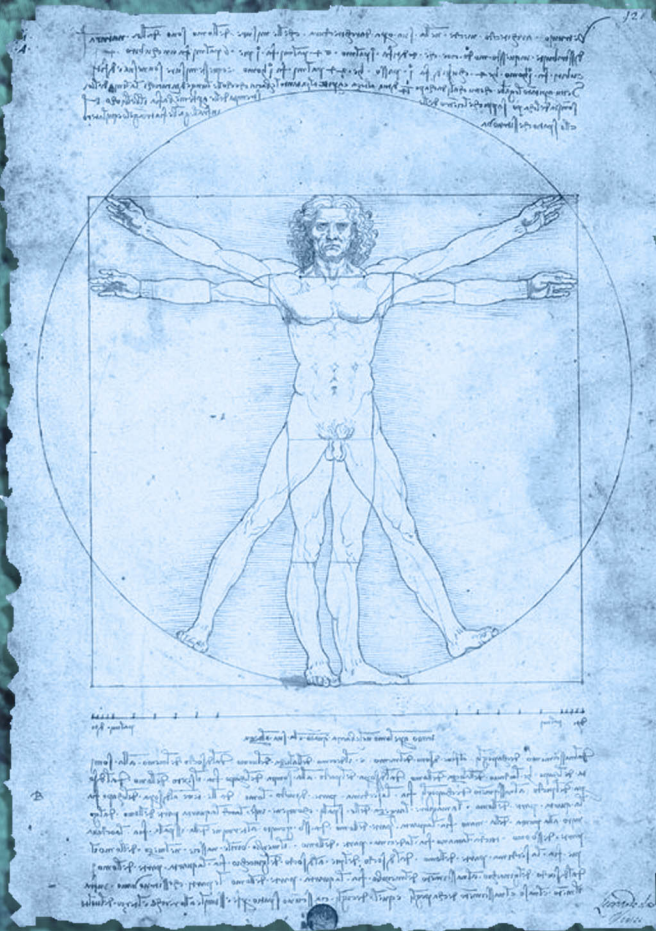


Fantasy Da Vinci Machines Toolkit



Paul "Wiggy" Wade-Williams

Da Vinci Machines

Fantasy is usually swords-and sorcery, set in a time before gunpowder and technology. Some settings allow dwarves to build steam engines or manufacture gunpowder. If you're running a psuedo-historical fantasy game, you might wish to set it as late as the Rennaissance.

Here we take a look at using Da Vinci machines in a fantasy setting. It's an official, and free, add-on for the *Fantasy Gear Toolkit*.

What Are They?

Da Vinci machines are gizmos based on the sketches and plans of Leonardo Da Vinci. Although fantastical for their time, there is evidence that they could have worked had any of them being constructed. Unlike "steampunk" devices, they work on the principal of gears and clockwork rather than steam engines.

Of course, not all of Da Vinci's machines were clockwork, or indeed fantastical. His machine for storming a castle wall is simply a variation on the siege towers of old.

Making Machines

If you're thinking about using Da Vinci machines, you'll first need to consider how to introduce them into your setting. It doesn't matter whether they're built by dwarves or exist as "what ifs" in a pseudo-historical game—someone created these devices and you need an entire of how they function.

Weird Science

Whether you allow your characters to manufacture Da Vinci machines is a personal

choice. If you do, you might wish to consider using the Weird Science rules as a starting point. *Fly*, for instance, may be a helicopter, whereas *burrow* might be a drilling machine (useful in sieges) and *blast* a revolutionary new cannon. Not every power is suitable for turning into a Da Vinci machine, however.

Unfortunately, Weird Science uses Power Points, and equating these to non-magical devices can be difficult. For instance, if you have a new type of cannon (blast), what's to stop you simply reloading it? A flying machine (*fly*) might resonably be powered by gears or even pedal power, but why should it not be rewindable or able to fly as long as the pilot has enough stamina?

The easiest solution if you intend to use Weird Science is to have them require a unique fuel source. Maybe clockwork devices are powered by crystals, which store a charge and then release it over time. Once drained, they take time to replenish their energy.

The cannon, for example, might produce such power that the barrel gets red hot. Power Points thus equate to the time it takes for the barrel to cool. Sure, you could pour water on it to help it cool quicker, but since Power Points represent a finite limit to a devices' usage, the barrel would crack, rendering the entire device useless.

Mundane Items

If you want Da Vinci devices to be more mundane, the best option is simply to device a list of standard equipment. Players might be able to buy these items, depending on their rarity, but they can't knock one up from spare parts found in their workshop.

Da Vinci Trappings

Here's a list of possible Da Vinci-style machines as trappings for Weird Science. The list isn't exclusive, but Da Vinci machines shouldn't be able to mimic mental powers, such as puppet or beast friend, any form of healing, or more unusual powers, such as teleport..

Armor: Metal plates for a vehicle, such as a cart.

Barrier: Pop-up wooden fortificati, held down on springs until released..

Blast: Cannon.

Bolt: Advanced flintlock.

Burrow: Digging machine.

Burst: Flamethrower.

Environmental Prot: Diving suit (water) or flame retardent suit (fire)

Fly: Helicopter, ornithopter, wings.

Obscure: Smoke generator, smoke bombs.

Speed: Clockwork engine.

As such, there are no firm rules or guidelines for creating a Da Vinci machine—you simply give the device whatever it needs to function. Some devices you can build as vehicles, others are weapons or items with a specialized purpose. Not every device needs to have some “super power,” such as flight or the ability to destroy castle walls in a single shot.

Don't fret too much over the game mechanics. So long as the device is reasonably balanced, serves it function, and doesn't become the “must have” item in the setting, you can't go far wrong.

Example Devices

This section looks at a sample of Da Vinci devices, from armored vehicles to watercraft, and cannon to more innocuous items. Although based on Da Vinci's working, a great deal of liberty has been taken with some of the devices to make them usable in a roleplaying game.

Aerial Screw

The aerial screw is a pedal-powered, single person flying machine. It comprises of a large, upturned screw attached to a small platform by a shaft. The pilot rotates the shaft, and thus the screw, by pedaling, effectively pulling the device off the ground.

Forward momentum is provided by the wind, and thus the pilot has little control over which direction he goes. More advanced versions might use a fan attached to the same pedals or powered by a passenger to provide forward momentum.

Pedalling is, of course, quite tiring, especially for long periods and without the benefit of advanced gearing. For every 10 minutes the device is pedalled, the pilot must make a Vigor roll or suffer a level of Fatigue. One Fatigue level is recovered after 5 minutes of rest. If the pilot stops pedalling while airborne, however, the device plummets to the ground at 20" per round.

Acc/Top Speed: 3/12 (2/6 with fan);

Climb: 3; **Toughness:** 8 (2); **Crew:** 1; **Cost:** \$1000.

Notes: —

Armored Car

A Da Vinci armored car, also called a tank, is a tortoise shell design designed to protect the crew. Comprised of wood reinforced with metal plates, the shell protects an inner turret and the workings. The entire device move on wheels, protected by the shell, and is powered by a crew of six who use gears and cranks to propel the vehicle.

This version has a series of portholes around the shell, which allow gunners to pick which arc they wish to fire in. A single cannon protrudes from the front. When reloading, it is pulled back inside, and a hinged wooden hatch closes to seal the temporary breach.

Acc/Top Speed: 2/6; **Toughness:** 13 (4);

Crew: 6+8; **Cost:** \$6000.

Notes: Heavy Armor

Weapons:

- Cannon (20 shots)

Diving Suit

Da Vinci diving suits come in two forms—tube fed and self-sufficient. Tube fed suits are made from leather and have a cane hose fixed by leather joints to allow flexibility.

Steel rings in the canes prevent them from collapsing under pressure. The top of the hose extends above the water and is held in place via a float.

The diver can remain submerged indefinitely, although there is a practical limit as to how far he can go before sucking in air becomes impossible due to pressure. How far? It's your setting, so you decide. We suggest about 20" as a guideline.

Self-sufficient suits are far more elaborate. A leather bag reinforced with metal rings provides a supply of air and allows the diver to move freely without getting his hose tangled or revealing his presence to watchers above. Again, there are limited as to how deep the diver can go and how long a bag of air lasts, but these are questions you need to answer.

Tube Fed: Weight: 15; **Notes:** +1 Armor (entire body); **Cost:** \$500.

Self-Sufficient: Weight: 15; **Notes:** +1 Armor (entire body); **Cost:** \$750.

Eight-Barrel Organ

This is a primitive machinegun, comprising of eight muskets or bowchasers (small cannon) mounted on a wheeled carriage and arranged in a fan pattern. Although the eight guns are locked in their fan-shape, the entire fan can be quickly be rotated via handles, allowing the gunner to adjust his aim for a better shot. A screw allows for the elevation to be adjusted.

All barrels are fired simultaneously, and use two Cone Templates. Place the small ends of the template adjacent pointing away from the organ. Everything in the template must make an Agility roll at -2 or take damage.

Although reload times are slow, the entire barrel fan can be removed and replaced. Changing the fan takes just two rounds. Because of the gun carriage, a single gunner can pull the entire assembly at his base Pace. He cannot run, however.

The 33-barrel organ has three rows of 11 barrels fixed in a straight line. Each row can be fired independently or as a collective whole. Still use the Cone Templates, but increase damage by one die if two rows are fired and 2 dice if all three rows are fired.

Range: Cone; **Damage:** 2d8 (muskets) or 3d6 (bowchaser); **ROF:** 1; **Notes:** 1 round per barrel to reload/2 rounds to change the assembly; **Cost:** \$2000.

Flying Ship

The flying ship is one of the more fantastical devices available. Roughly the same size as a sloop, power is provided by two huge wings, which flap in a manner similar to that of a bird. Five crew power each wing, using a gigantic oar-like mechanism which is moved in a rowing fashion.

The reason for the large crew is to allow shift changes. Unless the crew are changed every hour, they automatically suffer a level of Fatigue for the exertion. A 20-man crew can keep the flying ship airborne indefinitely (or until supplies run out, anyway).

Acc/Top Speed: 2/10; **Climb:** 3; **Toughness:** 13 (4); **Crew:** 20+8; **Cost:** \$40,000.

Notes: Heavy Armor

Weapons:

- Eight cannons (20 shots each)

Hull Rammer

The hull rammer is a device used to sink ships, and is most often employed by divers. It comprises of a U-shaped iron bar with a central screw. To use it, the "legs" of the device are placed against non-adjacent planks of a ship and the screw turned until it bites into the middle plank. A second screw then forces the legs of the U upward, cracking the hull plates.

Damage is inflicted each round. When the vessel is Incapacitated, it begins to sink. Any critical hit caused by the weapon is always a hull hit.

Damage: 2d6; **Weight:** 10; **Str:** d8; **Notes:** Can only be employed against wooden ships, AP 4; **Cost:** \$400.

Self-Moving Car

The self-moving car is a cart frame to which are attached a complex set of leaf springs and gears. The leaf springs are "hand-loaded" and release energy to the wheels through the gears. Each wheel is independently powered, though only the front wheels are steered by the driver. Ten minutes of powering the springs provides one hour of drive time.

A more advanced of the armored car uses this mechanism to provide power, thus removing the need for the large crew.

Acc/Top Speed: 3/6; **Toughness:** 11 (2); **Crew:** 1+3; **Cost:** \$2500.

Notes: Four Wheel Drive

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