

MANŒUVRES

*Suppl. Regal. 1830*  
OF

HORSE ARTILLERY,

BY

GENERAL KOSCIUSKO.

WRITTEN AT PARIS IN THE YEAR 1800,  
AT THE REQUEST OF GENERAL WM. R. DAVIE,  
THEN ENVOY FROM THE UNITED STATES TO FRANCE.

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TRANSLATED, WITH NOTES AND DESCRIPTIVE PLATES,

BY JONATHAN WILLIAMS,

COL. COMDT. OF THE CORPS OF ENGINEERS, AND PRESIDENT  
OF THE U. S. MILITARY PHILOSOPHICAL SOCIETY.

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1809.



*District of* } **BE IT REMEMBERED**, That on the sixth day  
*New-York.* 11. } of September, in the thirty-third year of the  
Independence of the United States of America, JONATHAN  
WILLIAMS, of the said district, hath deposited in this office, the  
title of a book, the right whereof he claims as proprietor, in the  
words and figures following, to wit,

“ Manœuvres of Horse Artillery, by General Kosciusko, written  
“ at Paris in the year 1800, at the request of General Wm. R. Davie,  
“ then envoy from the United States to France. Translated with  
“ Notes and Descriptive Plates, by Jonathan Williams, Col. Comdt.  
“ of the Corps of Engineers, and President of the U. S. Military  
“ Philosophical Society. Published by direction of the Society.”

In conformity to the act of the Congress of the United States,  
entitled, “ An Act for the Encouragement of Learning by securing  
“ the Copies of Maps, Charts, and Books, to the Authors and Pro-  
“ prietors of such Copies, during the times therein-mentioned, and  
“ also to an Act entitled an Act Supplementary to an Act, entitled  
“ an Act for the Encouragement of Learning by securing the  
“ Copies of Maps, Charts, and Books, to the Authors and Pro-  
“ prietors of such Copies during the times therein-mentioned, and  
“ extending the benefits thereof to the Arts of Designing, Engraving,  
“ and Etching, Historical and other Prints.”

EDWARD DUNSCOMB,

*Clerk of the District of* ~~New-York~~



*Extract from the minutes of the United States Military  
Philosophical Society.*

WEST-POINT, 15th August, 1808.

The President read an extract of a letter, addressed to him by General *W. R. Davie*, requesting that General *Kosciusko's* manual of the service of Horse Artillery be translated and published, with an introduction and notes, by the President, on condition that he will consider himself a trustee for applying the benefits arising from the publication for the use of the Society, in the manner he may think most advantageous. *Whereupon Resolved*, That the thanks of the Society be given to General *W. R. Davie*, and that the President be requested to translate and publish General *Kosciusko's* manual of the service of Horse Artillery, as required in the letter just read, and be authorized to apply the funds of the Society to any previous or intermediate expenses.

*Attest,* FRANCIS D. MASSON,  
*Recording Secretary.*



## INTRODUCTION.

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HOWEVER numerous treatises on Artillery may be, however perspicuous they may appear to men, who either by education or habit, are well versed in the general theory and practice of this essential part of the art military; yet, to the student or inexperienced soldier, a display of all the principles, as they would appear in practice on the field of battle, is necessary, to enable him to perform, with accuracy and celerity, whatever he may have theoretically acquired. Indeed, the best informed man would make a very indifferent figure in the field, if he had not a complete view of every manœuvre the moment he uttered the word commanding it. This can only be perfectly learned by carrying them into effect. Military manuals therefore are the most important part of a soldier's library, and the best officers have found much advantage in consulting them to revive the dormant knowledge of former days, while the younger soldier cannot otherwise obtain correct ideas in the first instance.

The regulations here offered to the American Public are drawn up by a man who rendered essential personal service in the days of difficulty and danger, and no one can be more capable of instructing us; the performance has therefore the double merit of friendship in the motive, and talents in the execution.

The following extract of a letter from Gen. *Wm. R. Davie* to the translator renders any further observations relative to the author or his performance wholly unnecessary.

*Catauba, near Lancaster, C. H. April 15, 1808.*

DEAR SIR,

" After bestowing a proper degree of reflection on what  
" was due to my friend General *Kosciusko* and to my  
" country, I have concluded to authorize you to publish  
" his work on Horse Artillery, with your notes, &c. on con-  
" dition that you will consider yourself a trustee to apply  
" the proceeds for the benefit of the U. S. M. P. Society,  
" in such manner as you may deem best for the interest  
" of that institution.

" The thirty manœuvres contained in this treatise form a  
" complete system of tactics for this important branch of  
" the army, compiled by an officer who was completely  
" master of the subject, and whose whole life has been  
" devoted to military science.



“ The directions for performing the manœuvres being generally very concise, will require some explanations by way of notes for the American service.

“ The words of command in all countries being arbitrary, will not admit generally of a literal translation into another language; and with respect to them I would recommend that the words of command should be taken from those used in our artillery and cavalry service where they apply; they will be better understood, and will probably be better calculated for the tone of command. In the quick movements and manœuvres of the Horse Artillery (which acquire no perfection until they are rapidly performed) as in those of the cavalry, there is not time for the full and formal words of command; on such occasions they must be rapidly given, much abridged, and all expletives omitted: for example, instead of saying, “ Battery by pieces to the left about wheel,” they should say, “ Pieces left about.”

“ It is true that it is a maxim in Horse Artillery ‘ to manœuvre constantly with the prolonge, or drag rope,’ so that the moment that the piece is in battery, the fire commences without further detaching the limber and the horses. The face of this country generally would not permit at all times the prolonge of so great length as that generally used in Europe of 25 or 30 feet; but the necessary modifications will be suggested by practice and experience. And the limber with a pole, now used by the French, is much more convenient, especially for Horse Artillery, than the old limber with thills, which was no doubt originally suggested by the use at first of only two wheels to travelling carriages.

“ The European armies have generally adopted for this service the lighter species of artillery, and the eight and nine-pounders are not as much used as formerly. For the American service, generally, four and six-pounders are in my opinion the proper caliber, with howitzers of five inches six lines. The advantages of pieces of this description, in point of convenience, economy, and adaptation to our service, need no detail to officers of experience. Three-pounders should be altogether rejected in consequence of the nullity of their effect: they are not of the importance of a well-handled musket.

“ I have too much regard for my own reputation, as well as that of my friend General *Kosciusko*, to trust the publication of this treatise to any person but yourself. The publication would be of great importance to our country, and therefore I wish it effected; and I hope it may be so managed at the same time as to be of service to the society. It is perhaps the only treatise on this subject in the world. It was understood, when I was in Paris, in



“ 1800, that the government had not permitted any publication  
 “ of this kind, from motives of policy sufficiently evident;  
 “ and finding every research on this subject vain, I was  
 “ induced to apply to General *Kosciusko*, to undertake  
 “ a description of the manœuvres of Horse Artillery as  
 “ practised by the French armies. The system is complete,  
 “ and to this country of immense value and importance.

“ In the publication a preface would be necessary, giving  
 “ a general view of the use of this arm in service, and par-  
 “ ticularly in America, the manner in which the treatise  
 “ came to be written, with the General's letter to me.

“ Be assured of the high respect and esteem with which  
 “ I am, Your's, &c.

“ WM. R. DAVIE.”

The use of artillery in battle is not against the artillery of an enemy, for that would be waste of power, but against the line of the enemy in a diagonal direction, when it is destructive in the extreme. The French have generally conquered by the superiority of their artillery, not so much in number and weight of metal, as in position and management. Formerly (and to this day in some nations) the artillery used to be mixed in the line as well as on the flanks, and the whole, or nearly the whole was, in case of a general affair, brought into action at the same time. Modern tactics on the contrary have established it a rule that only a part of the artillery shall be ever engaged; but then this part by being constantly supported from the park, and that park again supported from a reserve at a distance, is kept up in full vigour, and is as entire in all its parts, at the end of the action as it was at the commencement of it; two-thirds of the artillery is therefore always out of danger, and as fast as any piece becomes injured, from any cause whatever, it is instantly replaced by a perfect one, while the injured piece, if susceptible of repair, is in the way being refitted in the rear, totally unannoyed by the enemy, so long as the front keep their ground.

By keeping the artillery on the flanks instead of mixing it in the line, it never can impede the movements of the latter, which are totally independent of it; on the other hand, when artillery is placed in the centre the movements of the line, being of a different nature from those of the artillery, can never accord with them; the pieces are therefore always in the way, and the movement, whatever



it may be, is in some way or other impeded by them, and they by the troops. Let us suppose a line of infantry drawn up in order of battle, with the artillery partly in the centre and partly on the flanks, preserving the same line, and that it be necessary either for a more advantageous attack or more perfect defence, to take a different position on the right or left; now as it is impossible to perform the manœuvre with the artillery without occupying a very considerable space, the pieces in the centre must be crowded, and be entirely in the way of the infantry. If the position intended to be taken be at any distance, it is still more difficult. If there were no artillery in the line, a battalion of ten thousand men might perform evolutions with as much facility as one thousand; it is only necessary to arrange the command in proportion to the number, and the effect is the same; but this is impossible if there be any impediment, for the line being once broken, the whole is immediately thrown into confusion. In all divisions of the army, the divisions of the artillery on the flanks should be proportionate, and if it were necessary to divide an army into a dozen parts, each part should represent, as it respects artillery and infantry, the same form. In short, an army, like a polypus, should always preserve the shape of the whole, however numerous its parts might be.

It is well understood in fortification, that a front consists of a courtine with a flank on the right and left, and that this flank forms an obtuse angle with the courtine, so that a line drawn perpendicularly from the flanks would cross each other in the centre of the courtine considerably in advance of it, and be in a direction of the diagonal of a parallelogram of which the courtine is one side. This is called the line of defence because it scours the face of the opposite bastion. When an army is drawn up in battle array the battalion may be called the courtine, the artillery of course become the flanks, and the line of fire most destructive is that which would strike the enemy in a diagonal direction; this is self-evident because a perpendicular line would go only through the number of men forming the depth of the battalion, but the oblique line might go through three times the number of the enemy. It appears to be settled that the artillery ought always to be in this position relatively to the battalion, the different movements of which it must constantly follow, and



take such an angle as would rake the greater number of men, and a distance that would give effect to scattering shot, such as grape, canister, &c. Round shot should only be used at greater distances.

The foregoing description of modern tactics respecting artillery, especially applies to the organization of an army, and the artillery on the flanks is supposed to consist of foot and horse artillery in equal proportions, but the latter acts more independently, and flies as it were to any advantageous position in view, taking the enemy in flank by a motion too rapid for him to elude: this facility of changing and choosing place, almost instantaneously, has probably occasioned the different denominations of "Flying Artillery"—"Artillery of position," &c. It being once established as a rule that the artillery is always to form a flank making an obtuse angle with the line, like a flank to a courtine, whatever may be its front, it is totally unnecessary to give any orders, for it can never err. The position the line takes, however it may change, is always visible at the flanks, and the position of the artillery is therefore always decided; so that while acting independently according as it may find eminences, it must also act in concert with the line.

In our country it will probably be most useful to employ horse artillery in detached parties, to act by surprise at unexpected distances, and to accompany it occasionally with cavalry. Such parties hanging about a camp must harass it immensely, however formidable the invading army might be, for it could always act out of musket shot, and the celerity of its movement would bid defiance to attack or pursuit, and as it could take any position at will, it might avoid the enemy's heavy artillery, and attack the troops in their encampment at the opening of the dawn, before it could be known to be in motion. Upon the whole, horse artillery is no more than a modification of the ordinary field artillery, being manœuvred by horses instead of men, and having on that account the advantage of attacking, pursuing, or retreating in the face of an enemy, with a celerity that can neither be overtaken nor avoided. The horses, it will be readily conceived, must previously be trained to stand the fire of a hot action, which is a work of some time, and much patience, but once effected is more certain than men:



for, insensible to danger, this noble animal would stand firm to the last moment, unless ordered to retreat, and in pursuit he shares with his rider all the ardour of invincible courage. Every operation in battle is precisely the same in one case as in the other; the prolonge or drag rope lying slack on the ground, the horses standing at the end of it attached by it at 15 or 20 feet distance, and ready to start in an instant, the trail hand-spikes fixed in their places, the men with filled pouches at their posts, and all the utensils distributed to their proper hands, the action goes on without the slightest impediment. In an instant of time, if pressed by the enemy, the utensils are put into their places, the men mount their horses and go off in a gallop. Should the enemy retreat, the pursuit commences with the same celerity, and escape is impossible. Horse artillery pursuing a broken line must make a horrid carnage indeed, consequently a surrender always follows, and this accounts for the great number of prisoners they have made. When this improvement in artillery was first announced in this country, many strange ideas were suggested: At first it was thought that a gun on its carriage was adapted like a saddle to a horse's back, and in this way it was literally mounted artillery. Afterwards, it was supposed that a pair of thills was fixed to the trail, and that the horse was harnessed in them like a thill horse of a cart; (this indeed was a long time ago adopted for small regimental pieces by the Chevalier de *Rostaing*, but only with a view to save the embarrassment of the limber in the line,) and even now it is by many supposed necessary to have artillery made on purpose to be used with horses; and that such artillery cannot be used in any other way. But the truth is, that every field-piece now fit for service, may be used in horse artillery with no other change or addition than a few fathoms of rope and a proper set of harness. When the piece is heavier than a six-pounder, it has been customary to have an additional trunnion plate nearly over the axle of the carriage, or a little before it, that is nearer to the limber, for the purpose of travelling. The reason of this is self-evident; when in action it is essential to make the gun project as far as possible beyond the carriage, and the trail which then rests upon the ground is a sufficient counterpoise; but the distance that the centre of gravity of



the gun is from the centre of the axis, is a lever of that length, and in travelling it must tend to shatter and dislocate the carriage; but when this centre of gravity is thrown at a small distance from the great wheels towards the small ones, seems to be borne by all in due proportion, every blow the carriage receives in going over a rough road is distributed to all the parts, and is consequently supported by all: in our rough country it might be found very advantageous to have these additional trunnion plates to all carriages above a four-pounder. The gun may be quickly cast to and from either of these trunnion plates to the other, by placing the handspikes under the trunnions, and at the instant of raising, giving a small cast forward or backward as the case may be; the edges of the plates toward each other being somewhat curved, renders it a very easy operation.

In plate 2 of my translation of *De Sheel's* artillery, printed for the War-office in 1800, these trunnion plates will be found exactly delineated.

There being no drawings of the manœuvres annexed to the original, I have endeavoured to express them by the plates as they appear to my apprehension; if therefore there be any thing obscure in them, the fault is to be attributed to the translator and not the author. In like manner all the notes separately printed are to be considered as observations by the translator, for the importance or accuracy of which the author is by no means responsible.

In compliance with the request of General *Davie*, and the orders of the U. States Military Philosophical Society, I have executed the task assigned me. I am very sensible of its imperfections, and had personal considerations influenced me, the work would have been left to the chance of its translation by other hands; but its great usefulness—its importance to our country, under the present aspect of the times, and the strong desire that has been manifested for information relative to this modern improvement, together with a hope of augmenting the funds of the society, which is aided by the liberal offer of the Secretary of War to take a considerable number of copies for the use of the army, have altogether operated as a command which I felt myself in duty bound to obey.

JONATHAN WILLIAMS.



A LETTER.

*From General Kosciusko to General Davie.*

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PARIS, —, 1800.

DEAR SIR,

I thank you for the honour you have done me by your obliging letter, and I request you to make my compliments acceptable to your friend.

You will find under this cover the Manœuvres for Horse Artillery I promised to write, which to you will be sufficiently intelligible without drawings.

The caliber of the pieces may be increased as you please, but care must be taken that all the iron work of the carriages be made in proportion strong, and the number of horses should be regulated by the weight to be drawn.

Your affectionate Friend,

T. KOSCIUSKO.

GENERAL DAVIE,

*Envoy Extraordinary and Minister Plenipotentiary,  
from the United States.*



REGULATIONS  
FOR  
HORSE ARTILLERY.

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MANŒUVRES.

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THE whole science of Field Artillery consists in knowing how to perform the following manœuvres with the utmost facility, precision, and promptitude.

1. To march in advance and in order of battle.

2. To retreat in good order and in the same form.

3. To march in column, advancing or retreating.



4. To fire upon the enemy while advancing.
5. To fire upon the enemy while retreating.
6. To form front in any direction, and
7. To fire upon the enemy in flank, on either the right or left.

In order to execute these with the utmost celerity, so that the enemy may suffer the effect of the attack before he can perceive its cause, and being unsuspicious of the quarter from which it comes, or the time at which it is made, he may be unprepared to resist or avoid it, the aid of horses is indispensable; and the rapidity of their motion, in comparison to the ordinary and laborious one of men with drag ropes, constitutes the whole advantage that horse artillery has over that of the field, which is common to all armies. Whenever, therefore, the pieces are placed in battery, they are to be considered as field artillery in general, and the action is to be conducted accordingly. It is with this view that the following Manœuvres for a company of Horse Artillery has been adopted.



The company being composed of four officers, and a competent number of gunners and privates, the captain of course commands the whole; the second captain and first lieutenant have under them the command of the right and left half battery, and they repeat, each to his own command, the orders given by the captain for the whole. The captain should take his station in the centre, when in action, under all circumstances, or as near to it as these circumstances may permit, so that his orders may be distinctly heard at each extremity. The second lieutenant should be stationed (except when occasionally ordered elsewhere) by the side of the captain, and there perform the duties of adjutant; this officer is specially charged with the direction of the leading pieces when marching in column, that they may accurately follow in that line pointed out by the captain; he is also charged to designate the points between which any new line is to be formed, and to place himself as the pivot upon which the wheeling is to be made, taking care that the new line of march shall be exactly at right angles with the one just quitted; it is his duty to communicate the captain's orders to the commanding officer of each half battery,



and to the first gunner or commanding officer of every piece in case of the words being imperfectly heard or understood; so that the duties of this officer are essential to the preservation of order throughout. He is a kind of aid-de-camp to the captain, and ought to be completely master of every manœuvre the moment it is indicated. He is in short the soul of every operation.

Horse artillery should, on the field of battle, consistently manœuvre with the prolonge or drag,\* and in order that the display of columns

\* The following is the method of fixing the (prolonge or) drag to a field-piece, and marching with horses.—The limber is separated from the carriage, the trail of the latter resting on the ground. One end of the drag is made fast to the guides of the limber, and several turns are taken round it in order to let out rope occasionally as it may be necessary to lengthen the drag, then passing over the limber one turn is made round the pintle of the limber, and the other end of the drag is made fast to the lashing rings at the trail of the carriage. The length of the rope between the trail and the limber to which the horses are harnessed is determined by the nature of the ground; if it be even, about twelve feet will be sufficient, if rough it may be extended to eighteen feet, and even more if there should be intervening steep hills, letting out and taking in as these circumstances may require at the guides of the limber.

The drag is only fixed for manœuvres in the field, for advancing and retreating before an enemy, and all operations



in battery may be performed with the more promptitude, the pieces should always march in two columns, unless it be necessary to march in one to pass a defile, a bridge, a causeway, or in any place which will not allow of sufficient room to march in two. The captain will indicate when and how two columns are to be formed when marching in one, or when and how one column is to be formed when marching in two. On leaving the park the pieces will always form single column, when the captain will indicate the distances that are to be preserved between the pieces and the ammunition waggons, or *caissons*, and between each other; these distances will always be kept as accurately as the nature of the ground may permit, and the gunners of the pieces in front will take care to regulate their march so that the rear may not be too hard pressed to preserve their distances.

Suppose the company to have eight pieces of different descriptions, and that they be numbered in the following order:

of exercise; for mere travelling, the carriage is fixed to the limber in the usual way, and the drag is wholly wound round the guides, so as to be always ready and out of the way.—*Tr.*



No. 1 and No. 2, four pounders.\*

No. 1, No. 2, No. 3, and No. 4, six pounders.

No. 1 and No. 2. howitzers:

These pieces should never march with their *caissons*† in alternate order, but the whole num-

\* Four-pounders, and six-pounders, appear to be too near each other as to caliber, and might, perhaps, create some confusion in case of the ammunition getting mixed in the heat of action. Some authors have designated four-pounders and eight-pounders as the proper calibers. Considering that a four-pounder is of a relatively small power, and requires as much labour, and is attended with as much difficulty as a six-pounder in transportation, and all the manœuvres; considering also, that in this country the roads are generally worse than in Europe, especially among our woods, which abound in stumps, logs, and other obstacles, would it not be better to have six instead of eight pounders? If these considerations have weight, it would be better to form the company with six six-pounders and two howitzers, thereby obtaining a mean of power and a mean of difficulties with a uniformity of caliber. In a line of march the front must always wait for the rear, the piece which marches with the least difficulty must wait for that which is the most embarrassing, consequently the battery of four and eight pounders cannot go faster than if all were eight-pounders, unless the force be divided, which might expose it to be taken by halves. When all are of one caliber, all may move with the same celerity, and be in no danger of separation, nor of capture by any force inferior to the whole.

† *Caisson* will be substituted for *ammunition waggon* throughout this translation. In artillery the French terms



ber of pieces should first file off, and the whole number of caissons follow in similar order, in this manner :

No. 1 and No. 2, caissons for four pounders.

No. 1, No. 2, No. 3, and No. 4, caissons for six pounders.

No. 1 and No. 2, caissons for howitzers.

One caisson for each piece and howitzer will form the first line of caissons ; in case a greater number should be employed, they will form a second line at a certain distance, and serve to replace the caissons of the first line, as fast as they are emptied. These caissons are under the particular superintendence of the guard of the park, who designate those which are to march in the line upon the requisition of the commandant. The caissons of the first line will make the same movements that the battery does, and each one will always keep immediately after the piece to which it belongs, taking care never to be in its way, and by no means to embarrass its movement, by being too near. It is essential that each caisson be under the direction of an intelligent and experienced gunner, who is well acquainted with all the

have been generally preserved, as *coin* instead of *wedge*, and in many other instances; in this it is especially preferred because but one word is required instead of two.



manœuvres; the whole line of caissons should be directed by a serjeant major.\*

\* Caissons are only mentioned throughout the manœuvres, the gunners being supposed mounted on horse-back, and when they alight they give their horses in charge of the drivers of the piece, who may hitch the bridles to the limbers, which pre-supposes that they are well drilled to stand fire.

There is another kind of caissons called, *wursts*, which are made in the form of a saddle on the top, so that 4 or 6 men may ride upon them, one half looking in front, and the other half in the rear, with stirrups on each side for their feet, and the body is fixed on springs for easy riding. It is indeed well to have caissons on springs to keep the fixed ammunition from injury by too much motion, but some disadvantages evidently attend carrying the men in this manner. 1st. the *wursts* must carry as much less ammunition as the weight of the men amount to, or they must have a proportionate increase of horses. 2. In case of a hasty retreat before an enemy, the *wursts* must wait for the men (who are at the pieces some distance in front,) to join them before they move, or else give the men a long chase to reach them, and expose them to be taken, or what would be worse, by waiting be exposed to be taken with them, to say nothing of the derangement in the line of march by some waiting and some going on. When *wursts* are used they are proportioned two to each piece; now if a sufficient quantity of ammunition could be carried in one, without having men on the top of it, there would be no saving in horses by mounting the men on the *wursts*, and there would be one carriage more than necessary to each piece. When the gunners have horses, each man one, they may stand to the last moment and have full time to overtake the line, seeing the piece completely on the march before they mount.—*Tr.*



## FIRST MANŒUVRE.

*To detach the Limbers and make fast the Prolonge or Drag.*

• WHEN the column is arrived near to the field, whether it be for exercise or battle, the captain commands, *Halt ! Attention ! Detach the limbers ! Fix the drag !\** The gunner or officer commanding each piece† will then give the word, *Alight !* and will cause the order to be executed. When each commanding gunner perceives that the drag is fixed, he will give the word, *Mount !* and the whole will stand ready to march when all are mounted. When the order is given, *Column ! forward march !* each commanding officer or gunner will repeat, *March !*

\* The drag should be made about 12 feet long in general ; whenever it should be made longer it must be specially ordered to be extended.

† When the gunners give the word for their separate pieces, it is always understood to be *after* the commanding officer of each half battery has repeated the order.



SECOND MANŒUVRE.

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*The Battery being in one Column to form two.*

TAKE care to form divisions ! *Attention ! Even numbered pieces !* (that is the 2d, 4th, 6th, and 8th in the line) *to the left oblique march !* These pieces will immediately quit the line of march, each commanding officer, or gunner,\* repeating the word, *March !* The commanding gunner of each odd-numbered piece, except the leading one in front, (that is the 3d, 5th, and 7th in the line) will repeat the word, *March !* and close the intervals made by the

\* Each piece being commanded by either the first gunner or a non-commissioned officer, it will be understood that the words "commanding gunner," "commandant," "director," or, "commanding officer of the piece," may be indifferently used to signify the same person, always meaning him who directs each piece individually. The variation of denomination is sometimes necessary to avoid confounding the director of a piece with the commandant of a half battery.—*Tr.*



even pieces, obliquing to the left. The second piece, which will make the leading piece of the second column, will advance and dress by the piece on the right, (No. 1) taking care to preserve the same distance between the columns that it is necessary to preserve between the pieces in battery; all the even pieces will close upon No. 2, at two paces distance from each other, the same distance being preserved in both columns. The right column will then be composed of pieces forming the half battery on the right, and the left column will be composed of pieces forming the half battery on the left.

The caissons will obey the order given to their pieces in precisely the same manner; it will consequently be found that the odd-numbered caissons will be in the rear of the right column, and the even-numbered caissons in the rear of the left column.



## THIRD MANŒUVRE.

*The Battery being in two Columns to form them into one.*

*Attention! Divisions! Forward march!* As soon as the whole is in motion, the captain will order, *Left column! in the intervals of the right column! march!* At this word the commanding gunners of the pieces need not give any word, and the manœuvre is executed in this manner. The first piece of the right column continues its march, and the first piece on the left checks its pace, and falls in the rear, till its leading horses' heads are even with the wheels of the pieces on the right; every piece of the left column observes the same rule respecting the piece on its right; from first to last the right column gradually open the intervals, and keep the distances, in the same manner as when the even pieces obliqued to form two columns.



When the captain perceives the intervals well and distinctly marked, he gives the order, *Left column to the right oblique march!* Each commanding gunner repeats the order; at the word, *March!* the left pieces enter the intervals, the two columns of caissons perform the same manœuvre, precisely in the same manner, and on the same words of command. The whole is then in one column, the pieces and caissons being in the order they were before.

#### *Of the March in Column.*

When the battery marches in one column, the commanding gunner of each piece will take care to observe the proper distance; they will march exactly two paces from the piece immediately preceding, and make the drivers of the leading horses of their pieces keep at the same distance behind them; they will take care that the pieces be what may be called file leaders to the next behind, in such a manner that in flank firing the pieces by only turning upon their own centres\* may be at once dressed in line. As soon

\* To cause a piece to turn upon its own centre, it is necessary first to oblique to the right in an opposite di-



as a change in the line of march shall be indicated to the commanding gunner of the piece in front, he will give the word, *To the right (or left) wheel*, according as the order may be. After arriving at the pivot, where the first piece began to wheel, the second piece will perform the same movement, and so on to the end. The commanding officers of the half batteries will see that the commanding gunners do not neglect the words of command in the most minute particular; this is the only way to make the drivers attentive, and the only means of obtaining precision in the manœuvres.

When the battery marches in two columns, the commanding gunners will pay the same attention to their distances, and to the exact covering the file leading-piece, immediately preceding: but especially the commanding gunners of the pieces in front of each column will strictly observe that there be always between them, to

recession to the intended one, till the route of the left wheel of the carriage is in the route of the right one, and then to the left about; in this manner each carriage wheel will be in the route of its opposite one; and the piece will be in the former line of its centre. See note to 7th manœuvre.—*Tr.*



the right of one and left of the other, the same distance that there should be when formed in battery.

The pieces of horse artillery having at least six\* horses before them, two at the pole and four in harness, and, for that reason, occupying a considerable space of ground, it is proper to diminish the length of the column when the divisions advance or retreat, whatever be the direction of the column; to effect this the gunners will march in file on the right and left abreast of the draft horses.

\* Four horses would be ample, if well chosen, and none but the most able should be employed in this service; a good horse will cost no more for keeping than an ordinary one, and, being well kept, is, at least, one-third more powerful. The stages go with great rapidity, and have but four horses, which perform at least twenty miles daily throughout the year, with as heavy a load as a field piece or an ammunition waggon.---*Tr.*



## FOURTH MANŒUVRE.

*The Divisions marching in advance in two columns\* to display to the right and left of the two leading pieces, in order to form in order of battle.*

**ATTENTION!** To the right and left of the front pieces, take care to display† in order of battle. *Divisions! to the right and left display columns!* The two front pieces continue to march, and the commanding

\* Horse artillery, in order to make its display with the greatest promptitude, should always be in two columns, wherever the ground will permit. Single file is always a *forced form* of march, when the narrowness of the passage will not allow breadth sufficient for two columns.

† In some military works this is called *deploy*. I have preferred the word *display* because it is English; and in the tense in which the other is often used, it is neither French nor English.—Tr.



gunners check their own horses and fall in the rear of the wheels, and in a line with them. The commanding gunners of the pieces in the right column (the front piece excepted) will give the word *To the right oblique!* and the commanding gunners of the pieces in the left column (the front piece excepted) will give the word *To the left oblique!*

At the word *March!* which each commanding gunner repeats, the pieces in the two columns will begin the movement.\* The commanding gunner of the second piece on the right will judge beforehand of the distance he ought to take from the piece on his left when he arrives in line, and he will then march in conformity to the front pieces, always preserving the same distance. The

\* The front pieces not having occasion to alter their order of march, their commanding gunners will not give any word respecting this movement; but the other commanding gunners will, of their own accord, when the oblique march begins, give the word *Trot!* and take a sweep of ground proportionate to their distances, and quicken their march so as to arrive in line in regular succession and dress as they come up.



commanding gunner of the second piece on the left will, in like manner, judge of his distance from the piece on his right when he arrives in line, and he will also march in conformity to the front pieces, always preserving the same distances. During the time that the pieces of the two columns require to arrive at their positions in the line, the gunners, who were before at the sides of the draft horses, will check their speed, and fall in at the rear of the wheels of the piece to which they belong.

While the pieces are displaying in battery on the right and left as described, the caissons will each follow the piece to which it belongs, and form a second line parallel to that formed by the pieces, and at the distance of some toises.

*Instructions relative to the March in battle array, marching in advance.*

It is highly essential, when marching in advance in battle array, that the line be preserved with the most scrupulous exactness; for, on the accuracy of the line when marching, depends its accuracy when halted in



battery for action: there will then be no time to rectify mistakes and to dress; the line must be perfect at the halt. For this purpose the commanding officers of the pieces will take special care that they dress in line with each other, and that the leading horses of their respective pieces be at two paces distance from their own horses. Whenever the march is in battle array advancing, the gunners of every piece will follow in two files, each file being in a line with the wheels, and covered by them as file leaders.

The caissons will form a second line parallel to the line of the pieces, and the same attention to the complete dressing in line while marching is indispensable.



## FIFTH MANŒUVRE.

*The Battery marching in advance, and in order of battle, to change the Front to the right or left, continuing the march in the new line, and presenting the same order of battle.*

*ATTENTION! Battery to the right (or left) wheel! March!* At this command (suppose it be to the right) the commanding officer of each piece will give the word, *To the right wheel!* At the word, *March!* they will repeat, *March!* The first piece, which serves for a pivot, will make its wheel correctly, turning, as nearly as possible, on its right wheel as a centre, and it will halt a while until all the pieces on the left shall have come up. The pieces on the left in forming will increase their pace in proportion to their distance from the pivot. When the new line is formed all will march at the same pace.



The caissons, which march in a line parallel to the battery, turn at the same point with it, and preserve the same distance from their respective pieces, always keeping exactly in their rear.



## SIXTH MANŒUVRE.

*The Battery marching in advance, and in order of battle, to form Columns on the two pieces in the centre ; that is, the piece on the left of the right half battery, and the piece on the right of the left half battery.*

**ATTENTION!** *Battery! On the two pieces in the centre form columns! March!* At this word the commanding officers of the two pieces in the centre give the word *Trot!* The commanding officers of the pieces on the right give the word, *To the left oblique march!* and those on the left, *To the right oblique March!* The centre pieces go off in a trot at the word *March!* but the commanding officers of the other pieces, in succession, give their word only according as they find space left by the advance of the piece which precedes them from their right or left, of the left or right half battery. When the two



front pieces have gone over a length of ground sufficient for the column to form in, their commanding officers will give the word, *Walk!*

The caissons which formed the second line of the battery will form columns on the two centre caissons in precisely the same manner.

Columns might, in like manner, be formed on the two pieces on either flank, or indeed on any two of the pieces, but as it is not material what places the pieces and caissons occupy respecting each other, and as forming on the centre pieces is more easy, and sooner done, this manœuvre must always be preferable.\*

\* This will be evident by considering that, to form on the two pieces on either flank, six pieces must go off successively before the columns can be formed, since no piece can oblique till its neighbour has left ground for it, but to form on the centre pieces there are but three on each side to oblique into column, and they go off by pairs, which, consequently, requires but half the time.---*Tr.*



## SEVENTH MANŒUVRE.

*The Battery marching in advance in order of  
Battle to form Battery.*

IT will be here observed, that as the carriages are drawn by the tail, the mouths of the guns are always in the rear of the horses, consequently, when marching in front towards an enemy, each piece must come to the right about to present the mouth of the gun to the enemy. But as the caissons are kept in the same position, whether in battery or in march, when the word to form battery is given, they have only to halt, without wheeling. This movement would be useless for the caissons; for if, after firing, the battery should advance upon the enemy, they stand in the right position for advancing, and in case of retreating after the fire, they will have time between the word of caution and the word *March!* to wheel their horses round;



besides, ammunition may be wanted at the instant the battery is formed, and it would much impede the service, if the caissons were then in the act of wheeling.

*Attention Divisions! Form Battery! March!*

At this word the commanding officers of pieces will order, *Left About!* They will continue the march, obliquing a little to the right;\* the chief gunner will order all the other gunners, *Gunners! Halt! Alight!* At the same time each gunner, who has charge of a caisson, will order, *Halt!* When the captain perceives that there is sufficient space between the pieces to give ample room for action, that is, the leading horses nearly

\* This, at first view, does not seem clear, it may not therefore be amiss to repeat that, although the pieces come to the *left about*, they are obliged to oblique considerably to the *right*, so that, in performing this circular movement, the piece can be returned to the same spot from which it moved, with its muzzle to the enemy in battery and ready to fire. Were the wheel to be made to the left about, *without first obliquing to the right*, the right wheel of the carriage would make a semi-circle, while the left would turn on itself as the pivot, and the whole piece would be on the left of the place it was in before, whereas the design is to perform the wheel on the centre of the piece. See note to the march in column.---Tr.



touch those of the gunners, he will give the word, *March!* All the commanding officers of pieces repeat, *March!* and execute the wheel about together. As soon as the pieces are in battery, and the commandant of pieces shall have given the word *Halt!* every man will go instantly to his post with great vivacity, fix the trail handspikes,\* and distribute all the utensils. At the word *Commence the fire!* the commandants of pieces will give the word, *In action!* and proceed to load, point, and fire with vigour.

\* In manœuvres the trail handspikes might be kept bolted and keyed in their places; but, in a march, they would be more compact, and less liable to shatter, if they were stowed on the carriage.—*Tr.*



## EIGHTH MANŒUVRE.

*The Battery marching in advance, and in order of battle, to form Battery for action to the right or left.*

*ATTENTION Divisions! To the right (or left) form battery! March!* At this word, if for example the battery is to be formed on the right, the commandants of pieces will give the word, *To the left Wheel! March!* When the piece at the extremity on the left has its muzzle towards the enemy on the right, and is placed at right angles with the old line, the commandment of this piece will give the word, *Halt! Alight!* and immediately commence the fire. Just before arriving at the new line, the commandant of each piece will order a halt, and when in position, go to action with promptitude and vigour.



As soon as the words of caution are given, the caissons will halt; and, lest they should be before the mouths of the pieces, they will break by column to the left, and go with the greatest celerity possible, each one to the piece to which it belongs. N. B. The circular motion of the pieces when they form battery, which is unavoidable to bring the mouths of the guns toward the enemy, is difficult and dangerous in time of action; the drivers, therefore, should be well exercised in this respect, so as not only to perform without the least confusion, but also in a quick trot. In this manœuvre, and in some others where the line changes its direction suddenly, there will necessarily be some time lost before the caissons can regain their stations; in this case, the gunners who go into action must take the cartridges from the ammunition box on the carriage of the piece; but as soon as the caisson comes up these must be replaced, and in general this box must always be kept full; it is a precious deposit, which must be constantly at hand, and kept with scrupulous attention in its full quantity.



## NINTH MANŒUVRE.

*The Pieces marching in advance in Column to form Battery on the right and left of the two front Pieces.*

**ATTENTION!** *To the right and left of the two front pieces form battery! March!* At this word the commandants of the two front pieces command a wheel to the left about, which brings their muzzles in front; but previously to the wheel, they continue their march in obliquing a little to the right,\* till they have obtained as much space to the right as they are to lose by wheeling to the left, at the same time they give to their gunners the words, *Halt!* and *Alight!* The commandants of the pieces of the right column give the word, *To the right oblique March!* The commandants of the left column give the same

\* See note to the 7th manœuvre.



word to the left. At the word *March!* all repeat *March!* The two front pieces, having made the wheel-about indicated, and placed themselves in battery, will commence firing; the other pieces, as fast as they come up in front, will perform their wheel-about, and commence their fire with all possible vivacity; that is as soon as they are in a line with the piece on the right or left. The commandant of each piece will repeat the words, *Halt!* *Alight!* and go into action in the manner indicated for the two front pieces. While the pieces are obliquing to the right and left, the gunners check their horses, to take the position they should have when marching forward for battle. The caissons will display on the right and left of the two centre pieces in like manner, so that each caisson will be behind the piece to which it belongs, at several\* toises distance.

\* The proper distance of the caisson, when in action, must depend on the judgment of the captain, who will combine the distance requisite for their safety with the necessary distance for supply of ammunition. The word *toise* is technically made English by adoption; its length is six feet.---Tr.



## TENTH MANŒUVRE.

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*The Pieces being in Battery to march forward on the two Centre Pieces in Columns.*

*ATTENTION ! On the two centre pieces in columns forward march !* At this word the commandants of the two centre pieces give the word, *Left about !* The commandants of the pieces on the right give to their pieces the word, *Right about !* The commandants of the pieces on the left give the word, *Left about !* All repeat the word, *March !* When the two centre pieces have executed their wheel, the commandants give the word, *Trot !* and when they are sufficiently in advance to give room for the columns to form, they will give the word, *Walk !*



The caissons, which are already in the position to march forward, have no more to do than to fall in from the right and left in the rear of the two centre pieces, and of each other, as the preceding pieces by advancing leave space for them.



## ELEVENTH MANŒUVRE.

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*The Piece being in Battery to march in advance  
towards the Enemy.*

*ATTENTION Battery ! Forward march !*  
At this word all the commandants of pieces perform the wheel to the right and left about, from the centre each way, and then give the word, *Gunners to horse ! Mount !* At the word, *March !* which is repeated by all the commandants of pieces, all will wheel together, and the gunners will take the same position in the rear of their pieces as indicated in the march in battle array. The caissons have only to march on in battle array, following their pieces, their positions being already in the order they are to march.



## TWELFTH MANŒUVRE.

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*The Pieces being in Battery to march in retreat  
in order of Battle.*

**ATTENTION!** *Retreat! March!* At this word the commandants of pieces repeat, *Retreat!* And order, *Gunners to horse! Mount!* At the word *March!* the gunners take up the line of march in file abreast of the draught horses, according to the march in column. At the word of caution, the gunners who have the caissons in charge, will take care that they wheel about briskly, and precede the battery at such a distance as not to impede or embarrass its movement.



## THIRTEENTH MANŒUVRE.

*The Battery marching in retreat in order of Battle to change the direction of the line of Battle to the right or to the left.*

*ATTENTION Battery! To the right (or left) wheel! March!* At this word, (if for instance it be to wheel to the left) the commandants of pieces will give the word, *To the left wheel!* The word *March!* will be repeated by each commandant of a piece, and the wheel will be performed as before indicated, when in marching in advance, a wheel is ordered to the right or left. In the retreat, the caissons must always precede the battery, and the commandant will take care to give his word of caution sufficiently early to enable the caissons to execute their wheel, so as to keep their full distance from the pieces, and not impede the movements of the battery.



*Instruction relative to the March in Retreat.*

When marching in retreat, the same attention to the accuracy of the line is necessary as when marching forward in advance; that is, the commandants of pieces should dress in line as correctly as possible, and the first draught horses, the leaders, should be at two paces distance from the commandants. The only difference between the march in advance and in retreat is, that in the latter the gunners should be in file on the right and left of the draught horses, instead of following the piece, as directed when marching in advance.

The caissons should be well dressed in line, and should always preserve the proper distance between them and the pieces.



## FOURTEENTH MANŒUVRE.\*

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*The Pieces marching in retreat in Battle array  
to form Battery.*

*ATTENTION Divisions! Form battery!  
Halt!* The commandants of pieces will repeat,  
*Halt! Gunners alight!* The gunners will instantly and with great vivacity take their posts and load them; at the word commence your fire they will give the word, *To action!* When the captain gives the word, *Halt!* to the battery, the commandant of the caissons orders *Halt!*

\* This manœuvre requires no separate drawing, it being the position of the last manœuvre halted and opening the fire.—Tr.



## FIFTEENTH MANŒUVRE.

*The Pieces marching in retreat in order of Battle to form to the right or left in Battery.*

(N. B. When a wheel is made with a line of pieces, the extremity of the wing wheeling must necessarily march very fast; this will occasion confusion, unless the commandants of pieces take great care that the horses do not get out of line by too much ardour, nor fall back by having too little.)

*ATTENTION Divisions! on the right (or left) form battery!* At this word (if for instance it be to form battery on the left) the commandants of pieces will give the word, *To the right wheel!* When the left hand piece, which in this movement forms the pivot, is placed square upon the new line, the commandant of this piece will give the word, *Halt!* and then, *Align!* a little before the pieces get into line,



least they go beyond it before the halt is made. Then the word, \**Commence the fire!* is given. The commandants of pieces will dress in line with the other commandants of pieces as fast as they arrive in battery, and will halt and fire directly without waiting for any other order. The commandant of the battery will take care to have the order given to the serjeant-major commanding the line of caissons, and he will order the caissons to wheel as soon as he hears the cautionary word. He will then, after marching five or six toises, give the word, *Halt!* The commandant of the battery will form his wheel on the same pivot which the caissons turned on, in order that, when the movement is completed, each caisson may be in the rear of its piece.

\* The word, *commence the fire*, seems too long, but this is as much a word of caution as of execution ; for the word, *fire*, can only be given by him who points the piece, and that must be executed instantly. The word, *open your battery*, would signify the same thing, but this seems more particularly adapted to a fixed rather than a moveable front.—*Tr.*



## SIXTEENTH MANŒUVRE.

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*The Battery marching in retreat and in order of Battle to form upon the two centre pieces in retreat in Columns.*

**ATTENTION!** *On the two pieces in the centre in retreat form columns! March!* (N. B. As the caissons are before the pieces, this movement must be made by them so rapidly as not to be overtaken by the pieces, and the same word applies to all.) At this word the commandants of the two centre pieces will give the word *Trot!* The commandants of the pieces, on the right\* will order, *To the right oblique!*

\* It will be observed here that the right and left of the battery does not change its denomination by changing from advance to retreat,—yet the words to the left or right oblique signify the same as when advancing, and is according as the right and left hand may be; the order in advance was precisely the reverse.—See sixth manœuvre.



And the commandants of the pieces on the left will order, *To the left oblique!* But the commandants of pieces will not give the word till their pieces are fully unmasked by the preceding ones. When the word, *March!* is given, all the others repeat, *March!* as soon as there is room for them to join in column. When the commandants of the two centre pieces perceive that they have gone over sufficient ground for the columns to form in, they will give the word, *Walk!*

At the cautionary word the serjeant-major at the caissons will repeat, and see the orders executed, in precisely the same manner, his two columns preceding the columns of pieces; and the commandants of pieces, when marching in retreat in columns, will take care, in case any change of direction should be ordered, that the pieces wheel upon the same pivots with the caissons.



## SEVENTEENTH MANŒUVRE.

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*Marching in retreat and in columns, to Display to the right and left of the two front pieces.*

(N. B. In all displays of columns on the front pieces, to march in battle array, whether it be advancing or retreating, great care must be taken to prevent the two front pieces from going out of a walk when the oblique march begins, otherwise the pieces in the rear of the column will have great difficulty in coming up to form the line, owing to the space of ground they must necessarily pass over before they can overtake the front, and the line will, on that account, be a long time in forming, which would be extremely dangerous in the face of an enemy. It should be observed as a general rule in horse artillery, never to march rapidly unless all march



together in battle array, or all march together in column; and never to trot when changing position, except in cases where it is necessary to give space for other pieces to fall in, as in the sixth, tenth, and this manœuvre.)

*ATTENTION! To the right and left of the two front Pieces display columns! March!* At this word the commandants of pieces of the right column (the first excepted) will order, *To the right oblique!* Those of the left (the first excepted) will order, *To the left oblique!* At the word, *March!* which is to be repeated by the commandant of each piece, the two columns will move in a trot, but return to a walk when the oblique march begins; the commandant of the second piece of the right column will judge before hand of the distance he ought to take in line from the piece on his left, and he will, on arriving in line, continue the same pace; all the other pieces on the right will proceed in the same manner respecting their left hand pieces. The commandant of the second piece on the left will, in like manner, take proper distance, and dress on arriving in line with the piece on his



right, and continue the same pace; all the other pieces on the left will proceed in the same manner respecting their right hand pieces.

As soon as the words of caution are given, the caissons will display on the right and left of the two front caissons, and obey the same orders given to the pieces in precisely the same manner.



## EIGHTEENTH MANŒUVRE.

*The Pieces marching in retreat in Columns to form to the right and left of the two front pieces, retreating in Battery.*

(N. B. This manœuvre appears at first sight to be a repetition of the foregoing, and it would be so if the march continued; but the design here is to dismount the gunners as fast as the pieces come up and halt in battery, when the action begins from the piece first in line.)

*ATTENTION! To the right and left of the two pieces in retreat form battery! At this word the commandants of the two pieces continue their march four or five toises, to enable the pieces in their rear to take their distances in the line, they then give the word, Halt! Alight! As soon as they see themselves unmasked, by the columns opening to the right and left, they begin the action, and*



give the word, *Fire!* the commandants of pieces on the right and left give the word, *To the right oblique!* and, *To the left oblique!* as in the last manœuvre, and all repeat the word, *March!* As soon as they come up into the line, each commandant successively gives the words, *Halt!* *Alight!* and joins the action, giving the word, *Fire!* At the word of caution the caissons who are marching in retreat before the columns, display columns to the right and left as in the last manœuvre.



## NINETEENTH MANŒUVRE.

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*The Battery marching in retreat in Battle array to fire by half Batteries, continuing the retreat.*

**ATTENTION!** *By half batteries retreat! March! Half battery on the right (or left) fire!* At this word, supposing it be the half battery on the right which begins the action, the commandants of the pieces in this half-battery will order the gunners, *To action!* During this time the commandant of the half-battery on the left will order, *Retreat! March!* and he will retire fifteen or twenty toises, when he will give the word, *Halt!* The gunners will instantly take posts by the pieces, and be ready to load them.

When the commandant of the half battery on the right shall have fired five or six rounds, he will order, *Retreat! March!* and he will



retire fifteen or twenty toises in the rear of the left half battery. When the commandant of the left half battery perceives that the other half battery has passed him, he will give the word, *Fire!* and after firing five or six rounds retreat in like manner; and so on, each half battery firing and retreating alternately, until further orders.

When the captain chooses to unite the half batteries, he will order the half battery farthest in front to halt in a line with that in the rear, and he will then either cease the fire, or re-commence it with the whole.

The caissons will perform their retreat with the half batteries to which they belong, preserving the proper distances.



## TWENTIETH MANŒUVRE.

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*The Division marching in one Column to form to the right or left in line of Battle.*

**ATTENTION** Column ! *To the right (or left) display in order of battle !* At this word, supposing it to be to form on the right, the commandant of the pieces will order, *To the right wheel ! March !* The drivers will wheel with slack drag ropes, in order that the pieces may turn upon their own centres. When the commandant perceives that all have wheeled, he will fix his points for the line to form in, and the whole will march on. The caissons continue to march in column, and when each one finds itself behind its own piece, it will in like manner wheel to the right, and the whole will march in parallel lines, keeping the proper distance.



## TWENTY-FIRST MANŒUVRE.

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*The Pieces marching in single Column to form Battery on the right or left for action.*

(N. B. It will be perceived that this manœuvre differs from the last only in this : forming in battle array the horses are in front, but forming in battery for action, the mouths of the pieces must be in front ; consequently the wheel in one case is exactly the reverse of the wheel in the other.)

**ATTENTION** *Column ! On the right (or left) form battery ! March !* At this word, supposing it to be to attack the enemy on the right, the commandants of pieces will order, *To the left wheel !* At the word, *March !* they will repeat, *March !* The drivers will wheel with slack drags, in order that the pieces may turn upon their own centres. When the com-



mandant of the pieces perceives that they are in battery, he will give the words, *Halt! Alight! Commence the fire!* At the word, *Commence the fire!* the commandant of each piece will repeat, *To action.*

The caissons which are in the same column will continue their march, obliquing a little to the left, till they find themselves each one in the rear and opposite to the piece to which it belongs, when each one will wheel to the right, and preserve the proper distance.



## TWENTY-SECOND MANŒUVRE.

*The Divisions marching in one Column, either in advance or in retreat, to cause this Column to march in reversed order.*

*ATTENTION Column ! In reversed order march !* At this word all the commandants of pieces give the word, *To the left\* about wheel ! March !* At the same time the gunners in file on the left make each of them a wheel to the left, and then advance three or four paces, in order to let the leaders of the piece pass in their rear ; they then (being on the other side of the draught horses) continue the wheel to the left till the

\* In the wheel about, the left is preferred, because the postillions on the near horses have a better command in drawing the off horses than in crowding them from them ; therefore, when it is indifferent, with respect to position, which way the wheel is made, the left is generally preferred.—*Tr.*



reversed order is formed. The gunners in file on the right wheel to the right about, and join in reversed order abreast of the draught horses. When the piece in the rear of the column shall have completed its wheel about, it will (being then the advanced piece in reversed order) continue the march, but at a slow walk, in order that there may be no interruption in the column. If the column marched in advance when the reversed order was formed, the caissons would be at the head of the column. The commandant of the whole, therefore, must give orders in time to the officer commanding the line of caissons, so that as soon as the cautionary word is given he may commence their movement in such a manner as not to retard the march of the pieces, which of course pass by the line of caissons, in the next manœuvre.



## TWENTY-THIRD MANŒUVRE.

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*The Battery marching in one Column to give to the Column any direction to the right or left, the Column being in reversed order, with the rear piece in front.*

**ATTENTION!** *Column (the rear in front) to the right (or left) wheel!* Suppose it be to the right wheel, the commandant of the last (now the front) piece will order, *To the right wheel!* All the preceding pieces (now the succeeding ones) will wheel at the pivot; the piece in advance will march slowly to prevent any interruption in the column. During this movement the caissons will halt, and after the column of pieces has passed, they will take up the line of march preserving the distances.



## TWENTY-FOURTH MANŒUVRE.

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*The Battery marching in one Column to give that Column any direction on the right or left, putting any piece in front at will: suppose for instance that the Battery is composed of six Pieces, and the intention be to form column on the fifth piece, the fifth in front.*

*ATTENTION Column! On the fifth piece, fifth in front, on the left form column! At this word the fifth piece will wheel to the left; the commandants of the first, second, third, and fourth pieces will also order, To the left wheel! The commandant of the sixth piece has no order to give; he will follow the fifth piece and wheel at its pivot. After the 6th piece has passed the 4th, and so on, the third, second, and first in reversed order, will file into column, each in succession, giving the word, *March!* as they become unmasked by the next piece. It is a gene-*



ral rule, which ever be the piece in front to form column upon, always to let the higher numbered pieces pass in column before the others which join in reversed order begin to move. During this movement the caissons halt and follow the pieces after they have all passed.



## TWENTY-FIFTH MANŒUVRE.

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*The Battery being in two Columns to march to the right (or left) in order of Battle.*

SUPPOSING that the commandant intends to march to the right in order of Battle, he will give the word, *Attention! Left column join in the intervals! March!* At this word the pieces will place themselves obliquely in echelons in the same manner as is indicated in the third manœuvre. When the commandant of the whole perceives the pieces in the intervals he will give the word, *Attention! Take care to form to the right in order of battle! Column to the right face! March!* At this word the commandants of pieces will order, *To the right wheel!* At this word which will be repeated by all the commandants of pieces, the drivers will wheel to the right with their drags slack, so that the pieces may turn upon their own



centres. When the pieces shall have made their wheel, the commandants of pieces on the right will order, *Forward march!* The left column, which will then be in the rear of the front, and opposite to its intervals, will quicken its pace so as to enter the intervals and form one line in order of battle.

The caissons will continue to march in column until each gets up to the piece to which it belongs; they will then face to the right in the same manner, and keep in the rear at the proper distance.



## TWENTY-SIXTH MANŒUVRE.

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*The pieces marching in two Columns to form Battery to the right (or left) for action: suppose to be on the right.*

*ATTENTION Column! On the right in the intervals of the left march! At this word the pieces will partly wheel in echelons as indicated in the third manœuvre. When the commandant perceives the pieces in their intervals he will give the word, To the right in battery march! At this word the commandants of pieces will order, To the left wheel! March! The word, March! being repeated by all, the pieces turn upon their own centres. When the pieces of the left column are all faced, the commandants of pieces will order, Halt! Alight! When the pieces of the right column have also turned upon their centres, the commandants of pieces will order them to*



march into the places reserved for them in the left column, and as soon as they have arrived in line, they will order, *Halt ! Alight !* and then the captain will order, *Attention the whole ! Commence the fire !* Every commandant will repeat, *To action !* and proceed to load and fire repeatedly till ordered to cease.

The caissons continue to march in column, obliquing to the left, and placing the left column in the intervals, till they arrive opposite to their pieces, when they will all face round to the right ; and the left column, which forms the second line, will join into the intervals of the right, and form but one line of the whole.

N. B. This manœuvre is very easy, provided it be well executed, and the commandant takes care not to order the pieces into battery until the intervals are well formed ; but it may be very ill executed in two ways ; First, if the pieces, instead of turning upon their own centres, should advance and form a sweep, which would carry them beyond the intervals ;—the second is, when the pieces of the right column (which retire to form battery



with the left) retire too far before they halt, by which means the line becomes irregular. In order to make this manœuvre well understood by all the commandants of pieces and drivers, it will be well to practise it separately in this manner : make the pieces turn upon their own centres, in the intervals of which the other pieces are to enter, and take care that at the word, *March!* the drivers turn their horses round with the drag slack, so that the piece does not go forward nor move otherwise than upon the centre of its own axis ; and also take care that every piece, on coming into battery, halts in time, and forms its line upon the piece first in battery, without any retrograde step ; make all the pieces one after the other perform the same movement, and when, by frequent practice, all have become perfect, the manœuvre may be well executed all together.



## TWENTY-SEVENTH MANŒUVRE.

*The Battery marching in two Columns in advance or in retreat to form the inversed order.*

THE battery being on *two* columns instead of *one*, it is evidently unnecessary to give further instruction than that each column should perform its manœuvre as before indicated for a single column; but it is highly requisite that each piece in each column should perform its manœuvre, in time and manner, like its neighbour on the right or left; when it is so done it is a beautiful manœuvre, but otherwise it might have the appearance of disorder.

N. B. If the company consist of eight pieces, and the howitzers are served by gunners mounted on the wursts (or caissons covered



with leather so that the top is a long saddle) and the howitzers become the leading pieces by the reversed order, having been before in the rear, the wursts must therefore pass between the two columns, and go abreast of the second pieces of each column, in order that the gunners mounted upon them may go instantly to their posts, in case battery should be formed on the two advanced pieces, and in order that these wursts on which they ride may not be in the way to impede the display.\*

\* This is another inconvenience arising from mounting the men on the wursts.—*Tr.*



## TWENTY-EIGHTH MANŒUVRE.

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*The Battery marching in two Columns to give the line of march any direction in reversed order.*

THIS manœuvre is a compound of the preceding, thus—the two columns will form the reversed order as before directed, and the pieces then in advance will wheel to the right or left as the order may be, the others wheeling upon the same pivot and taking care to dress from the right. The caissons halt till the pieces pass them, and then fall in the rear as directed when in one column.



## TWENTY-NINTH MANŒUVRE.

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*The Battery marching in two Columns to give any direction to the line of March, placing in front any two ~~m~~ pieces at pleasure.*

SUPPOSING the battery to be composed of six pieces, each column will have three pieces; then, if the order be to march to the left on the second pieces of each column, *Attention! On the second pieces of each column in front to the left in column wheel! March!* At this word the commandants of the other pieces of each column give the word, *To the left face!* and at the word, *March!* the commandant of the piece on the left, which forms the pivot, takes care to wait for the piece on the right to make his wheel; the execution of the movement is then the same as if the pieces were in one column. The caissons follow the pieces.



## THIRTIETH MANŒUVRE.

*The Battery being in one Column to detach the Drags and replace the Limbers to their Pieces.*

SUPPOSING the battery to be marching in two columns, which is always the case when the ground will permit it, the first manœuvre is to form them into one, in the manner indicated in the third manœuvre; this being done, the command is, *Attention! Cast off the drags and replace the limbers!* The commandants of pieces then give the word, *Alight!* and they proceed to execute the order. When each commandant of a piece sees the carriage fixed upon its limber he orders the gunners, *To horse!* after which the commandant of each battery gives the word, *March!* which is repeated by the commandant of each piece, and the column moves on. The caissons follow the pieces as indicated in the manœuvre for single column.

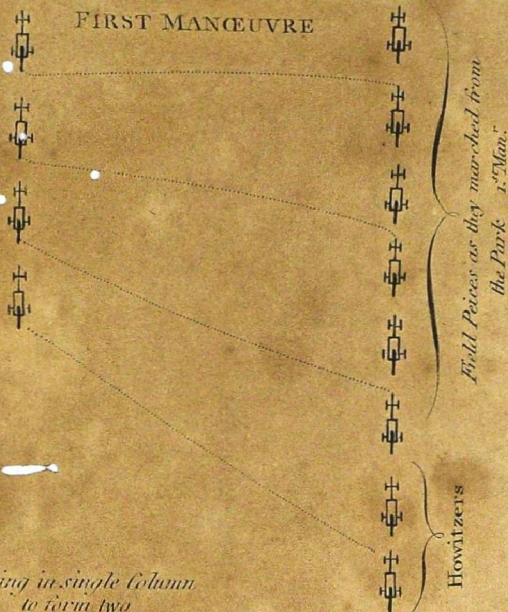


FLYING or horse artillery, when in battle, is placed on the flanks, and opposite to the flanks of the enemy, always choosing the most elevated positions, in order to direct a diagonal fire on the enemy's lines. It is also used against cavalry by being covered with its own cavalry; then, when at a proper distance, the cavalry opens to the right and left, and unmasks the artillery which has placed itself in battery ready to open the fire the moment it is unmasked. This movement should be made with great rapidity, so that the enemy may be ignorant of the end in view, and unable to prevent its effect when it is discovered.

FINIS.

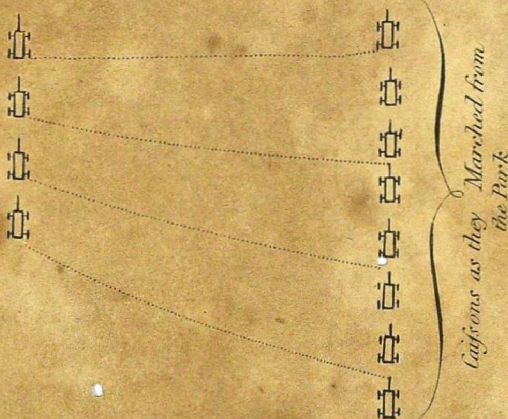


# FIRST MANŒUVRE



*Being in single Column  
to form two*

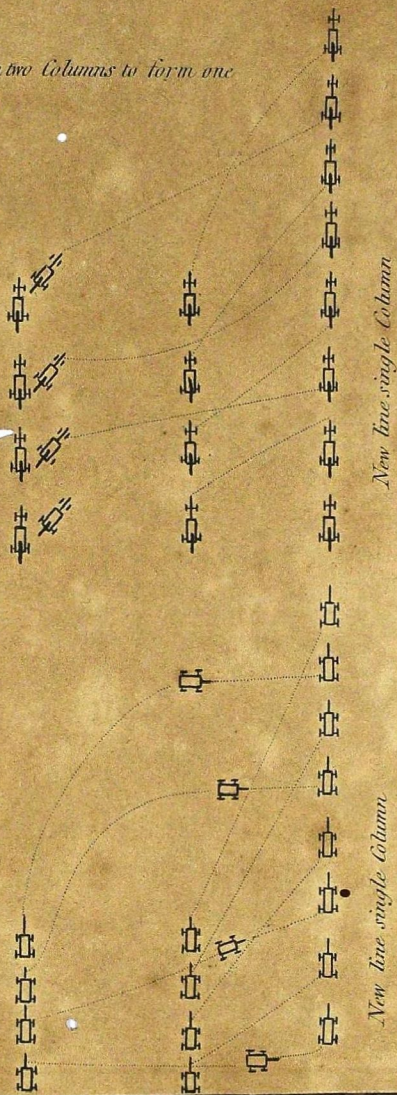
## 2<sup>D</sup> MAN<sup>R</sup>





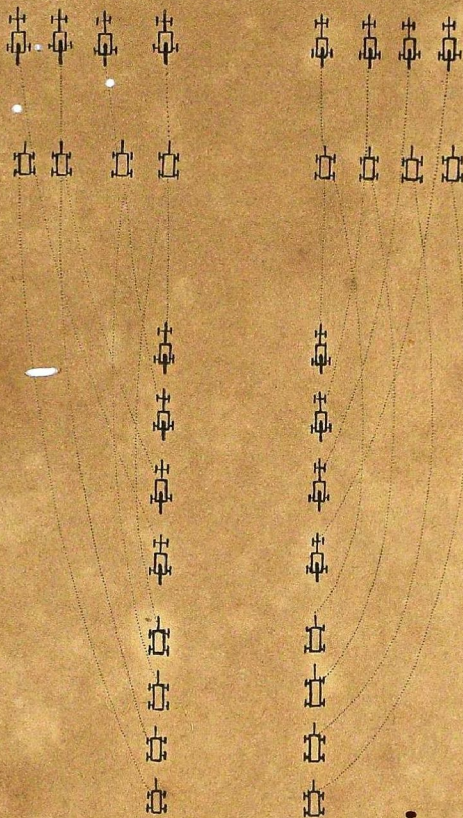
3.<sup>d</sup> MAN.<sup>r</sup>

*Being in two Columns to form one*





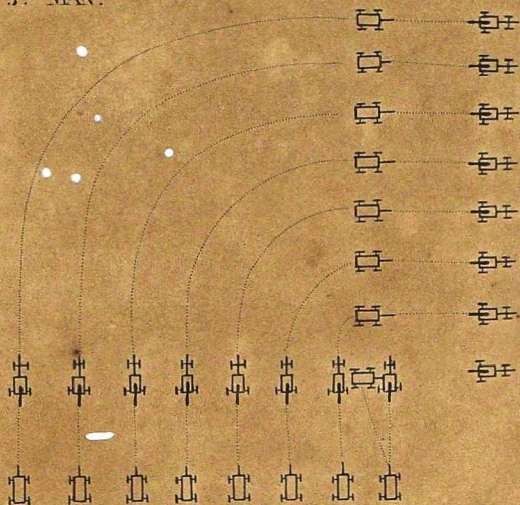
4<sup>TH</sup> MAN. <sup>R</sup>



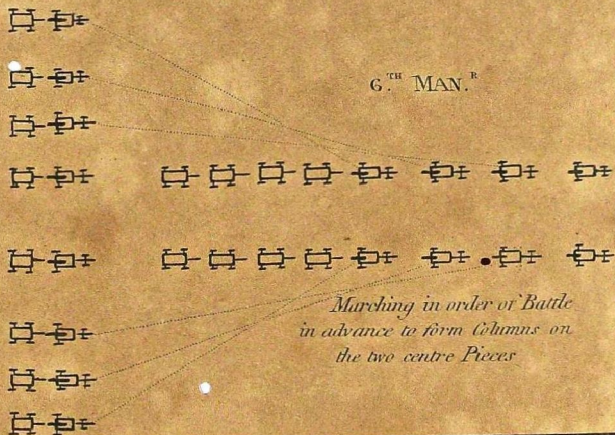
*Being in two Columns — Display on the  
right and left of the two leading Pieces*



5.<sup>TH</sup> MAN.<sup>R</sup>



*Marching in order of Battle to form in the same order on the right*



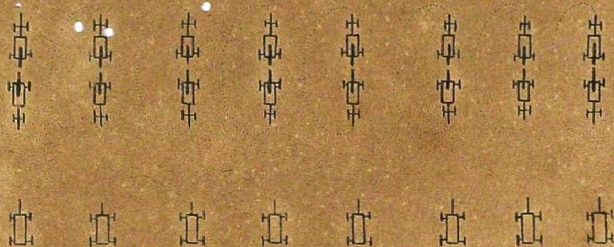
6.<sup>TH</sup> MAN.<sup>R</sup>

*Marching in order of Battle in advance to form Columns on the two centre Pieces*



7.<sup>TH</sup> MAN.<sup>R</sup>

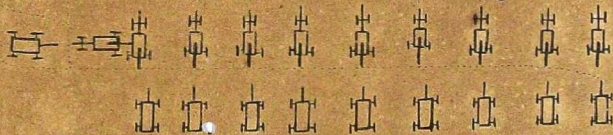
*Marching in advance in order of  
Battle from Battery.*



*Marching in advance in order of Battle  
from Battery to the right on the  
left Piece.*



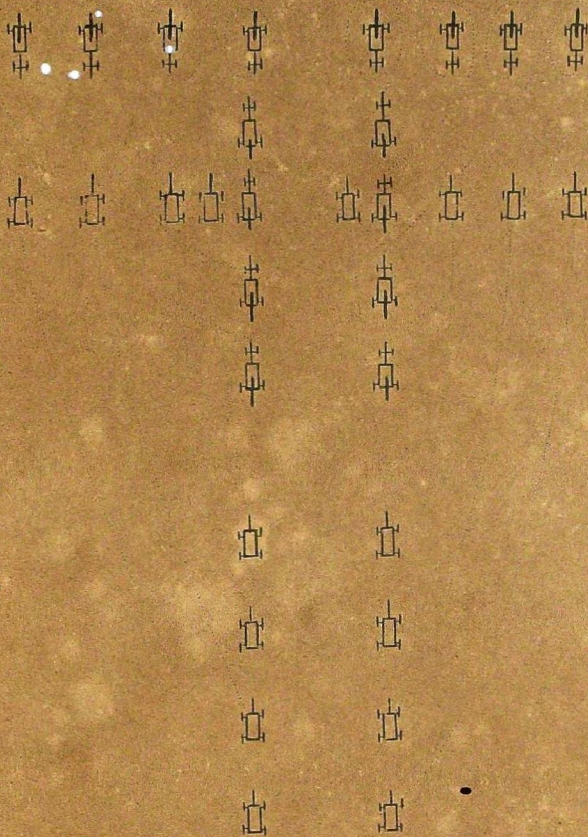
8.<sup>TH</sup> MAN.<sup>R</sup>





9<sup>TH</sup> MAN.<sup>R</sup>

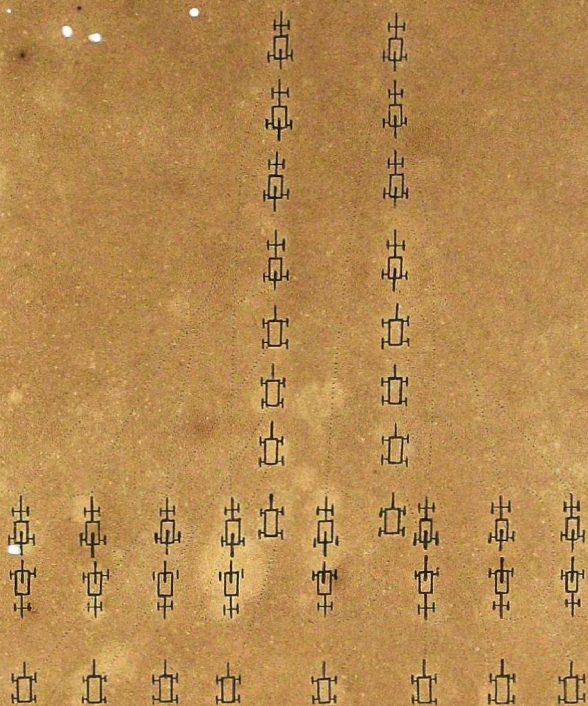
*Marching in advance in Column form Battery  
on the right and left of the two front Pairs.*





# 10.<sup>TH</sup> MAN.<sup>R</sup>

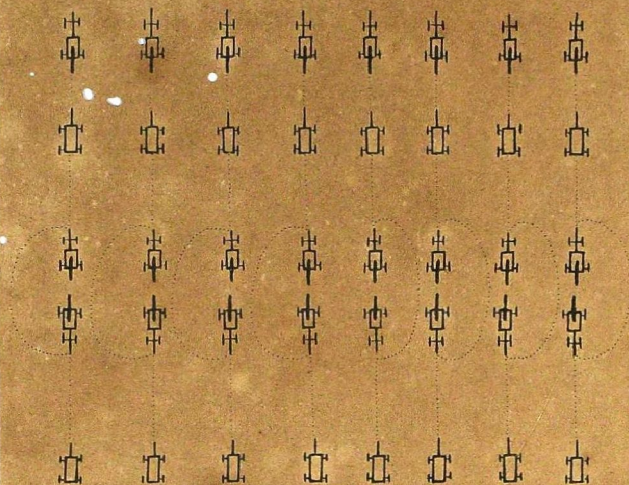
*Being in Battery to march in advance in Columns  
on the two centre Pieces. the centre in front.*





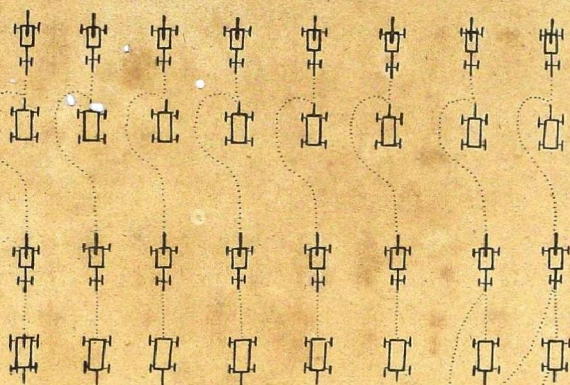
11. MAN.<sup>R</sup>

*Being in Battery to advance on the Enemy in  
order of Battle.*



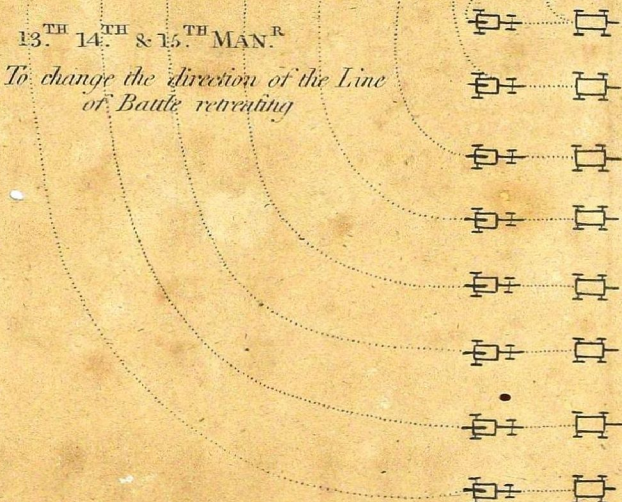
12.<sup>TH</sup> MAN.<sup>R</sup>

*Bring in Battery to retreat  
in the same order*



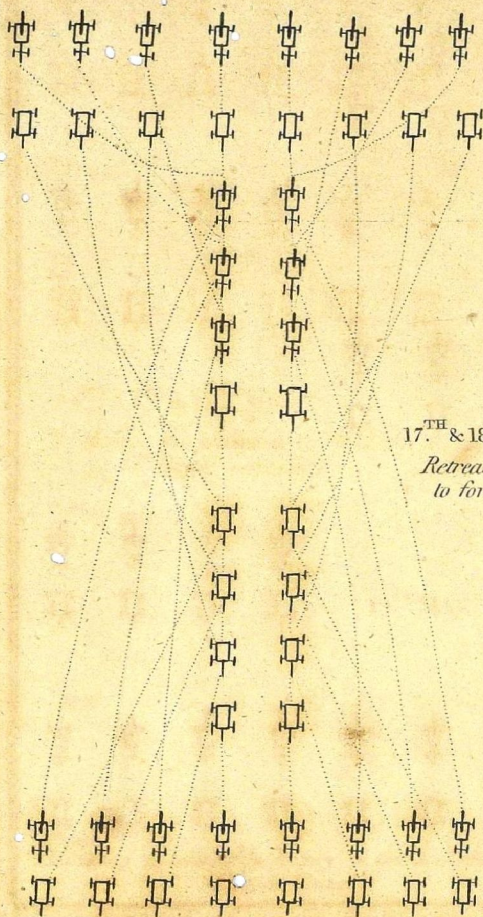
13.<sup>TH</sup> 14.<sup>TH</sup> & 15.<sup>TH</sup> MAN.<sup>R</sup>

*To change the direction of the Line  
of Battle retreating*



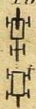
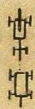
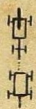
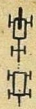
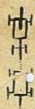
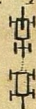


16.<sup>TH</sup> MAN.<sup>R</sup> *Marching in retreat in Battery*  
*to form upon the two centre Pieces centre in front retreating*



17.<sup>TH</sup> & 18.<sup>TH</sup> MAN.<sup>R</sup>  
*Retreating in Columns*  
*to form Battery*

2.<sup>nd</sup> Fire



1.<sup>st</sup> Fire



3.<sup>rd</sup> Fire



4.<sup>th</sup> Fire



5.<sup>th</sup> Fire



6.<sup>th</sup> Fire



19.<sup>TH</sup> MAN.<sup>R</sup>

Halt

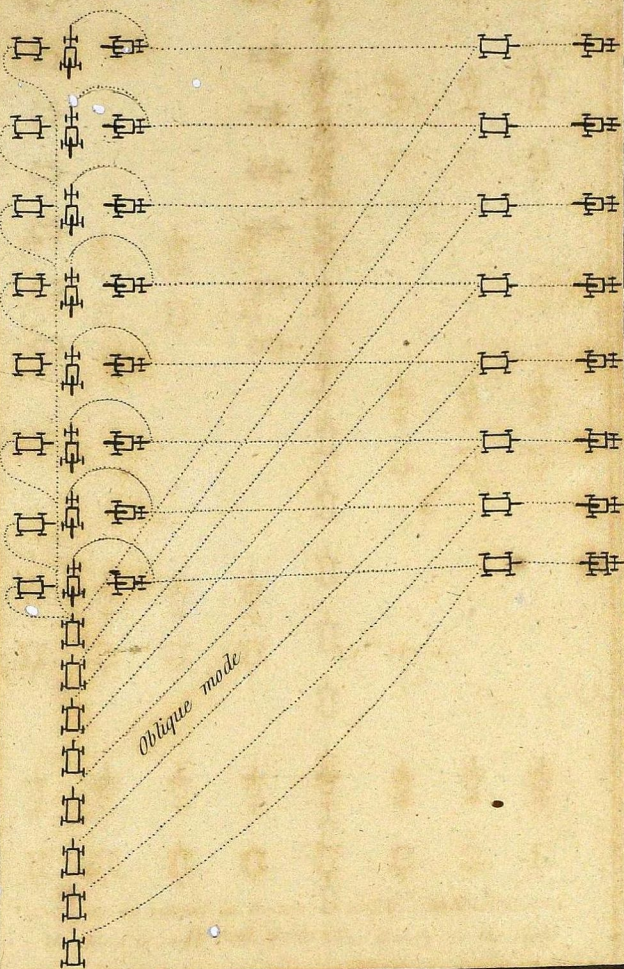


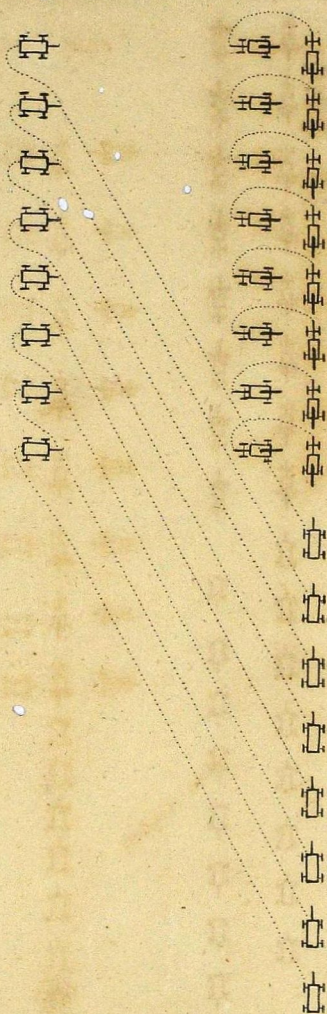
Marching in retreat in Battery to fire & retreat alternately  
by half Batteries



20.<sup>TH</sup> MAN.<sup>R</sup>

*Marching in one Column to the right  
in order of Battle*





21.<sup>ST</sup> MAN.<sup>R</sup>

*Marching in single Columns to form Battery on the right*





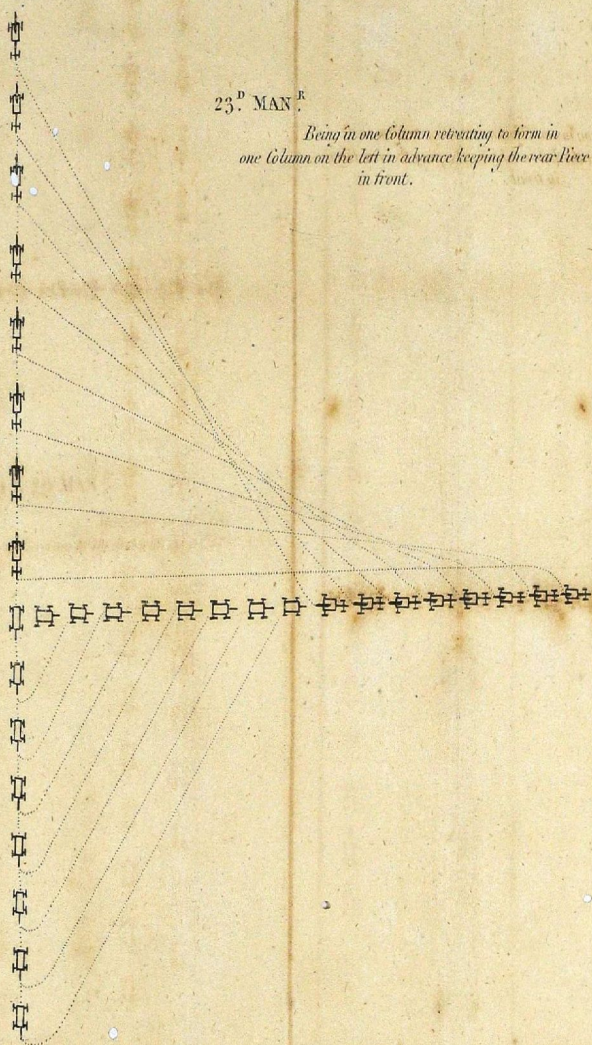
22.<sup>D</sup> MAN.<sup>R</sup>

*Being in one Column to  
march in reversed order*

27.<sup>TH</sup> MAN.<sup>R</sup> is the same  
*except being in two Columns  
instead of one*

23.<sup>D</sup> MAN.<sup>R</sup>

*Being in one Column retreating to form in  
one Column on the left in advance keeping the rear Piece  
in front.*

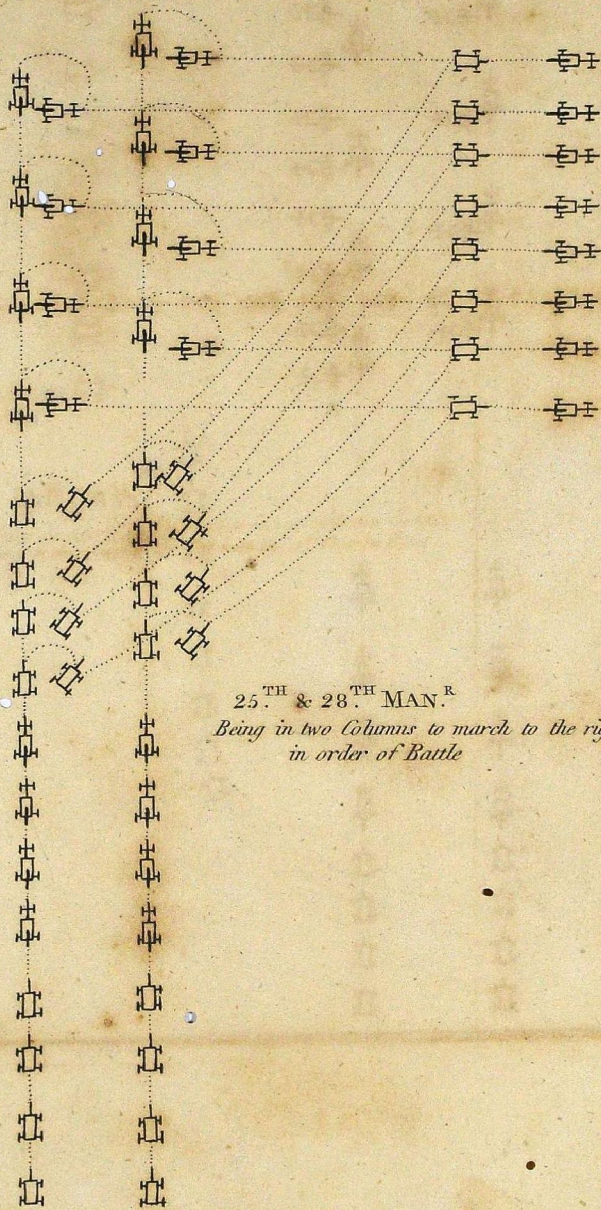




24 & 29 MAN<sup>R</sup>.

*Marching in one Column to take  
a new direction to the left with the 5.<sup>th</sup> Piece in front.*





25.<sup>TH</sup> & 28.<sup>TH</sup> MAN.<sup>R</sup>

*Being in two Columns to march to the right  
in order of Battle*



26<sup>TH</sup> MAN.<sup>R</sup>  
*Being in two Columns  
 form Battery to the  
 right*

