

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 208 891 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

29.05.2002 Bulletin 2002/22

(51) Int Cl.7: **A63H 3/36**

(21) Application number: **00310174.8**

(22) Date of filing: **16.11.2000**

(84) Designated Contracting States:

**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**

Designated Extension States:

AL LT LV MK RO SI

(72) Inventor: **Chan, Alex Wai Chi**

Tin Wan, Aberdeen (HK)

(74) Representative:

Watkin, Timothy Lawrence Harvey

Lloyd Wise, Tregear & Co.,

Commonwealth House,

1-19 New Oxford Street

London, WC1A 1LW (GB)

(71) Applicant: **BEA Development Ltd.**

Tin Wan, Aberdeen, Hong Kong (CN)

(54) **A head for a toy**

(57) There is disclosed a head (10) for a toy in which the head includes eyebrows (22) and a lower jaw (30)

which are movable simultaneously, and in which the eyebrows are movable generally horizontally while the lower jaw is movable up and down.

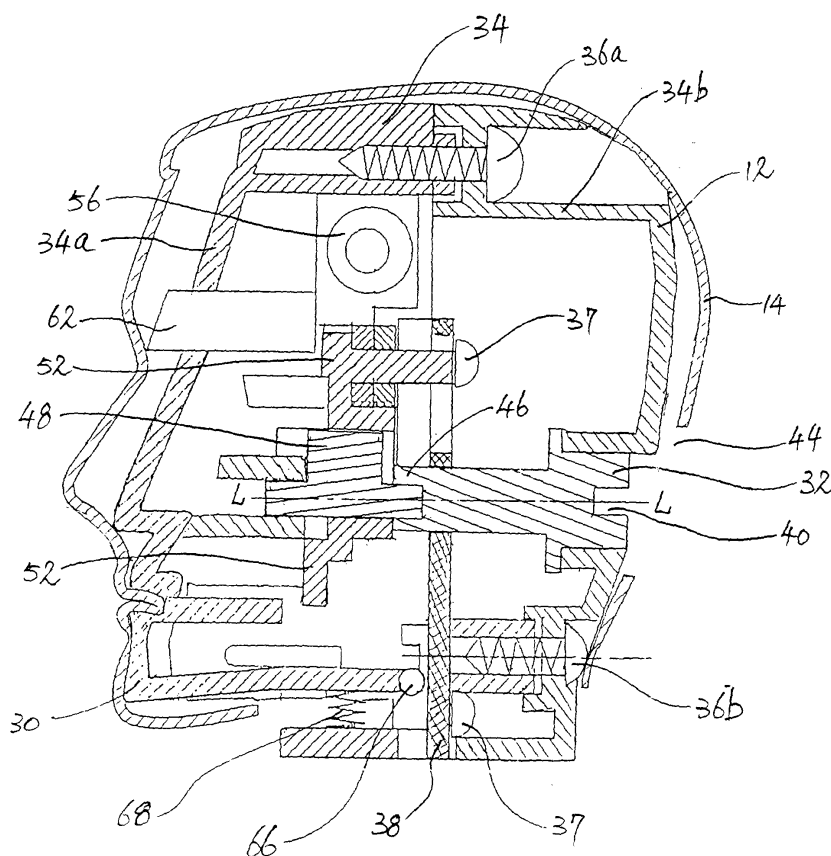


Fig. 7

EP 1 208 891 A1

Description

[0001] This invention relates to a head for a toy, e.g. toy figurine, and in particular, such a head with changeable facial expression.

[0002] There are existing toy heads with movable parts. For example, in some conventional toys, the eyelids of the toy may close when the toy is moved to a lying posture, and the eyelids will open when the toy is moved to an upright position. In some other conventional toys, the lower jaw of the toy may be moved to open and close. However, such movements are not synchronized, and no concerted movement is thus exhibited by the facial parts. In addition, with the lack of such concerted movement of the facial parts, no meaningful facial expression can be expressed by the toy.

[0003] It is thus an object of the present invention to provide an improved head for a toy in which the aforesaid shortcoming is mitigated, or at least to provide a useful alternative to the public.

[0004] According to a first aspect of the present invention, there is provided a head for a toy wherein said head includes at least first and second parts which are movable simultaneously, characterized in that said first and second parts are movable in different directions.

[0005] According to a second aspect of the present invention, there is provided a toy including a head wherein said head includes at least first and second parts which are movable simultaneously, characterized in that said first and second parts are movable in different directions.

[0006] An embodiment of the present invention will now be described, by way of an example only, and with reference to the accompanying drawings, in which:-

Fig. 1 is a side view of a toy head in a mouth-closed and eyebrows released position;

Fig. 2 is a front view of the toy head shown in Fig. 1;

Fig. 3 is a front view of the toy head shown in Fig. 1 with the cover removed;

Fig. 4 is a rear view of the toy head shown in Fig. 1 with the cover removed;

Fig. 5 is a sectional view of the toy head taken along the line A-A in Fig. 1;

Fig. 6 is a sectional view of the toy head taken along the line B-B in Fig. 3;

Fig. 7 is a sectional view of the toy head taken along the line C-C in Fig. 2;

Fig. 8 is a side view of the toy head shown in Fig. 1 in a mouth-open and eyebrows knitted position;

Fig. 9 is a front view of the toy head shown in Fig. 8;

Fig. 10 is a front view of the toy head shown in Fig. 8 with the cover removed;

Fig. 11 is a sectional view of the toy head taken along the line D-D in Fig. 8;

Fig. 12 is a sectional view taken along the line E-E in Fig. 10; and

Fig. 13 is a sectional view taken along the line F-F

in Fig. 9.

[0007] Figs. 1 to 2 show a toy head according to the present invention as generally designated as 10. The toy head 10 includes an inner portion 12 (see Figs. 3 and 4) releasably covered by an outer skin portion 14. On the outside surface of the skin portion 14 are provided with parts resembling the eyes 16, nose 18, mouth 20, eyebrows 22, hair 24, and ears 26, of a human being. The skin portion 14 is made of a soft and elastic material, e.g. latex or other natural or synthetic rubber materials. The skin portion 14 covers the inner portion 12 to resemble the shape and features of a head of a human being.

[0008] As shown in Figs. 3 and 4, the inner portion 12 of the toy head 10 includes a fixed nose bone portion 28 and a movable lower jaw 30 on its front side. At the back side of the inner portion 12 is a rotatable switch 32, the function and manner of operation of which will be discussed below.

[0009] Turning now to the sectional views shown in Figs. 5 to 7, the inner portion 12 includes a skull 34 comprising a front skull portion 34a and a rear skull portion 34b secured to each other by two screws 36a, 36b. Four screws 37 are also provided for securing the front skull portion 34a and the rear skull portion 34b to a plate 38.

[0010] The switch 32 includes a slot 40 at its rear end, into which a corresponding shaped front end of a key 42 may be received. As can be seen in Fig. 7, the outer skin portion 14 has an opening 44 which allows the key 42 to access the slot 40 of the switch 32. The key 42 may be turned about the axis L-L (see Figs. 6 and 7) to rotate the switch 32. A front end 46 of the switch 32 is engaged with a cam 48. Thus, when the switch 32 rotates, the cam 48 also rotates about the axis L-L. The cam 48 is received within a space 50 of a frame 52. The frame 52 may be moved upward or downward by rotating the cam 48.

[0011] Sitting on the upper side of the frame 52 is an axle 54 about which two rods 56 may swivel. Provided between the two rods 56 is a spring 58 which biases the two rods 56 away from each other. The maximum extent of outward movement of the rods 56 is limited by a pair of guiding members 60. Each of the rods 56 carries an extension 62 which extends forward and through a slot 63 of the skull 34 (see Fig. 3). The front end of the extensions 62 are in contact with the skin portion 14. The skull 34 of the inner portion 12 includes a lower jaw 30 pivotable about a hinge 66. The lower jaw 30 is upwardly biased by a spring 68.

[0012] The slot 63 of the skull 34 is slightly curved to accommodate the swiveling movement of the extensions 62. However, given the small size of the skull 34 and the small distance through which the extensions 62 may move, the direction of movement of the extensions 62 may be considered to be generally horizontal.

[0013] As can be seen in Fig. 7, the lower jaw 30 is engaged with the mouth 20 of the skin portion 14. When,

therefore, the lower jaw 30 assumes the position shown in Figs. 5 to 7, the mouth 20 of the toy head 10 is closed, as shown in Figs. 1 to 3. In addition, the extensions 62 are in contact with the back of the eyebrows 22 of the skin portion 14. In the configuration shown in Figs. 5 to 7, the two extensions 62 are furthest away from each other, so that the eyebrows 22 are at the released configuration, i.e. not knitted, again as shown in Figs. 1 to 3.

[0014] Turning now to Figs. 8 to 13, such show the toy head 10 in a configuration in which the eyebrows 22 are knitted and the mouth 20 is open. It can be seen clearly in Fig. 10 that, as compared with Fig. 3, the two extensions 62 are brought closer to each other.

[0015] As can be seen in Fig. 11, the cam 48 has been rotated through 180° by the key 42. In this position, the cam 48 pushes the frame 52 to assume a lower position. The frame 52 then pushes the lower jaw 30 to pivot downwardly about the hinge 66, and against the upward biasing force of the spring 68. The toy head 10 will thus assume a mouth-open configuration.

[0016] Simultaneously with the downward movement of the frame 52, and thus of the lower jaw 30, the axle 54 is also brought down. As the rods 56 carried by the axle 54 are brought down, they are caused by the guiding members 60 to move closer to each other, against the outward biasing force of the spring 58. As the front ends of the extensions 62 carried by the rods 56 are in contact with the back of the eyebrows 22 of the outer skin portion 14, when the extensions 62 are brought to the position shown in Fig. 11, the eyebrows 22 will assume a knitted configuration.

[0017] The cam 48 may be rotated through another 180° to allow the frame 52 to move upwardly, thus allow the lower jaw 30 to pivot upward upon the biasing force of the spring 68, thus closing the mouth 20, and allowing the extensions 62 to move farther away from each other upon the biasing force of the spring 58, thus releasing the eyebrows 22.

[0018] It can thus be seen that, by rotating the cam 48 by the key 42, the toy head 10 may be caused to change facial expressions. In particular, the toy head 10 may be changed from a first facial expression in which the mouth 20 is closed and the eyebrows 22 are released, as shown in Figs. 1 and 2, and a second facial expression in which the mouth 20 is open and the eyebrows 22 are knitted, as shown in Figs. 8 and 9, and *vice versa*.

[0019] It should be understood that the above only illustrates an examples whereby the present invention may be carried out, and that various modifications and/or alterations may be made thereto without departing from the spirit of the invention.

Claims

1. A head (10) for a toy wherein said head includes at least first (62) and second parts (30) which are mov-

able simultaneously, **characterized in that** said first and second parts are movable in different directions.

2. A toy head according to Claim 1 further **characterized in that** said first part is movable generally horizontally while said second part is movable generally vertically.
3. A toy head according to Claim 1 further **characterized in that** said head includes a cover member (14) which is movable upon movement of said first and second parts.
4. A toy head according to Claim 3 further **characterized in that** said face cover member is made of a soft material.
5. A toy head according to Claim 3 further **characterized in that** said first part is operationally associated with a pair of eyebrows (22) on said cover member and said second part comprises a lower jaw member (30).
6. A toy head according to Claim 5 further **characterized in that** said eyebrows are movable by said first part between a first position in which said eyebrows are knitted and a second position in which said eyebrows are released.
7. A toy head according to Claim 5 further **characterized in that** said lower jaw member is movable between a first position in which a mouth (20) on said cover member is open and a second position in which said mouth is closed.
8. A toy head according to Claim 6 further **characterized in that** said lower jaw member is movable between a first position in which a mouth (20) on said cover member is open and a second position in which said mouth is closed.
9. A toy head according to Claim 8 further **characterized in that** said eyebrows are in their first position when said lower jaw member is in its first position.
10. A toy head according to Claim 8 further **characterized in that** said eyebrows are at their second position when said lower jaw member is in its second position.
11. A toy head according to Claim 6 further **characterized in that** said eyebrows are biased towards their second position.
12. A toy head according to Claim 6 further **characterized in that** said lower jaw member is biased towards its second position.

13. A toy head according to Claim 1 further **characterized in that** said movement of said first and second parts are controllable *via* a switch member (32) accessible from a rear portion of said head.

5

14. A toy head according to Claim 13 further **characterized in that** said switch member is engaged with a cam member (48) which is movable to move said first and second parts simultaneously.

10

15. A toy head according to Claim 14 further **characterized in that** said cam member is rotatable substantially perpendicular to a longitudinal axis of said head.

15

16. A toy according to Claim 13 further **characterized in that** said switch member is operable by a key member (42).

17. A toy including a head according to any of the preceding claims.

20

25

30

35

40

45

50

55

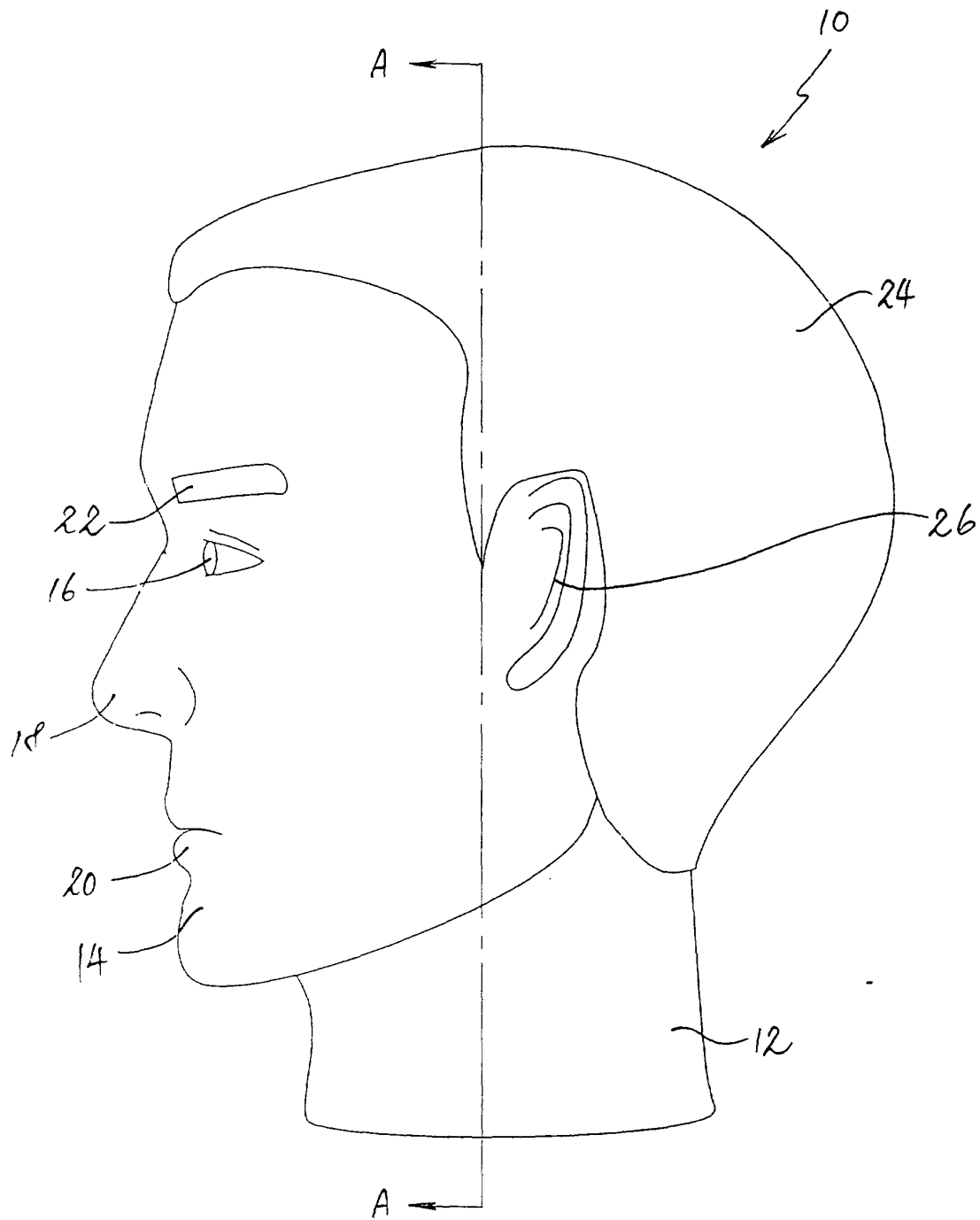
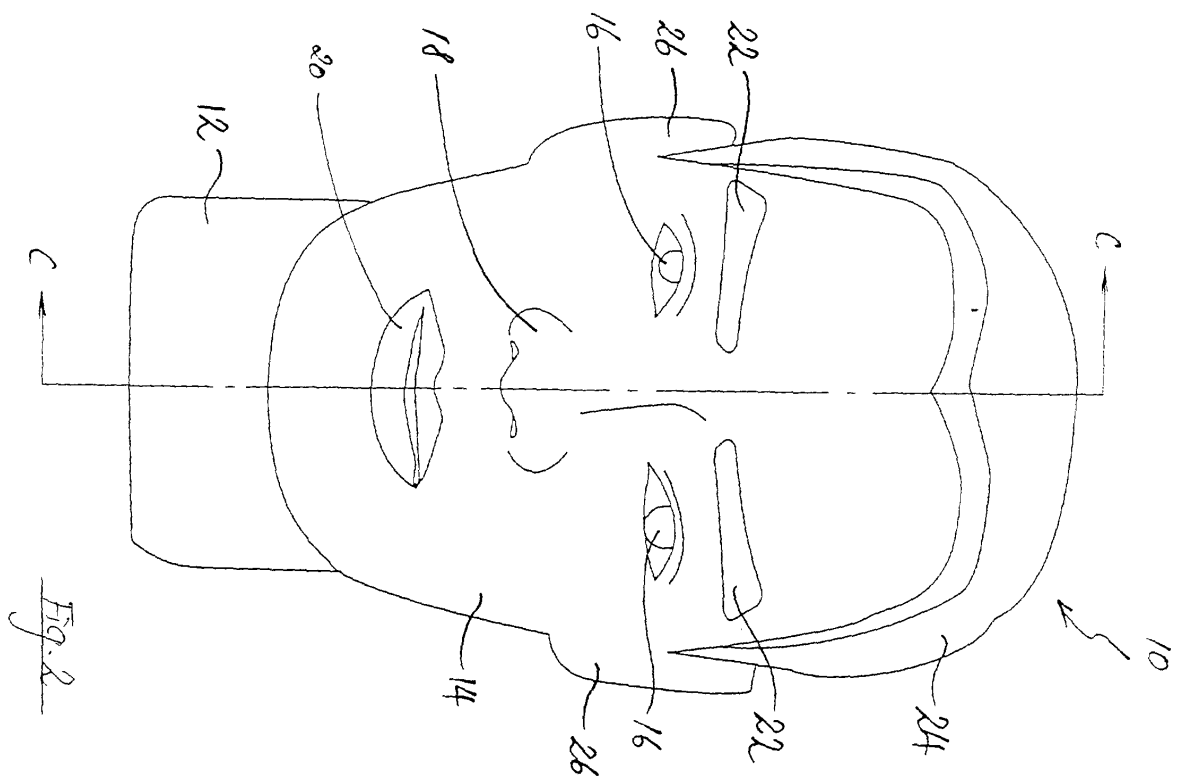
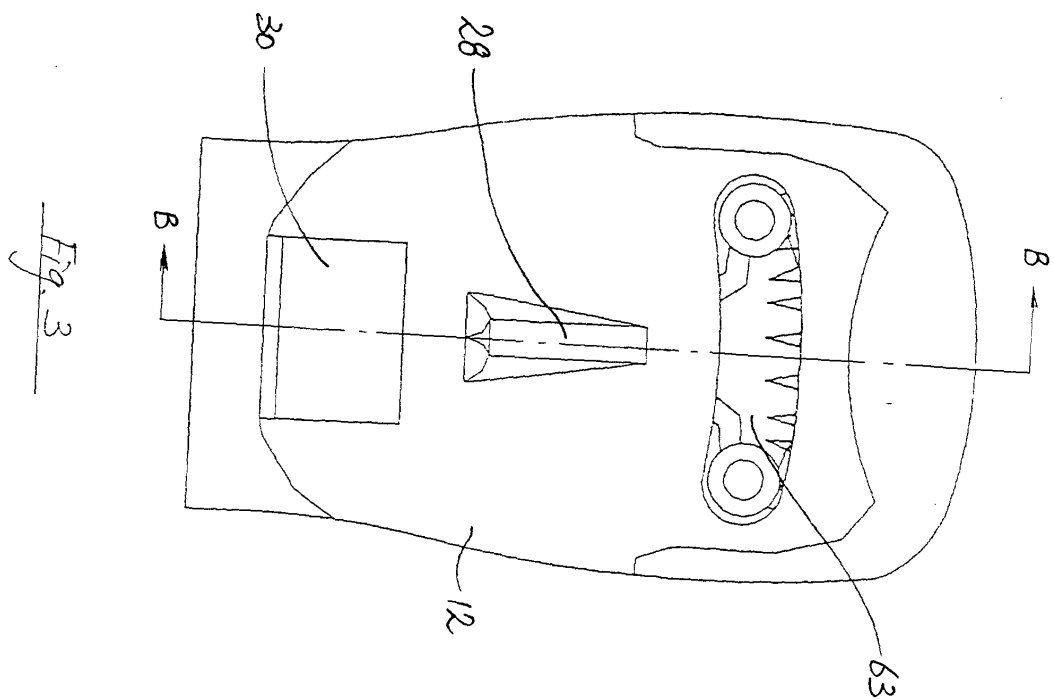


Fig. 1



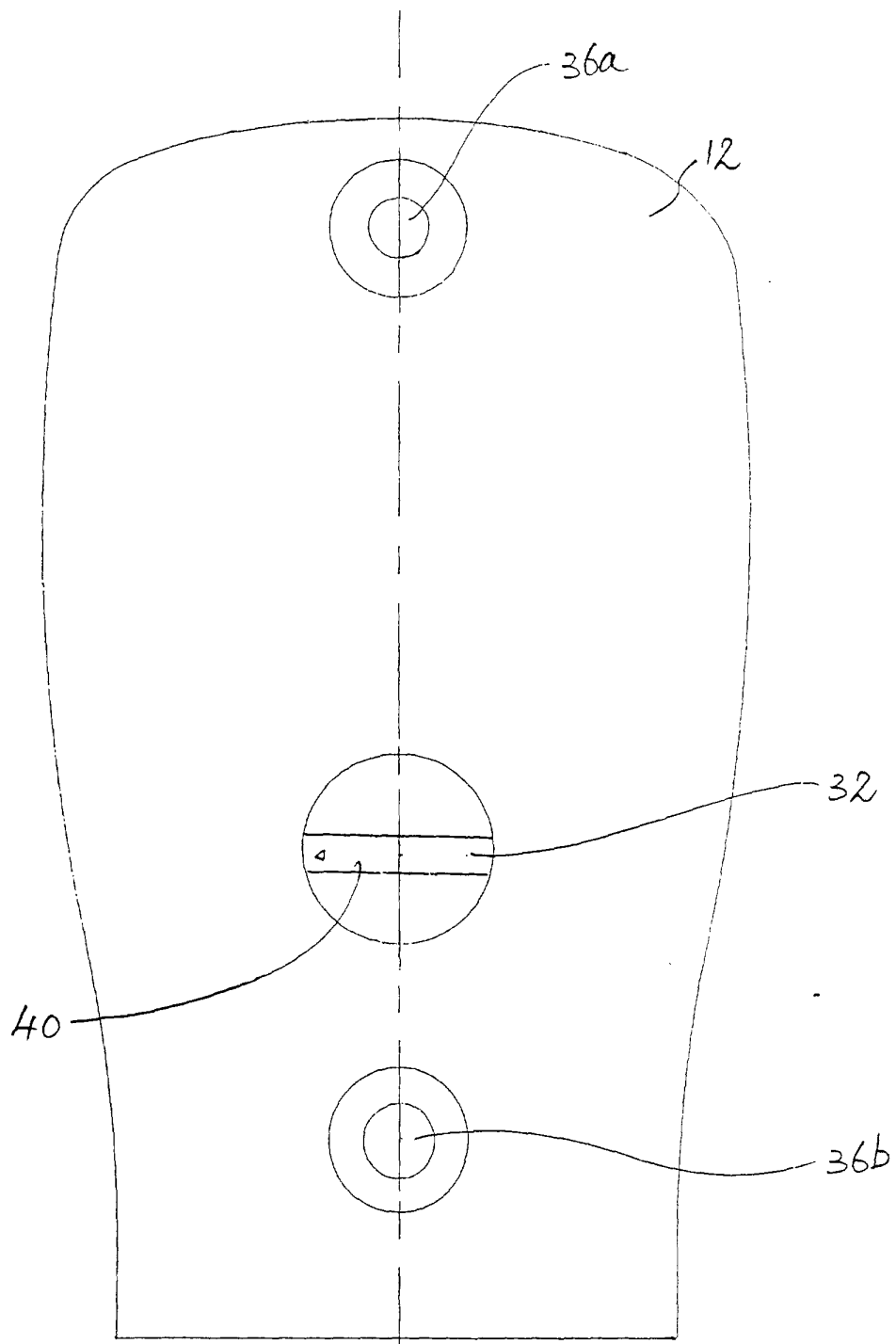
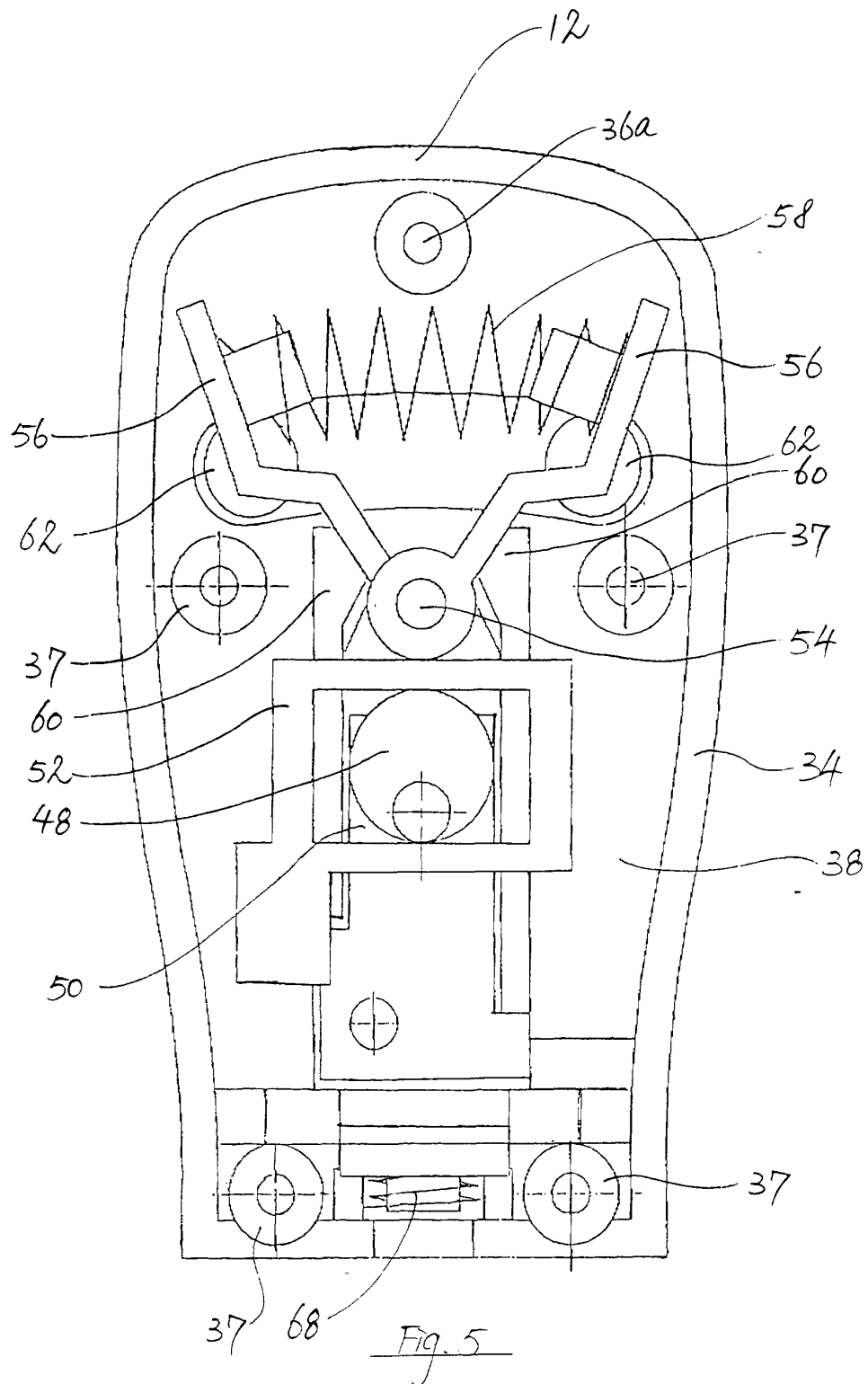


Fig. 4



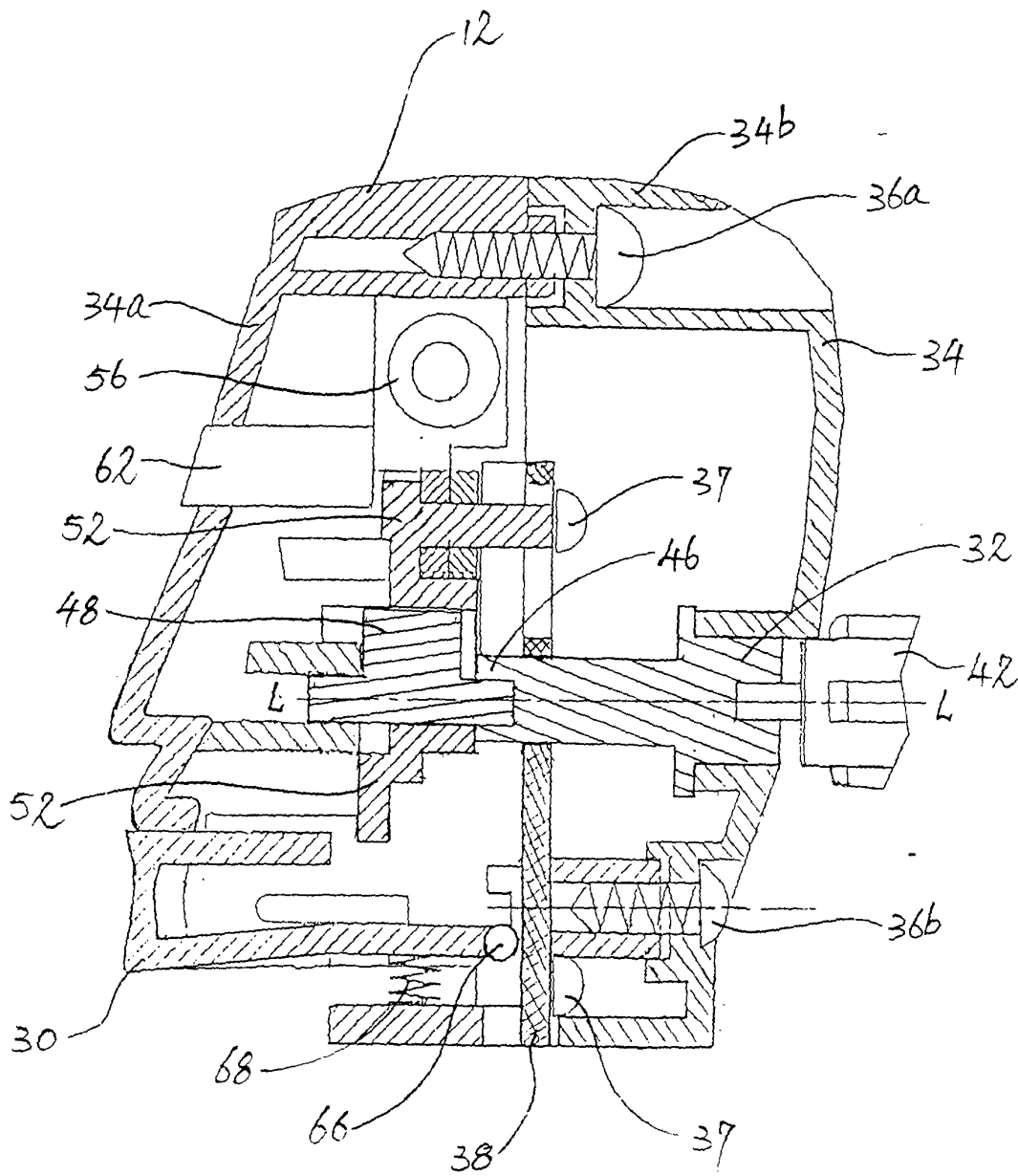


Fig. 6

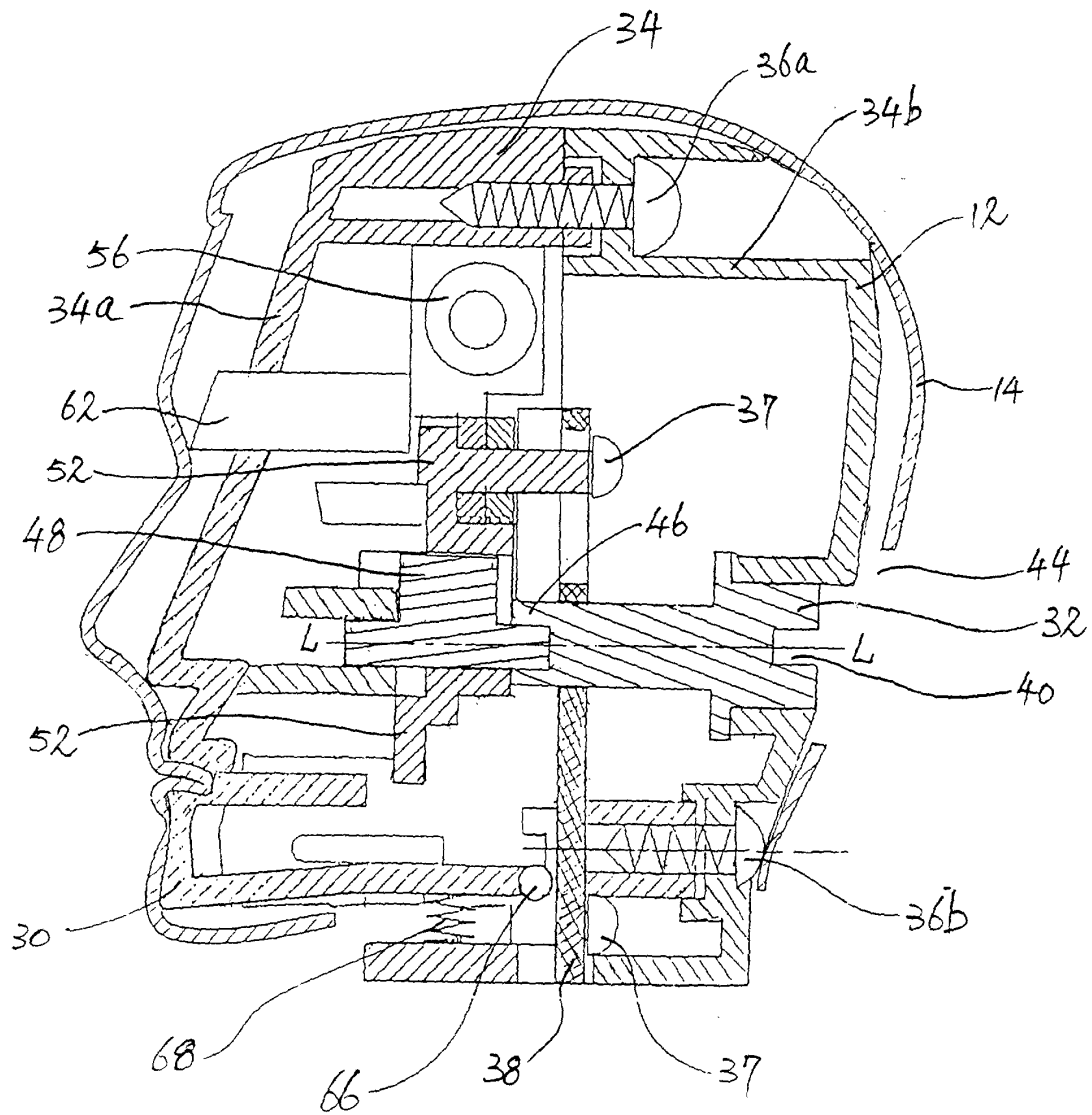


Fig. 7

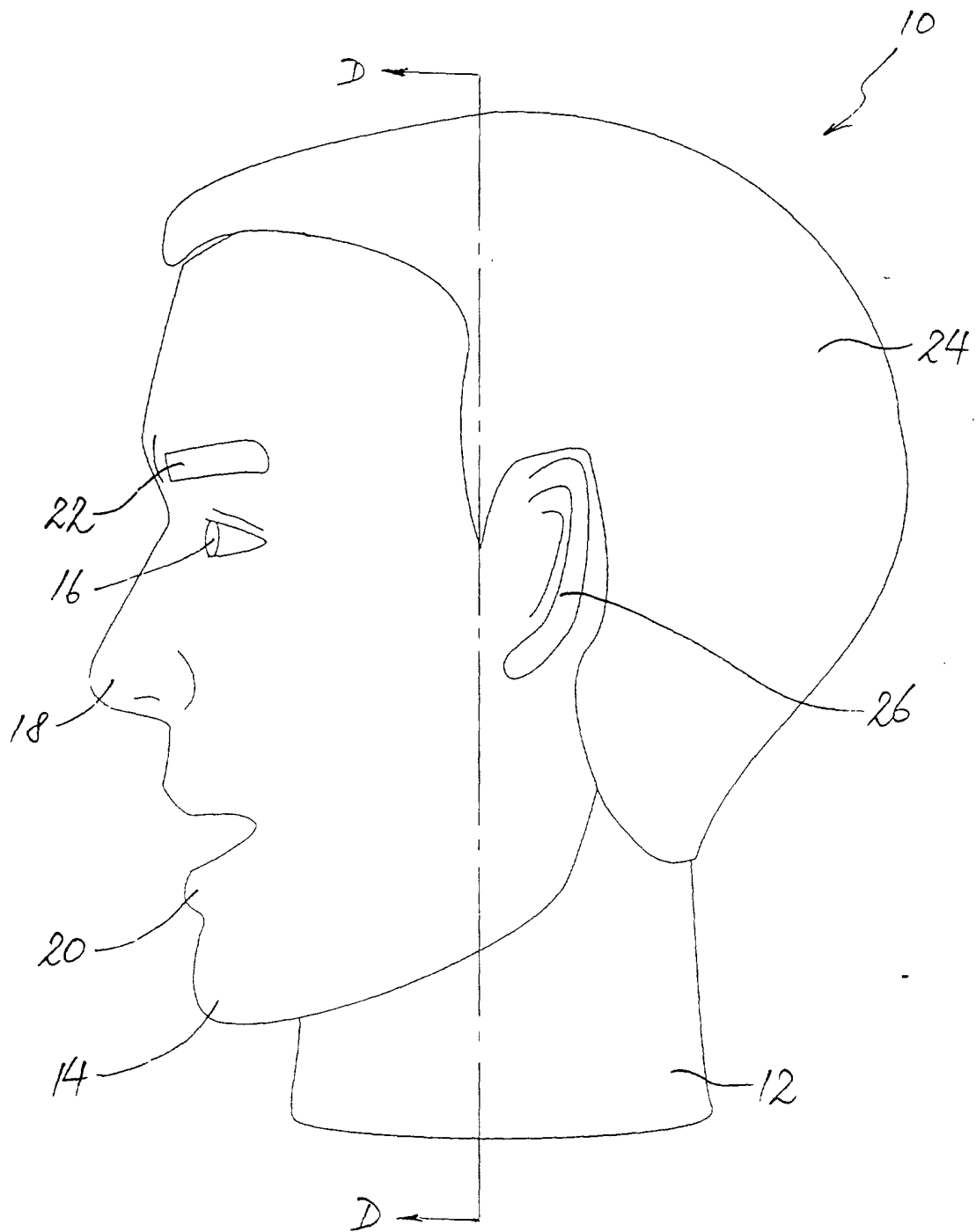
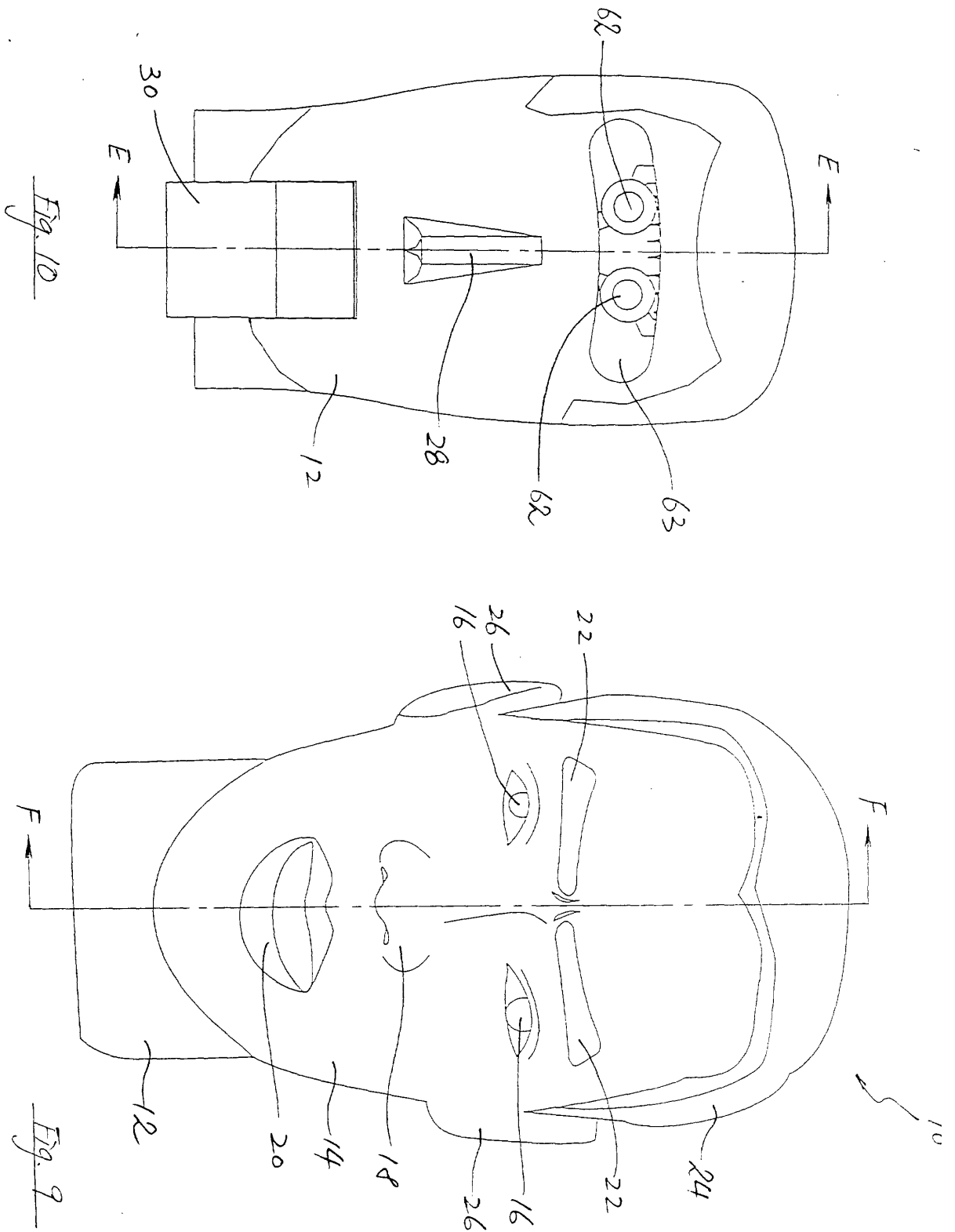


Fig. 8



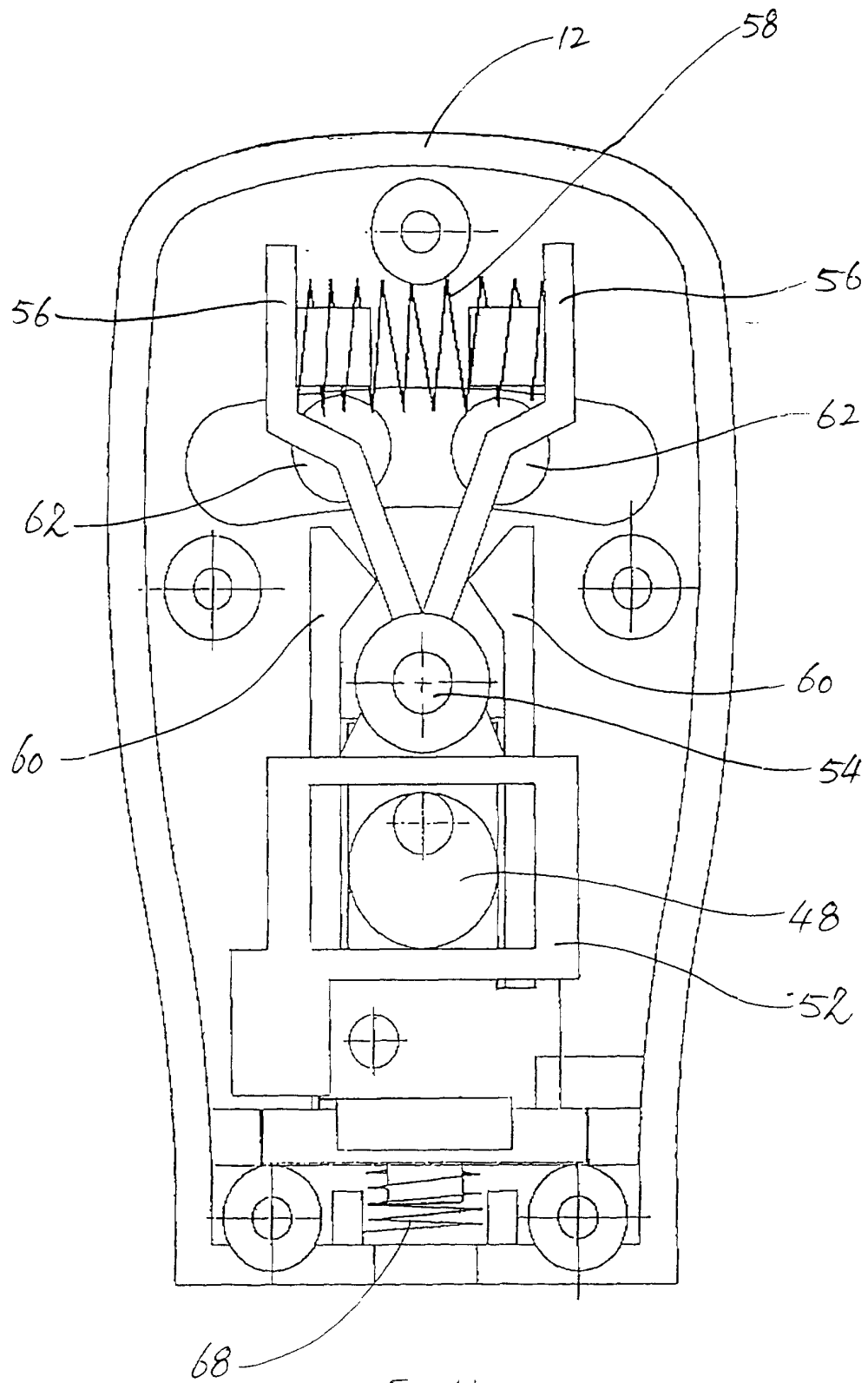


Fig 11

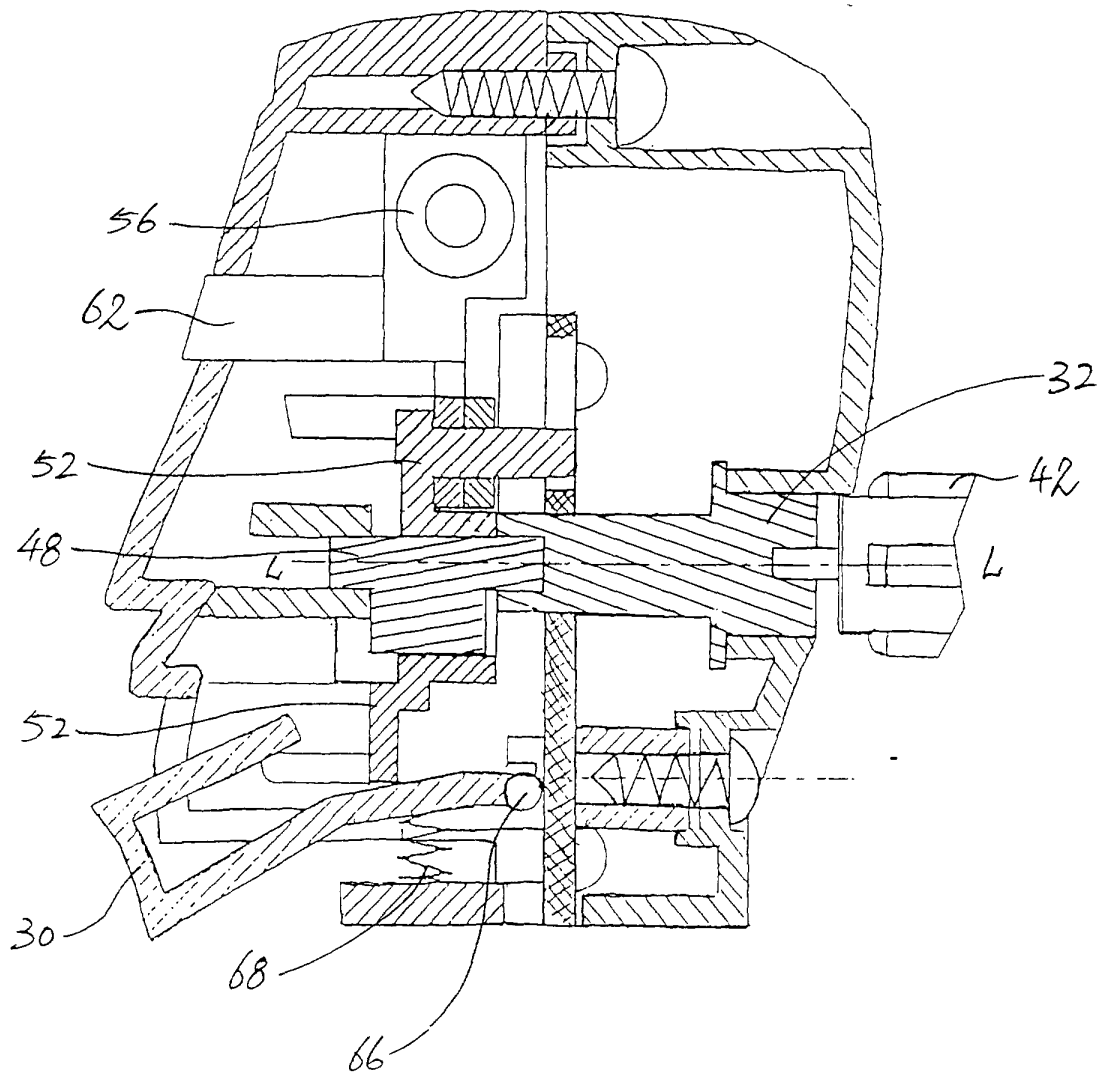
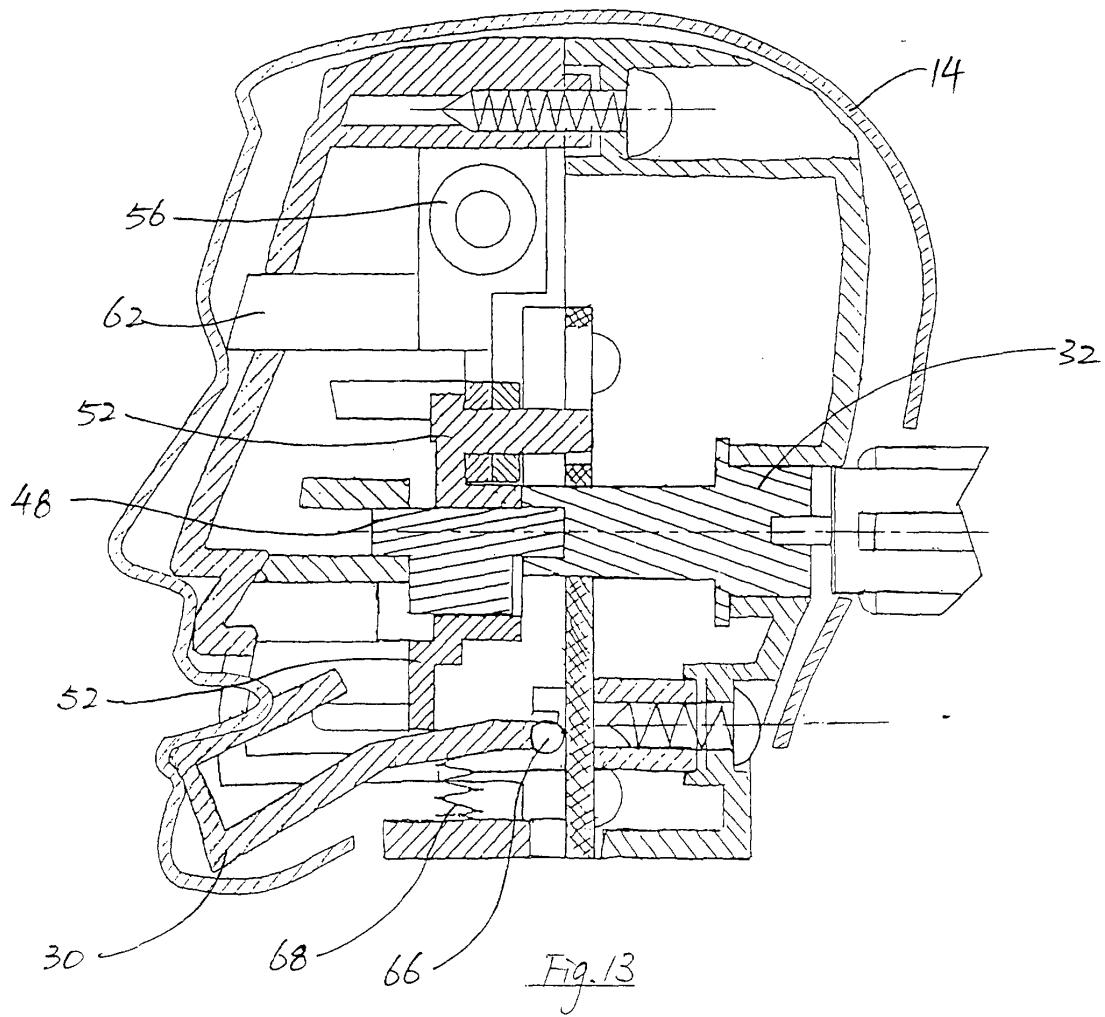


Fig. 12





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 31 0174

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 4 900 289 A (MAY RICHARD L ET AL) 13 February 1990 (1990-02-13) * column 1, line 65 - column 2, line 2 * * figures 1,2 *	1-4,17	A63H3/36
A	---	14,15	
X	US 3 841 020 A (RYAN J ET AL) 15 October 1974 (1974-10-15) * column 2, line 4-36 * * figures 3-5 *	1,3-8,17	
A	US 1 821 243 A (SPRINGER W R) 1 September 1931 (1931-09-01) * page 2, line 13-15 * * figure 6 * -----	1,13	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7) A63H
Place of search THE HAGUE		Date of completion of the search 25 April 2001	Examiner Chabus, H
CATEGORY OF CITED DOCUMENTS 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 & : member of the same patent family, corresponding document			

EPC FORM 1503 03 82 (P04001)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 31 0174

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

25-04-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4900289 A	13-02-1990	NONE	
US 3841020 A	15-10-1974	BE 691441 A	29-05-1967
		CH 480079 A	31-10-1969
		DE 1603457 A	26-11-1970
		FR 1503283 A	12-02-1968
		GB 1176168 A	01-01-1970
		NL 6702532 A	23-10-1967
US 1821243 A	01-09-1931	NONE	