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Arkwright

Player's Book Game Components, Variants
and Strategy Hints





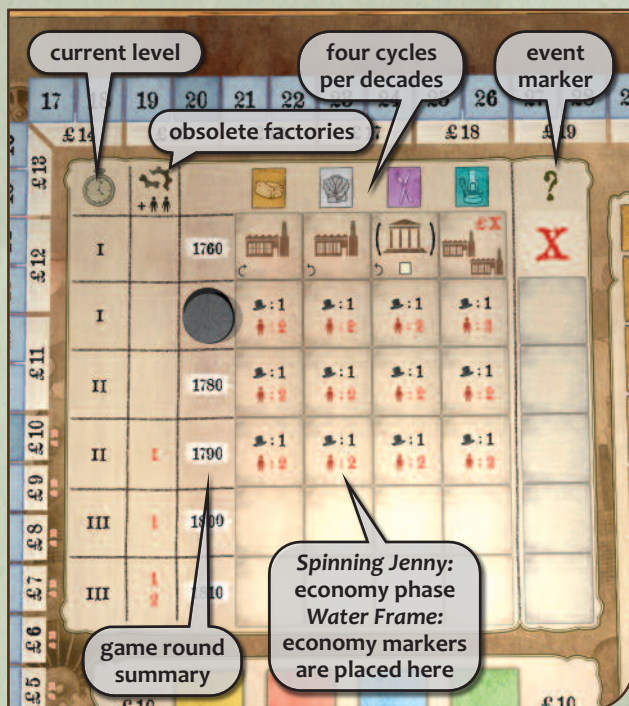
1.1 Game Board

Timetable, Economy, and Event Markers; Timetable Indicator

The timetable records the progress of the game. It shows the current level of technology, ships, and action markers, which levels of factories have become obsolete, and the current game round (decade). The event marker column contains the event markers. The *end of game* event is placed in the row of the last game round (in the **Spinning Jenny** version of the game, it is placed face up on the 1790 space, and in the **Water Frame** version, it is placed face down on the 1810 space). This is the only event marker used in the **Spinning Jenny** version. In the **Water Frame** version, event markers are placed face down on all spaces. The *bureaucracy* event is randomly placed among the first three events, which must be placed on the 1770, 1780, and 1790 spaces. The event marker for 1800 is randomly determined. The back of the event markers reminds players to pay workers on ships (also called *ship crews*) as well as warehouse workers at the end of the decade.

The timetable indicator is placed on the space that corresponds to the current game round (decade) and the current cycle. The symbols on the game board are immediately implemented in the **Spinning Jenny** version of the game: the importers' appeal indicator will be advanced one space and two workers will be returned to the job market.

In **Water Frame**, the spaces in the rows 1770-1810 are



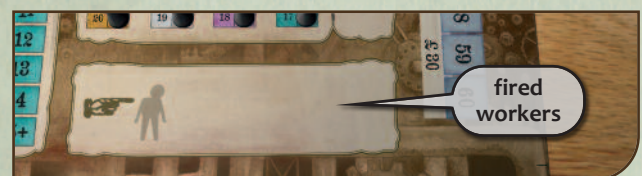
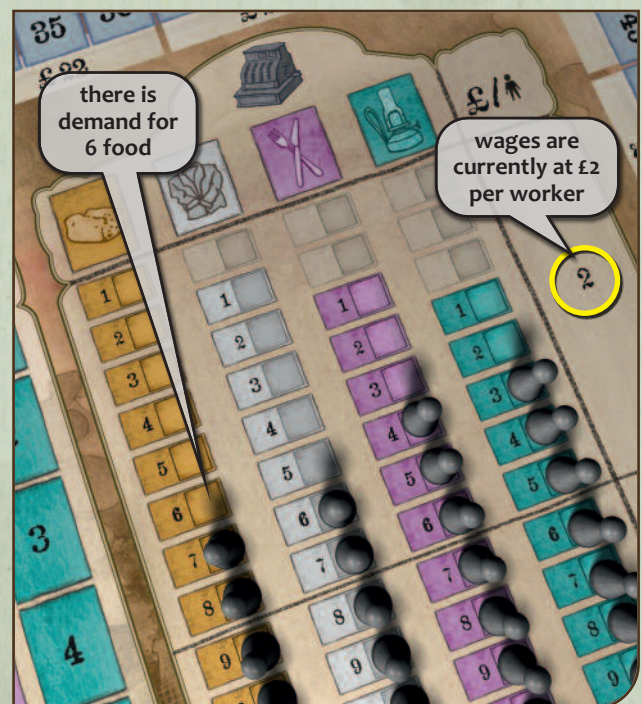
covered with economy markers, which will be turned face up and implemented at the start of a cycle.

Job Market and Workers

Each worker that is taken from the job market and placed in a factory generates demand in England as a goods symbol has been revealed. Wages, indicated next to the lowest unoccupied space, will increase as more workers are employed.

Newly hired workers are always taken in 'reading direction' from the job market, i.e. always from the uppermost row that still contains a worker and within a row always from left to right. Fired workers are not returned to the job market; instead, they are placed on the fired workers space. If workers are returned from the fired workers space to the job market, they are returned in the reverse direction. Unnumbered spaces are used for workers, but they do not generate demand.

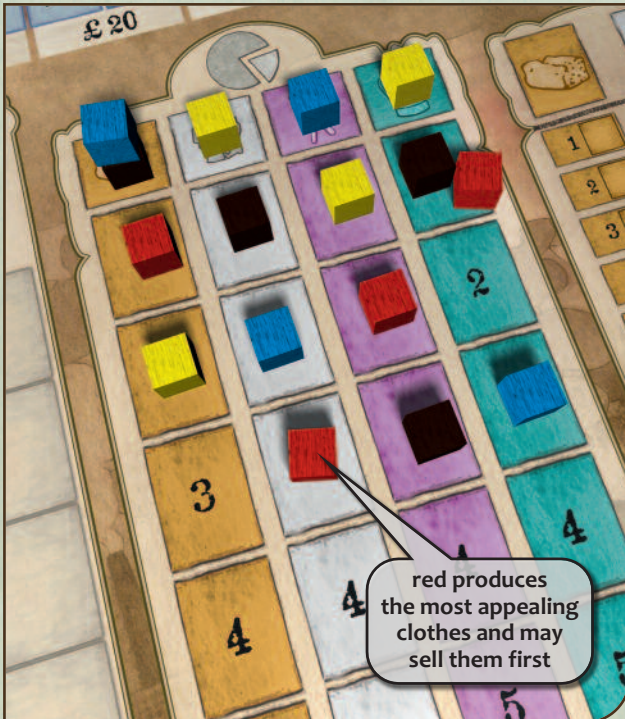
If a player wants to or has to take workers but there are no workers in the job market, he may take workers from the fired workers space as an exception. If there aren't any workers in that space either, no workers can be hired.



If there aren't enough workers for a ship's crew, this ship may not be taken using the *special marker* additional action.

The numbers on the spaces of the job market indicate how many goods of this kind can currently be sold in England.

Market Share



Using the respective indicators, the market share table indicates the ability of the different companies to sell the various goods (appeal). Quality, distribution and price are factored together when calculating appeal. Quality and distribution increase sales opportunities and price lowers the appeal. The appeal indicator is always adjusted according to the formula 'quality of the factory + quality marker + distribution - price'. Only these factors may be changed as a result of an action. It is not possible to move the appeal indicator on its own and influence these factors in return. **Whoever has the highest appeal sells first!** If there is scarce demand for a kind of goods, items with lower appeal might not be sold.

Appeal also limits the amount of goods that can be sold. Even if demand is very high, it is not possible to sell unappealing goods (because they are too expensive or of low quality). A player who has the *patron* development tile may sell one item regardless of the market share table.

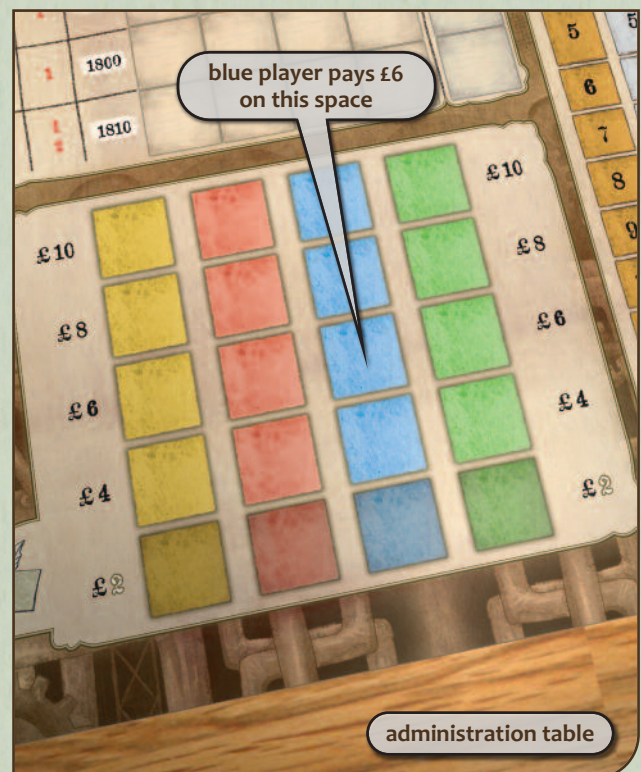
The player whose goods are the single most attractive during a sale will increase his share value (move the share value indicator one space in addition to the

general movement for sold goods).

The importers' appeal indicators start on the '0' space. These indicators are advanced as indicated on the timetable (*Spinning Jenny* version of the game) or the economy markers (*Water Frame* version of the game). The importers' indicators are generally not moved backwards (**exception:** the *navigation acts* event).








Administration

The action markers are placed on the administration table. To conduct an action, a player has to place an action marker on his column of the administration table and pay the corresponding costs. The costs are indicated at both ends of the row on which the marker has been placed. If a player wants to use a marker again that has already been placed, he has to pay an additional fee of £2 (**exception:** the *administrator* development tile). This additional fee may not be used for the action. Administrative costs have to be paid, even if the action is of limited use. Administrative costs can influence the effectiveness of an action (quality increases, distribution activities, purchase machines). Costs may also occur in addition to the administrative costs of the action. A player can place a marker from his own supply onto empty spaces of his column. At the end of the game round (decade), all of the players' markers placed on the administration table are returned to their supply (this includes the advanced action markers that were obtained via the *special marker* additional action). In *Water Frame*, the *accountant* development tile





Examples of how the administrative costs are used in interaction with the accountant, the workshop, the engineer, patent, and the administrator

action marker	 max. 7	 max. 7 (2nd use)	 £3/£6/£13	 £3/£6/£13	 £3/£6/£13 (2nd use)	 £6/£12	 £6/£12	 £6/£12 (2nd use)
space on the administration table	10	10	4	10	10	10	8	8
additional fee without the administrator	---	+2	---	---	+2	---	---	+2
accountant	-2	-2	-1	no accountant	no accountant	+2	---	---
engineer	---	---	---	---	---	---	12 (free choice)	12 (free choice)
actually paid amount	£8	£10	£3	£10	£12	£12	£12	£14
workshop	---	---	+3	+3	+3	---	---	---
patent (permanent)	without patent	+2	---	---	---	---	---	---
amount that can be used	7	9	6 = 2 machines	13 = 3 machines	13 = 3 machines	12 = 2 levels	12 = 2 levels	12 = 2 levels

provides the opportunity to adjust the administration costs. After the *bureaucracy* event has occurred, it is not possible to use the £2 space unless the player acquires an *administrator*. The *workshop* development tile facilitates the purchase of machines and the *engineer* facilitates increasing quality.

Share Value Track

The *share value track* shows the current value of each player's shares. The share value indicator is always moved along the blue spaces. All movement mentioned in the rules refers to movement on the blue spaces.

The actual value is indicated by the space under the blue spaces. To increase the share value from its original value of £10, the indicator has to be moved two blue spaces. After a value of £20 has been reached, the indicator has to be moved three spaces (until the maximum value of £30 has been reached). The indicator can never advance beyond space 60 or fall below space 1. Any further movements are ignored.

As long as the marker is on one of the first 10 spaces, shares are bought at a price of £10 (indicated in red). Selling shares while the indicator is on these spaces generates the price indicated on the beige space.

The share value increases in the production phase as long as a player has sold at least one goods token (one space) or several goods tokens (two spaces). Having the most appealing goods or selling the most goods tokens generates one additional space each. The share value falls when ships are used (one space per ship) and if shares had to be sold in an emergency sale because the player did not have enough cash (the number of spaces equals the first digit of the space's number; the loss of spaces is applied per sold share).

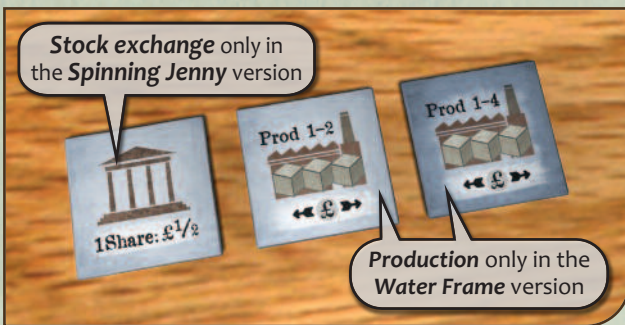
Selling or purchasing shares regularly as part of the *stock exchange* action has no effect on the share value.



1.2 Mat for Special Markers and Ships

Players may select special action markers placed on this mat if they conduct the *special marker* additional action. The side of the mat that is used depends on the version of the game the players play. The markers in the first row are available at the start of the game. Additional markers become available during the course of the game. The timetable indicator on the left (level/decade) indicates which markers may be taken. This corresponds to the information on the timetable of the game board. It is possible to take markers from an earlier level.

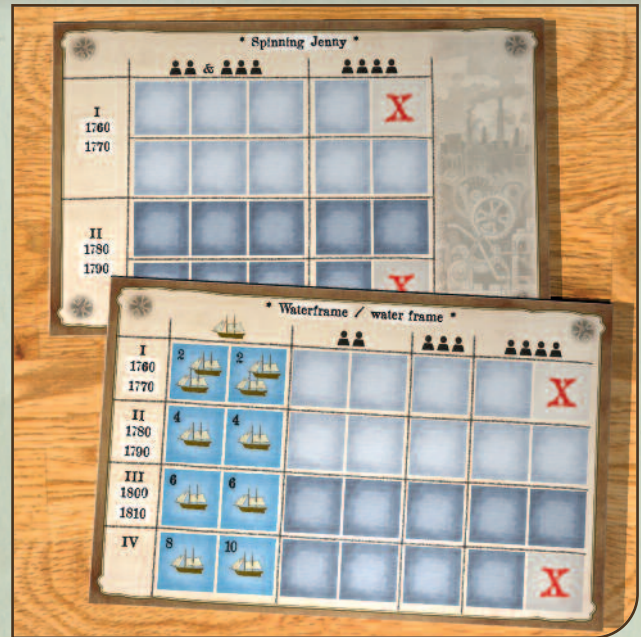
The grey *stock exchange* markers are only used in the **Spinning Jenny** version. The grey *production* markers are only used in the **Water Frame** version.



In two player games, two sets of light and dark grey *distribution*, *machinery*, and *quality* (and *production* in **Water Frame**) action markers are removed from the game during setup. In three player games, only one set of light and dark grey action markers is removed.

At the start of a **Spinning Jenny** game, each player chooses one light grey action marker from a randomly set up display; in **Water Frame**, ships are also available on the display. Their capacity depends on the development level.

Ships are placed according to their capacity on the corresponding spaces (two player games use only ships with capacity 2). Action markers are randomly drawn



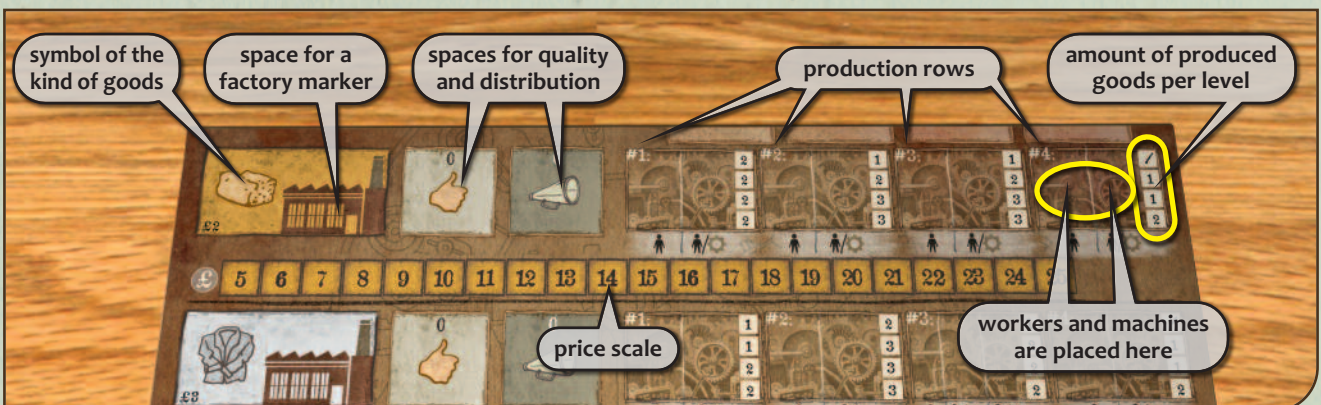
during setup and subsequently placed on the spaces. They are separated in light and dark grey markers. Spaces marked 'X' always remain empty.

Since there are more advanced action markers than there are spaces, every game will see a different combination of markers accessible to the players. In **Water Frame**, the *inventor development* tile offers a player the opportunity (for a fee) to take a marker of the next level before it becomes available to the other players.

1.3 Factory Mat and Markers

Each player's factory mat shows the information for the up to four factories each player may operate. A player may operate one factory for each kind of goods. To build, modernize or close a factory, a player has to choose the *factory action* and activate the marker on the administration table.

In the **Spinning Jenny** version, a factory can – at the most – have the level currently indicated on the

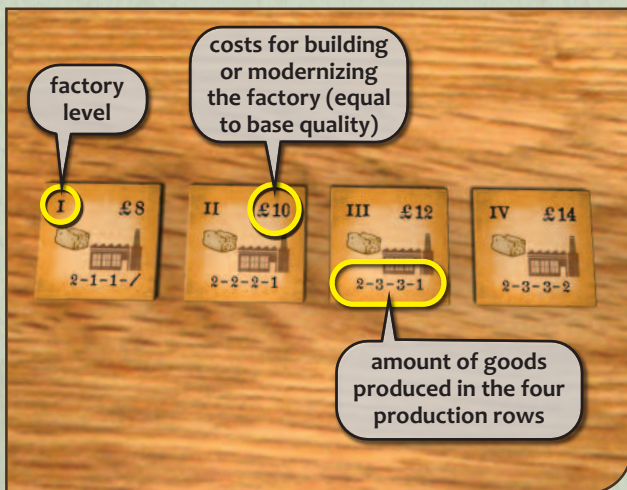




timetable. In **Water Frame**, the inventor provides the opportunity to have a factory of the next higher level. A factory can become obsolete if its level is listed on the corresponding column of the timetable. This can repeatedly happen in the **Water Frame** version.

The costs for building a factory or modernizing one to a higher level correspond to the base quality of the goods produced in this factory. The value is indicated in the upper right corner of the respective marker. The level I food factory costs £8. Modernizing it to level II would cost £10. The corresponding factory marker is placed on the respective space on the factory mat.

Higher levels increase the effectiveness of factories. At level I, a food factory requires all three production rows to produce four goods. At level II, two production rows produce four goods. The factory marker and column on the right side of each production row show how many goods are produced.



For a production row to produce goods, a worker must be present for each symbol, and a worker or a machine must be present for each symbol. At first, only workers can be hired. Machines can never be directly purchased; they always replace existing workers. When building a new factory, a player takes as many workers from the job market as are required to fill the first production row. Factories are immediately operational.

Hint: only in the preparation phase, the first two production rows are filled with workers.

All other workers have to be hired as part of the workers action. Production rows are always filled in ascending order. It is not possible to produce just in row #2 or in rows #1 and #3.

Each factory is always linked to its corresponding price

indicator on the price scale. This indicator shows the price a player receives for each goods token sold during the production and sale phase. This price may only be adjusted as part of the corresponding additional action – not while selling. A price may never be set in a manner that the appeal of the goods would be less than zero (appeal is determined according to the formula quality + distribution - price).

Factories of the active kind of goods always produce during the production phase. In **Water Frame**, it is possible to start an additional production of goods by playing the *production* action. As part of each production, the wages have to be paid and machines have to be maintained. In each production phase, goods are sold first before the actual production costs have to be paid.

Unsold goods may be stored on the price scale in the **Spinning Jenny** version. In **Water Frame**, it is necessary to have the *small warehouse* or to open the large warehouse. The space to the left of the factory markers indicates the fixed price goods may be sold for during a warehouse sale (as part of the *stock exchange* action).

Quality Markers

In a factory, the *quality* marker shows that the quality of the goods produced in that factory has been increased beyond the factory's base quality. Quality

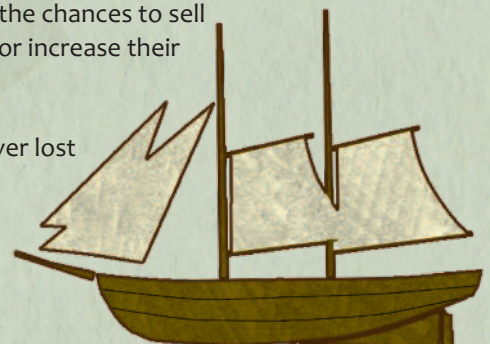


represents advances in production methods, better raw material suppliers, and higher degrees of purity due to cleanliness, hygiene, etc.

When playing a *quality* action, the action marker determines how many levels the quality marker of the player may be raised. For each level, any of the player's quality markers may be set at a level of '+1' or increased by '+1.' The maximum value is always '+4.' In **Water Frame**, the *engineer* development tile offers the opportunity to raise the value to '+6.'

Improvements in quality increase the appeal of goods and thereby the chances to sell more goods or increase their price.

Quality is never lost unless the factory is closed.



Distribution markers

The distribution markers indicate the structure of distribution for the respective kind of goods. Today this would be called marketing or advertising. This is an abstract number to represent the network of salesmen, the success of word-of-mouth recommendations, well-placed newspaper articles about the produced goods, etc.



The *distribution* action marker determines – in conjunction with the actually paid administrative costs – how effective the distribution activities are. First, the player determines how much of the administrative costs can be used. Next, they are distributed among the various factories. Each increase of distribution activities consists of turning an already placed marker or placing a new marker.

The costs of each individual increase depend on the distribution value that the marker will reach. To place a new distribution marker, a player only has to pay administrative costs of £1. A maximum of '+4' can be obtained. In **Water Frame**, the *patent* development tile increases the amount that can be used to increase distribution by +2, free of charge. If a player returns the tile to the supply, he may instead use it to increase his distribution markers by two levels regardless of how expensive these increases would be. The sales opportunities (appeal) of goods increases according to the number indicated on the marker.

Distribution differs from quality in that quality has a long-term effect. Distribution can be improved faster, but it is only short-term because distribution decreases after each production phase by one level. To remain at the same level, distribution activities must be repeated often whereas raising quality is a permanent (but more difficult) improvement of sales opportunities.

1.4 Harbor Mat (Warehouse/Contracts)

This mat is only used in the **Water Frame** version. It shows the large warehouse, the piers for ships and their crews, and the track for current contracts.

Large warehouse

The large warehouse offers room for goods when enough workers are correctly placed. These must be hired from the job market (as part of the *workers* action). They may not be hired during the production phase. If there is not enough storage room, the goods

produced are forfeit at the end of the production and sale phase. In contrast to the **Spinning Jenny** version, players may not store any goods without a warehouse. Each worker permits the use of all spaces in either his row or column. Therefore, a worker in the *clothes* column gives the opportunity to store one clothes token in each of the five spaces.

Placing a worker in the first row permits storage of three goods tokens of each kind. The second row allows storing an additional two tokens of each kind of goods. The capabilities of the workers are added: if there is a worker in the column and a worker in the row of a space, it is possible to store two tokens on that space. The workers in a warehouse are paid at the end of the game round (even in the last game round) and may only be fired at this point. They may not be fired like factory workers as part of the *workers* action.



The *small warehouse* is available in the **Water Frame** version. A player can move tokens from the *small warehouse* to the large warehouse and vice versa at any time.

The goods tokens in the common supply are universal. As soon as they are used, they represent a certain kind of goods and keep this status until they are returned to the common supply. It is therefore important to place the goods tokens with great care on the correct spaces of the warehouse. It is also necessary to associate them with a factory if the *small warehouse* is used by placing them on the rightmost space of factory's price scale.



Piers for Ships and the Space for Crews

A player receives ships as a result of the *special marker* additional action. Ships are placed on piers. Each player may own a maximum of two ships. Next to the piers there is a space for the crews of ships. Further details concerning ships and crews may be found in section 1.5.



Current Contracts Track

This track indicates the number of contracts entered by a player. A player has a set of markers to indicate his contracts.



Contracts have to be fulfilled in their entirety. It is not possible to service them partially. If a contract cannot be serviced, it rises and, as a consequence, it is even more difficult to be fulfilled. At the end of the game, unfulfilled contracts lower a player's share value. Contracts are voluntarily fulfilled at the end of the production phase or as part of the ship action.

In fulfilling contracts at the end of the production phase, several ships may be used to reach the required capacity. Only the ship placed on the administration table may be used to fulfill contracts as part of the *ship* action. However, if there is enough capacity, several contracts may be fulfilled at the same time. In any case, the share value indicator must be moved back one space for each ship used.

A player receives proceeds equalling the building costs of his factory (base quality of the factory) in £s for each goods token shipped in this manner. The owner of an *office* receives an additional £5 to the total received. Ships may be used even if their capacity exceeds the amount required. However, it is not possible to

transport more goods than the capacity of the ships used. Ships are immediately at a player's disposal after he has used them. Ships on the administration table may also be used during the production and sale phase.



1.5 Markers

Several markers are discussed in connection with other game components (e.g. *distribution*, *quality*, *factories*, *current contracts*).

Action Markers

The action markers permit one main and one additional action. A player may pass on the main and/or additional action, but it is not possible to pass entirely! Each player receives a set of action markers in his color at the start of the game. During the course of the game, players receive further action markers as a result of the *special marker* additional action. In the 1760 preparation round, there are advanced action markers available to players during the *stock exchange* action.



To conduct an action, a marker is placed on the administration table. The administrative costs must be paid (see section 1.1). Using the same marker again in the same game round requires an additional payment of £2 (**exception: administrator**).

The *production* and *ship* action (only used in **Water Frame**) are not provided as colored markers. They are only available as advanced grey markers. The light grey stock exchange marker is only available in the **Spinning Jenny** version.

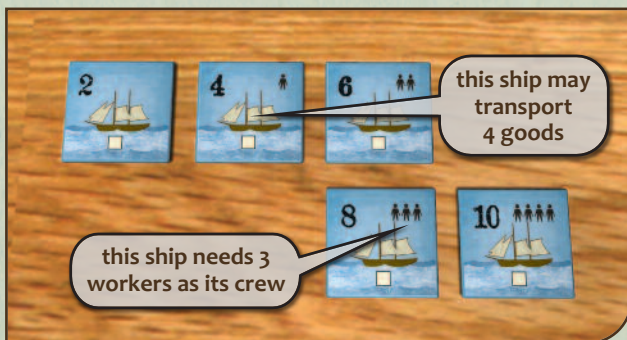
Ships

Ship action markers are only available in **Water Frame**. Ships may be placed like action markers or used during the production and sale phase.

Ships may only be purchased by conducting the *special marker* additional action. The two piers show that each player may have a maximum of two ships at the same time. If you want to take a third ship, you will have to return one of the ships already in place. The new ship must have a higher capacity than the one returned!

Even a ship placed on the administration table uses up a pier on the mat (as her home port). For ships of capacity 4 or higher, a player must place a worker from the job market as crew on his harbor mat. These workers have to be paid during the event phase and may only be fired immediately after having been paid. They may not be fired as part of the regular *workers* action. They also must be paid at the end of the last game round!

After paying them, as many ships as desired may be returned to the common supply. Workers depicted on these ships are also removed from the harbor mat and placed on the fired workers space. Goods may only be shipped if there is a corresponding contract in place.

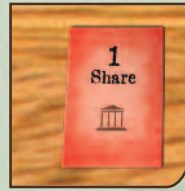


Share Markers

At all times, players may see how many shares each player owns. Each player can own up to 30 shares.

At the start of the game, each player receives 15 shares, but he has to sell some of these shares to the bank to

raise his startup capital and pay for his initial factories. In **Spinning Jenny**, 5 shares are sold and in **Water Frame**, each player decides how many shares he wants to sell. In **Spinning Jenny**, players also receive an additional £20 as startup capital.



1.6 Wooden Components

Several tokens are also used to indicate other aspects of gameplay. This section will only discuss the primary function of the wooden tokens.

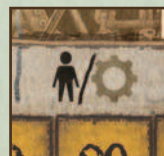
Workers



Workers are always either on the job market and the fired workers space, or they work for a player as factory workers, warehouse workers, or as crew members of a ship. Workers receive a wage varying between £2 and £5. They do not generate any demand while they are on the job market. Once they are hired, they have a job and buy goods, which causes demand to increase. To reflect this, spaces containing depictions of goods are uncovered in the job market.

Workers are placed on the fired workers space if they are replaced by machines or fired by a player. Economy markers cause workers to return to the job market. The number of workers is limited to the amount of tokens in the game.

Machines



Machines replace workers and each require only £1 as operating costs at all times. However, there are jobs that cannot be done by machines.

If there is only a worker symbol in a space of a production row, a machine cannot be used to fill that spot. In addition, machines may not immediately be placed in a factory: a worker has to be on a space and then can be replaced by a machine. The number of machines in the game is unlimited. In the rare case that all factory tokens are used, players should use replacement material.



Goods Tokens



Goods tokens represent the produced goods. As long as they are in the common supply, they

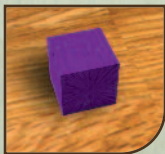
do not represent a specific kind of goods. Only when they enter the game do they represent a certain kind of goods.

Initially, they are required for the production phase during the sale. As stored goods, they may only be placed on the price scale of the factory (in *Spinning Jenny*, or using the *small warehouse* in *Water Frame*) or in the large warehouse in *Water Frame*. Players should be extremely careful in placing the goods tokens on the correct spaces in order to ensure that the tokens represent the correct kind of goods.

Goods tokens are unlimited. In the rare case that all goods tokens are used, players are free to use any kind of replacement material.

Goods may never be bought. They enter the game only when produced in players' factories.

Start Player Token



The start player token indicates the first player in the current cycle. At the end of a cycle, the token is passed to the player to the left of the start player. At the end of a game round,

the player whose portfolio has the lowest value determines the start player for the next game turn.

In *Water Frame*, a player can discard the *charisma* development tile to determine the start player. This is possible at the end of a cycle as well as at the end of a game round.

The Importer's Appeal Indicators



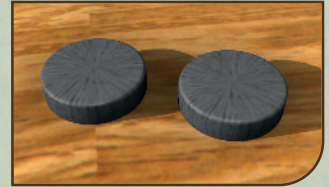
These indicators show the appeal of the (fictitious) goods offered by importers on the

market share table. At the start of the game, they have

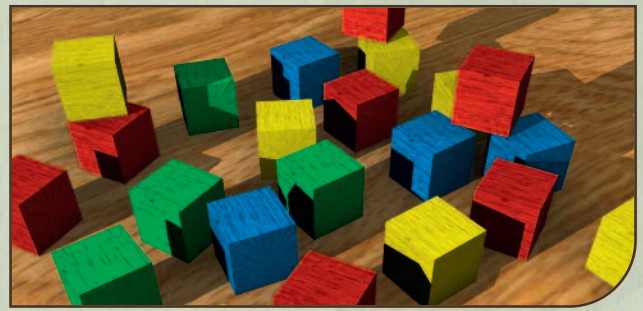
a value of '0' and advance during the course of the game as indicated on the game board or the economy markers.

Timetable Indicator

One indicator is placed on the timetable of the gameboard and shows the current game round and cycle; the other marker is placed on the corresponding level of the special markers mat in order to show which special markers may be taken by players.



Player Tokens



The price indicators, share value indicator, and the appeal indicators of the players are described in other sections.

1.7 Bills

Bills are available in values of £1, £2, £5, £10, £20 and £50. It is always possible to change bills. A player may keep his cash at hand hidden. As an exception to this, all players have to reveal the amount of cash they own when determining the start player depends on this information.

If a player doesn't have enough cash to conduct the desired action, he must conduct an emergency sale of shares and, if necessary, take out a loan. The amount of



cash at hand does not limit the players options! At the start of a *Spinning Jenny* game, each player receives £20. In *Water Frame*, players do not receive any cash as startup capital. The 15 shares that are in the bank's possession at the start of the game represent the bank pre-financing the preparations for building the first factories.

1.8 Development Tiles

Development tiles modify single aspects of the game or provide special capabilities. They allow for and facilitate crafting an individual strategy. Players receive development tiles as part of the *special marker* additional action. Development tiles are not available in the *Spinning Jenny* version.


Each player may only have one tile granting the same function. *Patrons* for different kinds of goods count as different tiles. Additionally, players may own, at most, four tiles. If a player takes a fifth tile, he must immediately return a tile to the supply. This tile is available again to all players during their respective additional action.



The *charisma* tile and one *inventor* are always in the game. The other tiles available are randomly determined. The number of additional tiles depend on the number of players: 26 (four players), 19 (three players), or 12 (two players). Therefore, there are 7 tiles per player in a game.

Note: We recommend that you use the predetermined set up for the first few games.

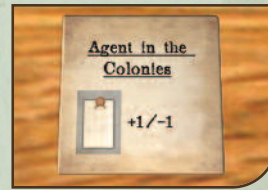
All development tiles are immediately available at the start of the game. They do not – in contrast to advanced action markers and ships – depend on the timetable indicator to enter the game.

The star  symbol indicates that the tile is returned to the common supply after its indicated function has been used.

The Function of the Development Tiles:

The number next to the name indicates the number of this particular tile in *Arkwright*.

Agent in the Colonies (2x)



When fulfilling a contract, the owner of the *agent in the colonies* tile may raise or lower the number of goods required to fulfill the contract by one. The modified number of goods is taken into account for capacity of ships and goods tokens, as well as all other advantages and disadvantages. The agent may be used several times as part of the same action.

When fulfilling a contract, the owner of the *agent in the colonies* tile may raise or lower the number of goods required to

Broker (2x)



The *broker* has two functions.

The *broker* provides the opportunity to conduct a shortened stock exchange action at the

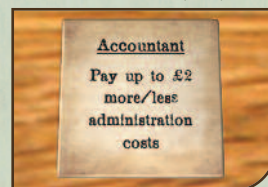


end of the decade. After the event has been executed, the player using the *broker* may sell stored goods at the fixed base price. In addition, he may buy or sell shares. The *broker*

does not offer the opportunity to buy contracts and does not offer an additional action. If there are several *brokers* in a game, their actions are resolved in clockwise fashion beginning with the start player.

The *broker* may also be used when a player is able to conduct the *special marker* additional action. The player may pass on the additional action and return the *broker* to the supply. Next, he may purchase up to 2 shares at half their value. If the player purchases two shares, he pays the current share value to the bank. If he wants to buy only one share he pays half of the current share value (rounded up). The *broker* may not be used during or after the *end of game* event.

Accountant (3x)



If a player owns the *accountant* tile, he may raise or lower the administrative costs by up to £2 when placing his action markers on the administration table.

Thus, he may place the *workers* action marker in the £2 row (if this row is not blocked by the *bureaucracy* event) and pay £0 in administrative costs.

The actual amount paid for administrative costs determines the effectiveness of the action. If a player places the *distribution max 7* action marker in the £6 row and pays only £5 using the *accountant*, he may only use £5



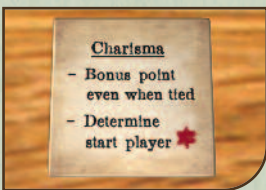
to increase the distribution in his factories. It is also possible to place a marker in the £6 row, then pay and use £7 in administrative costs.

The limits of the action markers still apply. The *accountant* does not permit using the *distribution max 7* marker on the £6 space, then paying and using £8 in administrative costs. The additional fees for reusing a marker that is already on the administration table must be paid even with an *accountant*.

Charisma (1x)



The owner of the *charisma* tile receives a bonus advance on the share value track if he is tied with another player or the neutral



importer when determining who sold the most goods or had the most appealing goods during the production phase.

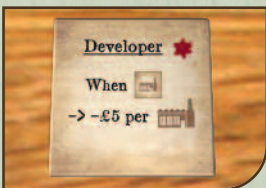
Additionally, the player may determine the new start player when the first player changes either at the end of a cycle or a game round. In doing so, the player must return the *charisma* tile. He has to indicate this before the player with the least valued portfolio has announced the new start player. To avoid miscommunication, the player who may announce the new start player should ask the owner of the *charisma* tile whether he wants to use it.

If the start player has been determined by the use of the *charisma* tile, neither the new start player nor the previous owner of the tile may take it during their next action. As a reminder, a share of each of these two players (taken from the bank) is placed on the tile. After the next move of the respective player, the share is removed from the tile and returned to the bank. The shares will also be returned to the supply if another player takes the *charisma* tile.

Developer (3x)



The *developer* lowers the costs of building or modernizing a factory by £5. At the conclusion of the *factory* action, the tile has to be



returned to the supply if the *developer* has been used in at least one factory. A *developer* may be used only once for each factory as part of the *factory* action. If the same

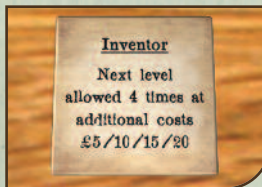
factory is to be modernized several times as part of the same action, all subsequent levels will have to be paid in their entirety at their current price. The *developer* may be used in all four factories as part of the

same action. The *developer* may not be used to modernize a factory beyond the current level.

Example: In the 1810 decade, factories of level III may be built. Marion possesses the *developer* and conducts the following factory action:

<p>II £10 2-2-2-1</p> <p>III £12 2-3-3-1</p>	<p>Modernizing the food factory up to the current level of three costs £12. Since she has the developer, Marion pays only £7.</p>
<p>I £9 1-2-1-1</p> <p>II £11 1-3-2-1</p> <p>III £13 2-3-2-1</p>	<p>Modernizing the clothes factory from level I to level II costs £11. Using the developer, Marion pays only £6. She immediately modernizes a factory up to level III, but Marion pays the regular price of £13 despite the developer. Marion may not skip any levels and she may use the developer only once per factory per action.</p>
<p>III £16 1-2-3-1</p>	<p>Building a new factory of level III costs £16 but, thanks to the developer, Marion pays only £11.</p>
<p>III £17 1-2-2-1</p> <p>IV £20 1-3-2-1</p>	<p>Modernizing the factory from current level III up to the next level of IV costs Marion the full price even if she possesses the developer. To modernize beyond the current level, she needs to have the inventor tile!</p>

Inventor (2x; may be used several times)



The *inventor* offers the opportunity to build a factory or take an advanced action marker or ship at a level higher than the current one. However, this will be at

an increased price. Immediately, when the *inventor* has been chosen, the player must pay £5 to the bank. After using it for the first time, he may decide whether he wants to return the *inventor* to the supply or pay £10 to the bank in order to keep the *inventor* and use him a second time. After using the *inventor* for a second time, he must pay £15 (and after the third time £20) in order to keep him. To keep track of usage, the player places a goods token on the *inventor* tile each

time the *inventor* is used.

After having used the *inventor* for a fourth time, the tile must be returned to the common supply. The next player to take the *inventor* pays £5 for the first use.

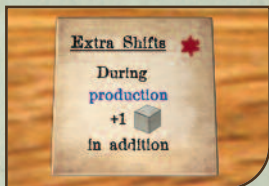
Taking a *special marker* and modernizing a single factory beyond the current level (regardless of whether this factory has been modernized several times as part of the same action) counts as one use of the *inventor*.

Combining the effects of the *inventor* and *developer* tiles: If a player modernizes the factory beyond the current level, he has to pay the full costs – the *developer* does not lower the costs of a future level! The *inventor* allows the modernization of existing factories to a future level, not building new factories at a future level. To acquire a new factory of a future level, the player must first build a new factory of the current level (the price for doing this may be lowered with the *developer*) and only after that, the factory may be modernized to a future level (but still as part of the same action).

Extra Shifts (3x)



At any time during the production phase, a player owning the *extra shifts* tile may increase a factory's production by one goods token. Afterwards, the tile is returned to the supply.

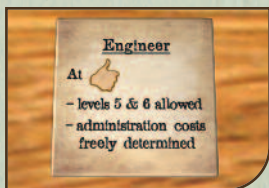


A player is allowed to use the *extra shifts* when he is called to take a goods token from

the job market, but his regular production capacity is already exhausted. Also, a player is able to use the tile when one further goods token is needed for a contract when shipping the active goods in the production phase.

The *extra shifts* tile may be used during the *production* action in order to produce an additional goods token. *Extra shifts* cannot be used during the *ship* action.

Engineer (2x)



As long as a player possesses the *engineer* tile, the upper limit for raising quality is +6 instead of +4. This applies to all of his factories and as long as he owns the *engineer*.

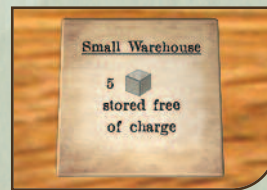
Levels 5 and 6 are on the back of the quality markers.

The *engineer* is only required when a factory's quality is raised to level 5 or 6. Even if the *engineer* is discarded, the player keeps the obtained levels. Further increases

to level 5 or 6 are not possible without the *engineer*.

Additionally, the *engineer* allows the player to choose the administrative costs during the *quality* action. For example, the player may place his colored *quality* action marker on the £4 space and pay £12 to purchase two levels of quality. He may put the *quality* action marker on the £10 space and pay only £6 in order to obtain one level of quality.

Small Warehouse (2x)



The *small warehouse* allows a player to store a maximum of 5 goods tokens without having to hire workers for the large warehouse. The *small warehouse* doesn't cost anything and functions without workers.

As in the *Spinning Jenny* version, goods to be stored are placed on the price scale of the corresponding factory. At all times it is possible to move goods from the *small warehouse* to the large warehouse (harbor mat) and vice versa. To ensure that goods tokens do not switch to a different kind, each player must notify which goods tokens are moving.

The *small warehouse* may always store further goods; however, any goods tokens in excess of 5 are lost without receiving any compensation unless they can be moved to the large warehouse. When a player has more than 5 goods, he may choose whether a new or an already stored goods token is lost.

Office (2x)



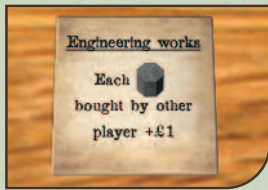
The owner of the *office* tile receives an extra £5 whenever he fulfills at least one contract, either by shipping during the production phase or as part of the *ship* action.

During the *ship* action, the additional proceeds are paid out only once even if several contracts are fulfilled at the same time. The additional proceeds are also paid out only once during the production phase even if the player uses two ships. Thematically, the additional proceeds are obtained on the return voyage by bringing important news and goods from the colonies like tea, silk, etc.

A ship has to be used in order to receive these additional proceeds. If a ship is not used during the production phase, it is not possible to conduct an 'empty trip' to gain the additional proceeds granted by the *office*.



Engineering works (2x)



The owner of the *engineering works* receives £1 from the bank for each machine purchased by another player. These proceeds do not depend on what the other

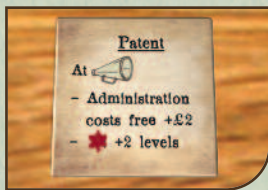
player actually pays for each machine. **Example:** The owner of the *engineering works* receives £2 from the bank if another player purchases two machines.

The owner of the *engineering works* will not receive any money from the bank for machines he purchases himself. In this case, if another player owns the second *engineering works*, the other player will receive money.

Patent (2x)



A *patent* is a great marketing tool. The *patent* can only be used as part of the *distribution* action – not at any other time during the course



of the game. It can be used in two different ways during the *distribution* action. The player may use one of the two options.

Option one: If the player has a *patent*, he may add £2 to the actually paid administrative costs, free of charge. This money can be used to advance the *distribution* marker. First, factor in the *accountant*, then the limit of the action marker, and finally the effects of the *patent* are added.

Example: Marion places the *distribution* max 7 action marker on the £10 space of the administration table. With the *accountant*, she pays only £8. The effects of the administrative costs are limited by the action marker to £7. Finally, the *patent* raises this amount to £9 that can be used for *distribution* activities.

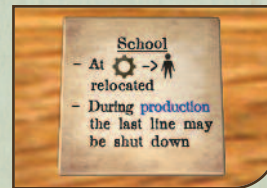
Option two: The player returns the *patent* to the common supply in order to gain a one-time increase of the action's effectiveness.

To do this, the *distribution* action is conducted according to the administrative costs. The player may increase his *distribution* marker by two further levels without having to pay anything. He may raise the marker of one factory by two levels or the markers of two factories by one level each. The kind of levels and the type of factories affected do not matter. Of course, the most effective use is to raise two factories with *distribution* markers of level 3 at the same time to reach level 4 twice without paying any money. The upper limit of level 4 for each *distribution* marker is still in place.

The *patent* may also be used if a player did not increase any *distribution* marker as part of the *distribution* action.

Example: The paid administrative costs were not high enough or the player did not pay anything because of the *accountant*. Using one of the two *patent* options, the player would be able to increase *distribution*.

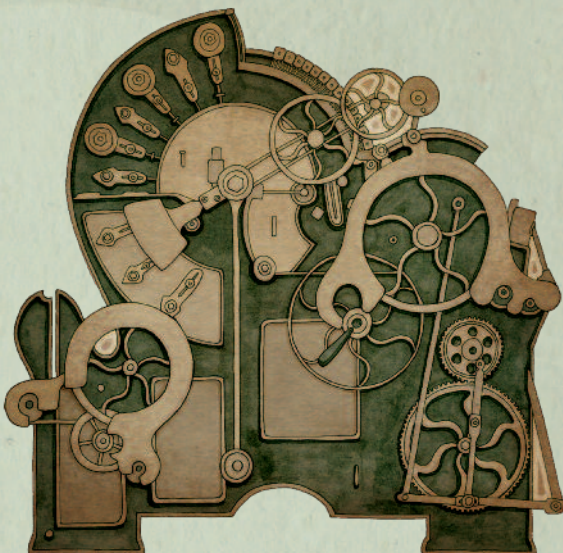
School (2x)



School has two functions. The owner of the *school* tile may reallocate workers he fired as part of the *machinery* action to another production row. It is possible to move them to a

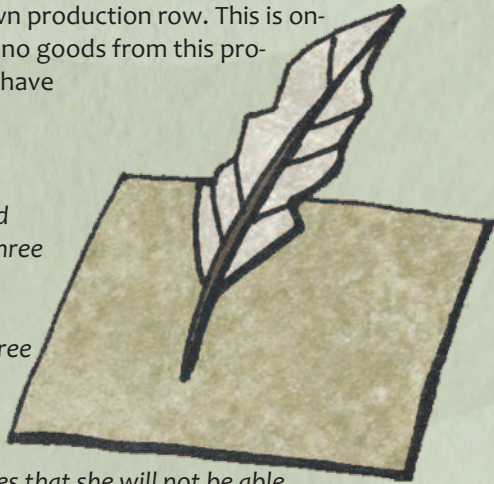
different factory or to the warehouse. The player may choose how many workers, replaced by machines, he wants to place on the fired workers space and how many he wants to move to other spaces in his factories. The player may not move other workers or hire new ones. It is possible to place workers in a production row even if not all places in that production row are occupied. In this case, the production row will not produce. It is also possible to place workers in production row 4 of a level I factory, although this row will not produce any goods. This makes sense if a player intends to modernize the factory before the factory produces goods again.

A player must pay his workers in his active factory even if that row does not produce anything. When a production row is not completely filled, the player must still pay for these workers. For example, if a new production row needs three workers, and the player is able to reallocate two workers from purchasing two machines, he must still conduct a *workers* action or a further *machinery* action (in conjunction with the *school*) in order to produce goods in this production row during the next production phase.



It is not possible to conduct any kind of 'chain displacement,' i.e. replacing a worker that has already been placed on a new space (because of the school) with a machine as part of the same action. To avoid any miscommunication, the fired workers should be placed next to the factory mat and only after the conclusion of the actual machinery action should the workers be placed on empty spaces. (See example to the right.)

Additionally, the school offers the opportunity to shut down the highest operating production row of a factory during the production phase. In this case, there are no costs for workers and machines in this production row – of course, the player will not receive any goods from the shut down production row. This is only possible if no goods from this production row have been used.



Example:

Marion's food factory has three operating production rows with three workers and three machines.

She recognizes that she will not be able to sell the goods produced in the third production row because demand is not high enough. She announces that she will shut down this production row. Later, she only pays the wages and operating costs for workers and machines in the first two rows. To indicate this, she turns the school 90° until the wages have been paid.

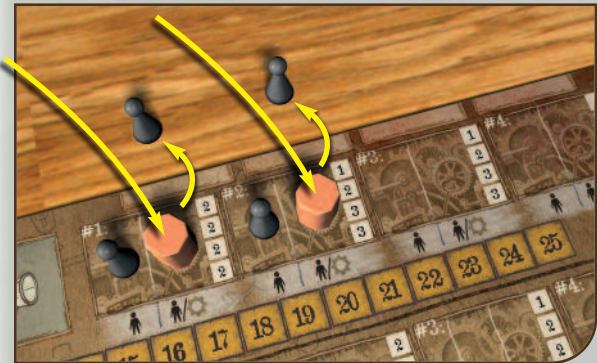
Patron (1x per kind of goods)



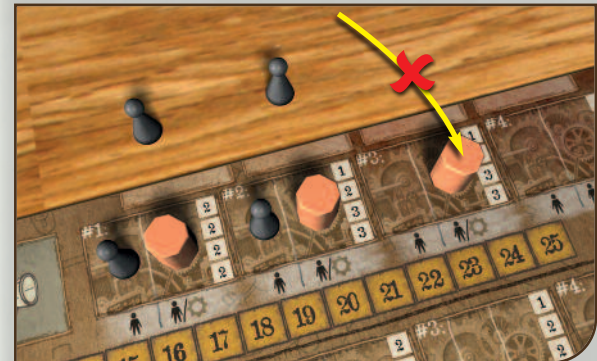
The patron receives goods regardless of the demand generated at the job market. A space on the market share table is not required for a patron. If a player has sold three goods due to demand in England and his goods have an appeal of three, he may sell a fourth goods token to the patron. The patron always pays the price of the player's price scale. Of course, the player needs four goods from his current production and/or

Example: Marion owns the school and conducts the machinery action:

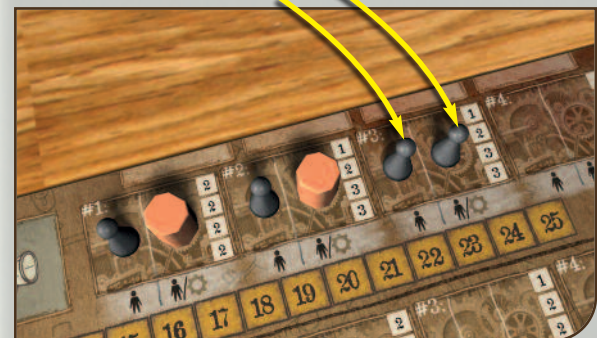
Marion replaces one worker from each of the first two production rows of her food factory with a machine. She places the workers next to the factory in order to open the third production row.



If Marion had been allowed to place a third machine, she could not have used it to replace a worker in the currently still empty third production row. This machine would have to be used in a different factory.



After Marion has placed all machines, she places the workers on the factory mat and opens the third production row. She can do so instead of moving the workers to the fired workers space because she possesses the school tile.

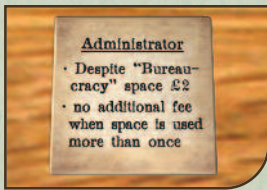




his warehouse. It is not obligatory to use the *patron*. If a player cannot or does not want to sell any goods to the *patron*, he will not suffer any disadvantages.

Goods sold to a *patron* count as regularly sold goods. These goods therefore count for the share value increase of +1 or +2 for selling at least one or two goods. They are also taken into account when determining who sold the most goods.

Administrator (2x)

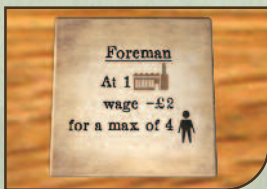


The *administrator* allows the player to use the £2 row of the administration table even if the event *bureaucracy* is in place. Also, the player does not have to pay an additional

fee if he uses a marker that has already been placed on the administration chart.

If the event *bureaucracy* is in place and the player discards the administrator because he has reached the upper limit of four development tiles, the £2 space is immediately blocked. An action marker that has been placed in that spot may be used again during the course of the round. In this case, the additional fee for using it, however, is £4 instead of £2.

Foreman (3x)



If a player takes the *foreman* tile, he has to immediately determine in which factory the *foreman* will work. The *foreman's* effects apply only to this particular factory. To

indicate this, a goods token is placed on the factory symbol on the mat. When wages are paid in this factory, they are lowered by £2 each for up to 4 workers. The player may move the *foreman* to a different factory if he passes on the *special marker* additional action. The goods token placed on the factory is then moved to any other factory. The *foreman* may thus work in several factories during the same game round.

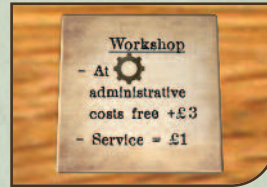
Nobody works free of charge even if there is a *foreman*! In the rare case that the regular wage is only £2, each worker is still paid a minimum wage of £1 despite the *foreman* being in place.

Combining the effects of *workshop* and *foreman*:

If a player owns both the *workshop* and the *foreman* and both tiles are used in different factories, the *foreman* and the *workshop* have to be placed on the development tile spaces that correspond to the order of factories (e.g. the *workshop* is placed on space one if it is used in

the food factory and the *foreman* on space four if he works in the lamp factory).

Workshop (3x)



The *workshop* tile facilitates the purchase of new machines and their maintenance. Conducting the *machinery* action, the player adds £3 to the actually paid

administrative costs, free of charge. This higher amount (administrative costs +£3) is used to purchase machines. The number of machines that may be purchased is still limited by the action marker and the total administrative costs.

Any modifications because of the *accountant* development tile will be calculated beforehand. The *workshop* raises the amount of the effective administrative costs that can be used. The fee for reusing an already placed action marker does not apply towards the total administrative costs.

Example: *Marion* uses the advanced machinery action marker 2/5/10 and places it on the £4 space. She owns the *accountant* and decides to pay only £2 of administrative costs to the bank. Because of the *workshop*, she may now use £5 to buy machines. She takes two machines from the supply and places them in her factories.

Only using the *workshop*, a player may purchase a third machine when he uses his colored action marker. In this case, he pays £10 of administrative costs and, with the additional £3 granted by the *workshop*, he has reached the third value of the *machinery* marker 3/6/13.

The owner of the *workshop* pays only £1 as operating costs per factory regardless of the number of machines operating in this factory. When a player picks the *workshop*, he immediately places a goods token on the factory that will enjoy the lowered operating costs.

The *workshop* function 'lower operating costs' can be transferred to another factory if a player passes on the *special marker* additional action. He moves the goods token placed on the current factory to any other factory. In this way, the *workshop* may affect several factories in the same game round.

Combining the effects of *workshop* and *foreman*:

If a player owns both the *workshop* and the *foreman* and both tiles are used in different factories, the *foreman* and the *workshop* have to be placed on the development

tile spaces that correspond to the order of factories (e.g. the *workshop* is placed on space one if it is used in the food factory and the *foreman* on space four if he works in the lamp factory).

1.9 Event Markers

Event markers represent historical events that happened between 1750 and 1840 and reflect the influence these events had on the English economy. Each event affects all players. If not all aspects of the event can be executed, all possible effects are put in place. The other effects are skipped. Generally speaking, all effects of an event must be applied before the game may continue.

The *Spinning Jenny* version does not use any event markers. Only the *end of game* marker is placed face up on the event space of the 1790s decade as a reminder.

In *Water Frame*, event markers are placed face down on the rightmost column of the timetable:

The *end of game* marker is placed face down at the end of the 1810 decade. The *bureaucracy* marker and two other randomly drawn markers are shuffled. These three markers are placed face down at the end of the 1770, 1780, 1790 decades. All other markers are shuffled and one of them is placed face down at the end of the 1800 decade. The other markers will not be used in the game and are returned to the box.

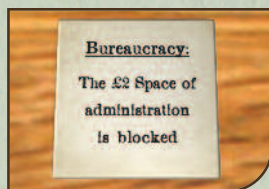
The reverse side of the markers reminds the players that before the event takes place, all ship crews and warehouse workers have to be paid.

Those who want a more varying turn of events can add further event markers for each decade between 1760 in 1800. These markers are randomly drawn and placed on top of the markers already in place. At the end of each decade, an additional event takes place (exception 1810). Ship crews and warehouse workers have to be paid only once (and not at all in 1760).

The *broker* affects the game only after the events have taken place and offers the owner the opportunity to sell goods in warehouses and to trade shares.

The Function of the Event Markers:

Bureaucracy: Blocking the £2 space on the Administration Table

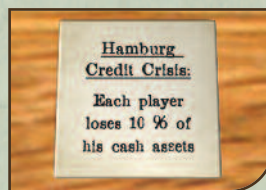


The increasing size of the companies requires more administration and rising costs. The entire £2 row of the administration table is blocked for the remainder of the

game. As a reminder, a goods token is placed on each space in the row.

If a player owns the *accountant*, he may return the goods token to the supply. If a player discards the *accountant*, he must block the space again. In such a case, an action marker already placed on the £2 space may only be used again for an additional £4 (instead of £2) during this decade. The *bureaucracy* marker is shuffled together with two other markers at the start of the game and placed face down on one of the spaces of the 1770 - 1790 decades. As soon as it is revealed, it remains valid and stays in place till the end of the game.

Hamburg Credit Crisis: Each Player Loses 10% of his Cash



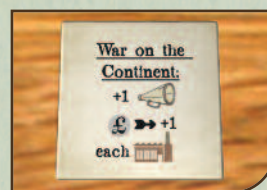
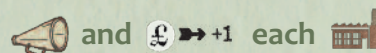
Hamburg's currency is based on silver. Due to slow sales of goods and a recession in the USA, too many

creditors want to receive silver, which causes a breakdown of the entire system. All parts of the economy are thrown into a crisis. Many companies even outside of Germany lose a lot of money or, even worse, suffer bankruptcy.

Each player counts his cash and announces the amount he has. Afterwards, everyone pays 10% of this amount to the bank (rounded up).

Example: Marion has £27 of cash and loses £3. Harold pays £9 to the bank because he has £94 cash. Angelica has only £4 and thus doesn't lose any money because of the crisis.

War on the Continent: +1



Napoleon devastates continental Europe and tries to bring England to her knees, implementing the continental system. England, however, unlocks new markets in

territories not controlled by Napoleon and ends up stronger than the countries that are part of the continental system.

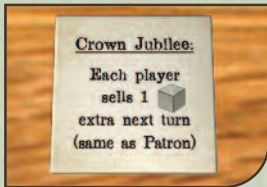
In each factory, each player raises the distribution



marker by one level (or places a new one at level 1) and raises the price on the corresponding price scale by £1. If a factory has already reached level 4, the price indicator will also not be raised. The event doesn't affect this factory.

Since appeal and price rise at the same time, the appeal indicator does not have to be adjusted on the market share table. After the production and sale phase, the distribution value and thus the appeal are lowered by one. The price may, however, only be adjusted by conducting the corresponding additional action.

Crown Jubilee: Each player sells 1 extra next turn (same as Patron)



King George celebrates his crown jubilee. The celebrations boost the economy to new levels.

During the upcoming decade, each player may sell one

additional goods token (as to a patron). The marker is placed face up on the event marker of the next game round.

This additional sale may also consist of the same kind of goods that was sold to a patron. When and which kind of goods is sold due to the Jubilee is decided by each player. It is a regular sale - the goods have to be produced regularly or have to be taken from the warehouse. The goods are sold for their regular price according to the price scale, and the sale affects the share value.

To indicate the option of selling an additional goods token, a token is placed on each column of the administration table above the £10 row. As soon as the player uses this opportunity to sell an additional goods token during this decade, the token above his row is removed.

At the end of the next decade, the opportunity to sell an additional goods token is lost. Any remaining goods tokens on the administration table are removed. The Crown Jubilee event marker is returned to the box and the next event takes place.

Lobby: Each player +1



The companies become better at pushing through their interests and obtaining privileges.

The start player begins and takes any special marker (ship, advanced action marker, development tile). The other players follow in clockwise fashion. Only markers of the current level are available. It is still the 'old' decade!

Using the inventor, a player may take a ship or an action marker of the next level.

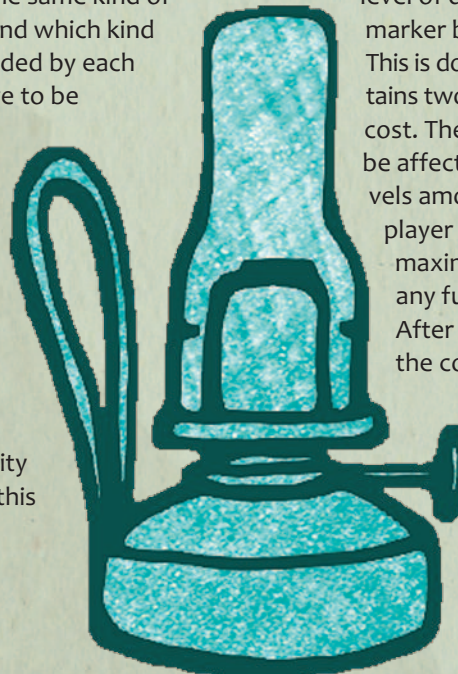
'Made in England': Each player + 2

The law that each product has to indicate its place of origin is supposed to strengthen the domestic economy. Later on, however, goods made in Germany - originally considered to be of lower quality - gain more and more popularity.



Beginning with the start player, each player may take a level of distribution, raising an existing marker by one or placing a new one of +1. This is done twice. Therefore, each player obtains two levels of distribution without any cost. The players decide which factories will be affected. They may distribute these levels among two different factories. If a player has raised all markers to the maximum of +4, he does not receive any further advantage.

After raising the marker, a player adjusts the corresponding appeal indicator on the market share table. Adjusting the price is not possible - to do so, the price adjustment additional action is required.

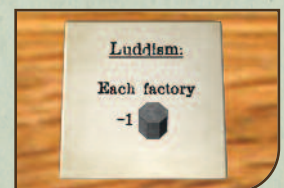


Luddism: each factory - 1

Artisans and unhappy workers

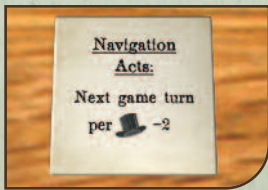
destroy machines because they fear these machines will destroy their jobs.

Beginning with the start player and proceeding in clockwise order, each player must remove one machine from one of his factories (returning it to the common supply). The machine is replaced by a worker from the fired



workers space (not from the job market). This procedure is repeated until all players have replaced one machine with a worker in all of their factories. If a player has done so already for all of his factories, he is skipped over. If there are not enough workers in the fired workers space, additional workers will be taken from the job market. If there are not enough workers on the job market, the event will only be executed until all workers are placed in factories.

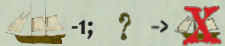
Navigation Acts: Next Game Round per -2



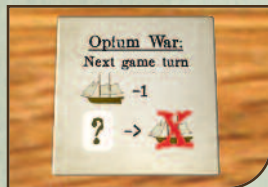
The navigation acts limit imports. Importers, however, found ways to circumvent these laws.

All importers are moved back two spaces in the next game round (never below the 'o' space). The event marker is placed face up on the event of the next game round. If the timetable indicator reaches this event space, all importers are advanced again by two spaces (including from the 'o' space). The marker is returned to the box.

Opium War: Next Game Round



English traders smuggled opium on a grand scale to obtain silver. The Chinese emperor took measures against this illegal opium trade. This caused uncertainty in the shipping trade, the loss of merchantmen, and eventually led to the Opium Wars.



The event marker is placed face up next to the event marker of the next game round and is in effect throughout the upcoming game round. The capacity of all ships is lowered by 1. If a player wants to ship four goods, he may not do so using a 4 capacity ship because this ship's capacity has been lowered to 3 for this game round.

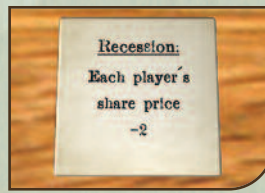
At the end of the next round, each player loses a ship of his choice, i.e. he has to discard a ship after paying for ship crews. As usual the ship marker is returned to the special markers mat and the corresponding number of workers is moved to the fired workers space on the game board. The Opium War marker is removed from the game. If a player does not own a ship, he is not affected by this event.

Example: In the preceding turn, the Opium War event took place. Marion owns a 4 capacity and a 6 capacity ship. During the production phase, she may ship a

maximum of 8 goods because her ships have a capacity of 3 and 5 during this round. She decides to discard the 6 capacity ship at the end of the game round because she intends to ship very few goods during the next game round. She pays both crews their wages and discards 2 workers and the 6 capacity ship. Now, the event for the current game round takes place.

Opium War should not be used in a two player game.

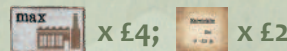
Recession: each share price -2



The economy overheats repeatedly and workers are fired en masse. Companies lose value or, even worse, go bankrupt.

Each player moves his share value indicator two spaces back – however, not below 'o.' Additional spaces are forfeit.

Royal Society:



The Royal Society promotes 'progress' and grants price money and subsidies.

Each player receives cash from the bank. A player receives £4 per level in his most advanced factory and £2 for each of his development tiles.

Example: Marion has a level I food factory, a level II clothes factory, and a level II lamp factory. She receives £8 (the highest development level of her factories (II) multiplied by £4). In addition, she owns the development tiles engineer, patent, and foreman. She receives an additional £6 for these markers. Altogether, Marion receives £14 from the bank.



Social Unrest:

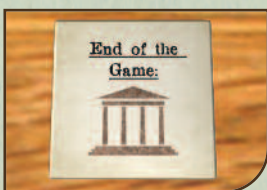
Per -£1



Workers live in dreadful conditions and wages stagnate. This kind of pauperism causes unrest.

Each player must pay £1 for each worker in his factories and on the harbor mat.

End of the Game

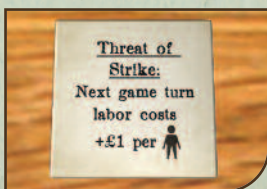


This marker is placed on the predetermined space. It is placed face up on the 1790 space in the *Spinning Jenny* version. In *Water Frame*, it is placed face down on the 1810

space.

If the timetable indicator reaches the end of the game, each player may conduct an abridged stock exchange action (conducting a warehouse sale and buying shares). The broker may not be used during or after this event.

Threat of Strike: next game turn wages + £1 per



Workers are unhappy with their labor conditions and have to be pacified with additional payments. Job protection laws (against child labor and lowering the risk of

accidents) cause additional costs.

Each worker's wage is raised by £1 during the next decade. As a reminder, the event marker is placed face up on the event marker of the next decade. A goods token is also placed next to the indicated wages on the job market.

As soon as the timetable indicator reaches the event space, the threat of strike event marker is returned to the box and the goods tokens are removed from the job market. Afterwards, the next event takes place.

World Exhibition:

4 from removed from the game

The world exhibition fires up the economy.

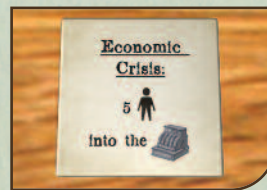
Four workers are removed from the job market and returned to the box. They are not used for the remainder of the game even if the fired workers space should be empty and an event or economy marker would require



further workers to be placed on the job market. If there are not enough workers in the job market, further workers will be taken from the fired workers space. If there are not enough workers on that space either, the remainder is forfeit.

Economic Crisis:

5 moved to



Demand collapses.

Five workers are immediately moved from the fired workers space to the job market. If there are not enough workers on the fired workers space, the remainder is forfeit.

2. Strategy Tips

PLEASE DO NOT READ THIS IF YOU WANT TO DISCOVER THE VARIOUS STRATEGIES OF ARKWRIGHT ON YOUR OWN!

Arkwright offers many different possibilities to be successful, in particular in the *Water Frame* version. Since success depends on two factors (number of shares and share value) it is possible to focus on one of these factors and advancing the other one later on, or, as an alternative, to focus equally on both factors right from the start. At the end of the game, an equal distribution among the two factors is mathematically seen the most effective ($20 \times 20 = 400$ is more than $15 \times 25 = 375$). Accordingly it is important to keep an eye on both factors. All too often and especially during the first few games, the share value develops rather well and shares become too expensive and it becomes increasingly difficult to purchase shares from the bank at the end of the game. Whoever buys shares while they are not highly valued during the course of the game or makes profits that harm the share value has an advantage. Every game will develop along different lines because the distribution of the development tiles and advanced action markers is different from game to game. It is highly recommended to consider the options resulting from this when you develop your strategy.

It is always advisable though to pay attention to the turn order. Whoever is 'last', i.e. conducts the last action before the active kind of goods is produced, has a huge advantage because nobody can respond to his actions. He can recognize precisely how he may sell all of his goods at the best possible price or which distribution activities allow him to reach the highest possible appeal in order to receive a bonus advance for having

the highest appeal on the market share table. The player who may determine the start player should aim for being last in those cycles in which his most important factories produce the active kind of goods. The start player though has the advantage to be the first to have access to those newly available action markers (and ships) that are the most interesting.

Generally speaking, it is a good idea to pay attention to the actions of the other players and react to what they do. If there are already two other players who concentrate on ships, it might be profitable to focus more on England. If there is a market that is not serviced by any player, it will be profitable to become active in this market. If too many other players are active in the same market, it might be advisable to close a factory in order to avoid unnecessary losses.

In many situations it is possible to plan your own move in advance in order to avoid unnecessary delays in the game. Short-term decisions do not often require excessively long thinking if you are certain about the overall aims of your company.

Some of the more general strategies for **Water Frame** (played by four players) are presented in the following paragraphs – without making any claims of being exhaustive or guarantees of success. The general principles also apply to the **Spinning Jenny** version.

The number of recommended factories refers to those factories on which a player focuses more or less intensely. It might be advantageous to open a further factory and produce and sell just 1 or 2 goods, for example using the *patron*. This allows to increase the share value without caring too much about this factory.

2.1 The Specialist

The specialist focuses on two factories, expands them with machines and also increases the quality and distribution of these factories. He achieves many bonus points for having the most appealing goods and selling the most goods. In addition, such a player makes a handsome profit which allows him to buy plenty of shares until the end of the game. During each decade, the specialist should advance at least six spaces on the share value track. At the end of the game, he should try to have more than 20 shares in his portfolio.

The specialist hardly uses ships and contracts (only perhaps towards the end of the game). He often focuses on minimizing costs in at least one of his factories by using as many machines as possible.

Recommended number of factories: 2

Important special markers: advanced actions *quality, distribution, production*; development tiles *patent, engineer, charisma, inventor*

2.2 The Shipowner

The ship owner (also called friend of the company or ship player) focuses on contracts and shipping of goods in order to earn as much cash as possible early on. Thus, he may purchase many shares before their value increases. Increasing the share value is not his focus for the first part of the game. In contrast it is almost counter-productive.

Sales in England are initially avoided by the ship owner. In any case, he must have enough storage space and be able to cause overproduction on occasion in order to ship more goods. He will frequently conduct the *stock exchange* action in order to place new contracts.

Until the middle of the game, he should have obtained 25 shares in order to increase his share value during the subsequent turns of the game.

This strategy requires a lot of planning. Cash might run short, especially during the first decade. It is therefore advisable to sell one share too many than one share too few. Since the share value is not supposed to rise during the first half of the game, shares may be bought back quickly as soon as profits become regular. The *stock exchange* action will often be chosen to purchase shares in addition to obtaining new contracts.

The shipowner requires the *inventor* in order to have ships of high-capacity and the most modern factories.

Recommended number of factories: 3

Important special markers: *ships, advanced action production*; development tiles *agent in the colonies, office, administrator, inventor*

2.3 The Completist

It is the aim of the completist to operate all four factories. In this manner, he achieves a steady rise of his share value. He also remains flexible and can quickly decide which kind of goods offers the best opportunities to make a profit. The completist can purchase shares during the course of the game before they become too expensive.

The completist often owns a ship and waits for a contract in case one market collapses and he is required to store goods and sell them elsewhere.



His share value should advance by 8 to 10 spaces each round in order to reach the maximum share value at the end of the game. By then he should have purchased more than 15 shares.

He should be flexible in regards to the position of the start player. He will need to understand which active goods for which he will be 'the last player.' Thus he can lay claim to the most appealing goods and the most goods sold without spending too much effort.

Recommended number factories: 4

Important special markers: *advanced action marker machinery; development tiles school, foreman, developer, patron* (perhaps several *patrons*)

2.4 The Flexible Player

A player who wants to succeed in England as well as conduct business with the East India Company has to plan especially well. His aim should be to operate three factories during the course of the game. He can produce a little for the English market in order to increase the share value. At the same time contracts and ships should be ready in order to make handsome profits to be able to purchase shares at the end of the game. He may rely less on ships and focus on raising the share value towards the end of the game. The player should aim for a share value of 20 and a portfolio containing more than 20 shares.

Recommended number of factories: 3

Important special markers: *ships; development tiles accountant, small warehouse, agent in the colonies, developer*

3. Game Variants

The following game variants will enhance the strategic and tactical decision making in **Arkwright**.

3.1 Spinning Mule

The **Spinning Mule** variant provides players with more gameplay depth than **Spinning Jenny** but does not contain all aspects of **Water Frame**. **Spinning Mule** is named after a machine that unified some features of the **Spinning Jenny** and **Water Frame** machines.

Spinning Mule is designed to be played in the two hour timeframe of **Spinning Jenny**. This variant introduces the players to development tiles, economy markers, and events. These elements may be used individually or in any combination. However, we recommend at least implementing the development tiles.

In this variant, all rules for *Spinning Jenny* apply with the following amendments:

Preparation Round 1760

The light grey *stock exchange* advanced action markers are removed from the game and put back in the box. The other advanced action markers (*quality, distribution, and machinery*) are placed face up on the **Spinning Jenny** side of the special markers mat, respective of the number of players.

NOTE: the *stock exchange* space on the timetable will not contain any light grey advanced action markers, as all advanced action markers have been placed on the special markers mat.

Development Tiles

Place the following development tiles face up next to the special markers mat:

2-Players:

charisma, engineering works, workshop, foreman, extra shifts, patron – lamps, patron – clothes, developer, accountant, broker

3-Players (in addition):

patron – cutlery, workshop, foreman, broker, extra shifts

4-Players (in addition):

patron – food, engineering works, foreman, accountant, developer

During phase V of the 1760 preparation round, players may choose to take a light grey advanced action marker or one of the available development tiles.

Players may take any available development tile in lieu of a grey advanced action marker when conducting the *take special marker* additional action (*workers, stock exchange, machinery*). All development tiles are immediately available at the start of the game. For all details regarding development tiles, see 1.8.

Alternative development tiles include *school, patent, engineer, and administrator*. The other development tiles are not suitable for this variant.

Economy Markers

Take the following five economy markers for each type of goods: importer 1 / worker 1 = 1/1; 1/2; 1/3; 0/2; 2/2. Shuffle these economy markers face down and place three markers of each type on their respective column of the timetable. Place the remaining economy markers in the box without revealing the front side.

During the economy phase, the start player reveals the economy marker that is located on the space of the timetable indicator. He advances the neutral importer marker on the market share table in the column of the active goods as many spaces as depicted on the economy marker. Additionally, he transfers as many workers from the fired workers space to the job market as depicted on the marker.

Event Markers

The *End of Game* event marker is placed face up on the event space of the 1790s decade. The following event markers are suffled face down and two are placed face down on the event spaces of the 1770 and 1780 decade: *World Exhibition*, *Lobby*, *Threat of Strike*, *Made in England*

Alternative event markers include *Luddism* and *Crown Jubilee*. The other event markers are not applicable outside **Water Frame**.

3.2 Self-Actor

Early in the 19th century, a new type of machine was invented: the **Self-Actor**. It became the first completely automatic working machine. This variant to **Arkwright** is named **Self-Actor** as a dedication to this new masterpiece of technology.

The **Self-Actor** variant introduces several new elements: new event marker, bonus markers, award markers, new action maker, and new development tiles. These new elements may be used individually or in any combination.

In this variant, all rules for *Water Frame* apply with the following amendments:

Event Marker – Steam Power (1x)

During the 1760 preparation round, shuffle the new *steam power* event marker together with the other markers, keeping the specific rules for *bureaucracy* and *end of game*. If the event is revealed, players must pay for modernizing their machines and ships. Each player pays £1 per machine in their factories and £1 per capacity of their ships.

Example: *Uli has a total of 5 machines in his factories. He also has a ship of capacity 4 and a ship of capacity 2. He must pay £11 to the bank.*

Bonus Markers – Shipping and Home Market (2 markers per player)

There are 8 total bonus markers, 2 for each player (one

shipping bonus marker and one *home market* bonus marker). The bonus markers indicate each player's personal record of goods delivered via shipping and sold to the home market in England. The two bonus markers for each player are placed on space 1 of the share value track.

When a player delivers goods to the colonies via his ship (either through the *ship* action or during the production phase), he checks if a new personal record has been achieved. If the player has delivered a higher number of goods than before, he moves his *shipping* bonus marker to the respective space on the share value track.

Example: *Marion used a ship of capacity 6 to fulfill her contract for 4 bread. Her shipping bonus maker is on space 2, as she had previously shipped 2 goods. Because Marion has achieved a new personal shipping record of shipping 4 goods, she moves her shipping bonus marker to space 4 on the share value track.*

NOTE: It does not matter what type of good is shipped or the number of ships used. Only the quantity of goods shipped applies to the *shipping* bonus marker.

When a player fulfills demand to the home market in England, he checks if a new personal record has been achieved. If the player has sold a higher number of goods in England than before, he moves his *home market* bonus marker to the respective space on the share value track.

Example: *Marion has sold 6 cutlery to England, 5 to the demand on the job market and 1 to his patron. Her home market bonus marker, currently on space 5, is moved to space 6.*

NOTE: The type of goods sold does not matter. Only the quantity of goods sold applies to the *home market* bonus marker.

Bonus markers can reach a maximum of space 10 on the share value track. Additional spaces are lost. Bonus markers never move backwards because they indicate a player's personal best performance, not the player's latest performance. During end game scoring, each player multiplies the value of both of their bonus markers and adds this result to their total value.

Example: *Marion has 24 shares valued at £23 per share for a total value of £552. Her bonus markers are on space 7 (home market) and space 4 (shipping). Marion adds £28 to her regular score of £552 for a grand total of £580.*



Award Markers – Competition (2x)

The award markers are given to the first player to reach two different milestones in **Arkwright**.

Place the *share value competition* award marker on space 25 of the share value track. Place the *shipping competition* award marker on the special markers mat near the ships or on space 6 of the share value track, if using the bonus markers module.

Share Value Competition Award Marker

The first player to advance his share value indicator on or past space 25 of the share value track receives one of his shares from the bank and the *share value competition* award marker. If more than one player reaches space 25 in the same phase, the player with the highest share value after conducting the full phase (including shipping) receives the share and award marker. If there is still a tie, all tied players may buy one of their shares immediately at half price (rounded up). In this case, the award marker is removed from the game.

The owner of the *share value competition* award marker can discard the award marker to avoid moving his share value indicator backwards due to an emergency share sale. The award marker is then removed from the game.

Shipping Competition Award Marker

The first player to deliver 6 or more goods via ship receives the *shipping competition* award marker and advances his share value indicator 2 spaces on the share value track. If more than one player can ship 6 or more goods at the same time, the player that ships the most goods will receive the award. If there is still a tie, all tied players advance their share value indicator by 1 space. In this case, the award marker is removed from the game.

The owner of the *shipping competition* award marker may discard the award marker to avoid increasing one of his unfulfilled contracts. The award marker is then removed from the game.

Action Marker – Reorganization (1 marker per player)

Conducting the *reorganization* action allows the player to take both additional actions (*take special marker* and *price adjustment*) while forgoing the main action.

Each player receives a *reorganization* marker that is used in the same way as the other action markers. The marker is placed in the player's supply with the light colored side face up.

When using the *reorganization* marker, the player does not have to pay any administration costs. The use of this marker is free of charge regardless of the space used in the administration table.

The light colored side of the action marker allows the player to conduct the *take special marker* and *price adjustment* additional action. The price adjustment may be conducted in only one of the player's factories. When action markers are returned to the players at the end of a round, any player that used their *reorganization* action marker flips it to the dark colored side. After the 1790 decade, all players flip their markers to the dark colored side regardless if their marker has been used.

The dark colored side of the marker allows the player to take one special marker and conduct price adjustments in all of his factories.

Development Tiles (11x)

Place the *charisma* and one *inventor* development tile aside. Shuffle the new development tiles together with the tiles from the regular game and draw the usual number of tiles per the **Water Frame** rules.

Harbormaster (2x)

Similar to the *foreman*, the *harbormaster* tile reduces wages for a player's workers, but only for workers on their harbor mat (*ship crews* and workers in the warehouse). When wages have to be paid to workers on the harbor mat, the wages are lowered for up to 4 workers by £2 each. In the rare case that the regular wage is only £2, each worker is still paid a minimum wage of £1.

Investor (2x)

The owner of the *investor* tile receives £8 from the bank each time he waives the additional action (*take special marker* or *price adjustment*) granted by the selected action marker.

NOTE: when waiving the *price adjustment* additional action, the player has to waive the additional action in total. If the player adjusts price in one factory, but refrains from doing so in one or more other factories, the *investor* cannot be used to gain £8 from the bank as this is not regarded as waiving the additional action.

Supervisory Board (1x)

When another player returns a special marker to the common supply (development tile or ship), the owner of the *supervisory board* allows the player to immediately take the special marker being returned by the other player (and only this marker), even though it is

not his turn. The *supervisory board* is returned to the common supply. The active player may not take the *supervisory board* tile in his current turn.

Loadmaster (2x)

The owner of the *loadmaster* tile may increase the capacity of each of his ships by one. In this way, the owner can balance the effect of the *Opium War* event. The player does not need any additional ship crew members for the *loadmaster*.

Wealth of Nations (2x)

The administration table has an additional space of £0 for the owner of the *wealth of nations* tile. The player may place an action marker on the £0 row and therefore pay no regular administration costs. He may benefit from an *accountant* to pay £1 or £2 administration costs for use during the main action.

If the *bureaucracy* event is in place, the £2 space on the administration table is still blocked, but the player may still use the £0 space. If the player returns the *wealth of nations* tile back to the common supply, any action marker already on the £0 space remains in place. In this case, reusing an action marker on this space incurs an additional fee of £4 instead of £2.

Manager (2x)

With the *manager*, a player is able to change the additional action of his action marker. After each of his main actions, the player may take the other additional action. If the current action marker allows for a price adjustment, the player may take a special marker instead. If the action marker allows the player to take a special marker, he may conduct a price adjustment.

NOTE: Price adjustment is only allowed in factories where the main action had an effect. If the player conducted a *stock exchange* action, he may choose any one factory to adjust price.

Example: After conducting the *quality* action, Marion takes a special marker (ship) instead of adjusting price. Later, Marion conducts the *workers* action and hires workers to her bread and cutlery factories. She decides to use the *manager* to adjust the price in both of these factories.

Combining the effects of the *manager* and *reorganization* action marker:

If the player has the *manager* and uses the light colored side of his *reorganization* action marker, he may waive the *take special marker* additional action and conduct price adjustments in 2 of his factories. The player is not allowed to waive a price adjustment to take more than

one special marker.

3.3 Stock Exchange

This variant is intended for experienced players only. The **Stock Exchange** variant allows players to purchase the shares of other players in order to benefit from the success of their increasing share value.

Players will keep full control over their companies during the entire game. A player cannot acquire the power to rule over another company and interfere with the decisions made by the owners of the other companies. Essentially, the shares of other companies that are purchased are non-voting shares. Incidentally, a player cannot achieve an improvement to his final score from shares of other players.

Players do not trade shares between themselves – only from the bank, with one exception: a player can repurchase his own shares from other players if he has already purchased all of his shares from the bank.

Purchasing and selling shares does not have any impact on the share value.

In this variant, all rules for *Water Frame* apply with the following amendments:

Setup

The usual setup procedure is conducted. A player can purchase other player's shares during the 1760 preparation round, up to a limit of 5 shares per each other player. The rules for purchasing shares apply as described below.

Purchasing Shares

Purchasing Own Shares

The *stock exchange* action is used to purchase shares of a player's own company. The player must purchase shares from the bank, as long as the bank has shares of his company available. If the bank does not have any of his shares, he may choose any player that owns shares of his company. This other player must sell these shares to him at the current price indicated on the share value track. The chosen player cannot refuse the trade.

Purchasing Shares of Other Companies

During the *stock exchange* action, a player may also purchase shares of the other player's companies from the bank. He pays the bank the price indicated on the share value track and places the corresponding number of shares in his display.



The bank will pay a bonus to companies that have their shares purchased by other players in the amount of £1 per £5 of share value. The bank only pays this bonus when shares of other companies are purchased from the bank.

Example: The Red player purchases 4 of the Green player's shares that have a value of £14 per share. Red pays £56 to the bank and takes 4 Green share markers. The bank pays £2 per share as a bonus to the green player, £8 in total. **NOTE:** A player may not use the broker to purchase shares of another company at half price. However, it is possible to use the broker to purchase shares of other companies during the end of round phase.

Selling Shares

When a player sells shares that he owns of other companies during the stock exchange action, the bank pays the current share value of the respective companies. It is not possible for a player to sell shares that he purchased during the same action. Also, a player may not purchase shares of a company that he sold during the same action. **NOTE:** A player may use the broker to sell shares of another company during the end of the decade.

During an emergency share sale, a player may sell shares of another company. The bank pays him the value of the other player's company, but he still must reduce his share value indicator. The reduction in share value is evaluated using the share value of the company's share value of which he sold shares.

Example: Red sells 2 shares of Green to the bank as an emergency share sale. Green's share value indicator is on space 38 and has a value of £23. Red's share value indicator is on space 29 and has a value of £20. The bank pays Red £46 for the sold shares. Red's share value indicator is reduced 6 spaces in total, 3 for each Green share sold. Red's share value indicator is now on space 23 and has a value of £17. Red could have sold 2 of their own shares but would have received only £40 and a reduction of 4 spaces on the share value track.

End of Game Event

The procedure for the *End of Game* event is as follows:

1. Temporarily reduce share value for open contracts and remaining workers on a factory for applicable companies
2. All players sell their shares of the other companies
3. Remove temporary reduction in share value for applicable companies in Step 1
4. All players purchase shares of their own company

5. Reduce share value for open contracts and remaining workers on a factory
6. Evaluate final score and winner

The detailed procedure for the *End of Game* event is as follows:

1. All players with open contracts place their stock exchange action marker on the space of their share value indicator.
2. Reduce the share value for open contracts and workers remaining on a factory marker by moving the share value indicator (the stock exchange action marker remains in place).
3. All players sell shares they own from the other companies at the rate shown by the share value indicator.
4. All players buy their own shares from the bank. The players with open contracts pay the price as shown by their stock exchange action marker.
5. Remove the stock exchange action markers and evaluate the final scores.
6. Players evaluate the value of their company and the player with the highest value is the winner.

Example: Red has 4 shares of Green at the end of the game. Green's share value indicator is currently on space 46 and has a value of £26. Because Green has open contracts for 4 cutlery and for 4 lamps, Green's share value is reduced 8 spaces to space 38. Green's shares now have a value of £23 per share. Red receives only £92 from the bank for their 4 shares of Green (4 x £23). If Green didn't have any remaining open contracts, Red would have received £104 for their 4 shares of Green. When players purchase their own shares, Green will purchase his shares at £26 per share.

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The Value of a Company

Each space is the arithmetic product of number of shares and current share value

CURRENT SHARE VALUE	NUMBER OF SHARES																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78	81	84	87	90
4	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96	100	104	108	112	116	120
5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150
6	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138	144	150	156	162	168	174	180
7	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140	147	154	161	168	175	182	189	196	203	210
8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	168	176	184	192	200	208	216	224	232	240
9	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144	153	162	171	180	189	198	207	216	225	234	243	252	261	270
10	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300
11	11	22	33	44	55	66	77	88	99	110	121	132	143	154	165	176	187	198	209	220	231	242	253	264	275	286	297	308	319	330
12	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
13	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208	221	234	247	260	273	286	299	312	325	338	351	364	377	390
14	14	28	42	56	70	84	98	112	126	140	154	168	182	196	210	224	238	252	266	280	294	308	322	336	350	364	378	392	406	420
15	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	375	390	405	420	435	450
16	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432	448	464	480
17	17	34	51	68	85	102	119	136	153	170	187	204	221	238	255	272	289	306	323	340	357	374	391	408	425	442	459	476	493	510
18	18	36	54	72	90	108	126	144	162	180	198	216	234	252	270	288	306	324	342	360	378	396	414	432	450	468	486	504	522	540
19	19	38	57	76	95	114	133	152	171	190	209	228	247	266	285	304	323	342	361	380	399	418	437	456	475	494	513	532	551	570
20	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600
21	21	42	63	84	105	126	147	168	189	210	231	252	273	294	315	336	357	378	399	420	441	462	483	504	525	546	567	588	609	630
22	22	44	66	88	110	132	154	176	198	220	242	264	286	308	330	352	374	396	418	440	462	484	506	528	550	572	594	616	638	660
23	23	46	69	92	115	138	161	184	207	230	253	276	299	322	345	368	391	414	437	460	483	506	529	552	575	598	621	644	667	690
24	24	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480	504	528	552	576	600	624	648	672	696	720
25	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600	625	650	675	700	725	750
26	26	52	78	104	130	156	182	208	234	260	286	312	338	364	390	416	442	468	494	520	546	572	598	624	650	676	702	728	754	780
27	27	54	81	108	135	162	189	216	243	270	297	324	351	378	405	432	459	486	513	540	567	594	621	648	675	702	729	756	783	810
28	28	56	84	112	140	168	196	224	252	280	308	336	364	392	420	448	476	504	532	560	588	616	644	672	700	728	756	784	812	840
29	29	58	87	116	145	174	203	232	261	290	319	348	377	406	435	464	493	522	551	580	609	638	667	696	725	754	783	812	841	870
30	30	60	90	120	150	180	210	240	270	300	330	360	390	420	450	480	510	540	570	600	630	660	690	720	750	780	810	840	870	900



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