traverſe,· which entirely stops up the gallery of the counter­mine, towards the side from whence the enemy may come. If they attempt to oppoſe this operation, the grenadiers ſhould throw their three loaded shells, and retire quickly with their comrades, to prevent being hurt by the effect of thoſe ſhells ; for the ſmoke they make in bursting, together with the ſplinters, must unavoidably oblige the enemy to quit the gallery for ſome time : but as ſoon as they have produced their effect, the ſerjeants and the grenadiers, with their comrades, must immediately return, and work as hard as poſſible upon the traverſe, in order to stop up the gallery. If the besieged still persist in interrupting this work, the grenadiers must throw the two ſhells with fusees only, which will oblige the enemy to retire quickly ; and as no harm is to be apprehended from them, which is more than the be­sieged can tell, the besiegers continue to finiſh the traverſe. Even openings or loop holes are made, in order to fire upon the enemy, in caie they ſhould appear again in the part of the gallery oppoſite the traverſe.

When there is no gallery or countermine behind the walls, or when there is one which cannot easily be come at, the miner ſhould leave no means untried to discover it ; and at the same time he ought to uſe the utmost precaution to prevent being ſurpriſed himſelf by the enemy’s miners, who will attempt to (mother him in the gallery, and to destroy his works : therefore the busineſs of a miner requires great art and cunning to avoid the ſnares of the enemy. “ A mi­ner (says Μ. de Vauban in his Memoirs) ought to listen frequently to diſcover whether there are any at work under him. He ought to sound with his augre towards the place he hears the noiſe come from ; but the enemy often make a noise on one side, while they are at work on the other.” If their miner draws too near, a ſmall mine must be made to stifle him in the gallery ; which may be effected thus : A hole of five or six inches diameter, and six or ſeven deep, is made on that side of the gallery where the enemy is heard ; a cartridge of the same size, and containing about to or *12* pounds of powder, is put into it : the hole or opening to­wards the gallery is stopped close with a strong tampion, which is immediately applied to the cartridge, and ſupport­ed by strong planks well buttressed : this powder is set on fire by a fuſee, which partes through a hole made in the tam­pion, and communicates with the powder in the cartridge. If the gallery of the enemy’s miner is within four or five feet of this powder, it will undoubtedly burst, and the miner will be either killed, or obliged by the ſmoke to retire.

Another way of bursting the gallery of the besieged, when it is at no great distance, is to put several ſhells on the side where rhe enemy’s miner is at work, and to range them in ſuch a manner that they ſhall have their effect.— When the miners are at work in ſearch of one another, they have great iron borers, with which they pierce the interval betwixt them, to find, as near as they can, their distance from one another. The miner must be very vigilant, and as ſoon as the borer is withdrawn, he ſhould clap a pistol into the hole, which, when well directed, and fired by a man of reſolution, seldom fails, as Μ. Vauban affirms, to kill the miner. The first shot ought to be followed by three or four more ; then the hole ſhould be cleaned with the borer, to prevent the enemy from stopping it up on their side : and this is a matter of importance, for it will hinder their miner from continuing his work in that ſpot, and oblige him entirely to abandon it. Theſe and many other stratagems, which may be ſeen in the Memoirs of Μ. Vauban, plainly show that the business of a miner requires not only addreſs and cunning, but likewiſe great courage and reſolution, to guard against and remove the several obstacles that may be thrown in his way, with a view to prevent the progreſs of the works committed to his direction : he may easily guard against them when he is undermost ; but if it be otherwiſe, his situation is extremely bad. In order to know for certain whether they are at work un­der the gallery, the miner generally makes uſe of a drum with ſomething upon it, and then the shaking of the earth must occaſion a kind of trembling, which will diſcover that they are at work underneath. Sometimes he listens with his ear to the ground ; but the fluttering of the drum is the surest way.

While the miner is working upon the construction of his gallery, the besiegers must be employed in demoliſhing all the works of the enemy, and disabling them from defending or repairing the breach. With this view a continual fire is made against the breaches, which will hinder the besieged from ſhowing themselves in that part, and from advancing to see the works which may be made in the ditch or at the foot of the breaches. If there is a tenaille before the cur­tain, batteries are placed in the re-entering places of arms of the covert way of the half-moon, which plunge into the tenaille, and hinder the enemy from making uſe of it to diſturb the partage over the ditch. And in order to silence them farther, another battery of mortars may be erected, in the most advanced lodgment of the gorge of the half­moon ; which battery being well ſerved, will render it too dangerous and inconvenient for the besieged to abide there, ſo as to have the attention requisite for obstructing the passage over the ditch.

But ſometimes the enemy will make oblique embraſures in the curtain ; and from thence they fire on the lodgments of the covert way, ſo as greatly to incommode both thoſe lodgments and the opening of the deſcent into the ditch. The way to prevent the effect of thoſe batteries, is to en­deavour to destroy them with ſhells : and, when the ground will permit, to enfilade the curtain with ricochet firing. Four or five pieces may be alſo placed on the upper part of the flanked angle of the half-moon ; in which position they can fire directly upon the curtain, and plunge into the tenaille and the postern, by which the enemy keep a commu­nication with the ditch when it is dry.

Let us ſuppoſe that the partages over the ditch are finished, ſo as to be fit to walk over ; that the cannon or the mines have made the breaches ſufficiently wide for the assault ; that the aſcent is made ſmooth, and that the besie­gers can easily mount to the top of the breach ; then they may lodge themſelves there, by following either of the two methods mentioned in the article of the half-moon.

If the enemy have made no retrenchments in the inside of the bastion, they will hardly venture to stand an assault, as this would only expose the place to be carried ſword in hand, themſelves to be taken priſoners of war, and the town to be plundered. Therefore every thing being ready for the assault, they will beat the chamade, that is, they will de­sire to ſurrender on certain terms.

When a reſolution is taken to attack the bastions while the mines are making and charging; a considerable heap of materials is laid up in the lodgments nearest the breaches, that they may be handed readily for the construction of the lodgment, as ſoon as the enemy is driven away. Every thing being prepared to ſet fire to the mines, all the grenadiers of the army are ordered to march to the assault ; and they are to be ſupported by a ſufficient number of detach­ments, that the enemy may not be able to make a stand. Theſe troops being ready, the mines are ſprung ; and as ſoon as the dust is a little laid, the grenadiers, commanded to march and to mount foremost, move on to the foot of the breach ; and when they get there, they mountimmediately with their bayonets fixed, and are followed by