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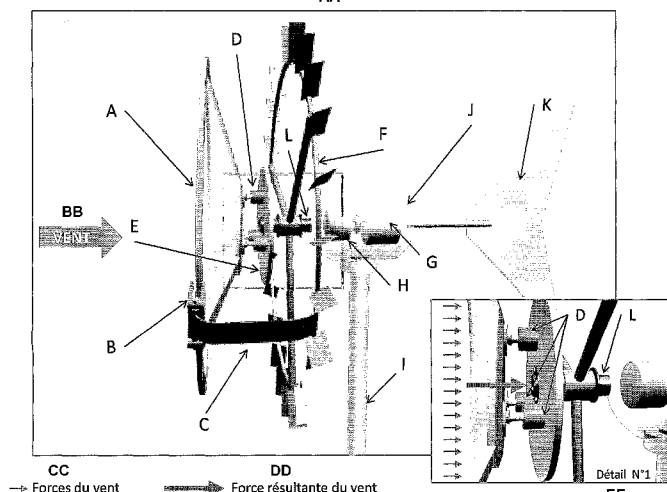
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(54) Title : SYSTEM FOR CONVERTING WIND ENERGY

(54) Titre : SYSTEME DE CONVERSION DE L'ENERGIE EOLIENNE

DESSIN N°1 : L'UNITÉ DE CONVERSION DE L'ENERGIE EOLIENNE
AA



AA THE WIND ENERGY CONVERSION UNIT
BB WIND
CC Wind forces
DD Resultant force of the wind
EE Detail 1

(57) Abstract : The invention consists of a system for
converting wind energy (SCEE) into mechanical and then
electrical energy. This system (SCEE) is not subject to the
theoretical Betz limit (59%). The system (SCEE) has a
wheel (F) equipped with a series of blades arranged all
around it. The wheel (F) turns in a pivoting connection
about a fixed axle (L). Set on the axle (L), a support (E)
attaches the end plates of a series of double-acting
actuating cylinders (D). The cylinder rods of the latter are
in a ball jointed connection with the body (A), the
purpose of this being to offer the latter a maximum degree
of freedom in space. A rigid arm (C) is set on one side of
the wheel (F) and held on the other side, in a pivoting
connection, on a U-shaped section piece (B). Having a
circular satellite movement, the latter turns with the wheel
(F) while at the same time sliding over a peripheral region
of the body (A). When the wind blows against the body
(A), the latter pivots with the section piece (B) and pushes
on the cylinder rods of the actuating cylinders (D). Having
a circular satellite movement, the section piece (B) turns,
sliding over a peripheral region of the body (A), thus
changing the fulcrum of the moment of the resultant force
of the wind (the pivot connection of the section piece (B))
applied to the body (A). The cylinder rods of the actuating
cylinders (D) will therefore be pulled and pushed, while at
the same time having a cyclic translational movement. Set

on the axle (L), and a nacelle (J) chiefly contains a hydraulic motor (H) and an electric generator (G), which can be coupled via a
speed multiplier. During the reciprocating movements of the pistons of the actuating cylinders (D), a set of valves allows for a
one-way flow of hydraulic fluid inside "out and back" hydraulic circuits either by pulling or pushing. The "out and back"
hydraulic circuits are also connected to the hydraulic motor (H). To keep the system (SCEE) always facing into the wind and
allow it to pivot on the mast (1), it can be orientated by a tail vane (K) which is fixed, via a support, to the nacelle (J).

(57) Abrégé :

[Suite sur la page suivante]