658293

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PATENT REQUEST: STANDARD PATENT

We, MOULINEX, being the person(s) identified below as the Applicant, request the grant of a standard patent to the person identified below as the Nominated Person, for an invention described in the accompanying complete specification.

Full application details follow.

Applicant:	MOULINEX a Societe Anonyme
Address:	11, Rue Jules Ferry, 93170 Bagnolet, FRANCE
Nominated Person:	MOULINEX a Societe Anonyme
Address:	11, Rue Jules Ferry, 93170 Bagnolet, FRANCE
Invention Title:	"Electric steam iron"
Name(s) of Actual Inventor(s):	Gerard Louis Henri GUILLOT; Jean-Paul Andre BOULEAU
Address for service is:	F.B. RICE & CO., 28A Montague St, Balmain N.S.W. 2041
Attorney Code: RI	

BASIC CONVENTION APPLICATION(S) DETAILS

Application No	Country	Country Code	Date of Application
9205930	France	FR	15 May 1992

We are not an eligible person described in Section 33 - 36 of the Act.

Drawing number recommended to accompany the abstract Fig 1

Dated this 6 day of May 1993

S 037320 060593

MOULINEX

By: _____
Registered Patent Attorney

PW/spp4/60221

AUSTRALIA
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P/00/008
Section 29 (1)
Regulation 3.1(2)

NOTICE OF ENTITLEMENT

(To be filed before acceptance)

I/We Jean-Pierre Busquets
of MOULINEX of 11 rue Jules-Ferry, 93170 Bagnolet FRANCE

being *the applicant/*authorised by the applicant in respect of an application for a patent for an invention entitled "Electric Steam Iron"

filed under Application No. 38427/93, state the following:-

Part 1 - Must be completed for all applications.
The person~~(s)~~ nominated for the grant of the patent:

~~[ ] *is/*are the actual inventor(s)~~

or

[X] has, for the following reasons, gained entitlement from the actual inventor(s):
The nominated person would, on the grant of a patent for the invention, be entitled to have the invention assigned to it.

Part 2 - Must be completed if the application is a Convention application.
The person~~(s)~~ nominated for the grant of the patent *is/*~~are:~~

[X] the applicant(s) of the basic application(s) listed on the patent request form

or

~~[ ] entitled to rely on the basic application(s) listed on the patent request form by reason of the following:~~

Part 3 - must be completed if the application was made under the PCT and claims priority.
The person(s) nominated for the grant of the patent *is/*are:

[ ] the applicant(s) of the application(s) listed in the declaration under Article 8 of the PCT

or

[ ] entitled to rely on the application(s) listed in the declaration under Article 8 of the PCT by reason of the following:-

(continued over)

Part 4 - Must be completed if the application is a Convention application, or the application was made under the PCT and the applicant made a declaration under Article 8 of the PCT in respect of the basic application.

[ ] The basic application(s) *listed on the patent request form/*referred to in the declaration under Article 8 of the PCT *is/*are the application(s) first made in a Convention country in respect of the invention.

Signed: _____ Date: 4.1.1995

Le Directeur du Département
Propriété Industrielle
Jean-Pierre BUSQUETS

Status: _____

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(12) PATENT ABRIDGMENT (11) Document No. AU-B-38427/93
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 658293

(54) Title
ELECTRIC STEAM IRON

(51)[5] International Patent Classification(s)
D06F 075/18 **D06F 075/20**

(21) Application No. : **38427/93** (22) Application Date : **06.05.93**

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92 05930	**15.05.92**	**FR FRANCE**

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(71) Applicant(s)
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(56) Prior Art Documents
GB 2020927
US 3820260

(57) Claim

1. Electric steam iron comprising a case of which the back forms a heel and a sole heated by an electric resistance and being capable of occupying two positions, either an ironing position in which it rests on the sole or a rest position in which it rests on the heel, the sole having a wall forming with a sealing cover, a vaporisation chamber which is fed with water from a reservoir and which, on the one hand, is in communication with a steam distribution chamber having external steam distribution apertures and on the other hand, includes a descaling orifice opening into a rear part of the iron and closed by removable obturation means, characterised in that the obturation means comprise a removable receptacle for receipt of scale communicating through a chicane with the chamber of vaporisation in such a manner that the scale present in the chamber of vaporisation can fall into the receptacle, particularly when the iron occupies its position of rest.

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ORIGINAL
COMPLETE SPECIFICATION
STANDARD PATENT

Invention Title:

"Electric steam iron"

The following statement is a full description of this invention including the best method of performing it known to us:-

The invention relates to an electric steam iron comprising a case of which the back forms a heel, and a sole heated by an electric resistance and which is able to take up two positions, either an ironing position in which it rests on the sole, or a rest position in which it rests on the heel, the sole having a wall which forms, with a cover plate, a vaporisation chamber which is fed with water from a reservoir and which, on the one hand, is in communication with a steam distribution chamber having exterior steam distribution openings, and, on the other hand, includes a descaling orifice opening into a rear part of the iron and closed by removable sealing means.

In known apparatus of this kind, the sealing means are constituted by a stopper and the descaling orifice is adapted to permit the introduction of a tool to the interior of the vaporisation chamber. The user can thus with the aid, for example, of a screw driver, scrape the walls of the vaporisation chamber with a view to carrying out descaling mechanically. The inconvenience of these apparatus resides in the fact that the user, is unable to see the calcareous deposit in the interior of the chamber and scrapes hard and in a disordered fashion, with the result that he does not cover the entire surface of the chamber, and in particular the anterior part of the chamber which is less easily accessible. The descaling is thus imperfect. Furthermore, he scratches the internal surface of the chamber which is generally treated with a cement covering to improve vaporisation, thus destroying the covering. On the other hand, between each descaling operation and at the time of different thermal cycles, small calcareous particles break away and pass into the distribution chamber finishing by blocking the distribution orifices.

The invention has for its object the remedying of these inconveniences and in particular, the provision of an iron allowing easy descaling and which is of low cost.

According to the invention, the sealing means comprises a removable receptacle for the recovery of scale communicating by a shicane with the vaporisation chamber in such a manner that the scale present in the vaporisation chamber falls into the receptacle, particularly when the iron is in its rest position.

Thus, thanks to the recovery receptacle for scale, continuous and automatic descaling of the vaporisation chamber occurs. Each time that the user places the iron on its heel, the particles of scale formed in the vaporisation chamber fall into the receptacle, or they are held until the user detaches the receptacle to empty it.

One thus avoids the particles of scale passing into the distribution chamber and blocking the distribution openings. Furthermore, the user has no need for a tool in order to ensure effective descaling. The vaporisation chamber can thus be of any form with recesses and chicanes used normally in order to obtain better vaporisation, because it is no longer necessary that the whole area of the said chamber should be accessible by a tool through the descaling orifice.

Furthermore, one can adapt this apparatus to existing soles which represents an economy of one mould for manufacture.

The characteristics and advantages of the invention will emerge further from the following description by way of example with reference to the accompanying drawings in which:-

Fig. 1 is a schematic view in partial section of a smoothing iron according to the invention;

Fig. 2 is a partial view of Fig. 1 to a larger scale, illustrating a scale recovery receptacle according to the invention; and

Fig. 3 is a view analogous to that of Fig. 2 illustrating another way of carrying out the invention.

The electric steam iron shown in Figs. 1 and 2

comprises a case 1 of which the back forms a heel 2, and a sole 3 heated by an electric resistance 4. The iron can thus occupy two positions, either an ironing position in which it rests on the sole 3 or a rest position (not shown) in which it rests on the heel 2. The sole 3 has a wall 5 forming, with a closing cover 6, a chamber of vaporisation 7 which is fed with water from a reservoir 8 and which, on the one hand, is in communication with a steam distribution chamber 9 having steam distribution apertures 10 at its exterior, and on the other hand, includes a descaling orifice 11 opening into a back part of the iron and closed by removable obturation means.

According to the invention the obturation means comprise a removable receptacle 12 for the recovery of scale communicating by a chicane 13 with the vaporisation chamber 7 in such a way that scale present in the chamber of vaporisation 7 falls into the receptacle 12 when the iron occupies its rest position.

Thus each time the user rests the iron on its heel 2, the particles of scale present in the vaporisation chamber 7 fall into the receptacle 12 where they are held. Furthermore, thanks to the chicane, the particles of scale can also possibly enter the receptacle 12 in the ironing position thanks to the to and fro movement given to the iron by the user. This movement provokes in the vaporisation chamber waves which can flow past the chicane 13. The receptacle 12 is formed for example, from plastic material of the thermosetting or thermoplastic type. In any case, it should be capable of supporting the high temperature of the water coming from the vaporisation chamber 7. The plastic material has in another embodiment, a certain degree of transparency such as a polyester. Thus, it allows the user to control the filling of receptacle 12.

The descaling orifice 11 opening into the cover 6, the edge 11' of the said orifice thus constitutes in part

with the wall 5 of the vaporisation chamber, the said chicane 13. The closure 6 being normally made from aluminium sheet, the descaling orifice 11 is thus produced by simple punching. The manufacturer thus does not need to modify existing soles and so, effects an economy of one mould.

The bottom 14 of the receptacle 12 is arranged below the level of the descaling orifice 11 and the obturation means comprise a declivity 15 extending from the said orifice 11 to the bottom 14 of the receptacle 12 in such a way as to oppose, when in the ironing position, the return of scale present in the receptacle 12 towards the vaporisation chamber 7.

Thus the declivity 15 allows the amount of scale held in the receptacle 12 to be increased. Following brisk to and fro movement of the iron during ironing, the particles of scale come to rest on the declivity 15 and the said particles, thus being unable to cross the chicane 13 towards the vaporisation chamber 7 find themselves imprisoned in the receptacle 12.

According to a preferred form of construction, the obturation means comprise, apart from the receptacle, a conduit 16 of which one extremity is sealingly mounted on the outlet of the descaling orifice 11 and of which the other extremity is equipped with a watertight joint 17 with the receptacle 12. The joint 17 is made preferably in silicone. The sealing cover 6 is separated from the case 1 by a thermal screen 18 in heat resistant plastic material, the conduit 16 is formed in one piece with the said screen 18 and has an inclined region constituting the declivity 15. The thermal screen 18 is made preferably from plastic material, the conduit 16 is easily produced by moulding, without necessitating the use of an additional part.

The receptacle 12 and the case 1 include additional locking means.

The locking means comprise a rigid stop 22 integral with the case 1 and a flexible stop constituted by the joint 17 so that the receptacle 12 can be fitted in a flexible manner between the case 1 and the joint 17. The locking means should be able to support the pressure created at the level of the chamber of vaporisation 7 and maintain the watertightness of receptacle 12 to avoid all loss of water or steam which could burn the user. For that, one makes use of the elasticity of the joint.

In accordance with another advantageous characteristic of the invention as is best seen in Fig. 2, the reservoir 8 is removable and disposed in a housing 19 formed in the rear part of the case 1, the receptacle 12 has a finger 20 extending into a port 21 formed in the housing 19 and accessible from said housing in such a manner that the receptacle 12 can be detached by pressing on the said finger 20.

Thus, to empty the receptacle 12 of its scale, it is enough for the user to remove the reservoir 8 and press on the finger 20, thus removing the receptacle. This form of construction presents great security in use because the receptacle cannot be removed accidentally, the finger 20 not being directly accessible from the outside of the iron.

According to another form of construction of the invention such as that represented in Fig. 3, the receptacle includes a detaching spur 23 situated in the rear region in such a manner that the receptacle 12 can be removed by pressure on the said spur.

Thus, to empty the receptacle 12 of its scale, it is sufficient for the user to press on the said spur to remove the receptacle 12. This form of construction is particularly simple and specially adapted to cases in which the reservoir is not detachable or is not arranged in the rear part of the iron.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. Electric steam iron comprising a case of which the back forms a heel and a sole heated by an electric resistance and being capable of occupying two positions, either an ironing position in which it rests on the sole or a rest position in which it rests on the heel, the sole having a wall forming with a sealing cover, a vaporisation chamber which is fed with water from a reservoir and which, on the one hand, is in communication with a steam distribution chamber having external steam distribution apertures and on the other hand, includes a descaling orifice opening into a rear part of the iron and closed by removable obturation means, characterised in that the obturation means comprise a removable receptacle for receipt of scale communicating through a chicane with the chamber of vaporisation in such a manner that the scale present in the chamber of vaporisation can fall into the receptacle, particularly when the iron occupies its position of rest.

2. A smoothing iron according to claim 1, characterised in that the descaling orifice opens into the sealing cover, the edge of the said orifice which thus constitutes together with the wall of the chamber of vaporisation, the said chicane.

3. A smoothing iron according to claim 1 or 2, characterised in that the bottom of the receptacle is arranged below the level of the descaling orifice and the obturation means comprise a declivity extending from the said orifice to the bottom of the receptacle in such a manner as to oppose, in the ironing position, the return of scale present in the receptacle towards the chamber of vaporisation.

4. A smoothing iron according to any one of claims 1 to 3, characterised in that the receptacle and the case include mutually interlocking means.

5. A smoothing iron according to any one of claims 1 to 4 characterised in that the obturation means include a conduit of which one extremity is sealingly mounted on the cutlet of the descaling orifice and of which the other extremity is equipped with a watertight joint with the receptacle.

6. A smoothing iron according to claim 5, characterised in that the sealing cover is separated from the case by a thermal screen in heat-resistant plastic material, the conduit being formed in one piece with the said screen and having an inclined region constituting the declivity.

7. A smoothing iron according to claim 5 or 6, characterised in that the interlocking means comprise a rigid stop integral with the case and a flexible stop constituted by the joint so that the receptacle can be inserted in a flexible manner between the case and the joint.

8. A smoothing iron according to claim 7, characterised in that the reservoir is removable and arranged in a housing formed in the rear part of the case, the receptacle including a finger extending in a port formed in the housing and accessible through the said housing in such a way that the receptacle can be detached by pressing on the said finger.

9. A smoothing iron according to claim 7, characterised in that the receptacle includes an unlocking spur situated in the rear region in such a manner that the receptacle can be detached by pressing on the said spur.

10. A smoothing iron according to any one of the preceding claims, characterised in that the receptacle is formed from thermosetting plastic and which preferably has a certain degree of transparency.

DATED this 6th day of May 1993

MOULINEX

Patent Attorneys for the Applicant:

F.B. RICE & CO.

ABSTRACT

Electric steam iron comprising a case of which the back forms a heel and a sole heated by an electric resistance and being capable of occupying two positions, either an ironing position in which it rests on the sole or a rest position in which it rests on the heel, a vaporisation chamber which is fed with water from a reservoir and which is in communication with a steam distribution chamber having external steam distribution apertures and includes a descaling orifice opening into a rear part of the iron and closed by a removable receptacle for receipt of scale communicating with the chamber of vaporisation in such a manner that the scale present in the chamber of vaporisation can fall into the receptacle, particularly when the iron occupies its position of rest.

FIG.1

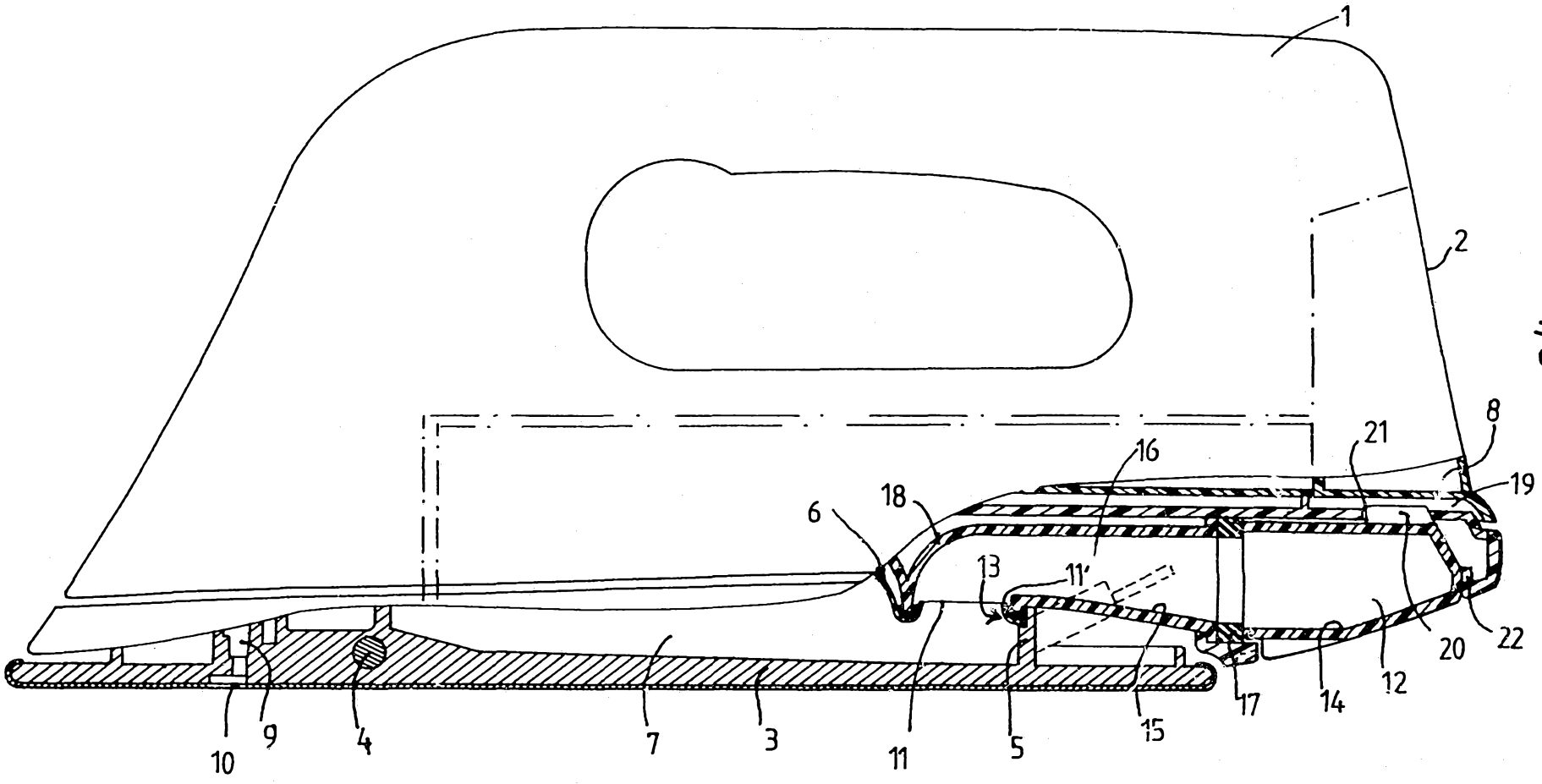

FIG.2

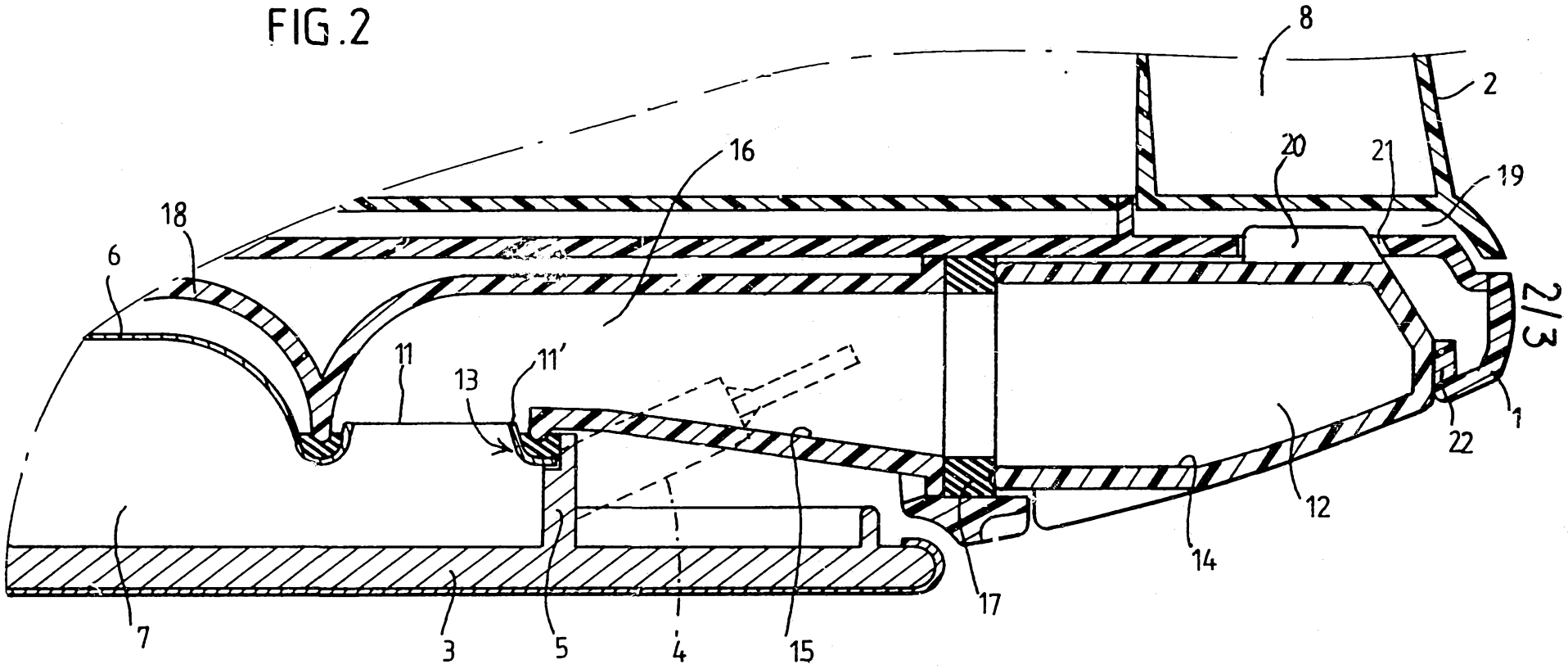

FIG.3