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COMBINATION SKULLGUARD AND FACE SHIELD

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2 Sheets-Sheet 1

Fig. 1.

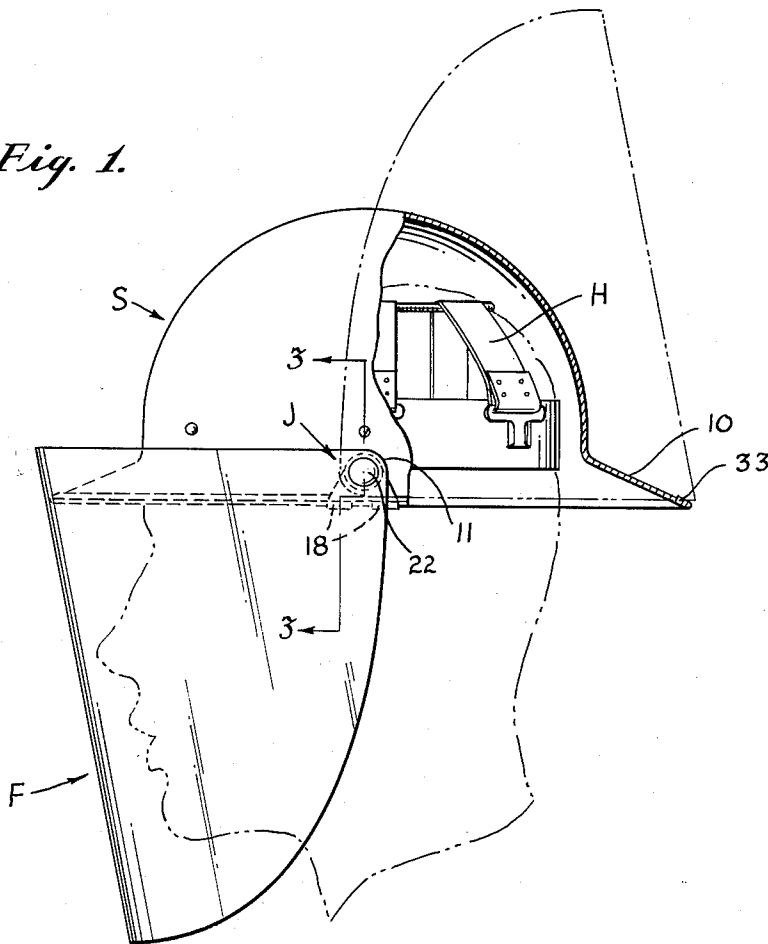
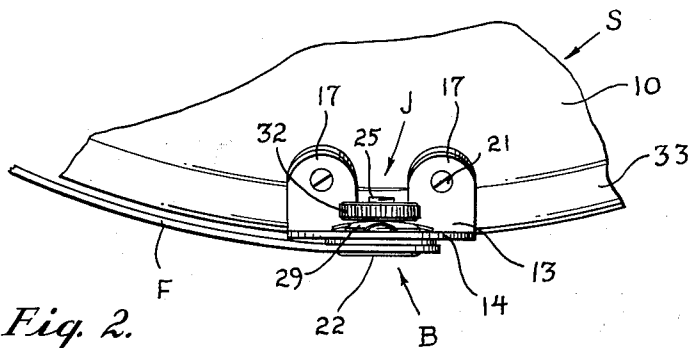


Fig. 2.



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COMBINATION SKULLGUARD AND FACE SHIELD

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6 Claims. (Cl. 2—10)

The present invention relates to the skullguards which are commonly worn by mechanics and workmen who are engaged in activities in which there is a liability of danger from falling articles and is concerned primarily with a novel arrangement for detachably securing a face shield to such a skullguard.

A skullguard consists essentially of a hard shell or casing that is supported in spaced relation with respect to the head of a wearer by a headgear. The shell or casing terminates in a lower outwardly extending peripheral flange. It has been the practice to pivotally mount a face shield on this flange by a pair of friction joints located at the opposite sides thereof with the friction joints being permanently attached to the skullguard by screws, bolts, or rivets, all of which require that one or more holes be formed in the flange of the skullguard at that side.

With the foregoing conditions in mind, the present invention has in view as its foremost object the provision of a combination skullguard and face shield in which the face shield is pivotally mounted on the skullguard by a pair of friction joints each of which is detachably secured to the flange of the skullguard. With this arrangement, the face shield may be completely removed whenever its use is not required for any appreciable interval.

At the present time, there are many skullguards now in use which are not adapted to having a face shield pivotally mounted thereon by any of the now known or available devices for this purpose. This is true because of the fact that all of the known devices require the holes in the flange of the skullguard.

Thus, another highly important object of the invention is to provide, in a combination skullguard and face shield, a friction joint for pivotally mounting the face shield on the skullguard and which joint is characterized by the fact that it is susceptible of being anchored to the flange of the skullguard without in any way altering the structural character of this flange.

More in detail, the invention has as an object the provision, in a combination skullguard and face shield, of a friction joint which includes a bracket that is adapted to be clamped to the flange of the skullguard. This bracket carries a pair of U shaped feet which presents slots or grooves that receive the edge of the skullguard flange. One side of each foot is secured to the bracket and a clamping screw passes through aligned openings in the bracket and the attached side of the foot. The clamping screws are adapted to be tightened against the skullguard flange to establish the clamping relation which securely anchors the friction joint to the skullguard.

Another object is to provide, in a combination skullguard and face shield, a new, improved, and highly simplified friction joint of the character above indicated. This friction joint consists essentially of a headed bolt formed with a bearing section immediately adjacent to the head and which bearing section is generally of cylindrical formation having a flat surface at one side. The bearing section of the bolt is received in a circular open-

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ing in the face shield with the head of the bolt bearing against the outer surface of the face shield. A spacing washer is also received on the bearing section and engages the inner face of the face shield. The bracket of the friction joint is provided with an opening having a shape exactly corresponding to the bearing section which is received therein; thus, a nonrotative relation between the bracket and the bolt is established. A star-shaped leaf spring is mounted on the threaded stem of the bolt and is forced against the inner face of the bracket by a nut which may be adjusted to vary the effective tension of the spring and thus, adjust the friction of the joint.

Various other more detailed objects and advantages of the invention, such as arise in connection with carrying out the above noted ideas in a practical embodiment, will in part become apparent and in part be hereinafter stated, as the description of the invention proceeds.

The invention, therefore, comprises a combination skullguard and face shield in which the face shield is removably mounted on the skullguard by a pair of friction devices, each including a pair of U shaped feet which are clamped about the edge of the skullguard flange. Each of these friction devices is of a highly simplified construction providing for the adjustment of the friction which is created thereby.

For a full and more complete understanding of the invention, reference may be had to the following description and accompanying drawings wherein:

Figure 1 is a side view, partly in elevation and partly in section showing a combination skullguard and face shield as applied to the head of a wearer and with a position of the face shield depicted in broken lines.

Figure 2 is a fragmentary bottom plan view of one of the friction joints and parts immediately associated therewith.

Figure 3 is a view taken as a section through one of the friction joints and

Figure 4 is a perspective view developing the several elements of one of the friction joints in exploded relation.

Referring now to the drawings wherein like reference characters denote corresponding parts, a skullguard which is referred to in its entirety by the reference character S is shown as mounted on a head gear H which supports the skullguard in spaced relation with respect to the head of a wearer. The skullguard S comprises a hard shell or casing in accordance with conventional practice in this art and which casing terminates in an outwardly extending peripheral flange 10.

A face shield is referred to in its entirety by the reference character F. This face shield F is made from an appropriate, flexible, transparent material that is of the curved construction illustrated and which presents a pair of upper corners 11, each of which is removably mounted on the flange 10 by a friction joint. Each of these friction joints is identified in its entirety by the reference character J; and, inasmuch as these joints are substantial duplicates, only one of them is herein described in detail as that is believed to be sufficient for the purposes of this specification.

Each of the corners or ears 11 of the face shield F is formed with a circular opening 12 for a purpose to be later described.

The friction joint J includes as an essential element a bracket comprising a bifurcated base 13 from which upstands an ear 14. This bracket may be made from any appropriate material, although the invention has particularly in mind the use of a metal. The ear 14 is formed with an opening 15 that is of a generally circular shape but which has a flat 16 at one side for a purpose to be later described.

The bifurcated base 13 presents two base sections 17 to the underface of each of which is secured a U-shaped

foot 18. Each foot 18 provides a slot or groove 19 which receives the edge portion of the flange 10 of the skullguard S.

Each base section 17 and that side of the foot member 18 which is secured thereto are formed with aligned threaded passages 20 which receive a clamping screw 21. Obviously, these screws 21 may be tightened to securely clamp the foot members 18 about the flange 10 or loosened to permit of the removal of the flange 10 from the grooves 19.

A headed bolt is referred to in its entirety by the reference character B. The bolt B comprises a flat head 22 which bears against the outer face of the corner portion 11 of the face shield F. Immediately adjacent to the head 22, the bolt B is formed with a bearing section 23 which is of generally cylindrical formation, but which is formed with a flat side 24. This bearing section 23 is received in the circular opening 12. Outstanding from the bearing section 23, there is a threaded stem 25 which completes the make-up of the bolt B.

A spacing washer 26 is formed with an opening 27 having a flat side 28 and which opening accurately conforms to the shape of the bearing section 23 which is received in the opening 27. This bearing section 23 is also received in the opening 15 which it is to be remembered also has a flat side 16. Thus, the washer 26 and ear 14 of the bracket are in nonrotative relation with respect to the bolt B. A star-shaped leaf spring 29 is formed with a circular opening 30 through which the stem 25 passes and has fingers 31 which bear against the inner face of the ear 14. A finger nut 32 is screwed onto the threaded stem 25 and bears against the circular portion of the spring 29. This finger nut may be tightened or loosened as occasion demands to vary the effective tension of the spring 29 and thus adjust the friction of the joint.

Operation

While the manner in which the combination skullguard and face shield of this invention functions is believed to be obvious from the illustration of the drawings and description of parts given, it may be briefly outlined as follows:

The friction joints J are first assembled on the corner portions 11 of the face shield F in the manner above described: that is, the bearing section sections 23 of the bolts B are received in the openings 12 in the face shield and also in the openings 27 in the spacing washers and the openings 15 in the bracket ears 14 and the springs 29 are held in effective position by the finger nuts 32.

The clamping screws 21 are now retracted a sufficient distance to clear the grooves 19. The foot members 18 are now positioned over the free edge of the skullguard flange 10 so that the latter is received in the grooves 19. The clamping screws 21 are now tightened to securely anchor the brackets to the flange 10 of the skullguard.

With a skullguard on the head of a wearer, the face shield may be swung either into a face protecting position or into an out of the way position above the skullguard and will be maintained in such a position by the friction of the joints J. The finger nuts 32 may be manipulated so that the right amount of friction which is required will be afforded thereby.

Whenever it is desired to detach the face shield from the skullguard, all that is necessary is to loosen these clamping screws 21 and slip the brackets off the flange 10.

It is notable that most skullguards are formed with a thickened portion at the free edge of the flange 10. This thickened portion is indicated at 33. The threaded openings 20 are so located in the U-shaped foot members 18 as to provide for the clamping screws 21 to engage the flange 10 just inside this thickened portion 33. Thus, the thickened portion 33 actually aids in providing a firm anchorage for the brackets.

While a preferred specific embodiment of the inven-

tion is hereinbefore set forth, it is to be clearly understood that the invention is not to be limited to the exact constructions, mechanisms, and devices illustrated and described, because various modifications of these details may be provided in putting the invention into practice within the purview of the appended claims.

What is claimed is:

1. In a combination skullguard and face shield assembly which includes a skullguard having an outwardly extending flange and a face shield pivotally mounted thereon by a pair of friction joints, the improvement consisting of: a bracket that is included as a part of each friction joint and which bracket has a base, a U-shaped foot member carried by said base and providing a groove receiving an edge of the flange of the skullguard, a clamping screw passing through a threaded passage in one side of said foot member to clamp said skullguard flange therewithin, and an ear upstanding from said base pivotally connected to said face shield.

2. In a combination skullguard and face shield assembly which includes a skullguard having an outwardly extending flange and a face shield pivotally mounted thereon by a pair of friction joints, the improvement consisting of: a bracket included as a part of each friction joint and which bracket has a bifurcated base providing a pair of base sections, a U-shaped foot member secured to each base section and providing a groove receiving an edge of the skullguard flange, a clamping screw carried by each of said foot members for clamping the bracket to the skullguard, and an ear upstanding from said base pivotally connected to said face shield.

3. In a combination skullguard and face shield assembly which includes a skullguard having an outwardly extending flange and a face shield pivotally mounted thereon by a pair of friction joints, the improvement consisting of: a bracket included as a part of each friction joint and having a bifurcated base providing a pair of base sections, there being aligned threaded passages at each base section and one side of the U-shaped foot member secured thereto, each of said foot members providing a groove receiving the flange of the skullguard, a clamping screw at each of said aligned passages with the free end of each clamping screw engaging the flange of the skullguard, and an ear upstanding from said base section pivotally connected to said face shield.

4. In combination, a skullguard having an outwardly extending peripheral flange; a face shield; and a pair of friction joints detachably clamped to said peripheral flange and having the face shield pivotally attached thereto; each of said friction joints comprising a bracket having a bifurcated base from which upstands an ear, a U-shaped foot attached to said bifurcated base presenting a groove clampingly receiving said flange, and means for pivotally attaching the face shield to said ear.

5. In combination, a skullguard having an outwardly extending peripheral flange; a face shield; and a pair of friction joints detachably clamped to said peripheral flange and having the face shield pivotally attached thereto; each of said friction joints comprising a bracket having a bifurcated base from which upstands an ear formed with a circular opening having a flat side, a U-shaped foot adjustably attached to said bifurcated base presenting a groove clampingly receiving said flange, a headed bolt having a bearing section of a shape corresponding to said opening in said bracket ear in which it is received, said bearing section passing through a circular opening in the face shield, a washer interposed between the face shield and bracket ear having an opening corresponding in shape to said ear opening, said bracket and bolt being maintained in a non-rotative relationship, a star-shaped leaf spring on said bolt and having fingers engaging said bracket ear, and a finger nut on said bolt maintaining said spring against said ear.

6. In a combination skullguard and face shield assembly which includes a skullguard having an outwardly extending flange and a face shield pivotally mounted thereon, the improvement consisting of: a friction joint comprising a bracket having a bifurcated base from which upstands an ear formed with a circular opening having a flat side, a U-shaped foot adjustably attached to said bifurcated base presenting a groove clampingly receiving said flange, a headed bolt having a bearing section of a shape corresponding to said opening in said bracket ear in which it is received, a washer carried by said bolt adjacent to said ear and having an opening corresponding in shape to said ear opening, said bracket and bolt being maintained in a non-rotative relationship, a star-shaped

leaf spring on said bolt and having fingers engaging said bracket ear, and a finger nut on said bolt maintaining said spring against said ear.

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