Description

The present invention relates to an aerosol inhalation device in pocket size having one dosage dispensing position and one storage and transportation position. The device is provided with a long deceleration chamber but has in spite of this such a compact storage position that it can be carried conveniently in a pocket. The device can be made ready for dosage dispensing with a single hand grip in a rapid and simple manner.

Aerosol inhalation devices in pocket size having one dosage dispensing position and a more compact storage position have previously been suggested. See for example USA Patents 3 378 950, 3 809 294 and 3 994 421. The device according to the present invention differs from the devices disclosed in said patents *inter alia* because it is provided with a considerably longer and more efficient deceleration chamber and is yet that compact that it can be carried in a pocket. Furthermore, the device according to the invention comprises only three different parts that can be produced by injection moulding and then be assembled with a few simple hand grips. The device can also be switched over from storage position to dosage dispensing position in a simple and rapid way.

European patent application EP—A—0 015 247 discloses an aerosol inhalation device which has a two part telescopic deceleration chamber. The device according to the present invention constitutes an improvement of the device disclosed in said European patent application and is advantageous inter alia because it has a more compact storage position compared with the dosage dispensing position. This advantage has according to the invention unexpectedly been attained by simple structural means.

The present invention relates to an aerosol inhalation device having one storage position and one dosage dispensing position for use at inhalation of uniform doses of a finely divided drug in the form of an aerosol, comprising a socket for an exchangeable aerosol container and an elongated deceleration chamber connected to the socket, said chamber having a mouthpiece in its opposite end and intended to be connected to the mouth of patient; the chamber comprising two chamber parts, each having a substantially rectangular cross section, of which an outer chamber part comprises the mouthpiece and is telescopically displaceable over an inner chamber part which is provided with a flexible tongue at the end adjacent the mouthpiece, which tongue on telescoping the device together will close the mouthpiece, which aerosol inhalation device is characterised in that the socket for the aerosol container

a) has a sustantially rectangular cross section and can be telescopically inserted into said inner chamber part to a storage position,

b) has an arc section at the end adjacent the chamber and is provided with grooves alongside its four longitudinal edges, which grooves are each terminated with a stop lug which in the dosage dispensing position engage with stop lugs in the inner chamber part so that the socket can be extracted from said inner chamber part and be turned through a fixed angle relative to the longitudinal axis of the inner chamber part to assume the dosage dispensing position and

c) is provided with means for locking the socket at said fixed angle.

The invention is explained in detail in the following, *inter alia* with reference to the specific embodiment shown in the annexed drawings wherein:

Fig. 1 is a perspective view of an aerosol inhalation device according to the invention in the dosage dispensing position, shown from below and without aerosol container;

Fig. 2 is a plan side view of the inhalation device in the dosage dispensing position and with the aerosol container shown in broken lines;

Fig. 3 is a further perspective view of the inhalation device in the dosage dispensing position but shown without aerosol container;

Fig. 4 is a perspective view of the inhalation device in the dosage dispensing position, shown from the longitudinal direction of the socket for the aerosol container but without said container;

Figs. 5—7, are plan side views of each one of the three parts of the inhalation device;

Fig. 8 is a perspective view of the inhalation device in the storage position; and

Fig. 9 is a perspective view that illustrates how the inhalation device is to be held during dosage dispensing and inhalation.

The specifically illustrated inhalation device consists of two main parts, viz. a socket 1 for an exchangeable aerosol container and a long two part deceleration chamber 2, 3 being connected to the socket. The deceleration chamber has an outlet or mouthpiece 4 in the opposite end intended to be inserted in the mouth of a patient. The purpose and design of the deceleration chamber is essentially identical with the deceleration chamber specifically disclosed in EP—A—0 015 247.

The deceleration chamber thus comprises two chamber parts 2, 3 having substantially rectangular cross section. The outer chamber part 3, which comprises the mouthpiece 4, is telescoping over an inner chamber part 2. The said inner chamber part is provided with a flexible tongue 5 in the end turned against the mouthpiece 5. The tongue is slidably arranged along the inner side of one of the walls of the outer chamber part, so that the tongue will be displaced to close the mouthpiece whenthe two chamber parts are pushed together. The flexible tongue is integral with the inner chamber part, and the tongue is guided along and close to an inner wall of the outer chamber part by guiding means or guiding rails 6 (illustrated with a dot-dashed line in Fig. 5) which are arranged inside the outer chamber part. A projecting locking edge 7 on the outside of the inner chamber part fits with two recesses 8, 9 on the inside of the outer chamber part, which recesses are situated at some distance from each

other. The locking edge 7 and the recesses 8, 9 can advantageously be doubled, so that there will be locking edges and recesses on two opposite sides of the chambers. The purpose of the locking edges and recesses is to limit the telescoping of the chamber parts to suitable end positions for storage and dosage dispensing, respectively, and to lock the chamber parts in these end positions, and also to provide a safeguard against undesired disassembly of the parts. In order to obtain further safety against disassembly the tongue may be provided with stop lugs 10 (illustrated by a dashed line in Fig. 6) on each side of the tongue and at the outermost end thereof, which stop lugs only with difficulty can be pulled through the guiding rails 6.

The other main part of the inhalation device comprises a socket 1 for an exchangeable aerosol container 11. This socket is designed and connected with the inner chamber part 2 of the deceleration chamber in such a way that the socket, together with the aerosol container 11 therein, can be telescopically inserted into the inner chamber part 2 to obtain a storage position. In connection with dosage dispensing the socket 1 is pulled out of the inner chamber part, whereby at the same time the inner chamber part is pulled out of the outer chamber part 3, so that the tongue 5 is withdrawn and opens up the mouthpiece 4. The socket is then turned through a fixed angle (preferably between 30—90°) in relation to the longitudinal axis of the chamber and is then locked at said angle.

The inhalation device is intended to be held by a patient at dosage dispensing in the manner illustrated in Fig. 9. Because the socket is turned upwards at an angle against the deceleration chamber the device as a whole can be held comfortably and safely, whereby furthermore an exchangeable standard type aerosol container can be used. The term "standard type aerosol container" relates to a pressurized container containing the active substance dissolved or suspended in a propellant usually consisting of a chlorofluoro-substituted hydrocarbon. The container has a displaceable discharge outlet being connected to a dosage dispensing appliance in the form of a spring-loaded valve system. The dosage dispensing appliance is filled with a mixture of propellant and drug when the container is held upside-down, and a dose of the mixture can be made to discharge from the container when the discharge outlet is pushed into the container. The socket 1 is provided with an interior centrally mounted duct 12 and the discharge outlet of the container is inserted in this duct with finger friction fit. The term "finger friction fit" is used to denote a frictional relationship which will hold the pieces together under normal handling conditions, but may be readily disengaged or engaged by finger pressure only. The interior duct 12 in the socket is tapering and bent, and leads straight out into the longitudinal direction of the deceleration chamber when the socket is extended and locked in dosage dispensing position.

Dosage dispensing takes place when the aerosol container is pushed downwards in the socket, whereby the discharge outlet of the container is pushed into the container so that a dose of drug is discharged into the deceleration chamber.

The socket is provided with interior guide rails 13, 13', 13", 13"' which centre the aerosol container when it is inserted into the socket, and thus indirectly centre the discharge outlet of the container so that it is guided into the discharge duct in the socket. Furthermore, the socket is provided with notches 14, 14' at two opposite sides thereof to facilitate the withdrawl of the container when substituting the container for a new one. The design of the socket should be such that no part of the aerosol container extends from the outermost end of the device in the storage position. Otherwise there would be a risk for discharge of an aerosol dose at unintentional pressure or touch of the container when it is carried in a pocket.

Two opposite outer sides of the socket are provided with finger holds in the form of recesses 15, 15'. These are intended for holding the inhalation device in a stable and comfortable manner in the dosage dispensing position, as illustrated in Fig. 9.

The socket is, as previously mentioned, both extendable and hinged in relation to the inner chamber part of the deceleration chamber. This property of the socket has in the embodiment particularly shown been attained by that the socket has a circular arc section at the end adjacent the chamber, as well as by the socket being provided with grooves 16, 16', 16", 16"' alongside all its four longitudinal edges. These grooves are each terminated with a stop lug (17, 17', 17", 17"' in the ends adjacent the chamber. In the dosage dispensing position, these stop lugs engage with stop lugs 18, 18', 18", 18"' mounted in the outer end of the inner chamber part and which prevent further pivoting or extraction of the socket from the inner chamber part. The socket is automatically locked in the pivoted position with the aid of a further stop lug 19 which is mounted closeto the end of the arc section of the socket. This stop lug 19 is mounted on a short flexible tongue 20 which has been obtained by that two elongated notches 21, 21' have been cut on each side of the stop lug 19. The stop lug may then be released, in a simple way, from the edge of the inner chamber part by finger pressure on the tongue when the socket at the return to the storage position is to be pivoted back in a straight line with the longitudinal axis of the chamber parts and pushed into the inner chamber part.

In order to make it possible to push the socket completely into the inner chamber part in the storage position, as illustrated in Fig. 8, but yet make it possible to easily extract the socket from the chamber part when preparing for dosage dispensing, an U-shaped notch 22, 22' is arranged in each of the two side-walls of the inner chamber part, and these notches correspond to U-shaped stop lugs 23, 23' mounted in the outer end of the

socket. In the storage position these stop lugs are inserted to engage with the notches being open backwards. Since corresponding U-shaped notches 24, 24' are arranged also in the outer chamber part it is easy to extract the socket from the chambers by gripping the both stop lugs 23, 23' with the thumb and forefinger of one hand and then gripping around the outer chamber part with the other hand. When taking the hands apart the socket will be extracted from the inner chamber part and can then be turned through the intended angle and locked. At the same time the inner chamber part is extracted from the outer chamber part and is locked in the extended position whereupon dosage dispensing can commence. The whole switch over of the inhalation device from the storage position to the start of inhalation can be made in just a few seconds.

As is shown in e.g. Fig. 1, the both U-shaped notches 22, 22' form free openings towards the surrounding air when the device is in the dosage dispensing position. These free openings comprise the sole air inlets for diluent air at the inhalation, and these air inlets are thus open only in the dosage dispensing position. Since the socket furthermore has a partition wall 25 which is only penetrated by a very narrow duct, and since the mouthpiece 4 is closed by the tongue in the storage position, the inner space of the inhalation device is in the storage position automatically protected against pollution with dust etc.

The three parts of the aerosol inhalation device are most simply produced by conventional injection moulding of a plastics material such as LD-polyethene, HD-polyethene, or polypropene. The inner chamber part may suitably be provided with a couple of small external and internal longitudinal ribs having a height of between 0.05—0.5 mm, in order to provide a suitably strong friction against the socket and the outer chamber part. By having such small ribs the natural resilience of plastics is utilized to give a stable connection between the different parts without expensive requirements as to accuracy during production, and at the same time the parts can easily be displaced relative each other by finger pressure only.

Due to the natural resiliency of plastics, the three parts of the inhalation device can easily be assembled. The socket is thereby pushed into the inner chamber part from that side of the chamber having the tongue attached, whereupon the tongue is inserted in the guiding rails in the outer chamber part. Finally, the inner chamber part with the container is pushed into the outer chamber in such a way that the tongue is first inserted in the guiding rails whereupon the locking edge 7 engages with the recess 9 in the outer chamber part.

The length of the deceleration chamber of the inhalation device is suitably 10—20 cm in the dosage dispensing position. In the embodiment shown in the drawings, the length of the deceleration chamber is 13 cm, the width is 3.8 cm and the height is 3.4 cm. The total length of this embodiment in the dosage dispensing position is circa 17 cm, but in storage position the total length is only 8 cm.

Claims

1. Aerosol inhalation device having one storage position and one dosage dispensing position for use at inhalation of uniform doses of a finely divided drug in the form of an aerosol, comprising a socket (1) for an exchangeable aerosol container (11) and an elongated deceleration chamber (2, 3) connected to the socket, said chamber having a mouthpiece (4) in its opposite end and intended to be connected to the mouth of a patient; the chamber comprising two chamber parts (2, 3), each having a substantially rectangular cross section, of which an outer chamber part (3) comprises the mouthpiece (4) and is telescopically displaceable over an inner chamber part (2) which is provided with a flexible tongue (5) at the end adjacent the mouthpiece, which tongue on telescoping the device together will close the mouthpiece, characterised in that the socket (1) for the aerosol container (11)

a) has a substantially rectangular cross section and can be telescopically inserted into said inner chamber part (2) to a storage position,

b) has an arc section at the end adjacent the chamber and is provided with grooves (16, 16', 16", 16"') alongside its four longitudinal edges, which grooves are each terminated with a stop lug (17, 17', 17", 17"') which in the dosage dispensing position engage with stop lugs (18, 18', 18", 18"') in the inner chamber part (2) so that the socket (1) can be extracted from said inner chamber part (2) and turned through a fixed angle relative to the longitudinal axis of the inner chamber part (2) to assume the dosage dispensing position, and

c) is provided with means for locking the socket (1) at said fixed angle.

2. Device according to claim 1 characterised in that the socket (1) for the aerosol container (11) is provided with a further stop lug (19) which is mounted on a flexible tongue (20) in the socket and which stop lug in the dosage dispensing position is intended to catch on one of the edges at the outer end of the inner chamber part (2) so that the socket will be locked in its extended and turned position.

3. Device according to claim 1 or 2 characterized in that the socket (1) for the aerosol container (11) can be completely inserted into the inner chamber part in the storage position and that further insertion is prevented by two stop lugs (23, 23') which project from the outer end of the socket and which stop lugs in storage position engage with notches (22, 22') in the side wall of the inner chamber part, whereby the notches constitute air inlets for diluent air at inhalation.

4. Device according to claim 1 or 2 characterised in that two opposite outer sides of the socket (1) for the aerosol container are provided

socket. In the storage position these stop lugs are inserted to engage with the notches being open backwards. Since corresponding U-shaped notches 24, 24' are arranged also in the outer chamber part it is easy to extract the socket from the chambers by gripping the both stop lugs 23, 23' with the thumb and forefinger of one hand and then gripping around the outer chamber part with the other hand. When taking the hands apart the socket will be extracted from the inner chamber part and can then be turned through the intended angle and locked. At the same time the inner chamber part is extracted from the outer chamber part and is locked in the extended position whereupon dosage dispensing can commence. The whole switch over of the inhalation device from the storage position to the start of inhalation can be made in just a few seconds.

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The three parts of the aerosol inhalation device are most simply produced by conventional injection moulding of a plastics material such as LD-polyethene, HD-polyethene, or polypropene. The inner chamber part may suitably be provided with a couple of small external and internal longitudinal ribs having a height of between 0.05—0.5 mm, in order to provide a suitably strong friction against the socket and the outer chamber part. By having such small ribs the natural resilience of plastics is utilized to give a stable connection between the different parts without expensive requirements as to accuracy during production, and at the same time the parts can easily be displaced relative each other by finger pressure only.

Due to the natural resiliency of plastics, the three parts of the inhalation device can easily be assembled. The socket is thereby pushed into the inner chamber part from that side of the chamber having the tongue attached, whereupon the tongue is inserted in the guiding rails in the outer chamber part. Finally, the inner chamber part with the container is pushed into the outer chamber in such a way that the tongue is first inserted in the guiding rails whereupon the locking edge 7 engages with the recess 9 in the outer chamber part.

The length of the deceleration chamber of the inhalation device is suitably 10—20 cm in the dosage dispensing position. In the embodiment shown in the drawings, the length of the deceleration chamber is 13 cm, the width is 3.8 cm and the height is 3.4 cm. The total length of this embodiment in the dosage dispensing position is circa 17 cm, but in storage position the total length is only 8 cm.

Claims

1. Aerosol inhalation device having one storage position and one dosage dispensing position for use at inhalation of uniform doses of a finely divided drug in the form of an aerosol, comprising a socket (1) for an exchangeable aerosol container (11) and an elongated deceleration chamber (2, 3) connected to the socket, said chamber having a mouthpiece (4) in its opposite end and intended to be connected to the mouth of a patient; the chamber comprising two chamber parts (2, 3), each having a substantially rectangular cross section, of which an outer chamber part (3) comprises the mouthpiece (4) and is telescopically displaceable over an inner chamber part (2) which is provided with a flexible tongue (5) at the end adjacent the mouthpiece, which tongue on telescoping the device together will close the mouthpiece, characterised in that the socket (1) for the aerosol container (11)

a) has a substantially rectangular cross section and can be telescopically inserted into said inner chamber part (2) to a storage position,

b) has an arc section at the end adjacent the chamber and is provided with grooves (16, 16', 16", 16"') alongside its four longitudinal edges, which grooves are each terminated with a stop lug (17, 17', 17", 17"') which in the dosage dispensing position engage with stop lugs (18, 18', 18", 18"') in the inner chamber part (2) so that the socket (1) can be extracted from said inner chamber part (2) and turned through a fixed angle relative to the longitudinal axis of the inner chamber part (2) to assume the dosage dispensing position, and

c) is provided with means for locking the socket (1) at said fixed angle.

2. Device according to claim 1 characterised in that the socket (1) for the aerosol container (11) is provided with a further stop lug (19) which is mounted on a flexible tongue (20) in the socket and which stop lug in the dosage dispensing position is intended to catch on one of the edges at the outer end of the inner chamber part (2) so that the socket will be locked in its extended and turned position.

3. Device according to claim 1 or 2 characterized in that the socket (1) for the aerosol container (11) can be completely inserted into the inner chamber part in the storage position and that further insertion is prevented by two stop lugs (23, 23') which project from the outer end of the socket and which stop lugs in storage position engage with notches (22, 22') in the side wall of the inner chamber part, whereby the notches constitute air inlets for diluent air at inhalation.

4. Device according to claim 1 or 2 characterised in that two opposite outer sides of the socket (1) for the aerosol container are provided

with finger grips in the form of recesses (15, 15') intended for holding the device at inhalation.

5. Device according to claim 1 or 2 characterised in that the socket (1) for the aerosol container (11) is provided with internal guiding rails (13, 13', 13", 13"') which, upon insertion of the aerosol container in the socket, guide the discharge outlet of the aerosol container to frictional engagement with a discharge duct (12) which leads the expelled aerosol in the deceleration chamber.

6. Device according to claim 1 or 2 characterised in that the outer part of the socket for the aerosol container is provided with notches (14, 14') at two opposite sides thereof in order to facilitate the extraction of the container when changing the same.

Revendications

1. Appareil d'inhalation d'aérosols ayant une position de conditionnement et une position pour distribuer une dose pour l'inhalation de doses uniformes d'un médicament finement divisé sous forme d'un aérosol, comprenant une douille (1) pour un récipient d'aérosol (11) échangeable et une chambre de décélération (2, 3) allongée reliée à la douille, ladite chambre ayant une pièce buccale (4) à son exrémité opposée destinée à venir au contact de la bouche d'un patient, la chambre comprenant deux compartiments (2, 3) ayant chacun une section transversale sensiblement rectangulaire, le compartiment externe (3) comportant la pièce buccale (4) et étant susceptible de se déplacer de façon télescopique sur le compartiment interne (2) qui est pourvu d'une languette souple (5) à l'extrémité voisine de la pièce buccale, laquelle languette lors du mouvement télescopique de l'appareil ferme la pièce buccale, caractérisé en ce que la douille (1) pour le récipient d'aérosol (11)

a) présente une section transversale sensiblement rectangulaire et peut être insérée télescopiquement dans le compartiment interne (2) dans la position de conditionnement,

b) présente une section en forme d'arc à l'extrémité proche de la chambre et est munie de rainures (16, 16', 16", 16"') le long de ses quatre bords longitudinaux, lesquelles rainures sont chacune terminées par une patte d'arrêt (17, 17', 17", 17"') venant en contact en position de distribution de dose avec les pattes d'arrêt (18, 18', 18", 18"') dans le compartiment interne (2) si bien que la douille (1) peut être extraite du compartiment interne (2) et tournée selon un angle fixé par rapport à l'axe longitudinal du compartiment interne (2) pour prendre la position de distribution de dose, et

c) est munie d'un moyen de blocage de la douille (1) selon ledit angle fixé.

2. Appareil selon la revendication 1, caractérisé en ce que la douille (1) pour le récipient d'aérosol (11) est munie d'une autre patte d'arrêt (19) qui est montée sur une languette souple (20) dans la douille, laquelle patte d'arrêt dans la position de distribution de dose est destinée à agripper l'un des bords à l'extrémité externe du compartiment interne (2) pour que la douille soit bloquée dans sa position déployée et tournée.

3. Appareil selon l'une des revendications 1 ou 2, caractérisé en ce que la douille (1) pour le récipient d'aérosol (11) peut être complètement insérée dans le compartiment interne dans la position de conditionnement et en ce qu'une insertion supplémentaire est empêchée par deux pattes d'arrêt (23, 23') qui font saillie depuis l'extrémité externe de la douille, lesdites pattes d'arrêt en position de conditionnement venant au contact d'encoches (20, 22') dans la paroi latérale du compartiment interne si bien que les encoches constituent des entrées d'air pour l'air diluant lors de l'inhalation.

4. Appareil selon l'une des revendications 1 ou 2, caractérisé en ce que les deux côtés externes opposés de la douille (1) pour le récipient d'aérosol sont munis de moyens de prise pour les doigts sous forme d'évidements (15, 15') afin de maintenir le dispositif lors de l'inhalation.

5. Appareil selon l'une des revendications 1 ou 2, caractérisé en ce que la douille (1) pour le récipient d'aérosol (11) est munie de rails de guidage internes (13, 13', 13", 13"') qui lors de l'insertion du récipient d'aérosol dans la douille guident la sortie de décharge du récipient d'aérosol jusqu'à un contact de friction avec un conduit de décharge (12) qui amène l'aérosol expulsé dans la chambre de décélération.

6. Appareil selon l'une des revendications 1 ou 2, caractérisé en ce que la partie externe de la douille pour le récipient d'aérosol est munie d'encoches (14, 14') sur ses deux côtés opposés afin de faciliter l'extraction du récipient lors de son changement.

Patentansprüche

1. Aerosolinhalationsgerät mit einer Rückhalteposition und einer Dosisabgabeposition zur Verwendung beim Inhalieren von einheitlichen Dosen einer fein zerteilten Arznei in Form eines Aerosols, mit einem Sockel (1) für einen auswechselbaren Aerosolbehälter (11) und einer an den Sockel angeschlossenen länglichen Verzögerungskammer (2, 3), welche kammer an ihrem gegenüberliegenden Ende ein Mundstück (4) zum Anschließen an den Mund eines Patienten besitzt und zwei Kammerteile (2, 3) umfaßt, von denen jeder einen im wesentlichen rechteckigen Querschnitt aufweist, wobei ein äußerer Kammerteil (3) das Mundstück (4) umfaßt und teleskopisch über einen inneren Kammerteil (2) verschiebbar ist, welcher am Ende neben dem Mundstück mit einer biegsamen Zunge (5) versehen ist, die nach dem Ineinanderschieben des Geräts das Mundstück verschließt, dadurch gekennzeichnet, daß der Sockel (1) für den Aerosolbehälter (11)

a) einen im wesentlichen rechteckigen Querschnitt aufweist und in den inneren Kammerteil

(2) in eine Rückhalteposition teleskopisch einschiebbar ist,

b) am Ende neben der Kammer einen bogenförmigen Abschnitt umfaßt und entlang seinen vier Längskanten mit Nuten (16, 16', 16", 16"') versehen ist, welche Nuten jeweils in einer Anschlagnase (17, 17', 17", 17"') enden, die in der Dosisabgabeposition in Anschlagnasen (18, 18', 18", 18"') am inneren Kammerteil (2) eingreifen, sodaß der Sockel (1) aus dem inneren Kammerteil (2) ausgezogen und gegenüber der Längsachse des inneren Kammerteils (2) zum Einnehmen der Dosisabgabeposition um einen festgelegten Winkel geschwenkt werden kann, und

c) mit Mitteln zum Verriegeln des Sockels (1) im festgelegten Winkel versehen ist.

2. Gerät nach Anspruch 1, dadurch gekennzeichnet, daß der Sockel (1) für den Aerosolbehälter (11) mit einer weiteren Anschlagnase (19) versehen ist, die auf einer biegsamen Zunge (20) im Sockel montiert ist und in der Dosisabgabeposition in eine der Kanten am äußeren Endes des inneren Kammerteils (2) einrastet, sodaß der Sockel in seiner ausgezogenen und verschwenkten Position verriegelt ist.

3. Gerät nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß der Sockel (1) für den Aerosolbehälter (11) in der Rückhalteposition vollständig in den inneren Kammerteil einschiebbar ist, und daß ein weiteres Hineinschieben durch zwei Anschlagnasen (23, 23') verhindert wird, welche Anschlagnasen vom äußeren Ende des Sockels abstehen und in der Rückhalteposition in Kerben (22, 22') an der Seitenwand des inneren Kammerteils eingreifen, wobei die Kerben Lufteinlässe für Verdünnungsluft beim Inhalieren bilden.

4. Gerät nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß zwei gegenüberliegende Außenseiten des Sockels (1) für den Aerosolbehälter mit Fingergriffen in Form von Ausnehmungen (15, 15') zum Halten des Geräts beim Inhalieren versehen sind.

5. Gerät nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß der Sockel (1) für den Aerosolbehälter (11) mit inneren Führungsschienen (13, 13', 13", 13"') versehen ist, die nach Einschieben des Aerosolbehälters in den Sockel die Abgabeöffnung des Aerosolbehälters zum reibschlüssigen Eingreifen in eine das hinausgetriebene Aerosol in die Verzögerungskammer führenden Abgabeleitung (12) führen.

6. Gerät nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß der äußere Teil des Sockels für den Aerosolbehälter an zwei gegenüberliegenden Seiten desselben zwecks Erleichterung des Ausziehens des Behälters bei Auswechseln desselben mit Kerben (14, 14') versehen ist.