

ARCHITECTURE

Troops Build Igloos

➤ IF YOU'RE worrying about keeping the house warm this winter, just stop a moment, unwrinkle your brow, and give a thought to the soldiers who'll be out on patrol when winter settles down over inland Alaska. Some of them will be sleeping in snow igloos.

A new Army manual for the use of soldiers who must make war in snow and extreme cold, discussed in the new issue of the *Infantry Journal* (September) tells among other things how to build a dome-shaped snow house of the most approved Eskimo architecture.

The only tool needed is a long knife, the instructions state. A bayonet will do, although a slightly longer blade is better. A shovel for handling soft snow, however, is a good thing to have along. Snow should be firm and well-packed, but neither too warm nor too cold. If too warm, it gets "thawed" and won't stand up. If too cold, it tends to become a mass of loose ice granules, too porous to keep out the wind, and too good a conductor of heat to keep in the warmth.

The house should not be built on firm, bare ground: that's too cold. A floor of snow is needed to insulate the house from the cold earth as well as snow walls to keep in the warm air. The igloo, therefore, should be built on fairly deep snow.

Best size for snow blocks is about 36 inches long, 18 inches wide and five inches thick. Set the first course of blocks on edge in a circle, slicing down the upper corners a little so that they will lean slightly inwards. Working from inside the circle, set the next course upon this, again with the slight inward slope. A second worker follows around the courses as you build, chinking cracks with loose snow. Loose snow may be

piled well up against the side walls.

Getting the last block into place on the top of the dome is something of a trick. Trim the last, irregular hole left at the top into an even shape, slip a suitably sized block out through it endwise, turn it and lower it over the hole like a lid. Then trim edges until it fits neatly into place. A ventilating hole is cut in the roof afterwards. As a touch of luxury, slip a wooden stovepipe through this.

You have now walled yourself entirely in. A door is cut by tunneling through the drift under the wall. Thus, the entrance is through a trench below the general snow level. The door, left open, and the chimney-hole in the roof, furnish good ventilation.

Four men can put up such a snow house in about an hour. And it's much cosier than any tent, for an overnight bivouac under Arctic conditions.

Science News Letter, September 12, 1942

GEOLOGY

Russians Report Discovery Of Mineral Deposits

➤ USSR GEOLOGISTS prospecting in Siberia have discovered new iron ore deposits, copper deposits richer than the famous Urals mines, manganese, aluminum, lead, zinc, tungsten, molybdenum, tin, antimony, bismuth, mercury, rare metals, oil, asbestos, mica, graphite and various building materials. Newly discovered gold fields have advanced the Soviet Union from seventh to second place in the world in gold mining. In the United States, nearly all of these materials are under priority ratings.

Science News Letter, September 12, 1942



Colchicine's Competitor

➤ COLCHICINE, the "evolution chemical" that doubles chromosome numbers in plant cells and produces new and sometimes giant varieties, now has a rival in a compound known as sanguinarin.

Doubling of the chromosome count in the cells of the summer flower-garden favorite, snapdragon, by treatment with a two-tenths per cent solution of sanguinarin is reported by Thomas M. Little of the U. S. Department of Agriculture's great experiment station at Beltsville, Md. (*Science*, Aug. 21).

Mr. Little treated snapdragon plants with a similar solution of colchicine, and left others untreated, as controls. He obtained approximately the same percentage of positive results from both colchicine-treated and sanguinarin-treated plants. The only difference was that the leaves of the sanguinarin-treated plants did not have the roughened and wrinkled appearance that follows the use of colchicine on most plants.

It seems probable that the chromosome-doubling effects of sanguinarin extend to other plants as well, for in preliminary experiments on severed tips of lily roots certain of the chromosomes were observed to be shortened and split.

Like colchicine, sanguinarin is a drug of plant origin. It is obtained from the rootstocks of the beautiful early spring flower, bloodroot. The scientific name of bloodroot is *Sanguinaria*, whence the designation of the drug. It is listed in the medical dictionaries as a medicine for coughs and stomach ailments, and in higher concentrations is poisonous. It is, however, not very widely used at present for medicinal purposes.

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