to it, or garboard ſtrake, and the keel is to be laid on the blocks @@(f).

The ſtem, and the poſt, and the ſeveral tranſoms be­longing to it, are to be prepared from the moulds, and rabbeted in like manner as the keel, to receive the ends of the plank. The tranſoms are to be bolted to the poſt at their middle, each at its reſpective height, ta­ken from the elevation in the mould loft, and the ex­tremities of the tranſoms are to be firmly connected with the faſhion-pieces. Both ſtem and poſt are then to be erected, each at its reſpective extremity of the keel. The tenons at the heel of each being let into mortiſes prepared to receive them, and being ſet to their proper rakes or angles with the keel, are to be ſupported by props or ſhores. Pieces of wood called dead wood are to be laid upon and fixed to the upper side of the keel towards the fore and aft parts of it ; the deepneſs of the dead wood increaſing with its diſtance from the mid­dle, agreeable to the propoſed form of the cutting down line.

A line is to be ſtretched from the middle of the head of the ſtem to that of the poſt, called the ram line, upon which is a moveable line with a plummet affixed to it. The midſhip and other frames are to be erected upon the keel at their proper stations. The extremities of each frame are ſet at equal diſtances from the vertical longitudinal ſection of the ſhip, by moving the frame in its own plane until the plumb-line coincides with a mark at the middle between the arms of each frame ; and although the keel is inclined to the horizon, yet the frames may alſo be ſet perpendicular to the keel by means of the plumb-line. The ſhores which are ſupporting the frames are now to be ſecurely fixed, that the poſition of the frames may not be altered. The rib­bands are now to be nailed to the frames at their pro­per places, the more effectually to ſecure them ; and the intermediate vacancies between the frames filled up with filling timbers. For a perſpective view of a ſhip framed, ſee Plate CCCCLIV. fig. 2.

The frames being now ſtationed, proceed next to fix on the planks, of which the wales are the principal, being much thicker and ſtronger than the rest, as is re­preſented in the midſhip frame, Plate CCCXIV. The harpins, which may be conſidered as a continuation of the wales at their fore ends, are fixed acroſs the hawſe pieces, and ſurround the fore part of the ſhip. The planks that incloſe the ſhip’s ſides are then brought about the timbers ; and the clamps, which are of equal thickneſs with the wales, fixed oppoſite to the wales within the ſhip. Theſe are uſed to ſupport the ends of the beams, and accordingly ſtretch from one end of the ſhip to the other. The thick fluff or ſtrong planks of the bottom within board are then placed oppoſite to the ſeveral ſcarfs of the timbers, to reinforce them through­out the ſhip’s length. The planks employed to line the ſhip, called the ceiling or foot-waling, is next fixed in the intervals between the thick ſtuff of the hold. The beams are afterwards laid acroſs the ſhip to ſupport the decks, and are connected to the side by lodging and

hanging knees : the former of which are exhibited at F, Plate CLVI. See alſo the article Deck ; and the hanging-knees, together with the breadth, thickneſs, and poſition of the keel, floor timbers, futtocks, top- timbers, wales, clamps, thick ſtuſſ, planks within and without, beams, decks, &c. are ſeen in the midſhip frame, Plate CCCXIV. and in that article theſe ſeveral parts have already been explained.

The cable-bits being next erected, the cartings and ledges, repreſented in Plate CLVI. are diſpoſed between the beams to ſtrengthen the deck. The water-ways are then laid on the ends of the beams throughout the ſhip’s length, and the ſpirketing fixed cloſe above them.— The upper deck is then planked, and the string placed under the gunnel, or plansheer, in the waiſt. The diſpoſition of thoſe latter pieces on the timbers, viz. the wa­ter-ways, ſpirketing, upper deck, ſtring, and gunnel, are alſo repreſented in the midſhip frame, Plate CCCIV.

Then proceed next to plank the quarter-deck and forecaſtle, and to fix the partners of the malts and cap- ſterns with the coamings of the hatches. The breast- hooks are then bolted acroſs the ſtem and bow within- board, the ſtep of the foremaſt placed on the kelſon, and the riders, exhibited in the Midship Frame, fay­ed to the inside of the timbers, to reinforce the ſides in different parts of the ship's length. The pointers, if any, are afterwards fixed acroſs the hold diagonally to ſupport the beams ; and the crotches ſtationed in the af­ter hold to unite the half timbers. The steps of the mainmaſt and capſterns are next placed ; the planks of the lower decks and orlop laid ; the navel-hoods fayed to the hawſe holes ; and the knees of the head, or cut­water, connected to the ſtern. The figure of the head is then erected, and the trail-board and cheeks fixed on the side of the knee.

The tassarel and quarter-pieces, which terminate the ſhip abaft, the former above and the latter on each side, are then diſpoſed, and the ſtern and quarter galleries framed and ſupported by their brackets. The pumps, with their well, are next fixed in the hold ; the limber boards laid on each side of the kelſon, and the garboard strake fixed on the ſhip’s bottom next to the heel with­out.

The hull being thus fabricated, proceed to ſeparate the apartments by bulkheads or partitions, to frame the port-lids, to fix the catheads and cheſs-trees ; to form the hatchways and ſcuttles, and fit them with pro­per covers or gratings. Next fix the ladders at the dif­ferent hatchways, and build the manger on the lower deck, to carry off the water that runs in at the hawſe- holes when the ſhip rides at anchor in a ſea. The bread-room and magazines are there lined ; and the gunnel, rails, and gangways fixed on the upper part of the ſhip. The cleats, kevels, and ranges, by which the ropes are faſtened, are afterwards bolted or nailed to the ſides in different places.

The rudder, being fitted with its irons, is next hung to the ſtern-poſt, and the tiller or bar, by which it is managed, let into a mortiſe at its upper end. The

@@@(F) In ſhips of war, which are a long while in building, it has been found that the keel is often apt to rot before they are finiſhed. Upon this account, therefore, ſome builders have begun with the floor timbers, and add­ed the keel afterwards.