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(54) **AEROSOL LUBRICANT AND OR SOLVENT CLEANER WITH A TRIGGER SPRAYER**

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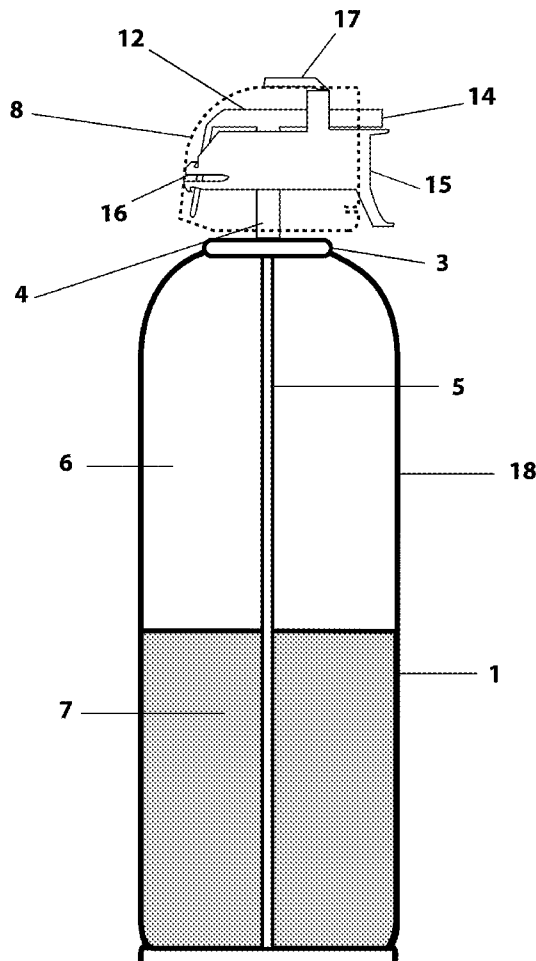
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(57) **ABSTRACT**

An Aerosol Lubricant and or Solvent Cleaner with Trigger Sprayer that can be easily held in one hand. The Lubricant and or Solvent Cleaner is under pressure in an aerosol can and can only be released by pulling the tab of the trigger sprayer. The Trigger Sprayer Unit cannot be sprayed until the tab is pulled. The Can is a cylindrical canister housing and has a Dip Tube that goes to the bottom of the can to the Lubricant and or Solvent Cleaner. There is Propellant in the can that pushes the Lubricant and or Solvent Cleaner up through the Dip Tube. Pulling the tab of the Sprayer Unit allows the Trigger to be pressed and be moved so the Trigger Pivoting Member of the Trigger Sprayer Unit is able to press down on the stem of the Mounting Cup of the Can which then allows the Propellant in the Can to force the Lubricant and or Solvent Cleaner through the Dip Tube up through the Chamber Hole into the Direction Chamber with pressure out the Nozzle toward the area to be sprayed. The user then holds down the trigger and sprays the area,



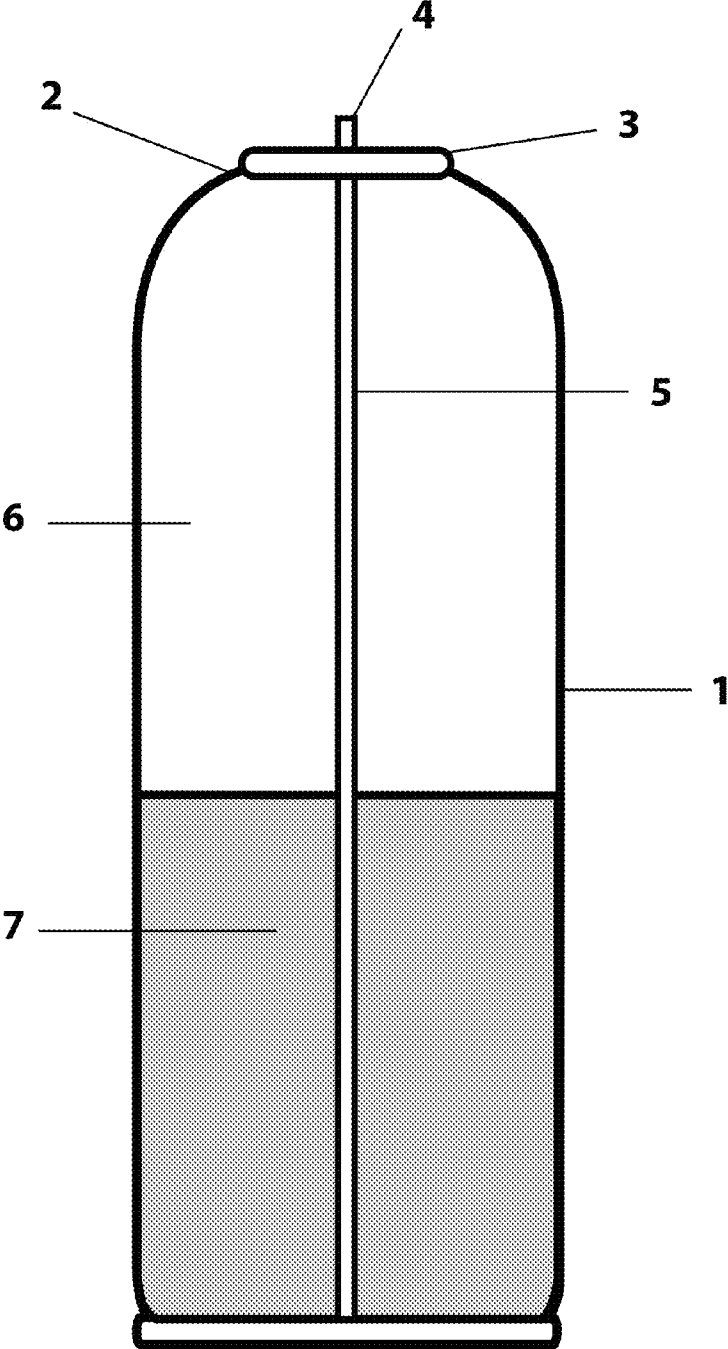


FIG. 1000

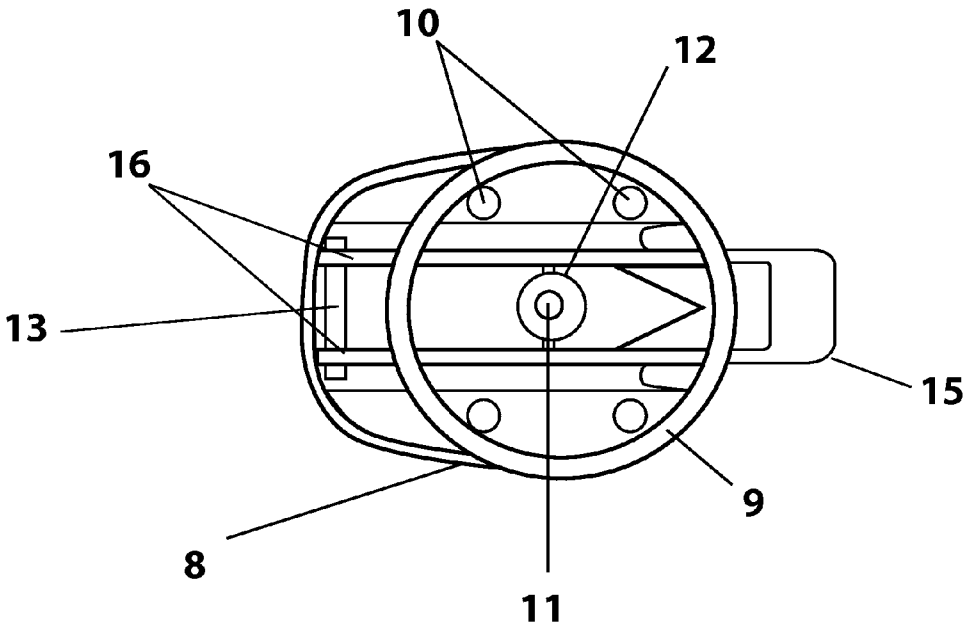


FIG. 2000

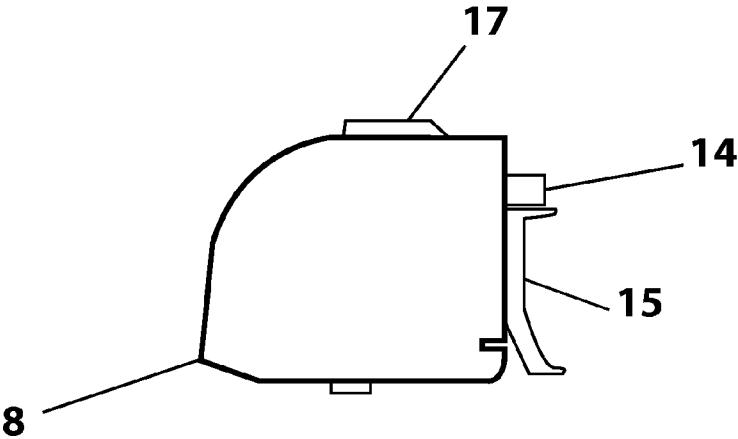


FIG. 3000

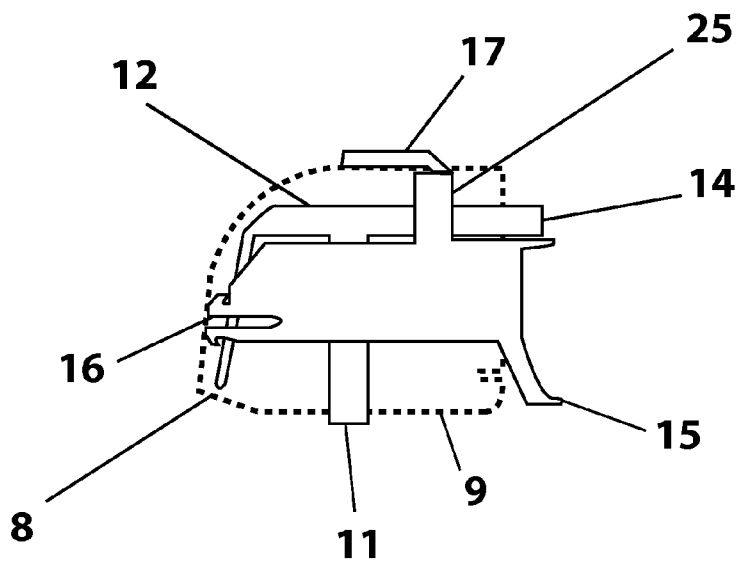


FIG. 4000

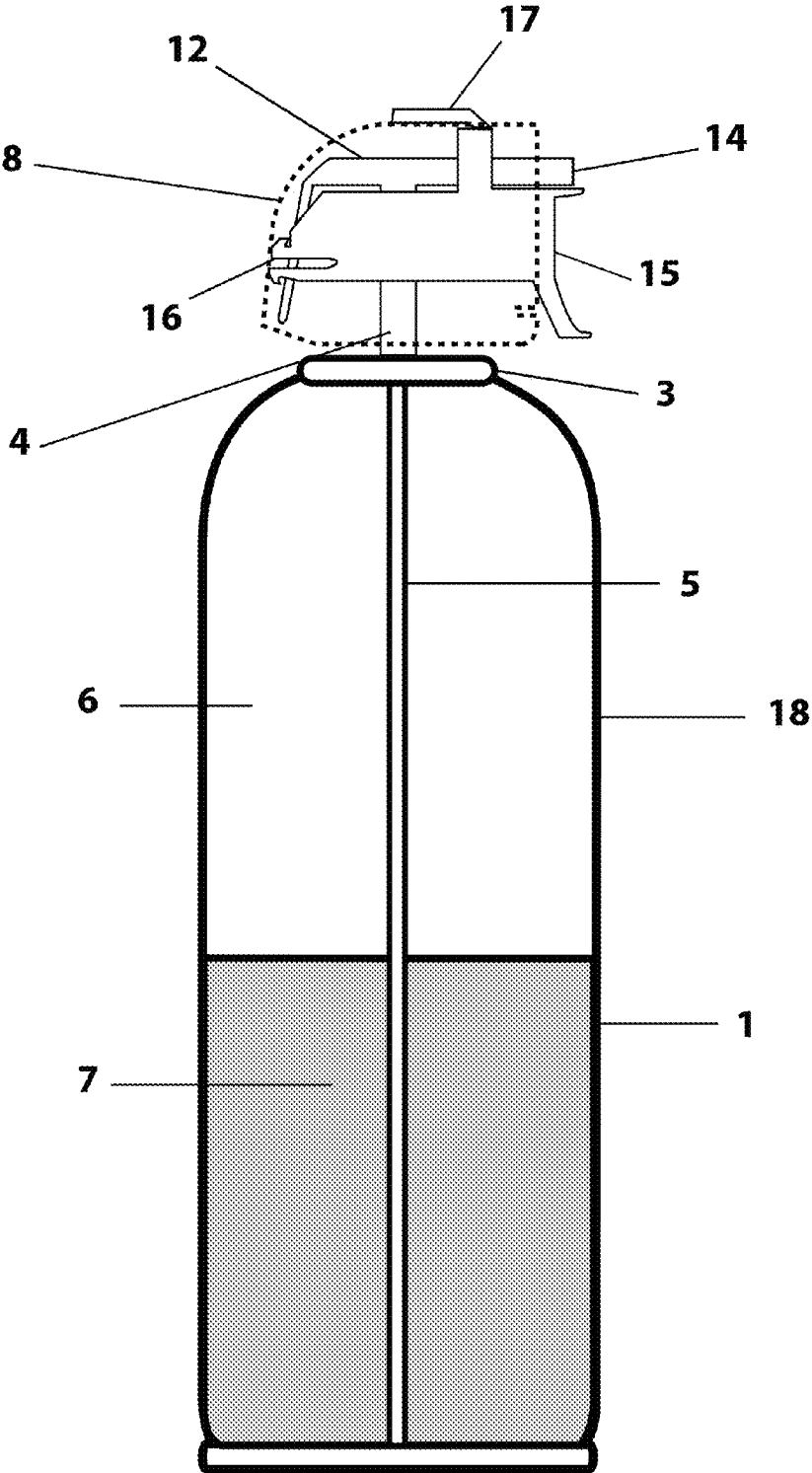


FIG. 5000

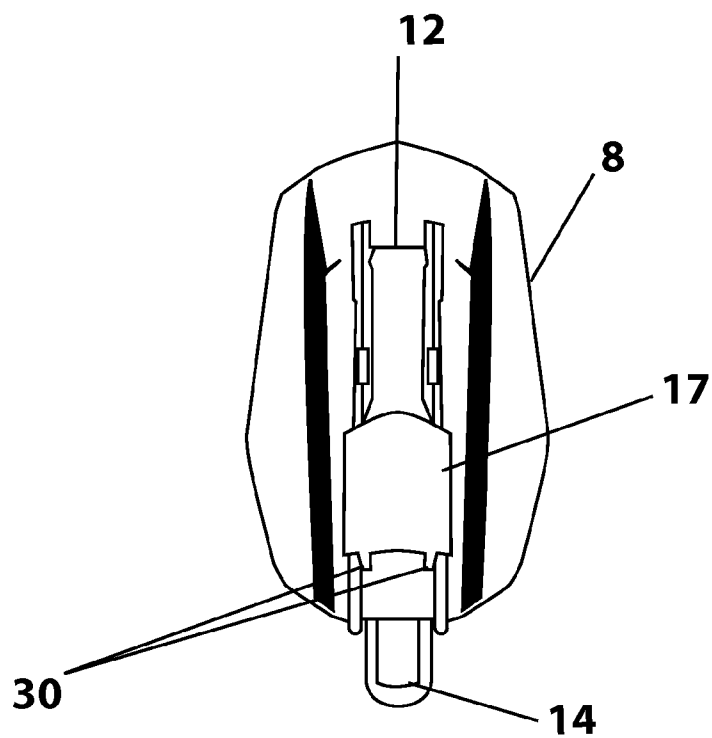


FIG. 6000

AEROSOL LUBRICANT AND OR SOLVENT CLEANER WITH A TRIGGER SPRAYER

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] None

FEDERALLY SPONSORED RESEARCH

[0002] None

SEQUENCE LISTING

[0003] None

BACKGROUND

[0004] Having a aerosol lubricant and or solvent cleaner under pressure with a trigger sprayer is very convenient and a great tool. Especially for the gun enthusiast, biker or locksmith who has to clean his/her equipment fast. This invention addresses a new way of having a lubricant or solvent cleaner under pressure by way of an using an aerosol can and trigger sprayer that is both easy to use and fast. The Trigger Sprayer allows the user to be able to pull the tab and lubricant and or solvent cleaner for many uses. When the tab is not pulled the Aerosol lubricant and or solvent cleaner cannot be sprayed. Additionally this invention can easily be held in one hand for ease of use and portability.

SUMMARY OF THE INVENTION

[0005] The invention is an Aerosol lubricant and or solvent cleaner with a trigger sprayer. In a preferred embodiment of the invention the trigger sprayer is fitted onto a mounting cup with a dip tube going to the bottom of the aerosol can to the lubricant and or solvent cleaner. The Direction Chamber allows the lubricant and or solvent cleaner to flow through the trigger sprayer to the nozzle where it will flow out toward the area to be sprayed with lubricant or solvent cleaner. The Trigger pivots up and down that puts pressure on the Direction Chamber that puts pressure on the actuator stem allowing the lubricant and or solvent cleaner to flow up. The nozzle on the trigger sprayer can is configured to allow the lubricant and or solvent cleaner to flow out rapidly. There is a propellant inside the can with the lubricant and or solvent cleaner. A Mounting Cup is placed in the Hole at the top of the Aerosol Can and holds the pressure of the Propellant and lubricant and or solvent cleaner. The Mounting Cup of the aerosol can has a actuator stem that when it is depressed cause the lubricant and or solvent cleaner to flow out. The propellant can be Propane, Butane, CO2, Air, Nitrogen or 134a, 152a. The aerosol can is cylindrical. The Trigger sprayer of the aerosol lubricant and or solvent cleaner has a tab on top of it that can be easily be pulled off which allows the trigger to be depressed and ready to be used. When this tab is not pulled the lubricant and or solvent cleaner cannot be sprayed for easy storage. The Tab has breakaway hinges and can be snapped off easily. The Trigger can be depressed by an index finger or other fingers to release the lubricant and or solvent cleaner. The Trigger Sprayer has a nozzle wherein the lubricant and or solvent cleaner can flow out.

OPERATION OF THE INVENTION

[0006] When the Tab is not pulled the Trigger of the lubricant and or solvent cleaner is locked and cannot be sprayed.

The operation of the Aerosol lubricant and or solvent cleaner is when there is a needed use, the user simply pulls the tab of the Aerosol Lubricant and solvent cleaner trigger Sprayer which is located on top and this enables the trigger assembly to be pushed down on the mounting cup that has a stem sticking up that when depressed allows the propellant in the can to push the Lubricant and or solvent cleaner up through the stem through the Trigger Sprayer Unit through the Direction Chamber then through the Nozzle toward the area to be sprayed. The Lubricant and or solvent cleaner comes out with pressure and because the trigger has a nozzle the user can easily identify the direction to spray the Lubricant and or solvent cleaner.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1000 shows a perspective view of only the Can with the Mounting Cup and stem alone in a preferred embodiment of the invention.

[0008] FIG. 2000 shows a perspective view of the Trigger Sprayer Unit from the bottom of the Trigger Sprayer Unit in a preferred embodiment of the invention.

[0009] FIG. 3000 shows a perspective side view of the trigger sprayer with the tab intact,

[0010] FIG. 4000 Shows a cross sectional view of the Trigger Sprayer with tab intact.

[0011] FIG. 5000 shows Perspective Cross Sectional view of the aerosol lubricant and or solvent cleaner with a trigger sprayer and tab intact in a preferred embodiment of the invention.

[0012] FIG. 6000 shows a Perspective view of the trigger sprayer looking from above.

DETAILED DESCRIPTION

[0013] Referring now to FIG. 1000, a preferred embodiment of the invention is a Can 1 that is strong enough to withhold aerosol can pressure. The Can 1 has a Can Hole 2 at the top of the can. A Mounting Cup 3 at the top of the can is configured to fit on top of Can 1 into the Can Hole 2. The Mounting Cup 3 has a Actuator Stem 4 which is attached to it and a Dip Tube 5 extends from the stem through the mounting cup into the Can 1. The Can 1 is filled partially with a Lubricant and or Solvent Cleaner 7 inside the Can 1. The Can 1 is also filled partially with a Propellant 6.

[0014] Referring now to FIG. 2000 a preferred embodiment of the invention shows the bottom of a Trigger Spraying Unit 8 in a preferred embodiment of the invention. The Trigger Sprayer Unit 8 has a Rim 9 configured to snap onto the Mounting Cup 3. The Trigger Sprayer Unit also has one or more Fitting Units 10 that are configured to support and to grasp onto the Mounting Cup 3. The Trigger Sprayer Unit 8 has a Chamber Hole 11 which secures over the Actuator Stem 4. The Chamber Hole 11 leads into a Direction Chamber 12 and is attached to the back of the Trigger Sprayer Unit 8. A Trigger 15 is able to pivot up and down. The Trigger 15 uses a Trigger Pivoting Member 16 to pivot up and down and is held in place by a Trigger Pivoting Member Holder 13.

[0015] Referring now to FIG. 3000 a preferred embodiment of the invention shows a perspective side view of the Trigger Sprayer Unit 8. A Tab 17 is fitted on top of the Trigger Sprayer Unit 8 which is attached to the Trigger 15 in a preferred embodiment of the invention. The Tab 17 must be removed for the Trigger 15 to move and therein being able to move the Nozzle 24.

[0016] Referring now to FIG. 4000 a cross sectional view of the Trigger Sprayer Unit 8. The Chamber Hole 11 is at the bottom and the Rim 9 can be seen that fits over the Mounting Cup 3. A Trigger 15 fits inside the Trigger Sprayer Unit 8. The Chamber Hole 11 goes into a Direction Chamber 12 which is hollow and allows the Lubricant and or solvent cleaner 7 to flow through. The Lubricant and or solvent cleaner 7 flows through the Chamber Hole 11 into Direction Chamber 12 out a Nozzle 14. The Trigger 15 Pivots up and down by being pressed and by way of its trigger Pivoting Member 16. The Trigger 15 has a Nozzle Holder 25 that holds onto the Nozzle 14.

[0017] Referring now to FIG. 5000 which shows a perspective side view of a Aerosol Lubricant and or solvent Sprayer with Trigger. A Aerosol lubricant and or solvent cleaner Whole Unit 18 is shown as the whole invention. In this perspective view the Can 1 is shown filled with lubricant and or solvent cleaner. The upper portion of the can is filled with the Propellant 6 and the Dip Tube 5 goes down to the lubricant and or solvent cleaner 7. A Mounting Cup 3 holds the pressure inside the Can 1. The Trigger Sprayer Unit 8 fits onto the Actuator Stem 4 onto the Mounting Cup 3. The Direction Chamber as it fits on the Actuator Stem 4 is shown. The Tab 17 as it fits on top of the Trigger Sprayer Unit 8 and the Nozzle 14 wherein the lubricant and or solvent cleaner 7 flows out. The Trigger Pivoting 16 can be seen in Referring now to FIG. 6000 shows a view of the trigger sprayer looking from above. The Tab 17 is shown as it sits on top of the Trigger Sprayer Unit 8. In this perspective view the tab has Breakaway Hinges 30 that allows the Tab 17 to be pulled off. When the Tab 17 is pulled off the Nozzle 14 and Direction Chamber 12 are free to move up and down as the Trigger 15 is pressed.

- 1. The invention is:
 - A. Aerosol Lubricant and or Solvent Cleaner with Trigger Sprayer which comprises:
 - 1. (a) A Aerosol Can
 - 1. contains Lubricant
 - 2. Contains Propellant
 - (b). A Trigger Sprayer that is comprised of
 - 1. a trigger that can be depressed by a finger or fingers
 - 2. A Nozzle in which the lubricant will be dispensed under pressure and flow through when the trigger is depressed.
 - 2. The invention is:
 - A. Aerosol Solvent Cleaner with Trigger Sprayer which comprises:
 - 1. (a) A Aerosol Can
 - 1. contains a solvent cleaner
 - 2. Contains Propellant
 - (b). A Trigger Sprayer that is comprised of
 - 1. a trigger that can be depressed by a finger or fingers
 - 2. A Nozzle in which the solvent cleaner will be dispensed under pressure and flow through when the trigger is depressed.

- 3. The invention is:
 - A. Aerosol Lubricant and or Solvent Cleaner with Trigger Sprayer which comprises:
 - 1. (a) A Aerosol Can
 - 1. contains a lubricant and solvent cleaner
 - 2. Contains Propellant
 - (b). A Trigger Sprayer that is comprised of
 - 1. a trigger that can be depressed by a finger or fingers
 - 2. A Nozzle in which the solvent cleaner will be dispensed under pressure and flow through when the trigger is depressed.
 - 4. The invention as recited in claim 1 wherein the propellant is a gas such as CO2, Air, Nitrogen, Propane/Butane or 134a, 152a.
 - 5. The invention as recited in claim 1 wherein the lubricant is petroleum, silicone or organically based.
 - 6. The invention as recited in claim 1 wherein the trigger sprayer is made of plastic or metal.
 - 7. The invention as recited in claim 1 where in the trigger can be depressed by the index finger.
 - 8. The invention recited in claim 2 wherein the propellant is a gas such as CO2, Air, Nitrogen, Propane/Butane or 134a, 152a.
 - 9. The invention as recited in claim 2 wherein the solvent cleaner is solvent based and may contain hexanes, alcohol, trichloroethylene or other solvents on the market.
 - 10. The invention as recited in claim 2 where in the trigger can be depressed by the index finger.
 - 11. The invention as recited in claim 3 wherein the propellant is a gas such as CO2, Air, Nitrogen, Propane/Butane or 134a, 152a.
 - 12. The invention as recited in claim 3 wherein the lubricant is petroleum, silicone or organically based.
 - 13. The invention recited in claim 3 wherein the solvent cleaner is solvent based and may contain hexanes, alcohol, trichloroethylene or other solvents on the market.
 - 14. The invention as recited in claim 3 where in the trigger can be depressed by the index finger.
 - 15. The invention recited in claim 1 wherein there is a dip tube.
 - 16. The invention recited in claim 1 wherein the nozzle is made of plastic or metal.
 - 17. The invention recited in claim 1 wherein there is a tab on top Trigger that stops the trigger from being depressed when intact but when removed allows the trigger to be depressed causing the lubricant and or solvent cleaner to be dispensed.
 - 18. The invention as recited in claim 1 wherein the Tab has Breakaway hinges and can be snapped off,
 - 19. The invention as recited in claim 1 wherein the Trigger Sprayer Unit contains a Direction Chamber for the lubricant and or solvent cleaner to flow through to go out the Nozzle.

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