

May 27, 1952

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2,598,417

BLOWGUN

Filed Nov. 9, 1946

Fig. 1

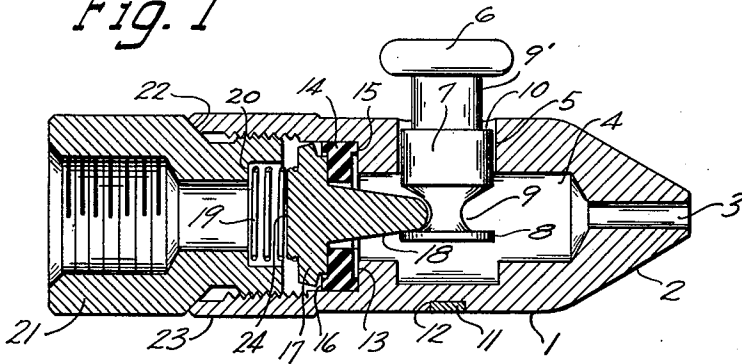


Fig. 2

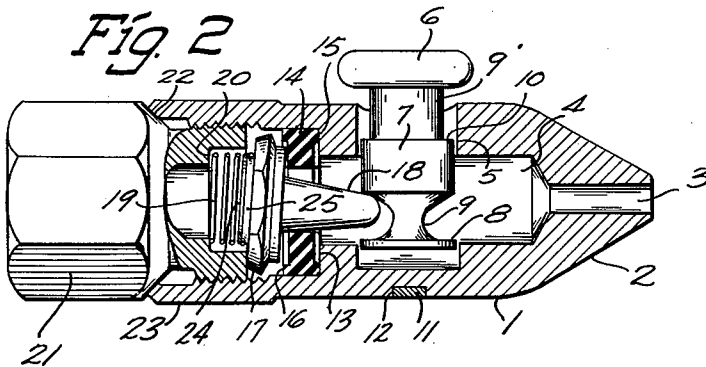


Fig. 3

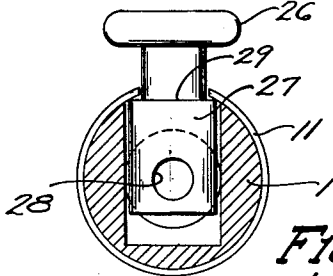
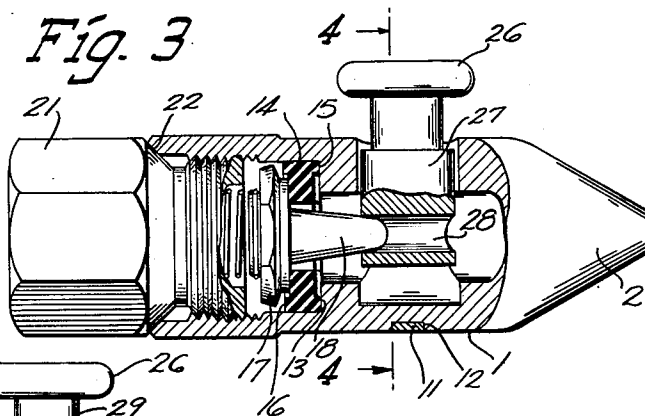


Fig. 4

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2,598,417

BLOWGUN

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Application November 9, 1946, Serial No. 709,048

2 Claims. (Cl. 251-152)

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This invention relates to blow guns and is particularly directed to a blow gun for use with compressed air.

Objects of this invention are to provide a simple type of blow gun for compressed air for use, for instance, in blowing out castings or for any other purpose, which is so made that it is composed of a small number of parts which are easy to produce and which are easy to assemble.

Further objects of this invention are to provide a blow gun in which a valve is employed which is permanently biased towards closed position, both by means of a spring and by means of compressed air behind the valve, but which is so arranged that it may be tilted by means of a thumb button or thumb piece to allow free passage of air through the blow gun, the thumb piece being so constructed that it provides for the free flow of air from the valve to the nozzle of the blow gun.

Further objects are to provide a novel form of blow gun in which the thumb piece is held in place in a very simple manner, which facilitates assembly and disassembly of the device, and which does not require any threaded parts for the retention of the thumb piece.

Embodiments of the invention are shown in the accompanying drawings, in which:

Figure 1 is a sectional view through one form of the apparatus showing the valve closed.

Figure 2 is a corresponding view showing the valve open.

Figure 3 is a sectional view through a modified form of blow gun, such view showing the valve closed.

Figure 4 is a sectional view on the line 4-4 of Figure 3.

Referring to Figures 1 and 2, it will be seen that the blow gun comprises a body portion 1 which is provided with a tapered end or nozzle portion 2 provided with a small aperture 3 therethrough. The body portion is provided with a relatively large central bore or cavity 4 and with a transverse aperture 5 opening through one side of the body portion 1. This aperture 5 slidably receives the thumb piece or thumb button 6 which is provided with an enlarged upper cylindrical portion 7 and a relatively short cylindrical portion 8 adjacent its lower side and with an annular recessed portion 9 intermediate the cylindrical portions 7 and 8. The thumb button is provided with a reduced upper shank 9' so as to form a shouldered portion 10 at the upper end of the cylindrical part 7. The thumb button is held in place against accidental removal from the body portion 1 by means of a split ring 11, which is seated within an annular recess 12 formed in the

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body portion 1 and whose ends are located above the shouldered portion 10, as shown in Figure 4 of the second form of the invention. Thus it is extremely easy to assemble the thumb piece and thereafter slightly spring the ring 11 and allow it to pass around the body portion and snap into position, the ring 11 being made of spring steel.

The body portion is provided with a shouldered part 13 against which a seat 14, preferably of suitable yielding material, is positioned. This seat may, if desired, be provided with an annular flange 15 on its forward side, arranged to bear against the shouldered part 13. The rear side of the valve seat 14 is also provided with an annular flange 16.

A valve 17 is positioned in contact with the valve seat 14 and is provided with a conical projecting portion 18 which extends through the opening in the valve seat 14 and terminates in a rounded end loosely fitting within the groove or recess 9 formed in the thumb piece 6. The valve is normally held in place by means of a spring 19, the compressed air rearwardly of the valve also assisting in this operation. In addition to this, it is to be noted that the spring 19 not only returns the valve to its normal position as it is tilted as shown in Figure 2, but also returns the thumb piece to its normal position. The rear end of the spring 19 bears against a shouldered part 20 of a fitting 21 screwed into the body portion 1.

It is to be noted that no gaskets are needed between the fitting or nipple 21 and the body portion as the fitting 21 is provided with a beveled surface 22 which fits a corresponding beveled surface formed on the sleeve 23 of the body portion and thus secures an air tight seal without the use of gaskets. If desired, the valve 17 may be made polygonal and similarly the fitting 21 may be formed with a polygonal end to receive a wrench.

In use it is merely necessary to press the thumb piece inwardly as shown in Figure 2. This causes tilting of the valve 17 and allows air to pass around the valve outwardly through the aperture 3 in the nozzle of the blow gun. For instance, the thumb of the operator is removed from thumb piece 6 and it returns to its original position as shown in Figure 1, it being urged to such position by means of the spring 19 and also the compressed air acting on the valve 17 and tending to seat the valve.

The flange 16 in the valve seat 14 assist somewhat in keeping the valve correctly positioned and yet allowing the valve to freely tilt.

If desired, the rear reduced portion 24 of the

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valve may be provided with a small annular groove 25, see Figure 2, for the reception of the end convolution of the spring 19 to hold the spring loosely assembled with the valve as a single unit.

In the form of the invention shown in Figures 3 and 4, all of the parts are the same as those shown in Figures 1 and 2 except that a different type of thumb piece or thumb button is employed. This thumb piece or thumb button 26 is provided with a cylindrical portion 27 which is provided with an aperture 28 therethrough, arranged to loosely receive the rounded and tapered end of the extension 18 of the valve 17. It is provided with an upper shoulder 29 which is overhung between ends of the split ring 11. Other than this, the construction shown in Figure 3 is the same as that shown in Figures 1 and 2.

It will be seen that a very simple type of blow gun has been provided by this invention which is formed of a small number of easily produced parts and that these parts may be very readily assembled and if wear occurs, may be disassembled to allow renewal of the worn parts.

Further it will be seen that except for the thumb piece or thumb button there are substantially no projecting parts on the blow gun. This is of material advantage as the blow gun attached to the air hose is frequently dragged across the ground during use.

Further it will be seen that a very simple means has been provided for retaining the thumb piece in its assembled relation with the body portion without the use of threaded members or other similar fastening means but by the simple expedient of slipping a split spring ring around the body portion after positioning the thumb piece.

Although this invention has been described in considerable detail, it is to be understood that such description is intended as illustrative rather than limiting, as the invention may be variously embodied and is to be interpreted as claimed.

I claim:

1. In a device of the class described, a body portion having passageway therethrough, valve means in said body portion normally closing said

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passageway, said body portion having an aperture extending radially part way therethrough, a thumb piece slidably guided in said radially extending aperture and having a reduced neck portion and a shouldered portion, and being operatively coupled to said valve means, and a split ring surrounding said body portion and having its ends spaced apart and overhanging the shouldered portion of said thumb piece.

2. In a device of the class described, a body portion having a passageway therethrough, a valve seat in said body portion, a valve coacting with said valve seat, spring means urging said valve towards seating position, said valve normally closing said passageway, said body portion having an aperture extending radially part way through the body portion, a thumb piece slidably guided in said radially extending aperture and having a reduced neck portion and a shouldered portion, means operatively coupling said thumb piece and said valve to tilt said valve when said thumb piece is pressed inwardly, and a split ring surrounding said body portion and having its ends spaced apart and overhanging the shouldered portion of said thumb piece, said body portion having a groove within which said split ring is seated.

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