

P. THOMPSON.
AIR BRUSH.
APPLICATION FILED MAR. 9, 1908.

923,910.

Patented June 8, 1909

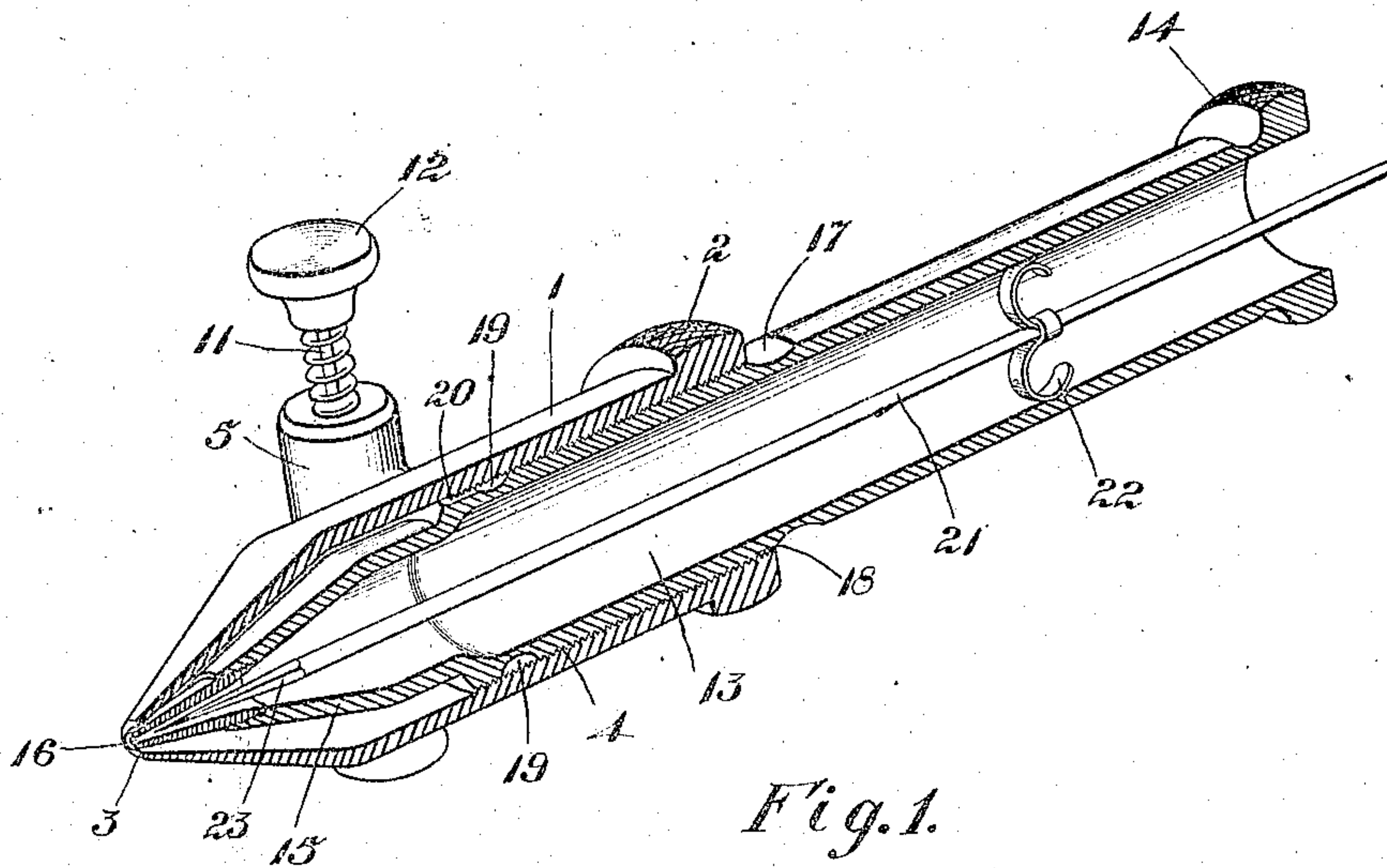


Fig. 1.

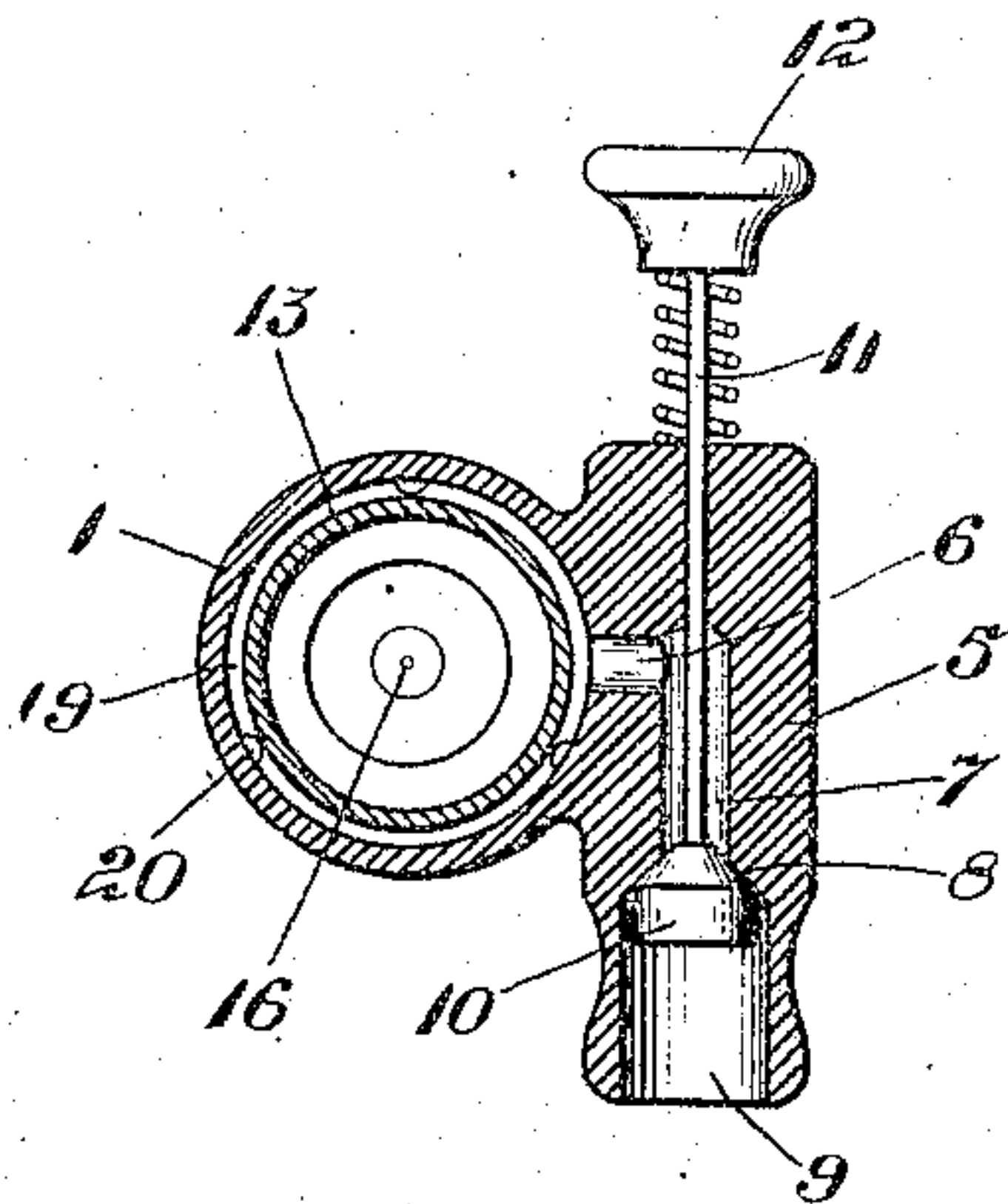


Fig. 2

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UNITED STATES PATENT OFFICE

PETER THOMPSON, OF TORONTO, ONTARIO, CANADA.

AIR-BRUSH.

No. 923,910.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed March 9, 1908. Serial No. 420,043.

To all whom it may concern:

Be it known that I, PETER THOMPSON, a subject of the King of Great Britain, resident of the city of Toronto, in the county of York, Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Air-Brushes, of which the following is a specification.

The invention relates to improvements in air brushes as described in the present specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially in distributing the air in a novel arrangement of chambers adjustable in relation one to the other.

The objects of the invention are to enlarge the range of work which can be accomplished with the same instrument, to insure an even distribution of the color in painting the picture, to simplify and render accurate and positive, the adjustment, and to reduce the cost of production and provide an instrument easy to clean.

In the drawings Figure 1 is an enlarged sectional perspective view of the invention. Fig. 2 is a cross sectional view through the air chambers and valve.

Like numerals of reference indicate corresponding parts in each figure.

Referring to the drawings, 1 is the outer and cylindrical casing having a knurled ring 2 at its inner and open end and sharply converging at the outer end to the central orifice 3 which is the operating point of the instrument. 4 is a thread formed in the inner wall of the said casing 1.

5 is a valve chamber casing preferably forming part with the casing 1 and projecting from one side thereof adjacent to the shoulder formed at the beginning of the taper of the converging end and having a passage 6 leading from the chamber 7 and the seat 8 at the entrance of the said chamber 7 from the air inlet 9.

10 is an air valve having its stem 11 projected upwardly through the chamber 7 and through a suitable orifice in the said valve chamber casing.

12 is a button surmounting the valve stem 11, a suitable spiral spring encircling said valve stem between said button and said valve chamber casing.

13 is the inner casing and color well having the knurled ring 14 forming part thereof with at its outer and open end and at its

inner end 15 reduced in size and converging to a central orifice 16 of similar dimensions than the aforesaid central orifice 3.

17 is an annular groove at the inner end of which the thread 18 is formed on the periphery of the said casing 13 through to the shoulder formed at the beginning of the said reduced inner end.

19 is an annular recess parting the threads of the threaded portion adjacent to the reduced end 15 and 20 are longitudinal passages in the said threaded portion from said annular recess 19 through to the edge at the beginning of the said reduced portion. The inner casing 15 is introduced into the said outer casing 1, the thread on the inner wall of the said outer casing corresponding to the thread on the outer wall of the said inner casing, the said inner casing being turned into said outer casing until its point projects through the orifice 3 and the annular recess 19 registers with the passage 6 from the valve chamber.

21 is the adjusting needle having the bow springs 22 extending therefrom and abutting the sides of the inner wall of said inner casing 15 and retaining said needle in a central position in said casing, the point of said needle being formed preferably with the converging flat sides 23.

In the operation of this device the inner casing is partially filled with color or ink, the point of the needle being so adjusted in relation to the inner converging walls of the reduced tip of the inner casing as to control the flow through the orifice 16. The valve chamber is connected up to a suitable air supply and the instrument is then ready for use. By pressure on the button 12 the air flows through the passage 6 into the recess 19 and from there distributes itself through the various passages 20 into the space between the reduced end of the inner casing and the end of the outer casing flowing through the annular opening formed by the contiguous walls of the casing surrounding the orifices 16 and 3.

It will be readily seen that the casings may be adjusted in relation one to the other by the turning of the inner casing in the outer casing so that the said annular opening at the point may be enlarged or reduced according to the work of the artist. By reducing the opening at the point of the instrument, the flow of air is reduced and the color drawn from the color chamber is blown

from the point in larger particles than when the opening is increased. A very accurate adjustment may be made by turning the inner casing and the adjustment retained.

5 An important feature in the construction shown and described is that the color is a perfectly free flow to the discharging orifice and will not be liable to thicken and on this account it will be possible to use oil colors
10 equally as well as water colors. The simple construction of the inner casing also allows it to be cleansed thoroughly.

The needle 21 may be adjusted as desired to control the flow of color through the
15 orifice 16 and is also adapted to clean the said orifice if it becomes clogged, the edges formed by the flat faces, cutting out the clogged ink or color.

What I claim as my invention is:—

20 1. In an air brush, a casing forming an ink well open at one end and having an unbroken inner wall extending from said open end and converging to a narrow opening at the opposite end, an outer casing adjustably mounted on said ink well casing
25 and forming an air chamber around the converging end of said ink well casing and converging to an outlet opening surrounding the converging end of said ink well casing, a valve chamber communicating with
30 said air chamber, and a valve controlling the supply of air to said air chamber.

2. In an air brush, a casing forming an ink well open at one end and having an unbroken inner wall converging to a narrow
35 opening at the opposite end and an annular recess in its outer wall adjacent to said tapered portion and communicating passages leading from said annular recess forwardly, an outer casing adjustably mounted

on said ink well casing and converging to an outlet opening surrounding the converging end of said ink well casing and forming an air chamber communicating with the passages leading from said annular recess, a
45 valve chamber communicating with said annular recess, and a valve controlling the supply of air through said valve chamber.

3. In an air brush, a cylindrical casing having its inner wall extending unbroken
50 from its open end and converging to a narrow circular ink egress opening and its outer wall threaded for a portion of its length, said outer wall having an annular recess arranged intermediate of the length
55 of said threaded portion and longitudinal channels extending from said annular recess to one end of said threaded portion, an outer casing threaded internally corresponding to the threaded outer wall of said ink well casing and fitting thereon and having its forward end converging to a narrow outlet opening surrounding the converging end of
60 said ink well casing, a valve chamber rigidly secured to said outer casing having a communicating passage leading through the wall of said outer casing communicating with the annular recess in the outer wall of said ink well casing, and a valve controlling the supply of air passing through said valve chamber.
70

Signed at the city of Toronto, in the county of York, Province of Ontario, in the Dominion of Canada, this 29th day of February 1908.

PETER THOMPSON.

Witnesses:

H. DENNISON,
WM. C. MUIR.