blage ſuch ſolidity that we can leave no doubt of its ſufficiency. But daily experience ſhows us that this vague ſecurity is in many caſes uncertain, if we are thus igno­rant. In all caſes it is ſlovenly, unlike an artiſt, attend­ed with uſeleſs expence, and in machines is attended with a loss of power which is waſted in changing the motions of a needleſs load of matter.

It muſt therefore greatly tend to the improvement of all profeſſions occupied in the erection or employment of ſuch ſtructures to have a diſtinct notion of the ſtrains to which their parts are expoſed. Frequently, nay ge­nerally, theſe ſtrains are not immediate, but ariſe from the action of forces on diſtant parts, by which the aſſemblage is ſtrained, and there is a tendency to rupture in every part. This ſtrain is *induced* on every part, and is there modified by fixed mechanical laws. Theſe it is our buſineſs to learn ; but our chief object in this inveſtigation is to determine the ſtrength of materials which it is neceſſary to oppoſe in every part to this ſtrain ; and how to oppoſe this ſtrength in ſuch a manner that it ſhall be exerted to the beſt advantage. The notions of ſtrain and ſtrength therefore hardly admit of ſeparation; for it is even by means of the ſtrength of the interme­diate parts that the ſtrain is propagated to, or excited in, the part under conſideration. It is proper therefore to conſider the whole together under the article *Strength of Materials* in mechanics.

STRAINING, is the clarification of a liquor, by passing it through a ſieve or filter. The word is de­rived from the French, *estreindre;* which is formed from *ex,* “ out of,” and st*ringere,* “ to preſs.”

STRAIT, a narrow channel or arm of the ſea, ſhut up between lands on either side, and affording a passage out of one great ſea into another.

There are three kinds of ſtraits; I. Such as join one ocean to another. Of this kind are the ſtraits of Magellan and Le Maire. 2. Thoſe which join the ocean to a gulf : the ſtraits of Gibraltar and Babelmandel are of this kind, the Mediterranean and Red Sea being only large gulfs. 3. Thoſe which join one gulf to another ; as the ſtraits of Caffa, which join the Pa­lus Mæotis to the Euxine or Black Sea. The passage of ſtraits is commonly dangerous, on account of the rapidity and oppoſite motion of currents. The moſt celebrated ſtrait in the world is that of Gibraltar, which is about from 24 to 36 miles long, and from 15 to 24 broad, joining the Mediterranean ſea with the Atlantic ocean. The ſtraits of Magellan, discovered in 1520 by F. Magellan, were uſed ſome time as a passage out of the North into the South Sea ; but since the year 1616, that the ſtrait of Le Maire has been diſcovered, the former has been disuſed ; both becauſe of its length, which is full three hundred miles, and becauſe the navigation thereof is very dangerous, from the waves of the North and South Seas meeting in it and claſhing. The ſtrait at the entrance of the Baltic is called the *Sound.* That between England and France, *Le pas de Calais,* or the *Channel.* There are alſo the ſtraits of Weigats, of Jesso, of Anian, of Davis, and Hudſon, &c.

STRAKES, or Streaks, in a ſhip, the uniform ranges of planks on the bottom and ſides of a ſhip, or the continuation of planks joined to the ends of each other, and reaching from the ſtem to the ſtern-poſt and faſhion-pieces ; the loweſt of theſe, which is called the *garboard-streak,* is let into the keel below, and into the ſtem and ſtem-poſt. They ſay alſo a ſhip *heels a strake,* that is, hangs or inclines to one side the quantity of a whole plank’s breadth.

Strakes, *οr streks,* in mining, are frames of boards fixed on or in the ground, where they waſh and dreſs the ſmall ore in a little ſtream of water, hence called st*raked ore.*

STRALSUND, a ſtrong and rich ſea-port town of Germany, in Hither Pomerania, and was formerly an important trading-place. In 1678 it was forced to ſurrender to the elector of Brandenburg, arter 1800 houſes had been burnt to aſhes in one night’s time. After this the Swedes defended it to the laſt extremity ; and Charles XII. in 1714, came hither after its return out of Turkey. But the crown of Sweden not being able to hold out againſt five great powers, it was forced to ſubmit in 1715. In 1720 it was rendered back to Swe­den, but in a very poor condition. It is almoſt ſurrounded by the ſea and the lake Francen, and has a har­bour ſeparated from the iſle of Rugen by a narrow ſtrait. It is 15 miles north-weſt of Grippſwald, and 40 north-eaſt of Guſtrow. E. Long. 13. 28. N. Lat, 54. 17.

STRAMONIUM, in botany ; a ſpecies of Datu­ra.

STRAND (*Saxon)* any ſhore or bank of a ſea or great river. Hence the ſtreet in the west ſuburbs of London, which lay next the ſhore or bank of the Thames, was called the *Strand.* An immunity from cuſtom, and all impoſitions upon goods or veſſels by land or water, was usually expreſſed by st*rand* or st*ream.*

STRANDED (from the Saxon st*rand),* is when a ſhip is by tempeſt, or by ill ſteerage, run on ground, and ſo periſhes. Where a veſſel is ſtranded, juſtices of the peace, &c. ſhall command conſtables near the ſea- coaſts to call aſſiſtance for the preſervation of the ſhip ; and officers of men of war are to be aiding and aſſiſting thereto.

STRANGE (Sir Robert), who carried the art of engraving to ſo great perfection in this country, was a man of ſuch general merit, that a life of him, not mere­ly eſtimating his character as an artiſt, but alſo portraying his private virtues and domeſtic habits, would be both uſeful and entertaining. Such a life, we have reaſon to believe, will be preſented to the public. Modeſt as he was ingenious, he uſed indeed to ſay that the works of an artiſt ſhould ſerve for a life and monument to him. His works no doubt will perpetuate his name whilſt any taſte for the fine arts remains. In the mean time, we cannot but here give a ſhort ſketch of his hiſtory, the accuracy of which may be depended on.

Sir Robert Strange was born in the iſtand of Pomona in Orkney, July the 14th 1721 ; and died at London July the 5th 1792. He was lineally deſcended from David Strange or Strang, a younger ſon of the family of the Stranges or Strangs @@(a) of Balcaſky, in the coun-

@@@(a) The name of *Strange* or *Strang* is indiſcriminately uſed in the old charters and deeds of the Balcaſky fa­mily, now in the posseſſion of Sir Robert Anſtruther of Balcaſky, baronet.