REMARKS

After the foregoing Amendment, claims 1, 3 – 6 and 8 – 20 are currently pending in this application. Claims 2 and 7 have been canceled without prejudice. Claims 1, 8 – 10, 15 and 17 were amended.

Claim Rejections - 35 USC § 102 and § 103

The Action rejects claims 1 – 8 under 35 U.S.C. § 102(b) over Klipstein; claims 9 – 14 under 35 U.S.C. § 102(b) over Conner; and claims 15 – 20 under 35 U.S.C. § 103(a) on Klipstein in view of Neubert.

The present application provides an apparatus and method for controlling a three-dimensional optical field. Currently amended Claim 1 recites:

> an apparatus for controlling a three-dimensional optical field, comprising:
> a light-emission device emitting a light; and
> a set of zoom elements disposed in front of the light-emission device, and focusing the light from the light-emission device, wherein the light-emission device has a plurality of portions, each of which corresponds to a single one of the set of zoom elements, the set of zoom elements comprise a plurality of first zoom elements, and each of the set of zoom elements includes a liquid lens.

Klipstein discloses a flashlight with ESD lamps as well as circuit designs therefore. Referring to the illustration in Fig. 4 and its relevant descriptions in

Paragraphs [0069]-[0077] of Klipstein's specification, there are two lenses 402 disposed in front of the LEDs 401. However, a person of ordinary skill in the art would have appreciated that the lenses 402 as disclosed by Klipstein are not liquid lenses. NONE of the lenses disclosed by Klipstein is a liquid lens. Therefore, Klipstein does not disclose, teach or suggest the technical features "the set of zoom elements comprise a plurality of first zoom elements, and each of the set of zoom elements includes a liquid lens" as recited in claim 1.

Conner discloses light-collecting illumination systems having a light source module and several lenses. In Conner, the illumination systems serve as projection displays or backlights for LCD displays (Paragraph [0005]). Accordingly, a person of ordinary skill in the art would have recognized that NONE of those lens disclosed in Conner is a liquid lens. Therefore, Conner does not disclose, teach or suggest the technical feature "and the first zoom element includes a liquid lens" recited in claim 9.

Neubert discloses an LED illumination system. According to Neubert, some condensing lenses are disposed in front of each of the LED devices. Neubert does not mention "liquid lens" either. Therefore, as discussed above, NONE of the cited references discloses the technical features "providing a plurality of zoom light units, each of which has a respective light intensity, a respective focal length and a liquid lens" as recited in claim 15.

According to the illustrations in Figs. 15 and 16 and the descriptions in Paragraphs [0041]-[0042] of the present specification:

> [F]igs. 15 and 16 show(s) a comparison between the apparatus for controlling a three-dimensional optical field according to prior art and that of the present invention . . . the light with the shape 100' passes through a zoom module 20 and then is projected on an object 4' comprising a higher portion 4'H and a lower portion 4'L. It appears the distance from the zoom module 20 to the higher portion 4'H is shorter than that to the lower portion 4'L, so the degree of illumination at the higher portion 4'H is higher while the size of the light shape 10'H projected on the higher portion 4'H is smaller than that of the light shape 10'L on the lower portion 4'L. Therefore, a homogeneous light shape at the object 4' cannot be achieved by using the traditional apparatus for controlling a three-dimensional optical field

and

> [T]herefore, the present invention makes use of the variation of light emission at a two-dimension surface, which is achieved by control(ing) the plurality of light-emission units, to control the light shape and the dark/light distribution, and control the illumination or light intensity by zooming the focal position at the one-dimensional light axis with the aid of the zoom array 7, so as to achieve an efficacy of controlling a three-dimensional optical field

Based on this, a person of ordinary skill in the art can easily understand that the present application makes use of the zoom array (or the set of zoom elements as recited in claim 1) to control the illumination or light intensity of different portions of a projected light shape so as to achieve homogeneous light shape. Referring to the descriptions in Paragraphs [0036] and [0046] of the present specification: "[T]herefore, the focal point of the liquid lens 6 can be controlled by the plurality of

electrodes 63. The skilled person in the art may use the liquid lens 6 as the zoom unit 70 illustrated in Fig. 6" and "[R]eferring to the structure illustrated in Fig. 18 and the descriptions thereof, it is convenient for one to construct the apparatus for controlling a three-dimensional optical field 8 if each of the light-emission unit 80a consists of a large light-emission unit 11 and a plurality of liquid lenses 6. What the designer needs to do is simply disposing a plurality of the light-emission units 80a into a square matrix or a honeycomb array."

A person of ordinary skill in the art easily understands that the liquid lenses can be instantly controlled by the electronic device and therefore the efficacy resulting from the above distinguishable technical features defined in claims 1, 9 and 15 cannot be disclosed, taught or suggested by any cited reference. All the cited references are irrelevant to the present technical feature "liquid lens." It would have been impossible for a person of ordinary skill in the art to have conceived the distinguishable technical features defined in claims 1, 9 and 15 based on the disclosures of the cited references, either alone or in combination.

Accordingly, claims 1, 9 and 15 are patentable over the references of record. Claims 3 – 6 and 8 depend from claim 1, claims 10 – 14 depend from claim 9 and claims 16 – 20 depend from claim 15. These dependent claims are patentable for at least the same reasons.

Applicants request withdrawal of the § 102 and § 103 rejections.

Conclusion

If the Examiner believes that any additional matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing Amendment and remarks, Applicants respectfully submit that the present application, including claims 1, 3 – 6 and 8 – 20, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

Yeh et al.

By/Douglas J. Bucklin/____
Douglas J. Bucklin
Registration No. 51,208

Volpe and Koenig, P.C.
United Plaza
30 South 17th Street
Philadelphia, PA 19103-4009
Telephone: (215) 568-6400
Facsimile: (215) 568-6499

DJB/JNM/dmp
Enclosure