*g*uard it a*g*ainst bur*g*lary. It requires nothing more than a calculation of the intensity and duration of any fire to which it is likely to be exposed, and the provision of a sufficient lining of fire-resisting material. What is princi­pally used is a mixture of some absorbent medium—such as sawdust, powdered gypsum or cement, or infusorial earth—with ground alum. Asbestos, silicate cotton, mica, and other non-conductors are also used; and by some makers sealed tubes of alkaline salts are distributed through the absorbent material. These burst when exposed to high heat and their contents saturate the surrounding substance. A carefully packed shell of not less than 31/2 inches of the fire-resisting medium should line the interior of every fire-proof safe; but in many cheap safes a quantity of brick dust is the only fire-resisting medium.

Where an ordinary safe provides insufficient accommoda­tion the strong room takes its place. Such an apartment, being generally in the basement of a building, presents no special difficulties to make it proof against fire and thieves. Thickness of walls, built by preference of hard brick laid in cement, and liberal use of cement within the walls, as well as at the floor and over the arched roof, give strength against both fire and burglars. The interior of a strong room is generally lined with boiler-plate, and, in addition to the massive steel and iron door, it has an inner wrought-iron grill-door, which secures the vault during business hours and permits the ventilation of the apartment. Within such a strong room extra strong chambers or separate safes may be placed, and in this way precautions may be indefinitely multiplied.

The most complete examples of safe and strong-room arrange­ments are afforded by the public safes or safe-deposits erected in most of the great cities of America and in London. The premises of the National Safe Deposit Company in London consist of a large isolated building in Queen Victoria Street. The building, which is fire-proof, covers and surrounds the great safe vault or citadel, which is sunk in the ground to a depth of 45 feet. The vault itself, founded on a bed of concrete 20 feet in thickness, has walls, 3 feet thick, of hard blue brick laid in cement, with an external lining of fire-brick, and is lined internally with cast-iron plates 41/2 inches thick chilled on one side, the plates having embedded in them a network of strong interlaced wrought-iron bars. The vault is divided into four tiers or stories with eight separate compart­ments in each, which, after business hours, are closed with doors raised and lowered by hydraulic power. These doors, which each weigh four tons, are built up, 12 inches thick, of combinations of hard and tough metal to resist fracture and drilling, and when they are raised for business purposes the entrance to each compartment is protected by a massive wrought-iron grill. Within the thirty- two compartments there is space for about 20,000 safes of various sizes, which are let to owners of valuables, each renter having the sole control of the safe hired by him. Additional security is obtained by the patrol of armed watchmen, and generally it may be said that in the institution precautions have been carried almost to the pitch of perfection, if indeed they have not been pushed to needless excess. (J. PA.)

SAFETY LAMP. See Coal, vol. vi. p. 72 *sq.*

SAFFÁRIDS, a Persian dynasty of the 9th century. See Mohammedanism, vol. xvi. p. 586.

SAFFI (Asafi), a seaport of Morocco, with 6000 inha­bitants, some commerce, and a famous shrine, the House of the Seven Sleepers, frequented by Moslem and Jewish pilgrims. See vol. xvi. p. 831.

SAFFLOWER, or Bastard Saffron *(Carthamus tinctorius),* belongs to the natural order *Compositae*; its flowers form the basis of the safflower dye of commerce. The plant is a native of the East Indies, but is cultivated in Egypt and to some extent in southern Europe. To obtain the dyeing principle—carthamine—the flowers are first washed to free them from a soluble yellow colouring matter they contain; they are then dried and powdered, and digested in an alkaline solution in which pieces of clean white cotton are immersed. The alkaline solution having been neutralized with weak acetic acid, the cotton is removed and washed in another alkaline solution. When this

second solution is neutralized with acid, carthamine in a pure condition is precipitated. Dried carthamine has a rich metallic green colour ; it forms a brilliant but fugitive scarlet dye for silk, but is principally used for preparing toilet rouge. In 1884 there were imported into the United Kingdom 1794 tons of safflower, valued at £7109, almost the whole of which came from the East Indies.

SAFFRON (Arab, *za'farān)* is manufactured from the dried stigmas and part of the style of the saffron crocus, a cultivated form of *Crocus sativus,* L., the precise origin of which is unknown; for, though some of the wild forms (var. *Thomasii, Cartwrightianus)* are also employed for the manufacture of saffron, they differ in character from the cultivated type and are somewhat restricted in geographical range, while the cultivated form extends with little or no change through nearly ninety degrees of ongitude (Spain to Kashmir) and twenty-five degrees of latitude (England to Persia). It is invariably sterile, unless artificially fertilized with the pollen of some of the wild varieties. The purple flower, which blooms late in autumn, is very similar to that of the common spring crocus, and the stigmas, which are protruded from the perianth, are of a characteristic orange-red colour. The Egyptians, though acquainted with the bastard safflower (see preceding article), do not seem to have possessed saffron; but it is named in Canticles iv. 14 among other sweet-smelling herbs. It is also repeatedly mentioned (*κρόκος*) by Homer, Hippocrates, and other Greek writers; and the word “ crocodile ” was long supposed to have been derived from κρόκος and δειλός, whence we have such stories as that “ the croco­dile’s tears are never true save when he is forced where saffron groweth” (Fuller’s *Worthies).* It has long been cultivated in Persia and Kashmir, and is supposed to have been introduced into China by the Mongol invasion. It is mentioned in the Chinese materia medica *(Pun tsaou,* 1552-78). The chief seat of cultivation in early times, however, was the town of Corycus (modern Korghoz) in Cilicia, and from this central point of distribution it may not improbably have spread east and west. According to Hehn, the town derived its name from the crocus; Reymond, on the other hand, with more probability, holds that the name of the drug arose from that of the town. It was cultivated by the Arabs in Spain about 961, and is mentioned in an English leech-book of the 10th century, but seems to have disappeared from western Europe till reintroduced by the crusaders. According to Hakluyt, it was brought into England from Tripoli by a pilgrim, who hid a stolen corm in the hollow of his staff. It was especi­ally cultivated near Hinton in Cambridgeshire and in Essex at Saffron Walden *(i.e.,* Saffron Woods, not Saffron Walled-in, as the canting crest of the town would imply), its cultivators being called “crokers.” This industry, though very important in the 15th century, when English saffron commanded the highest prices on the Continent, appears to have died out about 1768.

Saffron was used as an ingredient in many of the com­plicated medicines of early times. According to Gerard “ the moderate use of it is good for the head and maketh the sences more quicke and lively. It shaketh off heavie and drowsy sleep and maketh a man mery.” It appears to be really a stimulant and antispasmodic, though its powers are slight. It is scarcely ever employed by modern pharmacists unless for the mere coloration of other tinc­tures, or at most as a cordial adjunct to other medicines. That it was very largely used in cookery is evidenced by many writers; thus Laurenbergius *(Apparatus Plantarum,* 1632) makes the large assertion “In re familiare vix ullus est telluris habitatus angulus ubi non sit croci quotidiana usurpatio aspersi vel incocti cibis.” The Chinese used also to employ it largely, and the Persians and Spaniards