PROTECTIVE HELMET AND FACE SHIELD

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References Cited

UNITED STATES PATENTS
960,520 6/1910 Dyeste 2/206
1,035,217 8/1912 McQuary, Jr. 2/206
1,251,657 1/1918 Hart 2/6
1,309,783 7/1919 Slavin 2/206
1,356,542 10/1920 Neill 2/6
1,505,978 8/1924 Stetson 2/6
2,554,991 5/1951 Kramer 2/161 A
3,239,842 3/1966 Marchello 2/3 R
3,310,811 3/1967 Iacono, Jr. 2/6
3,588,914 6/1971 Ihnat, Jr. 2/205
3,668,705 6/1972 Garbisch 2/173

ABSTRACT

A protective helmet and bubble type clear plastic face shield for operators of vehicles in which the bubble type shield is provided with a chin cover extending from the lower side and front edges of the bubble face shield inwardly to a point beneath the chin of the wearer of the helmet and shield to prevent entry of air blast beneath the shield into the wearer's nose and eyes and to prevent the blast of air from lifting or detaching the shield from its connection to the protective helmet. The chin cover is preferably made of leather or plastic, having a fastener extending axially from the central lower outer portion of the face shield to a mid-point of the inner edge portion of the cover to facilitate securing the cover beneath the chin of the wearer. If desired, the chin cover may be formed of material having a plurality of gussets of resilient stretch material to facilitate securing the same under the chin of the wearer, or may be formed entirely of a resilient cloth or similar material having stretch characteristics for passing over the chin of the user and resiliency for returning the same to a tight position under his chin.

5 Claims, 6 Drawing Figures

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SUBJECT MATTER AND NATURE OF THE INVENTION

This invention relates to new and useful improvements in protective helmets and face guards for vehicle operators.

It is one object of the invention to provide an improved helmet and face guard having a chin cover extending from the lower front and side edges of the face guard to a point beneath the chin of the wearer to prevent entry of air blast beneath the face guard.

A particular object of the invention is to provide a chin guard extending from the lower front and side edge portions of bubble type face guards to extend therefrom to a position beneath the chin of the wearer of the protective helmet and face guard to prevent air blasts from entering the nose and eyes of the wearer, and to prevent the blast from spreading or loosening the face guard from the protective helmet.

A particular object of the invention is to provide a chin cover for a protective helmet and face guard of the character described which is sufficiently strong to remain in position preventing entry of air between the face guard and the face of the wearer, and which has means permitting ready application of the face guard and helmet to the head of the wearer.

Still another object of the invention is to provide a helmet and face guard with a chin cover of the character set forth having means for applying and securing the chin cover beneath the chin of the wearer.

Still another object of the invention is to provide a chin cover of the character set forth having a zipper type fastener or slide fastener for securing non-resilient material of the chin cover beneath the chin of the wearer.

Still another object of the invention is to provide a chin cover of the character set forth having resilient means for securing the chin cover beneath the chin of the wearer.

Additional objects and advantages of the invention will be readily apparent from the reading of the following description of a device constructed in accordance with the invention, and reference to the accompanying drawings thereof, wherein:

FIG. 1 is a perspective view from below a protective helmet and face guard having a chin cover applied thereto and showing the same in condition to be applied to the head of the wearer;

FIG. 2 is a perspective view similar to FIG. 1 from the opposite side and above the protective helmet, face guard and chin cover, showing the arrangement of the same with a visor to be detachably secured thereto;

FIG. 3 is a side elevation of the protective helmet, face guard and chin cover of FIG. 1, showing the same applied to the head of the user with the chin cover secured in position for use;

FIG. 4 is a bottom view of the chin cover of FIG. 1 showing the slide fastener closed;

FIG. 5 is a view similar to FIG. 4 showing a modified form of chin cover having resilient installing and retaining means thereon; and

FIG. 6 is a view similar to FIG. 5 showing a further modified form of the chin cover formed of resilient material.

In the drawings, the numeral 10 designates generally a protective helmet or head gear formed of reinforced plastic of glass fiber, fabric, or the like, in the well known manner, and commonly available. The head gear has head engaging harness (not shown), and a pair of flexible plastic or leather ear flaps 11 extending below the lower edge 12 on each side of the protective head gear. The head covering or helmet has a face opening 13, above which are provided a plurality of fasteners 14 for receiving and securing a bubble type transparent plastic face mask or guard 20 to the helmet to extend downwardly below and in front of the face opening. If desired, a visor 15 may be secured by snap fasteners 16 to the fasteners 14 on the helmet. A chin strap 17 is secured to one of the ear flaps 11 by a buckle and snap fastener 18, and a similar buckle and fastener on the opposite ear flap of the helmet. A chin support 19 is adjustably positioned on the strap 17 and engages the chin of the wearer of the helmet and face guard, as shown in FIG. 3.

In use, the helmet and face guard alone produce unsatisfactory conditions at the face of the wearer because the blast of air of a rider of a motorcycle or other vehicle enters beneath the lower edge 20a of the helmet face guard or mask 20 and strikes and enters the nose, mouth and eyes of the wearer. In addition, the blast entering behind the bubble type face mask tends to lift the outer edges thereof away from the sides of the helmet and the ear flaps 11, and in some cases disengages the snap fasteners 14 from the helmet and loosens and blows the face guard off the helmet. Frequently, the face guards are lost or damaged so as to be useless in such event.

To prevent the foregoing disadvantageous action of the entry of air blasts beneath the face guard, the chin cover of the invention is provided. The chin cover comprises a substantially triangular body 25 of flexible material, such as leather or plastic or the like, which is secured at its side edges 26 and 27, respectively, by adhesive, or any other suitable type of bonding material or means, to the lower front and side edges of the face guard 20. The dimensions of the triangular chin cover 25 are such that the rear or base portion 28 of the body will extend beneath the chin of the wearer to be positioned beneath the chin strap and retain the face guard in place. The chin guard to act on the bubble type face guard to release the same from the helmet. Also, the blast of air is prevented from blowing against the face, nose and mouth of the wearer, and into his eyes.

As shown in FIGS. 1 through 4, the chin cover body 25 is slotted vertically to the base edge 28 thereof outwardly forwardly to a point near the forward lower edge of the face mask 20 and a slide fastener 29 is secured in the slot to permit opening and closing the same for applying and securely fastening the chin cover beneath the chin of the user of the helmet, face guard and chin cover. This fastener permits applying the chin cover readily beneath the chin of the wearer, and then drawing the fastener to the closed position shown in FIG. 4 beneath his chin, and the chin strap and chin rest 19 may be disposed over the base portion of the cover to firmly hold the face guard and chin cover in place.
It is believed also to be obvious that as shown in FIG. 5, rather than the slide fastener 29, the chin guard may include a body 55 which is secured along its edges 56 and 57 to the lower front and side edges of the bubble type face guard and has its base 58 extending across from one edge to the other of the face mask. A plurality of triangular inserts or gussets 59, 60, and 61 may be formed of any suitable stretch material, such as stretch nylon, dacron, or a double weave fabric, which yields and is resilient to return the body member to the tight position once the chin cover member has been moved beneath the chin of the wearer of the helmet and face protector.

In FIG. 6, the entire body 65 of the chin cover is formed of a body 65 of stretch material secured along its edges 66 and 67 to the lower front and side edges of the face mask or guard 20. The body of stretch material will yield to permit the chin cover to be moved beneath the chin of the wearer of the helmet and face guard, and its resiliency will draw the same to a tight position beneath the chin of the wearer where it will be further held in place by the engagement of the chin strap and chin rest 19.

It will, therefore, be seen that a new and improved helmet and face guard, having a chin cover extending from the lower front and side edges of the face guard to a point beneath the chin of the wearer, has been provided to prevent entry of air blasts beneath the face guard and into the face of the wearer, to prevent air blasts from entering the nose and eyes of the wearer, and to prevent the blasts from loosening the face guard from the protective helmet. It will also be seen that a chin cover or guard has been provided with fitting, installing and retaining means which are sufficiently strong to hold the cover in position preventing the entry of air between the face guard and the face of the wearer, which means permit ready application of the chin cover with the face guard and helmet to the head of the wearer. It will also be seen that the chin cover is provided with means for releasably securing the chin cover beneath the chin of the wearer of the helmet and face guard.

The foregoing description of the invention is explanatory only, and changes in the details of the construction illustrated may be made by those skilled in the art, within the scope of the appended claims, without departing from the spirit of the invention.

What is claimed and desired to be secured by Letters Patent is:

1. A chin cover and bubble type transparent plastic face guard adapted to be detachably attached to a rigid impact resisting helmet head protective having a face opening and ear and head protecting sides which comprises: a transparent plastic convoluted transparent plastic face guarding mask having an upper edge joining convexly arcuate downwardly extending sides which merge with a pair of forwardly convergent lower edges joined in an arc at their forward convergent ends to form an arcuate forward edge, means for detachably affixing the upper edge of said mask to said helmet above the face opening of said helmet to project downwardly therefrom in front of the face of the wearer of said helmet; a substantially triangular chin cover member formed of a flexible body of sheet material having a rear base portion and converging side edges joining in an arcuate apex forward portion, said chin cover member being fixedly secured at its side edges to the convergent lower edges of the transparent plastic bubble face mask and at its apex to the arcuate forward lower edge of said face mask; said base extending transversely horizontally between the divergent rear ends of the lower edges of said face mask; said chin cover being flexible and positioned to be disposed to tightly engage the chin of the wearer of the helmet when the helmet and face guard are disposed on the head of the wearer to close off entry of air blasts between the face guard and the face of the wearer of the helmet and face guard.

2. A face mask and chin cover of the character set forth in claim 1 wherein said chin cover includes: a slide fastener extending longitudinally from the rear base portion of the chin cover toward said curved apex of the convergent side edges of said chin cover near the arcuate forward lower edge of the face guard and providing means for fitting the base portion of the body of the chin cover tightly engaged beneath the chin of the wearer of the helmet and mask and to secure the chin cover beneath the chin of the wearer.

3. A face mask and chin cover of the character set forth in claim 1 wherein said chin cover comprises: a flexible body of air excluding material having a plurality of triangular gussets of resilient material in said body along the base thereof tapering toward the arcuate apex forward portion of the convergent side edges of the chin cover and the lower arcuate forward edge of the face guard from the rear base portion of the body of the chin cover, and yieldable to permit said base portion of the chin cover to be stretched to be fitted beneath and tightly engage the chin of the wearer of the helmet.

4. A chin cover and bubble type clear plastic face guard adapted to be secured to a head protective helmet having a face opening and ear and head protecting sides, comprising: a convoluted transparent plastic face guarding mask having an upper edge joining a convexly arcuate downwardly extending sides which merge with a pair of forwardly convergent lower edges joined in an arc at their forward convergent ends to form an arcuate forward edge; means for detachably affixing the upper edge portion of said mask to said rigid impact resisting helmet above the face opening to extend downwardly in front of the face of the wearer of said helmet; a chin cover formed of a body of flexible sheet material having an inner rear base edge portion and forwardly convergent side edge portions joining in an arcuate apex forward edge portion; said side edge portions and arcuate forward edge portion of said chin cover having the convergent lower edges and the arcuate forward edge of the bubble type plastic face guard, said chin cover body having said inner rear base edge portion disposed to be positioned beneath the chin and near the throat of the wearer of said helmet and the arcuate apex forward edge portion disposed forwardly and spaced beneath the nose of the wearer of said helmet; means for detachably disposing said body of flexible sheet material of said chin guard in position tightly engaging the chin of the wearer of the helmet to deflect air from entering between the face of the wearer of the helmet and the interior of the face guard.

5. A combined face guard and chin cover for use with a rigid protective impact resisting helmet for vehicle operators having a face opening including: a convoluted transparent bubble type face guard having an upper edge joining a pair of depending side edges merg-
ing at their lower ends with a pair of rearwardly divergent lower edges joined in an arcuate apical forward lower edge; means for securing the upper edge of said face guard to said helmet above the face opening to be disposed in front of the face of the wearer thereof; a chin guard comprising a body of flexible sheet material of substantially triangular configuration having a rear base portion and forwardly convergent side edge portions joining in an arcuate apical front edge portion; means for fixedly securing the convergent side edge portions of the body of the chin cover to the lower divergent lower edges of the face mask and the arcuate front edge of said cover to the apical forward lower edge; and means along the base portion of said body of said chin cover providing for securely fitting the same beneath and in tight engagement with the chin of the wearer of the helmet with the face guard and chin cover secured to the helmet.

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