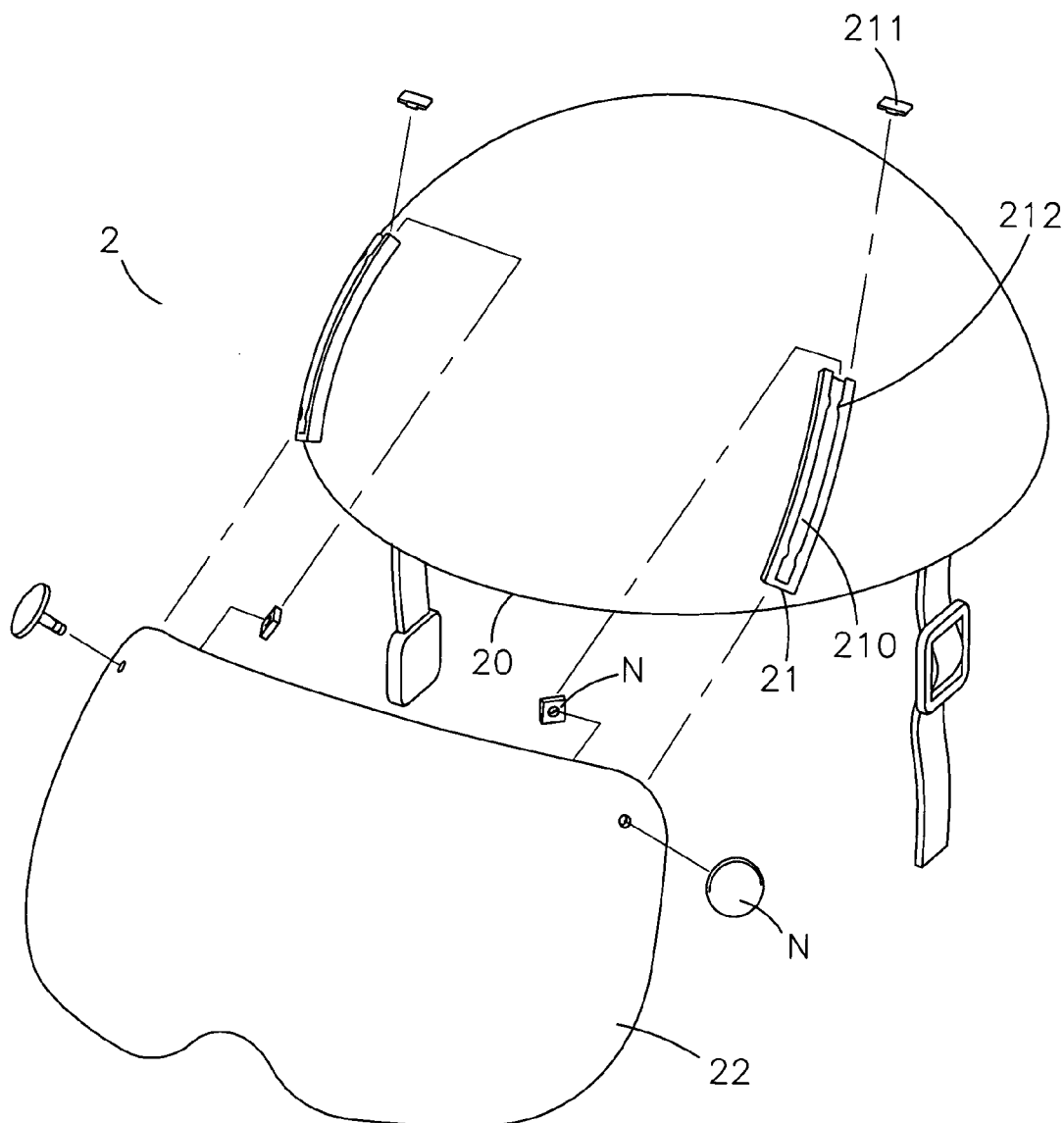




US 20090064397A1

(19) **United States**(12) **Patent Application Publication**  
**Chuang**(10) **Pub. No.: US 2009/0064397 A1**(43) **Pub. Date: Mar. 12, 2009**(54) **SAFETY HELMET****Publication Classification**(76) Inventor: **Ching-Fu Chuang**, Tainan City  
(TW)(51) **Int. Cl.**  
**A42B 1/08** (2006.01)(52) **U.S. Cl.** ..... 2/424(57) **ABSTRACT**Correspondence Address:  
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A safety helmet with a slidable lens includes a helmet body, and a lens and two sliding rails. The slidable rails are fixed spaced apart properly on a front portion of the helmet body, and the lens has two fitting pins spaced apart on the lens to correspond to and slide up and down along the slidable rails. So the lens can be pulled to slide up and down relative to the helmet body for used or tucked away to closely rest on the helmet body, not to resist wind in case of tucked away.

(21) Appl. No.: **11/900,154**(22) Filed: **Sep. 11, 2007**

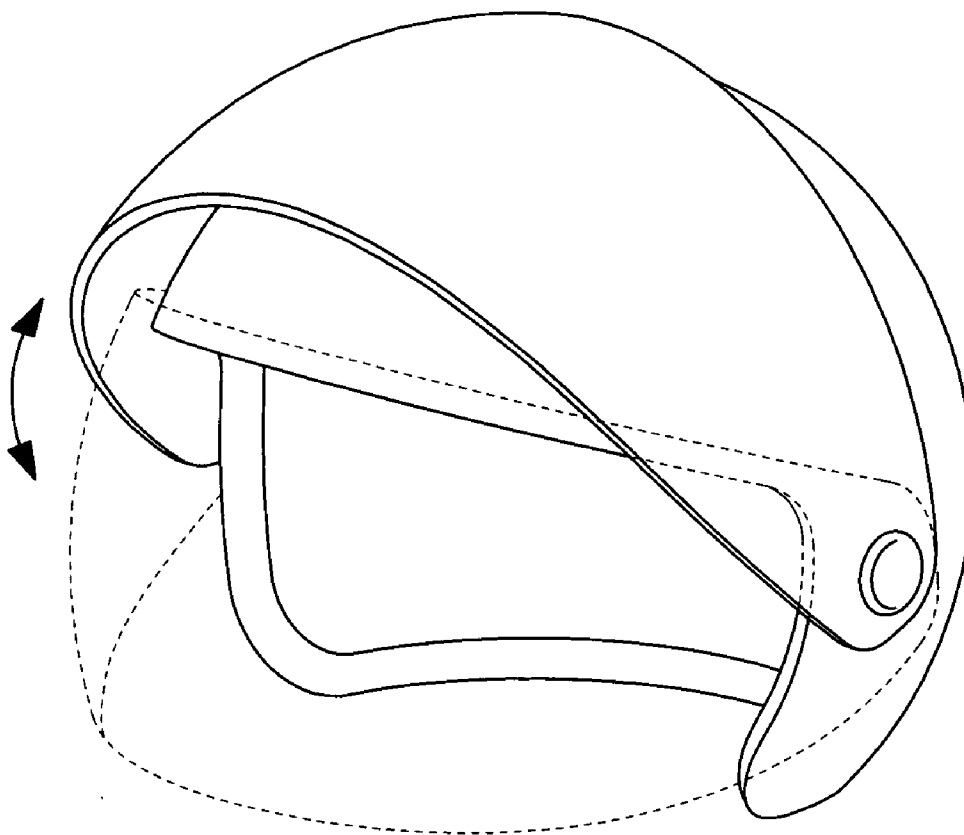


FIG. 1 (PRIOR ART)

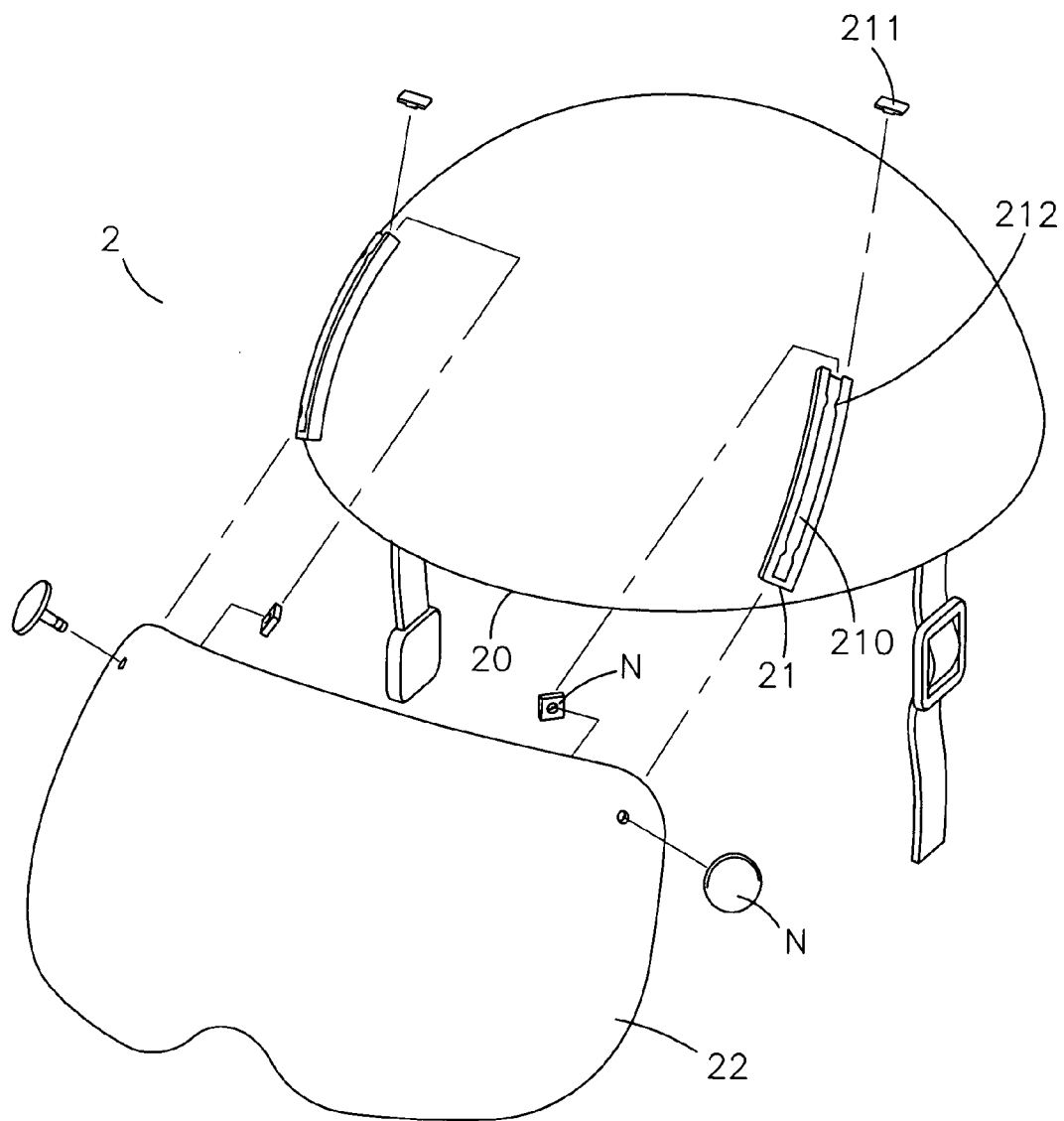


FIG. 2

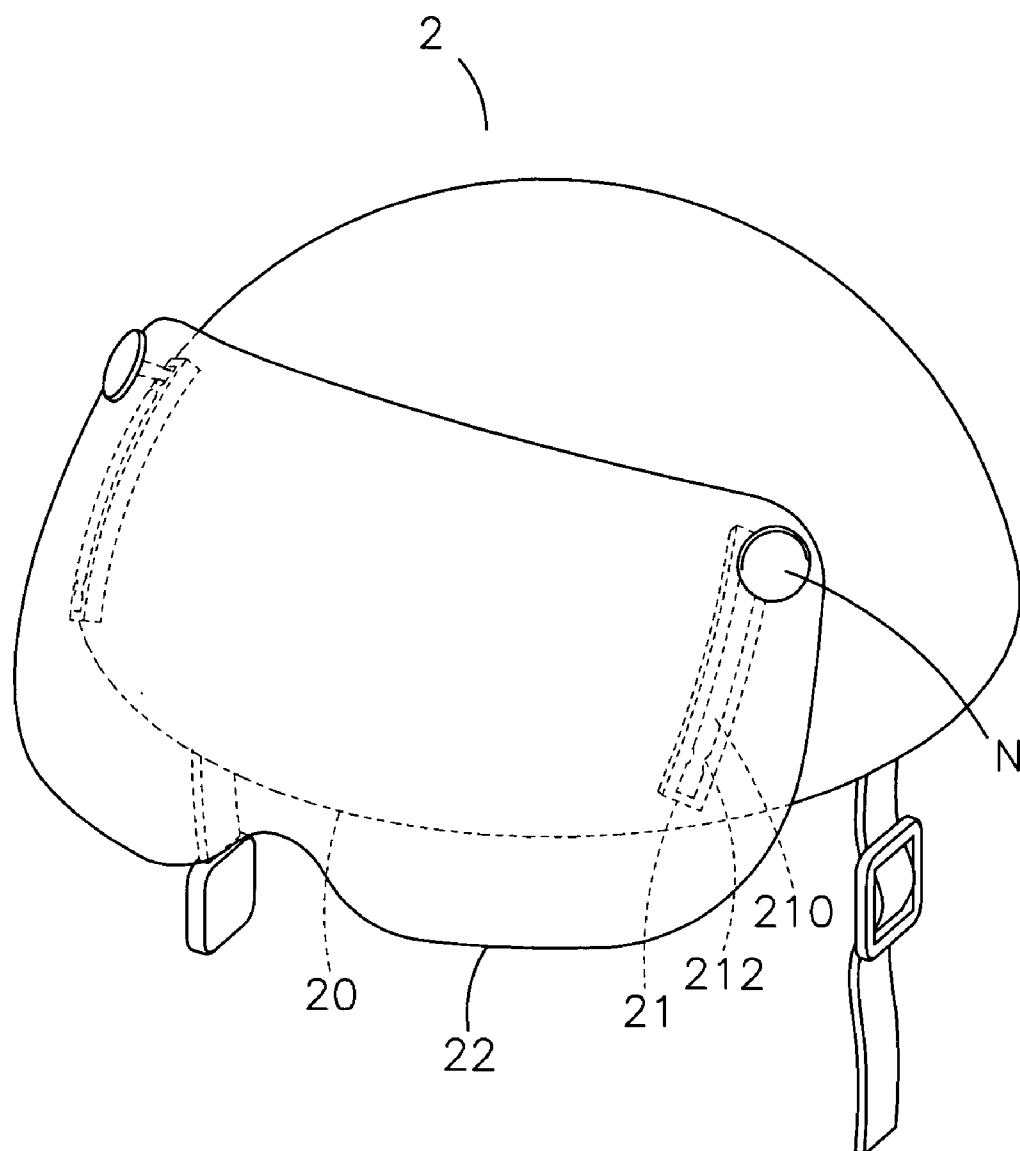


FIG. 3

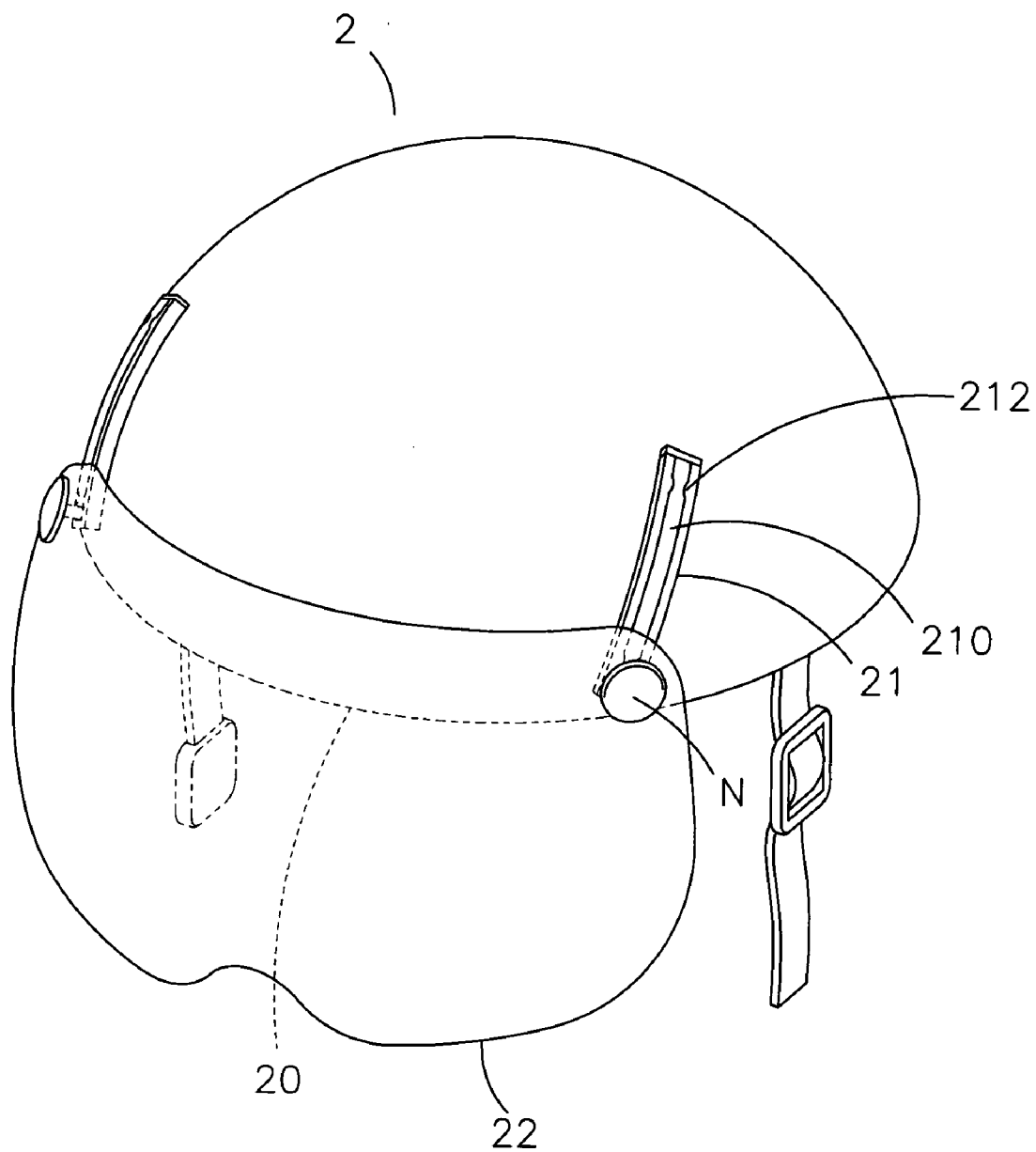


FIG. 4

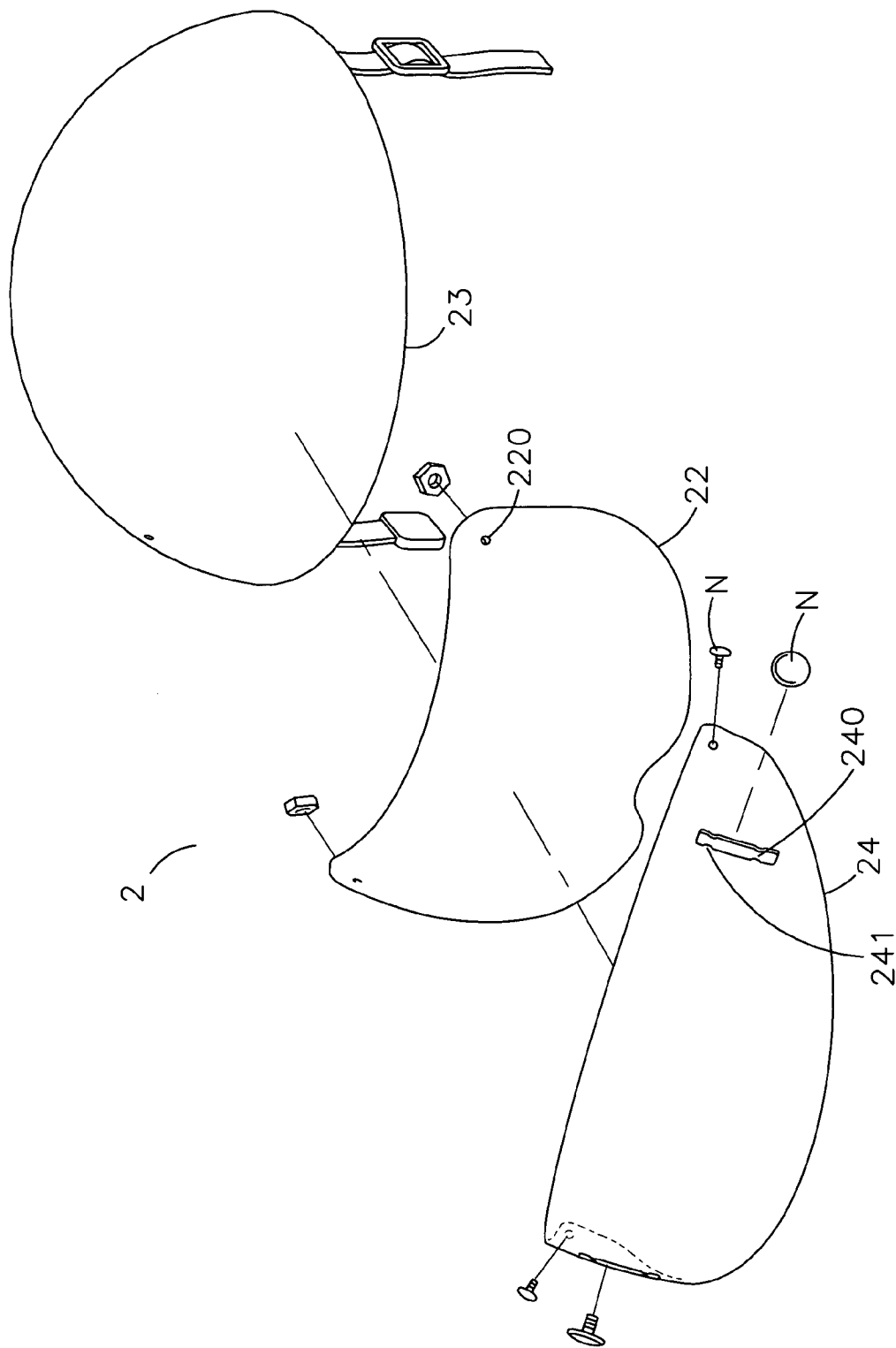


FIG. 5

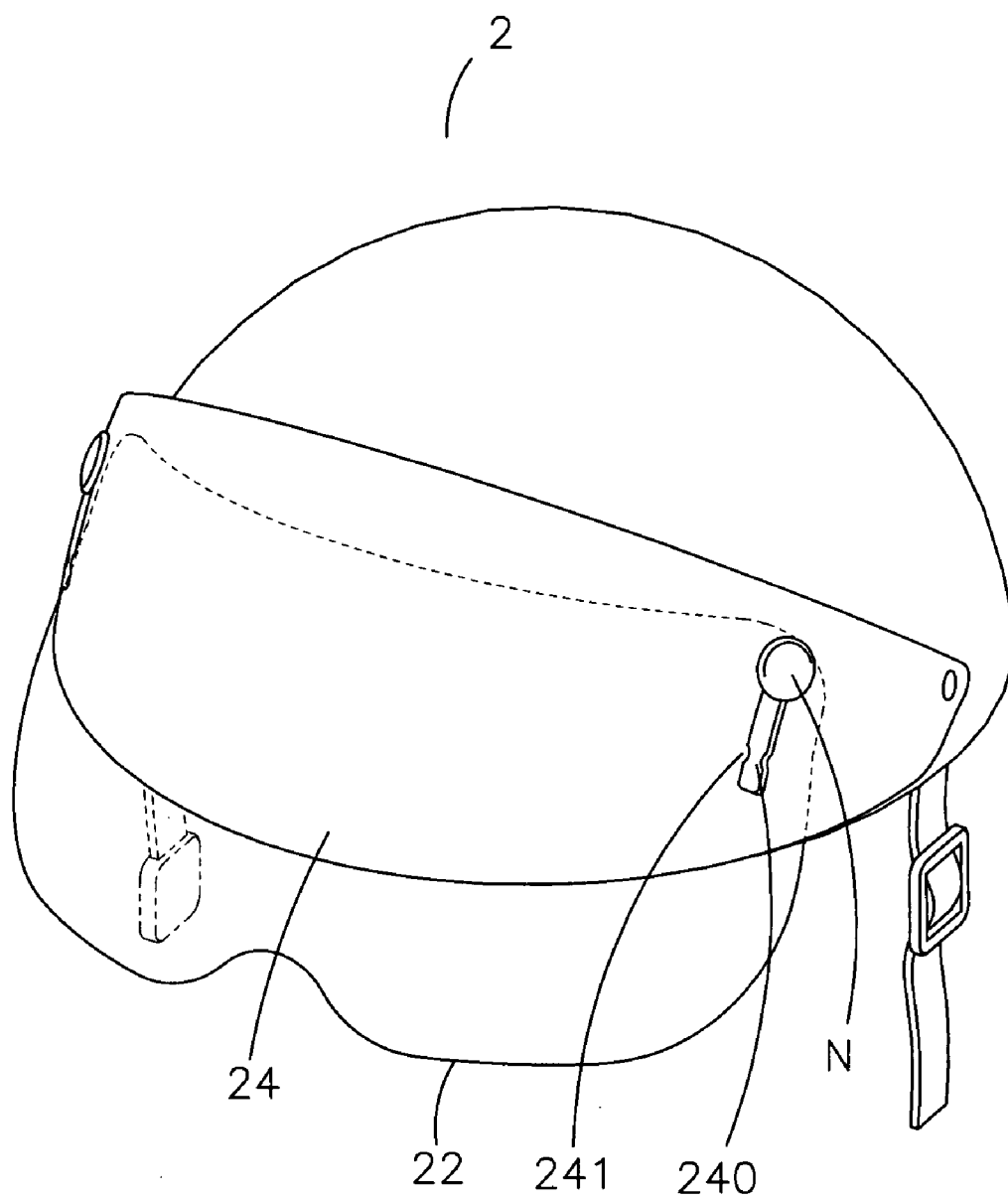


FIG. 6

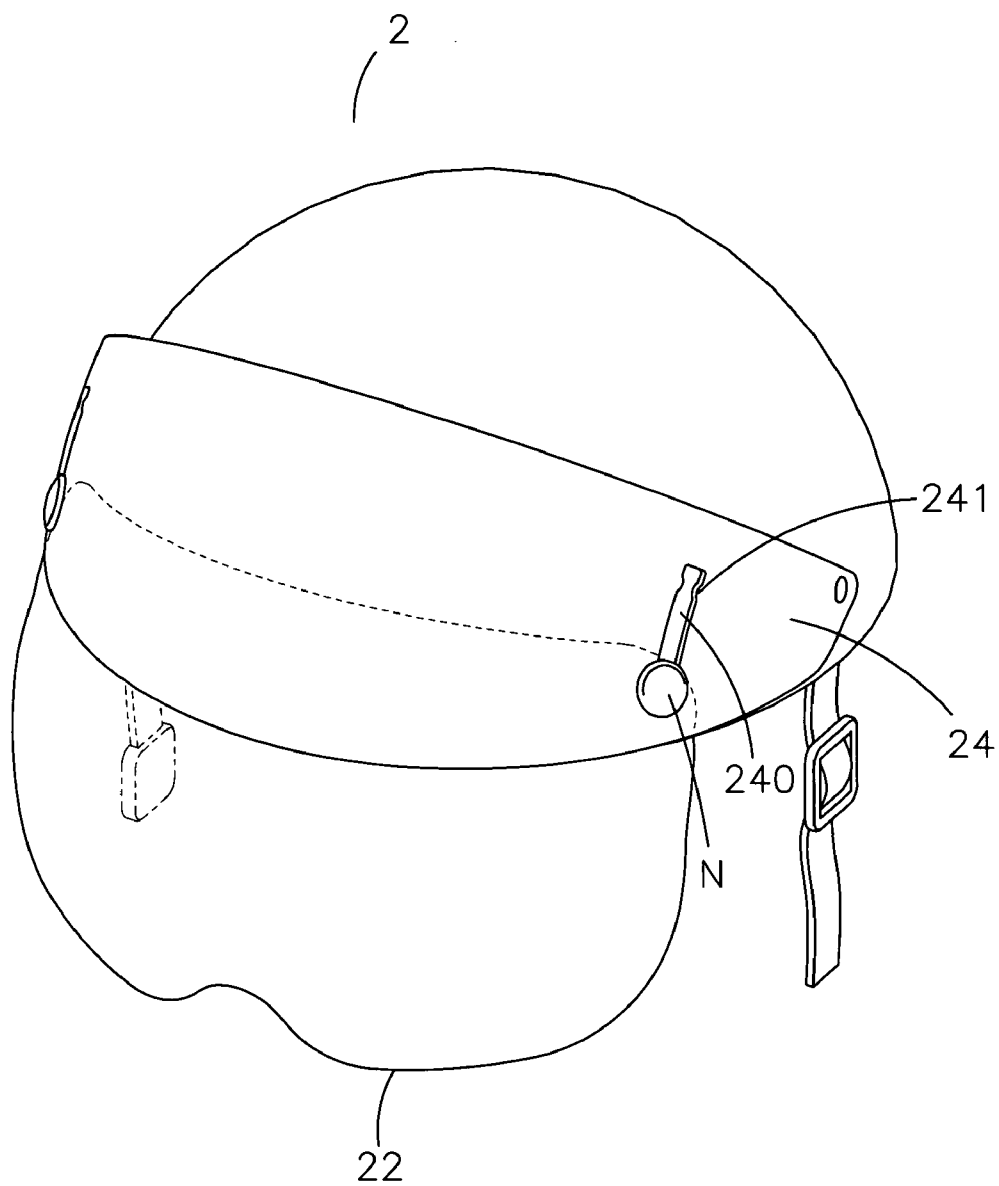


FIG. 7



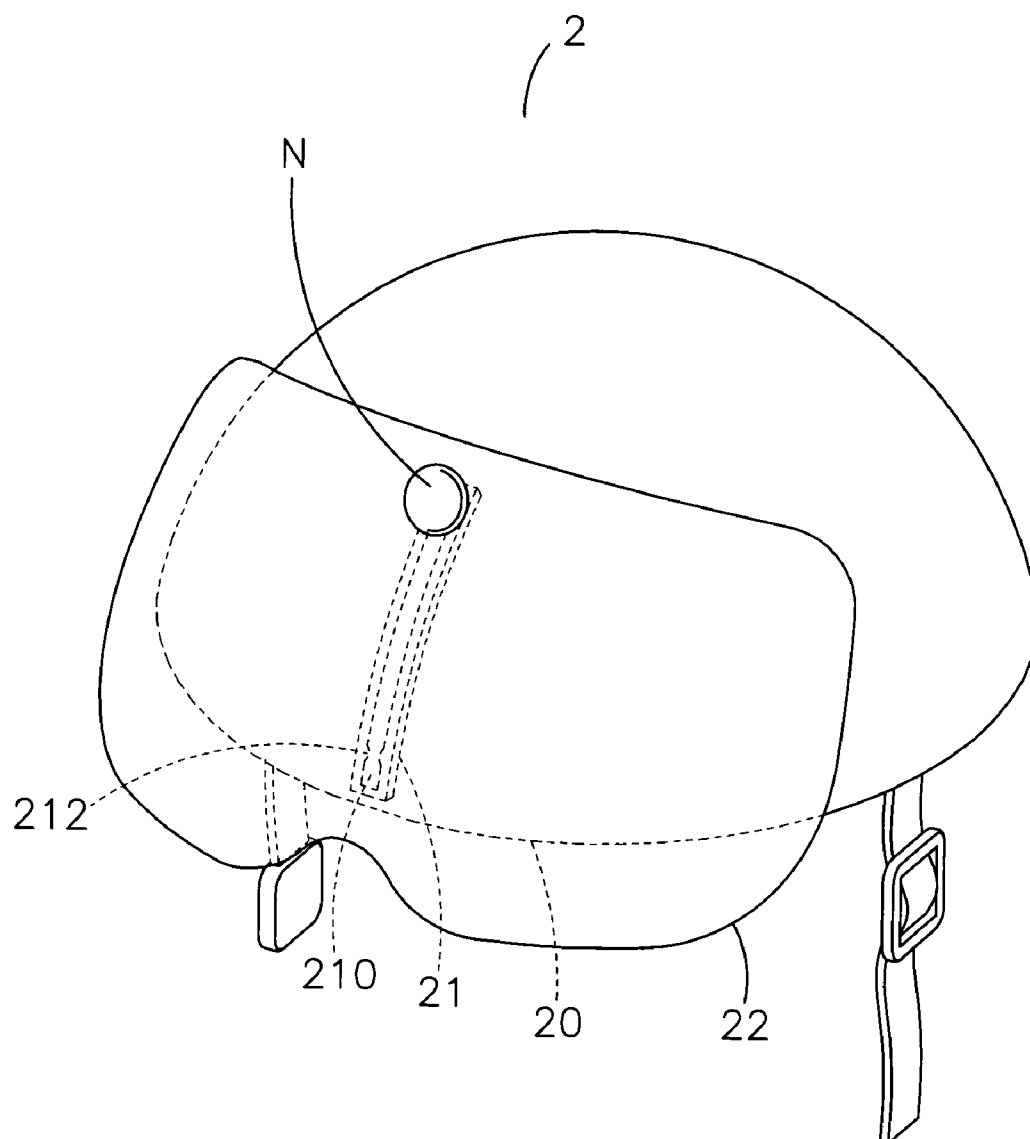


FIG. 9

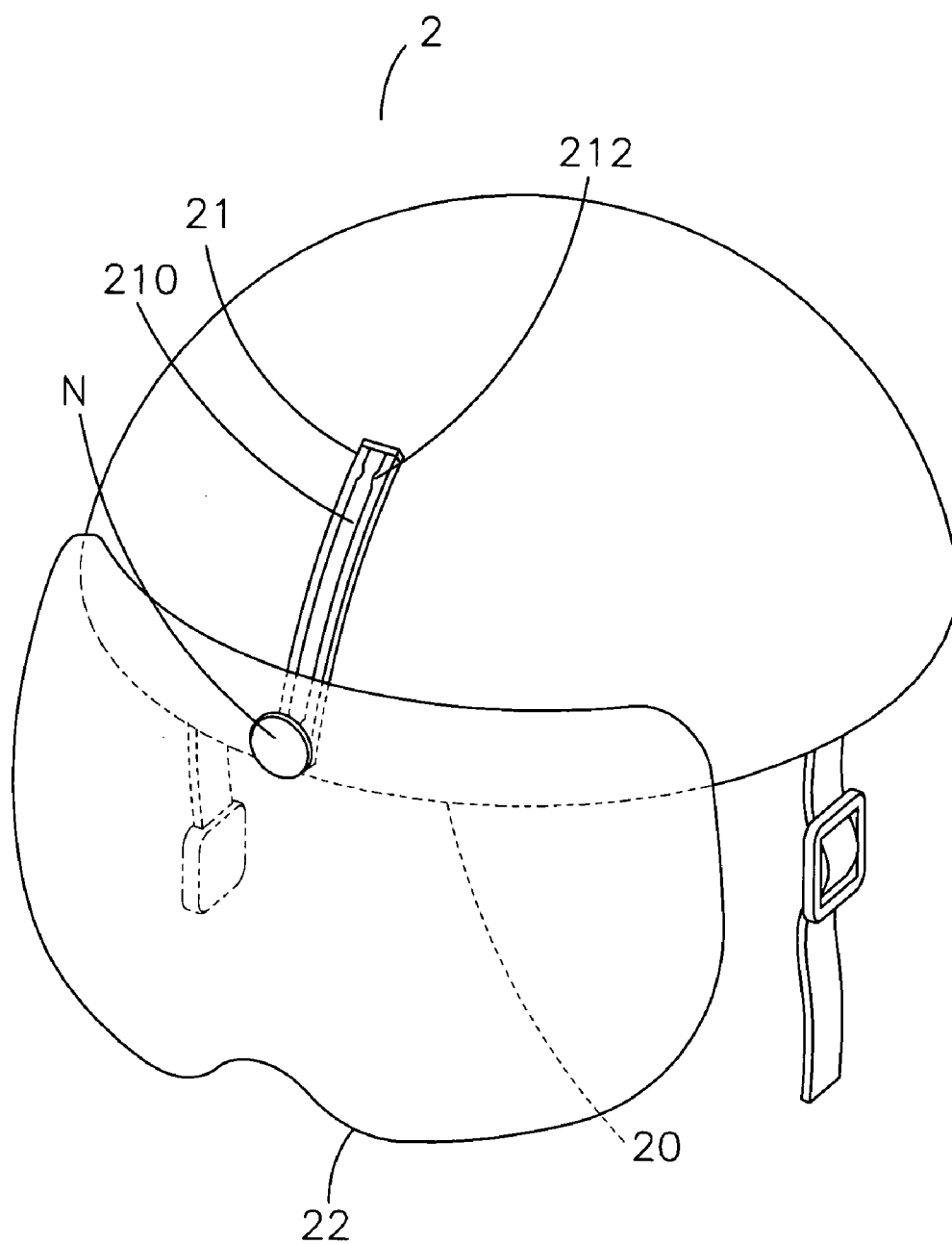


FIG. 10

## SAFETY HELMET

### BACKGROUND OF THE INVENTION

#### [0001] 1. Field of the Invention

[0002] This invention relates to a safety helmet, particularly to one provided with a slidable lens able to slide up and down relative to a helmet body, easy to handle, simple in its structure, and very much practical.

#### [0003] 2. Description of the Prior Art

[0004] A conventional safety helmet shown in FIG. 1 has a lens pivotally connected to the helmet body, and the lens is swung up pivotally to rest on the helmet in case of not used. Though the lens does not hinder the eyesight of a user, it may produce wind resistance during running of a motorcycle, and accordingly a user's neck may feel a little uncomfortable. In addition, when it is swung on the helmet body, the protruding provision of the lens gives rise to inconvenience for storing.

### SUMMARY OF THE INVENTION

[0005] The feature of the invention is a slidable lens having a pair of fitting members fitting and sliding up and down in two sliding rails fixed spaced apart on a front portion of a helmet body. The lens is pushed to slide up relative to the helmet body, with the two fitting members sliding up the sliding rails to rest on the helmet body when not used. When the lens is to be used, the lens is pushed to slide down from the tucked-away position on the helmet body to be used for protecting user's eyes.

### BRIEF DESCRIPTION OF DRAWINGS

[0006] This invention will be better understood by referring to the accompanying drawings, wherein:

[0007] FIG. 1 is a perspective view of a conventional safety helmet;

[0008] FIG. 2 is an exploded perspective view of a safety helmet with a slidable lens in the present invention;

[0009] FIG. 3 is a perspective view of the safety helmet with a slidable lens in the present invention;

[0010] FIG. 4 is a perspective view of the safety helmet with a slidable lens in the present invention, showing the slidable lens pulled down for use;

[0011] FIG. 5 is an exploded perspective view of a second preferred embodiment of a safety helmet with a slidable lens in the present invention;

[0012] FIG. 6 is a perspective view of the second preferred embodiment of a safety helmet with a slidable lens in the present invention;

[0013] FIG. 7 is a perspective view of the second preferred embodiment of a safety helmet with a slidable lens in the present invention, showing the slidable lens pulled down for use;

[0014] FIG. 8 is an exploded perspective view of a third preferred embodiment of a safety helmet with a slidable lens in the present invention;

[0015] FIG. 9 is a perspective view of the third preferred embodiment of a safety helmet with a slidable lens in the present invention; and,

[0016] FIG. 10 is a perspective view of the third preferred embodiment of a safety helmet with a slidable lens in the present invention, showing the slidable lens pulled down for use.

### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0017] A first preferred embodiment of a safety helmet with a slidable lens in the present invention, as shown in FIGS. 2, 3 and 4, includes a helmet body 2, two sliding rails 21, and a lens 22 as main components combined together.

[0018] The helmet body 2 has a lower circumferential rim 20 and a proper shape to fit a human head.

[0019] The two sliding rails 21 are fixed vertically and properly spaced apart on the helmet body 2, their lower end reaching the lower circumferential rim 20, provided with a sliding groove 210, a fitting member 212 respectively formed in an upper portion and a lower portion for the lens to be stopped temporarily in place after pushed to slide up and down, and a clogger 211 fitted tightly in an upper end of the sliding groove 210 so that the lens may not slip out of the sliding grooves 210 in case of pushed to slide up. Further, two fix pins (N) are fixed properly spaced apart on the lens to correspond to the sliding rails 21 so that the fixing pins (N) may fit and slide up and down in the sliding groove 210, thus permitting the lens 22 slide up and down along the sliding rails 21.

[0020] If the lens 22 is not to be used, it is pushed to slide up along the slide rails 21, with the fix pins (N) are temporarily stopped at the fitting members 212 in an upper end of the sliding rails 21, with the lens 22 resting closely and immovably on the helmet body 2. If the lens 22 is to be used, they are pushed to slide down along the slide rails 21 from the tucked-away position shown in FIG. 4, with the fix pins (N) separated from the upper fitting members 212 and then stopped at the lower fitting members 212. If the lens 22 is not to be used, repeat the handling way described above to put the lens 22 on the helmet body 2 stably.

[0021] Next, a second preferred embodiment of the invention is shown in FIGS. 5, 6 and 7, includes a helmet body 23, a lens cover 24 and a lens 22 as main components combined together.

[0022] The helmet body 23 is the same as that in the first preferred embodiment.

[0023] The lens cover 24 has a same curvature as that of the helmet body 23 and the lens 22, fixed stably in the front portion of the helmet body 23, with a proper gap preset between the helmet body 23 and the lens cover 24 for the lens 22 to move up and down therein. The lens cover 24 is further provided with two sliding slots 240 vertically spaced apart, and a fitting member 241 is respectively provided in an upper end and a lower end of each sliding slot 240 so that the lens may be temporarily stopped at the upper fitting member 241 or the lower fitting member 241 in case of being pushed to slide up and down for use or not. Further, the lens 22 is provided with a fitting pins (N) to fit in the sliding slot 240 to slide therein so that the lens 22 may be pushed to slide up and down relative to the lens cover 24 and the helmet body 23 at the same time.

[0024] If the lens 22 of the second preferred embodiment is not to be used, the lens 22 is pushed to slide up the gap between the lens cover 24 and the helmet body 23 to hide under the lens cover 24, not function to resist air. On the contrary, if the lens 22 is to be used, the lens 22 is pulled down

manually from the tucked-away position shown in FIG. 7, as part of the lens 22 extending out of the helmet body 23 can be gripped manually. Then the lens 22 can be pulled to slide down along the sliding slots 240 and be kept stopped at the lower fitting member 241, positioned in front of the eyes of a user for preventing dirt from running into the eyes.

[0025] The safety helmet in the invention has the following advantages as can be seen from the foresaid description.

[0026] 1. The lens 22 can be tucked away under the lens cover 24 in case of not being used, not resisting wind for a user to feel comfortable.

[0027] 2. The lens 22 can be pulled to slide up and down by means of the fitting members 212, 241, so its handling is very easy, quick and accurate.

[0028] 3. The slide rail 21 can be provided in the center of the lens 22 is shown in FIGS. 8, 9 and 10 simplifying its structure.

[0029] While the preferred embodiment of the invention has been described above, it will be recognized and understood that various modifications may be made therein and the appended claims are intended to cover all such modifications that may fall within the spirit and scope of the invention

What is claimed is:

1. A safety helmet with a slidable lens, said helmet comprising a helmet body, two sliding rails fixed spaced apart

properly on an upper surface of said helmet body with their lower end located at a lower rim of said helmet body, a protective lens provided with two fitting members spaced apart to correspond to said sliding rails, said sliding rails having a sliding groove respectively and a clogger at an upper end, said sliding groove having an upper fitting member and a lower fitting member for said fitting members of said lens to fit in and to be stopped temporarily so that said lens may be pushed to slide up and down for tucked away or used to protect user's eyes, said lens sliding closely and in parallel to the surface of the helmet body to minimize a gap between said lens and said helmet body.

2. A safety helmet with a slidable lens, said helmet comprising a helmet body, a lens cover fixed on a front portion of said helmet body, and a lens combined movably with said lens cover, said lens cover having two vertical slots spaced apart properly, said lens having two fitting pins spaced apart in corresponding to said vertical slots of said lens cover so that said lens may be pushed to slide up and down relative to said lens cover for using or tucked away, thus said lens tucked away by pushed to slide up with said fitting pins sliding along in said sliding slots of said lens cover to be located in a small gap between said lens cover and said helmet body stably, not resisting wind.

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