By way of explanation, it may be stated that there are on the market, thousands of nozzles or guns, so called, which are used for spraying fruit trees. Such articles are provided with a thin disk having a small orifice through which the liquid is discharged. This orifice often closes up, and it is necessary to remove the disk and clean out the orifice. In order that the disk may be removed, the flow through the nozzle must be stopped, and this invention aims to provide a simple auxiliary valve mechanism for stopping the flow through the nozzle or gun, as and for the purpose explained.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:

1. Figure 1 shows in side elevation, a spray gun equipped with the device forming the subject matter of this application; and

2. Figure 2 is a longitudinal section of the gun on an enlarged scale, parts being in elevation, and parts being away.

There are in use at the present time, thousands of spray guns including a removable disk having a reduced opening 4 through which the liquid proceeds. The construction of the gun wherein the disk 3 is embodied varies through wide limits, but spray guns, generally, are reducible to the general type shown in the drawings, the spray gun there being shown as including a body B made up of a tubular member 1 on which a head 2 is mounted, the disk 3 being held on the forward end of the head 2 by any suitable detachable means 5, such as a threaded ring. The rear end of the tubular member 1 is connected to a casing 6 that forms part of the body B, the casing having a lateral inlet 7. On the rear end of the casing 6 there is a gland 8 in which a plunger 9 moves endwise, the plunger having an external handle 10 for its manipulation, and the plunger having threaded connection, as at 11, in any suitable way, with the casing 6. On the forward end of the plunger 9 there is a main valve 12 which cooperates with the disk 3 to close the opening 4 when the plunger 9 is rotated by means of the handle 10, and is advanced because of the threaded connection shown at 11. It is with such a gun, or with a similarly constructed gun, that the device forming the subject matter of this application is adapted to be assembled.

In carrying out the present invention, a tubular bushing 15, made of brass or any other suitable material, is secured in any preferred way in the forward end of the tubular member 1. The bushing or tubular element 15 has an enlarged head 16 which abuts against the forward end of the tubular member 1, or against the adjacent portion of the casing 6, the enlarged head 16 affording reinforcement, for the formation of a flared seat 17 adapted to cooperate with the conical part 18 of an auxiliary valve 19 secured to the plunger 9 behind the main valve 12 and in spaced relation to the valve 12.

When the operator wishes to stop the flow through the body of the gun, so that he can take off the ring 5 and remove the disk 3 to clean out the opening 4 in the disk, the plunger 9 simply is retracted until the conical part 18 of the plunger cooperates with the seat 17 in the bushing 15, and then the flow through the gun ceases. It has been purposely heretofore to place a cut-off valve (not shown) in the hose 14 that is attached to the lateral inlet 7, but such a valve is inconvenient, in that it is exposed, likely to get out of order, and likely to be operated accidentally. In the device forming the subject matter of this application, the simple auxiliary valve 19 is housed within the body of the gun and will last a long time without getting out of order or requiring attention. The bushing 15 and the auxiliary valve 19 may be applied readily to guns that are already made, or the parts specified may, of course, be built into a new gun. The manufacturer or the user is not called upon to throw away any satisfactory gun that he has already, since the valve 19 may be applied to the plunger of any stand.

What is claimed is:

1. In a spray gun comprising a body including a tubular member, a head on the tubular member, a removable disk provided with a
discharge opening, means for holding the disk on the head, and a longitudinally movable plunger that is advanced to close the opening; a tubular bushing shaped for insertion into the forward end of the tubular member and secured therein, the bushing being provided with a thickened head in which a seat is formed, the head abutting against the end of the tubular member, and a valve on the plunger and cooperating with the seat to close the flow of liquid through the gun when the plunger is retracted.

2. In a spray gun comprising a body including a tubular member, a head on the tubular member, a removable disk having a discharge opening, means for holding the disk detachably on the head, and a longitudinally movable plunger that is advanced to close the opening; a tubular bushing secured in the forward end of the tubular member and supplied with a seat at its outer end, and a valve mounted on the plunger and located in the head, the valve cooperating with the seat to stop the flow through the gun when the plunger is retracted.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

GEORGE C. BROWN.