

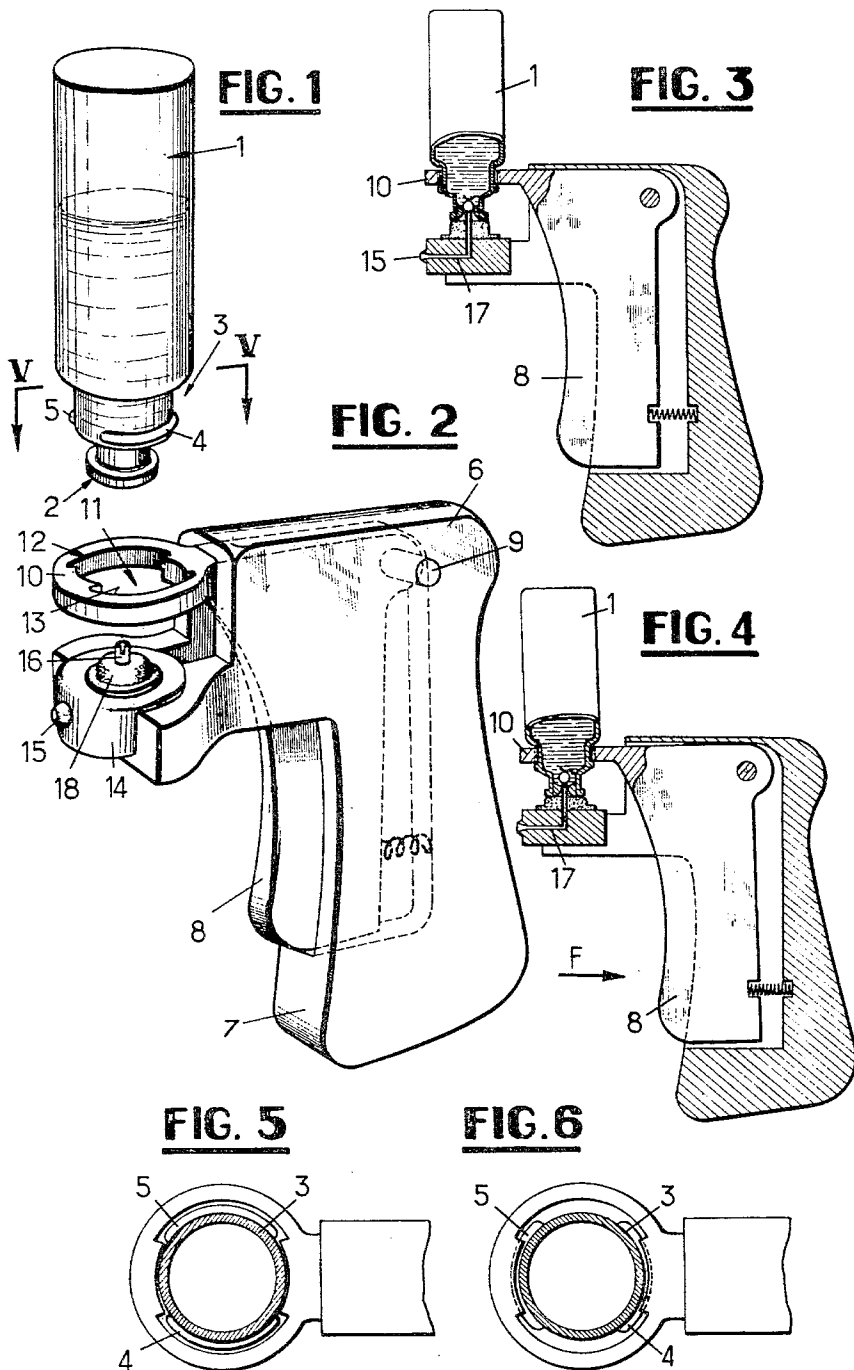
March 1, 1966

B. DARAGAN ET AL
CONTAINERS FOR AEROSOL SOLUTIONS AND ATTACHMENT
THEREOF TO ANOTHER APPARATUS

3,237,809

Filed Jan. 6, 1964

3 Sheets-Sheet 1



March 1, 1966

B. DARAGAN ET AL
CONTAINERS FOR AEROSOL SOLUTIONS AND ATTACHMENT
THEREOF TO ANOTHER APPARATUS

3,237,809

Filed Jan. 6, 1964

3 Sheets-Sheet 2

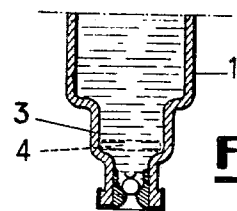


FIG. 7

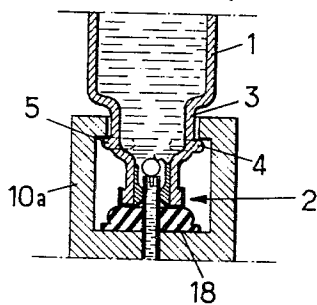


FIG. 8

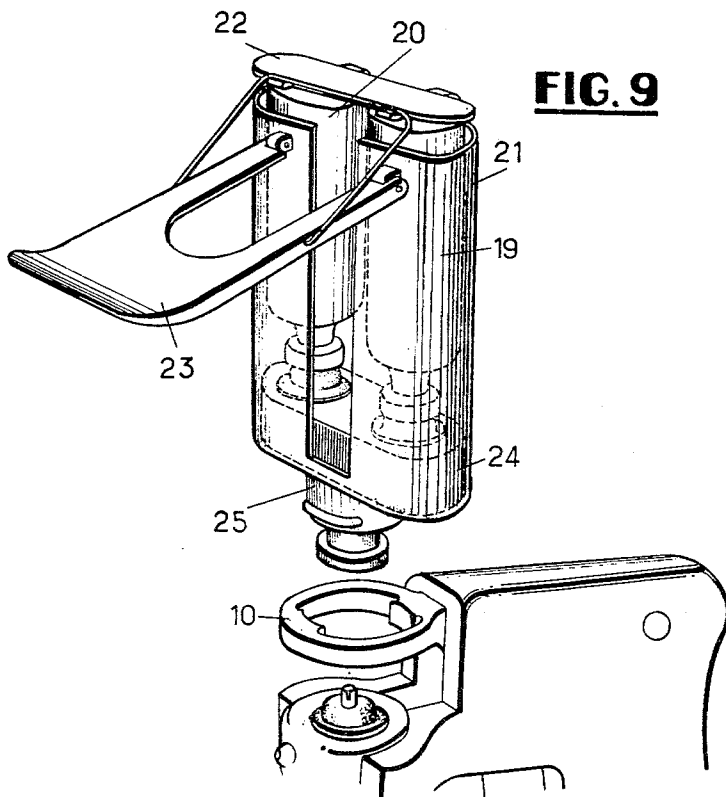


FIG. 9

March 1, 1966

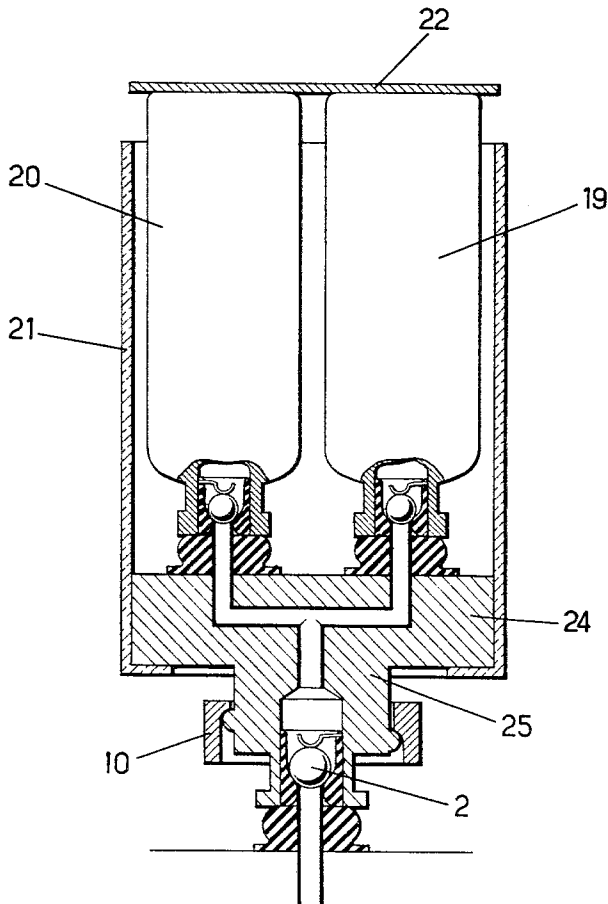
B. DARAGAN ET AL
CONTAINERS FOR AEROSOL SOLUTIONS AND ATTACHMENT
THEREOF TO ANOTHER APPARATUS

3,237,809

Filed Jan. 6, 1964

3 Sheets-Sheet 3

FIG. 9a



Inventors
B. DARAGAN
B. MORANE
P. PELLI

By
Holcombe, Wetherill + Busch
Attorneys

1

3,237,809

CONTAINERS FOR AEROSOL SOLUTIONS AND ATTACHMENT THEREOF TO ANOTHER APPARATUS

Boris Daragan, Bruno Morane, and Pierre Pelli, Paris, France, assignors to Société Anonyme dite: L'Oréal

Filed Jan. 6, 1964, Ser. No. 335,905

Claims priority, application France, Jan. 7, 1963,

920,684, Patent 1,355,588

7 Claims. (Cl. 222-135)

This invention concerns containers intended to contain aerosol solutions under pressure and has for one object the provision of a container which is capable of being fixed very quickly on apparatus into which it is desired to introduce its contents.

According to one aspect of this invention, there is provided a container intended to contain an aerosol solution, such container having a cylindrical portion provided with attaching means of the bayonet joint type, whereby the said container can be fixed to a support by engaging this cylindrical portion in an appropriate opening, and then rotating the said container.

The said cylindrical portion may be carried by a block adapted to receive two or more aerosol bottles and having an outlet duct to which the interiors of both bottles are connected when attached to said block.

According to a further aspect of this invention, there is provided the combination of a container according to this invention with a support intended to receive the said container, such support having a bayonet joint socket which is adapted to co-operate with said bayonet joint attaching means and comprising a nose provided with a slot, the said nose being capable of causing the opening of a valve with which the container is provided.

The bayonet joint attachment can be used simply to hold the container in a given position on the support, but it is also possible for the arrangement to be such that, during fixing of the container on the support a nose is made to be introduced against the movable part of a valve which closes the container, so that one and the same movement both locks the container on the support and connects its interior to a duct in the support.

According to a further feature of the invention, the support may be in the form of a gun having a trigger carrying a socket adapted to receive the bayonet joint attachment means of the container, the arrangement being such that, when the container is attached to the support, the valve is not opened by the said nose, but depression of said trigger moves the socket, and with it the container, towards said nose so that the valve is then opened.

In order that this invention may more readily be understood, the following description will now be given by way of example, with reference to the accompanying drawing, wherein:

FIGURE 1 is a perspective view of an aerosol container according to the invention;

FIGURE 2 is a perspective view of a gun for discharging aerosol solution and adapted to receive the container shown in FIGURE 1;

FIGURES 3 and 4 are partial sectional views of the container of FIGURE 1 mounted on the gun shown in FIGURE 2 with the aerosol-discharging gun in inoperative and operative conditions respectively;

FIGURES 5 and 6 are sectional views of the bottle

2

and of its support on the line V-V in FIGURE 1 in the unlocking and locking positions respectively;

FIGURES 7 and 8 show diagrammatically in sectional view how it is possible both to fix the container with bayonet joint means according to the invention to its support and to connect the interior of the said container to a duct situated on the said support; and

FIGURE 9 is a perspective view showing a variant of the device of FIGURES 1 and 2, by means of which variant it is possible to discharge a mixture of aerosol solutions;

FIGURE 9a is a longitudinal section through the embodiment illustrated in FIGURE 9, taken through the axis of both containers.

FIGURE 1 shows a container 1 according to this invention, the container being in an inverted position. At its lower end the container is provided with a valve 2, not shown in detail in this figure, which may be of any desired type which makes it possible to take from the container some of the aerosol liquid contained within the said container, whilst closing the said container in a sealing-tight manner when there is no action on the valve.

Between the valve 2 and the body of the container 1, there is situated a substantially cylindrical portion 3 which is provided peripherally near its lower end with two abutments 4 and 5 arranged symmetrically one on each side of the container.

FIGURE 5, which represents a section taken through the container 1, shows again the cylindrical portion 3 and the abutments 4 and 5 which extend over two arcs of a circle in symmetrical fashion.

The container 1 may be made, for example, of moulded glass, but it may also be constructed from some other material such as, for example, a plastics material.

The gun shown in FIGURE 2 is essentially constituted by a body 6 the lower portion 7 of which forms a butt, a trigger 8 being pivoted at 9 on the body of the gun. At its upper part, the trigger 8 carries a movable support 10 which receives the container 1.

As FIGURE 2 shows clearly, the support 10 has an opening 11 provided with grooves 12 and 13 of a shape to pass the abutments 4 and 5 when the cylindrical portion 3 of the container is engaged in the opening 11.

All that then remains to be done in order to lock the container on the support 10 is to rotate the container 1 through about a quarter of a revolution, so that the abutments 4 and 5 on the container are caught beneath the abutments between the grooves 12 and 13 on the support 10.

FIGURES 5 and 6 show the respective positions of the support and the container before and after locking.

It will be noted that the described bayonet joint connection enables the container 1 to be fixed on the support 10 in a particularly simple and rapid way and that it is easy to replace the container 1 on the gun.

The body of the gun carries below the support 10 a part 14 which is provided with an atomising orifice 15 connected to a valve-actuating nose 16 by a duct 17, the valve-actuating nose 16 being provided with a slot and being situated in the center of a rubber stud 18.

As FIGURE 3 shows, when the container 1 is placed on the support 10, the end of the nose 16 engages in the orifice of the valve 2 but does not act on the valve, so that the container 1 remains closed.

3

When, as shown in FIGURE 4, a force *F* is exerted on the trigger 8, the support 10, and with it the container 1, is displaced downwardly. As a result, the rubber stud 18 bears on the periphery of the valve 2, thus ensuring sealing-tightness, whilst the end of the nose 16 pushes the movable part of the valve inwardly thus making the atomising orifice 15 communicate with the interior of the container 1.

The result is that aerosol solution is discharged from the container through orifice 15. The container 1 can be immediately closed by discontinuing the pressure on the trigger 8.

In the embodiment shown in FIGURE 9, the gun for discharging aerosol which has just been described is used to discharge a mixture of two aerosol solutions contained in bottles 19 and 20. These two bottles 19 and 20 are contained in a casing 21 which is preferably made of transparent material and which can be closed by a cover 22 operated by a lever 23.

The bottles 19 and 20 are connected to a holder 24 which also comprises a portion 25 having a similar form to the lower portion of the container shown in FIGURE 1 and which also possesses a valve 2.

The cover 22 of the casing 21, when closed, depresses the containers 19 and 20 into sockets carried by holder 24 and causes them to be connected to a duct therein which terminates in the valve 2 situated in the lower portion of the portion 25, so that, when the said valve is opened, the mixture of the two solutions is discharged therethrough.

The mixing device shown in FIGURE 9 is fixed on the support 10 of the gun in the same way as the container 1, previously described.

In the embodiments which have just been described, the bayonet joint means are used solely for holding the container or mixing device on the support. But in another embodiment, which is shown in FIGURES 7 and 8, the arrangement is such that attachment of the container to the support also connects the valve to a duct carried by the support.

The container shown in FIGURES 7 and 8 is the same as that shown in FIGURES 1, 3 and 4.

The support, however, in this case indicated by the reference 10*a* comprises at its upper portion an opening 11, the form of which is similar to that of the opening 11 shown in FIGURE 2. The support 10*a* is also provided with a nose 16 provided with a slot 16*a* and a rubber stud 18.

The distance between the end of the nose 16 and the upper portion of the support 10*a* is such that, as the lower end of the container is introduced into the opening 11, the rubber stud 18 is first deformed by means of the edges of the valve 2 to ensure tight sealing of the container to the stud and then the movable part of the valve is driven inwardly by means of the nose 16, after which it is possible to rotate the container 1 to fix it in position on the support 10*a*. Under these circumstances, the contents of the container 1 can flow through the slot 16*a* and enter the interior of the nose 16 which is connected to any desired apparatus for using the contents of the container.

It will be seen that it is quite possible simultaneously to fix the aerosol container and make it communicate with a duct intended to receive its contents.

It will be understood that the embodiments which have just been described are not intended to have any limitative character, and that any desirable modification may be made thereto without thereby departing from the scope of the invention as defined by the claims.

Particularly, it is clear that the type of valve used on the container according to the invention is not very important.

It will also be apparent that it is possible to modify the form and dimensions of the container.

4

Finally, it will be apparent that the containers provided with attachment means according to the invention may be used for connection to apparatus other than the gun which has been described herein.

What we claim is:

1. A dispenser for dispensing a fluid from a pressurized container of the type provided with an outlet, a pressure-operated outlet valve, and external abutment means, said dispenser comprising in combination a body, valve actuating means on said body formed to actuate said pressure operated valve when said valve is pressed against it, cooperating abutment means formed to interlock with the abutment means on said container and movably mounted on said body to move into and out of an operating position in which the outlet valve of a container interlocked therewith is pressed against said valve actuating means, a duct in said body having a mouth positioned to be in alignment with said container outlet when said abutment means are interlocked and to the sealingly connected to said outlet when said movable abutment means is in said operating position, atomizing means connected to atomize fluid received by said duct, and a manually operable trigger pivotally mounted on said body and connected to move said movable abutment means into and out of said operating position.

2. In combination with a dispenser as claimed in claim 1 a container-holder for a plurality of said pressurized containers, said holder being provided with valve actuating means for each container formed to actuate the pressure operated valve on that container when said valve is pressed against that actuating means, individual abutment means on said holder formed to interlock with the abutment means on each container, duct means in said holder having a mouth for each container positioned to be in alignment with the outlet of said container when said individual and container-carried abutment means are interlocked, a single outlet for the duct means in said holder, a pressure responsive valve in said container holder between said duct mouth and duct outlet and second abutment means on said holder formed to interlock with the movable abutment means on said dispenser to maintain said holder in a position in which the outlet for the duct means therein registers with the mouth of the duct means in said dispenser.

3. A combination container-holder and dispenser as claimed in claim 2 comprising means pivotally attached to said holder for pressing said containers and the valves thereon against the valve actuating means on said holder.

4. A combination container-holder and dispenser as claimed in claim 2 in which the abutments on said containers and the abutments on said holder which interlock therewith are positioned, when interlocked, to hold said container outlets sealed to the mouths of the duct in said holder and the valves in said containers against the valve actuating means on said holder to maintain said valves in their open position.

5. In combination with a dispenser as claimed in claim 1, a container-holder for a plurality of said pressurized containers, said holder being provided with duct means having a plurality of mouths for connection to said container outlets and its own outlet for connection to the mouth of said dispenser duct, means for opening said container outlet valves, abutment means positioned to interlock with the abutment means on said dispenser, and a valve between the mouth and outlet of the duct in said holder positioned to be actuated by the valve actuating means on said dispenser.

6. A dispenser as claimed in claim 2 comprising resilient sealing means which encircles the mouth of said duct and is compressed between said duct mouth and container outlet to form a sealed connection therebetween when said movable abutment is brought into its operating position.

5

7. A dispenser for dispensing a fluid from a pressurized container of the type provided with an outlet, a pressure-operated outlet valve, and external abutment means, said dispenser comprising in combination a body, valve actuating means on said body formed to actuate said pressure operated valve when said valve is pressed against it, cooperating abutment means on said body formed to interlock with the abutment means on said container, a duct in said body having a mouth positioned to be in alignment with said container outlet when said abutment means are interlocked, atomizing means connected to atomize fluid received by said duct, and a manually operable trigger pivotally mounted on said body and connected to bring together and separate said valve actuating means and the valve of a container locked to said dispenser, thereby actuating said valve.

5

10

15

6

References Cited by the Examiner

UNITED STATES PATENTS

2,820,578	1/1958	Dickman	222—323
2,830,742	4/1958	Gibbons et al.	222—323
3,079,044	2/1963	Flynn	222—145 X
3,085,599	4/1963	Kronheim	222—325 X
3,161,322	12/1964	Stone	222—145 X

FOREIGN PATENTS

534,273	9/1931	Germany.
811,596	4/1959	Breat Britain.

M. HENSON WOOD, Jr., *Primary Examiner*.

LOUIS J. DEMBO, *Examiner*.

A. N. KNOWLES, *Assistant Examiner*.