

A Perfect Sheet
of
Flame

American Civil War
Miniature Wargame Rules
By Mike Willegal

A Perfect Sheet of Flame



Playing dominos on the Peninsula in the spring of 1862 (Library of Congress)

The Fourth Version Of Mike Willegal's Iron Brigade Miniature Wargame Rules

1st draft

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Introduction

This is the fourth version of the IRON BRIGADE miniatures rules system. The first was written a long, long time ago, and bears little resemblance to the current version. Some people did like and use the system. However, I was not happy with several aspects of it, especially playability. Ideas for the second version were being considered as long ago as the late 70s.

The major goal in designing the second version was making play simpler and faster. During the process of development, I decided to closely tie fire combat with morale. The thought was that the morale of troops could be closely related to how severe a fire it was receiving and by ratio of attackers to defenders. I believe that this system has worked remarkably well. However some playtesters felt that the resulting game, although accurate for the most part, was too predicable, and not a lot of fun to play.

The third version contained a few changes to make the simulation more realistic, and lots of changes to make the game more fun. Although at heart, the mechanics have not changed in a significant way. This version is more fun to play than the previous, although perhaps a bit slower to run.

This fourth version has a major revamping of the game mechanics. Gone is the sequential alternate movement system. In place is a order driven simultaneous movement system. Orders must be generated by officers and isolated units may only execute their orders after a delay. Gone is the need for the results tables. In place of that, the player must perform some very simple math (adding up the sum of a number of dice) followed by a simple divide. The result is intended to be a much more exciting, and fast moving game. The old system of tying morale to fire combat remains, though in an altered format. The overall effect of combat should be similar to the previous version, with a bit more luck thrown in. This should average out quite quickly in battle, as I have studied probabilities of sum of a number of dice quite carefully in coming up with this system.

I hope that you also will find this rules system worthwhile and provide me with more feedback, so we can further improve the American Civil War gaming experience.

Should you have ideas that may improve the game or have questions about play. Just write or email.

Happy gaming

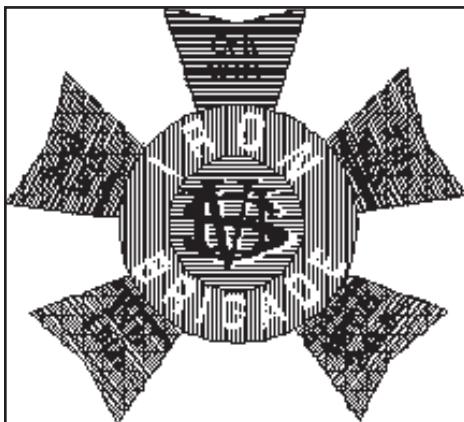
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I. Sequence of Play

A) General

This version of Iron Brigade utilizes a simultaneous movement system. A turn is one complete move and fire sequence for both armies. Each turn in Iron Brigade simulates approximately 2.5 minutes of actual time.

B) Sequence of Play

Iron Brigade uses a simultaneous movement system comprised of several phases. Each move will consist of movement and/or fire along with morale checks. During his portion of the turn, both players performs three procedures.

1) First the Order Phase

i) Each player writes orders for each of his units, that need existing orders changed. These orders are placed face down behind each unit receiving the order with the turn of actual execution written on the back. If there are previous orders that will be active prior to the newly written orders, place the new orders under the pending orders. If the new orders override any pending orders, the pending orders are removed. See the section C, of this chapter, for details on how orders are written and executed. Officers do not need orders to move. They are moved at the whim of the wargamer during the movement phase.

2) Next the Morale Phase

- i) Execute morale checks due to contact with enemy units. (Section VI.D.3)
- ii) Attempt rally of units below their maximum morale level. (Section VI.E)
- iii) Retreat units with a morale of 0 (broken). (Section VI.C)
- iv) Execute morale checks for units with a combat morale of 6 or less in sight of broken units retreating in previous step. (Section VI.D.2)

3) Next the Double Quick Phase

i) Units with active double quick orders and with a combat morale of 4,5 or 6 move up to full movement distance and then throw a die to determine reduction to the units combat morale.(Section VI.D.4)

4) Then the Movement and Fire Phase (all actions, except firing must be in response to an active order). Each unit may take one of the two options for each unit

- i) First Option - Do just one of the following, any unit not broken may make this choice.
 - a) Move full distance allowed by the movement rules and as dictated by the units current orders. (Section IV)
 - b) Fire. (Section V), units without active orders may always fire at enemy units in field of fire, within range and visible.
 - c) Change formation and/or facing as specified by the units current orders.(Section III)

ii) Second Option - Do any two of the following. Units that are broken, have a base morale of less than five (regular), or are in one rank line are prohibited from taking this option. This option is referred to as a split/move.

- a) Move half distance allowed by movement tables. (Section IV)
- b) Change facing. (Section III.I)
- c) Change formation. (Section III)
- d) Fire with a +2 modified fire effectiveness penalty. (Section V), while moving or changing formation, this is only allowed if the active orders specify moving/change formation while firing. Units may fire (with the usually +2 penalty), while changing facing, without specific orders. Firing always occurs after all movement/formation or facing changes are made.

5) The turn number is incremented.

C) Writing and executing orders

1) All movement and actions of units comes through the execution of orders passed down through the chain of command. Units with 12 inches of officers may execute commands the turn they are given. Units 12-24 inches of officers must wait one turn before executing commands. Units further than 24 inches of an officer, must wait 2 turns before executing the command. If the officer giving the command is not of the correct organization, roll a die to see if the command is obeyed. A 1-4 means the command is obeyed, a 5 means the command is obeyed, but after 1 turn delay, and a six means the command is not obeyed at all. See section III of this manual to see how armies are organized and officers are assigned to commands.

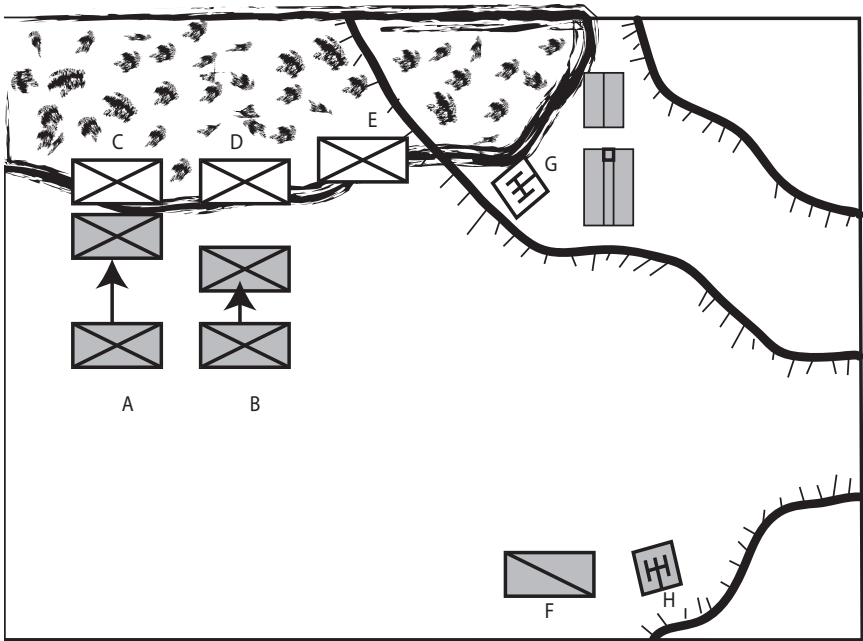
2) The expectation is that each units orders are written in a fashion similar to what a general would instruct a colonel in the actual war. If the results of the order are not clear defer to the interpretation of the Game Master. If there is no Game Master, each side should roll a die, the player with the high die's interpretation prevails. Here are some examples:

- i) March down plank road until reaching the cornfield on the east side of the town and deploy into line facing east, in the cornfield upon arrival.
- ii) Attack across the corn field toward the fence on the far side. Use a strategy of firing while advancing, once fired upon.
- iii) Attack the entrenchments to your front in double time with bayonets. Have the men hold their fire until they reach the enemies position.
- iv) Wait in line, facing the woods to the east for the enemies attack, firing as soon as they are in range.

D) Simple Example Game Turn

Unit Description of Move

- A. This infantry regiment moves full movement in order to engage in meleé next turn with C.
- B. This infantry regiment moves half and then fires at a penalty.
- C. This infantry regiment did not move, but fired at full effect, next turn it will engage in melee with A.
- D. This infantry regiment fires at full effect at B.
- E. A portion of this infantry regiment fires at B. The rest is does not have B in it's field of fire.
- F. This cavalry regiment did not move or fire.
- G. This artillery battery fires on B.'s flank.
- H. This artillery battery fires on E.



Sergeants of the 3rd MA Heavy Artillery with a 6 pounder gun in the defenses of Washington (Library of Congress)

III. Unit Organization

A) General

The organization of an army of the American Civil War could be quite unlike what will be presented here. The flexibility of the organizations at the time were quite remarkable, and quite difficult to simulate. Strengths of units at the same level of the organizational chart could vary by as much as 5 times or more. Ad hoc organizations were the norm rather than the exception. These rules are designed with this flexibility in mind but the players must also deal with this problem with good judgment. Remember that these armies were led by some of the brightest men around at the time and they could think for themselves.

B) Infantry Organization

1) One casting (model soldier).

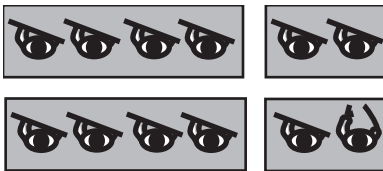
A casting is used to simulate about 20 real life soldiers in the game. All game calculations are in castings (not simulated number of men).

2) Stands



All units are built up using groupings of castings on bases called stands. This is recommended to be 4 castings per base. For each regiment, several stands of 2 castings combined with the standard 4 casting stands will allow for maximum flexibility. The physical size of the stand depends upon the scale of castings used and the number of casting per stand. See section IX.B for recommended size of stands for 15 and 25 mm castings. Single unmounted castings are used for skirmishers and sharpshooters.

3) Regiment (1 to 15 stands)



The regiment was the basic tactical unit during the American Civil War. Since this game is a tactical simulation of combat during that war, regiments are the basic units of maneuver, fire and morale. Regiments may vary in size considerably, from 4-80 castings which would simulate from 80 to 1600 real life soldiers. The “normal” combat strength for an infantry regiment would be 12-20 castings.

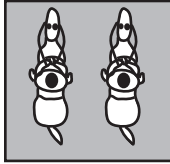
The advanced rules provide for splitting regiments down into partial regiments during the course of play. These sub-regimental units initially take all of the properties of their parent regiments, but once separated from their parent unit, are considered an independent unit in all respects. Units may also be combined to form new regimental sized organizations. The detailed rules on these reorganizations are in Chapter VII, advanced organizations.

An optional rule described in section VII.G provides for regimental command loss. To implement this rule, a single officer casting must be mounted as a part of each regiment. This casting retains all of the combat capabilities of an infantry casting of that regiment.

C) Cavalry Organization

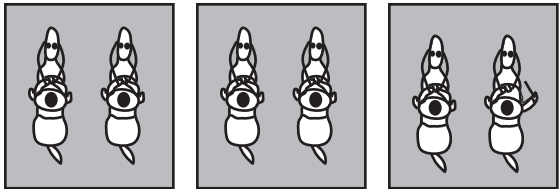
1) One Mounted Casting

One casting is used to simulate about 20 actual men and their mounts in the game. All game calculations are in castings (not actual number of men).

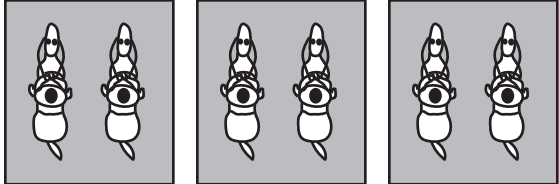


2) Stand - 2 castings

All units are built up using groupings of castings on bases called stands. This is recommended to be 2 castings per base for cavalry. For dismounted cavalry, individual castings of dismounted cavalry should be used. When dismounting, 1/4 of the castings are left as mounted to hold the horses of the other 3/4 who are considered dismounted. This will result in a unit partially (25%) represented by mounted castings and the rest (75%) represented by dismounted castings.



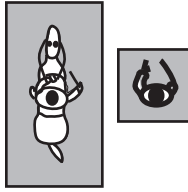
3) Regiment (2 to 16 stands)



As with infantry, cavalry was grouped into units called regiments which are the basic units of maneuver in the game. Cavalry regiments may vary in size from 4-50 castings which would simulate from 80 to 1000 real life cavalrymen. The "normal" cavalry regiment would be consist of 16 to 20 castings. The advanced rules relating to splitting and combining regiments and regimental command castings apply to cavalry, as well as infantry.

D) Officers

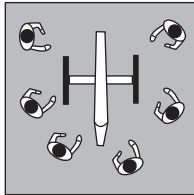
- 1) Stand or One Casting



General officers are represented by either a single mounted officer casting when mounted or a single foot officer casting when on foot. Note that all orders in the game must originate from a personality. See section 1 for rules on how officers give orders. See the fire combat section (V) to see how officers become casualties and are replaced.

E) Artillery Organization

- 1) One Stand



Artillery is organized in a slightly different manner than infantry or cavalry. One cannon casting is used to represent an entire battery of from 4-8 real life cannon. Each soldier casting mounted with that cannon casting represents one cannon of that battery. Each time a loss is taken from that battery, it is reduced in strength by one gun by placing a casualty cap on one soldier casting of that battery. In short, an artillery battery is represented by one model cannon and one model soldier for each gun of that battery. Artillery are not organized in brigades or battalions for the purposes of this game.

F) Higher Level Organizations

- 1) Brigade 5 Regiments, Artillery, General



The brigade is the basic operational unit in the game. Brigades usually are composed of from 3 to 10 regiments and a general with staff. Sometimes a supporting artillery battery was attached to a brigade. The optimal game occurs when each player takes the role of a brigade commander. The brigade is the smallest unit in the game that rates a general and staff. Both cavalry and infantry were organized in a similar manner at the brigade and higher levels. Brigades are usually commanded by senior Colonels or Brigadier Generals.

- 2) Division 2-5 Brigades



Divisions are usually composed of 2 to 5 brigades of infantry or cavalry with supporting artillery batteries and a command staff. Sometimes at this and higher levels, the attached artillery batteries are organized into battalions of 4 to 6 batteries. Divisions are usually commanded by senior Brigadier Generals or Major Generals.

3) Corps 2-5 divisions

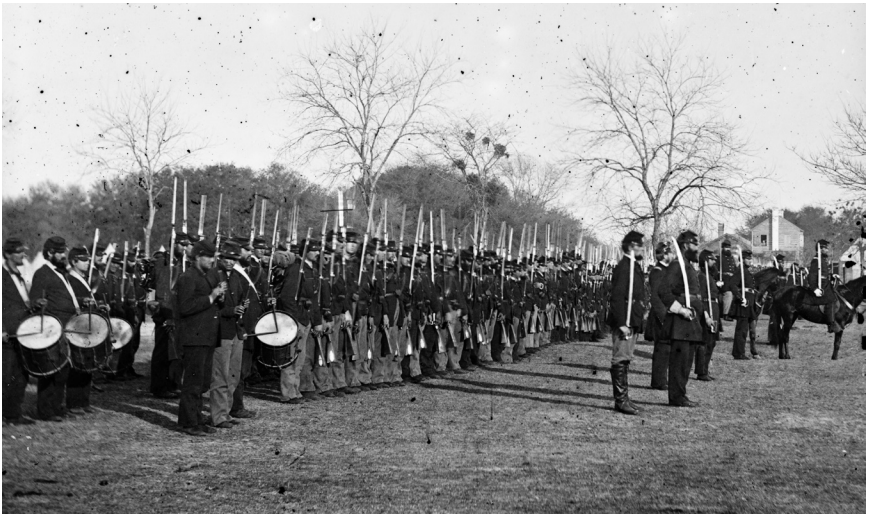


Corps are usually composed of 2 to 5 divisions of infantry or cavalry with supporting artillery and the command staff. Corps may sometimes act as independent armies. In the context of this game, a corps is about the maximum sized playable side. Corps are usually commanded by Major Generals.

4) Army



Armies are composed of corps of infantry and cavalry along with supporting artillery and commanders. Armies may also include semi-independent provost, supply and engineering units. Armies are usually commanded by Senior Major Generals or Lieutenant Generals.



50th Pennsylvania Infantry, February 1862, Beaufort, S.C. (Library of Congress)

III. Formation and Facing

A) General

This section of rules can cause considerable confusion on the gaming table because of problems with units not fitting perfectly within the constraints of terrain. My hearty recommendation is toward stretching the letter of the rule a bit to allow units to fit within these constraints a little more easily.

B) Definitions

Formation: The alignment of the various components of a unit with respect to each other. Examples are line, column, skirmish, square and en masse. In most cases it takes 1/2 move for a unit to change from one formation to another.

Facing: The direction in which a particular casting or group of castings are pointed.

Unit: A partial, complete or combined regiment of infantry or cavalry or battery of artillery acting as single unit. The entire unit must have the same formation and facing.

C) Number of Ranks Deep

Part of the function of a unit's formation is how many ranks deep that unit is in. This is determined by the following procedures.

- 1) Count the number of castings that are in the unit and all other units behind, but within 8" of the front.
- 2) Measure the number of inches across the front of the unit. For infantry only, multiply this number by two.
- 3) Divide the count by the frontage and round to the nearest of the following numbers. Values half-way between two numbers should be rounded up.

<u>NUMBER OF RANKS DEEP</u>
3 (close order)
2 (close order)
1 (close order)
1/2 (open order)
1/3 (open order)

- 4) Note that for purposes of hostile fire, the frontage of a unit is the amount of frontage presented to the enemy unit firing. For example, a unit of 20 castings in 10 by 2 line formation might be only two ranks deep if fired on from the front, but might be three ranks deep if fired on from the flank (enfilade).
- 5) Artillery units are always one rank deep.

Note that this procedure can usually be dispensed with, if a little estimating and common sense is used.

D) Artillery

Artillery can be in one of two different formations. It takes 1/2 move for artillery to change formation (see the sequence of play rules). Limbered artillery will be pointed away from the known enemy lines to differentiate between limbered and unlimbered which will face the target.

- 1) Limbered: May move, but not fire. This is the traveling formation for artillery.
- 2) Unlimbered: May not move, may fire and change facing.

E) Open Order and Close Order Formations

Infantry and cavalry can be either of two types of formations. These are named open order and close order formations.

- 1) A unit is in open formation when its components are arranged such that the unit is considered to be 1/2 rank deep or less.
- 2) A unit is in closed formation when it is not in open formation.

F) Unit Integrity

- 1) A unit must have all of its castings facing in the same direction and the unit must have a consistent number of ranks deep across its front.
- 2) A unit must split up into two or more separate units in order to face more than one direction at a time or to have different components of the unit move independently. The act of splitting up units can get out of hand, so it is discussed in the advanced rules. If you are not using the advanced rules, this is not allowed.

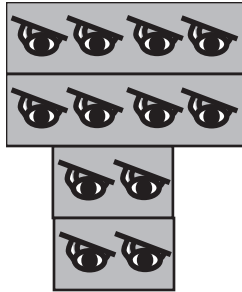
G) Recognized Formations

The following tables are provided for reference purposes, showing the effect of various organizations of regiments. The pictures show how the stands of a regiment are positioned to reflect each formation.

- 1) Line



The line formation imparts no special abilities or handicaps to the unit. It is the base formation upon which the rules are modeled. Units in line are usually arranged 2 ranks deep. Lines that are only 1 rank deep may not perform split/moves.



2) Column

Movement +1". Fire only 1 rank in any direction.

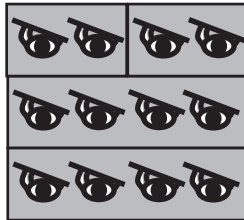
Stands of a unit in column formation are placed in a single line. This formation is primarily intended for rapid movement of the unit.



3) Skirmish

Movement +2"

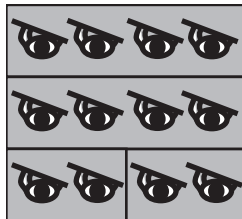
Units in skirmish formation are governed by all rules of the line formation except for the bonus in movement. Skirmish formation is really nothing more than a very thin line formation.



4) Company Column

Fire 1 rank in any direction: Complete formation/facing change only takes 1/2 turn: Movement +1". May not perform split/move.

A series of columns parallel to each other. Used for rapid movement over rough terrain.



5) En masse

Fire 1 rank in any direction: Does not take 1/2 move to change into this formation, no matter what the previous formation. Phasing player may move units into this formation at any time with no cost. Once in this formation, there is no penalty for making facing changes. When checking morale, check on the next highest results table.

En masse refers to the confused state that existed in many units after a few minutes of battle. Note that since the organization of company column and en masse look the same on a wargaming table, the commander of such troops must make it clear which formation his troops are in at all times.

Note: Fire one rank in any direction means that the total number of castings in the lead rank (to the front) is the total number of castings that may fire from that unit and they may fire in any direction or

combination of directions.

H) Cavalry

Cavalry must take a formation change to mount or dismount. Also 1/4 of the castings must remain behind to hold horses or the unit must remain dismounted for the remainder of the game. Dismounted cavalry fight exactly like infantry. Mounted cavalry may only fire if in contact with the enemy.

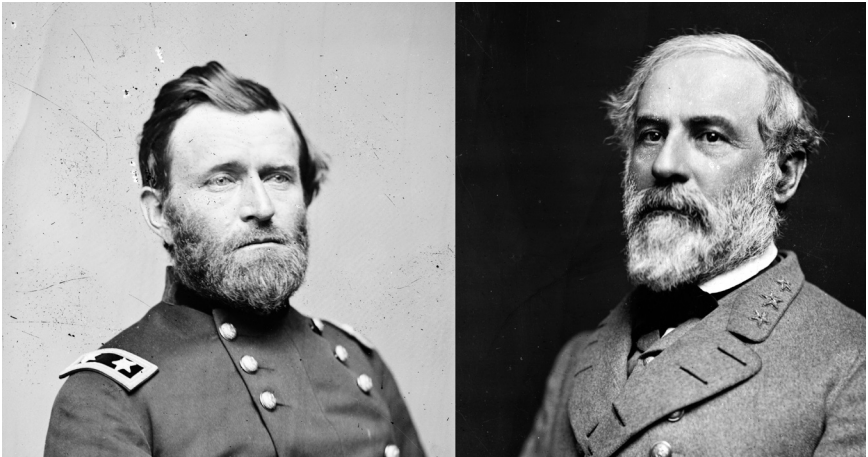
I) Facing

Facing of a unit may only be changed in accordance with the following rules.

- 1) Rules not in this section.
 - i) Sequence of Play.
 - ii) Road Movement.
- 2) Infantry units may change facing 180 degrees at no penalty during the units movement and fire phase of the sequence of play.

J) Laying Down

Commanders may have their units lay down simply by ordering them to. Units may not be ordered to advance and then lay down in the same turn. They could be ordered to advance to a obvious point on the battlefield and lay down when they reach it, next turn. Units laying down may not move, until ordered to standup and then move. Units laying down, fire at a plus two modifier to weapons effectiveness divisor (see fire combat, chapter V). Units that are laying down, may get beneficial modifiers when being fired upon. Since movement takes place before fire, the modifiers to fire combat take place on the same turn as when the unit is ordered to lay down.



Grant and Lee - Heroes of the North and South (Library of Congress)

IV. Movement

A) General

Each inch on the wargame table represents 25 yards of “real-world” distance. Each complete turn represents 2 and 1/2 minutes of “real-world” time. These were the basic parameters used to define the movement distances for each kind of unit in Iron Brigade.

B) Definitions

Infantry: Any unit moving on foot and only carrying small arms and personal necessities.

Cavalry: Any unit moving by horseback and not burdened with wagons, caissons, or other kinds of vehicles.

Mounted Artillery: Artillery whose primary mode of operation is by foot. Note that in special cases mounted artillery could move at a rapid pace for short distances by mounting all of the gunners on caissons and limbers. This is simulated in this game through the use of the double-time rule.

Horse Artillery: An artillery unit who has its entire complement mounted on horses.

Heavy Equipment: Wagons, siege artillery and other awkward, slow moving vehicles. Also items hand carried that normally would not be. ie; ammunition boxes.

C) Exceptional Movement Cases

- 1) Units moving over several terrain types in one turn must accumulate all modifiers to the base movement no matter how little distance is spent in each type of terrain.
- 2) Units that are only partially in an unfavorable type of terrain must move at the speed of the slowest part of the unit.
- 3) Units may only move in the direction they are facing.
- 4) Units in open formation may freely move through other units with no penalty.
- 5) Units in closed formation that move though any other formation may not perform a split move and must lose one level of morale.
- 6) Formed units that do not move, but have other units move through their ranks add one to the current level of morale.

D) Movement of Officers

Mounted officer castings move at the speed of open formation cavalry. Un-mounted officer castings move at the speed of open formation infantry. Officers do not need orders to move. They are moved at the whim of the wargamer during the movement phase of the game. Since they have no morale, as such, officers may double-time every turn in which they do not give orders. Also, an officer that is double timing, is considered in transit that turn and can not affect the morale of any unit until the next turn. An officer can not double time and in the same turn, give orders or affect morale.

E) Crossing Streams and Rivers

- 1) Fording; use the movement rules when fording rivers. Below is a chart of maximum stream depths that may be forded by the various types of troops. If the game is being run by a non-partial referee, the

depth of the river may be unknown to the attacker at the beginning of the game. When the scenario is set up, the referee must keep a chart of the depths at each point on the river. A unit may spend one turn sounding the depth of a possible ford. After that turn, the referee will reveal the depth of the water. If a unit attempts to cross a river deeper than allowed, one casualty is taken, one morale level lost and the crossing is aborted.

UNIT TYPE	CURRENT		WATERTIGHT
	STRONG	WEAK OR NONE	AMMO BOXES
Infantry	39"	51"	-
Cavalry	51"	51"	-
Artillery	27.5"	27.5"	40"

2) By pontoon boat; Infantry may cross bodies of water in pontoon boats. When on wagons, pontoon boats move like heavy equipment. They take four turns to unload from wagons. Each pontoon boat may carry four castings. Pontoon boats move at a rate of 2" per turn on water.

F) Conflicts in Movement

Should two units be ordered to the same position in the same turn, the two units meet in a proportional distance relative to their movement capabilities from their original starting position.

G) Movement Chart

UNIT TYPE	INFANTRY	CAVALRY	ARTILLERY	HEAVY EQUIP	
Movement	7 (3 Back)	14	12 (14horse)	10	
TERRAIN EFFECTS					VISIBILITY
Wall	-1	-8	*	*	
Fence	-1	-4	-5	-5	
Steep Hill	-2	-6	-9	*	
Rough	-2	-7	-8	*	
Woods	-3	-10	-9	*	4
Dense Woods**	-4	-11	*	*	2
Swamp**	-4	-9	*	*	
Roads***	+2	+4	+4	+3	
Fords**	-4	-8	-7	-6	
Open Order	+2	+2	*	*	
Column	+1	+2	*	*	
En Mass	+1	+1	*	*	
Co. Column	+1	+1	*	*	
Close Order-					
Moving Through					
Other Units****	-2	-4	*	*	

* Not allowed

** Unit may not perform split/move.

*** Unit may not perform split/move. Also while following a road, facing changes are allowed with no penalty to movement.

**** Unit may not perform split/move. Unit subtracts one from current morale level. (except when on roads, breechloader equipped troops may always perform split moves)

V. Fire Combat

A) General

The fire combat system is designed to be easily learned and quickly played. However, it is closely tied in with the morale system, because a morale check is required everytime a unit fires. An understanding of the morale rules is essential in understanding the fire combat rules and visa versa.

B) Procedure

1) Figure the results of fire combat

i) Find the weapon base effectiveness by consulting the appropriate weapon table. There are three or four numbers in each row in the weapon's table. Each column represents a particular range for that weapon. The topmost number is the minimum distance for that range. The number in the middle row is the maximum distance for that range. Distances are measured in inches. The number on the bottom, below the line, is the base weapons effectiveness for that distance. Measure the average distance from firing unit to target unit. If the average range is between two ranges, round the range up to the next highest range of the weapon table. The bottom number in the table is the the base weapons effectiveness.

ii) Calculate the modified weapons effectiveness by modifying the base effectiveness according to the chart on the next page. "Add 2" means that you add 2 to the weapons effectiveness. "Subtract 1" means that you subtract 1 from the weapons effectiveness. Sum all appropriate modifiers and add to the base weapon effectiveness found in (i) above. This modified weapon effectiveness is a divisor to be used in the following steps.

iii) For each 4 castings of infantry or cavalry or 2 castings of artillery (round down fractions), firing, you get to roll one six sided die. Thus for 20 castings, you would have 5 equivalent stands and would roll 5 dice. You always round down, so 19 castings would be 4 equivalent stands. See the special rule below, if you have less than 1 equivalent stand available to attack.

iv) Roll the required number of dice and sum getting a total attack factor.

v) Divide the attack factor by the modified weapon effectiveness to get number of casualties (dropping any remaining fractions). For example, with the sum of 5 dice being 19 divided by an modified weapon effectiveness of 5 would result in three casualties.

vi) The defender may lose morale levels based on the results of this attack. The defender should roll 1 die for each 4 castings of infantry or cavalry or 2 castings of artillery remaining in the target unit (rounding down). Add the result of these dice together. Subtract this sum from the number of casualties times 5 and the result is the number of morale levels lost by the targeted unit. Mark this off of the targeted unit's current morale. If the defender has less than 4 castings of infantry or cavalry, subtract the shortage from the roll of 1 dice. If the defender has only 1 casting of artillery crew remaining, divide the result of the roll by 2 (rounding down). For example 3 castings of infantry rolls one die and subtracts one. 2 castings rolls one die and subtracts two and one casting throws one die and subtracts three. The defender does not gain morale by exceeding the number of casualties times 5.

Example: 21 castings firing at 16 castings with a modified weapon effectiveness of four. The result is that the attacker rolls five dice which result in 13. Divide 13 by four(weapon effectiveness) and the defender loses three castings. The defender has 13 castings left and rolls three dice and gets a result of 11. Multiply the three lost castings by five and subtract 11(the die roll). The result is four, meaning the defender loses four levels of morale.

2) Units receiving and firing in the same turn

Each opposing unit rolls one 6 sided die. The highest roll, gets to fire first. The unit firing second, takes casualties and morale loss, before returning fire. If the die roll is a tie, both fire together. In this case, don't take losses or morale loss, until both units have fired. Subtract 2 from this roll, for any unit making a split move and fire in the same turn. If multiple units are firing at one target, the target only rolls once and this single result is compared to the rolls of all opposing units.

3) If a firing infantry or cavalry unit has less than four castings or equivalent

The unit attacks with one 6 sided die, but subtract one from the die for every casting short of the 4 castings. For example, 1 single casting would roll 1 die, and subtract 3 from the die roll before dividing by weapons effectiveness to determine casualties.

4) If a firing artillery unit has only 1 crew casting left.

Roll one dice and divide the result by 2 (rounding down).

<u>TARGET PROTECTION</u>	<u>EFFECT</u>
Entrenchments (90% protection)	Add 4
Hasty Works, High Wall (75% protection)	Add 3
Target Laying Down (50% protection)	Add 2
Woods, Wood Fence (25% protection)	Add 1

<u>TARGET FORMATION</u>	
3 Ranks Deep	Subtract 1*
2 Ranks Deep	No Change
1 Rank Deep	Add 1
1/2 Rank Deep	Add 2
1/3 Rank Deep	Add 3

<u>FIRING UNIT MORALE</u>	
Level 6 (elite unit)	Subtract 1
Level 5 or Level 4	No Shift
Level 3	Add 1
Level 2	Add 2
Level 1	Add 3
Level 0	No Fire

<u>FIRING UNIT MOVEMENT/FORMATION</u>	
Split Movement	Add 2
Laying Down (muzzle-loaders only)	Add 2
First Fire of Game for Unit (small arms only)	Subtract 1

<u>SPECIAL</u>	
Artillery Acquired Fire	Subtract 1
Defender in Perilous Situation	Subtract 2**

All changes affect the fire effectiveness divisor, not the actual number rolled on the dice.

* If there are multiple units involved split the casualties among the units. Both units independantly roll to save morale levels due to casualties.

** Defender multiplies loss by 10 instead of 5 when attempting to save morale step loss.

C) Who Can Fire

- 1) The fire zone for each unit extends 45 degrees to either side of straight ahead of the center of the unit.
- 2) Units may only fire over or through other units in the following cases.
 - i) Units may fire through enemy lines that are 1/3 ranks deep.
 - ii) Units may fire over the top of another unit if at least one of the units involved is on a different elevation and the following condition is met. The unit to be fired over must be 1/3 the distance from the unit on the higher elevation to the lower or less. If the unit to be fired on is in a depression between two units the two units on the higher elevation may fire at each other. Use your common sense.
- 3) Units may only fire at units they can see. Woods restrict visibility of units looking into or through them. Units looking through dense woods may only see 2 inches. Units in other kinds of woods may see 4 inches. Units behind walls, fences, in buildings, in trenches or other kind of total cover may not be seen unless they are shooting.
- 4) Units may fire 2 ranks deep (see formation rules for exceptions).

D) Artillery Acquired Fire

- 1) Artillery units firing at the same point on the battlefield, on consecutive turns, receive the acquired fire bonus on second and subsequent turns.

E) Determining Ranges

- 1) When measuring ranges, always measure from the center of the front of the stand of the unit firing to the nearest portion of the stand of the target unit. Ranges are always rounded up to the next inch.
- 2) Ranges for small arms are divided into three zones, short, medium and long.
- 3) Ranges for artillery weapons are divided in four zones, point blank, short, medium and long.

F) Splitting and Combining Fire

- 1) Different units may combine their fire. However, the combined fire must be taken with the highest fire effect divisor of any of the units involved.
- 2) A single unit may also split its castings to fire at several target units in any manner desired by the firing unit's commander.

G) Defender in Perilous Situation

- 1) In cases where the attacker has the defender at a significant tactical disadvantage, two is subtracted from the modified fire effectiveness. In addition the target uses a10 multiplier instead of 5 when throwing to save morale step loss.
 - i) Flank, rear and surprise attacks.
 - ii) First fire against troops never exposed to enemy fire.
 - iii) First fire against troops never exposed to fire from repeaters.
 - iv) Target is attempting to cross difficult terrain or obstacles such as a ford, bridge or abatis.
 - v) Target is in process of changing formation or not in normal battlefield formation.

- vi) Other situations where an attacker has a major tactical advantage over the target.
- 2) Through an umpire or general agreement of the players, other situations may be declared to be perilous situations, but use of the perilous situation rule should always be an exceptional case.

H) Hitting Officers

- 1) During any turn in which a unit takes casualties that has an officer in the line of fire, the officer may become a casualty. The line of fire is determined to be either in contact with a unit receiving fire or within 8 inches of that unit and directly in line with that unit receiving fire and the enemy unit that is firing.
- 2) If the officer is unmounted, a die roll of six will cause the officer to become a casualty. If mounted, a roll of five or six causes the same result. Wounded officers are removed immediately from the battlefield. Any unit in contact with the personality when he is hit, gets a deduction to the unit's rally die roll in the next rally phase. See morale rules for details.
- 3) If an officer is killed or wounded he is replaced by his senior subordinate officer after 0-2 turns. The replacement officer is placed either at the location of the previous officer at the the start of the turn or with the unit he would have been commanding prior to his battlefield promotion. The replacement officer can give orders that same turn that he is placed on the field.

DIE ROLL	REPLACEMENT OFFICER ARRIVES
1-2	Start of Next Turn
3-4	1 Turn Delay
5-6	2 Turns Delay

- 3) Replacement officers can either be predetermined by the scenario or randomly generated. If you want to do random replacement, use the following table.

DIE ROLL	REPLACEMENT
1	Hero
2	Good
3-4	Average
5	Poor
6	Bad



Washington, D.C. Wiard 6-pdr. gun at the Arsenal (Library of Congress)

VI. Morale

A) General

Morale is the heart of the Iron Brigade system. In the play of the game, the “morale” level really reflects more than just the state of mind of the individual soldiers of the unit. This level really reflects both unit integrity and unit morale. Morale checks result from movement and fire of units on the playing surface. Units maintain morale with a six sided die placed behind each unit. 6 is the highest morale and a zero is the lowest (and is represented by covering it with something). You may decide to use white die for regular troops, red for elite and green for poor troops. An alternative is to reflect these morale levels on a pegboard with the unit’s identity written alongside its track. Different colored pegs may be used for the different grades of morale. A pegboard may be kept out view of the opponent, so he will be uncertain as to the quality and state of the troops that he is facing.

B) Morale Classes

- 1) Units may have the characteristics of one of the following base morale classes.
 - i) Elite units are battle hardened veterans of outstanding quality. Elite units will rarely break, and when they do, will quickly recover. Elite units have a base morale value of 6.
 - ii) Regular units are good quality units with some combat experience. Regular units make up the bulk of the field armies by the middle of the war. Regular units have a base morale value of 5.
 - iii) Poor units will usually have one or two of the following defects. Inexperience, poor training, exhaustion, or bad leadership. Should they have three or more defects, they would be an even poorer class of unit. The majority of units at the beginning of the war should be considered in this class because of inexperience. Many units at the end of the war could also be considered in this class because of battle fatigue. Poor units have a base morale value of 4.
 - iv) Garrison units have little motivation, but plenty of training. They can be useful for defensive purposes, but only rarely will they attack successfully. Note that some garrison troops evolved into fine fighting units after being transferred to a field army. Garrison and other similar quality units have a base morale value of 3.
 - v) Militia are units with short enlistments, little or no training and inexperienced leaders. Militia have some motivation, but little capability to put up a good fight. Note that some troops with short enlistments fought very well despite the lack of experience and training and would not be considered to be in this class. Militia and other similar quality units have a base morale value of 2.
 - vi) Rabble are badly led units with almost no will to fight. They will not advance against a known enemy. When an enemy advances against them they will usually run for cover the moment the first casualties are taken, if not before. Rabble are subject to the pinned rule when they are not broken. Rabble have a base morale value of 1.
- 2) A unit’s base morale is not affected by combat.
- 3) A unit does have a combat morale that is an indicator of the unit’s current effectiveness. Combat morale of every unit in a battle must be maintained on a peg board or on a six sided die placed behind each unit.
- 4) Units may not attain a higher combat morale than their base morale. Units may not attain a lower combat morale than zero.
- 5) In these rules, the word morale refers to combat morale unless prefaced by the word base.

C) Effects of Reduced Morale

- 1) Units retreating due to loss of morale must retreat in a direction away from the units that caused the loss of morale. They may avoid retreating directly through unbroken friendly infantry or cavalry in their retreat path if the alternate path does not cause the retreating unit to end the move at a significantly closer range to the enemy. Units retreating toward artillery units may not alter their path to avoid passing through the artillery. Broken units always move as if in open formation.
- 2) Units with no path of retreat must surrender. For the purposes of this game no guards are required. The captured castings may be moved by the capturing player. The captured troops may be freed only if they come into contact with a friendly unit.
- 3) Units within 1 inch of enemy castings when they break, suffer 33 percent loss of castings as captured. Round captures down.
- 4) Artillery in contact with the enemy lose all their guns in addition to the 33 percent crew captured. The crew can be represented by individual castings, but the cannon casting remains in place on the board where it is captured. This is the only rule which differentiates between artillery guns and the crew serving them. The crew could rally and if possession of the guns is regained, the crew could return and resume firing. Otherwise the crew can only fire as cavalry with pistols for the remainder of the game.
- 5) Artillery retreat rules are exactly the same as infantry or cavalry. Note that pinned artillery may not fire.
- 6) Units in open with a combat morale of 1 (pinned) must go prone or retreat to cover, if the enemy is in sight. These pinned units may not advance and may not move in the same turn they rally to morale level 2.

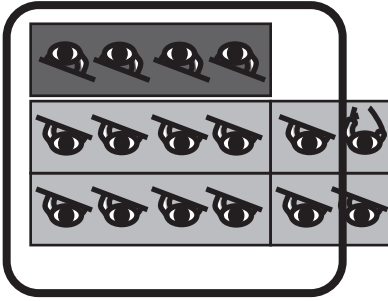
D) How a Unit's Morale Decreases.

- 1) A unit may lose morale levels each time it suffers hostile fire. Consult the fire combat rules to determine the number of morale levels lost.
- 2) When a unit's morale level gets reduced to 0, then all friendly units within sight must check morale during their next morale phase if the unit with low morale does not rally first (see the sequence of play rules). Friendly units need only check morale during the first morale phase for each broken unit in sight; i.e. if unit A breaks and spends two turns retreating past unit B, unit B is only required to check morale once (during the first morale phase after unit A broke).
 - i) If the unit checking morale, already has a morale of 0 it is exempt from this rule.
 - ii) If a unit has already checked morale for this particular retreating unit, it is exempt from this rule.
 - iii) If less than 4 castings of infantry or cavalry or 1 casting of artillery remain in the retreating unit, no morale check is required.
 - iv) Roll 1 die for each 4 castings of infantry or cavalry or 2 castings of artillery in the retreating unit (rounding down). Divide the result by the number 7. The result is the base panic effect for this unit for this turn. This same result is used for all units in sight of this unit that need to check morale.
 - v) Each unit in sight of the retreating unit, rolls 1 die for each 4 castings or infantry or cavalry or 2 castings of artillery (round down). Sum the dice and divide by 10. This is the saving effect for that unit.
 - vi) Subtract the panic effect from the saving effect to determine morale loss for the unit. Positive numbers are treated as 0.

3) Morale levels may be lost when enemy units are in contact with a friendly unit during the morale phase of the sequence of play.

i) Each side counts the number of castings engaged and rolls one six sided die for each 4 castings engaged (rounded down). If less than 4 castings are engaged, for each casting below 4 that you are, subtract 1 from the roll of a single die. Thus 2 castings would roll one die and subtract two.

ii) Count the number of castings touching the enemy castings plus the number of castings in a continuous line behind the castings in contact. In the diagram below, only the castings within the dark black outline are actually counted for these purposes.



iii) Compute the difference between the two rolls and divide by 3 (round down).

iv) The result is the number of morale levels lost by the unit with the smaller total sum on the die. Mark the morale loss off of the units morale.

4) A unit may lose up to 2 morale levels whenever a unit moves during the double-quick part of the sequence of play. Roll a six sided die and consult the following chart to determine number of levels lost.

DIE ROLL	UNIT BASE MORALE		
	4	5	6
1	3 Levels	2 Levels	2 Levels
2	2 Levels	2 Levels	1 Level
3	2 Levels	1 Level	1 Level
4	1 Level	1 Level	-
5	1 Level	-	-
6	-	-	-

E) How a Unit Regains Morale Levels

1) A unit may only regain morale levels during the rally phase of the sequence of play. At that time any unit with a combat morale lower than its base morale level may attempt to rally.

2) The player attempting to rally a unit rolls a die and adds modifiers based on the following.

i) The unit's base morale rally/double modifier. See the chart at end of this chapter for the rally/double modifier associated with each base morale level.

ii) The modifier for any officer in contact with the unit. If multiple officers are in contact with a unit, only the better officer can affect rally of that unit. Officer bonuses are NOT cumulative. A officer hit while with the unit in the most recent fire phase will cause a deduction instead of addition to the rally die roll. This deduction is only in effect for the one turn following the turn when the officer was hit.

OFFICER	MODIFIER
Hero	+6
Good	+4
Normal	+2
Poor	+1
Bad	Roll-> 1-2=(-2) : 3-4=no Effect : 5-6=(+2)

iii) The modified die roll is compared to the following table and the unit's morale track adjusted accordingly.

MODIFIED ROLL	MORALE CHANGE
(-3) or less	-2
(-1) or (-2)	-1
0 to 4	-
5 to 6	+1
7 to 8	+2
9 to 10	+3
11 or more	+4

iv) Units with a morale of 0 may not move in the same turn it rallies to a higher morale level. It must retreat if it attempts to rally and fails to gain any morale levels.

v) Units may never have a combat morale higher than their base morale.

F) Morale Effects Charts

UNIT TYPE	BASE MORALE	RALLY/DOUBLE	SPLIT MOVE OK
Elite	6	+1	yes
Regular	5	0	yes
Poor	4	-1	no
Garrison	3	-2	no
Militia	2	-3	no
Rable	1	-4	no

COMBAT MORALE	FIRE EFFECTS	MOVEMENT EFFECT	DOUBLE TIME
6	Subtract 1	*	Allowed
5	*	*	Allowed
4	*	*	Allowed
3	Add 1	*	Not Allowed
2	Add 2	*	Not Allowed
1	Add 3	No Advance***	Not Allowed
0	Not Allowed	Must Retreat**	Not Allowed

Notes:

* No effect or not allowed.

** Unit must retreat in an open formation.

*** Units in open must lay down or retreat to cover, if in sight of the enemy.

VII. Advanced Organization

A) General

These rules, like all of the advanced rules, are intended to provide the game master with ways to add variety to the game. Note that I usually play the basic game and add a couple of the advanced rules only for variety. Special care should especially be taken with these advanced organization rules as too many different units scattered across the gaming table can lead to confusion or slow game.

B) Definitions

Sub-Unit: A portion of a regiment that has detached from the main portion. A sub-unit is treated in these rules as if it were an independent regiment.

C) Reorganizations

A unit must split up into two or more separate units in order to have different components of the unit move independently.

- 1) A unit may split into several sub-units at no cost during a formation change. A sub-unit assumes its parent unit's current morale when it splits off.
- 2) Any unit or sub-unit may combine with other units or sub-units during a formation change. Sub-units may combine with sub-units of different parent units and form composite units. When the units recombine, the newly formed unit assumes the lowest morale of all units recombining.
- 3) Each sub-unit then can and must act independently and will do so until it reforms with the parent or other unit. A sub-unit is considered an independent unit in all respects including morale. A separate morale track must be maintained for each sub-unit in play.
- 4) Units with different portions under different morale conditions may be split apart when checking morale. An example of this would be an infantry regiment on a long skirmish line. If only one half of this unit comes under fire, then the unit could be broken into two parts, one with a reduced morale due to the hostile fire.

D) New Formations

Players are allowed to create their own formations if the game has a referee. Otherwise players should stick to using these recommended formations as described in chapter III, facing and formations.

E) Skirmishers

Skirmishers are independent units that are split off from parent units. However as they gain open order, the stands should be replaced by single castings. They may recombine again and the single casting be replaced by stands as in reforming, which is described above.

F) Legions

Legions are units that usually combine a battalion (two or more companies) of infantry, a section of artillery and a company of cavalry. As long as all sections of the legion remain in contact with each other they maintain one morale level. However, using the reorganization rule above, each portion of the unit may split off and act independently.

G) Regimental Command

One casting in each unit represents the commanding officers of the unit. This casting can be represented by an officer casting, drummer, bugler or other special type casting. Anytime a unit suffers a loss of more than 1 morale level in one morale check do to fire combat, make another check to see if the regimental command is still intact.

Roll on a 6 Sided Die to see if fire combat results in loss of command.

# OF MORALE LEVELS LOST	UNIT BASE MORALE	MORALE LEVEL
	5	6
2	5-6	6
3	4-6	5-6
4	3-6	4-6
5	2-6	3-6
6	1-6	2-6

The command casting is not lost in any other manner than through this table (unless it is the last casting in the unit). Once the regimental command is lost, the unit suffers a single drop in base morale. i.e. an elite unit becomes regular grade, and a regular grade unit becomes poorgrade. Poor grade units that lose their command, get a rally rating of 0 and may not advance unless a personality casting accompanies the unit.

H) Snipers

The sniper's chart is an additional optional weapon classification. It really refers more about the marksmanship and the assignment of the unit to special sharpshooting duties. These units should be of small size, 1 or 2 castings, and are allowed to shoot specifically at mounted personality figures instead of normal fire combat. Because of the special nature of personality figures, they are always considered 1/3 ranks deep.

SNIPER BASE FIRE EFFECTIVENESS		
0	7	18
6	17	28
1	2	3



Company F, 114th Pennsylvania Infantry, August 1864, Petersburg, VA
(Library of Congress)

VIII. Advanced Movement

A) General

These rules are definitely optional. Players must decide before the start of play which rules in this section, if any, are to be used for that game.

B) Mounted and Horse Artillery Differences

Unlike mounted artillery (term used for foot artillery during the time of the Civil War), horse artillery have all of their crews mounted on horses. Therefore, horse artillery get the movement bonus mentioned in the movement tables.

Mounted artillery would mount their crews on the limbers and caissons in an emergency for rapid movement. Therefore, mounted artillery may not move in the double quick phase unless the unit does a formation change to put the crews on limbers and caissons. It is not necessary to undo this formation change when the battery unlimbers.

C) Movement Differences for Different Cannon

Table of movement effects based on weight of cannon (see battle manual for more information).

CANNON	MOVEMENT DIFFERENCES
Mountain	normal movement - takes whole turn to unlimber
Light	+1" to base movement capabilities
Medium	no changes.
Heavy	-1" to base movement capabilities

D) Abatis

Only infantry units may move through abatis. They may move at 1/2 rough terrain speed. Paths may be cleared through the abatis. 1 casting may clear a path 1/2" wide in 2 turns.

E) Moats

Only infantry units may cross moats or ditches. They take 1 complete turn to cross unless they are filled in. Filling in a ditch takes 2 turns for 1 casting per 1/2" of front provided the materials are available.

F) Hidden Movement

This rule is not to be used without a referee. Units not in sight of the enemy may be kept off of the gaming table until they are spotted. Hills and woods block the line of sight of enemy units. Use your common sense. Units on the edge of woods are not spotted until the enemy closes within 4 inches or the units in the woods move or fire. Units stationary in woods may sometimes be located by enemy artillery firing blind towards the woods. The referee computes the fire and discloses losses only to the defender. The defenders, if present, are discovered only if the defender losses at least 1 step in morale. Units may also hide behind high walls and railroad embankments as long as they remain stationary.

IX. Setting Up Your Game

A) General

This section of Iron Brigade is intended to provide information on organizing miniature armies and battlefield for the play of the game.

B) Troops

Note that for infantry and cavalry units, one casting denoting the command for that unit should be mounted in place of one casting on one stand for that unit. This for use in the advanced organization rules.

	15MM base sizes		25 MM base sizes	
	Front	Depth	Front	Depth
Infantry 4 figure stands	1 1/2"	1/2"	2"	3/4"
Infantry 2 figure stands	3/4"	1/2"	1"	3/4"
Cavalry 2 figure stands	1 1/2"	1 1/2"	2"	2"
Artillery 4 gun batteries	1"	1 1/2"	1 1/2"	2"
Artillery 6 gun batteries	1 1/4"	1 1/2"	2"	3"
Personality figure	1/2"	3/4"	1/2"	1"

C) Terrain

Here are some suggestions for making some model terrain to go with your model soldiers.

- 1) Roads - use strips of brown felt about 2" wide and long enough to cross the area you will be using as a battlefield.
- 2) Rivers - same as for roads, but use blue felt in various widths to make the width of the body of water desired.
- 3) Hills - cut some 3/4" inch pines planks into hexagons about 4" across. Place them a top each other to get the desired hill.
- 4) Fences, buildings, man-made objects in general - Most of these are best purchased at your local hobby shop.
- 5) Woods - One again, unless you are the creative type, these are best purchased your local hobby shop.
- 6) Swamps - You can use light green felt in various shapes to match the shape of the swamp you wish to create.

D) Taking Casualties

Casualties can be kept track of in two ways; the easiest is to purchase a quantity of casualty "caps" to meet your needs. These caps are placed over the head of castings as they become casualties. In a pinch small rubber bands can be used instead. The other method is to place toothpicks between the castings that are casualties and those that are not, on each stand. Those to the left of the toothpick should be the casualties. Remove stands from the battlefield when all castings on the stand are casualties.

E) Distribution of Troop Types

Armies are composed mostly of infantry, cavalry and artillery. The approximate proportions of each usually will be about 80% infantry, 13% cavalry, and 7% artillery. For artillery each 20 men translate into approximately 1 gun. Note that armies of less than 15000 men may have quite different ratios due to special missions (such as a cavalry raid). For larger armies a percentage of the artillery will be horse artillery. This will be about 1 horse artillery piece for each 200 cavalymen.

F) Basic Painting Guide

Artillery and wagon carriages were painted a color called olive. At least two of my sources indicate that this really was a mustard yellow color with a hint of green. Some people will say that it was a dark green. I have found no reliable sources confirming this. Some other people have suggested that Confederates painted some of their carriages grey. Although this is possible, I have not come across any reliable evidence in this regard. Bronze cannon barrels were simply polished to a bright sheen. Iron or steel cannon barrels and other ironwork were painted a glossy black.

Musket barrels were finished by a process called browning, but soldiers often polished their weapons down to the bare steel.

Cavalry regiments were supposed to be equipped with mounts of entirely the same color.

Listed below are the basic uniforms of each side during the war. Note that some fine uniform books are available on the market and this listing just provides the basic coloring of the Yank and the Reb.

	YANKEE	REBEL
Shoes	Black	Black/Brown
Socks	White	White
Pants	Light Blue	Lightblue/Grey/Butternut
Shirt	White/Lt. Grey	White/ Lt. Grey
Sack Coat	Dark Blue	Grey/Butternut
Great Coat	Light Blue	Grey/Butternut
Kepi	Dark Blue	Grey/Butternut
Slouch Hat	Black	Grey/Black/Brown
Canteen	Blue Cloth Cover	Wood
Haversack	Tarred Black/White	Tarred Black/White
Belts & Leather	Black	Black/brown
Gun Barrel	Brown/Bright Steel	Brown/steel
Knapsack	Black	Black
Blanket	Grey	Grey
Trim-infantry	Light Blue	Light Blue
Cavalry	Yellow	Yellow
Artillery	Red	Red

Note: Butternut could be light brown, buff, yellowish brown or even a olive-brown.

G) 15mm vs 25 mm Scales

Although these rules are designed around 25mm castings, they will play quite well when used with 15mm castings. All ranges and movement distances remain constant. The 15mm size stands will actually provide a more realistic density of troops than 25mm stands.

X. Alternate Fire Combat

A. General

This alternate fire combat system is derived from the previous generation of “Iron Brigade” wargame rules. It leaves less to chance and provides more consistent results which may be to some players taste. All other rules in the game are remain the same.

B. Procedure

- 1) Calculate the modified weapons effectiveness using the same procedure as in the regular rules.
- 2) Find the result table referred to by the modified weapon effectiveness. Effectiveness translates directly into the results table used. Higher than 10 is equal to 10. Lower than 1 is table 1.
- 3) Pick the horizontal row that corresponds to the number of castings in the unit firing as listed in the left hand column (rounding down the actual number to a corresponding row). Follow that horizontal row across to the casualty column (which is the next one to the right), to determine target casualties in castings. There will be two numbers present in the form (a>b).
- 4) a=number of casualties lost
- 5) b=number the attacker must roll above to cause another casualty
- 6) The attacker should roll a six sided die and the defender mark or remove the casualties.
- 7) Find the column that corresponds to the number of target castings (before taking casualties in step 4), rounded down. Follow it down until it meets the row chosen in 3). There will be two numbers present in the form (a>b).
- 8) a=number of morale levels lost
- 9) b=number the defender must roll above to save another level from being lost.
- 10)The defender should roll a six sided die. Mark the morale loss off of the targets morale track.
- 11)Remember for fire combat, die rolls need to beat the number shown for the person rolling the die to get the benefit/advantage.
- 12)In perilous situations, shift one column to the left (assume one column less defender castings) in order to determine morale levels lost.
- 13) When attacking with artillery double the number attacking castings.
- 14) When checking morale for artillery double the number of defending castings.

Example: 11 castings firing at 8 castings on results table 6. The result for casualties is 1>4 castings lost. If the attacker rolls 5 or 6, 2 castings are lost, otherwise 1 casting is lost. The result for morale lost is 1>2. If the defender rolls a 1 or 2, 2 morale levels are lost, otherwise 1 is lost. Actually 11 to 13 castings firing and 8 to 12 target castings would yield the same result.

TABLE 10

ATT	CAS	1	2	4	8	13	21
1	0>5	-	-	-	-	-	-
2	0>5	-	-	-	-	-	-
4	0>5	1>2	-	-	-	-	-
6	0>5	2>5	0>4	-	-	-	-
8	0>4	4>2	1>2	-	-	-	-
11	0>4	6>2	2>3	0>3	-	-	-
14	0>3	R	3>3	1>1	-	-	-
17	0>3	R	5>4	2>5	0>5	0>1	-
21	0>2	R	6>4	3>2	1>2	0>2	-
25	0>2	R	R	3>5	1>3	0>3	-

TABLE 9

ATT	CAS	1	2	4	8	13	21
1	0>5	-	-	-	-	-	-
2	0>5	0>1	-	-	-	-	-
4	0>5	1>4	0>1	-	-	-	-
6	0>4	3>1	0>5	-	-	-	-
8	0>4	4>3	1>4	0>1	-	-	-
11	0>3	6>4	2>4	0>4	-	-	-
14	0>3	R	5>1	2>4	0>5	0>1	-
17	0>2	R	5>5	3>1	1>1	0>2	-
21	0>1	R	6>5	3>4	1>3	0>3	-
25	1>5	R	R	4>1	1>4	0>4	-

TABLE 8

ATT	CAS	1	2	4	8	13	21
1	0>5	-	-	-	-	-	-
2	0>5	0>2	-	-	-	-	-
4	0>4	1>5	0>2	-	-	-	-
6	0>4	3>2	1>1	0>1	-	-	-
8	0>3	4>4	1>5	0>2	-	-	-
11	0>2	R	4>4	2>3	0>5	0>1	-
14	0>1	R	5>3	2>5	1>1	0>2	-
17	0>1	R	6>1	3>2	1>2	0>3	-
21	1>4	R	R	3>5	1>4	0>4	0>1
25	1>3	R	R	4>3	1>5	0>5	0>2

TABLE 7

ATT	CAS	1	2	4	8	13	21
1	0>5	-	-	-	-	-	-
2	0>5	0>4	-	-	-	-	-
4	0>4	2>1	0>4	-	-	-	-
6	0>3	3>3	1>2	0>2	-	-	-
8	0>2	6>4	4>2	2>2	0>5	0>2	-
11	0>1	R	4>5	2>4	1>1	0>3	-
14	1>5	R	5>4	3>2	1>2	0>3	0>1
17	1>4	R	6>2	3>3	1>3	0>4	0>1
21	1>2	R	R	4>5	2>3	1>3	0>4
25	2>5	R	R	5>2	2>5	1>4	0>4

TABLE 6

ATT	CAS	1	2	4	8	13	21
1	0>5	0>1	-	-	-	-	-
2	0>4	0>5	0>1	-	-	-	-
4	0>3	2>2	0>5	0>1	-	-	-
6	0>2	6>2	3>5	2>1	0>5	0>3	0>1
8	0>1	6>5	4>3	2>3	1>1	0>3	0>1
11	1>4	R	5>1	2>5	1>2	0>4	0>2
14	1>3	R	6>4	4>2	2>2	1>2	0>4
17	1>1	R	R	4>3	2>3	1>3	0>4
21	2>4	R	R	5>1	2>5	1>4	0>5
25	2>1	R	R	5>5	3>4	2>2	1>2

TABLE 5

ATT	CAS	1	2	4	8	13	21
1	0>5	0>2	0>1	-	-	-	-
2	0>4	1>1	0>2	0>1	-	-	-
4	0>2	5>4	3>4	2>1	1>1	0>3	0>2
6	0>1	6>3	4>2	2>2	1>1	0>4	0>2
8	1>4	R	4>4	2>4	1>2	0>4	0>2
11	1>2	R	6>2	4>1	2>2	1>3	0>5
14	2>4	R	6>5	4>3	2>3	1>3	0>5
17	2>2	R	R	5>3	3>2	2>1	1>2
21	3>4	R	R	5>5	3>3	2>2	1>3
25	3>1	R	R	6>3	4>2	2>5	1>5

TABLE 4

ATT	CAS	1	2	4	8	13	21
1	0>4	0>4	0>2	0>1	-	-	-
2	0>3	1>2	0>4	0>2	0>1	0>1	-
4	0>1	5>5	3>5	2>2	1>2	0>4	0>3
6	1>4	6>4	4>3	2>4	1>3	0>5	0>3
8	1>2	R	5>5	3>5	2>2	1>3	0>5
11	2>3	R	6>3	4>2	2>3	1>4	1>1
14	3>5	R	R	5>2	3>2	2>2	1>3
17	3>2	R	R	6>1	4>1	2>5	1>5
21	4>2	R	R	6>4	4>4	3>2	2>2
25	5>3	R	R	R	5>1	3>4	2>4

TABLE 3

ATT	CAS	1	2	4	8	13	21
1	0>4	0>5	0>3	0>2	0>2	0>1	0>1
2	0>2	5>3	3>4	2>2	1>2	0>5	0>4
4	1>4	6>2	4>1	2>3	1>3	1>1	0>4
6	1>1	R	5>5	3>5	2>3	1>4	1>1
8	2>3	R	6>2	4>1	2>3	1>4	1>1
11	3>3	R	R	5>2	3>2	2>2	1>4
14	4>4	R	R	6>1	4>1	2>5	2>1
17	5>4	R	R	6>4	4>4	3>2	2>2
21	6>3	R	R	R	5>3	4>1	3>1
25	7>2	R	R	R	5>5	4>3	3>2

TABLE 2

ATT	CAS	1	2	4	8	13	21
1	0>3	1>1	0>4	0>3	0>3	0>3	0>2
2	0>1	5>4	3>5	2>3	1>3	1>1	0>5
4	1>2	R	5>4	3>5	2>3	1>4	1>2
6	2>2	R	6>5	4>5	3>2	2>2	1>4
8	3>3	R	R	5>1	3>3	2>3	1>4
11	4>1	R	R	6>3	4>3	3>2	2>3
14	6>5	R	R	6>5	5>1	3>5	2>5
17	7>3	R	R	R	5>3	4>2	3>1
21	9>5	R	R	R	6>1	4>5	3>4
25	10>1	R	R	R	6>4	5>2	4>1

TABLE 1

ATT	CAS	1	2	4	8	13	21
1	0>2	5>4	3>5	2>4	1>4	1>2	1>1
2	1>4	5>5	4>1	2>4	1>4	1>2	1>1
4	2>3	R	5>5	4>1	2>4	2>1	1>3
6	3>2	R	R	5>5	4>1	3>1	2>2
8	4>1	R	R	6>3	4>4	3>3	2>4
11	6>2	R	R	R	5>3	4>2	3>2
14	8>3	R	R	R	6>1	4>5	3>4
17	10>4	R	R	R	6>3	5>1	3>5
21	12>1	R	R	R	R	5>5	4>4
25	15>4	R	R	R	R	6>2	4>5

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Your Notes:

XIII. Charts and Tables

Formation Effects

FORMATION	MOVE	FORM. /FACE.	FIRE	SPLIT/MOVE
Limbered Artillery	Normal	Normal	No	Yes
Unlimbered Artillery	No	Normal	45 Deg.	Yes
Mounted Cavalry	Normal	Normal	0" Range	Yes
Open Form./Skirmish	+2	Normal	45 Deg.	Yes
One Rank Line	Normal	Normal	45 Deg.	No
Two Or More Rank Line	Normal	Normal	45 Deg.	Yes
Column	+1	Face Free*	1 Rank	Yes
Company Column	+1	1/2 Turn	1 Rank	Yes
En Masse**	+1	Face Free	1 Rank	Yes

* Facing change free on road only

** 1/2 Turn to change to En Masse

Movement Chart

UNIT TYPE	INFANTRY	CAVALRY	ARTILLERY	HEAVY EQUIP	
Movement	7 (3 Back)	14	12 (14horse)	10	
TERRAIN EFFECTS	VISIBILITY				
Wall	-1	-8	*	*	
Fence	-1	-4	-5	-5	
Steep Hill	-2	-6	-9	*	
Rough	-2	-7	-8	*	
Woods	-3	-10	-9	*	4
Dense Woods**	-4	-11	*	*	2
Swamp**	-4	-9	*	*	
Roads***	+2	+4	+4	+3	
Fords**	-4	-8	-7	-6	
Open Order	+2	+2	*	*	
Column	+1	+2	*	*	
En Mass	+1	+1	*	*	
Co. Column	+1	+1	*	*	
Close Order-					
Moving Through					
Other Units****	-2	-4	*	*	

* Not allowed

** Unit may not perform split/move.

*** Unit may not perform split/move. Also while following a road, facing changes are allowed with no penalty to movement.

**** Unit may not perform split/move. Unit subtracts one from current morale level. (except when on roads, breechloader equipped troops may always perform split moves)

Cannon Movement Adjustment

MOVEMENT DIFFERENCES FOR DIFFERENT CANNON

Mountain	Normal Movement - Takes Whole Turn To Unlimber
Light	+1" To Base Movement Capabilities
Medium	No Changes.
Heavy	-1" To Base Movement Capabilities

Morale Effects Charts

<u>UNIT TYPE</u>	<u>BASE MORALE</u>	<u>RALLY/DOUBLE</u>	<u>SPLIT MOVE OK</u>
Elite	6	+1	yes
Regular	5	0	yes
Poor	4	-1	no
Garrison	3	-2	no
Militia	2	-3	no
Rable	1	-4	no

<u>COMBAT MORALE</u>	<u>FIRE EFFECTS</u>	<u>MOVEMENT EFFECT</u>	<u>DOUBLE TIME</u>
6	Subtract 1	*	Allowed
5	*	*	Allowed
4	*	*	Allowed
3	Add 1	*	Not Allowed
2	Add 2	*	Not Allowed
1	Add 3	No Advance***	Not Allowed
0	Not Allowed	Must Retreat**	Not Allowed

Notes:

* No effect or not allowed.

** Unit must retreat in an open formation.

*** Units in open must lay down or retreat to cover, if in sight of the enemy.

Personality Rally Modifier

<u>OFFICER</u>	<u>MODIFIER</u>
Hero	+6
Good	+4
Normal	+2
Poor	+1
Bad	Roll-> 1-2=(-2) : 3-4=no Effect : 5-6=(+2)

Rally Result

<u>MODIFIED ROLL</u>	<u>MORALE CHANGE</u>
(-3) or less	-2
(-1) or (-2)	-1
0 to 4	-
5 to 6	+1
7 to 8	+2
9 to 10	+3
11 or more	+4

Double Time Effect

DIE ROLL	UNIT BASE MORALE		
	4	5	6
1	3 Levels	2 Levels	2 Levels
2	2 Levels	2 Levels	1 Level
3	2 Levels	1 Level	1 Level
4	1 Level	1 Level	-
5	1 Level	-	-
6	-	-	-

Fire Modifiers

<u>TARGET PROTECTION</u>	<u>EFFECT</u>
Entrenchments (90% protection)	Add 4
Hasty Works, High Wall (75% protection)	Add 3
Target Laying Down (50% protection)	Add 2
Woods, Wood Fence (25% protection)	Add 1
<u>TARGET FORMATION</u>	
3 Ranks Deep	Subtract 1*
2 Ranks Deep	No Change
1 Rank Deep	Add 1
1/2 Rank Deep	Add 2
1/3 Rank Deep	Add 3
<u>FIRING UNIT MORALE</u>	
Level 6 (elite unit)	Subtract 1
Level 5 or Level 4	No Shift
Level 3	Add 1
Level 2	Add 2
Level 1	Add 3
Level 0	No Fire
<u>FIRING UNIT MOVEMENT/FORMATION</u>	
Split Movement	Add 2
Laying Down (muzzle-loaders only)	Add 2
First Fire of Game for Unit (small arms only)	Subtract 1
<u>SPECIAL</u>	
Artillery Acquired Fire	Subtract 1
Defender in Perilous Situation	Subtract 2**

* If there are multiple units involved split the casualties among the units. Both units independantly roll to save morale levels due to casualties.

** Defender multiplies loss by 10 instead of 5 when attempting to save morale step loss.

Weapons Effects Charts

SMOOTHBORE MUSKET

0 2 4
1 3 5
 6 7 8

OBSOLETE RIFLE MUSKET

0 2 6
1 5 12
 6 7 8

RIFLED MUSKETS

0 2 7
1 6 12
 4 5 6

BREECHLOADING RIFLE

0 2 7
1 6 12
 3 4 5

REPEATING RIFLE

0 2 6
1 5 12
 2 3 4

MUZ.-LOAD. CARBINE

0 2 5
1 4 10
 4 5 6

OBSOLETE B-L CARBINE

0 2 5
1 4 10
 4 5 6

BREECH-LOAD. CARBINE

0 2 5
1 4 10
 3 4 5

REPEATING CARBINE

0 2 5
1 4 10
 2 3 4

PISTOLS OR SHOTGUNS

0 2 4
1 3 5
 3 4 6

MOUNTAIN RIFLE

0 2 17 49
1 16 48 72
 5 4 5 7

6 PDR GUN

0 2 17 41
1 16 40 48
 4 3 5 6

12 PDR MT.HOW.

0 2 11 33
1 10 32 40
 3 3 6 8

LIGHT RIFLE

0 2 17 49
1 16 48 72
 3 4 5 6

12 PDR GUN

0 2 17 41
1 16 40 48
 3 2 4 5

12 PDR HOWITZER

0 2 15 33
1 14 32 40
 2 3 5 7

MEDIUM RIFLE

0 2 17 49
1 16 48 72
 2 3 3 4

24 PDR HOWITZER

0 2 17 39
1 16 38 46
 2 2 4 6

HEAVY RIFLE

0 2 19 53
1 18 52 84
 2 2 3 4

32 PDR HOWITZER

0 2 17 41
1 16 40 48
 2 1 3 5

Factors to Use for Morale Checks

EVENT

Unit is Sight of Broken Unit
 Enemy Unit in Contact
 Checking Morale Due To Fire

FACTORS TO USE

sum dice/7 (retreating)
 sum dice/10 (checking)
 sum dice/3 (each side)
 (5*casualties)-sum dice

Sequence of Play

- 1) First the Order Phase
 - i) Each player writes orders for each of his units, that need existing orders changed. These orders are placed face down behind each unit receiving the order with the turn of actual execution written on the back. If there are previous orders that will be active prior to the newly written orders, place the new orders under the pending orders. If the new orders override any pending orders, the pending orders are removed. See the section C, of this chapter, for details on how orders are written and executed. Officers do not need orders to move. They are moved at the whim of the wargamer during the movement phase.
- 2) Next the Morale Phase
 - i) Execute morale checks due to contact with enemy units. (Section VI.D.3)
 - ii) Attempt rally of units below their maximum morale level. (Section VI.E)
 - iii) Retreat units with a morale of 0 (broken). (Section VI.C)
 - iv) Execute morale checks for units with a combat morale of 6 or less in sight of broken units retreating in previous step. (Section VI.D.2)
- 3) Next the Double Quick Phase
 - i) Units with active double quick orders and with a combat morale of 4,5 or 6 move up to full movement distance and then throw a die to determine reduction to the units combat morale.(Section VI.D.4)
- 4) Then the Movement and Fire Phase (all actions, except firing must be in response to an active order). Each unit may take one of the two options for each unit
 - i) First Option - Do just one of the following, any unit not broken may make this choice.
 - a) Move full distance allowed by the movement rules and as dictated by the units current orders. (Section IV)
 - b) Fire. (Section V), units without active orders may always fire at enemy units in field of fire, within range and visible.
 - c) Change formation and/or facing as specified by the units current orders.(Section III)
 - ii) Second Option - Do any two of the following. Units that are broken, have a base morale of less than five (regular), or are in one rank line are prohibited from taking this option. This option is referred to as a split/move.
 - a) Move half distance allowed by movement tables. (Section IV)
 - b) Change facing. (Section III.I)
 - c) Change formation. (Section III)
 - d) Fire with a +2 modified fire effectiveness penalty. (Section V), while moving or changing formation, this is only allowed if the active orders specify moving/change formation while firing. Units may fire (with the usually +2 penalty), while changing facing, without specific orders. Firing always occurs after all movement/formation or facing changes are made.
- 5) The turn number is incremented.

