by making a ditch in the upper part of the breach, and filling it with all sorts of combustible matter. This will form an impenetrable barrier against the enemy, at least for ſome days ; which time is to be employed in strengthening the retrenchments, and throwing up others, one behind another, if the ground will permit, and it be reſolved to de­fend the place to the last extremity. Though it is usual for the enemy to force their way into the town by the bastion, and therefore the principal retrenchments for de­fending the entrance of the place ſhould be raiſed in this part ; yet it is proper not to neglect the curtain. The enemy may be apprised of theſe retrenchments, and as it is not the practice to make any behind the curtain, they may take it into their heads to batter it in breach, and to construct a bridge in the ditch before it, in order to penetrate into the town. Thus did prince Eugene act at Lisle ; as the back part of the curtain was open, the place was obli­ged to capitulate. The breaches may likewiſe be defended by repairing them with huge trees laid acroſs one another, the branches pointed towards the enemy. Cannon will make no great impression on this kind of wall ; which was the principal defence of the ancients when a breach was made.

When the besiegers have triumphed over all theſe obstacles, ſo as to be masters of the breach, and to extend their lodgments on the bastion ; then it is no longer poſſible to defer capitulating, unless there are ſeveral retrenchments one behind the other. In that case, indeed, the besieged, if they think proper, may defend themſelves to the very last; but this deſperate defence is very rare, becauſe every wise go­vernor chooſes to preſerve the garriſon, and to save the town from being plundered, which would be the case, according to the laws of war, if it was taken by ftorm.

**10.** *Of Precautions to be uſed against the surprising of Towns, Scalades, ſudden Attacks, &c.*

The right way to prevent ſurpriſes, is to think that the enemy have a design upon the town, and to uſe all the pre­cautions poſſible in order to frustrate their designs. With this view a governor ſhould put the fortifications into a good state of defence, ſhould see that the ſeveral posts, whether acceſſible or inaccessible, be well guarded, that parties be ſent to range in all the principal avenues of the place ; in a word, he ſhould most exactly obferve whatever is preſcribed in the military ordinances concerning the guard of towns, the opening and ſhutting of gates, &c. We ſhall make no mention of any of theſe particulars, becauſe a very ſhort stay in a garriſon is ſufficient for learning every thing that may relate to the daily and customary duty, as well for the ſafety of the town, as for the preſerving peace and good order among the inhabitants, and for preventing any strangers or ſuſpected perſons from entering the place, &c.

We ſhall only obſerve, that when a fortreſs is situated upon a river, care ſhould be taken to have boats in the night, filled with ſoldiers, both above and below the town, to hinder any body from getting in that way undiscovered. If the ditches are filled with water, in frosty weather the ice ſhould be broke every day ; in ſhort, nothing ſhould be neglected that tends to ſecure the place against any enterprise ei­ther from within or without.

But chiefly on fair or market days this vigilance ſhould be exerted; the guards ought to be doubled at all the gates, and the garriſon ſhould be diſposed in ſuch a manner as to be ready to fly to their arms upon the first beat of drum : care ſhould be alſo taken to make the cavalry mount on horſeback, ready to act in all events. By using theſe pre­cautions, it will be very difficult for the enemy to ſurpriſe the town; nay, the conſequence may be, that hearing of the exact diſcipline obſerved by the garriſon, they will relinquish their design ; for ſurpriſes ſeldom ſucceed, except through neglect of military duty, and too great ſecurity in the go­vernor.

With regard to precautions against ſcalades, they consist in having ſmall parties continually about the avenues of the place, in order to be better informed of the enemy’s motions, and to keep a patrol all night, to see that nobody ſhall enter the ditch unperceived. A cuvett @@(f) may be likewiſe dug within the ditch, and paliſades planted within ſome distance of the wall, to hinder the enemy from fixing their ladders to it; the flanks of the bastions ſhould be furniſhed with cannon, charged with cartridge-ſhot, with balls of a quarter of a pound weight, or with pieces of old iron, to fire upon thoſe who ſhould attempt to ſcale the place oppoſite the curtains; in the corps de gardes, within reach of the rampart, a provision ſhould be made of halberts, with all other offensive weapons fit for repelling the enemy when they appear on the top of the ladder, and for driving them into the ditch ; the ramparts ſhould be stocked with a great quantity of cy­lindrical timber, to roll down upon the ladders, and thoſe that are upon them ; and if the garriſon are not ſo nume­rous as to be able to cover the whole ramparts, they ſhould fix chevaux-de-frize, or ſomething elſe, to the upper part of the parapet, which will hinder the enemy from getting over, in order to jump upon the rampart. There ought alſo **to** be a stock of ſhells and grenades all loaden upon the walls, in order to roll them down into the ditch upon the enemy. There ſhould likewiſe be fire-works ready to throw upon them, as faſcines done over with pitch and tar, powder­barrels, fire-pots, &c. ; a great number of fire-balls ſhould be alſo flung into the ditch in order to give light, and that the cannon of the place may do good execution upon thoſe who are got into it; the ditch ſhould likewiſe be filled with crows feet, or little holes dug and covered with hurdles and earth, ſo that the enemy ſhall not perceive them, but tumble into them : in the middle of theſe little ditches there ſhould be a paliſade, or ſome long iron-ſpikes, ranged in ſuch **a** manner as to run thoſe through that ſhall fall upon them. Neither are the gates to be neglected ; the enemy will not fail to try to fix a petard to them, while the troops are en­deavouring to make themſelves masters of the rampart. Sol­diers must be placed in a convenient situation for firing **on** the perſon that fixes the petard: in all events the gates must be strengthened withinside, and large trees must be got ready to debar the enemy from entering the town, ſhould they be able to break open the gate.

At the first alarm of an attack, all the troops ought to run to the place assigned them, in order to be led from thence to the ramparts. With regard to the cavalry, they ought alſo to mount on horſeback, and to divide themſelves into ſeveral ſmall bodies, which are to be at the foot of the rampart, ready at all events to charge the enemy, ſhould they find means to penetrate by ſome way or other into the town.

If the enemy make ſeveral attacks at the same time, it will not be proper to quit thoſe parts where they do not ſhow themſelves ; this perhaps is a feint only to draw the troops from the side which they really intend to attack ; therefore the garriſon ſhould be equally on their guard on all sides, and leave no posts naked, unless the enemy have forced their way into the town : then indeed the bu-

@@@(f) A cuvett is a ſmall ditch dug in the middle of the large one,