parties that are detached there, depends the safety of the army. Whatever the abilities of a general may be, it is ſcarce poſſible that he can have an eye to every detail that contributes to their defence ; it is ſufficient if he knows that guards are properly placed, and the line that they make properly eſtabliſhed. It is then the busineſs of the particular officers who command them, to make the bell diſpoſition for a vigorous defence, and anſwering the views of the general.

An officer who is detached to a post, is either to relieve a party, or take possession for the first time. In the firſt case, if the guard which he relieves happens to be entrench­ed, as ſoon as he arrives at the post, and has taken his instructions from the officer who commands, he ſhould prepare himſelf for his defence, as ſhall be mentioned in that article. In the second, if an officer who is detached is to entrench himſelf, he must examine if the place is advantageous for the execution of his projects, the defence of his people, and the securing a retreat.

He must conſult, 1st, Whether the situation be conveni­ent for sending parties to discover the enemy ; whether to give intelligence of their situation and march, or to disturb and ſurpriſe them. 2d, If it has some natural defence on its front or flanks, such as a river, rivulet, moraſs, or small wood that can be eaſily penetrated. 3d, If he can preſerve his communication with the army, and if there are some covered places to favour his retreat. 4th, If he can diſcover all the approaches ; becauſe if the enemy can come within a small distance of the post without being seen, he will place himſelf under cover there, and rest while the besieged are obliged to remain continually under arms, and will watch the moment for making an attack. If then he finds hollow roads, clumps of wood, or any place where the ene­my can ſecure himſelf in the neighbourhood of his post, he must fill them up, or guard them with detachments of six er ſeven men. 5th, He must take care not to be command­ed by any neighbouring heights, or must prevent the enemy from profiting by that advantage ; becauſe if they can take his soldiers in the rear, it will be impossible for them to de­fend themſelves. 6th, The extent of the work must be pro­portioned to the number of men that are to defend it. Good ſenſe and numberleſs examples prove, that too large en­trenchments can only be defended by considerable bodies. 7th, He ſhould take care to have all the parts of his en­trenchment nearly of an equal strength, so as to be able to make an equal resistance everywhere ; and, lastly, He will take care to fulfill exactly the intention of the general in posting a guard in that place.

There are ſome places so advantageously posted by na­ture, that though they are not fortified, they may in a short time, and with little charge, be made ſo strong, that it will require as much art to besiege them as many others that are perfect fortifications ; such as islands, peninlulas, and places ſeated on eminences of difficult acceſs, or in morasses.

If the post is in a level country, or upon a height that may be ſurrounded, as happens almost always to small de­tachments, they ſhould construct a redoubt, or small square fort, compoſed of a parapet with its banquette and ditch.

The ground being choſen, you must trace a straight line AE (fig. 1.), and raiſe the perpendicular BC, as directed in practical geometry ; obſerving to give to each of theſe lines which mark the interior side of the parapet but two toiſes, or two and a half for 30 men, four toiſes for 50, and eight for 100 ; which will leave a ſpace of two feet at least against the parapet for each man. Having traced the two first lines A, B, you must put the cord over the picquet **C** of the perpendicular B, and with the same length trace the

arch D, then put the cord over the picquet E of the line A, and trace the arch F. The point where the arches intersectt each other, is the point to end the lines EH and CG. Theſe four lines mark the interior side of the pa­rapet.

Then trace four other lines at the distance of two or three feet parallel to the first, as I, L, M, N, to mark the size of the banquette, which ſhould be greater or leſs ac­cording to the number of ſoldiers you would place in a file. Then trace a third parallel square on the outside of the first, as 0, P, Q, R, to mark the exterior side of the parapet, and to determine its thickneſs, which is uſually eight or nine feet, or 18 if it is to resist cannon, which you ſhould always be prepared to do.

Then trace a fourth and last square STVX, to deter­mine the width of the ditch, which is the same or two feet more than the thickneſs of the parapet ; leaving a picquet planted at all the angles, as likewiſe at the lines already tra­ced, ſo as not to loſe the points from whence the lines were drawn.

While you are employed with two or three men in tra­cing, five or six men ſhould be ordered to cut down the trees that are in the neighbourhood of the post, not only to open the approaches, but to ſerve for constructing the intrenchments. The ſmallest branches ſerve to make faſcines, which are a sort of faggots about six feet long, two feet thick, and of the same size all over, tied in the middle and at the two ends, to ſerve for ſupporting the earth, which would tumble down without that ſupport. The middling branches ſerve to make picquets proper for mixing with the faſcines, and fix­ing them in the ground, or one above another to raiſe the parapet. The trunks to which the large branches are left, ſerve to increaſe the strength of a post, as ſhall be mention­ed afterwards.

Having traced all in the manner directed, six a row of faſcines upon the small square ILMN, to ſupport the earth of the banquette ; then six a second row upon the square ABGH, to ſupport the interior side of the parapet ; then a third row on the third square OPQR, to ſupport the ex­terior side of the parapet. You ſhould obſerve in the be­ginning to picquet the faſcines, to leave a passage of three feet PB, on the side least expoſed to the enemy, to ſerve for an entry to the redoubt ; but if this passage can be ta­ken in a straight line, it ſhould be made like a mortoiſe, as you see at Y, fig. 2.

After having picqueted the three rows of faſcines as di­rected, you must dig the ditch AB, as in the profile, fig. 3. a foot distant from the exterior side of the parapet. This distance or breadth is called *berme,* and serves to ſupport the earth, or receive what falls from the parapet by the enemy’s cannon. This *berme* is more or leſs according to the ſolidity of the earth ; the earth to be thrown into the intervals. C, D, E, marked for the parapet and banquette, taking care to make the men tread it well down, and obſerving to leave a *talus* or slope on the two sides of the ditch FG, more or leſs according to the consistence of the earth, ſo that it may­rot tumble down. The slope F, which is on the side of the redoubt, is called the *ſcarp ;* and the oppoſite slope, which: is next the country, is called the *counterscarp.* Care must be taken in picqueting the faſcines with which the parapet is raiſed, to bring them nearer one another by degrees in rai­sing it as at H, ſo as to leave the same slope on each side. The distance DE marks the banquette ; the distance DC the thickneſs of the parapet at the bottom ; the distance IL the thickneſs of the parapet at the top; MN the width of the ditch at bottom ; AB the width of the ditch at top.

If the ground is level, the banquette of this work must