with that industry which was natural to him, he was a use­ful member, and attended the house with a scrupulous punctuality. His talents for business acquired the consi­deration to which they were entitled, and were not unno­ticed by the minister.

In his political connection, he was constant to the friends to whom he had first been attached. He was a steady supporter of that party who were turned out of administration in spring 1784, and lost his seat in the House of Commonsby the disso­lution of parliament with which that change was followed ; nor did he show any disposition to resume his place on the return of the new parliament. He had begun to feel some decline in his health, which had rather suffered from the long sittings with which the political warfare had been attended. Without any fixed disease, his strength visibly decayed ; and though his spirits survived his strength, yet the vigour and activity of his mind were considerably impaired. Both continued gradually to decline till his death, which happened on the 9th of July 1785, in the seventy-first year of his age.

STR AIKS, in the military art, are strong plates of iron, six in number, fixed with large nails called *straik-nails,* on the circumference of a cannon-wheel, over the joints of the fellows, both to strengthen the wheel, and to save the fel­lows from wearing on hard ways or streets.

STRAIN or Stress, in *Mechanics,* are terms indiscri­minately used to express the force which is excited in any part of a machine or structure of any kind, tending to break it in that part. Thus every part of a rope is equally strain­ed by the weight which it suspends. Every part of a pillar is equally strained by the load which it supports. A mill axle is equally twisted and strained in every part which lies between the part of the wheel actuated by the moving power and the part which is resisted by the work to be per­formed. Every part of a lever or joist is differently strain­ed by a force acting on a distant part.

It is evident that we cannot make the structure fit for its purpose, unless the strength at every part be at least equal to the stress laid on, or the strain exc∣ted in that part. It is no less plain, that if we are ignorant of the principles which determine this strain, both in intensity and direction, in relation to the magnitude and the situation of its remote cause, the only security we have for success is to give to every part of the assemblage 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 expense, 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 these 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.

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

There are three kinds of straits. 1. 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.

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 stern 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, or *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 *stroked ore.*

STRALSUND, one of the governments into which the Prussian province of Pomerania is divided. It comprehends the whole of what was Swedish Pomerania, with the island of Rugen, and some others in the Baltic Sea. It extends over 1584 square miles, and contains fourteen cities and towns, and 347 villages. The population, by the census of 1817, amounted to 129,239, and by that of 1834 to 153,945. With the exception of about 450 Catholics and 152 Jews, all the inhabitants are of the Lutheran church. The soil is generally fertile and well cultivated, yielding of corn, flax, and hemp, more than is consumed. The capital, a city of the same name, stands in the island of Rugen, opposite the Strait of Gellen, by which it is separated from the continent. The harbour is good and secure, and the city is strongly fortified both on the land and the sea sides. It is ancient, and in a style of building corresponding to its age. It has five churches and a college, with a few other public build­ings. In the year 1834 it contained 14,713 inhabitants, who have extensive foreign trade, chiefly in domestic pro­ductions. Long. 13. 29. E. Lat. 54. 6. N.

STRANGE, Sir Robert, an eminent engraver, who carried the art to great perfection in this country, and was distinguished not only us an artist, but highly respected and beloved on account of his private virtues and domestic ha­bits. Modest as he was ingenious, he used to say that the works of an artist should serve for his life and monument. His works no doubt will perpetuate his name while any taste for the fine arts remains. He was born in the island of Pomo­na, in Orkney, on the 14th of July 1721, being lineally de­scended from David Strange or Strang, a younger son of the family of the Stranges or Strangs of Balcasky, in the county of Fife, who settled in Orkneyat the time of the Reformation. But as there were no males remaining of the elder branch of the Stranges of Balcasky, Sir Robert became the male re­presentative of it, and was found by a legal investigation to have a right to the armorial bearings and every other mark of honour belonging to that ancient family. He received his classical education in Kirkwall in Orkney, under the care of a learned, worthy, and much respected gentleman, Mr Murdoch Mackenzie, who has rendered very important service to his country by the accurate surveys and charts which he has given of the islands of Orkney, and of the British and Irish coasts.

Originally intended for the law, Mr Strange soon became tired of that profession, and perceived that his genius de­cisively led him to the arts of drawing and engraving. For this purpose he was introduced to Mr Richard Cooper of Edinburgh, the only person there who had any taste in that department of the fine arts. He was bound with him as an apprentice for six years ; during which time he made such progress in his new profession, that his friends entertained the highest expectation of his success ; nor were they dis­appointed.