

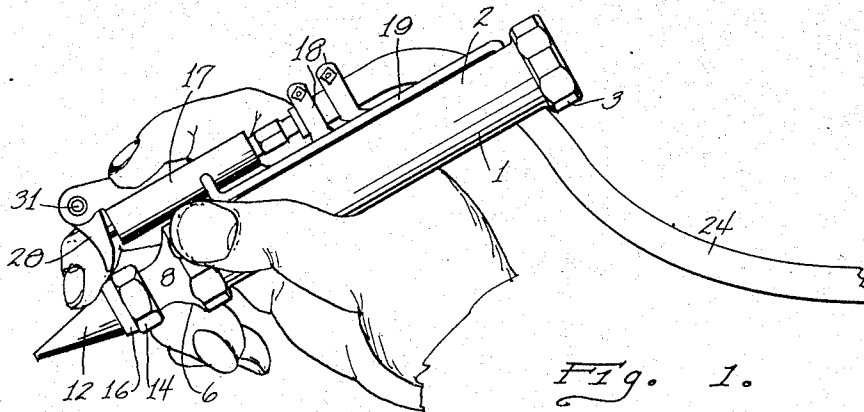
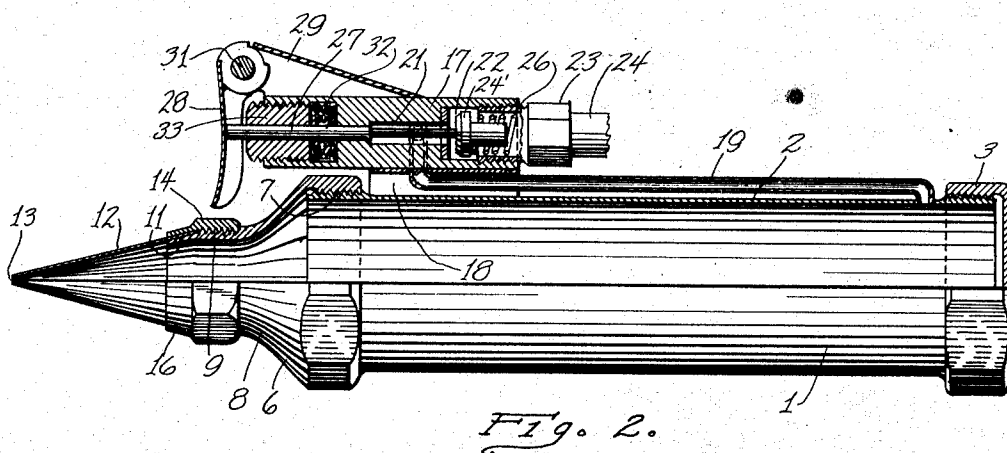
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L. R. FOSS ET AL

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FEED GUN

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FEED GUN

Application filed January 12, 1927. Serial No. 160,760.

The present invention relates to improvements in feed guns and has particular reference to a feed gun adapted for applying raised lines of pasty paint material to a piece of paper, parchment, or the like. It is particularly proposed to provide a feed gun of this character that may be conveniently manipulated in one hand in writing position so that a person using the gun may draw lines on an object in the same manner as he would with a pen or pencil. For this purpose, the gun is made of convenient size to be held between the thumb and forefinger with the gun reclining against the hand and a discharge nozzle presented at the front end, from which the paint material is delivered to the sheet to be worked on. It is further proposed to provide pressure means for ejecting the paint material from the gun thru the nozzle. It is further proposed to provide a valve for the pressure medium and an operating element for the same adapted for manipulation by the middle finger while the gun is being operated so that the amount of discharge may be controlled at any time by the operator.

Further objects and advantages of our invention will appear as the specification proceeds.

The preferred form of our invention is illustrated in the accompanying drawing in which—

Figure 1 shows the feed gun in elevation in operative position relative to a human hand, and

Figure 2 a vertical section thru the same, the lower portion of the gun being shown in elevation.

While we have shown only the preferred form of the invention, we wish to have it understood that various changes or modifications may be made within the scope of the claims hereto attached without departing from the spirit of the invention.

Referring to the drawing in detail, it will be seen that our gun 1 comprises a cylinder 2 adapted to receive paint material and closed at its rear end by means of a cup 3 threaded thereon in the manner shown in the drawing. The front end of the gun has

a nipple 6 threaded thereto as shown at 7, the nipple tapering from its threaded base portion as shown at 8 to a second cylindrical portion 9 threaded externally which latter portion has a reduced diameter and terminates at its front end in a tapered portion 11. A tapered nozzle 12 terminating at its front end to present a fine opening 13 is adapted to be pushed on the tapered front portion 11 of the coupling 6 with the base thereof and is held in place by means of a nut 14 threaded on the cylindrical portion 9 of the nipple and presenting a tapered apron 16.

An elongated valve housing 17 is fixed to the cylinder by means of a bracket 18 so as to lie adjacent and parallel to the front end of the cylinder. A tube 19 of small diameter connects the rear end of the cylinder with a central chamber 21 in the valve housing, the chamber communicating with an enlarged bore 22 into which is threaded a nipple 23 connected to a flexible tube 24 which latter is connected to any suitable source of pressure, as a tank of compressed air under continuous and uniform pressure not shown in the drawing. A valve 24' is movable in the bore 22 and is normally forced upon its seat so as to close the chamber 21 by a spring 26. An operating element 27 extends lengthwise thru the valve housing to bear against the valve 24' and to unseat the same when the operating element is pressed inwardly by means of a lever 28 pivoted in a bracket 29 fastened to the valve housing, the pivot being shown at 31. A suitable packing 32 compressed by a nut 33 prevents the pressure medium from escaping thru the front end of the valve housing. It will be noted that the lever 28 is presented transversely to the axis of the valve housing and approximately opposite the nut 14.

In use, the feed gun is held in the hand in the manner shown in Figure 1, the cylinder proper being disposed between the thumb and the forefinger and reclining backwardly like a pencil held in writing position. The thumb rests on the outside of the cylinder, the forefinger on the valve housing, the middle finger on the lever 28 for operating the

latter, and the third finger under the tapered portion 8 of the nipple 6. When holding the feed gun in this position, the operator may write with the same very much in the same manner as he would when using a pencil or a pen. Normally, the valve admitting the pressure medium is closed due to the action of the spring 26. When the operator wishes to discharge paint material, preferably in pasty form, from the nozzle, he depresses the lever 28 with his middle finger which opens the valve and allows a pressure medium to enter the rear end of the cylinder and to bear on the paint material provided therein. The material flows from the nozzle in the form of a thread, allowing the operator to produce lines on a sheet of paper or the like, the thickness of the thread depending upon the size of the nozzle opening. Different nozzles may be used for producing lines of varying thicknesses.

The gun described in this application is particularly intended for use in connection with the drawing of raised outlines on parchment lamp shades in a process described in our co-pending application, Serial No. 160,759, but it should be understood that it will be useful in many different connections and that it is not intended to be confined to this specific use.

We claim:

1. A feed gun having a contour simulating a fountain pen adapting it to be grasped between the thumb and first finger for writing therewith as with a pen and comprising a reservoir tapering to a point at one of its ends and having an aperture therein, a valve casing affixed to the reservoir and adjacent the apertured end, a conduit leading from the valve casing to the opposite end of the reservoir, communicating means between the valve casing and a source of pneumatic pressure, a spring actuated valve within the valve casing, actuating means for the valve carried by the valve casing and so situated as to lie in close proximity to the second finger of the hand when the device is held by the hand as a pen.

2. A feed gun comprising a reservoir tapered at one of its ends and having an aperture through the tapered end and being closed at the other end and adapted to be grasped by the hands as a pen for writing, a valve casing affixed to the reservoir and adjacent the pointed end, communicating means between the valve casing and the reservoir, communicating means between the valve casing and a source of pneumatic pressure, a spring actuated valve within the valve casing, a lever for actuating the valve positioned at the forward end of the valve casing and in close proximity to the second finger of the hand when the device is held as a pen for the purpose of writing therewith.

3. A writing instrument for heavy liquids

comprising a tubular container having a conical feed point at one end thereof, a closure for the opposite end thereof, said feed point being provided with a restricted aperture at the end thereof, a control valve attached to said tubular member adjacent said conical feed point, a pneumatic pressure supply for said control valve, a tube for transmitting said pneumatic pressure from said control valve to said tubular container adjacent said closure, and means for operating said control valve by one of the fingers of the operator when said device is held in the hand as a writing instrument.

4. A writing instrument for heavy liquids, in combination, a tubular container, a closure for the upper end thereof, a conical feed point provided with a restricted aperture at the lower end thereof, a control valve attached to said tubular container adjacent said conical feed point, a tubular connection from said control valve to the upper end of said tubular container, means for connecting a compressed air supply to said control valve, and a trigger disposed in convenient relation for controlling said compressed air supply to said tubular container by means of said control valve, said trigger being so disposed as to conveniently permit operation thereof by the index or middle finger of the hand operating and holding the device similar to a fountain pen.

5. In combination, a tubular container provided with a removable cap at one end thereof, a removable frusto conical reducer at the opposite end thereof, a conical tip provided with a restricted aperture attached to the reduced portion of said reducer, and comprising a writing point, a trigger operated control valve fixed to said tubular container adjacent said reducer with said trigger disposed toward said tip and in proper relation for operation by one of the fingers of the hand holding and operating the device as a writing instrument, connecting means for a compressed air supply on said valve, and means for conducting said compressed air supply from said valve to the upper portion of said container for forcing a liquid through the restricted aperture in said tip.

6. In combination, a tubular container closed at one end and provided with a conical tip with a restricted aperture at the opposite end thereof, a trigger operated valve communicating with said tubular container adjacent the closed end thereof and mounted adjacent the conical tip thereof, said valve being connectible to a compressed air or gas supply and adapted to prevent or control the flow of compressed air to said container by means of finger pressure on said trigger when said combination is held in and operated by the hand similar to a fountain pen.

7. A writing instrument for semi-fluid materials comprising a storage chamber for said

material, said storage chamber being closed at one end and provided with a removable tip having a restricted aperture at the other end, and a compressed air supply in controlled communication with said storage chamber at the closed end thereof, said controlling means for said compressed air supply being so disposed as to be operable by the fingers of the operating hand, when said instrument is held in said hand in writing position similar to a pen or pencil.

8. A writing or decorating device for semi-fluid materials adapted to be operated by the hand simulating a fountain pen and comprising a storage chamber closed at one end and having a tip at the opposite end, said tip being provided with an aperture or apertures through which said material is ejected, said material being ejected by a supply of compressed air communicating with the upper part of said storage chamber, and a control valve for said compressed air supply operable by one of the fingers of said hand while manipulating said device, and disposed adjacent said tip.

In testimony whereof we affix our signatures.

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