

by every emigrant, would make them warm. The other furniture would comprise chiefly kitchen utensils; pork fat, whale or sturgeon oil, and pine knots or "light wood" would give all the artificial light needed.

Iron articles were most costly and hardest to get. Edward Jones, at Merion, writes in August, 1682, for nails, sixpennies and eightpennies; for mill-iron, an iron kettle for his wife, and shoes, all of which he says are dear; "Iron is about two and thirty or forty shillings a hundred; steel about 1s. 5d. per pound." In Penn's "Directions" he recommends colonists to bring out with them, in the way of utensils and goods, "English Woollen and German Linen, or ordinary Broad-Clothes, Kerseys, Searges, Norwich-Stuffs, some Duffels, Cottons and Stroud-waters for the Natives, and White and Blew Ozenburgs [Osnaburgs], Shoes and Stockings, Buttons, Silk, Thread, Iron Ware, especially Felling Axes, Hoes, Indian Hoes, Saws, Frowes [frowers, for splitting shingles], Drawing Knives, Nails, but of 6d. and 8d. a treble quantity, because they use them in shingling or covering of Houses." For the first year's stock for a farm he advises "three milch cows, with young calves by their sides, £10; yoke of oxen, £8; Brood mare, £5; two young Sows and a Boar, £1 10s.,—in all £24." For first year's provisions: Eight bushels of Indian corn per capita, and five bushels of English wheat, for five persons, £8 7s. 6d.; two barrels of molasses (for beer), £3; beef and pork, 120 pounds per head, at 2d. per pound, £5; five gallons spirits at 2s. per gallon, 10s. Three hands, with a little help from the woman and boy, can plant and tend 20,000 hills of corn (planted four feet each way, there are 2717 hills to an acre, or seven and one-third acres to the whole number of hills), and they may sow eight acres of spring wheat and oats, besides raising peas, potatoes, and garden stuff. The expected yield will be 400 bushels of corn, 120 bushels of oats and wheat, etc. These calculations were moderate for a virgin soil, free from vermin. Dr. More, in his letter to Penn in September, 1686, says, "I have had seventy ears of Rye upon one single root, proceeding from one single corn; forty-five of Wheat; eighty of Oats; ten, twelve, and fourteen of Barley out of one Corn. I took the curiosity to tell one of the twelve Ears from one Grain, and there was in it forty-five grains on that ear; above three thousand of oats from one single corn, and some. I had that had much more, but it would seem a Romance rather than a Truth if I should speak what I have seen in these things."

A better class of houses than these clapboard ones with dirt floors were soon built. Indeed, the old log houses of the Swedes were more comfortable, especially when built like that of Sven Seners' at Wicaco, with a first story of stone and the superstructure of logs. A well-built log house, on a stone foundation, well filled in with bricks or stone and mortar, and ceiled inside with planking like a ship,

makes the dryest, warmest, and most durable country-house that can be built. But in Philadelphia the settlers immediately began to burn bricks, and construct houses of them, often with a timber framework, in the old Tudor cottage style. This sort of building went on rapidly as soon as limestone began to be quarried and burnt. In Penn's "Further Account," etc. (1685), he mentions the fact that he had built his brick house (probably the one in Letitia Court) in a good style and fashion "to encourage others, and that from building with wood," and he adds that "many have Brick Houses are now going up, with good cellars." He enumerates houses built by Arthur Cook, William Frampton, John Wheeler, the two brick-makers, Samuel Carpenter, John Test, N. Allen, and John Day, on Front Street chiefly. All these houses have balconies, he says. Pastorius is burning bricks at Germantown; Carpenter has a kiln for shell-lime on his wharf; a large plain brick house, in the centre, 60 feet by 40, is erecting for a meeting-house; another of the same dimensions on the river front or bank is also building for an evening meeting.

This better class of houses was of course, more elaborately furnished. It may be noticed that in John Goodson's directory cabinet-makers and other workmen in furniture and interior movables are mentioned, but all the first settlers must have brought or imported their furniture from Europe. It was stiff and heavy, scarcely anticipating that slim and spindling style which came in with the next English sovereign, and has recently been revived with an extravagance of pursuit seldom exhibited except in bric-a-brac hunters and opera-bouffe artistes. As yet not much mahogany and rosewood were used by the Northern nations (except the Dutch), but good solid oak, well-carved, and walnut were the favorite woods. There were great chests of drawers, massive buffets, solid tables, with flaps and wings, straight-back oak chairs, well-carved, leathern-seated chairs, studded with brass nails, and tall Dutch clocks. Much of the table furniture was pewter or common delf ware; brass and copper served in the kitchen, where now tin is used. Wood was the only fuel, and the fireplaces, enormously capacious, had great iron dogs in them, to which, in winter-time, the back-log was often dragged by a yoke of oxen with the log-chain. Cranes and hooks, suspended in these fireplaces, held pots for the boiling, and the roasting was done on spits or upon "jacks," which dogs had to turn. The bread was baked in a brick oven usually outside the house, and the minor baking in "Dutch ovens," set upon and covered over with beds of red-hot coals. In the family part of the house the brass audirons and tongs and fender made the fire-glow upon the deep hearth look doubly cheerful. The Quakers did not use stoves until Benjamin Franklin inveigled them into it with that simulacrum of an open fireplace called the Franklin stove. The Swedes scarcely had chimneys, much less stoves, but the Germans early im-