*ship* in feet. When divided by 100 the result is the *registered under-deck tonnage* of the ship—subject to the additions and deductions ordered by the act. Directions of a kind similar to those already set out are given whereby the tonnage in the space enclosed between the tonnage and upper decks may be ascertained, and also for the measuring of any break, poop or other permanent closed-in space on the upper deck available for stores, and the sum of the capacity of these must be added to the under-deck tonnage to arrive at the *gross registered tonnage.* But an express proviso is enacted that no addition shall be made in respect of any building erected for the shelter of deck pas­sengers and approved by the board of trade. In the process of arriving at the *net tonnage* the main deduction allowed from the gross tonnage is that of machinery space in steamships. The method of measurement here is similar to that by which the under-deck tonnage is reached. Where the engines and boilers are fitted in separate compartments, each compartment is measured separately, as is the screw shaft tunnel in the case of steamships propelled by screws. The tonnage of these spaces is reckoned, not from the tonnage deck, but from the crown of the space; whilst, if it has previously been reckoned in the gross tonnage, there may be an allowance for the space above the crown, if enclosed for the machinery or for the admission of light and air. Allowances are only made in respect of any machinery space if it be devoted solely to machinery or to light and air. It must not be used for cargo purposes or for cabins. Further, by the act itself in the case of paddle steamships, where the machinery space is above 20% and under 30% of the gross tonnage, it is allowed to be reckoned as 37% of such gross tonnage; whilst similarly, in the case of screw steamships, where such machinery space is over 13 % and under 2o % of the gross tonnage, it is allowed to be reckoned as 32%. Further deductions are also made in respect of space used solely for the accommodation of the master and the crew, and for the chart-room and signal-room, as well as for the wheel- house and chain cable locker and for the donkey-engine and boiler, if connected with the main pumps of the ship, and in sailing vessels for the sail locker. The space in the double bottom and in the water-ballast tanks, if these be not available for the carriage of fuel stores or cargo, is also deducted if it has been reckoned in the gross tonnage in the first instance.

From the rules above laid down it follows that it is possible for vessels, if built with a full midship section, to have a gross registered tonnage considerably below what the actual cubical capacity of the ship would give, whilst in the case of steam tugs of high power it is not unprecedented, owing to the large allowances for machinery and crew spaces, for a vessel to have a registered net tonnage of nil.

Suez Canal dues being charged on what is practically the registered tonnage (though all deductions permitted by the British board of trade are not accepted), it is usual, at all events in the British navy, for warships to be measured for what would be their registered tonnage if they were merchant ships, so that in case they may wish to pass through the canal a scale of payment may be easily reached. But such tonnage is never spoken of in considering their size relative to other vessels.

Two other tonnages are also made use of in connexion with merchant ships, especially when specifications for vessels are being made. The first of these is *measurement capacity.* This is found by measuring out the true cubic capacity of the holds, whereby it is found what amount of light measurement goods can be carried. The second is *deadweight capacity.* This is generally given as excluding what is carried in the coal bunkers, and it is therefore the amount of deadweight which can be carried in the holds at load draught when the vessel is fully charged with coals and stores. (B. W. G.)

**TONNAGE AND POUNDAGE,** in England, customs duties anciently imposed upon exports and imports, the former being a duty upon all wines imported in addition to prisage and butlerage, the latter a duty imposed *ad valorem* at the rate of twelve-pence in the pound on all merchandise imported or exported. The duties were levied at first by agreement with merchants (poundage in 1302, tonnage in 1347), then granted by parliament in 1373, at first for a limited period only. They were considered to be imposed for the defence of the realm. From the reign of Henry VI. until that of James I. they were usually granted for life. They were not granted to Charles I., and in 1628 that king took the unconstitutional course of levying them on his own authority, a course denounced a few years later by 16 Car. I. c. 18 (1640), when the Long Parliament granted them for two months. After the Restoration they were granted to Charles II. and his two successors for life. By acts of Anne and George I. the duties were made perpetual, and mortgaged for the public debt. In 1787 they were finally abolished, and other modes of obtaining revenue substituted, by 27 Geo. III. c. 13 (1787).

Poundage also signifies a fee paid to an officer of a court for his services, *e.g.* to a sheriff’s officer, who is entitled by 29 Eliz. c. 4 (1586-1587) to a poundage of a shilling in the pound on an execution up to £100, and sixpence in the pound above that sum.

**TONNERRE,** a town of north-central France, capital of an arrondissement in the department of Yonne, 52 m. S.E. of Sens on the Paris-Lyon railway. Pop. (1906), 3974. It is situated on a slope of the vineclad hills on the left bank of the Armançon. At the foot of the hill rises the spring of Fosse-Dionne, enclosed in a circular basin 49 ft. in diameter. The town has two interest­ing churches. That of St Pierre, which crowns the hill, possesses a fine lateral portal of the Renaissance period to which the church, with the exception of the choir (1351), belongs. The church of Notre-Dame is mainly Gothic, but the façade is a fine specimen of Renaissance architecture. The Salle des Malades, a large timber-roofed apartment in the hospital, dates from the end of the 13th century and is used as a chapel It is 330 ft. long and contains the tombs of Margaret of Burgundy, wife of Charles of Anjou, king of Sicily, and foundress of the hospital, and of François-Michel Le Tellier, marquis of Louvois, war minister of Louis XIV. The hospital itself was rebuilt in the 19th century. The Renaissance Hôtel d’Uzès was built in the 16th century. Tonnerre is the seat of a sub-prefect and has a tribunal of first instance. The vineyards of the vicinity produce well- known wines. The trade of the town is chiefly in wine, in the good building-stone found in the neighbourhood and in Portland cement. Cooperage is carried on.

Its ancient name of *Tornodorum* points to a Gallic or Gallo- Roman origin for Tonnerre. In the 6th century it became the capital of the region of Tonnerrois and in the 10th century of a countship. After passing into the possession of several noble families, it was bought from a count of Clermont-Tonnerre by Louvois, by whose descendants it was held up to the time of the Revolution.

**TONQUA BEAN.** The Tonqua, Tonka or Tonquin bean, also called the coumara nut, is the seed of *Dipterix odorata,* **a** leguminous tree growing to a height of 80 ft., native of tropical South America. The drupe-like pod contains a single seed possessed of a fine sweet “ new-mown hay ” odour, due to the presence of coumarin (*q.υ.).* Tonqua beans are used principally for scenting snuff and as an ingredient in perfume sachets and in perfumers’ “ bouquets.”

**TÖNSBERG,** a fortified seaport of Norway, in Jarlsberg- Laurvik *amt* (county), situated on a bay on the south coast, near the entrance to Christiania Fjord, 72 m. S. by W. of Christi- ania on the Skien railway. Pop. (1900), 8620. It is one of the most ancient towns in Norway. It is the headquarters of a sealing and whaling fleet. The principal industries are refineries for preparing whale and seal oil and saw-mills. An interesting collection of antiquities and whaling implements is preserved in the Slotstaam on Castle Hill.

**TONSILLITIS,** acute inflammation of the tonsils, or quinsy, due to the invasion of the tonsil, or tonsils, by septic micro­organisms which may have gained access through the mouth or by the blood-stream. Sometimes the attack comes on as the result of direct exposure to sewer gas, and it is not at all an uncommon affection of house surgeons, nurses and others who have to spend most of their time in a hospital. The association of quinsy with rheumatism may be the result of the