distinction between the sorts of porcelain called hard and tender. Hard porcelain, which is fabricated in Germany and the East, is composed of the clay called kaolin, consisting of silica and alumina, which is combined with a flux consisting of silica and lime with a feldspar, which in China is called "petgunse." The glaze of this porcelain is earthy, and admits of no metallic or alkaline ingredients.

Tender porcelain, on the other hand, consists of a vitreous frit, which is rendered opaque and less fusible by being mixed with a calcareous or marly clay. Its glaze is an artificial glass, composed of lead, silica, and soda potash or other alkali. This porcelain is more vitreous and transparent, and more fusible, than the hard porcelain. It may, indeed, be fused, if exposed merely to the temperature which is necessary to bake the hard porcelain. Its glaze also is more glossy and transparent, but less hard, than that of the hard porcelain, since it can be scratched with a steel point.

The English porcelain, with a few exceptions, belongs to the class of tender porcelain, and is not therefore composed merely of kaolin and petgunse. It is baked at a much lower temperature than the German or Oriental porcelain. Being manufactured on a very extensive scale, and with great economy and certainty, and comparatively small expenditure of fuel, it is sold at a moderate price, compared with the fine porcelain. The English porcelain may be considered as holding a place intermediate between the hard porcelain of China and Germany, and fine stoneware. It is distinguished from the first by the paste being more friable and by its plumbiferous glaze, and from the second by its transparency and its stronger glaze.

Some English porcelain is called ironstone china, and is usually composed of sixty parts of Cornish stone, forty of kaolin, and two of flint glass; or forty-two of feldspar, the same of kaolin, and ten parts of ground flints, and eight of flint glaze. The glass for the first composition is made with twenty parts of feldspar, fifteen of flints, six of red lead, and five of soda, which are fritted together, and twenty-two parts of flint glass and fifteen of white lead are added. The glaze of the second composition is

made of eight parts of flint glass, thirty-six of feldspar, forty of white lead, and twenty of ground flints. These constituents and their proportions are, however, subject to great variation, each manufactory having recipes and proportions peculiar to it.

"The excellent workmanship of English porcelain," says M. Faujas de St. Fond, "its solidity, the advantage which it possesses of sustaining the action of fire; its fine glaze, impenetrable to acids; the beauty and convenience of its form, and the cheapness of its price, have given rise to a commerce so active and universal, that in travelling from Paris to St. Petersburgh, from Amsterdam to the farthest part of Sweden, or from Dunkirk to the extremity of the south of France, one is served at every inn upon English ware. Spain, Portugal, and Italy are supplied with it, and vessels are loaded with it both for the Indies and the continent of America."

There is no excise or other regulations affecting earthenware. There are no official documents or records by which the actual extent of the manufacture can be ascertained with precision; but it is estimated that, at the Potteries alone, the value of the earthenware produced annually is about £1,700,000, and that the value of the manufactures of Worcester, Derby, and other parts of the country, may amount to about £750,000, making a total annual value of £2,450,000.

The value of gold consumed annually at the Potteries in the ornamentation of porcelain is £36,400; and, since about half that amount is consumed in the other seats of the manufacture, it may be stated that the total value of the gold used annually in England in this manufacture is about £54,600.

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