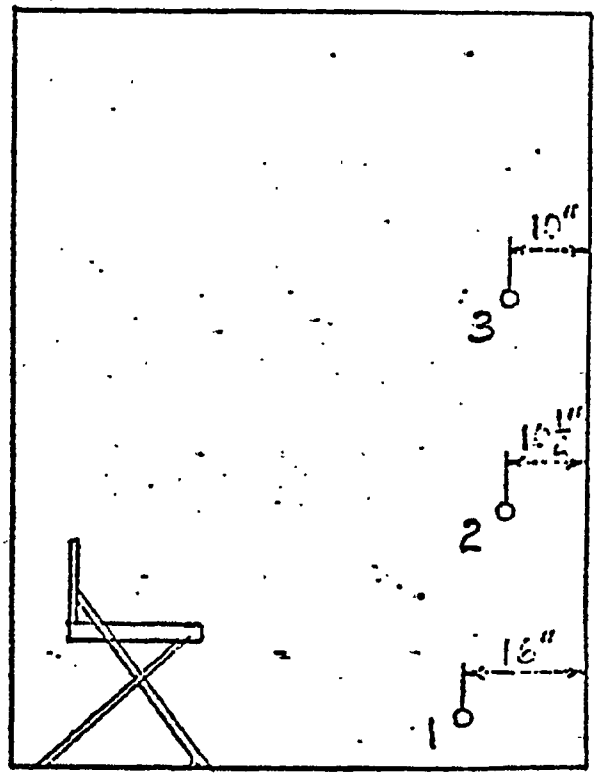


Figure 1

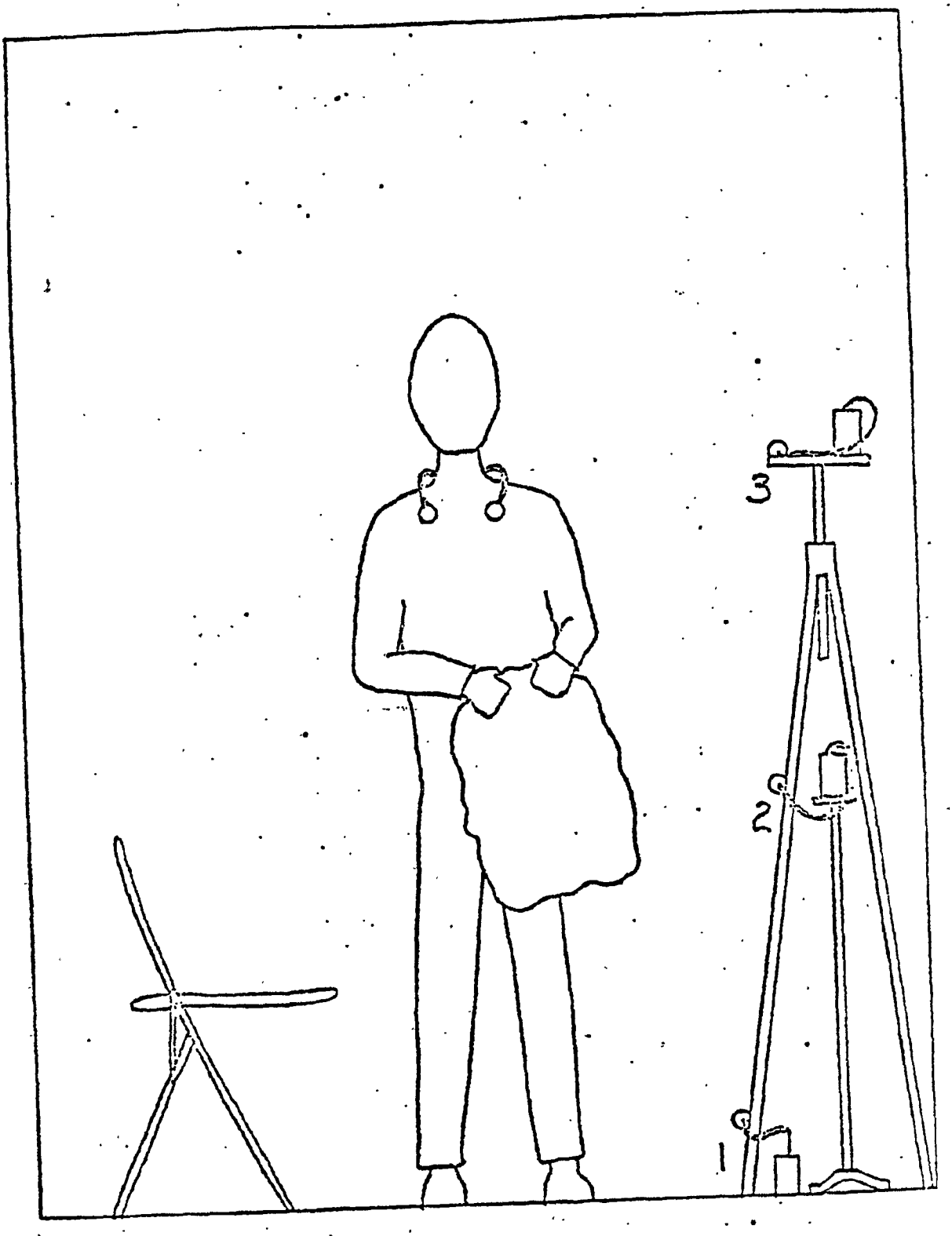


Figure 2