April 26, 1927. 1,626,096

C. L. REICHENBACH

SPRAY GUN

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Fig. 1

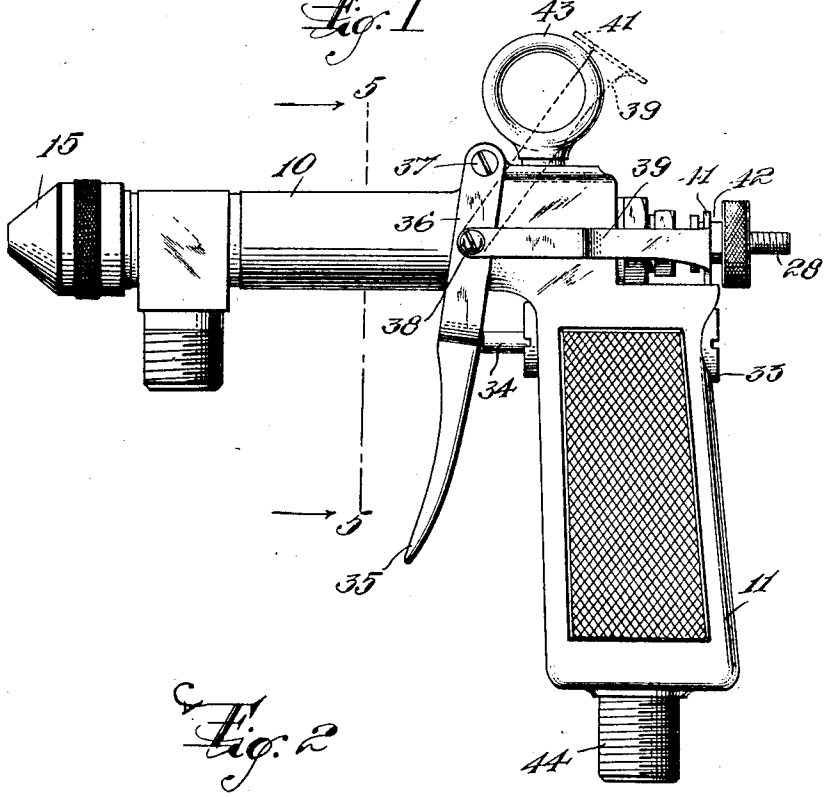


Fig. 2

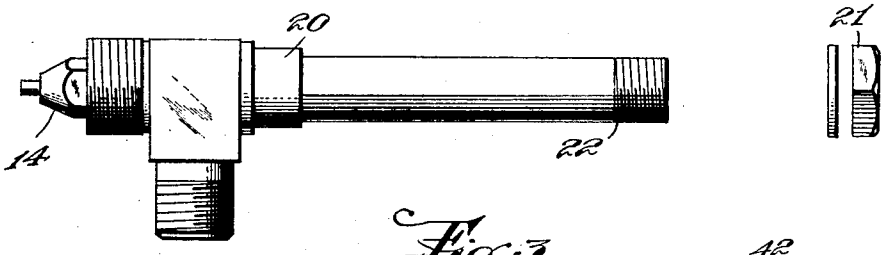
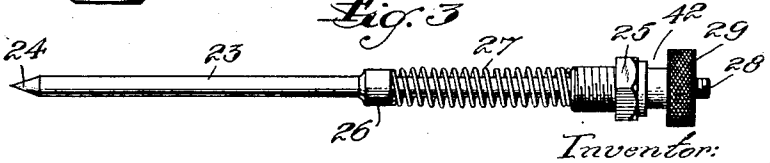


Fig. 3



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Fig. 4.

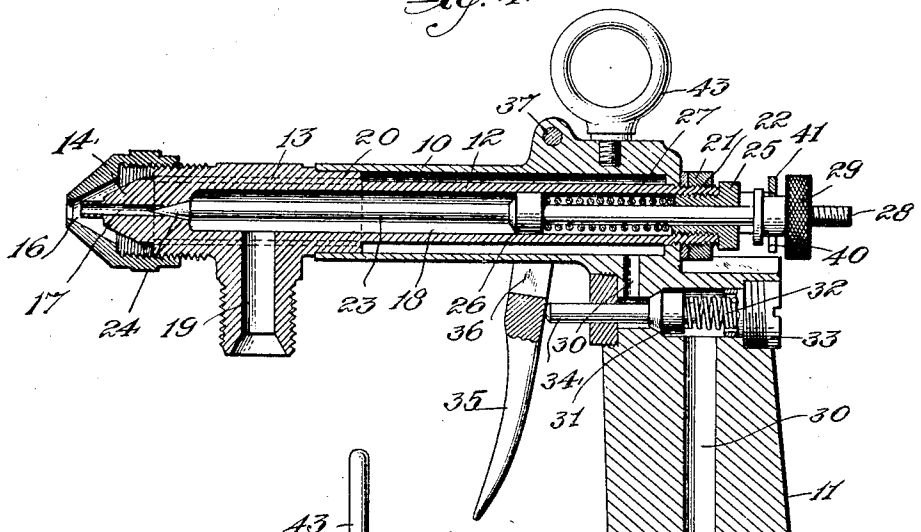
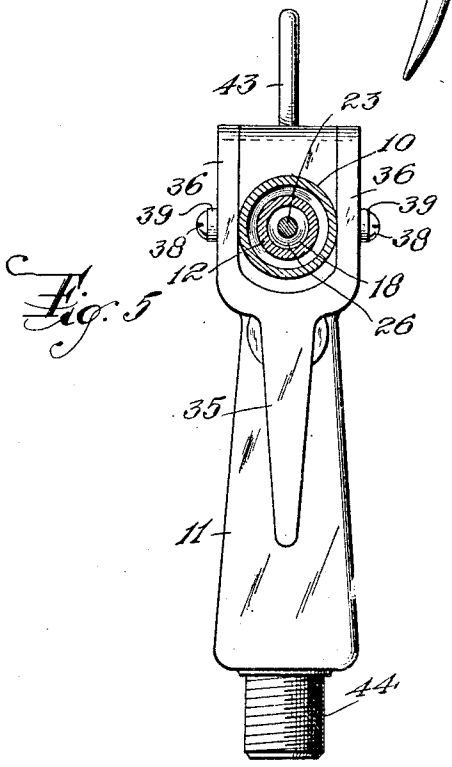


Fig. 5.



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UNITED STATES PATENT OFFICE.

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SPRAY GUN.

Application filed August 14, 1925. Serial No. 50,192.

This invention relates to an improved spray gun employed in applying paint and like substances and is constructed to enable an inexpensive and quick assembling of the parts and which can be quickly taken apart and put together again, which is of decided advantage both in cleaning the gun and also in case repairs are necessary.

It will also be noted that with this gun a damaged or broken part can be easily replaced by a new one without the necessity of returning the gun to the maker or dealer for such repair.

The gun consists of three major parts, a barrel, a sleeve to fit into the barrel, and a stem to fit into the sleeve, these parts, when separated, presenting simple easily cleaned out elements and parts which need only a wrench for assembling and taking down.

The invention is illustrated in the accompanying drawings in which Figure 1 is a side view of a gun made according to my invention. Figure 2 is a side view of a sleeve that fits into the barrel of the gun. Figure 3 is a side view of a stem that fits into the sleeve shown in Figure 2. Figure 4 is a central vertical section taken through Figure 1 and Figure 5 is a cross section on line 5—5 in Figure 1.

The gun embodies a barrel 10 which is provided at one end with a handle 11, these being preferably made in one piece. Inside of the barrel is a sleeve 12 which is spaced from the barrel so as to form a duct for the passage of compressed air, this duct being continued by the passages 13 which extend to the front tapered end 14 of the sleeve.

This tapered front end receives a nozzle 15, the parts being spaced so that air can pass around the tip of the sleeve and within the nozzle and emerge through the outlet 16 after it vaporizes material such as paint or the like which passes out through the outlet port 17 at the front end of the sleeve, the sleeve itself containing a chamber 18. The sleeve also has an inlet port 19 which is usually made to receive the screw connection of the pipe which conducts the paint to the gun.

The sleeve is readily insertible in the barrel, the reduced part 20 fitting into the front end of the barrel usually by a slight taper, the parts being held in assembled position by suitable means such as the nut 21 which is screwed onto the screw-threaded end 22 of the sleeve which projects through and slightly beyond the rear end of the barrel.

Inside the sleeve and readily insertible therein is a stem 23 which has its front end 24 adapted to close the outlet port 17 of the sleeve, forming practically a needle valve, the stem extending out of the rear end of the sleeve and being held therein by a thimble 25 which screws into the screw-threaded inner end of the sleeve. The thimble forms one abutment and the collar 26 forms the other abutment for the spring 27 so that the valve 24 is normally held shut and released.

An adjustable means is fastened on the back end 28 of the stem 23 and I show a nut 29 for this purpose. The air inlet is preferably arranged in the handle and comprises a passage 30 which has a valve 31 located in it, the valve being held shut by a spring 32 held in place by a plug or screw 33. The valve 31 includes the stem 34 which projects from the front end of the handle near the barrel.

A trigger 35 is mounted in front of the handle in a position to be readily grasped by the fore-finger of the hand and is usually forked with the two arms 36 pivoted as at 37 to the barrel, the trigger normally resting against the stem 34 of the valve 31. Pivoted to the handle as at 38 is the yoke 39, the yoke having a recessed part 40 in the cross strip 41 at the rear so that it can be forced down to straddle the nut and when pushed back it engages the nut which in turn pulls back on the stem 23 to open the valve 24.

I usually provide a space as at 42 so that there is lost motion when the trigger is first operated, this permitting the air to float first and then the paint outlet 24 is opened immediately after. The adjustment of the nut 29, of course, fixes the amount of lost motion that was to be allowed so that the amount of paint can be varied, this variation being caused by the character of the material to be applied and the speed of the operation.

The ring 43 is a handy means for suspending the gun when it is not in use or for suspending the gun when it is to be used

in a fixed position. The end of the handle is provided with a suitable connection 44 for the attachment of the air line.

This gun is made of but few parts and is very efficient. It will be noted, in addition to this, that by swinging the yoke 39 upward as shown in dotted outline in Figure 1, all that needs to be done is to unscrew the nut 25 and the stem 23 and the spring 27 which are on it are readily withdrawn from the sleeve and then after unscrewing the nut 21 the sleeve can be pulled out of the barrel 10 and the parts can be separated as shown in Figures 2 and 3 and can be easily cleaned when desired, usually by simply dipping them or stirring them in a solvent of the material that has been used.

Another advantage of this gun is that in case of breakage of one of the parts it need not be returned to the factory for repair, which is the present usage, but a duplicate can be secured by the user of the gun and the services of an expert repair man are not essential.

I claim:

1. A spray gun comprising a barrel, a sleeve insertable in the barrel from the front, and extending therethrough, means at the back of the sleeve for locking it in place, and a stem insertable into the sleeve from the back, the sleeve having a seat against which the end of the stem can close, a nozzle on the front of the sleeve, the sleeve having passages to convey air to the nozzle, and a trigger for operating the stem.

2. A spray gun comprising a barrel with a handle at one end, a sleeve insertable in the front end of the barrel and secured at its rear end to the rear end of the barrel and spaced from the barrel to form an air duct, the sleeve having a central outlet port, a stem insertable from the rear end into the sleeve and adapted to close the outlet port aforesaid and having its rear end secured to the sleeve and projecting therefrom, a valved air passage to the space between the sleeve and barrel, the sleeve having an inlet for material in front of the barrel, a trigger on the barrel and having connections to operate the valve in the air passage and to operate the stem.

3. A spray gun comprising a barrel with a handle at one end, a sleeve extending through the barrel and readily insertable and removable relative thereto, the sleeve extending beyond the barrel at both ends, the front having an inlet pipe and an outlet port and adapted to receive a nozzle, a means on the projecting rear end to secure the barrel in place, a stem insertable into the rear end of the barrel and having its front end disposed so as to be seated in the outlet port of the sleeve to form a valve, a collar on the stem, a thimble on the stem and screwed into the rear end of the sleeve, a spring between the thimble and the collar, an adjustable nut on the projecting rear end of the stem, a trigger on the barrel and a yoke pivoted on the trigger and having its rear end adapted to straddle the stem and to engage the nut on the stem.

4. A spray gun comprising a stock and a barrel projecting forwardly therefrom, a sleeve insertable from the front of the barrel and carrying a nozzle at the front end and a valve seat on the inside in rear of the nozzle, the barrel and sleeve having an annular space between them, a valve stem insertable from the rear of the barrel and projecting therefrom, the inner end of the valve stem being adapted for engagement with the valve seat, the barrel having an inlet for material in rear of the valve seat, valved means for admitting air to the space between the barrel and the sleeve, and a trigger for operating an inlet valve and the valve stem.

In testimony whereof I affix my signature.

CARL L. REICHENBACH.