3B SCIENTIFIC® PHYSICS
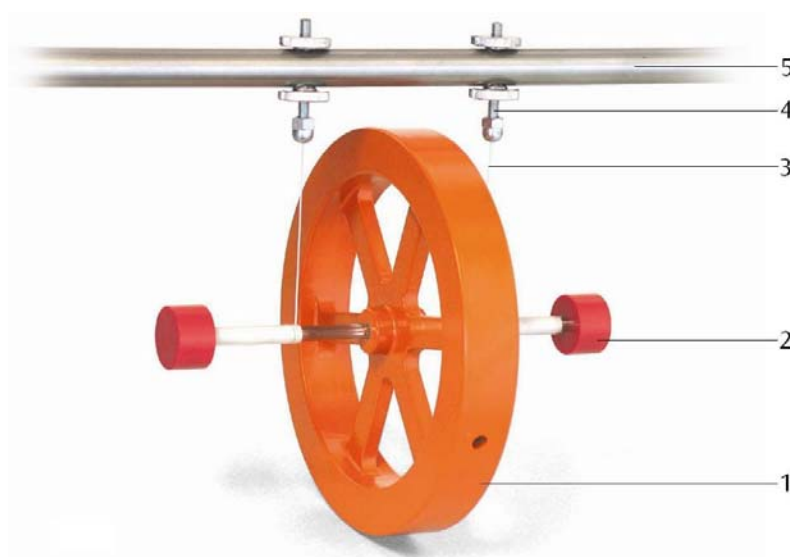
Maxwell's wheel   U8408305

Instruction sheet
06/09 SP

1 Maxwell's wheel
2 Axle hub
3 String
4 Clamps with adjusting screw
5 Hanger rail

1. Description

Maxwell's wheel is used to demonstrate the conversion of kinetic energy into potential energy and vice versa.

The wheel is suspended by two strings from a supporting rail. The adjusting screws on the clamps are used for setting the horizontal alignment of the wheel. Two axle hubs fitted at the end of the axle prevent the wheel from breaking out during its up-and-down motion.

2. Technical data

Wheel diameter:	130 mm
Weight of the wheel:	470 g
Moment of inertia:	10 kg cm²
Hanger rail:	370 mm x 12 mm dia.

3. Operation

For setting up Maxwell's wheel, the following apparatus is additionally required:

1 Retort stand, H-base	U8611130
2 Stainless steel rods, 1000 mm	U15004
2 Universal clamps	U13255

- Set up the stand rods on the base as shown in Fig. 1.
- Attach the clamps supporting Maxwell's wheel to the horizontal rod.
- Use the adjustment screws to align the wheel so that the axle is in a horizontal position.
- Gradually move the wheel upwards winding the strings around the axle. Make sure that the axle remains in a horizontal position. If necessary, readjust the strings.
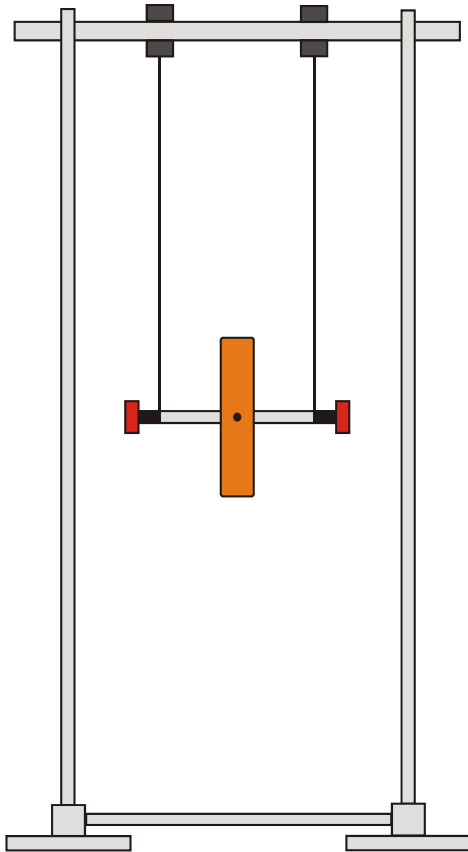- With the wheel at its maximum height, start the movement of the wheel.

Fig. 1: Experimental set-up of Maxwell's wheel