with the great Shandur offshoot of the Hindu Kush except the narrow trough of the Kabul river, which cuts a deep waterway across where it makes its way from Dakka into the Peshawar plains. Strategically it is an important topographical feature, for it divides the basin of the Kabul river and the Khyber route from the valley of Kurram, leaving no practicable pass across its rugged crest to connect the two. Its western slopes, where it abuts on the mountain masses which dominate the Kabul plain, are forest-covered and picturesque, with deep glens inter­secting them, and bold craggy ridges; the same may be said of the northern spurs which reach downward through the Shinwari country towards Gandamak and Jalalabad. Here the snow lies late and moisture is abundant—but on the southern sun-scorched cliffs but little vegetation is to be seen. Approaching the Peshawar plains the Safed Koh throws off long spurs east- ward, and amongst the foothills of these eastern spurs the Afridi Tirah long remained hidden from European eyes.

SAFES, STRONG-ROOMS AND VAULTS. The term “ safe,” whilst really including any receptacle for the secure custody of valuables provided with a lock or other device intended to prevent any person except the owner or some person authorized by him gaining access thereto, has gradually come to be confined to such receptacles when fitted with a vertical door, as distin­guished from a lid, and of such a size that they can be moved into position, by the use of proper appliances, in one piece. Such receptacles, when so large as to require that their parts should be assembled *in situ,* fall under the term “ strong-rooms,” or in the case of safe-deposits “ vaults,” and when constructed with hinged lids, as distinct from doors, under the terms “ cash-box,” “ deed-box ” and “coffer.” The term “ coffer ” is probably the most ancient, and in earlier days included, as it still does in France, what are now known as safes.

Although it is practically certain that boxes provided with locks or coffers must have followed closely on the development of locks (*q.v.*) and been in use in ancient Egypt, yet no examples remain to us of earlier date than the middle ages. The earliest examples extant were constructed of hard wood banded with hammered iron, and subsequent development took place rather on artistic than on practical lines up to the time of the introduction of boxes entirely of iron. On the continent of Europe the iron box was developed to a very high standard of artistic beauty and craftsmanship, but with no real increase of security. Several specimens of these coffers supposed to be of 17th-century work- manship are preserved in the museum at Marlborough House. Cast-iron chests soem to have been made in various parts of Great Britain in the early part of the 19th century, but the use of wrought iron was probably confined to London until 1829, or thereabouts, when the trade spread to Wolverhampton.

Up to this time no attempt had been made to make coffers fireproof, for though a patent for fireproofing had been taken out in 1801 by Richard Scott, it does not appear to have been used. In 1834, however, a patent was obtained by William Marr for the application of non-conducting linings, followed about four years later by a similar patent in the name of Charles Chubb. The foundation, however, of the modern safe industry was laid by Thomas Milner, originally a tinsmith of Sheffield, who after a few years’ business in Manchester established, in 1830, work's at Liverpool for the manufacture of tinplate and sheet iron boxes and who later made plate iron chests or coffers and, probably the earliest, safes about the year 1846. To him is due the modern system of fireproofing, which owes its merit to the use not of non-conductors but of an absorbent material which in the case of fire will be permeated with moisture present in it, either in the form of liquid contained in tubes which burst or otherwise discharge their contents when subjected to heat, or mixed with it as water of crystallization in combination with an inorganic salt. The patent he obtained in 1840 contains the following claim: “ Constructing, forming, or manufacturing boxes, safes, or other depositories of an outer case of iron or other metal or material, enclosing one, two, or more inner cases, with spaces or chambers between them, containing an absorbent material or composition, such as porous wood, dust of wood, dust of bones, or similar

substances, in which are distributed vessels, pipes or tubes filled with an alkaline solution or any other liquid or matter evolving steam or moisture, the tubes or vessels bursting or otherwise discharging themselves on the exposure of the box or other depository to heat or fire, into the surrounding absorbent matter, which thus pervaded with moisture and rendered difficult of destruction, protects the inner cases or boxes and their contents.” In 1843, Edward Tann, Edward Tann, Junr., and John Tann took out a patent for securing the presence of moisture by means of a chemical salt. In their patent they give preference to alum in combination with Austin’s cement or gypsum, but they also claim “ any non-conductors of heat may be used, and for alum may be substituted sulphate of potash, muriate of ammonia, borax, impure potash, nitrate of soda, soda in cake, pearlash, or any of the known alkalis.” Milner considered this an infringement of his patent of 1840, and in an action before Lord Campbell and a special jury in the Queen’s Bench, on the 3rd of June 1851, a verdict was given upholding his contention.

For some years no marked improvements in safes were made, although the manufacture had been taken up in various places by different firms. Safes had, however, been constructed of thicker materials, and some attention had been paid to the more secure attachment of the various parts; also, with the advent

of the wrought-iron safe, as distinct from the coffer, the practice had developed of securing the door by a number of bolts operated by a handle and fastening them in the locked position by the lock proper, in order that a small key might be used (Charles Chubb’s patent, 1845).

Concurrently with the increase of strength in safes and prob- ably with the increased value of articles preserved in safes, the skill of the professional thief had also increased, and this went on for some years until the Cornhill burglary of 1865 called general attention to the question. In 1860 a patent was taken out by Samuel Chatwood for a safe constructed of an outer and inner body with the intervening space filled with ferro-manganese or speigeleisen in a molten state, the total thickness being 2 in. (fig. 1). The drilling of conical holes in the inner surface of the outer plate as shown in the figure renders the use of drills of any materials at present known quite inoperative; as the drill, even if it could be made sufficiently hard to pierce the speigeleisen, would on meeting it be bedded in the soft steel and unable to free itself. The construction of such a safe was an expensive matter, and it was not till after the robbery above referred to that he was enabled to sell a single example; it is, however, still in demand for the preservation of diamonds, as probably the only