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(54) **A plaything by way of describing lemniscate-laps, identified by successively flashing coloured electric lights.**

(57) A plaything with the main characteristic that it answers essentially a twofold purpose: carrying out a special waist movement for dancing or other rhythmic movements and thereby creating successively flashing coloured light effects. Both ends are attained by means of marbles (3) rotating within a lemniscate-tube (2) and describing lemniscate-laps to the disco-music.

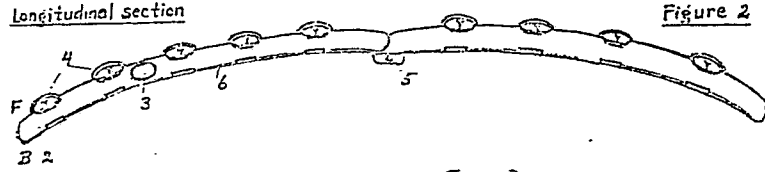
The lemniscate-tube (2), worn round the waist or upper body by means of an elastic belt (1) with a clasp on the back or lateral side, takes shape of a recumbent "eight" figure with a round, square or combined transverse section. Small coloured light-bulbs (4), set in along the lemniscate-tube (2) on its front or put in the marbles (3) themselves, are flashing successively through short contacts of the rotating marbles (3) with the wire system (6) on the inner back side of the tube (2), that leads to the batteries in the battery-case.

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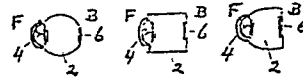
Longitudinal section

Figure 2

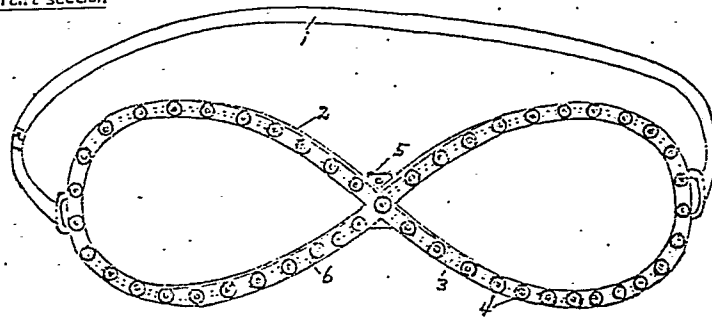


Transverse section

F. Front
B. Back



Front section



A plaything by way of describing lemniscate-laps, identified by successively flashing coloured electric lights.

- The invention relates to a plaything worn round a person's waist by means of a belt, while on the front side one or more marbles, put in a form of tube being made of hard plastics and having the shape of a lemniscate, are rotating
- 5 within the tube, by which lemniscate-laps are made and are identified by successively flashing coloured electric lights, as long as the bearer of this plaything makes specified waist movements during dancing.
- 10 As far as known a rather different construction for waist movements has been supplied by a plaything named as "Hula-hoop", by which the bearer is making horizontally circular waist movements with a large plastic-made hoop turning round the waist.

- 15 An obvious disadvantage of this well-known construction is the restriction of its use in exclusively big halls or open space, where users are able to move without clashing with each other. In a full house however, this plaything is assumed explicitly as being unfit.
- 20

- The invention as claimed is partly intended to meet this latter in such a way that it is carried out as practically as possible. This invention, worn round a person's waist,
- 25 may solve the problem by making waist movements up and down through description of vertical lemniscate-laps, by which one or more adapted metal-coated marbles inside a plastic lemniscate-shaped tube worn on the person's abdomen will rotate along the whole track and produce successively
- 30 flashing coloured electric lights through multiple brief contacts of the marble(s) with both the light-bulbs on the front side of the lemniscate-tube and a wire system inside the tube, that leads to a source of energy, consisting of two batteries inserted in a small case at the crossing of

the lemniscate-tube.

The advantages offered by the invention are mainly that it requires only a small elbow-room for dancing, by which at
5 the same time successively coloured electric lights are flashing to raise the festive air.

One way of carrying out the invention is described below with reference to drawings which illustrate the specific em-
10 bodiments, in which:

Figure 1 is a front view of a plaything in accordance with the invention with a mono lemniscate figure, consisting of two laps, exclusive of the waist belt.

15 Figure 2 is a collection of longitudinal and transverse views of the invention irrespective of the type as well as of the front view of the invention with a mono lemniscate figure with a single lap, inclusive of the waist belt.

Figure 3 is a front view of the invention with two lemniscate figures, which are intertwined to each other, exclu-
20 sive of the waist belt.

Figure 4 is a front view of the invention with two lemniscate figures, joining together to form one complex track, exclusive of the waist belt.

25

The figures show a plaything worn round a person's waist for dancing purposes or other rhythmic movements, comprising essentially an elastic belt (1) for the waist with a clasp on the back or lateral side and a plastic lemniscate-tube
30 (2) on the front side, fastened to the belt (1) by means of fixed rings.

The lemniscate-tube (2) takes shape of a recumbent "eight" figure. In transverse section its form may be round, square or a combination of semi-circle on the front side and semi-
35 square on the back. Longitudinally the lemniscate-tube (2) consists of two plastic-made components stuck together. Lengthwisely its form is rather curved in accordance with the lines of the bearer's abdomen.

Through this lemniscate-tube (2) one or more adapted metal-coated marbles (3) may turn round, when the bearer of this belt (1) is making a waist movement. The trick is to provide such a movement that the marbles (3) may describe a reclining "eight" figure or a full lemniscate-lap.

Along the plastic tube (2) small coloured electric light-bulbs (4) are set in on the front side and flashed successively by two small batteries (5) through the rotations of the marbles (3). The metal-coated marbles (3) as electric conductors will take care of the multiple brief contacts in the electric circuit (6). The electric circuit (6) consists of two wires, where the first connects the upper poles of the batteries (5) with the several light-bulbs (4), while the second clung to the inner back-side of the lemniscate-tube (2) leads to the opposite poles of the batteries (5). A series of brief contacts of the metal-coated marbles (3) with both the bottom contact-plates of the electric light-bulbs (4) and the wire system on the inner back-side of the lemniscate-tube (2) will produce successively flashing coloured light effects. A small battery-case (5) with a built-in "on-and-off" button is inserted on the back side at the crossing of the lemniscate-tube (2).

Another variant in the type of flashing is to put the small light-bulbs (4) in the marbles (3) instead of along the lemniscate-tube (2). The now translucent plastic-made marbles (3) are flashing lights through brief contacts with a double system of wires (6) within the tube (2) on the back side, which both lead to the different poles of the batteries (5). The tube (2) in this case is segmented by different colours in order to produce a moving coloured effect when the marbles (3) are flashing.

Variations in the embodiment of the lemniscate-tube (2) can be made and are specified to differences in size (small, medium and large), in number of laps (one-lap, two- or three-laps - figures 1 & 2) and in type (mono- and duo-type). With

reference to the duo-type two variants can be distinguished:
the intertwined duo-type (figure 3) where two separate lem-
niscate-laps are intertwined around the crossings, and the
confluent duo-type (figure 4), where two lemniscate-laps
5 are joining together to form one complex track.

Another variant in use is the invention with a mono lemnis-
cate figure for gymnastics and for getting physical fitness.
Instead of electric light-bulbs (4) and a case with bat-
10 teries (5) a small enumerator is fixed to the center of the
lemniscate-tube (2). This counter is driven by a system of
wheels, initiated by the marble (3) moving in the tube (2).

Another variant in use is the invention with a mono lemnis-
15 cate figure worn by a person round the upper body. The lem-
niscate-tube (2) is made of rather flexible plastics and
equipped with adjustable parts around the crossing. A sepe-
rate "X"-piece that constitutes the crossing of the lemnis-
cate-tube (2) holds the sliding loops on both sides by
20 means of pegged pins. A small battery-case (5) with two
micro-battery cells is fixed at the back side of the "X"-
piece of the tube (2).

Claims:

1. A plaything, intended to be worn round a person's waist for dancing purposes or other rhythmic movements, and characterised by two components comprising an elastic belt (1) for the bearer's waist with a clasp on the back or lateral side and a transversely round, square or combined plastic-made lemniscate-tube (2) on the front, which latter is fastened to the belt(1) by means of fixed rings and along which on the front side small coloured electric light-bulbs (4) are set in, while flashing successively through multiple brief contacts of one or more metal-coated marbles (3) inside the lemniscate-tube (2) with a system of wires (6) that lead to the battery cells (5), as long as the marbles (3) keep moving while describing a recumbent "eight" figure or a full lemniscate-lap, initiated by the bearer.

2. A plaything as claimed in claim 1, characterised in that the small light-bulbs (4) are put in the now translucent plastic-made marbles (3), instead of along the lemniscate-tube (2), which front view is now smooth and unbumpy, but contrarily segmented by different colours in order to produce a moving coloured effect, when the marbles (3) are flashing.

25

3. A plaything as claimed in the claims 1 and 2, characterised in that the embodiment of the lemniscate-tube (2) may show differences in size (small, medium and large), in number of laps (one-lap, two- and three-laps) and in type (mono- and duo-type, of which the latter is distinguished in the intertwined (figure 3) and confluenced (figure 4) type).

4. A plaything as claimed in the claims 1 and 2, characterised in that firstly the light-bulbs (4) and the case with batteries (5) are omitted and replaced by a small enumerator, fixed to the center of the lemniscate-tube (2) and driven by a system of wheels, initiated by the marbles (3) rotating in the lemniscate-tube (2), and that secondly this

construction is intended to be used for gymnastics and for getting physical fitness.

5. A plaything as claimed in the claims 1 and 2, character-
5 ised in that firstly the lemniscate-tube (2) is made of rather flexible plastics and equipped with a seperate "X"-piece, constituting the crossing of the tube (2) and holding the sliding loops on both sides by means of pegged pins, and that secondly this construction is intended to be worn by a person round the upper body.

construction is intended to be used for gymnastics and for getting physical fitness.

5. A plaything as claimed in the claims 1 and 2, character-
5 ised in that firstly the lemniscate-tube (2) is made of
rather flexible plastics and equipped with a separate "X"-
piece, constituting the crossing of the tube (2) and hold-
ing the sliding loops on both sides by means of pegged pins
, and that secondly this construction is intended to be
10 worn by a person round the upper body.

6. A plaything as claimed in claim 1 respectively shown in
figure 5, characterised in that the lemniscate figure is
flat-shaped (7) without magnetic coated marble(s) (3) in-
15 side, while its front side is covered up with light-bulbs
(4) that switch on and off alternately by means of switches
(8), which on one side are connected with diodes (9) coup-
led with the light-bulbs (4) and on the other side are
linked up to a small lemniscate- or other figured plastic
20 tube (11), fixed at the crossing of the flat-shaped lem-
niscate (7) and equipped with magnetic coated ball(s) (12)
rotating inside the tube (11) through waist movements by
the bearer, as well as sensors or reed switches (13) in-
serted on the outside along the tube (11) to run the light-
25 bulbs (4) of the lemniscate (7), the whole electric system
of which is power-driven by an appropriate number of bat-
teries (5) put in a battery-case (5).

7. A plaything as claimed in claim 1 respectively shown in
30 figure 6, characterised in that the flat-shaped lemniscate
(7) as claimed in claim 6 is being set in on the front side
with small light-bulbs (4) of low power consumption grade
(LEDs), switching on and off alternately and variably by
means of switches (8) with diode connections (9), the for-
35 mer of which are linked up to an electronic system of pro-
cessors and drivers (10), which in turn is stirred up by a
small lemniscate- or other figured plastic tube (11), fixed
at the crossing of the lemniscate (7) or elsewhere and

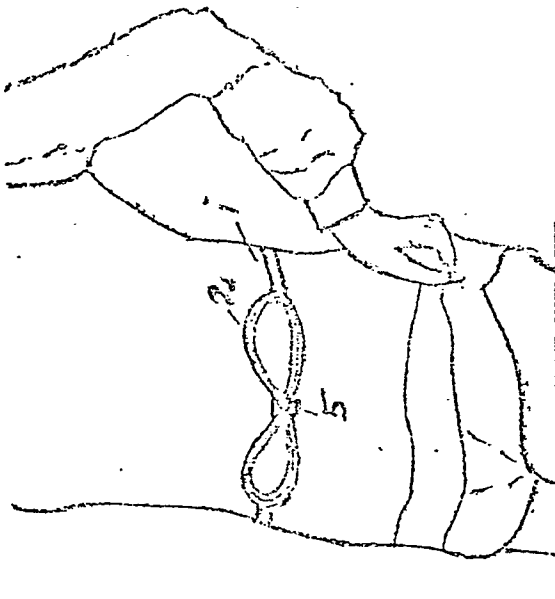
equipped with magnetic coated ball(s) (12) rotating inside the tube (11) through waist movements by the bearer, as well as sensors or reed switches (13) inserted on the outside along the tube (11) to run the lights (4) of the lemniscate (7), the whole electronic system of which is power-driven by an appropriate number of batteries (5) with proper voltages through a variation-switch (14) for regulating the choice of light variations, their intensity, speed and eventually the automatic mode, beside switching
10 off.

8. A plaything as claimed in claim 1 respectively shown in figure 7, characterised in that the embodiment of the flat-shaped lemniscate (7) as claimed in the claims 6 and 7 has
15 been replaced by an oblong, circle, rhombus or other shaped board (15) functioning as a fully computerized programmable matrix display, which is covered up on its front with light-bulbs (4) of low power consumption grade (LEDs), that in turn are coupled one by one with a horizontal as well as
20 vertical system of variable matrix diodes (16), both of which being linked up to an electronic system of processors and drivers (10), which is finally stirred up by small magnetic coated ball(s) (12) rotating inside a plastic tube (11) together with two sets of sensors (13), that carry the functions of defining the types of pictures made by
25 the LEDs (4) respectively raising the picture's size, the whole electronic system of which is power-driven by an appropriate number of batteries (5) with proper voltages through a variation-switch (14) for regulating the choice
30 of light variations, their intensity, speed and eventually the automatic mode, beside switching off.

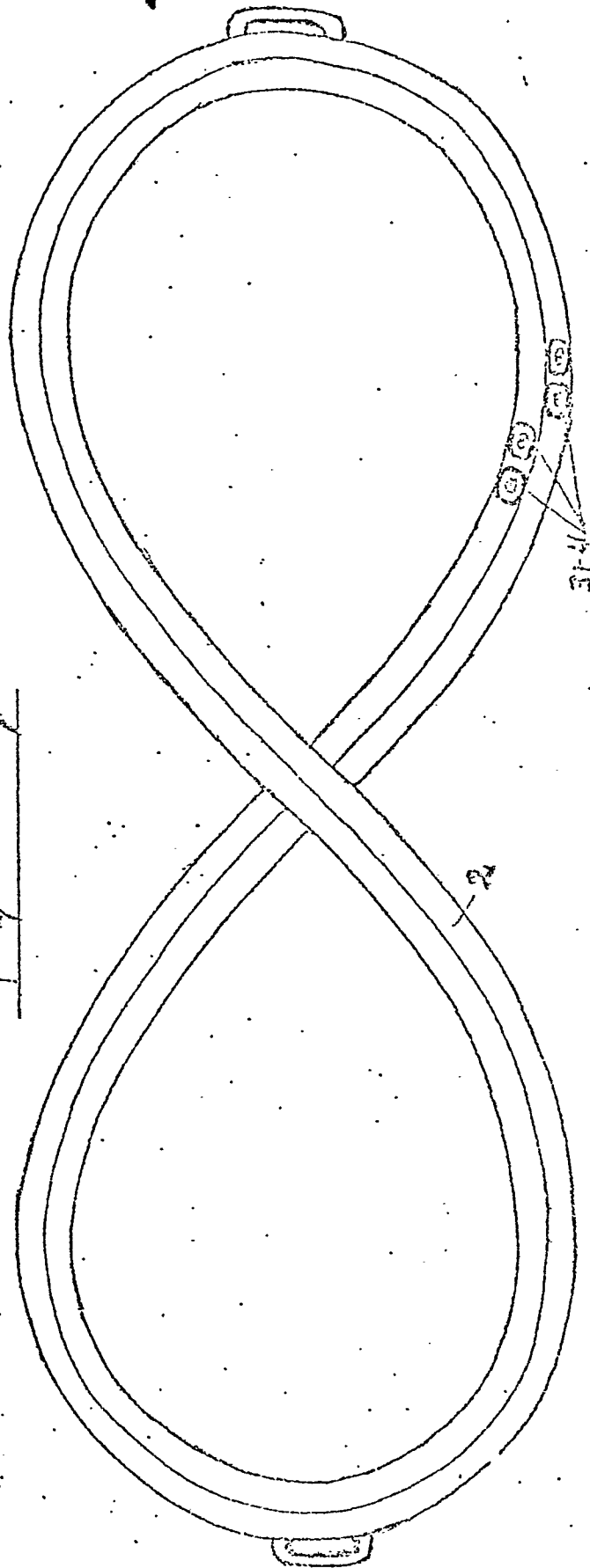
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Figure 1



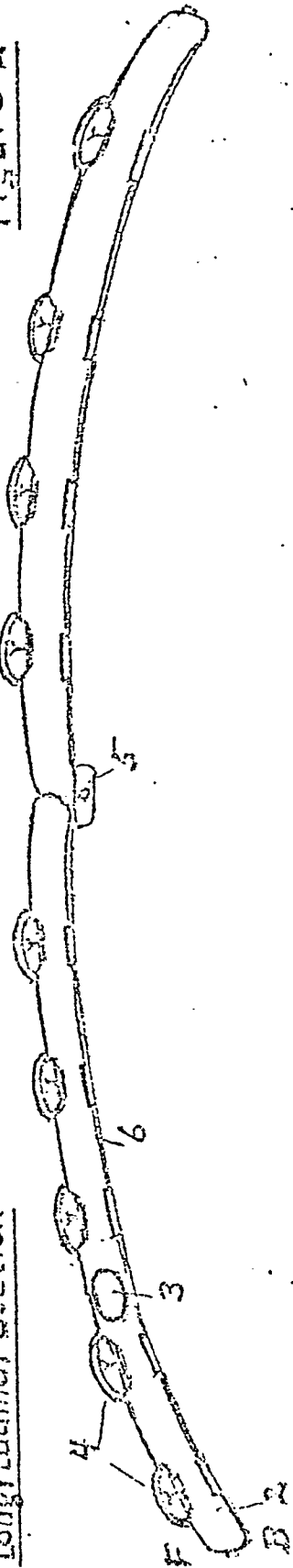
Front section
Mono-type
(two laps)



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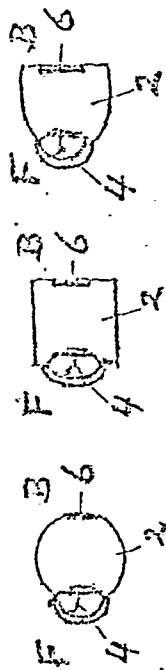
Figure 2

Longitudinal section

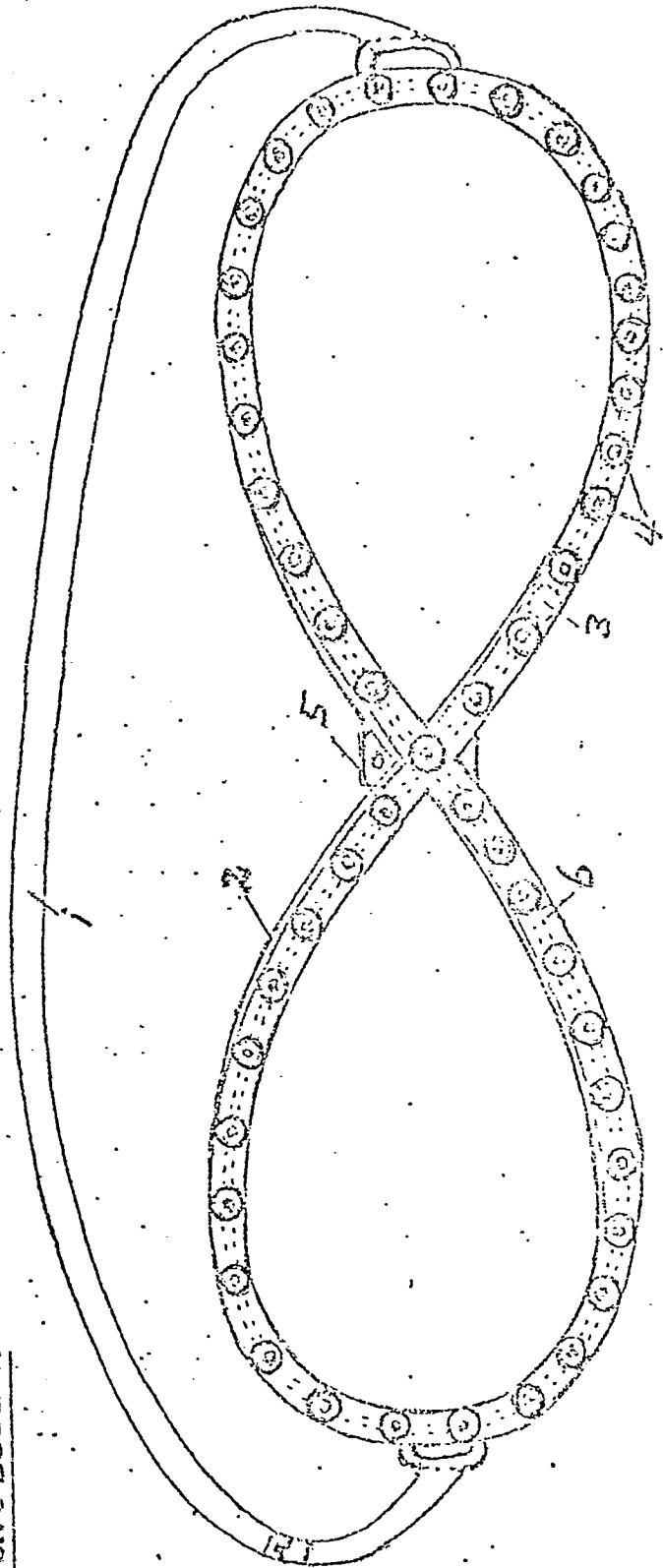


Transverse section

F=Front
B=Back

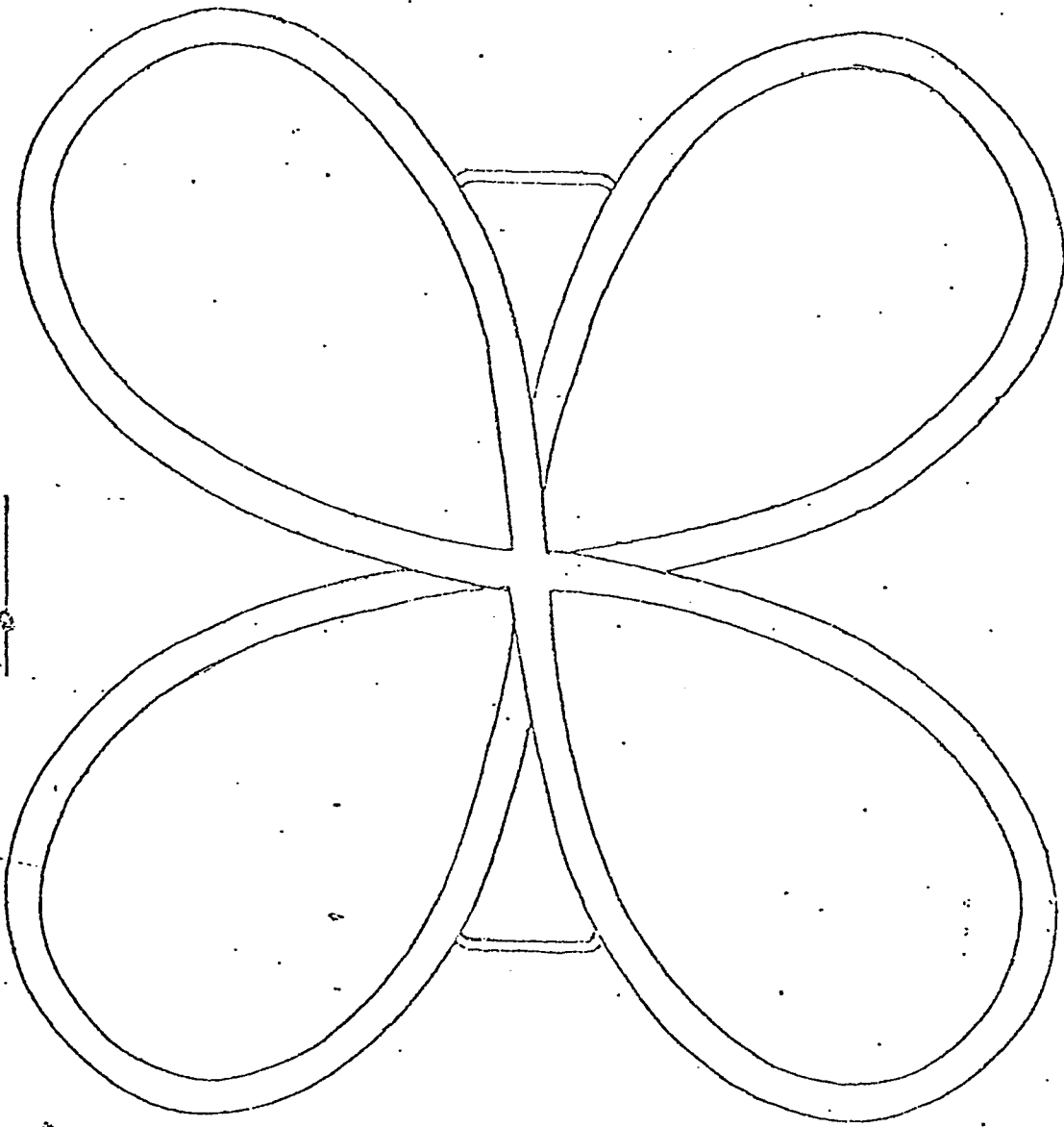


Front section



$\frac{3}{4}$ Figure 3

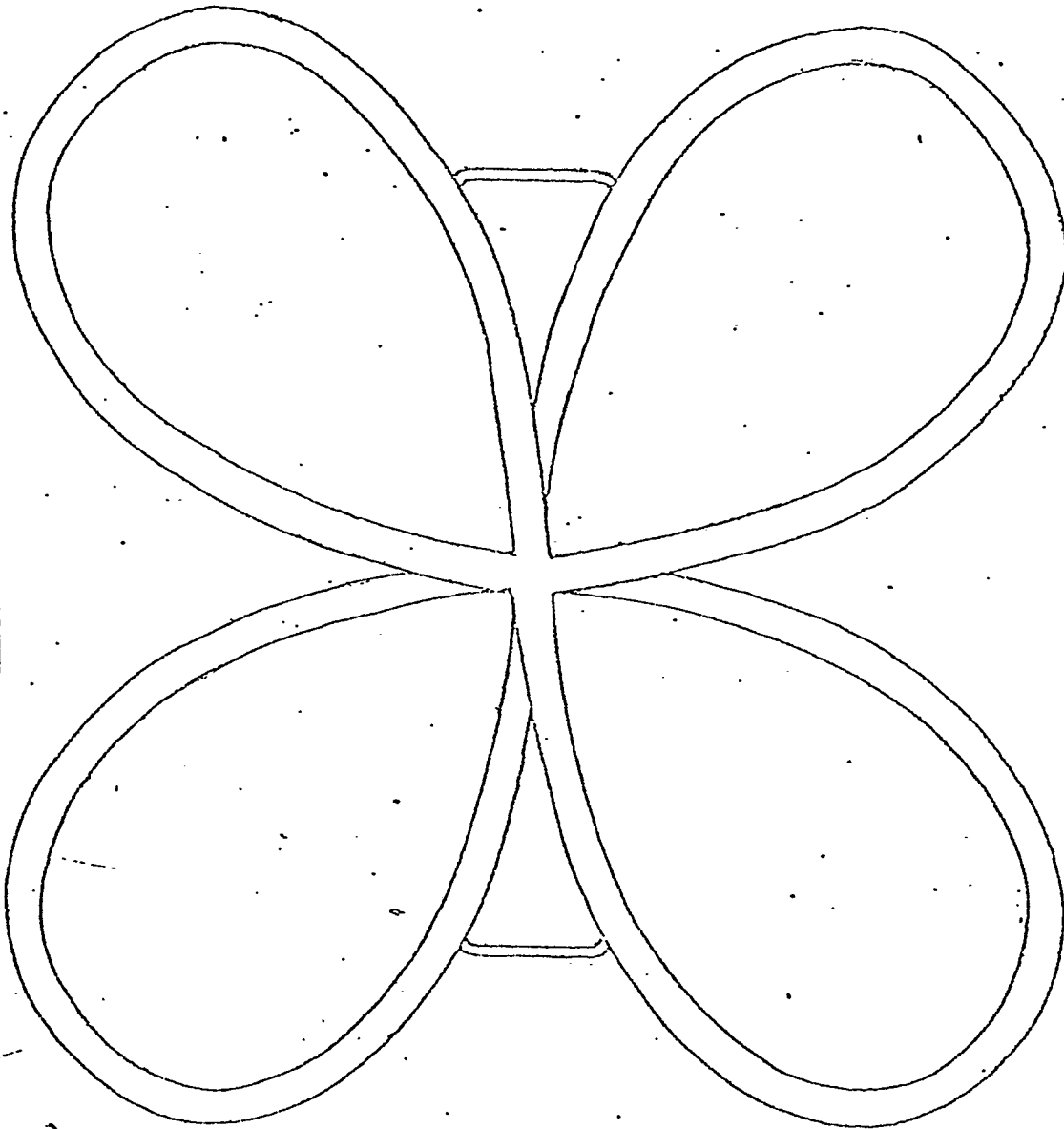
Front section
Duo-type
„intertwined“



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Figure 4

Front section
two-type
"confluent"





European Patent
Office

EUROPEAN SEARCH REPORT

0067907

Application number

EP 81 20 0712.8

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
Y	DE - A - 2 232 243 (OBERDORFER) * claim 2; fig. 3 * --	1,2, 4	A 63 B 23/02
Y	DE - A1 - 2 810 237 (CZIUMPLIK) * claims 1, 2 * --	1,2, 4	
Y	DE - U - 1 787 535 (VILLING) * claim 1 * --	1,2, 4	
Y	DE - U - 7 238 592 (BUDDE) * fig. 1 * --	4	TECHNICAL FIELDS SEARCHED (Int.Cl. ³)
Y	FR - A - 460 988 (BRYANT) * fig. 5 * --	3	A 44 C 15/00 A 63 B 19/00 A 63 B 21/26 A 63 B 23/00
Y	FR - A - 1 208 814 (STE PLYMOUTH FRANCAISE) * claim 2 * --	1,2, 4	
Y	FR - A - 1 211 901 (PARPAILLON) * claim 1 * --	1,2, 4	CATEGORY OF CITED DOCUMENTS
Y	FR - A - 1 561 925 (THANH THUY et al.) * claims 2, 3 * --	1,2	X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons
Y	FR - A - 2 158 098 (MOUNIER) * claim 1 * --	1,2	&: member of the same patent family, corresponding document
X The present search report has been drawn up for all claims			
Place of search Berlin		Date of completion of the search 10-02-1982	Examiner ZAPP

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