

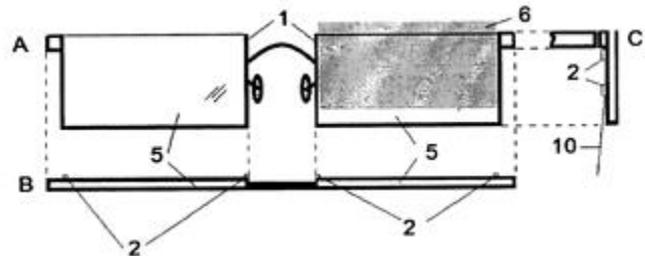
## INHIBITOR SYSTEM OF ACOMODATIVE EXCESS AND/OR ACOMODATIVE SPASM

### Description

It is a system that corrects visual alterations of excess and/or accommodative spasm (*false myopia*).

This invention consists of a device and a control. The device is formed by a spectacle frame to which LED emitters of variable light are attached, the frame includes two hollow and transparent sheets so that opaque sheets of different colors can be inserted. With the control, the amount of light and contrast provided is varied.

LEDs and occluders are used to allow the eye to focus on objects at different distances. With the anomaly described, this capacity cannot be relaxed enough to focus on distant distances.



Outline of the device: front (A), floor (B) and profile (C). 1. Mount. 2. LEDs. 5. Hollow sheet. 6 Opaque sheet.

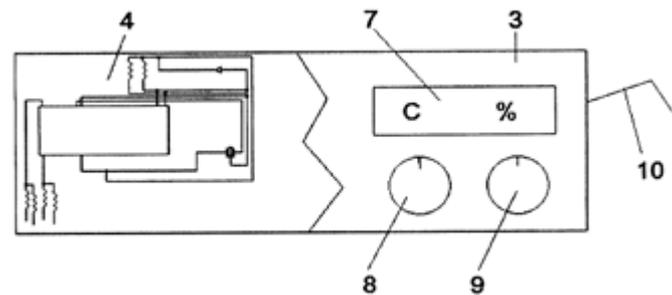
### How does it work?

Accommodation is the ability of the eye to focus on objects located at different distances on the retina. This mechanism stops working for reasons of age or due to ocular alterations by postures in the use of near vision and is resolvable in a functional way, by normalizing accommodation skills.

LEDs and occluders are used that relax the ability of the eye to focus on objects at different distances. They emit lights of different colors, with different wavelength ( $\lambda$ ): The red color dazzles the central vision and the blue the peripheral vision. The variation of  $\lambda$  emitted by the LEDs allows to act on the desired area of the retina.

Also, the frame supports two hollow and transparent sheets that allow to insert opaque sheets. The purpose of these is equivalent to that of the LEDs, and can be used independently. The opaque sheets can vary the contrast, which also affects the relaxation of the accommodation.

Depending on the color of the occluder and the color emitted by the LED, a greater or lesser contrast of the perceived image is achieved. The simultaneous use of the LEDs and the occluders allows to intensify the stimulation or relaxation of the desired retinal zone to achieve relaxation of the excess and/or spasm of accommodation.



Schematic of the remote control: 3. Command. 4. Electronic circuit. 7. LCD screen. 8. Color regulator. 9. Intensity regulator.

### Advantages

- It is a simpler and cheaper equipment that allows to correct functional vision problems.
- The relaxation of the eye occurs in less time and more effectively than with the standard treatment, shortening the recovery in half the time.
- The length of the eyepieces of the eyeglass is adjustable, being compatible with any face.

### Where has it been developed?

The design, protected by [national patent with previous examination since 2013](#), and its prototype, have been developed in the Faculty of Optics and Optometry.



## Researcher in charge

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