

chapter deals with the origin of Swedish mining, the second with the development of a separate mining district from certain parts of the province of Dalecarlia. The third follows references to Stora Kopparberg in literature from the earliest ones at the beginning of the seventeenth century.

The second volume contains biographical material, and portraits of personages who have been connected with the mine, in addition to a number of royal portraits, procured by the company in 1658, when the collection was founded. It is one of the oldest in Sweden. To quote from the summary: "The main part of it is placed in the magnificent state apartment of the Company with neighboring rooms in the head office building at Falun; it presents a splendid symbol of the development of the powerful corporation during the last three centuries. The numerous portraits illustrate its history."

An Unpublished History

THE first use of fire for heating or cooking purposes by primitive man marked a long step toward civilization. In historical times, the discovery that coal could be used instead of wood was less revolutionary in its effects, but it meant a great advance in efficiency. The unpublished manuscript of a history of the coal stove has been presented to the Society by Miss Helen E. Keep, the daughter of its author. It reveals unexpected elements of the picturesque in the evolution of this highly practical invention.

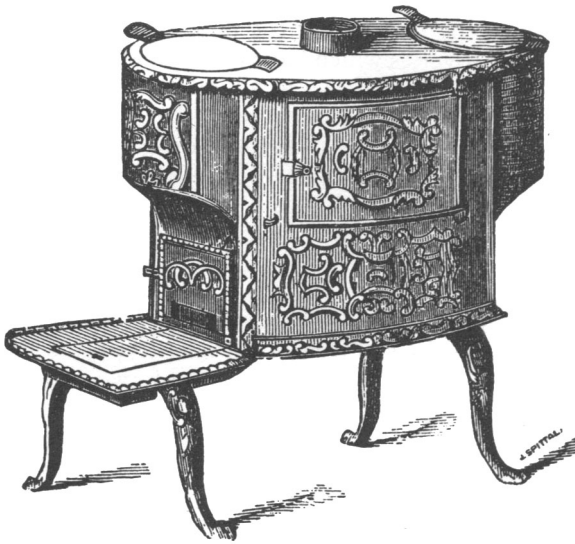
William John Keep, the author, was himself connected with the manufacture of stoves. Through his book, *Cast Iron*, he was recognized as an authority on that material, and his discovery of the mechanical analysis for it, known as "Keep's Test," has been widely used in this and other countries instead of chemical analysis. He had planned to put the information collected in the course of his experience in stove manufacture into permanent form in the fiftieth year of his connection with the industry, and his unpublished book was the result. The earlier chapters, particularly, are full of curious bits of information.

While the commercial value of coal was appreciated earlier, by brewers and others who needed large quantities of fuel for their occupations, coal did not come into domestic use in England until about 1600, on account of a common prejudice to the effect that burning it contaminated the air and injured the health. Indeed, in

1306, the King was petitioned by Parliament to prohibit its use in London, and a law was passed making the burning of coal there a capital offense. In the reign of Edward I a man was actually executed for burning coal in London.

Even after 1600, when open grates for coal were beginning to be used, ladies often refused to enter a room where the fuel was being

TEN PLATE, OR BALTIMORE COOK.



A TYPE OF STOVE WHICH WAS POPULAR IN THE UNITED STATES IN THE FIRST QUARTER OF THE 18TH CENTURY

burned, and would not eat meat which had been roasted over a coal fire, for fear of injuring their complexions. Late in the sixteenth century, Sir Hugh Pratt attempted to make a substitute for the obnoxious coal by mixing coal-dust with clay and loam, and forming it into balls.

One improvement in stoves, in 1678, is interesting from its author, Prince Rupert. This "mad prince" Palatine, nephew of the ill-fated Charles I, whose brilliant part in the English Civil War

left such contradictory impressions with Royalist and Parliamentary, was a scientist and inventor of some ability. After the defeat of his uncle's cause, he for some time headed a futile attempt to harrass the Parliamentary fleet with what remained of those ships which had taken the Royalist side. After the failure of that forlorn hope, he lived in France until the Restoration.

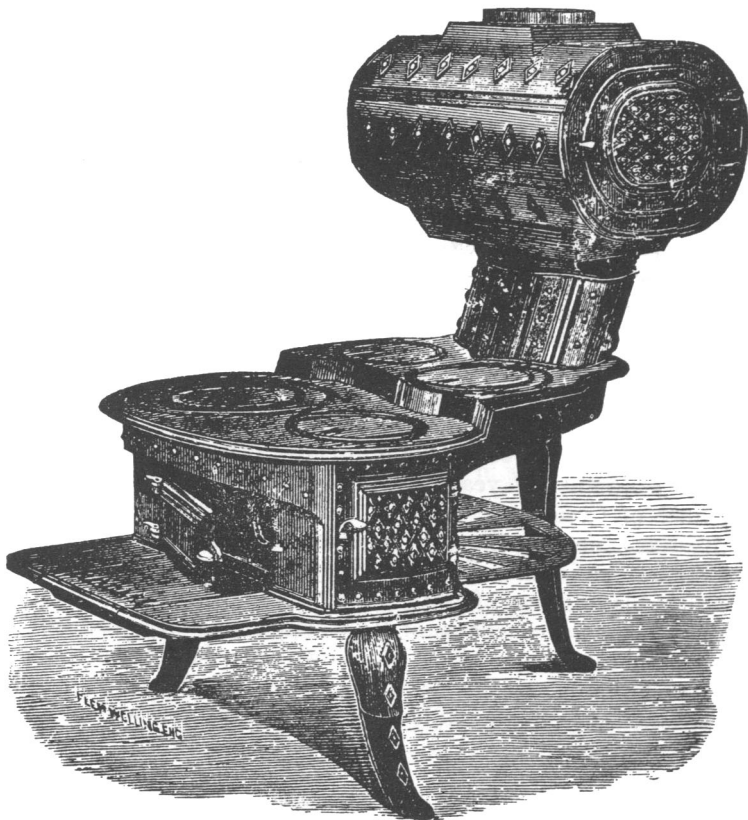
"During these years of exile from England," writes Lord Ronald Gower, "and while in Paris, Rupert commenced those practical experiments in chemistry, and in the improvement of war materials, which would have made him famous had he been born in a laboratory, and not in a palace. In his laboratory in Paris, where he was credited with trying to discover the philosopher's stone, he made some of those discoveries which have unfortunately not outlived his own career. Among these was a new kind of gunpowder which was said to possess ten times the strength of that then in use."

The grate which he invented directed the smoke and gases back over the fire to produce a higher temperature than if they went directly upward.

Mr. Keepe goes on to describe a number of variations on the fireplace and on brick and tin ovens, and the different kinds of stove which were introduced into the United States by immigrants from the European countries. The Germans who came to New York and Pennsylvania early in the eighteenth century, for instance, used "five plate, or jamb stoves," composed of two sides, a back, a bottom, and a top, and built into the wall at the back of the fireplace, or into the outer wall of the house. They were about two feet high, about two feet wide, and projected into the room about two feet. These stoves were made at the first charcoal blast-furnaces in Pennsylvania and New York, erected from 1720 to 1750. He quotes a description of the buildings of one of these establishments. The furnace itself stood in a "lofty shed built up of logs, while outside near by stood the grist mill, blacksmith's shop, saw mill and carpenter's shop, probably inside of which was the molding room with its pot patterns, caster's tools, scorched flasks and wooden stove molds.

"Not far away stood the stable, hay bins, charcoal house, and master's mansion, with dwellings for indentured English, Irish and German workmen, negro slaves and a few Indian laborers."

From these beginnings, the author follows the development of each type of stove down to the present day, until in the last chapter he arrives at steam heat.



AN ELEVATED OVEN STOVE

The first stove of this type, made about 1830, was called the "Yankee Notion."