June 8, 1971 H. FASSBENDER 3,582,989

BEE-KEEPERS'S PROTECTIVE CLOTHING

Filed March 9, 1970

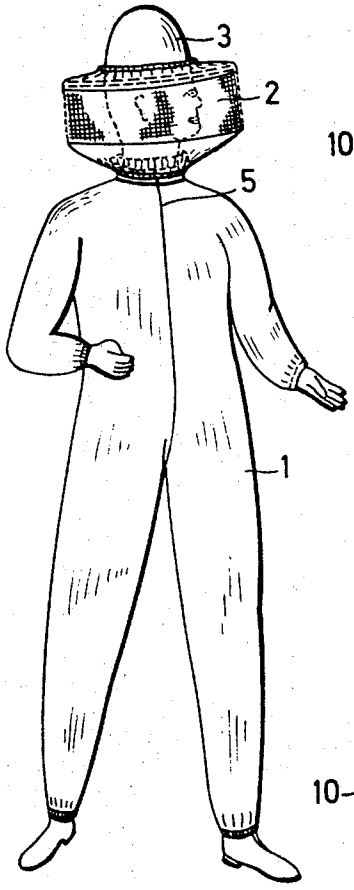

FIG. 1

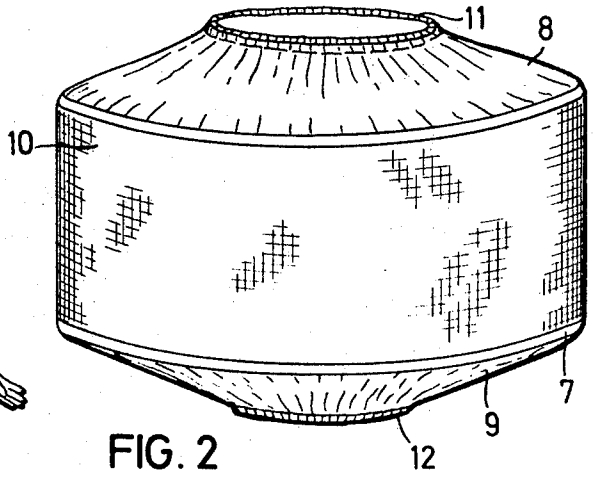

FIG. 2

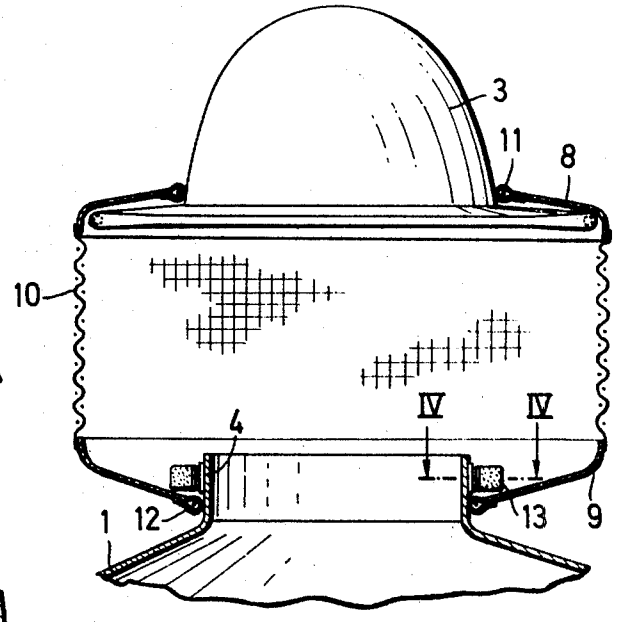

FIG. 3

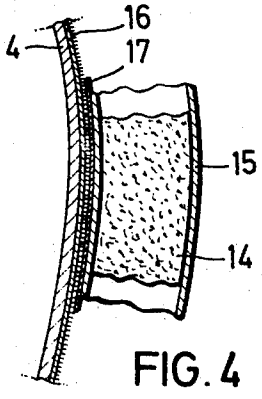

FIG. 4

INVENTOR:
HUGO FASSBENDER
BY
Breitenfeld & Levine
ATTORNEYS

United States Patent Office 3,582,989
Patented June 8, 1971

3,582,989

BEE-KEEPER'S PROTECTIVE CLOTHING

Hugo Fassbender, 5041 Erp, Uber Lechenich, Germany

Filed Mar. 9, 1970, Ser. No. 22,739
Claims priority, application Germany, Mar. 13, 1969, P 19 12 742.5
Int. Cl. A42b 1/00
U.S. Cl. 2—4 7 Claims

ABSTRACT OF THE DISCLOSURE

The clothing comprises a suit having an upstanding collar and a veil having a hole through which the head is inserted. The hole is surrounded by an elastic band, and the exterior of the collar carries a downwardly-facing ledge beneath which the elastic band engages to form a closure between the veil and suit collar. The ledge may be defined by a strip of foamed material secured to the collar by a Velcro fastener.

The present invention relates to a bee-keeper's protective clothing, and in particular to bee-keeping protective clothing consisting of a protective suit and a protective veil.

The purpose of such bee-keeper protective clothing is to protect the bee-keeper from being stung by the bees during his work.

Various types of protective clothing for bee-keepers are already known. In one type, the lower part of the protective veil is provided with two long bands which are guided frontwards under the arms of the bee-keeper, then pulled through two rings fastened to the front of the veil and then guided rearwardly again, crossed there, again conducted forwardly and connected together across the chest. The defects of this arrangement reside, in particular, in the fact that fastening of the veil is difficult, the chest is constricted, on summer days heat accumulates within it, and the lacing can loosen while the bee-keeper is working.

In another type, the lower edge of the veil is connected to the bee-keeper's suit by a slide fastener; the disadvantage of this embodiment is that the bee-keeper's protective clothing cannot easily be put on without the help of another person.

An object of the present invention is to provide bee-keeper protective clothing in which there is a connection between the bee-keeper's protective veil and the bee-keeper's suit which can be easily closed and opened, but which is at the same time impenetrable by bees. Furthermore, the connection does not prevent the exchange of air between inside and outside the veil.

In order to achieve this goal, the invention comprises a protective suit and a protective veil, the suit being furnished with a relatively high upstanding collar. The collar is provided with an outwardly extending ledge portion while the veil has at its lower end an elastic band which when worn engages beneath the ledge portion so as to form a tight closure between the suit and the veil. The face portion of the veil comprises a wire mesh, and the neck portion is formed of textile fabric. The ledge portion is defined by a strip of foamed material and the elastic band, which when worn extends over this foam strip, is carried by the lower part of the neck portion. The ledge portion is detachably fastened by a Velcro fastener to the collar of the protective suit.

A preferred embodiment of the invention is shown in the drawings and will be described in further detail below.

In the drawings:

FIG. 1 shows bee-keeper's protective clothing in accordance with the invention, as worn;

FIG. 2 shows on an enlarged scale, the bee-keeper's protective veil;

FIG. 3 is a vertical cross-sectional view showing the protective veil of FIG. 2 while being worn; and

FIG. 4 is a section along the line IV—IV of FIG. 3, on an enlarged scale.

The bee-keeper's protective clothing shown in its entirety in FIG. 1 includes a single-piece protective suit **1** which securely engages the wrists and ankles, a protective veil **2** and a hat **3**. The protective suit has an upstanding collar **4** (FIG. 3) and is provided with a slide fastener **5** which extends up into the collar **4**.

The bee-keeper's protective clothing of the invention also includes a protective veil **7**, shown in FIG. 2, comprising a head part **8**, a neck part **9**, and a face part **10**. The head part **8**, and the neck part **9**, are made of an air-permeable textile fabric, while the face part **10** consists of a transparent stiff wire fabric. The lower free end of neck part **9** defines an opening through which the head of the wearer is inserted into the veil, an elastic band **12** surrounding this opening. Similarly, the upper free end of head part **8** defines an opening surrounded by an elastic band **11**. On the outside of the collar **4** of the protective suit **1**, there is provided a strip or bead **13** of foamed rubber or plastic, extending around the collar **4**, as can be seen in FIG. 3. Strip **13** defines a downwardly facing ledge. The foam strip **13** is detachably fastened to the collar **4** by a Velcro fastener, i.e., a fastener comprising a band **16** (FIG. 4) having a large number of resilient hooks projecting from one face, and a band **17** having a large number of loops projecting from one face, the hooks and loops becoming interengaged when one of the bands is pressed against the other, and becoming disengaged when one of the bands is pulled from the other. Band **16** is sewed to the collar **4**, while band **17** is cemented to the foam strip **13**. The foam strip **13** is flexible and has a square cross-section of about two centimeters on each side.

In use, the protective suit **1** is first put on. Then the protective veil **7** is pulled over the hat **3** in such a manner that the elastic band **11** of the head part **8** comes to rest on the brim of the hat **3**. Thereupon, the head is placed through the hole surrounded by elastic band **12**, and the hat placed on the head. The elastic **12** is stretched and pulled down past foam strip **13** and then released. When elastic band **12** is relaxed, the hole it surrounds is smaller than the diameter of the ledge defined by foam strip **13**. Consequently, when the elastic band **12** is released, the cooperation of the foam strip **13** and elastic band **12** produces a closure between the veil **7** and the suit **1**.

The bee-keeper's protective clothing, when put on in this manner, assures during the work of the bee-keeper an absolute bee-proof closure particularly between the collar **4** of the protective suit **1**, and the protective veil **7**. If, as is frequently necessary in the breeding of queen bees, the protective veil must be raised, it is a simple matter by stretching the elastic band **12** to open the connection between the protective veil **7** and the protective suit **1**. On the other hand, the protective veil **7**, if necessary, can be immediately connected tightly to the collar **4** by simply stretching and shifting the elastic band **12** downward over the foam strip **13**. The stiffness of the wire mesh forming the face part **10** of the protective veil **7** is sufficient to provide assurance that a safe distance between the face part and the face of the bee-keeper remains present even when he moves his head during the work.

When it is desired to wash the protective suit **1**, the foam strip **13** can be removed entirely by pulling it and band **17** of the Velcro fastener from the band **16** attached to the collar. It may be mentioned that the fastener **5** of the suit **1** may if desired be a Velcro fastener.

The invention has been shown and described in preferred form only, and by way of example, and many variations may be made in the invention which will still be comprised within its spirit. It is understood, therefore,

that the invention is not limited to any specific form or embodiment except insofar as such limitations are included in the appended claims.

What is claimed is:

1. Protective clothing for bee-keepers, comprising a protective suit, said suit having an upstanding collar for completely surrounding the neck of the wearer, means carried on the outer surface of said collar defining a downwardly-facing ledge, a protective veil having an opening through which the head of the wearer is inserted into said veil, and an elastic means surrounding said opening, the diameter of said opening when said elastic means is relaxed being smaller than the corresponding dimension of said ledge, said elastic means being stretchable to permit said ledge-defining means to pass through said opening, whereby after said ledge-defining means passes through said opening said elastic means can contract and engage beneath said ledge to form a tight closure between said suit and veil.

2. Protective clothing as defined in claim 1 wherein said veil comprises a wire mesh face portion, and a cloth neck portion depending from said face portion, said elastic means means extending along the lower edge of said neck portion.

3. Protective clothing as defined in claim 1 wherein said ledge-defining means is a strip of foamed material surrounding said collar.

4. Protective clothing as defined in claim 3 wherein said foamed strip has a substantially square cross-sectional shape.

5. Protective clothing as defined in claim 4 including means for separably fastening said foamed strip to said collar.

6. Protective clothing as defined in claim 5 wherein said fastening means is a Velcro fastener.

7. Protective clothing as defined in claim 1 including a fastener for closing said suit, said fastener extending into said collar.

References Cited

UNITED STATES PATENTS

161,003	3/1875	Brugger et al.	2—205
1,177,762	4/1916	Coolbroth	2—207
1,203,155	10/1916	Strout	2—3RX
1,780,801	11/1930	Shlenker	2—4
2,888,011	5/1959	Penrod et al.	128—142.7
3,351,056	11/1967	Durney	2—6X
3,458,864	8/1969	Austin et al.	2—202X

JAMES R. BOLER, Primary Examiner

U.S. Cl. X.R.

2—205