

# JAM BALLISTA

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*Watching the toast pop up save me a cracking idea*

## General description

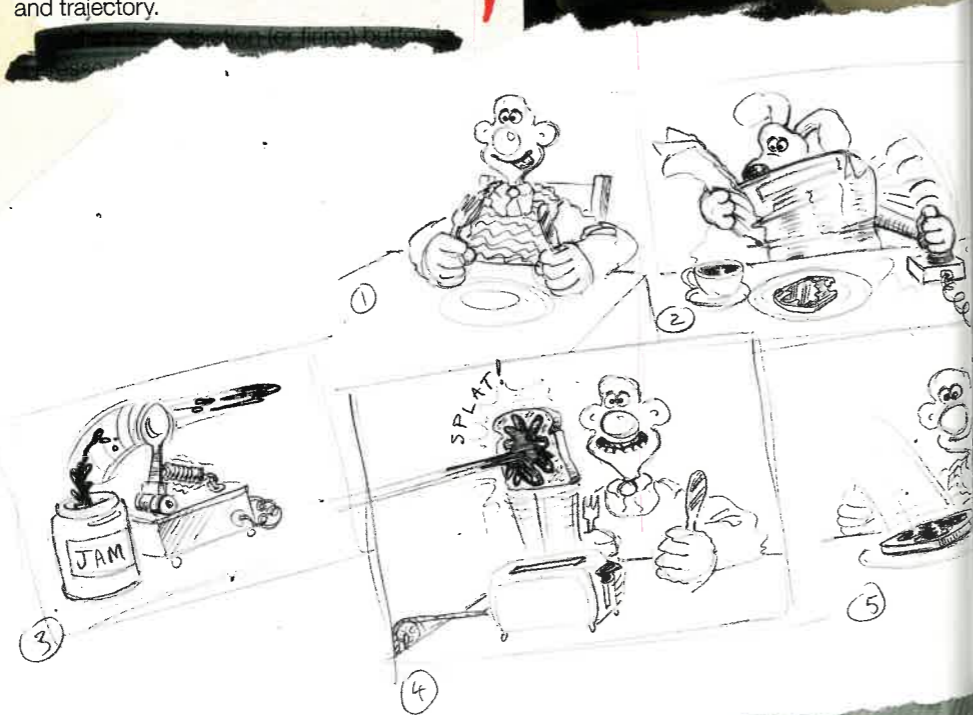
The Jam Ballista is a relatively straightforward contraption, designed for one reason: to get jam on to a piece of toast the moment it pops out of the toaster. A toaster pop-up synchronisation terminal ensures that the operation is timed to perfection.

The device itself uses a dipping spoon, which is loaded with the user's jam of choice directly from the pot. This simple design means that there are no internal workings to become gummed up with jam.

The catapult spring is extended and held in tension by a jointed spar, located in the centre of the spring coils. The spar is extended by an activation motor operating via a rocker assembly in the base of the Jam Ballista. When the activation (or firing) button is pressed, the current to the motor is cut off, releasing the spar from its primed state and allowing the catapult spring to contract. The spoon pivots in the support structure and comes to a sudden stop as the lower end of the spar

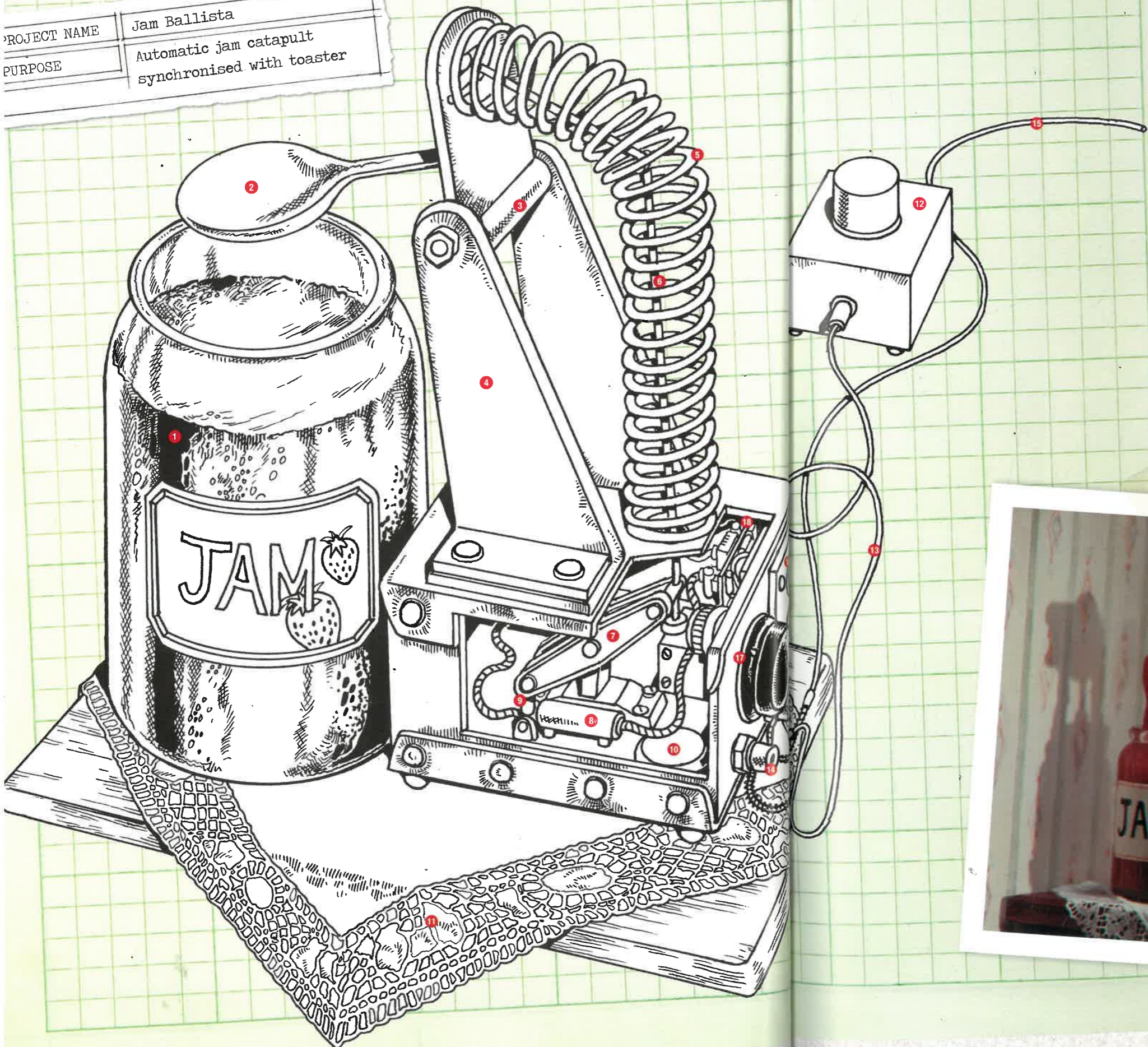
lands on its shock-absorbing pad, causing the jam to be launched.

A dial on the control panel allows the user to pre-set the amount of tension loaded into the catapult spring, thereby allowing a degree of control over speed and trajectory.





PROJECT NAME	Jam Ballista
PURPOSE	Automatic jam catapult synchronised with toaster



### Jam Ballista cutaway

- 1 Open pot of jam (strawberry shown but other flavours optional)
- 2 Jam dipping spoon
- 3 Catapult pivot
- 4 Hardened steel support structure
- 5 Catapult spring
- 6 Spring extension spar
- 7 Activation motor rocker
- 8 Spring extension spar activation motor
- 9 Spring tension sensor
- 10 Spar shock-absorber landing pad
- 11 Doily to reduce vibration
- 12 Activation (firing) button
- 13 Cable to activation button
- 14 Toaster synchronisation terminal
- 15 Toaster synchronisation cable
- 16 Power switches
- 17 Spring tension pre-set dial
- 18 Control circuitry

