the keel ; their heights may, therefore, be taken from the ſheer plan, and transferred to the body plan, draw­ing horizontal lines, and the water lines will be repreſented in the body plan. In ſhips that draw more wa­ter abaft than afore, the water lines will not be parallel to the keel ; in this cafe, the heights muſt be taken at every timber in the ſheer plan, and ſet off on their correſponding timbers in the body plan ; and curves being deſcribed through the ſeveral points, will repreſent the water lines in the body plan.

Take the diſtances from the middle line to the points where the water lines interſect the different timbers in the body plan, and ſet them off on their correſponding timbers in the half-breadth plan. From the points where the water lines in the ſheer plan interſects the aft part of the rabbet of the ſternpoſt draw perpendi­culars to the middle line of the half breadth plan, and upon theſe perpendiculars ſet off from the middle line the half thickneſs of the ſternpoſt at its correſponding water line ; which may be taken from the body plan, by ſetting off the ſize of the post at the head and the keel, and drawing a line for the tapering of it ; and where the line ſo drawn interſects the water lines, that will be the half thickneſs required : then take an extent in the compaſſes equal to the thickneſs of the plank, and fix one point where the half thickneſs of the poſt in­terſects the perpendicular, and with the other deſcribe a circle, from the back of which the water lines may paſs through their reſpective points ſet off, and end at the fore part of the half breadth plan, proceeding in the same manner as with the after part. A line drawn from the water line to the point ſet off for the half thickneſs of the poſt will repreſent the aft part of the rabbet of the poſt; and in like manner the rabbet of the ſtem may be repreſented. The water lines being all deſcribed, it will be ſeen if the body is fair; and if the timbers require any alteration, it ſhould be compli­ed with.

The Cant timbers of the after body may next be de­ſcribed in the half-breadth plan ; in order to which the cant of the faſhion-piece muſt firſt be repreſented. Ha­ving therefore the round aft of the wing tranſom re­preſented in the half-breadth plan, and alſo the ſhape of a level line at the height of the wing tranſom ; then ſet off the breadth of the wing tranſom at the end, which is one foot four inches, and that will be the place where the head of the faſhion-piece will come : now to determine the cant of it, the ſhape of the body muſt be conſidered ; as it muſt be canted in ſuch a manner as to preſerve as great a ſtraightneſs as is poſſible for the ſhape of the timber, by which means the timber will be much ſtronger than if it were crooked ; the cant muſt alſo be conſidered, in order to let the timber have as little bevelling as poſſible. Let, therefore, the heel of the timber be ſet off on the middle line, two feet afore timber 35 ; and then drawing a line from thence to the point ſet off on the level line for the wing tranſom, the cant of the faſhion piece will be deſcribed, and will be found ſituated in the belt manner poſſible to anſwer the before mentioned purpoſes.

The cant of the faſhion-piece being repreſented, the cant of the other timbers may now be eaſily determi­ned. Let timber 29 be the foremoſt cant timber in the after body, and with a pencil draw timber 28 ; then obſerve how many frames there are between timber 28

and the faſhion-piece, which will be found to be nine, namely, 29, 30, 31, 32, 33, 34, 35, 36, and 37. Now divide the diſtance between timber 28 and the faſhion-piece on the middle line into 10 equal parts ; Divide alſo the correſponding portion of the main half breadth lines into the same number of equal parts ; and ſtraight lines joining the correſponding points at the middle line with thoſe in the half-breadth line will repreſent the cant timbers in the after body.

The line drawn for the cant of the faſhion-piece repreſents the aft side of it, which comes to the end of the tranſoms ; but in order to help the converſion with regard to the lower tranſoms, there may be two more faſhion-pieces abaft the former ; therefore the foremoſt faſhion-piece, or that which is already deſcribed in the half-breadth plan, may only take the ends of the three upper tranſoms, which are, the wing, filling, and deck ; the middle faſhion-piece may take the four next, and the after faſhion piece the lower ones: therefore ſet off in the half-breadth plan the ſiding of the middle and after faſhion-piece, which may be 13 inches each ; then by drawing lines parallel to the foremoſt faſhion-piece, at the aforeſaid diſtance from each other, the middle and after faſhion-piece will be repreſented in the half-breadth plan.

The faſhion-piece and tranſoms yet remain to be repreſented in the ſheer plan ; in order to which, let the number of tranſoms be determined, which, for ſo large a buttock, may be ſeven below the deck tranſom : draw them with a pencil, beginning with the wing, the upper side of which is repreſented by a level line at its height ; ſet off its ſiding below that, and draw a level line for the lower edge. The filling tranſom follows ; which is merely for the purpoſe of filling the vacancy between the under edge of the wing and the upper part of the deck plank : it may therefore be repreſented by draw­ing two level lines for the upper and lower edge, lea­ving about two inches between the upper edge and lower edge of the wing tranſom, and four inches between the lower edge of the gun-deck plank ; then the deck tran­ſom muſt be governed by the gun-deck, letting the un­der side of the gun-deck plank repreſent the upper side of it, and ſetting off its ſiding below that ; the under edge may alſo be drawn : the tranſoms below the deck may all be ſided equally, which may be 11 inches ; they muſt alſo have a ſufficient diſtance between to admit the circulation of the air to preſerve them, which may be about three inches.

The tranſoms being now drawn with a pencil, the faſhion-piece muſt next be deſcribed in the ſheer plan, by which the length of the tranſoms as they appear in that plan will be determined. As the foremoſt faſhion- piece reaches above the upper tranſom, it may therefore be firſt deſcribed : in order to which, draw a ſufficient number of level lines in the ſheer plan ; or, as the water lines are level, draw therefore one line between the up­per water line and the wing tranſom, and one above the wing tranſom at the intended height of the head of the faſhion-piece, which may be about five feet : then take the height of theſe two level lines, and tranſfer them to the body plan ; and take off two or three timbers and run them in the half-breadth plan, in the same manner as the water lines were done ; then from the point where the line drawn for the cant of the fa­ſhion-piece, in the half-breadth plan, interſects the le-