

## Engine Device for Unmanned Flying Apparatus

### Abstract

#### PROBLEM TO BE SOLVED

The present invention provides an engine device for an unmanned flying apparatus that  
5 provides good weight balance for the flying apparatus; can cancel the gyroscopic effect;  
and has propellers that can auto rotate.

#### [SOLUTION]

The engine device of the present invention comprises: a first cylinder and a second  
cylinder arranged horizontally and opposed to each other, and pistons within the  
10 cylinders advance and retract in opposite directions to each other; a first crankshaft and  
a second crankshaft arranged in the vertical direction, driven by the first cylinder and  
the second cylinder, respectively, and rotate in opposite directions to each other; a first  
centrifugal clutch and a second centrifugal clutch rotate in opposite directions to each  
other; a final drive shaft transmitting rotational force to a gear mechanism comprising  
15 orthogonal transform gears, to rotate a propeller shaft; a one-way clutch arranged  
between

(1) the first crankshaft, the second crankshaft and

(2) the final drive shaft, and driven by both of the first crankshaft and the second  
crankshaft.

20 Figure accompanying abstract: Figure 1