PROTECTIVE HOOD HAVING INSPECTION PORT

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ABSTRACT

A protective hood for a firefighter or for an emergency worker has a protective hood an outer shell and a liner. Further, the protective hood has an inspection port, which is openable and closeable and which when opened enables portions of the liner, between the liner and the outer shell, to be visually inspected. In some embodiments, the inspection port is located along a seam of the protective hood. In other embodiments, the outer shell has a flap, which is positionable between a position wherein the inspection port is closed by the flap and positions wherein the inspection port is not closed by the flap. In either embodiment, the protective hood may have hook-and-loop fasteners for releasable fastening elements of the protective hood releasably to one another so that the inspection port can be opened and can be closed.
PROTECTIVE HOOD HAVING INSPECTION PORT

TECHNICAL FIELD OF THE INVENTION

[0001] This invention pertains to a protective hood for a firefighter or an emergency worker. This invention contemplates that an outer shell of the protective hood has an inspection port, which when opened enables a liner of the protective hood to be visually inspected through the inspection port.

BACKGROUND OF THE INVENTION

[0002] As disclosed in U.S. Pat. No. 5,655,222, it is known for a firefighter’s garment to have an inspection port, which when opened enables a liner of the firefighter’s garment to be visually inspected. This patent teaches in column 2, lines 28 through 30, that “While the invention is discussed with reference to the coat of FIG. 1, it must be noted that it can be practiced in other garments such as overpants.”


SUMMARY OF THE INVENTION

[0004] This invention provides, for a firefighter or for an emergency worker, a protective hood having an outer shell and a liner and having an inspection port, which is openable and closeable and which when opened exposes surfaces of the protective hood, between a visible surface of the liner and a visible surface of the outer shell, to be visually inspected.

[0005] In some embodiments, the inspection port is located along a seam of the protective hood. In such an embodiment, if the protective hood has an intermediate liner and an inner liner, the inspection port when opened exposes portions of the liners, between the liners, and portions of the intermediate liner, between the intermediate liner and the outer shell, to be visually inspected.

[0006] In other embodiments, the outer shell has a flap, which is positionable between a position wherein the inspection port is closed by the flap and positions wherein the inspection port is not closed by the flap. In either embodiment, the protective hood may have hook-and-loop fasteners for releasable fastening elements of the protective hood releasably to one another so that the inspection port can be opened and can be closed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a pictorial view of a protective hood, as seen from a back vantage, whereby to illustrate that an outer shell of the protective hood has a flap, which is illustrated an a position wherein an inspection port of the outer shell is opened so as to enable an intermediate liner of the protective hood to be visually inspected.

[0008] FIG. 1A is a similar view, except that the flap is illustrated in a position wherein the flap closes the inspection port. FIG. 1B is a sectional view, as taken along line 1B-1B in FIG. 1, in a direction indicated by arrows. FIG. 2 is a sectional view, as taken along line 2-2 in FIG. 1, in a direction indicated by arrows.

[0009] FIG. 3 is a pictorial view of a protective hood, as seen from a front vantage, whereby to illustrate that the protective hood has two inspection ports along an inner seam and one inspection port along a lower seam. FIG. 4 is a sectional view, as taken along line 4-4 in FIG. 3, in a direction indicated by arrows. FIG. 5 is a sectional view, as taken along line 5-5 in FIG. 3, in a direction indicated by arrows.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS

[0010] As illustrated in FIGS. 1, 1A, 1B, and 2, a protective hood 10 for a firefighter or for an emergency worker is similar to protective hoods known heretofore in having an outer shell 20, an intermediate liner 30 providing a moisture barrier, and an inner liner 40 providing a thermal barrier. As illustrated therein, the outer shell 20 is made from a suitable fabric, such as Kevlar™ fabric or Nomex™ fabric. As illustrated therein, the intermediate liner 30 is a separate liner made from a suitable material, such as neoprene. Alternatively, the intermediate liner 30 is bonded to the inner liner 40. As illustrated therein, the inner liner 40 comprises an outer, fabric layer 42, an inner, fabric layer 44, and insulative material 46, such as felt, between the fabric layers 42, 44, which are quilted.

[0011] In one embodiment by this invention, the outer shell 20 has an inspection port 50, which is openable and closeable and which when opened exposes the inner liner 30 to be visually inspected through the inspection port 50, and a flap 60, which is positionable between a position (see FIG. 1A) wherein the inspection port 50 is closed by the flap 60 and positions (see, e.g., FIG. 1) wherein the inspection port 50 is opened. Rather than a unitary flap, as illustrated, a sewn-on or glued-on flap can be alternatively provided.

[0012] Furthermore, the protective hood 10 has means for releasably fastening the flap 60 in the position wherein the inspection port 50 is closed by the flap 60. As illustrated, the fastening means comprise complementary hook-and-loop fasteners 70 comprising a hook-faced tape 72, which is sewn along and to the margin of the flap 60, and comprising a loop-faced tape 74, which is sewn along and to the margin of the inspection port 50 and which is complementary to the hook-faced tape 74. The respective tapes 72, 74, can be alternatively glued along and to the respective margins. Rather than complementary hook-and-loop fasteners, other releasable fastening means, such as a series of snap fasteners or a zipper, can be alternatively used.

[0013] As illustrated in FIG. 3, in which the inspection port 50 and the flap 60 are omitted, the protective hood has three inspection ports 100, 110, 120, which are similar to one another and each of which is openable and closeable. The inspection port 100 and the inspection port 110 are located along a finned seam of the protective hood 10, while the inspection port 120 is located along an edge seam of the protective hood 10, along the lower edge of the protective hood 10. When opened, each of the inspection ports 100, 110, 120, enables portions of the respective liners 30, 40, between the respective liners 30, 40, and portions of the intermediate liner 30, between the intermediate liner 30 and the outer shell 20, to be visually inspected. At each inspection port among the inspection ports 10 the protective hood
10 has similar means for releasably fastening an edge portion of the outer shell 20 to an edge portion of the intermediate liner 30 and for releasably fastening an edge portion of the inner liner 40 to the edge portion of the intermediate liner 30, along the seam where said inspection port is located.

[0014] At the inspection port 100, the protective hood 10 has complementary hook-and-loop fasteners 110 comprising a hook-faced tape 112, which is sewn to and along the edge portion of the outer shell 20, a loop-faced tape 114, which is sewn to and along the edge portion of the intermediate liner 30, on the side facing the edge portion of the outer shell 20 when the inspection port 100 is closed, and which is complementary to the hook-faced tape 112, a hook-faced tape 116, which is sewn to and along the edge portion of the inner liner 40, and a loop-faced tape 118, which is sewn to and along the edge portion of the intermediate liner 30, on the side facing the edge portion of the inner liner 40 when the inspection port 100 is closed, and which is complementary to the hook-faced tape 116. At the inspection port 110, the protective hood 10 has similar hook-and-loop fasteners. Rather than complementary hook-and-loop fasteners, other releasable fastening means, such as a series of snap fasteners or a zipper, can be alternatively used.

[0015] At the inspection port 120, the protective hood 10 has complementary hook-and-loop fasteners 130 comprising a hook-faced tape 132, which is sewn to and along the edge portion of the outer shell 20, a loop-faced tape 134, which is sewn to and along the edge portion of the intermediate liner 30, on the side facing the edge portion of the outer shell 20 when the inspection port 100 is closed, and which is complementary to the hook-faced tape 132, a hook-faced tape 136, which is sewn to and along the edge portion of the inner liner 40, and a loop-faced tape 138, which is sewn to and along the edge portion of the intermediate liner 30, on the side facing the edge portion of the inner liner 40 when the inspection port 100 is closed, and which is complementary to the hook-faced tape 136. Rather than complementary hook-and-loop fasteners, other releasable fastening means, such as a series of snap fasteners or a zipper, can be alternatively used.

1. For a firefighter or for an emergency worker, a protective hood having an outer shell and a liner and having an inspection port, which is openable and closeable and which when opened enables portions of the liner, between the liner and the outer shell, to be visually inspected.
2. The protective hood of claim 1, wherein the inspection port is located along a seam of the protective hood.
3. The protective hood of claim 2, wherein the protective hood has means for fastening elements of the protective hood releasably to one another so that the inspection port can be opened and can be closed.
4. The protective hood of claim 3, wherein the fastening means comprise hook-and-loop fastening means.
5. For a firefighter or for an emergency worker, a protective hood having an outer shell, an intermediate liner, and an inner liner and having an inspection port, which is openable and closeable and which when opened enables portions of the liners, between the liners, and portions of the intermediate liner, between the intermediate liner and the outer shell, to be visually inspected.
6. The protective hood of claim 5, wherein the inspection port is located along a seam of the protective hood.
7. The protective hood of claim 5, wherein the protective hood has means for fastening elements of the protective hood releasably to one another so that the inspection port can be opened and can be closed.
8. The protective hood of claim 7, wherein the fastening means comprise hook-and-loop fastening means.
9. For a firefighter or for an emergency worker, a protective hood having an outer shell and a liner and having an inspection port, which is openable and closeable and which when opened enables portions of the liner, between the liner and the outer shell, to be visually inspected, wherein the outer shell has a flap, which is positionable between a position wherein the inspection port is closed by the flap and positions wherein the inspection port is not closed by the flap.
10. The protective hood of claim 2, wherein the protective hood has means for fastening the flap releasably in the position wherein the inspection port is closed by the flap.
11. The protective hood of claim 3, wherein the fastening means comprise hook-and-loop fastening means.
12. For a firefighter or for an emergency worker, a protective hood having an outer shell and a liner and having an inspection port, which is openable and closeable and which when opened enables portions of the liner, between the liner and the outer shell, to be visually inspected, the outer shell and the liner are permanently affixed to one another.
13. The protective hood of claim 12, wherein the inspection port is located along a seam of the protective hood.
14. The protective hood of claim 13, wherein the protective hood has means for fastening elements of the protective hood releasably to one another so that the inspection port can be opened and can be closed.
15. The protective hood of claim 14, wherein the fastening means comprise hook-and-loop fastening means.