MILITARY FORTS IN 1869

By J. H. Toulouse

For twenty years I have been gathering data on the military forts of Arizona of early date. Amid this mass of material I found this small bit which I thought might be of interest because it is so characteristic of the time. It was taken from an old military record dated 1869, a copy of which I have in my possession. The name of the author is lacking.

With but few exceptions these early day forts were built of adobe, the building being arranged along the sides of a square parade ground. Soldiers’ labor was mostly used in their construction. When once the military authorities selected the sites the men were set to the task of preparing the adobe to be used in the construction of the buildings. A large hole or pit was dug and the earth taken from the excavation was sifted free from foreign substances. The fine adobe clay thus obtained was wetted and mixed with chopped straw to hold it together and placed in wooden molds or frames where it was left standing in the sun for a period of three or more weeks to dry. After this the bricks, measuring 16 by 12 by 4 inches, were ready for use in the construction of the necessary buildings.

The walls are then raised, adobe mud being used to cement the layers of bricks. The height varies from 10 to 12 feet, but one wall is raised a few inches higher than the other, that the flat roof which is to cover them may have inclination to carry off the rainfall. Ridge roofs are generally avoided, as they are apt to leak at the ridge, and much slope impairs durability by permitting the rapid washing away of the mud covering.

Cottonwood timbers are then laid across from the front to the rear wall, and upon them is packed a layer of willow branches, or sahuaro ribs, some coarse grass is then laid in adobe mud over these, and the whole plastered thickly over with successive coatings of the adobe mud, and a finish of sand or lime mixture. The roof is made to project a foot beyond the face of the wall to carry the rain clear of the building and to prevent its influx through the interval left
between the top of the wall and the under surface of the roof. This interval of 6 to 8 inches, depending on the thickness of the cottonwood beams, extends along both sides of the building. It is closed in by bricks, if the house is to receive a finish of adobe plaster and whitewash on the inside, but in most instances it is left open, and answers the purpose of ventilation admirably. Pine timber has to be used for the door and window frames, as the cottonwood, though much more easily obtained, is so lax in its tissue and saturated with moisture that its warping in drying unfits it for use. Indeed, it is employed for roof beams only on account of the difficulty of obtaining other timber.

Frequently the beams in process of time curve upward at the ends, converting what was originally a flat roof into a shallow reservoir, from which the rain finds its way by many apertures into the interior of the building. The ground forming the floor of the house is then cleared out and firmly stamped. Most of the buildings are long, and divided into rooms by transverse adobe partitions. They are generally insufficiently lighted, and this remark applies more especially to the barrack buildings or men's quarters.

The cause of this is probably the fear of weakening the wall by the insertion of many windows. In such as have the interval between the wall and roof closed up and no other special means of ventilation provided, the ventilation is very inefficient. The bunks are built of cottonwood saplings, with slats of old packing boxes or stout willow branches. With few exceptions they are arranged in two tiers, like the berths of a ship. On account of the superficial incapacity of the barracks, none of the company buildings are large enough for the accommodation of the command, if of full strength, and many have by far insufficient cubic space for the number of men actually quartered in them. But the objection found by the troops to quarters of this kind is the character of the roof. None are free from leaks. At one post during a continued rain such men as could procure shelter tents pitched them over their bunks in order to keep themselves dry, at least during the hours of their sleep. Tent flies and wagon covers were made use of to protect the
worst part of the roofs, but notwithstanding all that could be done the earthen floor of the houses became a mud puddle, and for the want of sufficient sunlight and ventilation, remained damp for many weeks afterwards, while the sick list was crowded with bronchial attacks and rheumatic affections, attributable to the condition of the quarters. Nor was the hospital at this time in better condition. Beds occupied by the dysenteric patients almost in *articulo mortis* had to be moved from one position to another to avoid the muddy water flowing through the leaks in the roof, until at last no dry spot could be found and they had to be protected by rubber blankets and gutta-percha bed covers.

The roofs continue waterproof much longer at some posts than at others, which may in part be accounted for by differences in the percentage of clay in the adobe mud; but as the roofs at the same post vary much in their power of withstanding the weather, the fault in bad cases is chiefly due to want of care in construction. However, with shingled roofs, ample air space, and sufficient lighting and ventilation, the adobe house can be made a most comfortable resting place for the soldier after the exposure and fatigues he is frequently called upon to endure on service in this Territory.
The ration of the soldier in this Territory is deficient in nothing except vegetables. A large cattle herd is usually guarded at each post, and the beef killed as required. It is destitute of fat, and usually tough, as the cattle before reaching the post have to undergo a fatiguing march, and on their arrival may find very indifferent grazing grounds, or none whatever. On account of the poor quality of the fresh meat its ration was at one time increased to one and three quarter pounds. The full ration of flour baked in bread has often been used by commanding officers, when hard service was or had been exacted of the men. The bread is usually of good quality. A common complaint against that made from Sonora flour is its grittiness. This arises from the softness of the stones used in the Sonora flouring mills. The want of vegetables is not so severely felt now that the subsistence department has on hand at each post a supply of canned fruits and vegetables for sale to officers and men. This, with the produce of post gardens and purchases from farm settlements and traders by company funds, enables the troops to pass the winter and spring free, except in individual cases, from any symptoms of scurvy. It may be said that with few exceptions post gardens in Arizona have proved a failure. This is partly owing to want of knowledge and attention on the part of the men detailed for duty in the gardens, partly for want of interest in some cases on the part of the commanding officers, but chiefly to the nature of the garden produce. Green corn, radishes, melons, cucumbers, tomatoes, and beets can be raised with facility, but their season lasts only for a few weeks. In some places cabbage heads well, but no post has been successful in raising supplies of potatoes and onions. In case of necessity for vegetable food, as in scurvy, occurring on scouting expeditions, the mescal plant can be had recourse to, and a chenopodium and portulaca, which are frequently boiled and used with vinegar by the Mexicans as greens. Several species of lapidiae grow along the rivers. Grapes are found in many places, currants and gooseberries at Date Creek, and the canaigre and mulberries at Skull Valley and a few other points. Although the soldier is often called upon to bear with deprivations of
vegetable food and the continuance of a salt ration, all such deprivation increases the company fund, and permits larger purchases for the improvement of his diet on his return. Yet when, as in this country, a pound of potatoes sells for twenty-five cents, great results cannot be expected from company funds.

The ration usually carried on the mountain scouts consists of pork, flour, coffee, and sugar. The flour is eaten as flapjacks fried in pork fat. Very seldom are the men enabled to improve their diet by the killing of deer, antelope, or turkey, on account of the scarcity of large game and the want of time and opportunity for hunting while engaged on these expeditions. On one occasion pinole, sugar, and dried beef were the only provisions carried on a six days’ scout. The pinole was prepared from a mixture of wheat and corn, by roasting, and then grinding it coarsely; the beef being cut in thin strips and hung up in the sun to dry. The smoke or light of the soldiers’ cooking fires has frequently discovered their presence to the Indians, and led to the failure of the expedition; as no fire was required in the preparation of the pinole ration, it was considered peculiarly adapted to scouting services. It dispensed also with a pack-train. Each man carried behind him on his saddle his six days’ rations and a quart tin cup, water added, and the thick paste eaten as supper. Breakfast was a repetition of this. The dried beef was generally chewed on the march to stave off hunger until camping time. Colics were common as a result of this diet. Great satisfaction was felt by all at a return to pork, flapjacks, and warm coffee at the end of the six days.