

Description for utility model entitled "lemniscate timepiece"

5 The lemniscate timepiece is a timepiece which indicates the time by a point being marked optically on a lemniscate (i.e. a figure-8 curve). The course over the lemniscate is completed once every 24 hours. It is possible here to distinguish pictorially between day and night, which, for example, helps to expand
10 children's experiences.

The point is marked by a crossing-over four-bar linkage with sides having a ratio $1:\sqrt{2}$: the centre point of the connecting rod (1) of the four-bar linkage, which is
15 made to stand out here by a hole, runs along in front of the lemniscate applied to the timepiece face (see drawing 1). It is known that the centre point of the connecting rod of such a four-bar linkage moves over a Bernoulli's lemniscate (see W. Wunderlich, Ebene
20 Kinematik [Planar kinematics], B.I. Hochschultaschenbücher, Mannheim 1970, pp. 91/92).

The task has been to solve the problem of driving the two pins (2) and (5) of the four-bar linkage such that
25 movement over the course of the lemniscate takes place uniformly. This has been achieved by a gear mechanism comprising three elliptical gear wheels (8), (9), (10), of which the central elliptical gear wheel (9) is driven by a 24-hour movement mechanism (see drawing 2).
30 The pin (5) of the four-bar linkage is connected directly to the elliptical gear wheel (10), and the movement of the elliptical gear wheel (8) is transmitted to the pin (3) via two circular toothed gear wheels (7) and (6) of the same size. The toothed
35 gear wheels (7) and (8) are fixedly connected to the pin (3).

The four-bar linkage can be mounted on the pins (2) and (5) such that, in the 24-hour position (drawing 1), all

- 2 -

three elliptical gear wheels are oriented in the upward direction.



Claims for utility model entitled "lemniscate
timepiece"

- 5 1. Lemniscate timepiece, characterized in that the
 pins (2), (5) of the four-bar linkage are driven
 by a gear mechanism comprising three elliptical
 gear wheels (8), (9), (10) and two round toothed
 gear wheels (6), (7), the central elliptical gear
10 wheel (9) being driven by a 24-hour movement
 mechanism.
2. Lemniscate timepiece according to Claim 1,
 characterized in that the eccentricity of the
 elliptical gear wheels is 2-1.