an earlier period than this ; and that although the general adoption of the galley in Western Europe had much check­ed the art of navigation by means of sails, it had never been wholly lost, but that sailing vessels, though proba­bly very few in number, and imperfect in their rig, had been constantly in use. If we may judge from the few hints handed down to us by history, they were probably luggers, and were adopted for mercantile purposes along the coast of the Channel and the Bay of Biscay. In the north of Europe sails had never been discontinued, although the more war­like galleys of England and France had gradually prevent­ed the incursions of the northern nations into these more southern seas. The beginning of the fourteenth century is, however, decidedly an epoch in the histories both of na­vigation and of naval architecture, and from it may be dated the progress of navigation by means of sails. It is generally supposed, that the “ large ships ” mentioned in the enume­ration of the fleets of this period, were ships built only for sailing, and intended for those long voyages which the inven­tion of the compass by Flavio Gioia, a Neapolitan, about the year 1300, had rendered of comparatively easy performance.

It has been surmised that the compass was brought to Europe from the East about forty years previous to this date, by Paulus Venetus. It is certain that the Portuguese found the knowledge of the magnetic needle generally and long diffused among the eastern navies. Evelyn says that “ it was, near eighty years after its discovery, unknown in Britain.” This is not improbable, for there does not re­main much record of maritime affairs in the interval be­tween the reigns of John and Edward III. This monarch’s reign was, after a most severe struggle with France for supremacy on the seas, the era of a series of naval triumphs, and both navigation and naval architecture made most de­cided advances.

In an engagement which took place in 1340, the French force amounted to four hundred vessels, of which a hundred and twenty were “ large ships,” these being principally Ge­noese mercenaries. Edward III. commanded the English fleet in person, which consisted of but two hundred and sixty sail. The French are variously reported to have lost twenty and thirty thousand men, and two hundred vessels are said to have been captured. The loss to the English was only four thousand men. Two facts are elicited by. the accounts of this engagement ; one is, that there is no mention of galleys as forming any part of the fleets ; the other is, that in the James of Dieppe, which was captured by the Earl of Huntingdon, four hundred persons were found slain ; consequently the size of the vessel must have been very considerable.

In 1344 Edward summoned commissioners from all the ports, to meet in the metropolis, provided with the state of their “ navies.” The roll of this fleet is inserted in the first volume of Hakluyt, from a copy in the Cottonian Library. The total numbers were 710 ships, and 14,151 mariners; and there were thirty-eight foreign ships, with eight hundred and fifteen mariners. From this roll we learn that galleys had ceased to be used by England, either in her wars or in her commerce, as neither among the king’s ships, nor among those furnished by merchants, is there any men­tion of them. This fleet was that engaged in the cele­brated siege of Calais, and it was probably at this time that cannon were first employed by the English. Camden in his Remains says, “ Certain it is, that King Edward III. used them at the siege of Calais in 1347.”

Although from the fact of there being a royal dock-yard at Portsmouth so early as the reign of John, it is probable that the kings of England were possessed of a navy almost from the conquest ; yet this roll of Edward’s fleet contains the first enumeration of ships belonging to the sovereign, and employed in the service of the state, which occurs in English history ; and, consequently, it is from the reign of

Edward III. that we must date the formation of a royal navy. The king's ships were twenty-five in number, and were manned by 419 mariners. It appears that the vessels belonging to the sovereign were inferior in force to many of those which were supplied by subjects ; for the average number of the crews of the king’s ships was seventeen men to each vessel, while the average of the fleet was rather above twenty. Of course these numbers only include the mariners employed in navigating the vessels, and not the soldiers to be afterwards embarked on board them. If we consider the simplicity of the rig of these ships, in compa­rison to the wilderness of canvass and cordage covering the tall masts of a modern merchantman, we have more reason to be astonished at the large number of hands employed, than at the smallness of the averages seventeen and twenty. There is good reason to suppose that the addition of the bowsprit to the rig of ships dates no farther back than late in the reign of Edward III., which is alone quite sufficient to prove the very imperfect state of the navigation at that period, and also to excite astonishment that, with such ap­parently inadequate means, so much was effected ; for his­tory would almost lead us to suppose, that for all the pur­poses of war and commerce, fleets as proudly or as industri­ously ploughed the main then as now, “ with all appliances and means to boot." Plate CCCCXLV. fig. 3.

In the year 1381, the fourth of the reign of Richard IL, the first navigation act was passed in England, for the en­couragement of the naval interest, and the augmentation of our maritime power, by discountenancing the employ­ment of foreign shipping. It enacted, “ that for increas­ing the shipping of England, of late much diminished, none of the king’s subjects shall hereafter ship any kind of mer­chandize, either outward or homeward, but only in ships of the king’s subjects, on forfeiture of ships and merchandize, in which ships also the greater part of the crews shall be of the king’s subjects.” This act was not however enforced, permission being given to hire foreign shipping when there were no English ships in readiness.

We have said that the royal navy of England must date from the reign of Edward III. We have proof that it con­tinued to be customary for the sovereign to possess ships ; they were, however, used both for war and commerce. This practice, which does not at all militate against the existence of a royal navy, appears to have commenced when “ large ships” were substituted for the galleys as vessels for war; and it long continued to be usual tor merchants to hire ship­ping from the sovereign for commercial voyages. We learn from the proceedings of the privy council, which have been printed by the Record Commission, that in June of the year 1400, Henry IV. ordered his “ new ship,” together with such others as were in the port of London, to pro­ceed against the enemy. There is also a letter in the Cot­tonian Library, which has been printed in Ellis’s Collec­tion of Letters, from John Alcetre to King Henry V. con­cerning a ship building for that monarch at Bayonne. The letter is of the date of 1419; and as it contains more mi­nute details than might be expected to have descended to us from such an early period, we give the following ex­tract. “ At the makyng of this letter yt was in this estate, that ys, to wetyng xxxvj. strakys in hyth y bordyd, on the weche strakys hyth y layde xj. bemys ; the mast heme ys yn leynthe xlvj. comyn fete, and the beme of the hameron afore ys in leynthe xxxix. fete, and the beme of the hame­ron by hynde is in leynthe xxxiij. fete ; fro the onemost ende of the stemne in to the post by hynde ys in leynthe a hondryd iijxx. and vj. fete ; and the stemne ys in hithe iiijxx. and xvj. fete ; and the post xlviij. fete ; and the kele ys in leynthe a hondryd and xij. fete ; but he is y rotyt, and must be chaungyd.”

We have also evidence of the existence of ships which belonged to the monarch, in contradistinction to ships which